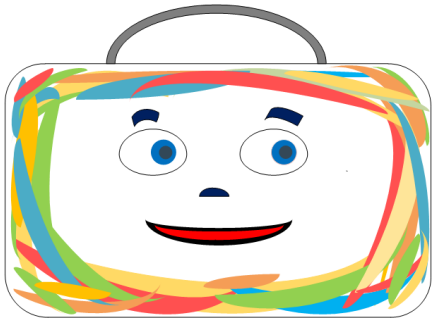
The Tolerance Bag: App Development for the Remote Delivery of Religious Tolerance Education for Junior-Level Students



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By
Katherine Burkes
Lanna Delaney
Patricke Roche
Brian Zawacki

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Advisors:
Professor Karen Oates and Professor Ivan Mardilovich
Worcester Polytechnic Institute

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Abstract

The Tolerance Bag is an education module created by Noosfera that teaches students aged 8-12 about five major world religions. The goal of this project was to design an app that adapts the Tolerance Bag to a virtual setting. To accomplish this goal, we researched important qualities of educational apps, identified Noosfera's functional requirements for the app, designed the complete app with a wireframe, created a prototype of two sections, and collected feedback through semi-structured interviews with educators.

Executive Summary

The Noosfera Educational Support Foundation was created in Russia with the goal of promoting acceptance of different people and different cultures through education. One of Noosfera's largest projects is the Tolerance Bag, an in-person module designed to teach junior-level students (ages 8 to 12) religious tolerance. The Bag contains various books, lessons, and craft activities that teach about five major world religions: Hinduism, Judaism, Buddhism, Christianity, and Islam. The Bag presents the religions alongside each other to promote their similarities and adhesion to one common Golden Rule: treat others as you would expect them to treat you.

The Tolerance Bag has been deployed in seven countries throughout Europe and Africa. However, it has seen the most use within Russia. Noosfera would like to expand the Bag's international presence, but they are limited by the significant costs of manufacturing and exporting it. The COVID-19 pandemic has worsened this problem by restricting international communications and in-person teaching. The goal of our project was to help Noosfera overcome these challenges by designing an app that adapts the Tolerance Bag to a virtual setting. To accomplish this goal, we set five objectives for our project:

1. Understand how young adolescents interact with apps in educational environments.
2. Identify the features and attributes that Noosfera requires for the app to meet their needs.
3. Deliver a visual design of a web application that covers the full range of material in the Tolerance Bag Coloring Book.
4. Produce a working prototype web application that covers the Tolerance Bag's content on religious symbolism and temples.
5. Collect feedback on the app design through interviews of educators.

Our methods followed a commonly used five phase Design Thinking Process. These five phases were Empathize, Define, Ideate, Prototype, and Test, and each one corresponded to one of our five project objectives (Kamriani and Roy, 2016). For the Empathize phase, we conducted background research on the interaction of 8-12 year old students with educational apps. During the Define phase, we held an open conversation with our sponsors to compile a list of features to include in the app. For the Ideate phase, we visualized our app with a wireframe. In the Prototype phase, we worked with technical consultants to produce a functional prototype of the designed login and home screen, as well as the chapters of the app covering religious symbols and temples. Lastly, for the Test phase we conducted semi-structured interviews with educators and parents to receive feedback on the layout, design, and educational value of our design.

As a result of our literature research method, we developed a list of qualities to include in the app that correlate to the four pillars of learning: active involvement, engaging interaction, meaningful experience, and social interaction. The key features we identified to implement these pillars were textured backgrounds, home screens with minimal features, activities based around learned content, concrete acknowledgements of progress, and narrative features such as a character.

Our conversation with Noosfera revealed a set of expectations for the app design. These expectations included employing the Guide Map from the physical Tolerance Bag for students to track their progress and adding a table of contents for easy navigation through the app. They also expressed that they wanted the app to be organized by aspects such as origins, symbols, holidays and so on, rather than organized by religion such that students learn about all religions congruently. Other crucial features were identified, such as using activities to reinforce learned material, applying quizzes at the end of each chapter to assess what students have learned, designing a character to introduce material, and carrying the progress chart from the physical Tolerance Bag over to the app.

When building the wireframe, we designed common app features such as a login and sign up section, a password retrieval system, and a welcome page. An introduction page was designed with a video clip of a character resembling the physical Tolerance Bag that explained the program's goals. Pages allowing teachers to create a class roster for students to join were also created.

We designed our app to contain five chapters: origins, religious symbols, temples, holy texts, and holidays. A set of activities was created for each chapter. Fill in the blank and anagram activities were made for the origins chapter. Jigsaw puzzles were designed for the symbols chapter. Sliding puzzles were designed for the temples chapter. The holy texts chapter was equipped with letter-tracing and click-and-fill coloring activities. Virtual handicrafts similar to those in the physical Tolerance Bag were made for the holidays chapters.

We implemented several features to track student progress in the wireframe. We designed a way for teachers to view the percentage of the curriculum completed by the students. We also built a Guide Map that features icons that represent each religion in each chapter. The icons were designed to appear on the Guide map once the quizzes at the end of each chapter have been successfully completed. To provide a more granular measurement of progress, there is also a progress chart that shows a student's completion of each activity and quiz. Students were allowed to see their own progress charts, while teachers were enabled to view the chart for any student in their class.

To develop a prototype of the digital Tolerance Bag, our wireframe was presented to two graduate students who worked as technical consultants: Jingru Chen (Max) and Chenkai Zhou (John). They produced a working model of the chapters on religious symbols and temples, the app's home screen, and its table of contents.

The educator interviews revealed a largely positive reception of the app design. Educators responded positively to the interactive visual activities, such as the crafts and puzzles, as well as the "Read Aloud" feature. Several opportunities for improvement were identified by the respondents. These included:

- The level of text in the app, especially with some vocabulary that would be intimidating to the younger students using the app or students who speak English as a second language.
- The challenges some of the puzzles would hold for students without some form of hints.

- The need for a system of overt positive reinforcement.
- The potential association of the color yellow with betrayal by some groups of Christians.

In addition to these elements of our design, there are several other opportunities for this project to grow. Our presentation of the religious material in the app was not validated by practitioners of the religions. Our design was extensively tested with educators, but feedback was not collected from student users. Most importantly, we produced a very concrete plan for the app, but we did not build a complete version of it.

To successfully develop our design to a deployable app, we issue the following recommendations:

- Any future project team implements a feature that provides immediate visual and auditory feedback to students after completing an activity.
- Any future team adds an outline of the symbols' shape to the jigsaw puzzle activity to aid in students' completion of it.
- Any future team expands the "read aloud" feature to allow users to click on individual words and hear their pronunciation.
- Future project teams execute a research process to verify the accuracy and sensitivity of the app's religious content. We have two suggestions on how to accomplish this:
    - Widely distribute a survey to collect general practitioners' feedback on the app.
    - Conduct interviews with academic and clerical religious experts to collect their critiques.
- Upon the completion of a fully functioning prototype of the app (with all chapters implemented), Noosfera endeavors to have students test it and collect feedback from said students who use the prototype.
    - We recommend a survey method like that shown in Appendix H to accomplish this research.
- WPI and Noosfera include at least one person with relevant computer science expertise when organizing a team to take ownership of the project in creating their digital Tolerance Bag.

By following the above recommendations, all involved parties will ensure the digital Tolerance Bag becomes a functional, informative, and inclusive product that students will actively enjoy using.

With this project, we delivered a comprehensive design for a web application that adapts the Tolerance Bag from an in-person module to a virtual setting. This app is critically important; it evades the costs of producing and shipping the original modules, allowing Noosfera to spread their message of peace across the world. Delivering an engaging message of tolerance in the virtual realm is essential to fostering a new generation of tolerant people ready to live in today's world of cultural diversity and community cohesion.

Authorship

Each of the fours members of our team – Katherine Burkes, Lanna Delaney, Patrick Roche, and Brian Zawacki – contributed equally to the writing and editing of this report. Each team member was assigned sections to draft from every chapter of the report. Once the drafts were completed, we met again and edited them as a group. Due to the collaborative nature of this editing process, we do not believe that sections of our paper can be exclusively attributed to one or two team members.

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Chapter 1: Introduction

This chapter provides an overview of the Tolerance Bag app development project and the work that the team undertook to support it. The chapter discusses the general social problem of religious intolerance in Russia and introduces the project's sponsor and origin. It concludes by detailing the project's goals and deliverables.

1.1 The Issue of Religious Intolerance in Russia

Russia is a very diverse and multicultural nation, both in terms of ethnicity and religion. However, it has also been one of the many countries affected by a global resurgence of religious reactionism in the past twenty years. Suppressed for so long by the strict atheism of the Soviet Union, the Russian Orthodox Church has achieved a rapid reclamation of power under the regime of Vladimir Putin. This resurgence is no accident; Putin's central goal in office has been to restore Russia to a position of international power, and the Church has been one of his most effective methods for rallying his people's national pride (Mrachek, 2019). Unfortunately, this elevation of Orthodoxy has bred serious social tensions in Russia. Largely due to a public education system that extolls Orthodoxy while neglecting other faiths, survey data shows that large numbers of Russian Christians believe that Muslims, Jews, Buddhists, and other religious minorities should not be permitted to practice their faiths freely. This chauvinism is not a one-way sentiment; Russian Muslims, the next-largest religious sect, express almost equally intolerant opinions toward the Orthodox, and their collective view of smaller minorities is just as restrictive (Karpov and Lisovskaya, 2007). This environment of mutual hatred and distrust only serves to propagate itself, a process that is reinforced by a Russian family culture that promotes material success and social propriety over kindness and empathy (Aavik and Aavik, 2016).

1.2 Noosfera and the Tolerance Bag

One of the organizations attempting to break this violent cycle of intolerance in both Russia and the world abroad is Noosfera. Founded in 2003 in Moscow by Elena Baturina, Noosfera's goal is to "bring up younger generations in the spirit of tolerance and planetary thinking" (Noosfera, 2013). Noosfera achieves this goal by facilitating educational events and projects designed to engage children and youth from primary school to senior school. The organization primarily operates in Russia, but has done work in many foreign countries. One of the organization's most prominent projects is the Tolerance Bag. Centering around an actual bag that contains material associated with five of the world's most significant religions – Christianity, Islam, Buddhism, Hinduism, and Judaism – the Tolerance Bag is an educational module where students aged 8-12 undergo a series of interactive lessons to teach them the basic information surrounding each faith. In a two-hour lesson period, the students will watch a film giving an overview of each religion, make stamp art with each religion's symbols, listen to readings and participate in discussions about excerpts from holy texts, do jigsaw puzzles showing places of worship, and complete a series of small-scale art projects from each faith. These include painting a wooden Christian Easter Egg, making a Muslim mosaic from adhesive foam tiles, crafting a Buddhist mandala with colored sand on sticky paper, decorating a miniature Jewish kippah, and constructing a model Hindu puja. Once these handicrafts are completed, they, along with the rest of the work from the lesson, will be arranged by the students in their marked spots on the "Guide

Map", a large sheet in the center of the classroom with a sector for each of the Tolerance Bag's religions. In the center of the Map is the Tolerance Bag's "Golden Rule": that one should treat others as one would like others to treat oneself. This simple tenet is central to the Tolerance Bag's tolerant message: all religions incorporate the rule in some form, so it is the responsibility of all people to practice it toward everyone (Noosfera, 2013).

1.3 The Tolerance Bag App Development Project

The Tolerance Bag is one of Noosfera's most successful projects, and the module has been delivered to thousands of children across seven countries. However, the COVID-19 pandemic has greatly interfered with the delivery of the lesson, which requires students to share supplies and work in close quarters. The virus has also curbed Noosfera's efforts to expand the project internationally. As such, the organization is looking to develop an English-language application compatible with all mobile devices to deliver the Tolerance Bag content in a remote, international setting. This desired app will contain the content of the Tolerance Bag activities and coloring book, a workbook sent home with students that reinforces the lessons of the Bag with readings, short answer questions, and coloring activities. Thus, the purpose of this project was to deliver a comprehensive design for the app, called a "wireframe", that outlines its pages, workflow, user interface, and features in an interactive digital format. The project also delivered a working prototype of a unit covering the Tolerance Bag's content on religious symbols and temples. This prototype covered only two parts of the proposed app design, but it provided a useful foundation for future development. The completed wireframe was presented to Noosfera agents and educational experts and validated through semi-structured interview questions. To produce these deliverables, the team collaborated with a group of students from the Financial University under the Government of the Russian Federation, who provided critical alternative perspectives and Russian cultural context to each item. By delivering this design alongside validating data, this project equipped Noosfera with the foundation they needed to bring their message of religious tolerance to the virtual world.

For this project, the team reviewed the existing literature on three subjects that are integral to understanding the Tolerance Bag and designed, prototyped, and tested an application delivering the Tolerance Bag curriculum. The project delivered a comprehensive wireframe design of the Tolerance Bag application, a working prototype containing the app's content relating to religious symbols and temples, and interview data assessing the app's effectiveness. This report will begin by exploring the team's background research regarding the Tolerance Bag.

Chapter 2: Background

This chapter reviews the background research that the team performed before beginning the development of the Tolerance Bag web application. The chapter begins by reintroducing the setting and history of the project. It then presents the team's findings from the existing literature of three research topics: the current state of religious tolerance in Russia and the world, techniques of religious tolerance education, and the design and usage of apps in education.

2.1 Introduction to the Tolerance Bag

Religious conflict and prejudice has existed and plagued society for almost as long as organized religion itself has existed. Passed down from generation to generation, intolerance has become extremely difficult to counter; that said, the process of such attitudes being passed down can be disrupted if the youngest generations are educated in such a way that promotes coexistence and harmony. Enter the Noosfera Educational Support Foundation. Among other goals, it is the aim of this charity foundation to promote religious tolerance through a project dubbed the Tolerance Bag, a project for which this team is working to develop a remote platform. The bag itself is real; it is a physical bag in which there are educational tools used to introduce junior-level students (ages 8-12) to five major world religions: Christianity, Buddhism, Judaism, Islam, and Hinduism. These materials include, but are not limited to, sacred texts, interactive crafts, puzzles, and so on (T. Arzumanyan, personal communication, February 8, 2021). The key takeaway from the curriculum for the children is that there exists one rule by which every religion and its practitioners follow: "Treat your neighbor as you would like to be treated yourself" (qtd. in T. Arzumanyan, personal communication, February 8, 2021).

To provide the necessary framework behind this project's pursuits in web app development, this chapter will address three key areas of study that the team examined. First, it will provide context on religious tolerance itself by summarizing the position of UNESCO on tolerance and education, upon which Noosfera has based its curriculum. The state of religion and religious tolerance in Russia will also be examined. Second, it will identify strategies and principles necessary in teaching acceptance and elaborate on some techniques used in education for tolerance. Finally, it will turn to the application of the remote, online delivery of curricula, addressing its elements, logistics, and pitfalls.

2.2 The State of Religious Tolerance in Russia and the World

To design an app that effectively adapts the material contained within the Tolerance Bag, it was critical to understand the social conditions of religious tolerance in both Russia and the world. The following section will summarize the religious tolerance policies upheld by the United Nations Educational, Scientific, and Cultural Organization (UNESCO). The section will also characterize Russia's religious composition and issues with religious intolerance.

2.2.1 UNESCO Definition of Religious Tolerance

In response to rising acts of racism, terrorism, xenophobia, and other forms of intercultural discrimination, the United Nations General Assembly declared 1995 the "Year of Tolerance", and gave ownership of the initiative to the United Nations Education, Societal, and

Cultural Organization (UNESCO). In their biannual global meeting on November 16 of that year, UNESCO adopted the "Declaration of the Principles of Tolerance," a policy statement that established UNESCO's official definition of tolerance and the conditions that cause its presence (or absence) in a globalized society. The policy establishes UNESCO's conception of tolerance with the following statement:

> Tolerance is respect, acceptance and appreciation of the rich diversity of our world's cultures, our forms of expression and ways of being human. It is fostered by knowledge, openness, communication, and freedom of thought, conscience and belief. Tolerance is harmony in difference. It is not only a moral duty, it is also a political and legal requirement. Tolerance, the virtue that makes peace possible, contributes to the replacement of the culture of war by a culture of peace (UNESCO, 1995, p. 9).

In short, UNESCO defines "tolerance" as the acceptance and promotion of cultural plurality, an attitude they proclaim as essential to the achievement of world peace. The Declaration also outlines three different dimensions through which tolerance is achieved. The first dimension – political – relates to government policy and action; in order for tolerance to exist, a nation's judicial, legislative, law enforcement, and economic systems must all be equally inclusive of every culture that it represents. The social dimension, meanwhile, concerns the attitude of the general population. To be a tolerant society, attitudes of mutual acceptance, support, and openness to dialogue must be widespread through the levels of community, family, and the individual (UNESCO, 1995). The final dimension, and the one that the Tolerance bag project addresses most directly, is education.

UNESCO posits that education is critical to the creation of tolerance; in fact, it is "the most effective means of preventing intolerance" (UNESCO, 1995, p. 12). Cultural intolerance, the organization claims in a teacher's manual published in 1994, arises from situations of ignorance. There are many reasons that such ignorance can develop. These causes include unfamiliarity between groups suddenly living close together, economic hardship, histories of prejudice and violence, political nationalism, and the enforcement of cultural stereotypes in the media (UNESCO, 1994). Each of these issues are immensely difficult to solve directly, so UNESCO maintains that the best way to combat the intolerance they foment is through organized, intentional moral education. The school is a "community centre" that heavily influences the behavior of the community at-large (UNESCO, 1994, p. 24). Thus, this moral instruction of tolerance principles should be integrated into the social aspects of school as well as the classroom. Within the classroom, UNESCO advocates for both explicit instruction on tolerance principles and the promotion of tolerance through the exposure of students to diverse cultural material in other academic disciplines. In their 1994 programme, they list historical instruction on diverse cultures, multicultural subjects in the arts and humanities, and participation in cultural handicrafts among possible methods of indirect tolerance education (UNESCO, 1994). The Tolerance Bag, which Noosfera developed with UNESCO in accordance with the "Declaration of the Principles of Tolerance", adapts this cause of tolerance education to the problem of religious intolerance in both Russia and the world abroad (T. Arzumanyan, personal communication, February 8, 2021).

2.2.2 Religious Background in Russia

The religious composition of modern-day Russia is diverse and varies heavily from region to region. The most recent official religious self-identification data was published in the 2012 edition of the *Arena Atlas*, an extension of the 2010 Russian Census. From this study, the most common religious identity in Russia is Christianity. 47% of census respondents identified as some form of Christian, with the Russian Orthodox Church being by far the most prominent sect with 41% of the overall population. Orthodoxy is commonly practiced throughout the Federation, and it is strongest in the Southern and Central federal districts, where it is practiced by a majority of the total population. Meanwhile, Islam is the largest non-Christian religion, with a reported 6.5% share of the population. Muslim majority regions exist in the North Caucasus federal district, as well as the Volga states of Bashkortostan and Tatarstan. The next largest religious minority group are pagans, who make up 1.2% of the population. Paganism is most common in the Siberian Federal District and the Caucasian republic of Oryol. The smallest significant religious minority is Buddhism, with a response rate of 0.5%. Buddhists are a very small minority in most regions of Russia, except the Siberian republic of Tuva, where they make up over 60% of the population. Finally, Judaism and Hinduism both constitute small minorities (less than 0.1%) in the Federation. Hindus comprise a visible minority (2%) only in the republic of Altai, while religious Jews are sparsely populated (>0.5%) throughout the country (Arena, 2012).

To provide context on the state of religious tolerance in Russia, it is necessary to examine the issues in the country's current religious education curriculum. To understand these issues, it is useful to note the relationships between the country's government and religion. This is where the Russian Orthodox Church (or ROC) comes into play. A multitude of sources (enough that it can be considered almost common knowledge) either state or strongly imply that the ROC exerts a strong influence over Russia's government and Russia as a country. The same sources point to the ROC's own efforts to establish Russian religious education in the first place. Two such sources reveal an important detail: the church was not simply pushing for a general curriculum on Russia's dominant religions, it was advocating for a specific class on the Orthodox religion, entitled the Basics (or Fundamentals) of Orthodox Culture (Shnirelman, 2012 and Sotnichenko, 2017).

To its credit, the current Russian government has not gone so far as to fold under the ROC's influence, nor its attempts to alter the curriculum as it stands. That said, the curriculum is built in a way that is counter-intuitive to religious tolerance. Instead of teaching different religions together, Russian religious education completely separates each of four religions (Orthodox Christianity, Judaism, Islam, and Buddhism) into its own course alongside a world religions course and a secular ethics course, with junior-level students needing to only choose one (Blinkova and Vermeer, 2016). Further, there exist a number of problems with the curricula of these individual courses. First and foremost, the object of each course is not to allow students to learn about a given religion, but instead to convert them, especially in the Orthodox course. In fact, that very course is limited in content to the practices of the ROC, while other courses are not subject to their respective religious authorities (Blinkova and Vermeer, 2016). Moreover, the original textbook for the Orthodox course directly promoted the religion as the only acceptable faith and even featured antisemetic rhetoric (Shnirelman, 2012). Second, these courses expressly

serve the additional goal of promoting a sense of national pride and loyalty among junior level students (Blinkova and Vermeer, 2016 and Köllner, 2016).

The separative approach and the influence of the ROC carry with them the fostering of intolerance as consequences. On multiple occasions, groups representing non-Christian religions, such as Islam and Judaism, found that Russian textbooks and children's books present either a gross misrepresentation of their practices and beliefs or even an outright hostile tone regarding them (Shnirelman, 2012). These books do not represent isolated incidents by any means. In fact, fringe "lobby-groups" within the ROC often directly preach and spread Islamophobic myths; some of the members of these groups even wrote books characterizing Islam in a strongly negative light. Allegedly, these books can be found for sale in some Orthodox churches, although this particular claim does not appear to be verified (Sotnichenko, 2017, p. 9). The ROC is not the only party within Russia that is widely intolerant of Muslims. When describing Christian-Muslim relations in Russia, Sotnichenko notes that, although this intolerance is relatively young, having risen from the end of the USSR, it is fast-spreading and (possibly as a consequence of the ROC's prominence) lopsided in its effect on the general public: "'Islamophobia'... is characteristic not only for Orthodox believers but for a significant part of the population of Russia" (Sotnichenko, 2017, p. 8).

Of course, Russia's intolerance problem is not purely one-sided, nor is it exclusive to Christians and Muslims. A survey taken in multiple Russian states demonstrated not only deep-seeded intolerance of Muslims in Russian Christians, but also the same attitude toward Christians in Russian Muslims – and a marked negative attitude towards Judaism and non-Orthodox Christianity in both groups (Karpov and Lisovskaya, 2007). Again, the portrayal of Judaism in the Orthodox religious education course's first textbook, written by one Alla V. Borodina, comes to mind. Citing Borodina herself, Shnirelman notes:

> The textbook has met with sharp criticism because Borodina not only accused the Jews of their request to Pontius Pilatus to execute Jesus Christ, but claimed that the 'chosen people' allegedly dreamt of world power. (Shnirelman, 2012)

It is impossible to imagine such a scathing (and false) portrayal did not at least partially fuel the hatred observed in the above findings of Karpov and Lisovskaya's survey.

Buddhists are also hindered, more due to both a lack of awareness of the problems facing Russian Buddhist communities than overt hate, by the separative religious education system. With one exception, visa requests for visits to Russia by the Dalai Lama were denied in the 21st century for largely political reasons, according to Russia's own attempts to justify denying these requests. These political reasons are centered around Russia's ties with China, a country whose leaders take issue with the Dalai Lama and whose ties with Russia would supposedly be strained by his visits. Russian Buddhists are divided on the necessity of the Dalai Lama's presence in Buddhist subjects in Russia, with many upset and stirred to protest by the country's decision to repeatedly deny him the ability to visit (Holland, 2014). If the recent date of Holland's paper on the subject (2014), the fact that very little recent press on the matter (as in after 2014) seems widely accessible, and the fact that what is accessible does not indicate a definite change in position are any indicators, an increase in awareness in buddhist concerns in Russia are not

forthcoming. The lack of Russian awareness to problems such as those described above can be traced back to the segregated structure of religious education in Russia - when students only learn of one religion, if any, outside of the context of other religions, it becomes impossible to understand the perspective of and obstacles to believers of other faiths. The grievances of some Russian Buddhists serve as an example of this principle.

These attitudes of intolerance are deeply rooted in Russian society, and their permeation goes beyond the Russian education system. The Russian culture's attitude towards raising children inherits much of the harshness of Russia itself. Relative to other European countries, Russian parents report relatively low levels of interest in their children's kindness, communication skills, and mental well-being. Instead, they place very strict limitations in their children's lives, and emphasize intellect, independence, and material success as characteristics they seek in their children. However, the trait they value most of all is conservatism; their children's ability to adhere to social order and propriety (Aavik, 2012). With such an austere, shame-driven familial culture, one can understand how intolerance of outside religion becomes entrenched in the Russian child. Any effort to unwork such fundamental prejudice must be rooted in robust educational theory.

2.3 Religious Tolerance Education

After establishing the problem of Russian religious intolerance that the Tolerance Bag takes on, the team reviewed the educational practices that are used to teach religious tolerance. The following chapter reviews the core pedagogical principles of religious tolerance education. Once those core principles are established, it examines the specific techniques that educators use for tolerance education.

2.3.1 Foundational Principles of Religious Tolerance Education

Tolerance is an abstract concept with numerous definitions across cultures. Thus, the exact meaning of "tolerance education" is somewhat ambiguous. In recognition of UNESCO's involvement with the development of the Tolerance Bag, this project will consider the definition presented by the organization in their 1994 publication "Tolerance: the threshold of peace." The program establishes a list of principles by which all educators of tolerance must abide: responsibility, a positive approach to ethnicity, inclusive thinking, the integration of intercultural education, a focus on similarities, a broad opposition to racism, and a positive atmosphere within the learning space. In this document, the concept of tolerance is decomposed into a set of core values: peace, human rights, and democracy. For each of these ideas, the program presents goals that tolerance education intends to instill, problems that it must overcome, and actionable processes of tolerance that will result from the education (UNESCO, 1994).

For the concept of peace, which the programme defines as social non-violence and cooperation, tolerance education seeks to enable students to process disputes in a civil and constructive manner. The obstacle to developing these skills is violence, both on a physical level and through psychological abuse, cultural exclusion, and structural harm. By building civil conflict resolution abilities, tolerance education seeks to promote systems that prevent and heal the trauma of social violence while establishing structures for non-violent resolutions of social conflict. Meanwhile, tolerance education strives to promote diversity in culture, religion, and

politics under the concept of human rights. The general problem that tolerance education combats within this sphere is oppression, with the programme mentioning forms of both social oppression (sexism, racism, ethnocentrism, and other classes of prejudice) and economic oppression (poverty and racism). The intended social processes under the human rights category include cooperation and dialogue across cultures and religions, equitable and sustainable economic practices, and the legal protection of human rights . Finally, the concept of democracy in tolerance education maintains the goals of pluralism in political philosophies and opinions, openness to debate on public policy topics, and the acceptance of free information on public issues. The challenges faced include the suppression of political activity, the denial of human rights, and censorship, while the desired social processes are representative political decision-making, spaces for fair and open political discussion, and the protection of free information and press (UNESCO, 1994). These foundational principles of tolerance education were encompassed by UNESCO's "Declaration of the Principles of Tolerance", and their adoption was urged to all UN member states (UNESCO, 1995). Thus, they form the basis of worldwide tolerance education theory and methods, including those concerning religion.

Religious tolerance education achieves the philosophical goals outlined in "Tolerance: the threshold of peace" by exposing students to cultures, religions, and worldviews that differ from their own in a positive, controlled environment (Hansen, 2011). The pedagogical basis for this connection between exposure and learning tolerance is known as the "knowledge and understanding argument." This theory first supposes that having contact with different religions increases a student's knowledge of those religions, so long as that contact is facilitated in a way that is not stereotypical or derogatory. The next portion of the theory asserts that this gained knowledge will increase a student's likelihood of understanding what it is like to be a part of another religion. This leads into the third and final claim of the "knowledge and understanding argument", which is that this comprehension of the other culture will drive a student to accept it (Hansen, 2011). The philosophical rationale for this last postulation rests in the same notion of the "Golden Rule" that motivates so much of the Tolerance Bag: the idea that all people share the same basic human experience, and that recognizing said common ground will beget tolerance. Thus, effective religious tolerance education is achieved by way of the thorough, impartial exposure of students to diverse views of life.

Achieving that impartiality is a significant challenge in developing curriculum for religious tolerance education. Within the context of tolerance education, impartiality is defined as the delivery of religious education without discrimination toward or against any particular religious stance. Impartiality does not require teachers or students to conceal their own religious beliefs – that concealment characterizes "neutral" religious education, which research shows is less popular with students due to its perceived lack of honesty (Jackson, 2017). Maintaining impartiality is absolutely essential to religious tolerance education, both in terms of effectiveness and ethics. With respect to effectiveness, partial religious education fails to instill tolerance because it impresses upon the student the potentially intolerant person views of the teacher (Hansen, 2011). Furthermore, if students or their parents perceive a bias against their religion in tolerance education, they become less inclined to accept and participate in the learning process (Jackson, 2017). The ethical aspect of impartiality is even more vital. Article 18 of the United Nations Human Rights Committee's International Covenant of Civil and Political Rights (CCPR) guarantees parents the right to decide the religious education of their children (United Nations

Human Rights Committee, 1976). Thus, biases towards a particular religious view in an educational setting directly violate that edict (Hansen, 2011). Adhering to this ethical component of impartiality is challenging and not always obvious. A common pitfall, especially in Western models of religious education, is to attempt to justify religious tolerance on a theological basis. This approach fails to be impartial because it erases the exclusive claims of truth that are central to most religions and creates the chauvinistic dynamic of the erudite "secularists" trying to correct the inferior "religious." Truly impartial religious education does not try to correct theology or assert that all religions are the same; rather, it simply exposes students to the facts of different religions, acknowledges the immutable differences of thought between religions, and focuses on promoting empathy and everyday coexistence skills (Parker, 2014).

2.3.2 Religious Tolerance Education Techniques

The core objective of religious tolerance education is to facilitate tolerant attitudes by exposing students to different religious practices in a safe, impartial environment. In "Tolerance; a threshold for peace", UNESCO establishes a set of core criteria to assess the effectiveness of religious education. These benchmarks are grouped into the same three foundational values of peace, human rights, and democracy. For peace, tolerance is assessed by measuring students' ability to compose written and oral arguments for potential nonviolent conflict solutions, select a course of action from those options, and apply that selection skill to simulated conflicts. For human rights, UNESCO prescribes the measurement of students' performance of intercultural tasks and analysis of multicultural case studies. Lastly, the organization urges the evaluation of students' abilities to present descriptions of different viewpoints and propose solutions to possible problems under the topic of democracy (UNESCO, 1994). UNESCO's prescription of these evaluation criteria is very specific and granular, but there are many different methods of actually implementing religious tolerance education in the classroom. While every country, and in some cases every school, is different, there are three general techniques for teaching religious tolerance: dedicated instruction, integrated instruction, and engrossing education.

Dedicated instruction is a pedagogical style based around a curriculum whose primary focus is the teaching of religious tolerance. Within a dedicated curriculum, the traditional classroom methods of lecturing and assigned reading are generally considered ineffective at building tolerance in children. Instead, educational experts recommend more interactive methods of delivery such as cooperative learning, where students are placed in culturally heterogeneous groups and asked to work together on tasks and projects relating to religious topics. One example of cooperative tolerance education is the Complex Instruction program, which has been implemented to a positive reception in the public schools of the culturally diverse region of Bologna, Italy (Van Driel et al., 2016). Another professionally accepted form of dedicated tolerance instruction is a discussion-oriented curriculum (Jackson, 2017). In this model, religious education instructors guide students through religion-oriented discussions of both the history and theology of religions and their relevance to contemporary social and ethical issues (Parker, 2014). Such a dialogical approach has seen extensive use in religious education courses in Britain and Sweden, and UNESCO commends its effectiveness in "Tolerance; a threshold to peace" (Jackson, 2017; Blinkova and Vermeer, 2016; UNESCO, 1994).

The second class of religious education techniques are integrated methods. Under an integrated religious tolerance curriculum, tolerance is built not through direct instruction, but by

incorporating diverse viewpoints into core academic disciplines. UNESCO heavily supports this integrated approach, recommending the study of various cultures and religions in general history courses, examination of works from diverse cultures in literature, art, and music curricula, and the discussion of applications relating to tolerance in math and science classes (UNESCO, 1994). Experts consider this integrated approach to be advantageous in that it very strongly adheres to the ethical standard of impartiality and implicitly supports the idea that tolerance (religious and otherwise) is relevant in all aspects of life. This integrated model has formed the basis of religious education in France since 1996, and it has received generally positive feedback from teachers, parents, and students. However, the French integrated model, which heavily relates religious topics to studies of French history and humanities, has been criticized for failing to put religious studies in a proper modern context. This issue has been especially emphasized with respect to Hinduism and Buddhism; both faiths are small minorities in modern France and have little to no role in French history, so the integrated curriculum largely passes them over. This issue is inherent to the integrated approach to education, though it can be countered with careful curriculum design (Hansen, 2011).

The final category of religious tolerance education strategies are "engrossing" techniques. In engrossing tolerance education, tolerance is encouraged by asking students to participate in the actual cultural rites associated with different religions, such as art, song, dance, drama, and craftwork. This technique is very powerful for developing tolerance; within the context of the "knowledge and understanding" pedagogical theory, it does more to expose students to other religions than any other technique and thus is extremely effective at encouraging empathy and inspiring tolerant attitudes. Engrossing education is a core component of the highly-regarded Norweigan religious education model, alongside more traditional dedicated instruction (Hansen, 2011). The practice does have some downsides; asking children to participate in the rites of religions different from their own is very close to the action of indoctrination, which is outlawed by Article 18 of the CCPR (United Nations Human Rights Committee, 1976). However, this ethical problem can be addressed with transparent communication to parents and students of the activities that will take place, with the provision that the student may opt out of such activities if desired (Hansen, 2011). A significant portion of the Tolerance Bag curriculum is devoted to students practicing the handicrafts related to each of the Bag's five major religions, an immersive activity that falls under the definition of engrossing tolerance education (T. Arzumanyan, personal communication, February 8, 2021). As such, the engrossing technique is highly relevant to Noosfera's virtual development and implementation of the Tolerance Bag's curriculum.

2.4. Apps and Digital Learning

To maximize the effectiveness of the Tolerance Bag app, it was critical for the team to understand how apps are used for education. This section examines the challenges in remote education that have arisen because of the COVID-19 pandemic, the usage of apps in modern education, and the principles of design that must be followed when developing an educational app.

2.4.1 Issues in educating during the COVID-19 Pandemic

As the pandemic hit, classrooms around the world were forced to close. This closure placed immense pressure on all educators to find a solution and continue instruction without

being in the classroom. The best way to do this was to use technology and other programs that allow for easy virtual learning to our advantage. There are many ways to deliver education online through methods such as video chats, pre-recorded lectures posted online, email, online platforms that allow for classrooms to save their lectures, important announcements, assignment information and submissions. Another more prominent method for online education since 2009 is using Mass Open Online Courses (MOOC) (Valverde, 2020). Well known universities like Harvard, NYU, and many others create Mass Open Online Courses, but use other platforms to deliver the curriculum like Udacity, Edx, and Coursera. Using MOOC allows for students to either quickly progress through or pace themselves with new curriculum weekly.

2.4.2 The Current State of Apps in Education

About 70% of teachers felt that the use of technology assisted and enriched the classroom experience (McNeil, 2016). When integrating technology in the classroom, teachers felt that it helped students learn better through direct instruction and self instruction. Many of the teachers willing to combine technology with their curriculum felt that their schools did not give them sufficient time to implement it. Other obstacles for integrating technology included teachers not understanding how educational technology works and school policy-based factors (McNeil, 2016).

With thousands of learning apps to choose from, both parents and teachers find it difficult to select which apps are most effective. Lindsay Ceresnie, a second grade teacher in Washington D.C., felt that many of these learning apps are not as easy and intuitive as creators think (Standifer, 2020). Many of the learning apps fall short because they give unclear instructions to students and do not explain why selected answers are wrong. Melissa Callaghan, a postdoctoral fellow at Harvard's Graduate School of Education, looked at four main criteria when reviewing 171 top rated apps: clarity, feedback, game structure, and motion. Many of the apps did not fit the criteria or introduce new material to build on top of the previous material. The ideal app would include clear instructions, goals, explain why the answer is wrong or right, acquire new skills to build on, captivate, and reward (Standifer, 2020). However, there are a few apps that pay attention to pedagogical research, such as; Duck Duck Moose by Khan Academy, First 8 Studios by WGBH Education Foundation, Age of Learning, and PBS kids (Standifer, 2020).

2.4.3 Educational App Design

To develop an effective Tolerance Bag app, it is crucial to comprehend the design features that make apps effective for education. As technology is becoming more and more accessible to younger audiences, the market for "educational apps" has grown substantially. While the use of these educational apps cengagingontinues to increase, the question of their efficacy becomes more important. How apps can involve the four pillars of effective learning becomes central to their functionality. These four pillars involve **active involvement** with curriculum, **engaging interaction** with class material, **meaningful experiences** to which students can relate, and **social interaction** around the learned material (Hirsh-Pasek, 2015).

Apps are already designed in a way that maximizes active student participation. Students are able to interact with the curriculum through the screen in a way that they are in control of their own learning. Many apps do this through games.

The Cleveland Municipal School District uses online learning portals like Imagine Math, BrainPOP, and MobyMax. Another school district, Euclid, uses apps like RazPlus and Learning A-Z to help make learning fun for the students (Standifer, 2020). An evaluation by WBPAS incorporated ways for one to target their digital learning goals rather than test by setting up their own due date, resulting in a significantly better self-regulated digital learning experience than students setting goals with a paper-based portfolio. The students were allowed to assess one another's goals and teachers were allowed to assess their work. By sharing the e-portfolio records the students' peers were able to observe each other's goals, make recommendations, comment, and rate one another. This record-sharing provided a base for students to evaluate themselves, make themselves better, and set standards for their educational objectives (Yen, 2018). People have always learned through games. Whether it's learning to count through blocks or learning to fly through flight simulators, it's important to keep learning games engaging. A report by Rosser found that surgical skills of laparoscopic physicians had decreased their error rate through commercial action games (Pivec, 2007). Game-Based Learning believes "that knowledge, declarative, procedural, and strategic is acquired over time and abilities or skills are incremented through experience" (Pivec, 2007). Many Professors use simulated biology and chemistry labs to assist with their teaching while classrooms are closed. Military personnel and flight schools around the globe use flight simulations for teaching and brushing up on skill. Those that are studying the Stock Market use Market Watch game simulations to learn and hone their skills. Aerospace and aeronautical engineers use simulations to calculate the design of their air/spacecraft to travel using XFLR5 and Orbiter Space Flight Simulator. Those learning the basics of physics use PhET Interactive simulations to visualize and understand the mechanics, electricity and magnetism.

Educational apps also have the opportunity to engage students differently than they would be engaged in a more traditional learning environment. In a study done by the School of Mechanical Engineering at Guizhou university, children aged 6-8 were monitored while interacting with apps with different features. Their nonverbal emotional responses were studied to determine positive or negative emotions while interacting with specific features of the homescreen of an app. It was shown that children preferred textured backgrounds with minimal icons on the homescreen (Wu, 2019). It was also shown in a study done with Kent State University, that students continued to watch longer narrative animations, even when they claimed not to enjoy them, as well as reacted positively to sounds and noises when added to apps (Martens, 2019). Studies like this can determine what keeps students engaged and willing to learn through an app format. It is important to keep the user engaged and motivated while learning because app users demonstrate better retention rates while enjoying themselves. To keep them motivated, it is important for the user to be rewarded and recognized for their successes along the way through high grades or points being collected (Pivec, 2007). Many educational apps like Duolingo include multiple choice answers, fill in the blanks, have an AI speaking and listening. Other tasks can include short videos with multiple choice questions and short answers to be revised later on by the instructor.

In this sense, it is also important to note what encourages continued use of apps and continued learning. A positive user experience vastly improves willingness to use, as well as the overall learning experience. Ease of use also has the same effect (Cao, 2020). This ease of use is

dependent on many things such as the size of font as well as the number of functions the application performs. The usability is largely impacted by the number of functions. As the number of functions increase, the usability decreases (Missen, 2019).

The places that are lacking in app based educational formats are meaningful experiences and social interaction that help cultivate a well rounded and three-dimensional base of knowledge. While children are very capable of learning information purely through games, their knowledge may be only surface level if those games are not relatable for the student. To inspire and foster deeper learning, the app has to provide features that allow students to connect what they learn to previously learned content. This juncture means relating information they are learning to things they already know and maybe even interact with on a daily basis. This can be done easily through games by building the game concepts around something they may do in real life.

Social interaction is another key factor in learning. Apps may have quick responses to cues on a touch screen, but these features often lack true two way interaction that is extremely beneficial to learning in young children. While apps can be designed to incorporate two users in the same space, there is a recent push for mediated interactions through technology. Screen sharing features where users are able to type and draw together remotely are popular. These interactions have shown to be an effective substitute in reinforcing learned material (Hirsh-Pasek, 2015).

It is also crucial to say that none of these changes can be made individually. In order to create an effective educational app, the app must be designed with all of these aspects in mind (Hirsh-Pasek, 2015). Designing an educational app for children without considering and implementing all four pillars of learning would be to design the app to fail. Although learning something like flashcards or facts, rote learning may be effective and may achieve the end goal, but in teaching an abstract concept like tolerance, following these recommendations is very important for the child to see the full benefits of the program.

2.5 Connecting Background Research to App Development

In this background chapter, three broad subjects relating to the development of a Tolerance Bag web application were reviewed: religious tolerance in Russia, religious tolerance education, and apps and education. The information collected relating to tolerance and tolerance education served as valuable context for the curriculum of the Tolerance Bag, its intended effects, and its far-reaching social importance to both Russia and the world. Meanwhile, the apps and education material was a critical driving force in the delivery of the project's three objectives: the wireframe of the full Tolerance Bag app, the working prototype of the religious symbols and temples chapters, and the evaluative survey and interview data. When building the wireframe and the prototype, it was essential to ensure that both deliverables followed the four pillars of effective learning: active curriculum involvement, engaging interaction with class material, relatable, meaningful experiences, and social interaction relevant to the curriculum (Hirsh-Pasek, 2015). To incorporate these pillars, both products were developed to include the following features:

- Colorful, textured backgrounds with minimal icons
- Frequent sounds and noises
- Extensive animations
- Minimal on-screen user functions
- Robust systems of progression and rewards
- Concrete connections to users' everyday life experience
- Opportunities for socialization with other users

Additionally, substantial comparisons were made between the team's products and established, well-regarded education apps such as Duolingo, Duck Duck Moose, First 8 Studios, Age of Learning, PBS kids, the Big Myth, and One Globe Kids (Standifer, 2020 and Van Driel, 2016). For the interview assessment of the team's design, these guiding standards were incorporated by developing questions that explicitly identified their presence (or lack thereof) in the wireframe and prototype. The methods that were used to generate the wireframe, prototype, and interview information are detailed in the following chapter.

Chapter 3: Methodology

This chapter details the methods that were utilized to develop the Tolerance Bag web application (app). First, the chapter reintroduces the goals of the project and establishes their importance. The chapter then details the research and development approaches that the team used to fulfill those goals.

3.1 Project Objectives and the Design Thinking Process

The methodology of this project was strongly rooted within the three foundational topics discussed in the background chapter: religious tolerance in Russia, tolerance education theory, and the current state of apps and games in learning. Taking all of this sociological context into account, the methodology chapter details the team's process for achieving the project's five primary goals:

1. Understand how young adolescents interact with apps in educational environments.
2. Identify the features and attributes that Noosfera requires for the app to meet their needs.
3. Deliver a wireframe schematic of web application that covers the full range of material in the Tolerance Bag Coloring Book.
4. Produce a working prototype web application that covers the Coloring Book's content on religious symbolism and temples.
5. Issue recommendations for the future development of the app from interview data.

To deliver these objectives, the blended WPI and Financial University team performed a rigorous app design cycle based upon the Design Thinking Process. The Design Thinking Process is a commonly used organizational tool that groups technical product development into five distinct phases: **Empathize, Define, Ideate, Prototype, and Test** (Kamriani and Fay, 2016). The project's five objectives each corresponded to one of these steps. This chapter reviews the methods used to complete each of these phases and fulfill each of the project's objectives.

3.2 Objective 1: The Empathize Phase - Understanding App Design for Children

The first phase of the Design Thinking Process, Empathize, involves identifying the needs and desires of the stakeholders in a technical product (hereon, the term "technical product" will refer generically to any apps, websites, and other projects created using the Design Thinking Process). This step was accomplished by conducting background research to determine what qualities must be present in an educational app for children. These topics were chosen with the intention of making an app that not only implemented necessary features and functions for education, but also was appealing to the Tolerance Bag's target audience of children aged 8-12. For this research, the WPI Gordon Library database and Google Scholar were used to find relevant literature. The research was narrowed by using keywords such as "designing educational apps" and "child centered app design."

3.3 Objective 2: The Define Phase - Consulting the Sponsor for Parameters

The team's second objective corresponded to the Define phase of the Design Thinking Process. The Define phase consists of identifying the particular design features, functional components, and capabilities that a technical product must have. To determine the specific features and capabilities that needed to be included in the Tolerance Bag app, the team hosted a remote online meeting with Noosfera on March 31, 2021. Notes were taken in this meeting, which was held as an open conversation. The summary of notes taken can be seen in Appendix A. Noosfera was asked about the context of the original Tolerance Bag, its exercises, and their expectations for its virtual adaptation. The team discussed Noosfera's responses and compiled for the app a list of features, activities, and design qualities to encompass their answers. This list of qualities was presented to Noosfera for approval before the next phase began.

3.4 Objective 3: The Ideate Phase - Building a Wireframe Design

The third objective of the project corresponded to the Ideate phase of the Design Thinking Process. In the Ideate phase, a technical development team establishes a detailed visualization of how they intend their product to appear and function. This concrete visualization accords the following steps of the process a specific direction to follow. To Ideate the Tolerance Bag app, a method called "wireframing" was selected. The practice of wireframing is described in detail below.

A wireframe is a type of schematic that is commonly used to plan products within the app and web development industry. A wireframe is a detailed drawing showing every page that the user will be able to access in the completed app. A wireframe shows the complete range of content that will be present on each page. This includes static content such as text, images, and other visual design features. Wireframes also detail the functions of each app page – the buttons, text entry fields, and other dynamic components that users can control within the app. Lastly, wireframes allow designers to prescribe the workflow of the app. Wireframes achieve this by displaying all of the app pages next to each other on one field, with lines connecting the pages to show how users will be able to navigate from one to another while using the app (these lines, called "wires," are the origin of the wireframe name). In sum, a wireframe allows an app designer to specify the complete user experience (UX) of an app even before any coding is done (Holstein, 2019). The team chose to deliver a wireframe to provide them with a concrete conception of the app and the work needed to create it.

To build the wireframe, the team chose to use the Canva platform. Canva is a popular graphic design and publishing platform. Canva is not traditionally used for wireframing, but it contains a diverse array of graphic design tools, a large library of free clipart, and several tools for app page design. The team selected this platform because of its extensive visual design capabilities, which allowed for a very detailed user interface to be developed for Noosfera (About Canva, 2021). The team prepared the wireframe in two parts within Canva. The first part was a slideshow presentation that displayed each page of the wireframe in close detail. In this component, the team specified the graphic design of each page, the functions each page would contain, and the games and activities that students would complete while using the app. The

second part of the wireframe was a poster-style image that displayed all of the pages of the app next to each other with their connecting wires. The wireframe was delivered in two components so that both the specific page design and the global app workflow could be fully observed.

For the organizational framework of the wireframe, the team divided the app into chapters that each concerned one of five aspects of religion: origins, symbols, temples, holy texts, and holidays. Within each chapter, an example of each aspect was discussed for each of the religions covered in the Tolerance Bag. The religions were discussed in sequence with one another to emphasize the common ground between them. An activity was designed to accompany each element of each religion, and emphasis was placed on making these activities easy and fun as well as educational to users. After the activities in each chapter, an assessment tool was designed to evaluate students' learning of the religious material and allow teachers to track their progress. To further stress the connectedness of the religions, the app's homescreen was designed based on the Guide Map, a piece of the original Tolerance Bag that displays the analogous components of the Bag's religions next to each other. The text in the original map was too small for a virtual platform, so our process utilized a simplified version of the map. An image of the Guide Map from the original Bag is shown in Figure 3.1:

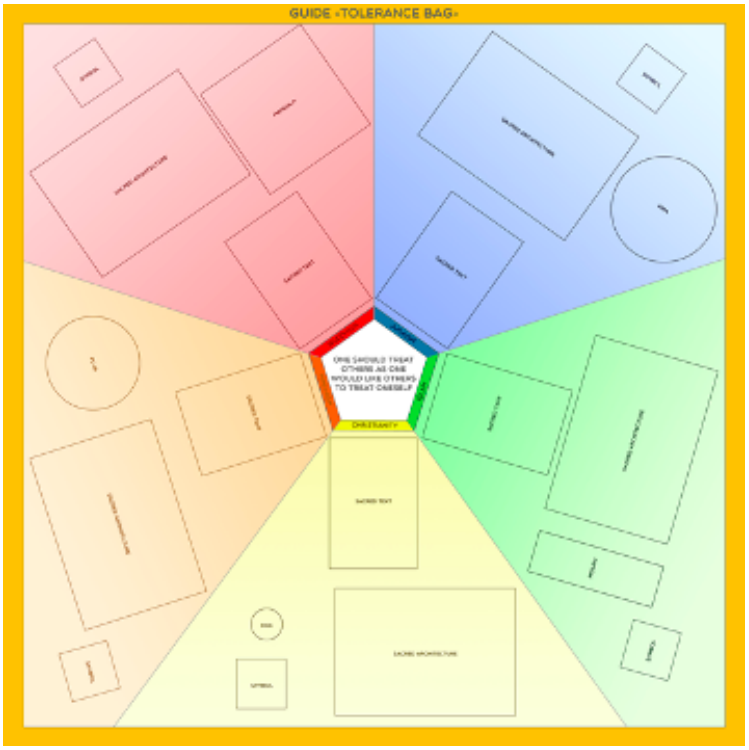

Figure 3.1 The Tolerance Bag Guide Map provided a framework for the app's homescreen.

3.5 Objective 4: The Prototype Phase - Producing a Working Prototype Web Application

The prototype phase was one of the most important aspects of the project. This working prototype was a final deliverable to the sponsor as an example of how the app should function

for future owners of the project. It also allowed educators to use an example of one of the chapters to give more accurate and meaningful feedback. For the working prototype, the group decided to develop the homescreen, the table of contents, and chapters on religious symbols and temples. These chapters were chosen because they were the most easily developed to a functioning prototype within the timeframe of the project. In the symbols chapter, students read about a religious symbol from each of the five major religions and completed a click-and-drag jigsaw puzzle to reveal the symbol. For the temples chapter, they read about each religion's temple before completing a sliding puzzle of the temple.

The wireframe for the religious symbols and temples sections was passed to two technical consultants, Jingru Chen (Max) and Chenkai Zhou (John), who worked closely with the group to bring the chapter to a web platform. These consultants possessed the relevant front-end web development knowledge to complete the web pages with student activities. This included a solid base in coding languages such as HTML5, JavaScript, and CSS. Details on the credentials and selection process of the consultants can be viewed in Appendix B. For structuring the webpage, HTML5 was utilized, while Javascript was applied to develop the app's functions, such as clicking and dragging and moving through the pages that are necessary for use. Finally, CSS was used for all visual aspects of the web application. Bootstrap was also used during the development of the prototype. Bootstrap is a design framework for CSS and Javascript that allows website images and functions to automatically resize to any screen. Bootstrap was used to ensure that the web app was visually compatible with all mobile devices.

3.6 Objective 5: The Test Phase - Collecting Feedback on Wireframe and Prototype

The final objective of the project was to collect feedback on the app to evaluate its current design and identify opportunities for improvement. This objective connected to the Test phase of the Design Thinking Process. In the Test phase, a technical development team evaluates their product by testing it with the people who will use it. This testing was accomplished with a series of semi-structured interviews of educators. Subjects were recruited via email using the messages shown in Appendix C. Eight interviews were conducted on April 21, April 22, April 23, April 29, and April 30. Two of the respondents were Russian educators with prior knowledge of the Tolerance Bag, and the remainder were American educators without prior knowledge of the Bag. The interviews were conducted with one educator at a time on Zoom for 30 minute time periods. The first 15 minutes of the interviews were spent reviewing the wireframe and the activities it contained, and the remaining time was dedicated to a series of semi-structured interview questions. The interviews were conducted in English. In all interviews, one team member posed the questions while at least two others took notes on the responses. The full set of semi-structured interview questions is shown below:

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?

3. Do you believe that the app experience contained sufficient information on the major world religions? Was the central lesson that all religions contain the same Golden Rule - “Do unto others as you would have others do unto you” - clear?
4. Do you think that this app is a valuable use of class or homework time?
5. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
6. Do you think that the app adequately assesses students’ learning of religious tolerance material? Would you be able to understand students’ progress from the information that the app collects?

Question 3 was omitted in interviews with American educators, as they lacked the prior knowledge to properly determine if the app covered the full scope of the original Tolerance Bag. Following the interviews, all participating members of the team met to discuss their notes and identify the key directives and themes of the responses. All interview data was recorded confidentially, and the responses were not used for any purpose besides evaluating the Tolerance Bag app. Additional information on the interview process can be viewed in Appendix D.

Chapter 4: Results

In this chapter, we reintroduce project objectives and our findings within the process of designing the Tolerance Bag web application using the five step Design Thinking Process. We then detail the results that were achieved for each of those objectives.

4.1 Overview of Results

The process used to develop the Tolerance Bag web application was structured around the Design Thinking Process and its five steps: Empathize, Define, Ideate, Prototype, and Test. These steps formed the basis of our five project objectives, which are listed below:

1. Understand how young adolescents interact with apps in educational environments.
2. Identify the features and attributes that Noosfera requires for the app to meet their needs.
3. Deliver a wireframe schematic of web application that covers the full range of material in the Tolerance Bag Coloring Book.
4. Produce a working prototype web application that covers the Coloring Book's content on religious symbolism and temples.
5. Issue recommendations for the future development of the app from interview data.

This chapter describes the results that were achieved for these objectives. For the first objective, student engagement with learning apps was found from the existing literature to depend on four main “pillars of learning”: active involvement, engaging interaction, meaningful experiences, and social interaction. For the second objective, Noosfera’s primary expectations for the app were identified as interactive, gamelike learning activities, a clear system of progression for students and teachers, and a presentation of religious content that emphasized unity and continuity. A wireframe design in Canva and Adobe XD was delivered for the third objective. This wireframe contained text content on the Tolerance Bag’s five religions, activities to reinforce the content, assessment tools to gauge students’ learning, and a progression system to allow both teachers and students to track their progress. The fourth objective was outsourced to two technical consultants, who programmed a prototype that included the app’s home screen, table of contents page, and examples of the puzzle activities from the symbols and temples chapters. The fifth objective was fulfilled through a series of informal interviews with Russian and American educators. The sections below contain detailed descriptions of these results, organized by the methods used to achieve them.

4.2 Objective 1 - Understand Children’s Interactions with Educational Apps

As a result of the literature review method outlined in Section 3.2, we developed a list of qualities to include in the app that correlate to the four pillars of learning: active involvement, engaging interaction, meaningful experience, and social interaction. The key features we identified to implement these pillars were textured backgrounds, home screens with minimal features, activities based around learned content, concrete acknowledgements of progress, and narrative features such as a character.

4.3 Objective 2 - Identify Noosfera's Expectations for the App

To make sure we provided efficient ways of learning about the five main religions of the world, we held open conversations with Noosfera representatives over Zoom to ask about their expectations for the app. During these conversations, we made notes on what should be included in designing the Tolerance Bag web app. These notes can be viewed in Appendix B.

When speaking with Noosfera on March 30th, it was prompted by our sponsors to implement a version of the Tolerance Bag Guide Map for students to fill when they complete each chapter in the course. This map, seen in Figure 4.7, would allow for students to easily access their accomplishments and feel rewarded in seeing the map being filled out (the map that we created is detailed in section 4.4.6) Along with the guide map, a table of contents, seen in Figure 4.1, was requested for easy navigation. Noosfera wanted the table of contents to break up the curriculum into manageable chunks, allowing for students to have an active involvement in the way they learn by letting them control the pace and order of their learning. The table of contents we produced is described in section 4.4.

While speaking with Noosfera, they preferred that we have the religions intertwined by their common aspects, such as origins, religious symbols, sacred architecture, sacred texts, and prominent holidays. That way each aspect of the religion would be learned congruently instead of separately. Another requirement identified by the sponsor was for each aspect to have its own activity to reinforce what has been learned. The sponsor suggested activities such as completing a puzzle or coloring a picture. These activities were to allow for the reinforcement of what has been learned for long-term memorization.

The conversation also revealed that, at the end of each chapter, the sponsors would like a quiz to be implemented to summarize what was learned within the chapter. Noosfera asked for these quizzes to be made simple, fun, and fulfilling because enjoyment has been shown to improve information retention and memorization.

An additional suggestion by Noosfera was to have a Tolerance Bag character involved while the students learn. This way it would provide a sense of social interaction with the student about the learned material. The delivered character is detailed in section 4.4.1.

In the physical coloring book when the students go through all of the material there is a chart in the end where the students fill out everything that they have learned. It was heavily advocated by Noosfera that we implement this in our designs of the Tolerance Bag web app. That way students could see the main points of each aspect to its corresponding religion and look at what they have accomplished. Our adaptation of this chart can be seen in section 4.4.6.

4.4 Objective 3 - Visualize the App with a Wireframe

Using the above findings and in accordance with our previously described organizational schematic (refer back to Chapter 3, Section 3.4 for details), we developed a wireframe on Canva. Multiple activities are present in each chapter to reinforce the respective chapter's content while maintaining student interest and a small assessment covers the information taught in the chapter as a whole. Each assessment is unique, and is used to help track the progress of each student. All

text and activities were accompanied with a “read aloud” feature, which was designed to provide an audio playback of the content to help keep students’ attention. The audio playback also helped students pronounce new vocabulary. These activities and assessments are elaborated upon in the following subsections. We also made use of the Tolerance Bag character from a promotional video Noosfera uses in the physical bag - many lessons feature this friendly-looking bag describing chapters or otherwise volunteering information for students. Furthermore, we implemented the features requested by our sponsor into the wireframe. Among them, we implemented a login and password retrieval system. We also created a home screen, in which students can view the aforementioned Guide Map. This screen was equipped with progress-tracking functionality, which is detailed in section 4.4.6. We connected everything in the app together with a table of contents page. This page was designed to include the headers of each chapter of content, as well as a header for the Guide Map. The chapter headers were designed in a dropdown style, where clicking on one of them revealed colored tabs that directed the user to each religion’s portion of the chapter. Visuals of the login screen, Tolerance Bag character, and the table of contents are shown in Figure 4.1.

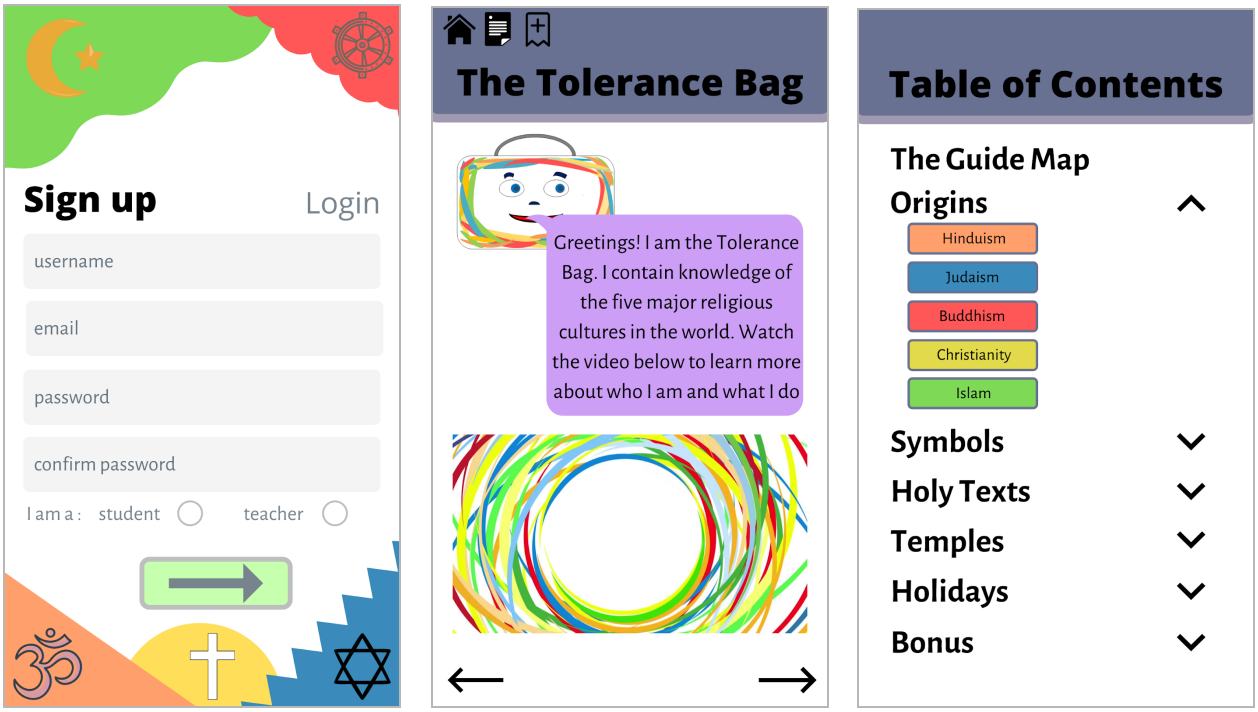

Figure 4.1 Login screen (left), Tolerance Bag introduction (center), and table of contents (right).

4.4.1 The Origins and History Chapter

To introduce students to each of the five religions covered in the Tolerance Bag’s curriculum, this first chapter briefly summarizes each one’s beliefs and history and includes notes on where it is practiced today. The minigame-like activities in this chapter consisted primarily of word games and fill-in-the-blank-style games. For two of the featured religions (Hinduism and Islam), students are to read a simple statement about the religion and fill in each of three blanks with a word, generally a name. Similarly, for two other religions (Judaism and Buddhism), students are tasked with dragging phrases from a bank onto a figure, one for the

purposes of sorting (the covenant with God formed by Moses), the other for the purposes of ordering (the story of the Buddha). For the remaining one (Christianity), students are instructed to unscramble three words to reveal a basic teaching ("Love your neighbor", a lesson from Jesus Christ).

Similarly, the end assessment for the chapter was a crossword puzzle. The answers and hints within the puzzle all pertained to the content the chapter discussed. Among the elements of each religion's origin covered were some places where religions were born, the founders of some religions, and other important aspects of each religion this quiz activity, along with examples of the core chapter activities, is shown in Figure 4.2.

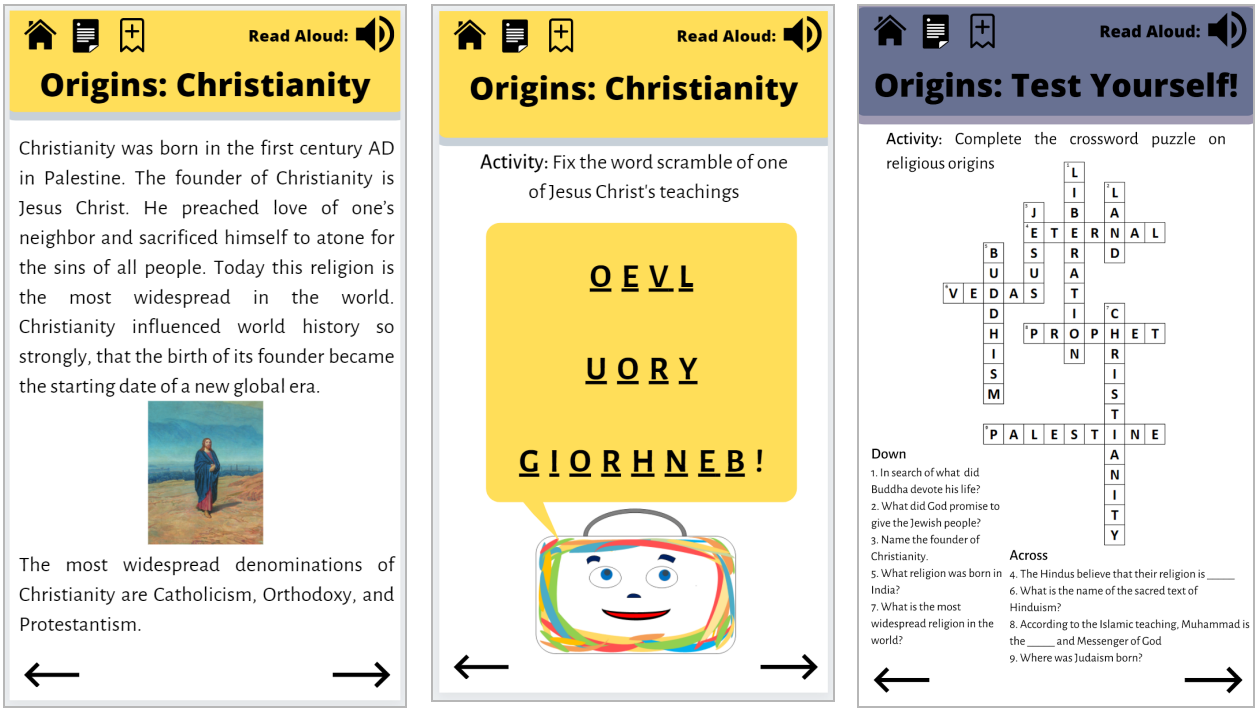

Figure 4.2 Example of origins text (left), activity (center), and quiz (right).

4.4.2 The Symbols Chapter

The next chapter of the wireframe covered the symbols associated with each religion. The next chapter of the wireframe covered the symbols associated with each religion. Symbols are an important way to represent objects, functions, processes, or more specifically religions. Following the coloring book, symbols are an important aspect of any religion to be taught. They help in representing and identifying the religion and it's important concepts. In this section the Hindu Om, the Jewish Star of David, the Buddhist Wheel of Law, the Christian Cross, and the Islamic Star and Crescent were introduced. Through the online version, we created a series of virtual colored jigsaw puzzles that should be put together by the student. The Om, Star of David, Wheel of Law, and Star and Crescent puzzle consisted of sixteen puzzle pieces in a four by four array (see Appendix E for visuals). The Christian puzzle consisted of fifteen puzzle pieces in a three by five array. The puzzles were made to not have a lot of pieces, so that they could be clearly seen and easily manipulated on a mobile screen. Before each puzzle activity there is a

description of the history behind the symbol and how it came to represent that religion. An example of this is seen in Figure 4.3.

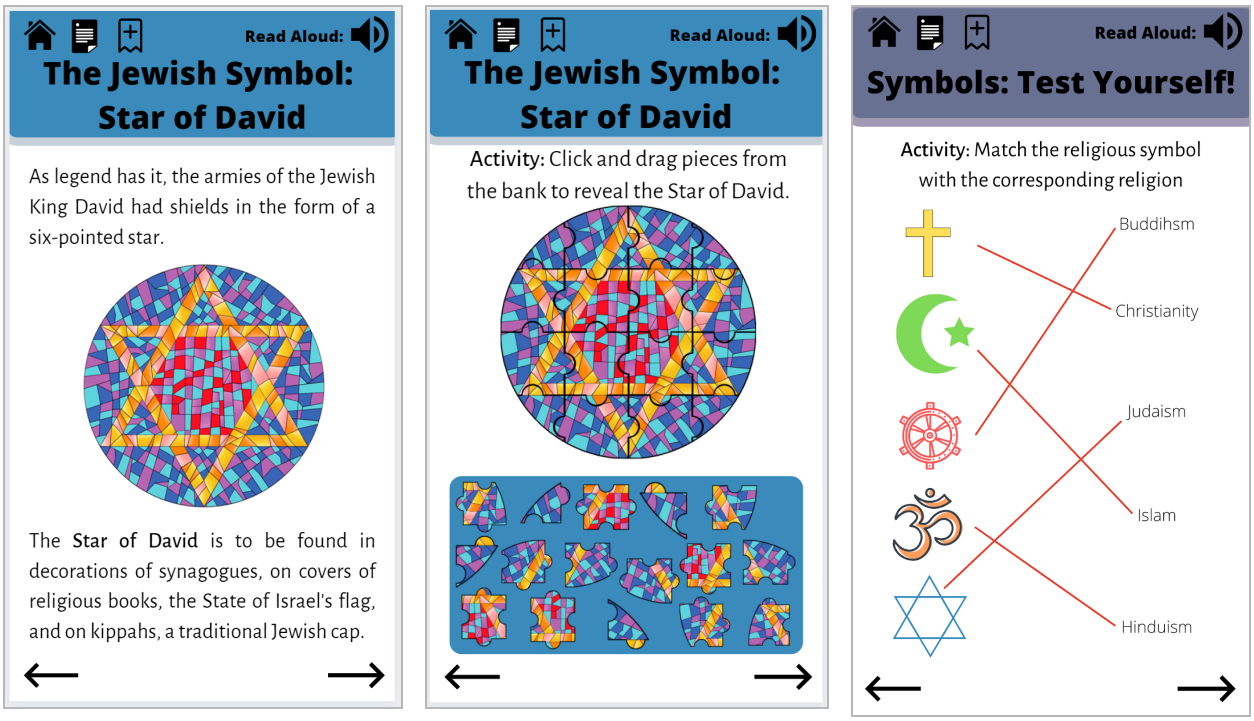

Figure 4.3 Examples of symbols text (left), jigsaw puzzle (center), and matching quiz activity (right).

The assessment tool at the end of this chapter was a quiz involving the matching of the religious symbols to their religion. In this quiz, a column containing each symbol was placed next to a column with all of the religions. Users were tasked with clicking on a symbol or religion before clicking on its counterpart. If the match was correct, a connecting line appeared. No line was to appear if the match was incorrect. The quiz was designed for the intention of being simple and fun, as students who have fun while learning have a better chance retaining the material.

4.4.3 The Architecture Chapter

The third chapter of the proposed Tolerance Bag application covered the temples of each religion. The section introduced five temples: the Hindu mandir, the Jewish synagogue, the Buddhist pagoda, the Christian church, and the Islamic mosque. Each temple was presented with text descriptions and images extracted from the Tolerance Bag coloring book. Sliding puzzles were constructed from the images of each temple. In these puzzles, the temple image was cut into nine squares of equal size. These square pieces were numbered 1 through 9 based on their orientation in the original picture. The top left square of each image was labelled “1”, and the bottom right square was designated “9.” Squares 1 through 8 were arranged on a square field in the wireframe page and were repositioned to scramble the original image. For the puzzle, users were tasked with rearranging the squares to recreate the images of the temple. Each puzzle was designed to require no more than six moves to be solved. This activity was selected to reinforce

students' familiarity with the geometry and coloration of each type of temple (see Appendix E for examples).

The assessment activity of this chapter consisted of a matching quiz. In this quiz, users were presented with two columns: one containing vector images of each temple, and the other containing the names of the five religions. The team designed the quiz for users to click on an icon before clicking on the religion they believed it belonged to (or vice versa). If the match was correct, a red line would appear to link the two objects. This line would not appear if the match was incorrect. This assessment evaluated the users' ability to recognize the visual aspects of the temples they learned with the sliding puzzle activity. The matching assessment and an example of the sliding puzzle activity are pictured in Figure 4.4.

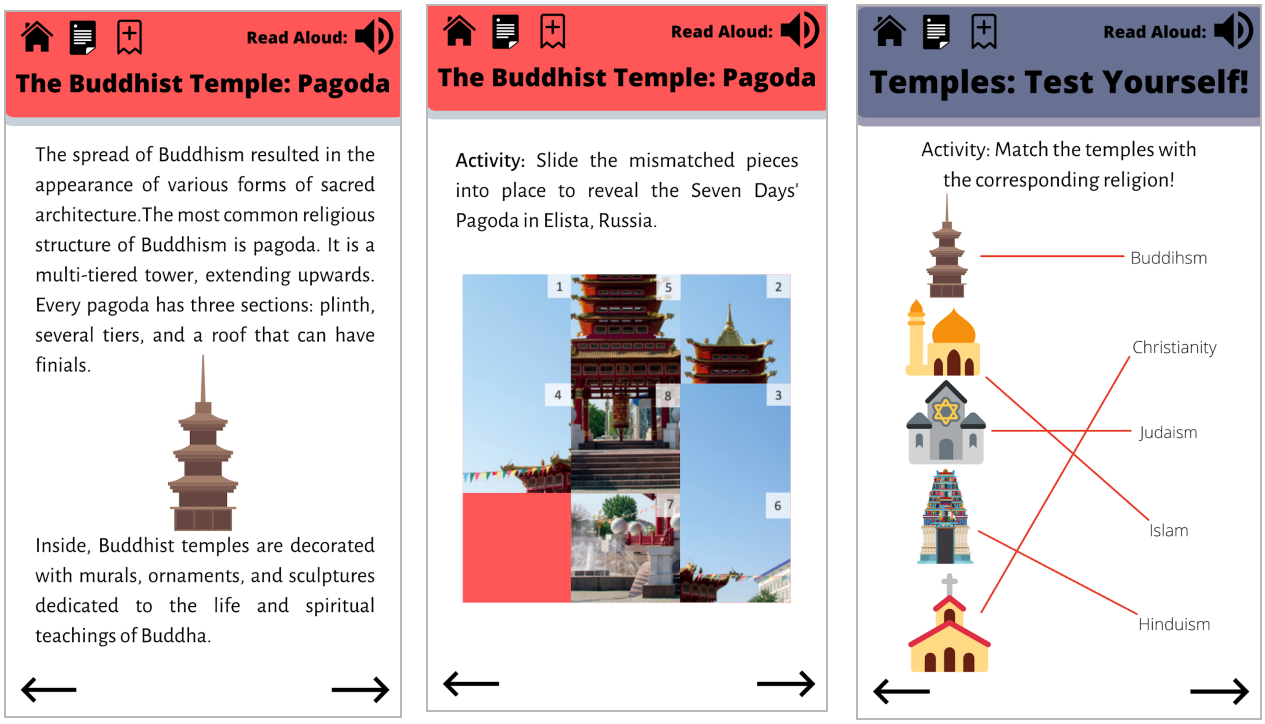

Figure 4.4 Examples of temples text (left), sliding puzzle activity (center), and matching quiz activity (right).

4.4.4 The Sacred Texts Chapter

The fourth chapter was created to teach students about the texts each religion read and called sacred. These texts (the Hindu Vedas, Jewish Tanakh, Buddhist Tripitaka, Christian Bible, and Islamic Quran) are briefly outlined in terms of contents (such as how the Tanakh contains the Torah), language (Sanskrit, Hebrew, etc.), and even decoration (in the cases of The Bible and Quran). The activities for this chapter were directly taken from the physical Tolerance Bag Coloring Book itself. For all the religions except Christianity, students are tasked with tracing a word relevant to the sacred text it represents in the language of that text. For instance, following a brief description of the Hindu Vedas is a task in which students learn to write the word "peace" in Sanskrit (the language in which the Vedas are written). Similarly, students learn to write

"Quran" in Arabic, "Shalom" in Hebrew, and the Mantra "Om Mani Padme Hum" in Tibetan. For Christianity, students are to color an initial letter from The Bible.

As a brief quiz activity, the students are presented with the words they wrote and challenged to select the holy script that the words or letters come from. This memory game of sorts takes the form of several multiple choice questions, each with three options and one correct answer. The quiz was designed so that selecting a wrong answer would cause the answer to highlight red and appear next to an X, while selecting the correct answer would immediately highlight the answer green and present it next to a check.,These questions, as well an example of the tracing activities previously described, can be viewed in Figure 4.5.

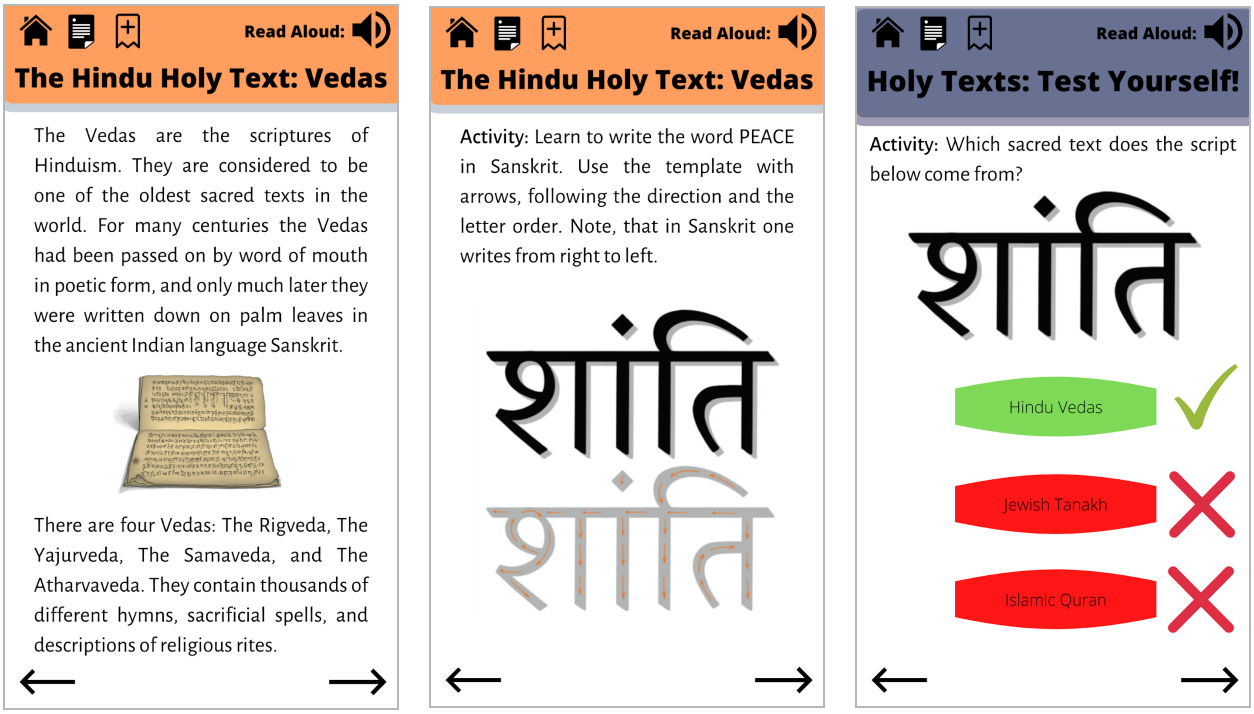

Figure 4.5 Examples of holy texts reading (left), tracing activity (center), and multiple choice quiz (right).

4.4.5 The Holidays Chapter

The fifth chapter of the app covered one holiday and one handicraft associated with said holiday for each of the five religions discussed in the app. The chapter began with a brief definition of religious holidays and a list of the holidays covered in the chapter: Holi, Passover, Vesak, Easter, and Eid al-Adha.

Each segment within the chapter began with text about the origins and meaning of each holiday. This section explained the importance of each holiday in the religion and what is done to celebrate this holiday. Next was a small section that explained a specific handicraft associated with each holiday. An image of each activity can be viewed in Appendix E . For the Hindu holiday Holi, this was decorating a Puja. A puja is a bowl filled with fruit, candles, and flowers

that is placed on a sacred river as an offering to the deities. Students interact with this handicraft by clicking and dragging their choice of fruit, candles, or flowers into a bowl floating in a river.

The second holiday was the Jewish holiday, Passover. For this holiday, the handicraft chosen was decorating a kippah, which is a dome shaped cap worn by men while reading the Torah on this day. In this activity, students can flip through folders to choose the color of the kippah, click and drag decorations on the kippah, and enable borders to go around the kippah.

The third holiday was the Buddhist holiday, Vesak. For this holiday, the associated handicraft is decorating a mandala. A mandala is a symmetrical abstract design. On this holiday Buddhists may decorate a mandala with colored sand. To complete this activity students click on colored piles of sand and then click an open area of the mandala to fill the area. This is done until the entire mandala is colored in.

The fourth holiday was the Christian holiday, Easter. For this holiday, the students complete an egg decorating activity. For this activity students have 2 folders, one for templates and another for colors. Students choose from 5 templates that are each half colored in. Once the template is chosen, students finish the other half by selecting colors and clicking open areas of the template to match the already completed half.

The fifth holiday was the Muslim holiday Eid al-Adha. On this holiday, much time is spent in the mosque for prayer. For the handicraft students are prompted to decorate a mosaic which are common decorations in mosques. These mosaics are tile decorations commonly on the walls. In this activity students are presented with a grid. Each square is outlined with a color. To complete this activity students click on a tile color from the box, and drag it to a frame of the same color. When the activity is done, they should have a finished mosaic.

The quiz activity that we designed for this chapter was a fill-in-the-blank word game. Users were presented with five declarative sentences that each concerned one of the religious holidays covered in the chapter. The religion associated with these holidays was omitted from the sentence. The students were provided a word bank containing the religions and tasked with dragging the words from the bank to their correct place in the sentence. The quiz activity and handicraft activities are shown in Figure 4.6.

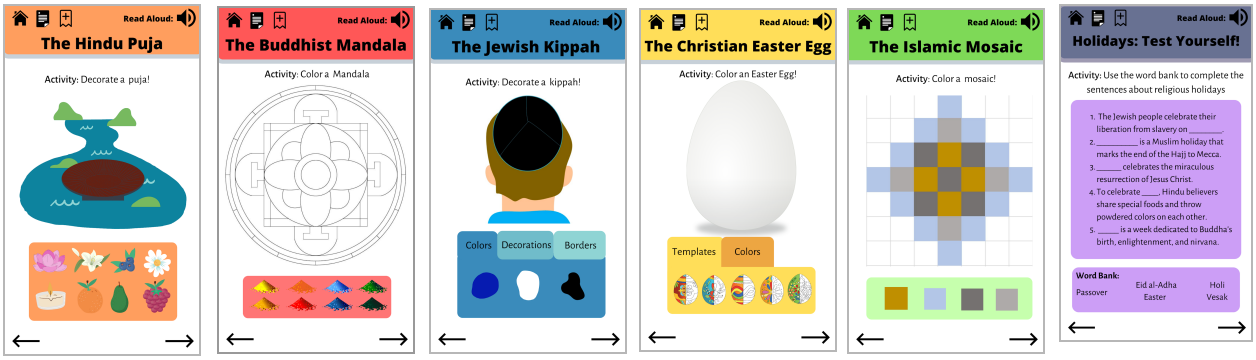

Figure 4.6 Fill-in-the-blank quiz activity (far right) and individual handicraft activities.

4.4.6 Progression Systems

The final element of the wireframe was a system to track students' progress in learning the material delivered by the app. This progression system was one of the components requested by Noosfera for the design, and it fulfilled the "engaging interaction" pillar of learning. This system consisted of three components: a pictorial tracking system, a tabular progress record, and a class progress screen for teachers.

The pictorial progress record was designed based on the Guide Map from the physical Tolerance Bag lesson. In the original Bag, the guide map was a square divided into five sectors, each representing one of the five religions. Within these sectors, there were outlines to indicate where students should place their completed activities on the map at the end of the lesson. A simplified version of the Guide Map was created using the Microsoft Visio vector drawing platform. This image was placed on the homescreen of the wireframe. The Tolerance Bag character was located above the map with a quotation explaining the Map's purpose. This Map was prescribed to appear blank when students begin using the app. As they completed each activity in the app, an icon would appear to recognize that completion. For example, if a student completed the puzzle depicting the Star of David, then a Star of David icon would appear on the map within the Jewish sector. This same functionality – completion followed by icon appearance in the appropriate sector– was applied to all of the activities within the app (see Figure 4.7)

The next component of the progression system was the tabular progress record. This record was based upon the "Test Yourself" table within the Tolerance Bag coloring book, where students were asked to populate a table with the basic information of each religion. For the app, the progress table consisted of six columns, five for the religions in the Tolerance Bag and one for assessments. It also contained five rows, each dedicated to a different aspect of religion: founders, symbols, temples, sacred texts, and holidays. The table cells in the religion columns were designed to populate with learned information once a student completed the relevant activity. For example, if a student completed the word puzzle connected to Christianity's origins, then the cell in the "Founders" row and the "Christianity" column would populate with the name "Jesus Christ." Meanwhile, the "assessments" column populated with a check mark when students completed each assessment. A number indicating the number of attempts the students took to complete the assessment was designed to appear along with the check. This progression chart, along with the guide map, are displayed on the following page in Figure 4.7.

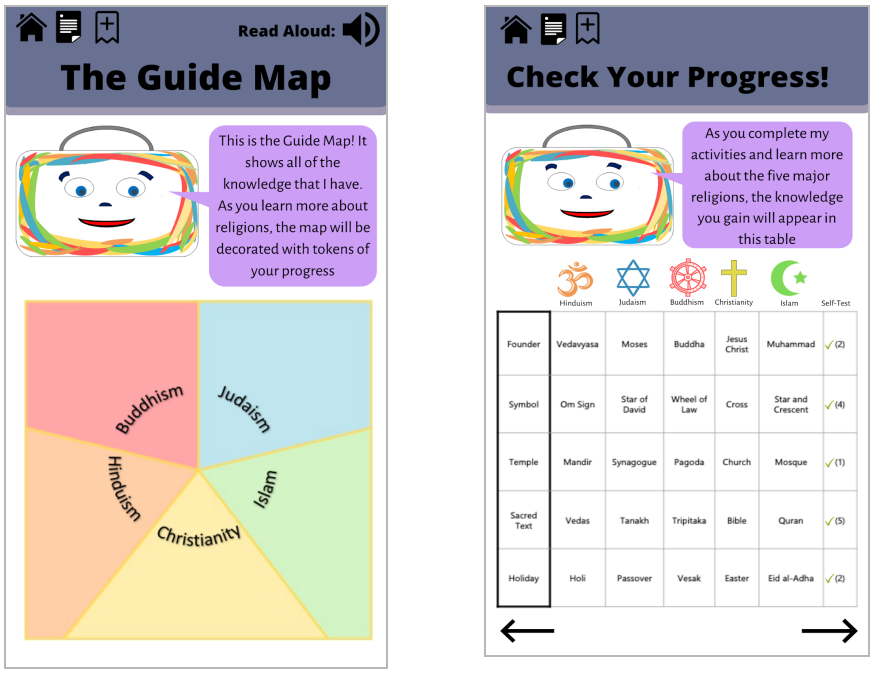

Figure 4.7 Guide Map pictorial progress tracking system (left) and progress table (right).

4.5 Objective 4 - Prototype the Religious Symbols and Temples Chapters

After working closely with our technical consultants, a final result for our prototype was achieved. This prototype included the home screen and login screen, as well as part of the section on religious symbols and the jigsaw puzzle activity associated with this chapter. A portion of the chapter on temples was also produced. This section included the slide puzzle activity. Along with this prototype a large document was compiled including all important design details such as all images used in the design, all font sizes, all colors used in the app, and the specific behavior that each function in the app should have (see in Appendix F). Not only did this document assist in the making of our partial prototype, but it will also be passed to our sponsors as a deliverable to aid in future development.

4.6 Objective 5 - Evaluate the Design through Educator Interviews

The design and educational efficacy of the wireframe was evaluated through a series of semi-structured interviews with educators (see section 3.6 for protocol and questions). Interviews were completed with eight respondents. Records of the interviews can be viewed in Appendix G. Two of these respondents were Russian educators who had experience with the original Tolerance Bag, and the other six were American educators with no prior knowledge of the program. The educators' overall reaction to the design was positive, with seven out of the eight respondents expressing that the design was excellent work.

The first question of the interview asked respondents about the ease of use of the app for both students and teachers in the classroom. All respondents indicated that the core features of

the app, such as the login screen, class registration screen, and table of contents page would be very easy for teachers to explain and students to understand. The respondents also indicated their belief that the activities were easy for the students to understand and complete on their own. Only one respondent indicated an issue with usability; they suggested that the jigsaw puzzles in the symbols chapter would be challenging for the students to complete without seeing an outline of the pieces on the screen.

The second interview question asked educators if they believed that the app was sufficiently engaging to students – if it would be a fun exercise that was more interesting than a typical lecture or reading module. Every respondent expressed that the jigsaw puzzles, sliding puzzles, and handicraft activities would be very engaging to students and something that they look forward to doing. All respondents noted the importance of creating a gamelike experience in an app like this. Seven of the eight respondents declared that the app as a whole strongly possessed the qualities of a game. Two of these educators did say that additional notifications of progress would benefit the app; they suggested using the Tolerance Bag character to deliver a congratulatory message to users after completing an activity, or that some other form of positive reinforcement be provided. However, one respondent – an American educator – believed that students would be bored by the reading passages of the app, and likely would not complete them at all without the "read aloud" feature. The respondent also believed that the fill-in-the-blank exercises would not be interesting to students, and that students would likely "just put in anything" to move on from them as quickly as possible. The seven other respondents did not share this opinion and said that the text would be very approachable to students, especially with the "read aloud" feature.

The third question asked respondents if they believed that the app contained sufficient religious content from the original Tolerance Bag. This question was only posed to the Russian educators with prior knowledge of the Tolerance Bag program. The respondents emphatically stated that the app did an excellent job covering the Tolerance Bag's material. They stressed that the app's activities directly connected to those of the original Bag and did not identify any areas of weakness. The respondents went so far to proclaim that the app's activities were an improvement over those of the original Bag, as they lacked the physical limitations that can impact students' experience with the original module's in-person activities.

The fourth question of the interview asked educators if they believed that the app would constitute a valuable use of class or homework time. The Russian educators enthusiastically stated that the app would be valuable both in-class and as a homework assignment. Four American respondents indicated that the app could be used in class or for homework, but they believed that it would be most useful in the classroom with teacher supervision. One of those two respondents added that the app would be a very valuable classroom activity, as it shows the similarities between different people that the respondent believed are often forgotten today. Another American respondent expressed that the app would be a good homework assignment, but would be difficult to fit in their existing school schedule. The remaining American respondent did not think that the app would be a valuable use of their curriculum time, stating that increased state requirements for reading and math in their grade level (fourth grade) did not permit for "extra" activities such as this. However, they said that it could be valuable as part of a unit on world religions for a fifth or sixth grade class.

The interview's fifth question asked respondents for their opinions on the color scheme, images, text, and other aspects of the visual presentation of the app. All eight respondents expressed satisfaction with the color scheme of the app; each of them expressed that it was bright enough to be engaging, but not so vibrant that it was distracting. The only critical comment on the color scheme concerned the use of the color yellow for Christian material – one Russian educator indicated that some Christians view yellow as the color of betrayal, so it would be wise for us to reexamine that color choice. All respondents also stated that the user functions on each screen were very approachable and not confusing to students. One respondent particularly praised the inclusion of the Tolerance Bag character in the app. However, opinions differed on the presentation of text in the app. Six respondents indicated that the text was not overwhelming to the student, especially with the "read aloud" feature present. One respondent thought that the volume of text was not overwhelming, but some of the vocabulary could be intimidating to lower-level readers. To address this, they suggested adding a feature to the read aloud that allows students to click on a single word and hear it's pronunciation. Another respondent did believe that the black-and-white text used to introduce the content of each activity resembled a textbook too closely, which they said would cause students to lose interest. This respondent suggested restructuring the text to remove this textbook resemblance.

The sixth and final question of the interview asked for the educators' opinions on the progress tracking systems within the app. All eight respondents believed that the app enabled them to view their students' progress in completing the activities. The respondents all expressed appreciation for the attempts counter in the progress table, as such a data point was critical to determining which students were grasping the material and which were not. Three of the eight respondents suggested improvements for the app's progression system. One respondent, a Russian educator who knew the original Tolerance Bag, stated that a record of students' mistakes in completing the chapter assessments would be useful for judging their comprehension of the material. Meanwhile, an American educator suggested a pre-assessment in the app to allow teachers to measure students' growth after using the app. However, that educator did add that the current progression systems were adequate for tracking students' general knowledge of the religious material. Another American educator was more critical of the progress tracking system. This respondent expressed that the matching and fill-in-the-blank exercises are "low-level" measurements of learning. Because they do not require students to produce answers on their own, the app's quizzes are not considered to be metrics of higher-order learning. A true indicator of knowledge, the respondent said, would come from more open-ended questions.

Overall, the feedback on the app design was very positive. The majority of respondents expressed approval of every element of the app addressed by the interview questions, and both Russian educators proclaimed the design to be "magnificent work." However, there were some points of concern raised, most commonly with the progress tracking systems and the student engagement with the readings and activities. Both this praise and these criticisms form the basis of our recommendations to Noosfera for the future development of the app, which are outlined in the following chapter.

Chapter 5: Discussion and Recommendations

This chapter contains a comprehensive discussion of our project's results and their relevance to the Tolerance Bag's core mission of supporting growing tolerance and peace to young people across the world. The chapter reintroduces the project's objectives and reviews the results that were achieved. The chapter then discusses four topics concerning the project's results and issues recommendations for future work

5.1 Overview of Project

The goal of this project was to design a web application that adapts the Tolerance Bag religious tolerance education module to a virtual platform. To realize this overarching goal, the team set five project objectives:

1. Understand how young adolescents interact with apps in educational environments.
2. Identify the features and attributes that Noosfera requires for the app to meet their needs.
3. Deliver a wireframe schematic of web application that covers the full range of material in the Tolerance Bag Coloring Book.
4. Produce a working prototype web application that covers the Coloring Book's content on religious symbolism and temples.
5. Collect feedback on the app design through interviews of educators.

A result was delivered for each of these five objectives. For the first objective, a set of key qualities for educational apps were identified through a target literature review methodology (see method in section 3.2 and results in section 4.2). For the second objective, Noosfera's functional requirements for the app were identified in a recorded open conversation (sections 3.3 and 4.3). A comprehensive visual design of the app was delivered for the third objective via the method of wireframing in the Canva graphic design platform (sections 3.4 and 4.4). A working prototype of the app's symbols and temples chapters was delivered for the fourth objective, which was executed by two external consultants with the project (sections 3.5 and 4.5). Lastly, feedback on the app was collected through a series of semi-structured interviews with educators (sections 3.6 and 4.6). This chapter discusses four considerations from these results and issues recommendations in response to those considerations. The discussion is presented first.

5.2 Discussion of Project Results

This section discusses four considerations surrounding the project's results: the current pedagogical quality of the app design, the accuracy of the religious content in the app, the sampling of subjects for feedback collection, and the technical development of the app. The current app design is discussed first.

5.2.1 Discussion of the Current App Design's Pedagogy

From the results of our interviews, we conclude that our design is a successful framework for a Tolerance Bag application. The interviews verified that our design provided strong indicators of student progress and struggles, enticing activities for students, a very approachable navigation system, and a faithful adaptation of the original Tolerance Bag content. However, the

interviews did reveal some opportunities for improvement. The responses indicate that our design needs to include clearer guidelines for the jigsaw puzzle activities, more robust motivation features for students, and a system to help young readers understand the new religious vocabulary. To clarify the symbols activities, we recommend that the field on which the jigsaw puzzles are completed be equipped with an outline of the symbol shape to aid in student completion. To add motivating factors, we recommend that a popup feature be designed to immediately acknowledge students' completion of each activity. Lastly, to mitigate potential issues with text, we recommend that a feature be designed so that students can click on singular words within the app to hear their specific pronunciation. These features do not address some concerns that were raised with respect to text in the app, but any changes regarding that subject would require fundamental changes in the app's design, which should not be undertaken without validating data from student users themselves.

5.2.2 Discussion of Religious Content Accuracy

While the interviews provided thorough and helpful feedback into the educational strengths and weaknesses of the design for the app, a point of potential improvement for the content also was brought to our attention. One interviewer mentioned that the color yellow for Christianity was associated with betrayal and treason. This calls into question what other nuances we may be missing within the app that might misrepresent aspects of the religions. Noosfera conducted research and worked with consultants from each religion to produce the content of the Tolerance Bag, however in our development we did confirm the accuracy of the religious content within the app or the connotation with which it was presented. Our project focused solely on the design and technical development, therefore we may have overlooked some minor flaws in the content with which we were provided. It is important that these flaws may be corrected, as the app is designed to teach young children tolerance and by producing an app that is in any way inaccurate or insensitive, the app cannot complete its purpose. It is for this reason that the design should reach consultants from each of the five major religions in the app for feedback on the information and its presentation to best confirm the content it teaches.

5.2.3 Discussion of Sampling Limitations in App Design Feedback

When developing any product, virtual or physical, it is always best to have your target audience review and test your product. After we completed our designs and wireframe we needed to get input from our target audience; students and teachers. However, because of the risks and stringent restrictions on communicating with minors it was found best to interview educators that have worked with young adolescents instead of the adolescents themselves. This way, we were able to acquire some form of feedback on how young adolescents would feel using this app by asking educators how they believed it would perform. Since we did not have young adolescents review our Tolerance Bag mobile wireframe, we do not have a complete understanding of our design's efficacy.. Even though we received feedback about the text and activities in the wireframe from educators, we can not fully state that this web design will engage students and instill knowledge that they will retain. To achieve this certainty, research specifically focused on the quality of childrens' interactions with the app must be performed. A potential solution would be to have children use a prototype of the app within their normally scheduled school time. After the usage period ends, the students could be presented with a brief

Likert-style questionnaire to evaluate their engagement and understanding of the app. An example of such a questionnaire is provided by Table 1 in Appendix H.

5.2.4 Technical Development Considerations

For our result, we provided a detailed and comprehensive design for the app. However, this is only the beginning in the development process. To complete testing the app fully, a functioning prototype is necessary. While the homescreen and the chapters on religious symbols and temples, including their jigsaw puzzle and sliding puzzle functions, have been developed into a working prototype by technical consultants, the full app is a much larger undertaking. The full app would include the rest of the chapters and activities as well as all account systems and progression tracking functionalities within the design. In order to complete this, a background in computer science and programming languages is necessary. For future development a working knowledge of HTML, CSS, and Javascript coding languages is required for the appearance and functionality of the activities and pages. For the account systems, the developer must be proficient in SQL and PHP. All of these languages and skills are commonly used by web or app developers. These requirements are a minimum to be able to complete the app successfully. For the prototype and final deliverable for the app it is essential that the future project team is experienced in these areas.

5.3 Recommendations for Future Development

Given the above findings, limitations, and conclusions, we recommend that:

- Any future project team implements a feature that provides immediate visual and auditory feedback to students after completing an activity.
- Any future team adds an outline of the symbols' shape to the jigsaw puzzle activity to aid in students' completion of it.
- Any future team expands the "read aloud" feature to allow users to click on individual words and hear their pronunciation.
- Future project teams execute a research process to verify the accuracy and sensitivity of the app's presentation of religious content. We have two suggestions on how to accomplish this:
    - Widely distribute a survey to collect general practitioners' feedback on the app.
    - Conduct interviews with academic and clerical religious experts to collect their critiques.
- Upon the completion of a fully functioning prototype of the app (with all chapters implemented), Noosfera endeavors to have students test it and collect feedback from said students who use the prototype.
    - We recommend a survey method like that shown in Appendix H to accomplish this research.
- WPI and Noosfera include at least one person with the relevant computer science expertise (see section 5.2.4) when organizing a team to take ownership of the project in creating their digital Tolerance Bag.

Following these recommendations powerfully equip Noosfera to expand the existing app design into a functional, informative, and inclusive product that students will actively enjoy using.

5.4 Concluding Remarks

In this project term, we delivered a comprehensive design for a web application that adapts the Tolerance Bag from an in-person module to a virtual setting. Our design was validated with a series of interviews with educators, which identified some opportunities for improvement but also confirmed the efficacy of most of the design choices. With the provided recommendations, Noosfera is well equipped to translate our design into a deployable app.

The importance of the Tolerance Bag app can not be overstated. Global religious violence is at record high rates and only continues to increase (Muggah, 2019). The most effective and permanent way to counteract this alarming trend is through education (UNESCO, 1994). The original Tolerance Bag is a valuable mechanism of that education, but it is limited. The physical Bag is large, heavy, and expensive, and Noosfera cannot afford to produce and ship it for all of the remote places with which they wish to share the Bag's message of religious tolerance. The COVID pandemic's harsh disruption of international supply chains and communication has only exacerbated this challenge. The Tolerance Bag app evades these material limitations. The app requires none of the prohibitive production costs that currently prevent Noosfera from extending the Bag's reach. It also erases the geographic limitations of the physical Tolerance Bag; the app can be accessed instantaneously across the world and administered safely within the confines of the COVID-19 pandemic. Having a Tolerance Bag app allows a small entity like Noosfera to project a booming voice across the globe.

The Tolerance Bag app also makes an important appeal to modernity within the scope of religious tolerance. It is well known that modern children are becoming increasingly involved in video games, social media and other virtual media. Unfortunately, much of the discourse in these virtual settings is a contributing factor to the rising instances of hate that the world sees today. The Tolerance Bag app provides a voice of peace in that violent realm that brings UNESCO's Declaration of the Principles of Tolerance into a form that the modern child can understand. Delivering a message of tolerance in such a relevant form is essential to creating a generation of tolerant people ready to live in today's world of cultural diversity and community cohesion.

Chapter 6: References

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Appendix A: Minutes from App Planning Meeting

Sponsor Meeting - 3/30/2021

- Goal statement was read
- Symbols activity will be puzzles.
    - Questions about symbols are addressed.
- Looking to do another activity for the temples section.
- Sacred texts will consist of tracing letters or words.
- Holiday section will consist of click and drag stickers.
    - The bank box will have different folders of color and sticker.
    - Would like the egg to have a sketch on it and kids could drag stickers that can change color.
    - Mosaic- have an outline or a part of a mosque wall.
        - Have a mosaic and pieces from the mosaic missing from the wall.
- Parable section- keep text and audio is good.
    - Noosfera wants some activity for parables, something more than writing down the moral lesson.

- Ideas:
    - Audio
        - Noosfera likes the idea of using audio, and would still like the text to be there.
    - Noosfera really wants the coloring book chart to be implemented somewhere.
        - Quiz at the end would fill the table.
    - Implement a gallery for the students to look back on all the arts and crafts that they did.
        - Noosfera likes this idea- very similar to the guide map.
    - Kids respond well to characters in videos.
        - Would like to use the tolerance bag character in a video or maybe along the students journey.
        - Noosfera likes it.
    - Oates: Don’t make it more complex because we might not have a web developer.
        - Have the WPI students communicate to find the web developer.

Appendix B: Technical Consultant Selection and Credentials

Prototyping the Tolerance Bag application was outsourced to two technical consultants, Jingru Chen (Max) and Chenkai Zhou (John) from Professor Jennifer deWinter's studio in Worcester Polytechnic Institute's Interactive Media and Game Design department. The team secured these contacts by collaborating with Dean Kent Rissmiller and Nancy Fay of the Global Experience Office (GEO) to place an open job listing on WPI's virtual campus job board. The posting included the following message:

> "The team has determined that this outside help should have the following required skills:
>
> - Experience in front-end web development, especially as it relates to interactive games
> - Knowledge of HTML5, JavaScript, and CSS
> - Experience in using the Bootstrap framework for mobile-first development
> - Knowledge of Laravel or another comparable web application framework.
>
> These are the core skills that encompass the primary technical goal of the project. In addition to these, it may be helpful for the student to have the following skills. While they could be useful, they are not a requirement for our project:
>
> - Experience in back-end web development
> - Skills in using SQL and PHP for designing account systems
>
> The central work of our project will center around the creation of six web pages - a home screen, and five pages that contain interactive puzzles, where students drag and drop shapes from a bank onto an image of a religious symbol to color it. We will provide the full design and specifications to the student. We estimate that this project will take approximately 40 hours of cumulative work, and we hope this work can be completed over the course of three or four weeks. We are prepared to be flexible with our expectations for the end product to ensure that something workable is delivered in the time that we have this help.

Dean Rissmiller forwarded the message to Professor deWinter and Professor Craig Wills, the department heads of the IMDG and Computer Science departments, respectively. Professor deWinter referred John and Max to the role. The team held a meeting with the consultants on April 10. At this meeting, the consultants presented a rough mockup of the prototype application and discussed their respective capabilities in web app development. Following the conversation, John formally agreed to assist with the project as a paid consultant, while Max decided to support it as a volunteer. John was compensated hourly for his work through funds budgeted by the GEO department.

Appendix C: Interview Respondent Communications

The following statement was sent to American contacts via email to establish interview appointments:

> Hello!
>
> We are an undergraduate student research team at Worcester Polytechnic Institute (WPI) completing our Interactive Qualifying Project. For our project, we are working with an educational non-profit organization in Russia to design a web application that teaches students aged 8-12 about different world religions. We currently have a complete visual design of the app, and we are looking for feedback on it.
>
> We received your contact information as somebody who may be able to help us by providing feedback on the design. We are not looking to critique the app's religious content; we are just looking to assess the quality of its design, activities, and student engagement. Thus, you don't need to have knowledge of religions to help us out; **you only need to know how kids learn.**
>
> If you can assist us, we would like to schedule a video conference interview with you. In this interview, we will present you our design and ask you a series of questions about it. The interview is semi-structured, so we may ask you some follow-up questions depending on your responses. For the interview, we would like to schedule a time slot of at least 30 minutes.
>
> We would like to hold these interviews starting Tuesday, April 20 and ending Friday, April 31. In general, we are available at any time on any day in the week, so we would be happy to hold the interview whenever works best for your schedule. If you would be able to participate in an interview, please let us know a set of days and times that will work for you, and we will suggest a meeting from there.
>
> Thank you for considering participating in our project. If you have any questions or concerns you would like to be addressed before moving forward, please do not hesitate to reach out!
>
> Best regards,
>
> Kate Burkes, Lanna Delaney, Patrick Roche, and Brian Zawacki
> Worcester Polytechnic Institute

The following statement was sent to Russian contacts via email to establish interview appointments:

> Dear [correspondent name],

We are a group of undergraduate students from Worcester Polytechnic Institute in the United States, and we are collaborating with the Noosfera Educational Support Foundation to design a mobile web application for their Tolerance Bag program. Our team has completed a design for the app, and we are looking to receive feedback on the design from people who are familiar with the original Tolerance Bag. Ms. Tamara Arzumanyan and Ms. Sofia Arzumanyan gave us your contact information as people who may be able to help us by providing this feedback.

If you can help us, we would like to schedule an interview with you for at least 30 minutes. We will hold these interviews over Zoom or another video conferencing platform, depending on what is available to you. We will spend the first part of the interview presenting and explaining our design, and the second part asking you a series of prepared questions. The questions are semi-structured, so we may ask some follow up questions depending on your responses.

For scheduling, our team is very flexible and can hold the interview any time after 3 P.M. Moscow time on any day of the week (with some isolated exceptions). We intend to begin our interview process on April 20th and conclude it by April 31st. If you can help, please send us a set of dates and times within that range that would be convenient for you to meet, and we will set up an interview time based on that.

Thank you very much for your consideration in helping our project! It is essential that our design meets the needs of the people it affects, so your feedback is critical to the success of our project. If you have any questions or concerns you would like to address before setting up an interview, please do not hesitate to reach out! We hope to hear from you soon.

Best regards,

Kate Burkes, Lanna Delaney, Patrick Roche, and Brian Zawacki
Worcester Polytechnic Institute

Appendix D: Interview Protocol and Questions

For all interviews, respondents were contacted via email (see Appendix C) to arrange a 30 minute interview on Zoom. The interviews began with a formal opening statement. For Russian correspondents, the following statement was used:

> We are a team of undergraduate researchers at Worcester Polytechnic Institute (WPI) who are completing our interactive qualifying project, or IQP. For our project, we are collaborating with the Noosfera educational support foundation to adapt the Tolerance Bag curriculum to a web application platform. We have designed a user interface for the app, along with a series of virtual activities, assessments, and progression tools. We want to collect feedback and criticism from people who know the Tolerance Bag well, so we will be showing you our design and asking you questions related to its appearance, student engagement, and relevance to the original Tolerance Bag curriculum.

For American correspondents without prior knowledge of the Tolerance Bag, the following statement was used:

> We are a team of undergraduate researchers at Worcester Polytechnic Institute (WPI) who are completing our interactive qualifying project, or IQP. For our project, we are collaborating with a Russian non-profit organization called “Noosfera”, who run a variety of educational programs both in Russia and abroad. One program that Noosfera runs is called the “Tolerance Bag”; it contains a series of arts and crafts activities that teach children about five major world religions: Hinduism, Judaism, Buddhism, Christianity, and Islam. The goal of our project is to design a web app version of that “Tolerance Bag” curriculum; today, we’re going to present our design to you and ask you for feedback on it’s design and educational techniques.

After the opening statement, the first fifteen minutes of the interview were dedicated to presenting the wireframe of the app. Each page of the wireframe was presented via a slideshow created in Adobe XD. One team member provided verbal explanations of each page in the app and the activities it contained. After the presentation concluded, the final 15 minutes of the interview were devoted to questions and answers. Russian correspondents were presented the following set of questions:

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
3. Do you believe that the app experience contained sufficient information on the major world religions? Was the central lesson that all religions contain the same Golden Rule - "Do unto others as you would have others do unto you" - clear?
4. Do you think that this app is a valuable use of class or homework time?
5. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
6. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?

The third question was omitted for American respondents. One team member presented the wireframe and posed questions, while at least two others recorded notes on the subject's responses (see Appendix G).

Appendix E: App Pages and Exercises

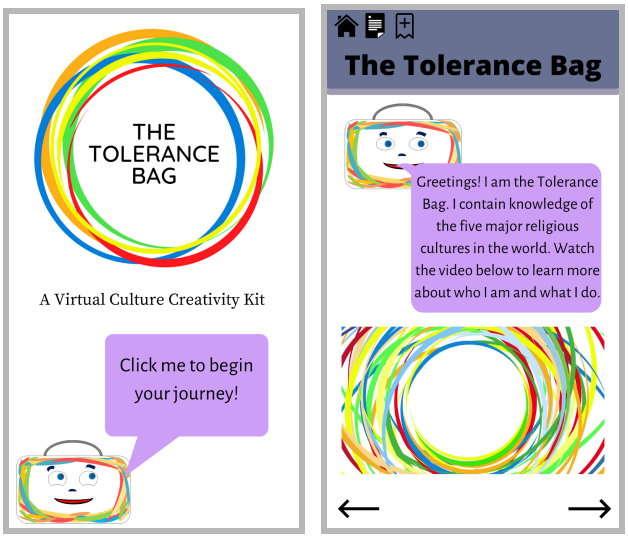

Figure E.1 App front screen (left) and Tolerance Bag introduction screen (right).

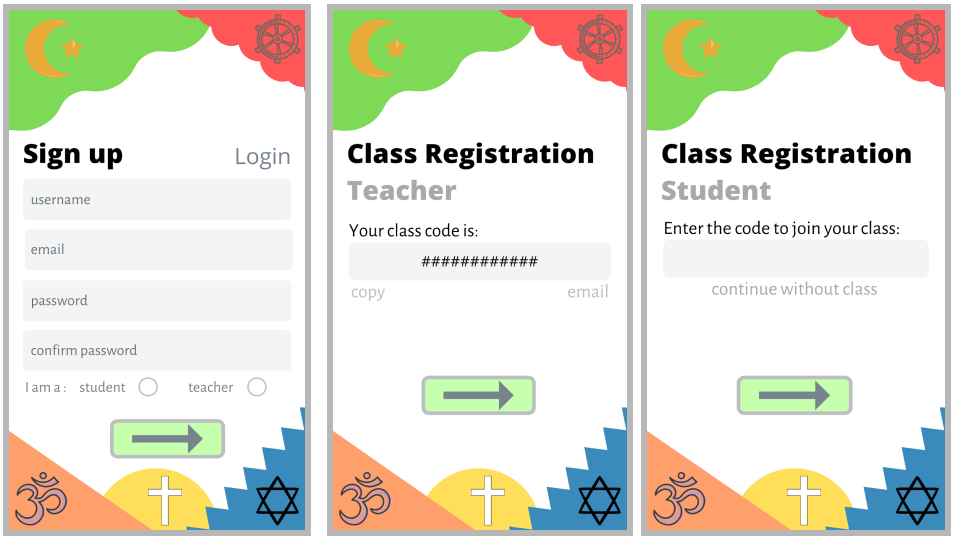

Figure E.2 Sign up screen (left), teacher's class registration (center), and student class registration (right).

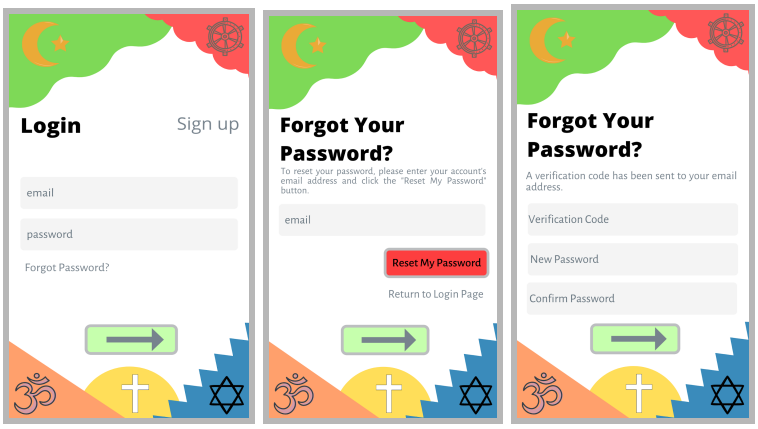

Figure E.3 Login screen (left), password request screen (center), and password reset screen (right).

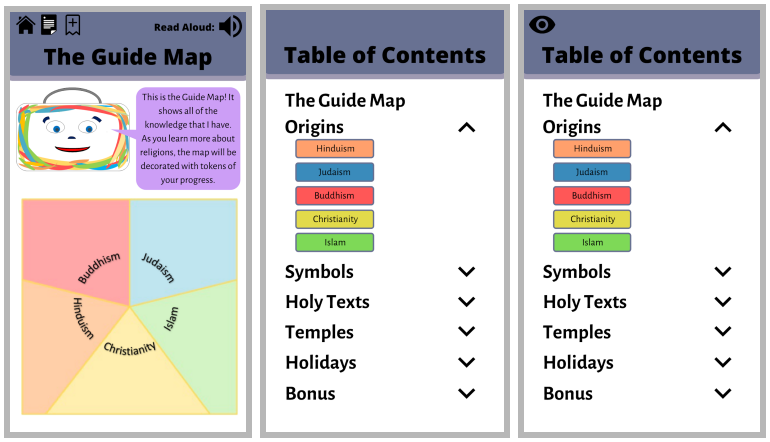

Figure E.4 Guide map homescreen (left), student view of table contents (center), and teacher view of table of contents (right).

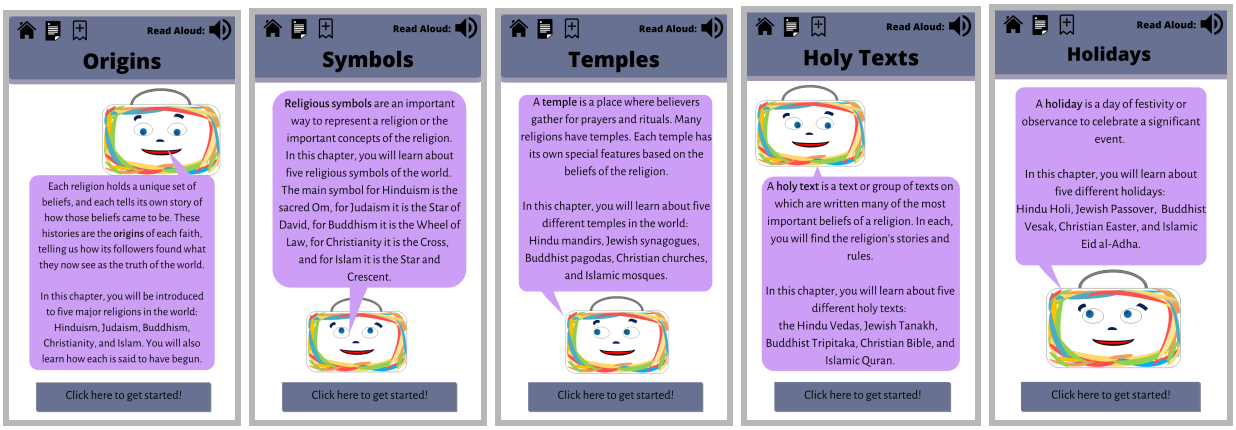

Figure E.5 Introduction pages of (from left) origins, symbols, temples, holy texts, and holidays chapters.

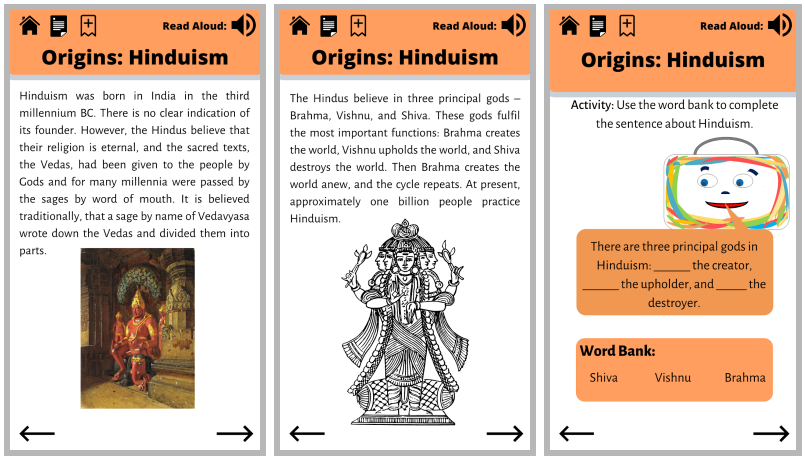

Figure E.6 Text and activity for the origins of Hinduism.

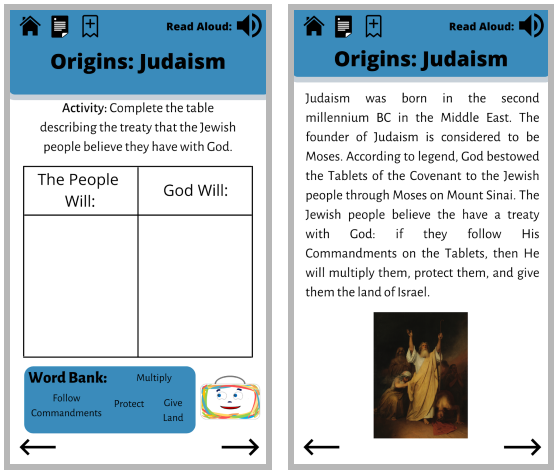

Figure E.7 Text and activity for the origins of Judaism.

Figure E.8 Text and activity for the origins of Buddhism.

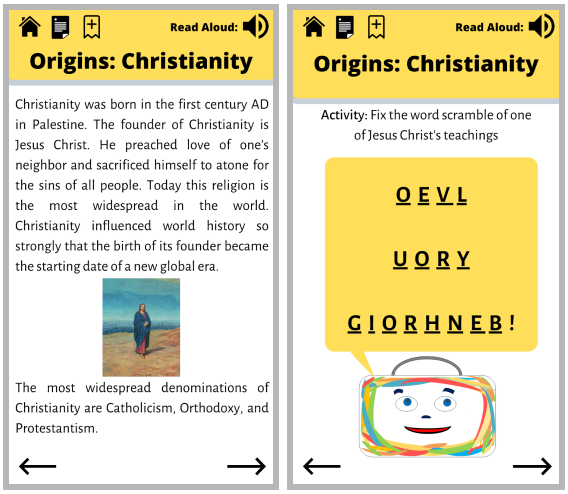

Figure E.9 Text and activity for the origins of Christianity.

Figure E.10 Text and activity for the origins of Islam.

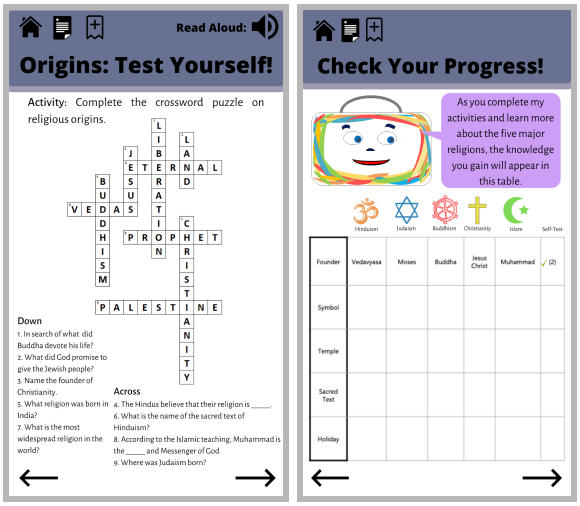

Figure E.11 Crossword assessment (left) and progress table for origins chapter (right).

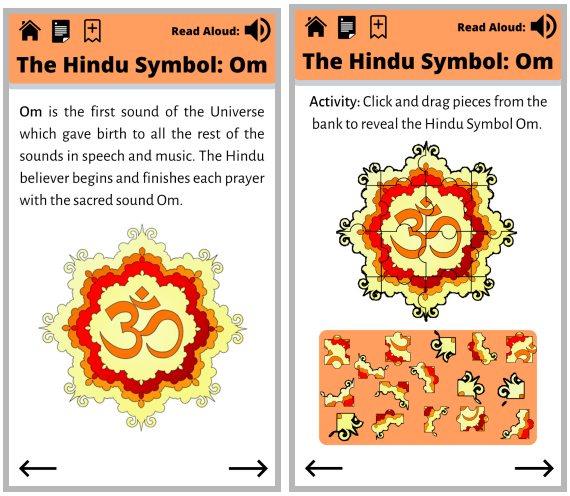

Figure E.12 Text and puzzle activity for the Hindu Om symbol.

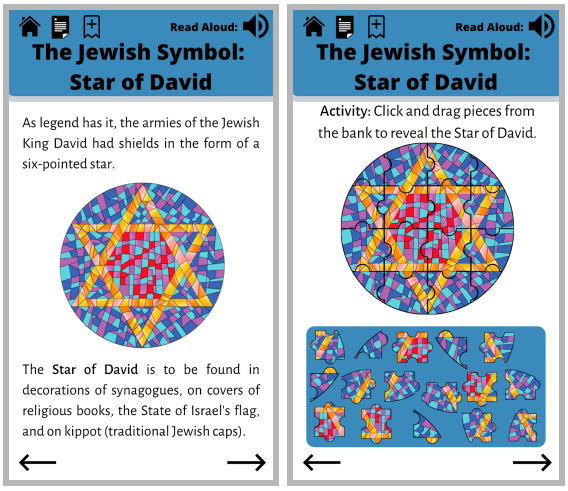

Figure E.13 Text and puzzle activity for the Jewish Star of David symbol.

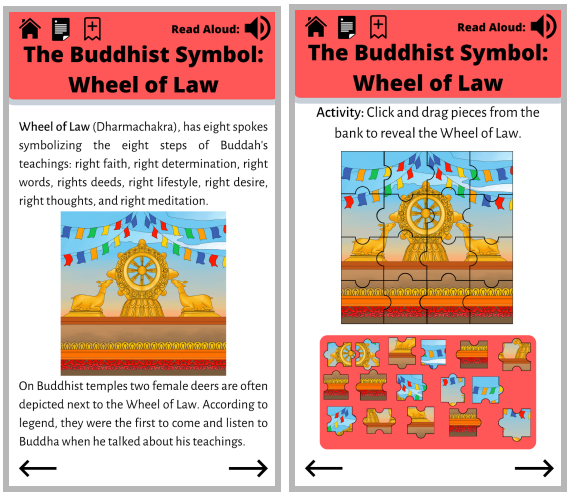

Figure E.14 Text and puzzle activity for the Buddhist Wheel of Law symbol.

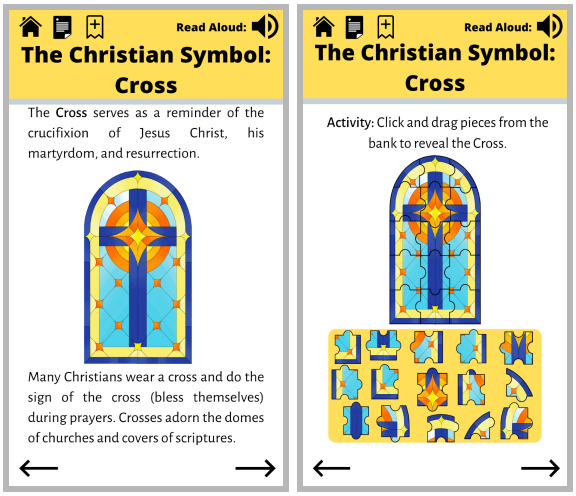

Figure E.15 Text and puzzle activity for the Christian Cross symbol.

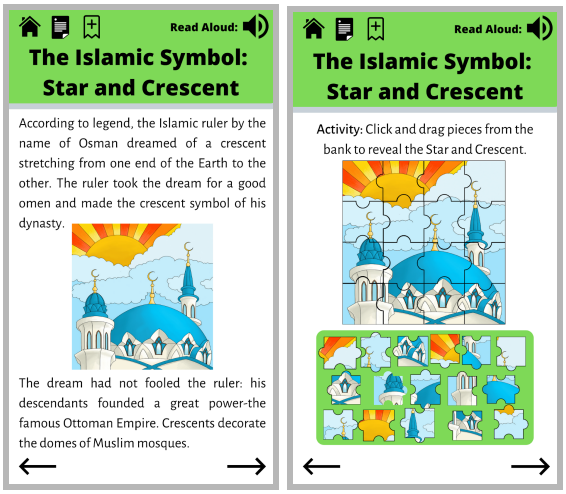

Figure E.16 Text and puzzle activity for the Islamic Star and Crescent symbol.

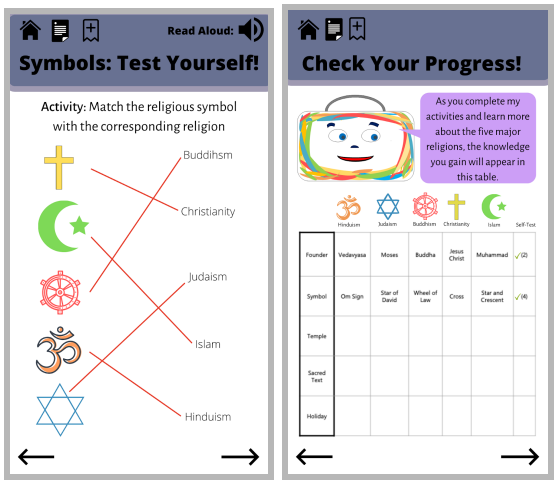

Figure E.17 Matching quiz (left) and progress chart (right) for the symbols chapter.

Figure E.18 Text and sliding puzzle activity for the Hindu temple - the mandir.

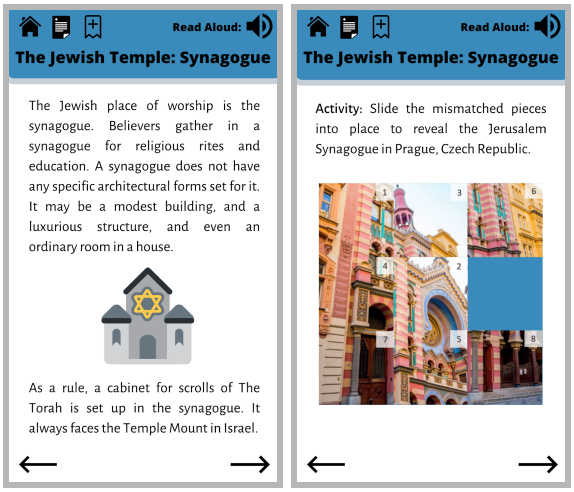

Figure E.19 Text and sliding puzzle activity for the Jewish temple - the synagogue.

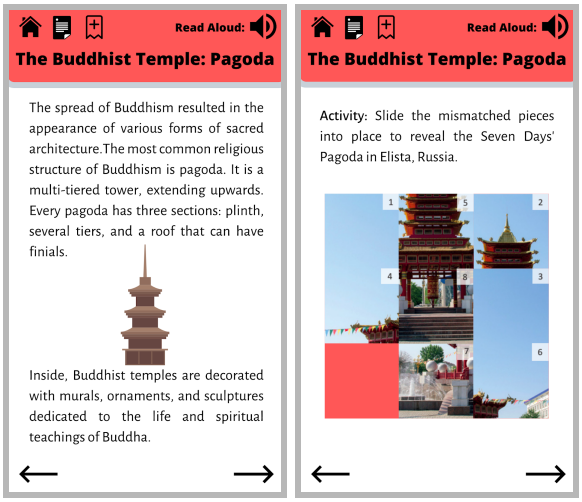

Figure E.20 Text and sliding puzzle activity for the Buddhist temple - the pagoda.

Figure E.21 Text and sliding puzzle activity for the Christian temple - the church.

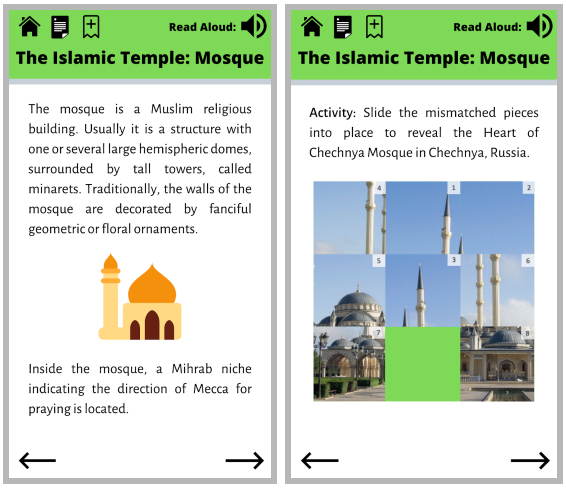

Figure E.22 Text and sliding puzzle activity for the Muslim temple - the mosque.

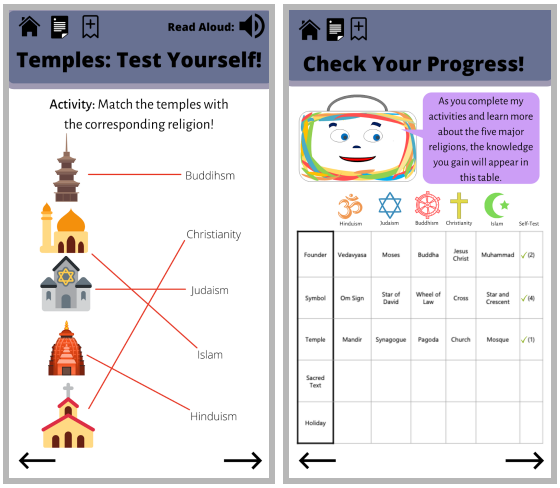

Figure E.23 Matching quiz (left) and progress chart (right) for the temples chapter.

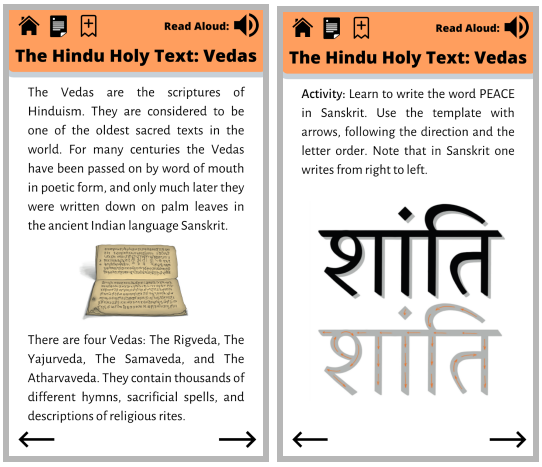

Figure E.24 Text and tracing activity for the Hindu sacred text.

Figure E.25 Text and tracing activity for the Jewish sacred text.

Figure E.26 Text and tracing activity for the Buddhist sacred text.

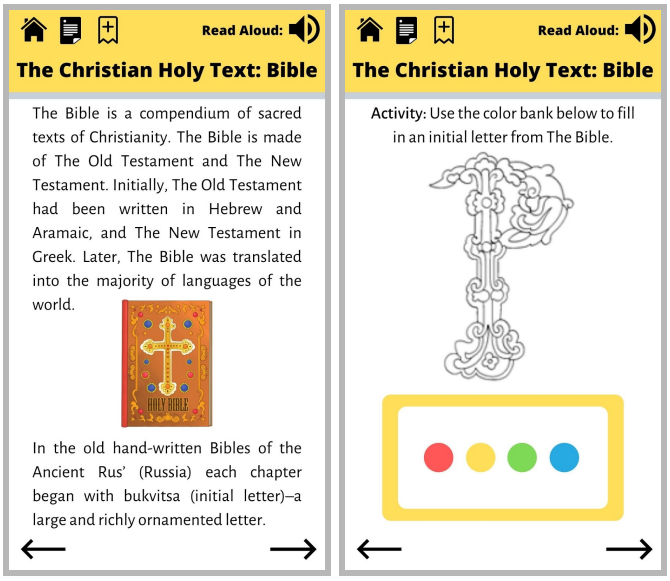

Figure E.27 Text and coloring activity for the Christian sacred text.

Figure E.28 Text and coloring activity for the sacred text.

Figure E.29 Progress chart (bottom right) and multiple choice quiz activity (all others) for sacred texts chapter.

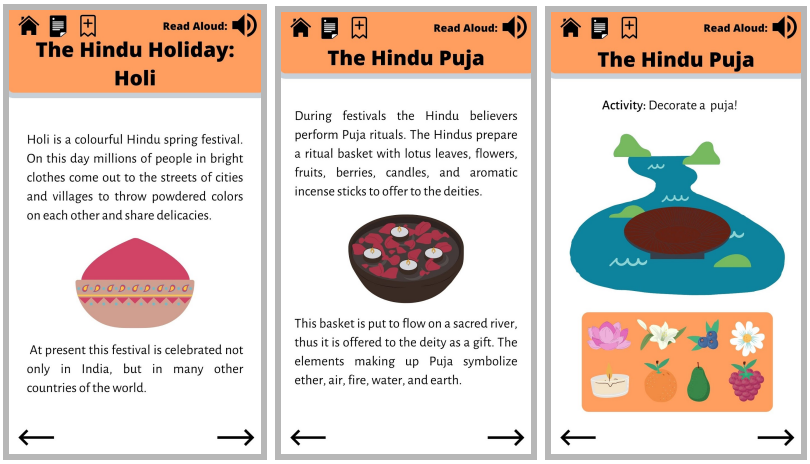

Figure E.30 For Hinduism, text describing Holi (left), text describing the puja offering (center), and the Puja decoration activity (right).

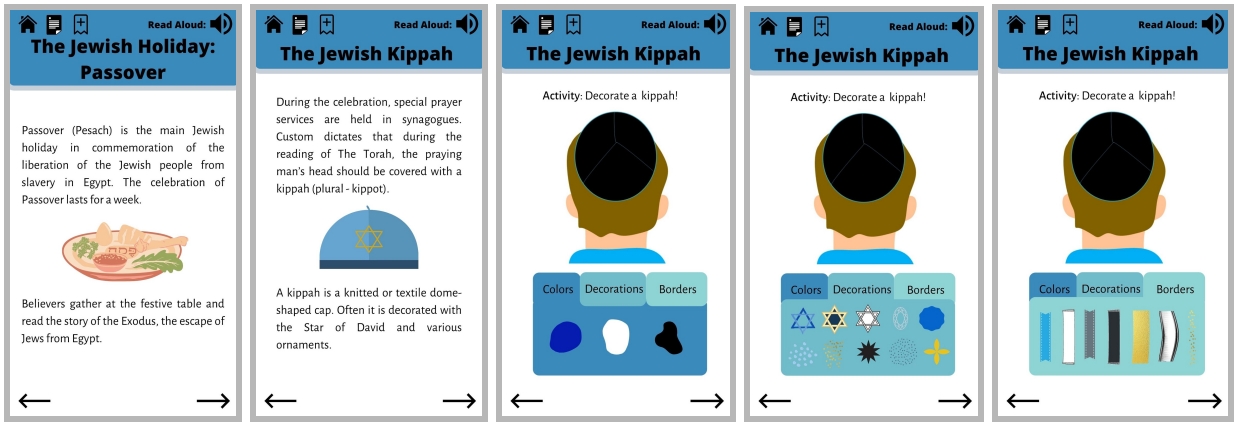

Figure E.31 For Judaism, text describing Passover (left), the kippah headpiece (next from left), and the kippah decorating activity (center to right).

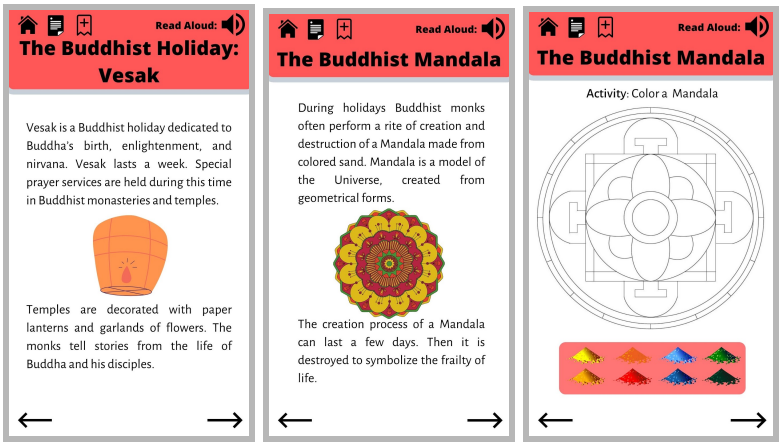

Figure E.32 For Buddhism, text describing Vesak (left), the mandala tradition (center), and the mandala coloring activity (right).

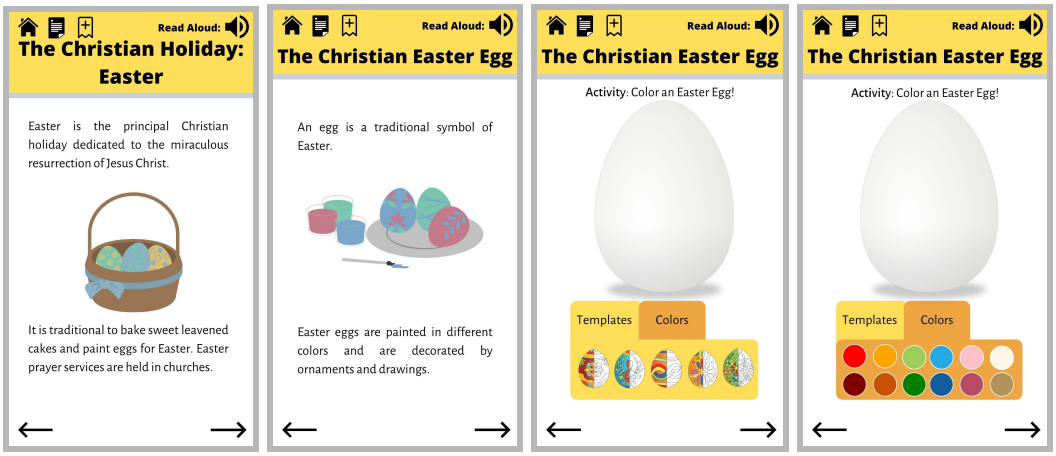

Figure E.33 For Christrianity, text describing Easter (left), the Easter egg tradition (next from left), and the Easter egg decorating activity (right from center).

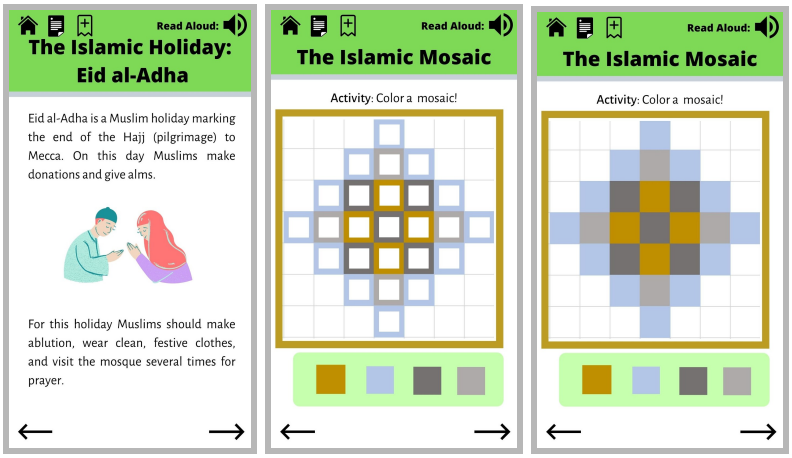

Figure E.34 For Islam, text describing Eid al-Adha (left) and mosaic coloring activity (center and right).

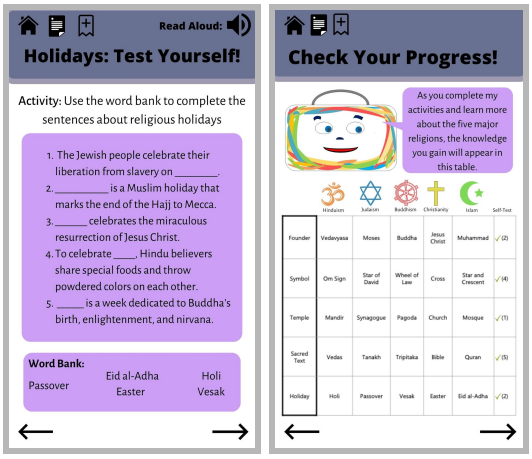

Figure E.35 The word game game quiz for the holidays chapter (left) and the progress table following the chapter's completion (right).

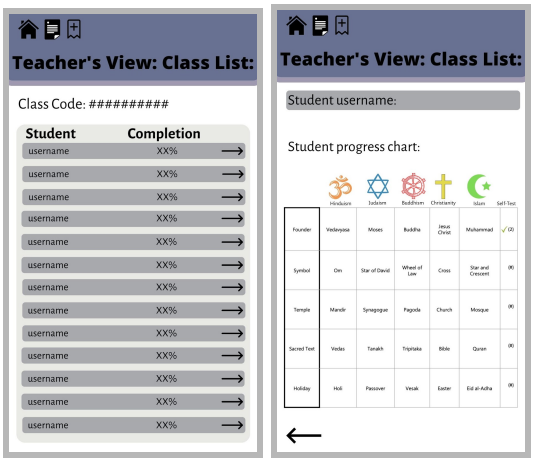

Figure E.36 Class roster screen (left) and individual progress chart (right) within the teacher's view.

Appendix F: Technical Specifications Document

Guide Document

***This document is for future project teams and Noosfera, along with this document will also have a file of all the images used in the designs sent to Noosfera.**

For Every Page:

- Home button, table of contents, chapter marking in the top left will be enlarged when selected or hovered over.
- For all and any button have them enlarged
- Home button will go to the guide map
- The button to the right of the home button will got to the table of contents
- Chapter marking button - Save button
- Speaker button on top right will be enlarged when selected or hovered over.
- Arrows on the bottom right and left will be enlarged when selected or hovered over.
- The Guide Map will be filled with icons associated with each activity when the activities are completed.
- The designs of the entire Mobile Website was made in Canva. There will be a file of the images used along with the description of the website given to Noosfera. Since we used Canva to make our designs, images found in the design came from Canva and we are unable to extract the images well. We will do our best to get them ready for you, there will be a snippet of them.

Welcome Page

- Image of Tolerance Bag logo with Title in the middle
    - Title (Size 64), Quicksand Font, Black Letters, center alignment, 1 Line Spacing
- Under logo, “A Virtual Culture Creativity Kit” -Alegreya Sans Bold, size 46, Black letters
- The Bottom Left Tolerance Bag Character has a speaking bubble upper diagonal to the right.
    - Speaking bubble is in light purple/lavender color.
    - In Bubble “Welcome! Click me to begin your journey” - Alegreya Sans Regular, size 53.2, center alignment, 1.5 Line Spacing, Black
        - When you click the speaking bubble it will click to the next page-Sign Up.

The Tolerance Bag

- “The Tolerance Bag” - Open Sans Extra Bold, size 76, black, center alignment
- “Greetings! I am the Tolerance Bag. I contain knowledge of the five major religious cultures in the world. Watch the video below to learn more about who I am and what I do” - Alegreya Sans Regular, Size 44.4, Black, center alignment, 1.5 Line Spacing

Sign up

- The 5 main religious symbols are found in canva and in the images file.
- Sign up - Open Sans Extra Bold, size 73.3, left alignment, Black font.
- Login - Open Sans, size 61.3, right alignment, dark grey font

- Username - Alegreya Sans Regular, size 42, left alignment, grey, surrounding box is in light grey - when typed in it will be in black
- Email - Alegreya Sans Regular, size 42, left alignment, grey, surrounding box is in light grey - when typed in it will be in black
- Password - Alegreya Sans Regular, size 42, left alignment, grey, surrounding box is in light grey - when typed in it will be in black
- Confirm Password - Alegreya Sans Regular, size 42, left alignment, grey, surrounding box is in light grey - when typed in it will be in black
- I am a: Student or Teacher is in Alegreya Sans Regular, size 42, grey
    - The smaller circle outlines in dark grey on the left of the student and teacher will be filled in dark grey when selected or hovered over.
- Arrow at the bottom will be in dark grey with the surrounding box in light green/Pistachio color, outlined in grey - image is found in file.
    - This button when selected will be enlarged and go to the class registration

Class Registration - Teacher

- Class Registration - Open Sans Extra Bold, size 73.3, left alignment, 1.4 line spacing, black
- Teacher - Open Sans Extra Bold, size 73.3, left alignment, 1.4 line spacing, dark grey
- Your class code is- Alegreya Sans Regular, size 52, left alignment, black font
    - Random code will be generated for the teacher to allow students to join the class.
    - Box is in light grey
    - When code is made it will be in black, Alegreya Sans regular, size 52
- Copy and email - light grey, Alegreya Sans Regular, size 52
- Arrow at the bottom will be in dark grey with the surrounding box in light green/Pistachio color, outlined in grey.
    - This button when selected will be enlarged and go to the Guide Map

Class Registration- Student

- Class Registration - Open Sans Extra Bold, size 73.3, left alignment, black
- Student - Open Sans Extra Bold, size 73.3, left alignment, grey
- Enter the code to join your class - when typed in it will be in black, Alegreya Sans Regular, size 52, left alignment
- Continue without class - Alegreya Sans Regular, size 52, center alignment, grey
- Arrow at the bottom will be in dark grey with the surrounding box in light green/Pistachio color, outlined in grey - image found in file.
    - This button when selected will be enlarged and go to the Guide Map.

Login

- Login - Open Sans Extra Bold, size 73.3, left alignment, black
- Sign up- Open Sans, size 61.3, right alignment, grey
- Email - Alegreya Sans Regular, size 42, left alignment, grey, surrounding box is in light grey - when typed in it will be in black

- Password- Alegreya Sans Regular, size 42, left alignment, grey, surrounding box is in light grey - when typed in it will be in black
- Forgot Password - Alegreya Sans Regular, size 42, grey, when selected will turn black and will be underlined
- Arrow at the bottom will be in dark grey with the surrounding box in light green/Pistachio color, outlined in grey - image found in file.
    - This button when selected will be enlarged and go to the class registration

Forgot Your Password?-Part 1

- Forgot Your Password?- Open Sans Extra Bold, size 73.3, left alignment, black
- To reset your password, please enter your account's email address and click the "Reset My Password" button- Alegreya Sans Regular, size 35, grey
- Email - Alegreya Sans Regular, size 42, left alignment, grey, surrounding box is in light grey - when typed in it will be in black
- Reset My Password Button in red, surrounded in grey outline, words are in black - when selected the button will enlarge.
- Return to Login Page- Alegreya Sans Regular, size 42, grey - when selected will turn black and be underlined.
- Arrow at the bottom will be in dark grey with the surrounding box in light green/Pistachio color, outlined in grey - image found in file.
    - This button when selected will be enlarged and go to the “Forgot your password?-Part2”

Forgot Your Password?-Part2

- Forgot Your Password?- Open Sans Extra Bold, size 73.3, left alignment, black
- A Verification code has been sent to your email address.- Alegreya Sans Regular, size 40, grey
- Verification code - Alegreya Sans Regular, size 42, left alignment, grey, surrounding box is in light grey - when typed in it will be in black
- New password- Alegreya Sans Regular, size 42, left alignment, grey, surrounding box is in light grey - when typed in it will be in black
- Confirm Password- Alegreya Sans Regular, size 42, left alignment, grey, surrounding box is in light grey - when typed in it will be in black
- Arrow at the bottom will be in dark grey with the surrounding box in light green/Pistachio color, outlined in grey - image found in file.
    - This button when selected will be enlarged and go to the login page.

The Guide Map - Home Page

- “The Guide Map” - Open Sans Extra Bold, size 76, center alignment, black
- “This is the Guide Map! It shows all of the knowledge that I have. As you learn more about religions, the map will be decorated with tokens of your progress” - Alegreya Sans Regular, size 34, black, center alignment, 1.5 Line Spacing, inside light purple speaking bubble

- Guide Map image found in file

Table of Contents - Students

- "Table of contents" Title - Open Sans Extra Bold, size 76, center alignment, Black
- "The Guide Map," "Origins," "Symbols," "Temples," "Holy Texts," "Holidays," "Bonus," Titles - Alegreya Sans Bold, size 68.6, black
  - Religion button images are found in file, as well as button up and down arrow

Table of Contents - Teachers

- "Table of contents" Title - Open Sans Extra Bold, size 76, center alignment, Black
- "The Guide Map," "Origins," "Symbols," "Temples," "Holy Texts," "Holidays," "Bonus," Titles - Alegreya Sans Bold, size 68.6, black
  - Religion button images are found in file, as well as button up and down arrow
  - Eye in corner found in file

Origins

- "Origins" Title - Open Sans Extra Bold, size 76, center alignment, black
- "Each religion holds a unique set of beliefs, and each tells its own story of how those beliefs came to be. These histories are the **origins** of each faith, telling us how its followers found what they now see as the truth of the world." - Alegreya Sans Regular, size 44.4, 1.4 Line Spacing, black
- "In this chapter, you will be introduced to five major religions in the world: Hinduism, Judaism, Buddhism, Christianity, and Islam. You will also learn how each is said to have begun." - Alegreya Sans Regular, size 40.3, 1.4 Line Spacing, black, inside light purple speaking bubble
- "Click here to get started!" - Alegreya Sans Regular, size 44.4, center alignment, black
- Images found in file

  Hinduism

  - "Origins: Hinduism" Title - Open Sans Extra Bold, size 66, center alignment, black
  - 1st page
    - "Hinduism was born in India in the third millennium BC. There is no clear indication of its founder. However, the Hindus believe that their religion is eternal, and the sacred texts, the Vedas, had been given to the people by Gods and for many millennia were passed by the sages by word of mouth. It is believed traditionally, that a sage by name of Vedavyasa wrote down the Vedas and divided them into parts." - Alegreya Sans Regular, size 40.4, justified alignment, 1.4 line spacing, black
  - 2nd page
    - "The Hindus believe in three principal gods – Brahma, Vishnu, and Shiva. These gods fulfil the most important functions: Brahma creates the world,

Vishnu upholds the world, and Shiva destroys the world. Then Brahma creates the world anew, and so it goes. At present, approximately one billion people practice Hinduism." - Alegreya Sans Regular, size 40.4, justified alignment, 1.4 line spacing, black

- 3rd page
    - "**Activity:** Use the word bank to complete the sentence about Hinduism." - Alegreya Sans Regular, size 44.4, center alignment, black
    - "There are three principal gods in Hinduism: _____ the creator, _____ the upholder, and _____ the destroyer." - Alegreya Sans Regular, size 44.2, center alignment, 1.4 line spacing, black
    - "Word Bank" title: Alegreya Sans Bold, size 52, black
    - "Shive," "Vishnu," "Brahma" Title - Alegreya Sans Regular, size 34, black

Judaism

- "Origins: Judaism" Title - Open Sans Extra Bold, size 66, center alignment, black
- 1st page
    - "Judaism was born in the second millennium BC in the Middle East. The founder of Judaism is considered to be Moses. According to legend, God bestowed the Tablets of the Covenant to the Jewish people through Moses on Mount Sinai.The Jewish people believe the have a treaty with God: if they follow His Commandments on the Tablets, then He will multiply them, protect them, and give them the land of Israel." - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - "**Activity:** Complete the table describing the treaty that the Jewish people believe they have with God." - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
    - "The People Will:" and "God Will" - Open Sans, size 49.5, center alignment, black
    - "Word Bank" title - Alegreya Sans Bold, size 52, left alignment, black
    - "Follow Commandments," "Multiply," "Protect," "Give Land" - Alegreya Sans Regular, size 34, black

Buddhism

- "Origins: Buddhism" Title - Open Sans Extra Bold, size 66, center alignment, black
- 1st page
    - "Buddhism was born in India in the first millennium BC. The founder of Buddhism is Buddha. He was born in a royal family, lived in luxury and wealth. But one day, accidentally leaving the palace, the Prince saw the misery, pain, and suffering of people. And then Buddha decided to devote

his life to the search for the liberation of humanity from suffering.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “Buddhism has millions of followers worldwide, and it has spread widely in the countries of South and South-East Asia.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “**Activity:** Put the three parts of the Buddha's story in order.” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
    - “The Buddha left his palace and saw how people felt pain and sadness” - Alegreya Sans Regular, size 33.3, center alignment, 1.4 line spacing, black
    - “The Buddha spent the rest of his life seeking liberation from suffering” - Alegreya Sans Regular, size 33.3, center alignment, 1.4 line spacing, black
    - “The Buddha was a wealthy prince who lived in luxury” - Alegreya Sans Regular, size 33.3, center alignment, 1.4 line spacing, black
    - Number down on right hand side - 1., 2., 3. - Alegreya Sans Regular, size 33.3, bold, left alignment, black

Christianity

- “Origins: Christianity” Title - Open Sans Extra Bold, size 66, center alignment, black
- 1st page
    - “Christianity was born in the first century AD in Palestine. The founder of Christianity is Jesus Christ. He preached love of one’s neighbor and sacrificed himself to atone for the sins of all people. Today this religion is the most widespread in the world. Christianity influenced world history so strongly, that the birth of its founder became the starting date of a new global era.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “The most widespread denominations of Christianity are Catholicism, Orthodoxy, and Protestantism.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “**Activity:** Fix the word scramble of one of Jesus Christ's teachings” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
    - “LOVE YOUR NEIGHBOR” - Alegreya Sans Bola, size 70, center alignment, 1.4 line spacing, black, underline each letter individually, spaced between each letter

Islam

- “Origins: Christianity” Title - Open Sans Extra Bold, size 66, black
- 1st page

    - “Islam was born in the 7th century AD on the territory of the Arabian Peninsula. The founder of Islam is the Prophet Muhammad. He received divine revelation from archangel Jibrayil (Gabriel) and passed it on to people. According to the Islamic teaching, Muhammad is the Prophet and Messenger of God. Islam is one of the largest religions; it is practiced approximately by 1.5 billion people.” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
- 2nd page
    - “**Activity:** Use the word bank to complete the sentence about Islam” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
    - “The archangel _____ gave divine revelation to the Prophet _____, who passed it on to _____ .” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
    - “Word Bank” title - Alegreya Sans Bold, size 52, black
    - “Muhammad,” “The People,” “Jibrayil” - Alegreya Sans Regular, size 44.4, black

Origins: Test Yourself!

- “Origins: Test Yourself!” - Open Sans Extra Bold, size 66, black
    - “**Activity:** Complete the crossword puzzle on religious origins” - Alegreya Sans Regular, size 36, left alignment, 1.4 line spacing, black
    - “**Down” -** Alegreya Sans Regular, size 31, bold, left alignment, black
    - “1. In search of what did Buddha devote his life? 2. What did God promise to give the Jewish people? 3. Name the founder of Christianity. 5. What religion was born in India? 7. What is the most widespread religion in the world?” - Alegreya Sans Regular, size 25, left alignment, 1.4 line spacing, black
    - “**Across” -** Alegreya Sans Regular, size 31, bold, left alignment, black
    - **“**4. The Hindus believe that their religion is _____ 6. What is the name of the sacred text of Hinduism? 8. According to the Islamic teaching, Muhammad is the _____ and Messenger of God 9. Where was Judaism born? - Alegreya Sans Regular, size 25, left alignment, 1.4 line spacing, black

Check Your Progress!

- “Check Your Progress!” title - Open Sans Extra Bold, size 62.9, center alignment, black
- “As you complete my activities and learn more about the five major religions, the knowledge you gain will appear in this table” - Alegreya Sans Regular, size 33.9, center alignment, 1.4 line spacing, black
- Will have image of chart in favor

Symbols:

- "Symbols" Title - Open Sans Extra Bold, size 76, center alignment, black
- **"Religious symbols** are an important way to represent a religion or the important concepts of the religion. In this chapter, you will learn about five religious symbols of the world." - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
- "The main symbol for Hinduism is the sacred Om, for Judaism it is the Star of David, for Buddhism it is the Wheel of Law, for Christianity it is the Cross, and for Islam it is the star and crescent." - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
- "Click here to get started!" - Alegreya Sans Regular, size 44.4, center alignment, black
- Images found in file

  Hinduism
  - "The Hindu Symbol: Om" Title - Open Sans Extra Bold, size 66, center alignment, black
  - 1st page
    - "**Om** is the first sound of the Universe which gave birth to all the rest of the sounds in speech and music. The Hindu believer begins and finishes each prayer with the sacred sound Om." - Alegreya Sans Regular, size 48.4, justified alignment, 1.4 line spacing, black
  - 2nd page
    - "**Activity:** Click and drag pieces from the bank to reveal the Hindu Symbol Om." - Alegreya Sans Regular, size 48.4, center alignment, 1.4 line spacing, black

  Judaism
  - "The Jewish Symbol: Star of David" Title - Open Sans Extra Bold, size 66, center alignment, black
  - 1st page
    - "As legend has it, the armies of the Jewish King David had shields in the form of a six-pointed star." - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - "The **Star of David** is to be found in decorations of synagogues, on covers of religious books, the State of Israel's flag, and on kippah, a traditional Jewish cap." - Alegreya Sans Regular, size 45.4, justified alignment, 1.4 line spacing, black
  - 2nd page
    - "**Activity:** Click and drag pieces from the bank to reveal the Star of David." - Alegreya Sans Regular, size 48.4, center alignment, 1.4 line spacing, black

Buddhism

- “The Buddhist Symbol: Wheel of Law” - Open Sans Extra Bold, size 66, center alignment, black
- **1st page**
    - “**Wheel of Law** (Dharma), has eight spokes symbolizing the eight steps of Buddah's teachings: right faith, right determination, right words, rights deeds, right lifestyle, right desire, right thoughts, and right meditation. - Alegreya Sans Regular, size 40.4, justified alignment, 1.4 line spacing, black
    - On Buddhist temples two female deers are often depicted next to Dharmachakra. According to legend, they were the first to come and listen to Buddha when he talked about his teachings.” - Alegreya Sans Regular, size 40.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “**Activity:** Click and drag pieces from the bank to reveal the Wheel of Law.” - Alegreya Sans Regular, size 45.4, center alignment, 1.4 line spacing, black.

Christianity

- “The Christian Symbol: Cross” Title - Open Sans Extra Bold, size 66, center alignment, black
- 1st page
    - “The **Cross** serves as a reminder of the crucifixion of Jesus Christ, his martyrdom, and resurrection.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “Many Christians wear a cross and do the sign of the cross (bless themselves) during prayers. Crosses adorn the domes of churches and covers of scriptures.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “**Activity:** Click and drag pieces from the bank to reveal the Cross.” - Alegreya Sans Regular, size 45.4, center alignment, 1.4 line spacing, black

Islam

- “The Islamic Symbol: Star and Crescent” - Open Sans Extra Bold, size 66, center alignment, black
- 1st page
    - “According to legend, the Islamic ruler by the name of Osman dreamed of a crescent stretching from one end of the Earth to the other. The ruler took the dream for a good omen and made the crescent symbol of his dynasty.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black

        - “The dream had not fooled the ruler: his descendants founded a great power-the famous Ottoman Empire. Crescents decorate the domes of Muslim mosques.” - Alegreya Sans Regular, size 43.4, justified alignment, 1.4 line spacing, black
    - 2nd page
        - “**Activity:** Click and drag pieces from the bank to reveal the Star and Crescent.” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black

Symbol: Test Yourself!

- “Symbols: Test Yourself!” - Open Sans Extra Bold, size 63, center alignment, black
- “**Activity:** Match the religious symbol with the corresponding religion” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
- Word matching to symbol “Buddhism,” “Christianity,” “Judaism,” “Islam,” “Hinduism” - Open Sans Light, size 34, black
    - Users will draw a straight red line from the word to symbol and vice versa.

Check Your Progress!

- “Check Your Progress!” - Open Sans Extra Bold, size 62.9, center alignment, black
- “As you complete my activities and learn more about the five major religions, the knowledge you gain will appear in this table” - Alegreya Sans Regular, size 33.9, center alignment, 1.4 line spacing, black
- Religions titles: “Hinduism,” “Judaism,” “Buddhism,” “Christianity,” “Islam,” “Self-Test” - Alegreya Sans Regular, size 18, center alignment, black

Temples

- “Temples” - Open Sans Extra Bold, size 76, center alignment, black
- “A **temple** is a place where believers gather for prayers and rituals. Many religions have temples. Each temple has its own special features based on the beliefs of the religion.” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
- “In this chapter, you will learn about five different temples in the world: Hindu mandirs, Jewish synagogues, Buddhist pagodas, Christian churches, and Islamic mosques.” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
- “Click here to get started!” - Alegreya Sans Regular, size 44.4, center alignment, black, inside grey box.
- Images found in file

  Hinduism

    - “The Hindu Temple: Mandir” - Open Sans Extra Bold, size 58, center alignment, black
    - 1st page

    - “A Hindu temple has many names, but the most common one is mandir. The main part of the mandir is Shikhara, the tallest tower of the temple. Under Shikhara one finds the sanctuary with a sculpture of the deity this temple is dedicated to.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “Mandir is richly decorated inside and out by carved ornaments and sculptures of deities, demigods, and mythical creatures.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - **“Activity:** Slide the mismatched pieces into place to reveal the Meenakshi Temple, a mandir in Madurai, India.” - Alegreya Sans Regular, size 48.4, center alignment, 1.4 line spacing, black

Judaism

- “The Jewish Temple: Synagogue” - Open Sans Extra Bold, size 49, center alignment, black
- 1st page
    - “The Jewish place of worship is the synagogue. Believers gather in a synagogue for religious rites and education. A synagogue does not have any specific architectural forms set for it. It may be a modest building, and a luxurious structure, and even an ordinary room in a house.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “As a rule, a cabinet for scrolls of The Torah is set up in the synagogue. It always faces the Temple Mount in Israel” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “**Activity:** Slide the mismatched pieces into place to reveal the Jerusalem Synagogue in Prague, Czech Republic.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black

Buddhism

- “The Buddhist Temple: Pagoda” - Open Sans Extra Bold, size 51, center alignment, black
- 1st page
    - “The spread of Buddhism resulted in the appearance of various forms of sacred architecture.The most common religious structure of Buddhism is pagoda. It is a multi-tiered tower, extending upwards. Every pagoda has three sections: plinth, several tiers, and a roof that can have finials.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “Inside, Buddhist temples are decorated with murals, ornaments, and sculptures dedicated to the life and spiritual teachings of Buddha.” -

Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black

- 2nd page
    - **“Activity:** Slide the mismatched pieces into place to reveal the Seven Days' Pagoda in Elista, Russia.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black

Christianity

- “The Christian Temple: Church” - Open Sans Extra Bold, size 51, center alignment, black
- 1st page
    - “Christian churches have diverse architectural styles. Orthodox churches are decorated with bulb-shaped domes. Catholic churches are usually richly decorated by Biblical sculptures, statues of saints, and scenes. Protestant churches are characterized by rigor and minimalistic architectural forms.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “In all churches, the entrance always faces the East, and holy objects are placed inside for believers to address in prayer: iconostasis, crucifix, icons, and sculptures of saints.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “**Activity:** Slide the mismatched pieces into place to reveal the Protestant Church of Christ in Montpelier, USA.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black

Islam

- “The Islamic Temple: Mosque” - Open Sans Extra Bold, size 53, black
- 1st page
    - “The mosque is a Muslim religious building. Usually it is a structure with one or several large hemispheric domes, surrounded by tall towers called minarets. Traditionally, the walls of the mosque are decorated by fanciful geometric or floral ornaments.” - Alegreya Sans Regular, size 44.4, black
    - “Inside the mosque, a Mihrab niche indicating the direction of Mecca for praying is located.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “**Activity:** Slide the mismatched pieces into place to reveal the Heart of Chechnya Mosque in Chechnya, Russia” - Alegreya Sans Regular, justified alignment, 1.4 line spacing, size 44.4, black

Temples: Test Yourself!

- “Temples: Test Yourself!” - Open Sans Extra Bold, size 64, center alignment, black
- “**Activity**: Match the temples with the corresponding religion!” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
- Word matching to sacred architecture “Buddhism,” “Chrisitanity,” “Judaism,” “Islam,” “Hinduism” - Open Sans Light, size 34, black

Check Your Progress!

- “Check Your Progress!” - Open Sans Extra Bold, size 62.9, center alignment, black
- “As you complete my activities and learn more about the five major religions, the knowledge you gain will appear in this table” - Alegreya Sans Regular, size 33.9, center alignment, 1.4 line spacing, black
- Religions titles: “Hinduism,” “Judaism,” “Buddhism,” “Christianity,” “Islam,” “Self-Test” - Alegreya Sans Regular, size 18, center alignment, black

Sacred Texts

- “Holy Texts” - Open Sans Extra Bold, size 76, center alignment, black
- “A **holy text** is a text or group of texts on which are written many of the most important beliefs of a religion. In each, you will find the religion's stories and rules.” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
- “In this chapter, you will learn about five different sacred texts: Hindu Vedas, Jewish Tanakh, Buddhist Tripitaka, Christian Bible, and Islamic Quran.” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
- “Click here to get started” - Alegreya Sans Regular, size 44.4, center alignment, black
- Images found in file

  Hinduism

  - “The Hindu Holy Text: Vedas” - Open Sans Extra Bold, size 55, center alignment, black
  - 1st page
    - “The Vedas are the scriptures of Hinduism. They are considered to be one of the oldest sacred texts in the world. For many centuries the Vedas had been passed on by word of mouth in poetic form, and only much later they were written down on palm leaves in the ancient Indian language Sanskrit.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “There are four Vedas: The Rigveda, The Yajurveda, The Samaveda, and The Atharvaveda. They contain thousands of different hymns, sacrificial spells, and descriptions of religious rites.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
  - 2nd page

    - “**Activity:** Learn to write the word PEACE in Sanskrit. Use the template with arrows, following the direction and the letter order. Note, that in Sanskrit one writes from right to left.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black

Judaism

- “The Jewish Holy Text: Tanakh” - Open Sans Extra Bold, size 51, center alignment, black
- 1st page
    - “The Tanakh is the holy scripture of Judaism. The Tanakh has three parts: the code of Laws, the book of Prophets, and the collection of Writings. The Tanakh was originally recorded in Biblical Hebrew and Aramaic languages, and then adapted and translated into Modern Hebrew.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “The most revered part of The Tanakh is The Torah. It describes the laws, according to which Jewish people must live.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “Activity: Learn to write the word SHALOM in Hebrew. Use the template with arrows, following the direction and the letter order. Note, that in Hebrew one writes from right to left.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black

Buddhism

- “The Buddhist Holy Text: Tripitaka” - Open Sans Extra Bold, size 46, center alignment, black
- 1st page
    - “Tripitaka is the sacred scripture of Buddhism. Tripitaka translates as three baskets, which corresponds to three sections of sacred books. The basket of discipline contains texts regulating the life of Buddhist monks; the basket of discourse has citations of Buddha; and the basket of doctrine is a compendium of philosophical treatises.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “Dhammapada, a collection of Buddha’s poetic citations, is a part of Tripitaka and one of the most important works of Buddhist literature.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “**Activity:** Learn to write the Mantra OM MANI PADME HUM in Tibetan language. Use the template with arrows, following the direction

and the letter order." - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black

Christianity

- "The Christian Holy Text: Bible" - Open Sans Extra Bold, size 51, center alignment, black
- 1st page
    - "The Bible is a compendium of sacred texts of Christianity. The Bible is made of The Old Testament and The New Testament. Initially, The Old Testament had been written in Hebrew and Aramaic, and The New Testament in Greek. Later, The Bible was translated into the majority of languages of the world. - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - "In the old hand-written Bibles of the Ancient Rus' (Russia) each chapter began with bukvitsa (initial letter)–a large and richly ornamented letter." - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - "**Activity:** Use the color bank below to fill in an initial letter from The Bible." - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black

Islam

- "The Islamic Holy Texts: Quran" - Open Sans Extra Bold, size 51, center alignment, black
- "1st page
    - "The Quran is the sacred book of Muslims. The Quran has 14 chapters–Surahs. The Quran was written in Arabic language and was translated into more than 300 languages of the world." - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - "Since Islam prohibits images of people and animals in any form, Muslims decorate the Quran with stylized calligraphic script and ornaments." - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - "**Activity:** Learn to write the word QURAN in Arabic language. Use the template with arrows, following the direction and the letter order. Note, that in Arabic one writes from right to left." - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black

Holy Texts: Test Yourself!

- "Holy Text: Test Yourself!" - Open Sans Extra Bold, size 59, center alignment, black

- When the user selects one of the beige colored choices for the question presented it will either show up in red with an x next to it or in green with a check mark next to it.
    - If the wrong answer was selected the user may click a button that will appear at the bottom saying “Retry” or “Try Again.”
    - The right answer will allow the user to click forward to the next question and if the students go back to that question it will view the corrected choice
- 1st - Jewish Tanakh, for multiple choice page and multiple choice with correct/wrong answer marks page
    - “**Activity:** Which sacred text does the script below come from?” - Alegreya Sans Regular, size 44.4, center alignment, black, bold
    - “Christian Bible,” “Jewish Tanakh,” “Buddhist Tripitaka” - Open Sans Light, size 34, center alignment, Bold, black
- 2nd - Buddhist Triptaka, for multiple choice page and multiple choice with correct/wrong answer marks page
    - “**Activity:** Which sacred text does the script below come from?” - Alegreya Sans Regular, size 44.4, center alignment, black, bold
    - “Hindu Vedas,” “Jewish Tanakh,” “Buddhist Tripitaka” - Open Sans Light, size 34, center alignment, Bold, black
- 3rd - Islamic Quran, for multiple choice page and multiple choice with correct/wrong answer marks page
    - “**Activity:** Which sacred text does the script below come from?” - Alegreya Sans Regular, size 44.4, center alignment, black, bold
    - “Buddhist Tripitaka,” “Chrisitan Bible,” “Islamic Quran” - Open Sans Light, size 34, center alignment, Bold, black
- 4th - Chrisitan Bible, for multiple choice page and multiple choice with correct/wrong answer marks page
    - “**Activity:** Which sacred text does the script below come from?” - Alegreya Sans Regular, size 44.4, center alignment, black, bold
    - “Hindu Vedas,” “Chrisitan Bible,” “Islamic Quran” - Open Sans Light, size 34, center alignment, Bold, black
- 5th - Hindu Vedas, for multiple choice page and multiple choice with correct/wrong answer marks page
    - “**Activity:** Which sacred text does the script below come from?” - Alegreya Sans Regular, size 44.4, center alignment, black, bold
    - “Hindu Vedas,” “Jewish Tanakh,” “Islamic Quran” - Open Sans Light, size 34, center alignment, Bold, black

Check Your Progress!

- “Check Your Progress!” - Open Sans Extra Bold, size 62.9, center alignment, black
- “As you complete my activities and learn more about the five major religions, the knowledge you gain will appear in this table” - Alegreya Sans Regular, size 33.9, center alignment, 1.4 line spacing, black
- Religions titles: “Hinduism,” “Judaism,” “Buddhism,” “Christianity,” “Islam,” “Self-Test” - Alegreya Sans Regular, size 18, center alignment, black

Holidays

- “Holidays” - Open Sans Extra Bold, size 66, center alignment, black
- “A **holiday** is a day of festivity or observance to celebrate a significant event. In this chapter, you will learn about five different holidays: Hindu Holi, Jewish Passover, Buddhist Vesak, Christian Easter, and Islamic Eid al-Adha.” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
- “Click here to get started” - Alegreya Sans Regular, size 44.4, center alignment, black
- Images found in file

  Hinduism
  - 1st page
    - “The Hindu Holiday: Holi” - Open Sans Extra Bold, size 66, center alignment, black
    - “Holi is a colourful Hindu spring festival. On this day millions of people in bright clothes come out to the streets of cities and villages to throw powdered colours on each other and share delicacies.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “At present this festival is celebrated not only in India, but in many other countries of the world.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
  - 2nd page
    - “During festivals the Hindu believers perform Puja rituals. The Hindus prepare a ritual basket with lotus leaves, flowers, fruits, berries, candles, and aromatic incense sticks to offer to the deities.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “This basket is put to flow on a sacred river, thus it is offered to the deity as a gift. The elements making up Puja symbolize ether, air, fire, water, and earth.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
  - 3rd page
    - “The Hindu Puja” - Open Sans Extra Bold, size 66, center alignment, black

    - “**Activity:** Decorate a puja!” - Alegreya Sans Regular, size 44.4, center alignment, black

Judaism

- 1st page
    - “The Jewish Holiday: Passover” - Open Sans Extra Bold, size 66, center alignment, black
    - “Passover (Pesach) is the main Jewish holiday in commemoration of the liberation of the Jewish people from slavery in Egypt. The celebration of Passover lasts for a week.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “Believers gather at the festive table and read the story of the Exodus, the escape of Jews from Egypt.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “The Jewish Kippah” - Open Sans Extra Bold, size 66, center alignment, black
    - “During the celebration special prayer services are held in synagogues. Custom dictates that during the reading of The Torah the prayer man’s head should be covered with a kippah (plural - kippot).” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “A kippah is a knitted or textile dome-shaped cap. Often it is decorated with the Star of David and various ornaments.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 3rd page - Kippah Colors
    - “The Jewish Kippah” - Open Sans Extra Bold, size 66, center alignment, black
    - “**Activity**: Decorate a kippah!” - Alegreya Sans Regular, size 44.4, black
    - Folder titles: “Colors,” “Decorations,” “Borders,” - Alegreya Sans Regular, size 44.4, center alignment, black
- 4th page - Kippah Decorations
    - “The Jewish Kippah” - Open Sans Extra Bold, size 66, center alignment, black
    - “**Activity**: Decorate a kippah!” - Alegreya Sans Regular, size 44.4, center alignment, black
    - Folder titles: “Colors,” “Decorations,” “Borders,” - Alegreya Sans Regular, size 44.4, black
- 5th page - Kippah Borders
    - “The Jewish Kippah” - Open Sans Extra Bold, size 66, center alignment, black

    - “**Activity**: Decorate a kippah!” - Alegreya Sans Regular, size 44.4, center alignment, black
    - Folder titles: “Colors,” “Decorations,” “Borders,” - Alegreya Sans Regular, size 44.4, black

Buddhism

- 1st page
    - “The Buddhist Holiday: Vesak” - Open Sans Extra Bold, size 66, center alignment, black
    - “Vesak is a Buddhist holiday dedicated to Buddha’s birth, enlightenment, and nirvana. Vesak lasts a week. Special prayer services are held during this time in Buddhist monasteries and temples.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “Temples are decorated with paper lanterns and garlands of flowers. The monks tell stories from the life of Buddha and his disciples.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “The Buddhist Mandala” - Open Sans Extra Bold, size 66, center alignment, black
    - “During holidays Buddhist monks often perform a rite of creation and destruction of a Mandala made from colored sand. Mandala is a model of the Universe, created from geometrical forms.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “The creation process of a Mandala can last a few days. Then it is destroyed to symbolize the frailty of life.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 3rd page
    - “The Buddhist Mandala” - Open Sans Extra Bold, size 66, center alignment, black
    - “**Activity**: Color a Mandala” - Alegreya Sans Regular, size 44.4, center alignment, black.
    - Mandala will be filled in solid color based off the sand color choices

Christianity

- 1st page
    - “The Christian Holiday: Easter” - Open Sans Extra Bold, size 66, center alignment, black
    - “Easter is the principal Christian holiday dedicated to the miraculous resurrection of Jesus Christ.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black

    - “It is traditional to bake sweet leavened cakes and paint eggs for Easter. Easter prayer services are held in churches.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page
    - “The Christian Easter Egg” - Open Sans Extra Bold, size 63, center alignment, black
    - “An egg is a traditional symbol of Easter.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “Easter eggs are painted in different colors and are decorated by ornaments and drawings.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 3rd page - Easter Egg Templates
    - “The Christian Easter Egg” - Open Sans Extra Bold, size 63, center alignment, black
    - “**Activity**: Color an Easter Egg!” - Alegreya Sans Regular, size 44.4, center alignment, black
    - Folder titles: “Templates,” “Colors” - Alegreya Sans Regular, size 44.4, black
- 4th page - Easter Egg Colors
    - “The Christian Easter Egg” - Open Sans Extra Bold, size 63, center alignment, black
    - “**Activity**: Color an Easter Egg!” - Alegreya Sans Regular, size 44.4, center alignment, black
    - Folder titles: “Templates,” “Colors” - Alegreya Sans Regular, size 44.4, black

Islam

- 1st page
    - “The Islamic Holiday: Eid al-Adha” - Open Sans Extra Bold, size 66, center alignment, black
    - “Eid al-Adha is a Muslim holiday marking the end of the Hajj (pilgrimage) to Mecca. On this day Muslims make donations and give alms.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
    - “For this holiday Muslims should make ablution, wear clean festive clothes, and visit the mosque several times for prayer.” - Alegreya Sans Regular, size 44.4, justified alignment, 1.4 line spacing, black
- 2nd page - color outline
    - “The Islamic Mosaic” - Open Sans Extra Bold, size 66, center alignment, black

    - “**Activity**: Color a mosaic!” - Alegreya Sans Regular, size 44.4, center alignment, black
- 3rd page - filled outline
    - “The Islamic Mosaic” - Open Sans Extra Bold, size 66, center alignment, black
    - “**Activity**: Color a mosaic!” - Alegreya Sans Regular, size 44.4, center alignment, black

Holidays: Test Yourself!

- “Holidays: Test Yourself!” - Open Sans Extra Bold, size 59, center alignment, black
- “**Activity:** Use the word bank to complete the sentences about religious holidays” - Alegreya Sans Regular, size 44.4, center alignment, 1.4 line spacing, black
- “1. The Jewish people celebrate their liberation from slavery on _____.” - Alegreya Sans Regular, size 39, left alignment, 1.4 line spacing, black
- “2. _____ is a Muslim holiday that marks the end of the Hajj to Mecca.” - Alegreya Sans Regular, size 39, left alignment, 1.4 line spacing, black
- “3. _____ celebrates the miraculous resurrection of Jesus Christ.” - Alegreya Sans Regular, size 39, left alignment, 1.4 line spacing, black
- “4. To celebrate ____, Hindu believers share special foods and throw powdered colors on each other.” - Alegreya Sans Regular, size 39, left alignment, 1.4 line spacing, black
- “5. _____ is a week dedicated to Buddha's birth, enlightenment, and nirvana.” - Alegreya Sans Regular, size 39, left alignment, 1.4 line spacing, black
- “Word Bank,” “Passover,” “Eid al-Adha,” “Holi,” “Vesak,” “Easter” - Alegreya Sans Regular, size 39, black

Check Your Progress!

- “Check Your Progress!” - Open Sans Extra Bold, size 62.9, center alignment, black
- “As you complete my activities and learn more about the five major religions, the knowledge you gain will appear in this table” - Alegreya Sans Regular, size 33.9, center alignment, 1.4 line spacing, black
- Religions titles: “Hinduism,” “Judaism,” “Buddhism,” “Christianity,” “Islam,” “Self-Test” - Alegreya Sans Regular, size 18, center alignment, black

Bonus

- Bonus will be the parables on Hinduism, Judaism, Buddhism, Christianity, Islam.
- This part has not been made in our designs, but it would be intended for users that want to go more in depth about the 5 religions. The parables will not have any testing/quizzes made for it, only short stories. These parables will go more in depth about the golden rule - “Treat others the way you want to be treated.”

Teacher's View: Class List:

- "Teacher's View: Class List:" - Open Sans Extra Bold, size 58.9, center alignment, black
- 1st page
    - "Class Code: ##########" - Alegreya Sans Regular, size 50.9, black
    - "Student" and "Completion" - Alegreya Sans Bold, size 50.9, black
    - "Username" and "XX%" - Alegreya Sans Regular, size 34, black
- 2nd page
    - "Student username:" - Alegreya Sans Regular, size 48, black
    - "Student progress chart:" - Alegreya Sans Regular, size 48, black
    - For the student chart: Religions titles: "Hinduism," "Judaism," "Buddhism," "Christianity," "Islam," "Self-Test" - Alegreya Sans Regular, size 18, black

Appendix G: Interview Responses

This appendix contains the raw interview data collected at each of the team's nine educator interviews. The data was collected as a summary of the interviewee's answers; it does not represent exact transcripts.

Respondent 1, American Educator - April 21, 2021

Three records of the respondent's answers were taken.

Record 1

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - We have a lot of apps we have access to during free time
    - We don't have a lot of time during the school day for that
    - Fourth graders probably wouldn't use this, but it wouldn't be used for older grades with work/history
    - It was easy to understand how to use
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Many apps in education happen in a video game style; they like video games, graphic novels, and other "gamey" formats
    - The crossword puzzles and word games do not meet this requirement
    - The puzzle and decorations are gamey
    - The read pages would be non-starters without the read to me
    - The students would be easily able to understand how to use
        - It's simple enough for them, but it might not be "gamey" enough for them to use.
3. Do you think that this app is a valuable use of class or homework time?
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - The Suitcase was a great addition!
    - The visual presentation was appealing
    - The reading parts look like textbooks; something that would not be engaging to students would be the text
    - Altering the text could be valuable; anything to make it not look like a textbook would make it more appealing to the students
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - Do we think that they assessments provide an appropriate gauge of the students exercises
    - Not really, as they have the ability to go back

        - Being able to memorize facts is the bottom level of knowledge of education.
        - If this was an extra for social studies, this would be appropriate; however, the fill in a blank text does not constitute true learning Bloom's taxonomy scale - a pedagogical standard that has been present for years.
        - These questions are all lower-level questions.
    - The Progress is easy to see; the attempts information is very easy to indicate if students are maintaining the content/
6. Do you think it would be more valuable for students to have to fill in the table by themselves, as opposed to it auto-populating
    - For fourth graders, it would be too difficult.
    - For older students, it would be more appropriate.

Record 2

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - Absolutely; it was very simple altogether. Even logging in, they're so used to that now that the system shouldn't be a problem. Table of contents was basic, so that should be good too.
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Nowadays, these apps are in a video game style, which kids like (like ST-Math), or like graphic novels, but not a lot of text. Try to make it more in one of those formats. The puzzles are nice, but the fill-in-the-blank and crosswords would not garner much fixed attention. The suitcase is wonderful though. The read-to-me thing keeps kids from needing to read heavily, and they'd LOVE the craft decorations.
    - (Went on to note that students would lose engagement as soon as they hit text, but that they would be really engaged with the crafts and similar activities)
3. Do you think that this app is a valuable use of class or homework time?
    - Honestly, we have a lot of apps for free time, but we don't have enough time during the school day in recent years for this in my grade level, but maybe an older one. Language arts and math time have been made priorities and more time has been put into them.
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - I liked it, especially the suitcase. It looked, however, like a textbook. This generation depends on more visual appeal, so they would likely skip the reading part.
    - I liked the colored boxes for each section of the table of contents too.
    - The text should be different, but don't know what to do, maybe different than white background with black print?

5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - Memorization is the bottom level of education, so it could be an extra, but nowadays looking for an answer and filling in a blank is not considered full knowledge. But, the app is very good at measuring student progress. Most apps have these tracking mechanisms.

Record 3

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - We have lots of apps, we don't have free time in the school day to use this in our classroom.
    - They upped the time for math and english. Maybe older grades that learn world religion would use this- 6th grade, not 4th grade.
    - Yes easy to use
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Nowadays lots of apps are in video game style and that's what kids like to use, they also like things that look like graphic novels, if they see it they want that.
    - Students like graphic novels or video game format.
    - The fill in the blanks they would put in anything.
    - If the read to me wasn't there they probably wouldn't read it.
    - Really like handicrafts, would probably want to get through it all to get to handicrafts. It felt like a textbook, looks like old gen would read but now it's more usually appealing.
3. Do you think that this app is a valuable use of class or homework time?
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - Simple, forward and back button, few things to click, and logging in is simple and they are used to it.
    - Table of contents was very basic and students wouldn't have a hard time with it because they are very savvy nowadays.
    - Text could be different- anything that doesn't look like a textbook.
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - Well no bc they have the ability to go back, just on general knowledge that is considered bottom level.
    - Some apps make students type it in, nowadays what's considered knowledge isn't looking for an answer and filling in the blank.
    - The teacher view is valuable, would be good to see how many times they try it-if its a lot they aren't actually trying

- Bloom's taxonomy When they logged in? How many attempts have they had? Alerts us to let us know if we need to reteach that topic
- We use that scale to measure the level of understanding, is it valuable
- For chart middle school age would be more appropriate - 4th graders would have a harder time to fill out.

Respondent 2, Russian Educator - April 21, 2021

Two records of the respondent's answers were taken.

Record 1

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - The app was very accessible and easy to understand.
    - The app makes sense both for use in the classroom and a for homework
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - This design is well-suited to the games in the application
    - It is extremely important to add elements of games into the application, and this app does that well.
3. Do you believe that the app experience contained sufficient information on the major world religions? Was the central lesson that all religions contain the same Golden Rule - "Do unto others as you would have others do unto you" - clear?
    - The Tolerance Bag bag covers the same activities
    - Oksana likes the activities here a lot
        - They encompass all of the content of the Tolerance Bag
        - They are presented in a very fun virtual way, and the activities
    - The title Bonus is a very cool addition, as those motivate students well.
4. Do you think that this app is a valuable use of class or homework time?
    - The application is very easy to use, so logistics will not take a long time
    - It does not appear to take a lot of time to stud
5. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - The design is fantastic, and they thinks it is very strong
    - The respondent does not believe that the text is not too complicated or difficult for 12 year old students, or the students that she deals with
6. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - The Tolerance Bag is not associated with marks or standards;
    - The tolerance Bag is usually an extracurricular activity, so the attempts are sufficient to that the students have done the exercise
    - The respondent believes that the assessments are sufficient for this material, and the respondent believes that the attempts are important to see

        - The respondent would like to see indicators of the mistakes that the students make at each step of the activity
7. Other notes:
    - Overall - amazing, incredible, great job!

Record 2

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - Very accessible, can be used anywhere- at home or in the classroom.
    - Convenient to use

2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Can see all the required information is here, working with grade 5, 11-12yrs old.
    - Students are interested in computerized digital technology, they will be excited to use this because it's a game for them.
    - Education entertainment, nowadays you have to add elements of games into the study process, this is what we(the team) are doing now.

3. Do you believe that the app experience contained sufficient information on the major world religions? Was the central lesson that all religions contain the same Golden Rule - "Do unto others as you would have others do unto you" - clear?

4. Do you think that this app is a valuable use of class or homework time?
    - It's very easy to use, it won't take a lot of time to learn how to use it.
    - Teachers can give short instructions on how to use it. \
    - Doesn't take a lot of time to study how it works.

5. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - Design is fantastic, liked from the first page, liked the bright colorful text, isn't very long.
    - I understood, very important information is in the text.
    - Everything is good about text, not difficult, not complicated, good for twelve years old.

6. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - We don't give marks on students, just see if they completed it.
    - This is not a compulsory subject at school.
    - I guess it's enough. It's good to see a number of attempts.
    - Any student is ready with this material and the teacher can see the progress.
    - Would like to see the specific mistakes they made? What section?Chapter?title?

    - Every teacher wants to see the gaps, if I see mistakes I can work better for the student.
7. Other notes:
    - appealing, alluring, colorful-liked
    - Liked jumbled letters/mixed letter
    - Liked bonus, students like bonuses for pleasant moments, maybe they will earn a token at the end of each progress.
    - Each section has very useful information - not complicated and understandable- but this is my first impression, if I look further I may have different ideas.

Respondent 3, American Educator - April 22, 2021

Two records were kept of the interview.

Record 1

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - Absolutely, the layout is very simple and easy to understand
        - The features are minimal, so it would be very easy to teach a teacher how to show it to students
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - The puzzle aspects of it are very effective at keeping engaged, and the progress activities are a strong motivator
    - The coloring activities are also engaging
    - Overall, it offers much more engagement than a typical classroom
3. Do you think that this app is a valuable use of class or homework time?
    - Yes, but it would be something that could be for homework or classwork; something like this would be better in-class for small increments with a teacher present
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - The use of color and the colors are simple enough to make it engaging but not distracting; the lack of flashy sounds/explosions are not too distracting
    - It was simple enough to keep kids moving along and not bored - the level of text was not excessive
    - The read aloud feature would be critical, as a lot of younger students would need the read aloud feature
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - Yes! The only question would be the progress; a pre-test might be a good assessment of knowledge

- Even without the pre/post test, the chart offers a decent recognition of students' comprehension.
- The pre and post test would be a good addition to the application
- Overall, this was very strong, and would be a very strong design to include in a classroom.

Record 2

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - Absolutely, very simple, navigation is simple, not a lot of things for someone to figure out, very easy to show a teacher to teach children
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Absolutely, the puzzle aspects are great ways to keep kids engaged as well as being able to see progress is a good motivator, coloring is an activity children enjoy
3. Do you think that this app is a valuable use of class or homework time?
    - I do think it is a valuable use of time, either for homework or in class, incremental, for younger students needed in school support
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - I think the use of color and graphics are simple enough to make it engaging but not distracting, like no explosions or sound effects to distract, simple enough to keep kids right on target, very age appropriate.
    - Noticed and glad for read aloud feature
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - Absolutely, the only thing that she would wonder about is a pretest to evaluate initial knowledge as well. Would give anyone a base knowledge of the religions.
6. Other notes
    - Nothing comes to mind, as it is right now it would still be effective it just doesn't show how much a student improved. Truly think it is very interesting and age appropriate. It would serve its purpose more than adequately

Respondent 4, American Educator, April 22, 2021

Two records were kept of the interview.

Record 1

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?

    - It would be easy in a classroom, since teachers can answer questions, especially since lessons are linear. At home, doing it virtually should work.
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Yes, considering the age of the children. Kids today can handle computers, and the text wasn't too long, and the "read to me" feature helps for those struggling. The teacher can also break lessons up.
3. Do you think that this app is a valuable use of class or homework time?
    - It would be good in class; the app shows similarities between religions. She would love to do this with her kids. It could work at home.
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - The text shouldn't be too distracting. The colors are bright so they should work. The jigsaw puzzle would present problems with younger children with issues with visual perception. Some of the images are fairly ornate. It's important that the kids can go back and look.
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - Teachers would be able, even easy to use this system to tell who's struggling, although the material is inherently not easy.

Record 2

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - In a classroom it would be easy because if they had a question a teacher would be able to answer, and they like the column format with the table. At home, it would work because teachers are used to virtual education. Easy to understand
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - The text didn't seem to be too long, addition of the button to read aloud for the younger kids, yeah it would be great. Like a game to them, it isn't so long. A teacher can also break it up or use it in addition to something else
3. Do you think that this app is a valuable use of class or homework time?
    - Would be good in class, in today's climate we need to see the similarities, personally would love to do this with kids, important to teach them young to understand what is going on in the world
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - Pretty good because it wasn't too distracting, the bonus section would be for students who want more, colors are bright, kids will have problems with jigsaw

puzzles, some have good visual perception, some do not. Students would need to go back and look for word games for the multiple choice holy texts chapter

5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - Yeah, if they are struggling the teachers can go back and figure it out, if they did it on their own at home, teachers can tell through attempts if they need more instruction, it should be easier for the older kids, makes sense.

Respondent 5, Russian Educator, April 23, 2021

Two records were taken of the interview.

Record 1

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - 10/10 user friendly - it's perfect for children, perfect for any teacher, because it allows teachers to control the classroom
    - It was definitely accessible and easy to unders
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Yes, probably, but the positive motivation piece is not evident. Perhaps an affirmative message from the Tolerance Bag to recognize prospect
    - This app would definitely be a superior delivery
3. Do you believe that the app experience contained sufficient information on the major world religions? Was the central lesson that all religions contain the same Golden Rule - "Do unto others as you would have others do unto you" - clear?
    - The material from the original Tolerance Bag was very present, and the program does a great job showing that all the religions have things in common.
4. Do you think that this app is a valuable use of class or homework time?
    - Yes, definitely
5. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - She liked most things
    - Where you list all five religions on the Table of Contents, the colors on the table are mixed. Green is great for Islam, but yellow sometimes has a connotation of cowardice and betrayal in Christianity
        - We should check that
    - Visually, the color scheme was ok
    - There was an appropriate amount of text on the screen.
6. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?

    - Definitely, the current systems would be adequate for assessing students' progress.
    - "We have done a great job replicating what they do in the classroom for the actual Tolerance Bag" - the assessment activities interact with the material very well.
7. Other notes:
    - "Your application is an excellent representation of what is in the original Tolerance Bag"

Record 2

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - "10/10 Perfect"
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Should be fun, but needs some more positive motivation or reward beyond the map and chart. More motivational content. But it should be more useful than something conventional.
3. Do you believe that the app experience contained sufficient information on the major world religions? Was the central lesson that all religions contain the same Golden Rule - "Do unto others as you would have others do unto you" - clear?
    - Everything is very clear and should also be clear for children. The chapter structure highlights the similarities of each religion really well.
4. Do you think that this app is a valuable use of class or homework time?
    - "Yes, definitely"
5. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - You see all 5 religions on the first screen - Green is the "right color" for Islam, check the colors for others "yellow in Christianity is sometimes (associated with) treason and is not a good color." Text was not distracting.
6. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - "Definitely, yes" - the activities replicate what is done by the Tolerance Bag in a classroom well.

Respondent 6, American Educator, April 29, 2021

Two records were kept of the interview.

Record 1

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - Better for older students, younger students might struggle with sequencing

    - Jigsaw puzzle (I think she meant crossword puzzle) students might have problem with word retrieval
    - More direction would be necessary (for 1st, 2nd, 3rd) but our age range should be fine.
    - Younger students might struggle but 10-12 should be fine
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - The puzzles are pretty cool,
    - Differentiating, not expecting kids to just fill in the blanks, bringing in color and creativity
    - Taps into kids interest when they might not be want to read
    - Yes definitely more effective than traditional
    - More fun than reading,
    - Because it is interactive students will stay more engaged and more focused
3. Do you think that this app is a valuable use of class or homework time?
    - maybe , in class but more of a homework thing
    - Not really an in class thing
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - Loved it, I understood it, I could see what you were trying to do
    - Was not visually overloaded
    - Direct and to the point and clear
    - Was not too complex, nice and easy, easy to read
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - Absolutely , quizzes went through the things and then asked about it after.
    - Self tests were nice and easy to do.
    - Yes, the more attempts the more students are just not understanding.
6. Other notes
    - Read aloud functions are good for auditory learners.
    - Good for following along and retaining information.
    - If they are tired they can listen as well.

Record 2

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - It seems easy to use. Older classes would be more able to understand what they need to do - younger kids may not yet understand. Some kids have issues with word retention - maybe a word bank for the crossword? (NOTE: She only said maybe a word bank, but all the word games have one except for the crossword and unscramble). Younger kids (pre-3rd or 4th grade) need more direction - would be perfect for 10-12 year-olds. Platform was accessible.

2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Students absolutely would be engaged and have fun. It would "definitely" be more effective than a lecture or reading module.
3. Do you think that this app is a valuable use of class or homework time?
    - "Maybe - I think in class; (it would) probably be more of a homework assignment… where they can spend their own time on it."
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - Loved it all! Direct to the point, not "overloaded." Easy to read.
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - "Absolutely!" (Proceeded to summarize what the app did) - was able to tell if they're struggling from the number of attempts.

Respondent 7, American Educator, April 29, 2021

Three records were kept of the interview.

Record 1

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - "Sure, you did a great job showing this through step by step" and a teacher would do the same with students.
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Some of these activities are great and engaging. Everything is engaging and encouraging. This cannot, sadly, be used in a public school, it's not welcomed. Maybe in a Catholic school.
3. Do you think that this app is a valuable use of class or homework time?
    - Of course, "I was thinking of my own (students)." They do that all as an after school program (Pat phrased it as "wherever it could be used, such as after school, given the earlier response about public schools).
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - It was not too much, it's very simplistic, especially since they can have it played to them. Just be careful of the vocab - you've possibly got lower-level reading ability or people who speak English as a second language, so keep that in mind. The visuals also really help with that.

5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - Sure - the chart would show me what I need, we have this function in other similar activities, the tool helps us know what needs to be reviewed and what has been mastered.
6. Other notes
    - No, well done and good luck! (Wished she could put it in her classroom)

Record 2

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - Sure, did a good job of taking through step by step in a similar way a teacher would
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - It is obvious there was time and thought put into it, puzzle activity is good because students will like the immediate feedback, good visuals connecting to words
    - Work in a public school, so talk of religions is not very welcome
    - Kids will enjoy doing this
3. Do you think that this app is a valuable use of class or homework time?
    - Of course, was thinking about her own students because she does have kids in all religions, and they are doing after school programs like ccd
    - Very dicey topic to implement in schools
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - Some kids feel overwhelmed by text, but the way it is setup makes it better, just caution on the side of reading issues, even within the same grade level
    - Any visuals that can help compliment the text
    - Anything that helps with repetition especially hearing repetition
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - Sure, like for example for the symbols she can see who got it and who didn't and how many tries it took
    - Technique is very helpful tool for the teachers to see what needs to be reviewed
6. Other notes
    - A lot of thought time and effort for usability and activities

Record 3

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?

    - Yes did a real good job taking them through step by step and the teacher would do the same
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - It's obvious that we put a lot of thought, time and activity into it. The puzzle activity is great, to have the user move the puzzle into a spot and for it to not fit. For public school I wouldn't be able to use this because it really is not welcomed.
3. Do you think that this app is a valuable use of class or homework time?
    - Yes absolutely, would be good for each of my students since my classroom is very diverse with religion. Lots of complications with people not liking their religion being represented.
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - The amount of text would make kids feel overwhelmed but the way it was set up was nice and simple and the read aloud button would be very useful. ELL, Lower level readers, visuals with reading is helpful. Took the little quiz but the checks and X's are helpful so that they get some feedback and can answer it right next time.
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - For example for symbols I would be able to see right across how many times it took them to get it right.
6. Other notes
    - Any points of improvement? No, looks like you guys tried hard to make it simple and user friendly

Respondent 8, American Educator - April 30, 2021

Three records were kept of the interview.

Record 1

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - I think so; in my education classes were encouraged to use things called hyperlink models for lessons
    - This emphasis on hyperlinks is well reflected in our, and is generally very clear
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Yes, and the read aloud option helps alot with this too; the ability to turn it on and off helps with that
    - It's very colorful, fun and has good engagement

    - Definitely would be a more effective delivery of religious content; it channels duolingo in a way that is reasonable
3. Do you think that this app is a valuable use of class or homework time?
    - Yes; respondent was a nanny with students in remote learning, and they would do assignments in Zern after schedule time
    - It could be used as a lesson itself or as a free time filler
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - Yes; at first the guide map display went away, but it was cleared up very quickly. A teacher walkthrough would very easily clear up any confusion
    - The color scheme is well done, as well as the user functions. We're taught not use to too bright colors or too aggressive text in educational text; the presentation does that
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - Yes; the teacher's ability to see attempts and the students ability to attempt twice and go back to review is like a check-in
    - This is well standardized for educational classroom

Record 2

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - Think so, encouraged to use things like hyperlink models, student centered lessons, this is kind of the same thing, the most comprehensive way to participate in online learning
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - The read aloud option is great for variability
    - Very colorful and fun and simple activities
    - Good engagement
    - definitely , with the topic of religion, can be kind of dry at times, reminds her of duolingo,
    - Good way to present simplified version of an overwhelming topic
3. Do you think that this app is a valuable use of class or homework time?
    - Yes, was a nanny for students who were doing remote learning, would be great for free time after tests and things,
    - Good for lesson itself but also good
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - Yeah, at first confused by the guidemaps display, can be cleared up in 5 seconds
    - If teacher goes through the app it should clear up anything
    - Color scheme is nice

    - Ths is standard for what is taught to use
    - White background is good
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - We are taught to do self assessments and have it be introspective, teachers can see their attempts as well as students being able to take multiple attempts.

Record 3

1. How do you feel about the usability of this app in a classroom? Was the delivery platform accessible and easy for you to understand?
    - Looks good, very clear, self-explanatory
2. Do you think that students would be engaged with this app? Do you think they would have fun? Would the app be a more effective delivery of religious information than a conventional lecture or reading module?
    - Yes, the read aloud option is helpful as well. Very colorful, activities are fun and symbolic, not overly complex. The app would be easier to learn religion than through a conventional lecture.
3. Do you think that this app is a valuable use of class or homework time?
    - Yes, would be good to use especially for nannies
4. What is your opinion of the visual presentation of the app? Was the user interface easy to understand? What was the opinion of the color scheme, images, and user functions? Was the amount of text distracting?
    - There would be no confusion when explaining to kids on how to use it. Color scheme is great, the amount of text is good.
5. Do you think that the app adequately assesses students' learning of religious tolerance material? Would you be able to understand students' progress from the information that the app collects?
    - We are taught to have kids learn how to do self-assessments. Almost like a check-in for teachers

Appendix H: Example Survey for Testing App with Students

Table 1: Likert survey for student evaluation of Tolerance Bag web application.

Pick the response that best matches your opinion of each statement				
1. This app was more fun than other projects and homework assignments in school.				
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
2. I found the app easy to use.				
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
3. I liked how the app looked.				
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
4. I knew a lot about the religions in the app before using it.				
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
5. I felt comfortable discussing other religions before using the app.				
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
6. I felt comfortable interacting with people from other religions before using the app.				
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
7. I feel like I learned a lot about other religions from using the app.				
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
8. In the future, I would like to learn more about the religions I saw in the app.				
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
9. I know more about people who practice other religions after using the app.				
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
10. I feel more comfortable discussing other religions after using the app.				
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
11. I feel more comfortable interacting with people from other religions after using the app.				
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree