

Interactive Illustration

Major Qualifying Project in partial fulfillment of the Interactive Media
and Game Development Bachelor of Arts

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Abstract

The Interactive Illustration project was an experiment in interactivity in websites, covering a twenty-page online illustration book concerning the creatures of a fictional island. Three goals were cited with the project—to create twenty unique monsters that did not primarily take from other bits of folklore; to include animations and other special effects to make the monsters stand out; and to incorporate parallax effects in the project to evoke movement. This paper covers the illustration design process, the coding for the website, and the testing and results for the project at 2019 Alphafest. Overall, the project accomplished many of its original goals, but there was much to be desired that was not fulfilled in time.

Acknowledgements

We would like to thank our advisors: Professor Brian Moriarty, who worked with us on the building of the website and gave us general criticism of our handling of the project; and Professor Ralph Sutter, who provided us with artistic criticism and the inspiration for the z-depth heavy side of our project. Without their assistance and guidance, we feel that this project would not have been finished at an acceptable level.

We would also like to thank the organizers of WPI Alphafest for allowing us to playtest our project on the premises, and all of the WPI students and faculty who came to our booth on the night of testing. Their feedback helped us realize where are direction went into the project and allowed us to make better decisions for editing the project post-MQP period.

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Introduction

The Interactive Illustration project is a free-to-access digital illustration book that showcases a collection of original creatures from a fictional island. The point of the project was to engage the reader in the world of the island, not only through lore and pictures but also through various activities as one goes through the book. The reader, once selecting a given page, will be able to interact with it further by touching it to make the character move; by hovering over it to find secrets obscured by certain parts of the page; and by having text and characters react to mouse movement.

Story and Intended Walkthrough

In-universe, the project is a short book of drawings called *The Creatures of Zipols Island: An Illustrated Collection Featuring a Selection of Monsters and Animals That Reside There* drawn by the two mysterious authors Jackson and Jaskon. They carefully explain that they, by accident, discovered life they had never seen before on the titular island, and drew as many interesting figures as they could to record them for the outside world. This book is just a selection of the creatures they saw.

The book, beyond its foreword, never goes into detail about Jackson and Jaskon's discovery—the focus of the book is the creatures, not them.

When opening the book, it sells itself in a sequential fashion; it opens up in the sky, with the island's twin guardians watching over the island inhabitants below. The book then moves through the island, first by coming to land, then by going underwater, then returning back to land and finishing in the valley. Along the way, a normal reader can click on a monster page and see what was once a stationary image move with the touch of a mouse. While not employing complete three-dimensional images, it still makes the pictures move using unique interaction methods. The reader will be able to both read it as if it were a book and have unique activities on certain pages while also making use of depth tricks.

Paper Structure

The first section of this paper is primarily focused on the planning stages of the game. In this section, we discuss the conception of the project, including its various influences, the art style, and the platform the website would be hosted on. We also discuss the scope of the project, the intended goals, and how we planned to reach them.

The second section goes into detail about production. This section covers both the artistic half and the technical half. The artistic half discusses the creation of the monsters seen in the book, the target audience, a more in-depth look into the creation of the art style used and its iterations, and the reasoning behind each element. The technical half of the project covers all the planned interactive activities used on the book and its website, along with the issues faced during programming.

The third section discusses the test run at Alphafest 2019. This will cover the number of people who tested the game, the various comments they gave for that build, and the results of the survey each tester was asked to fill out. This section also goes into the technical issues seen during the Alphafest run.

The final section is a summary of the project, whether or not the goals of the project were met, if the scope was more than we could handle, and the positive and negative aspects of the project. We will also discuss what we felt was missing on our ends and how we can improve the project in the future.

Section 1 – Planning Stages

1.1 – Inspiration

Multiple themes were considered for the project, including a book of profiles, character sketches, and prose. This was eventually combined into the current theme of character and environment within the project. In terms of style, we took inspiration from the horror illustrations of Stephen Gammell, the aesthetics of cubism and optical illusion, the patterned lines of traditional printing methods such as woodblock and linoleum, and classic profile books such as *The Voynich Manual*. Though not all creatures within the book would exemplify these points, parts of all of them are present in the characters we created.

The desire to focus on a bestiary was not a natural conclusion to the idea, but was encouraged between both members nonetheless. Though it was not the first theme considered, the concept of an interactive piece of media that would be plausible to make with our skillsets eventually developed into the idea of creating a book, as both members of the MQP team have experience in illustration. Rather than direct most of the audience's attention to the text, however, we would instead devote the entire page to the character and hide the text inside, encouraging the audience to actively search around the image for clues and pay attention to each creature's details. To that end, we would look to similar interactive experiences with these points in mind. Books in the vein of *I Spy* and *Do You See What I See?*, as well as video games with

“find-it” mechanics through control pad and touch (such as the *Professor Layton* series) were also called upon when considering our options.

In the concept stages, the book was meant to be otherworldly and unsettling to the reader; we wanted to convey this through an art style we could reliably replicate and produce over the course of the semester. To this end, we looked to two art styles: the loose brush drawings of Stephen Gammell, and the single-plane perspective of cubism.

Cubism is the artistic study of people and objects, typically observed through a three-dimensional viewpoint, but drawn as a two-dimensional viewpoint. Under typical circumstances, this would mean translating the picture of an object to a two-dimensional plane such as a canvas and drawing the objects with the depth, shading, and volume of its real-world counterpart. As interpreted through cubism, on the other hand, all dimensions are “flattened” to some extent onto the canvas in one place. Shading is as solid as colors in light; top, bottom, and side angles are represented on the object, distorting its shape; in the case of movement, characters appear to be standing still and producing afterimages at the same time. Over the decades, this process has been used for still life, casual observation, and commentary. The art style has been used in the context of disturbance, such as in Picasso’s *Guernica*, which, while not a primary inspiration for this iteration of the book, was a point of study.

Using the lens of cubism, though not the exact style, interaction with the creatures in the book would pique the audience’s interest. From already seeing most of the creature in two-dimensions to seeing the creature appear to move when inspected, the audience would be amused by this contradictory nature and be moved to understand more about the creatures. The distorted images in their shape would unsettle the reader as well, but through clicking and interacting with

the image, the reader will come to understand this creature from all “angles” (that is to say, different viewpoints) in their mind.

Target Audience

Overall, our target audience included people aged 10-31, which covers a large range of people. Specifically, we targeted those who would be interested in the fantasy genre because of the monsters we’d planned on displaying whether online or in physical form; digital book readers, to see their opinions on the interactivity of the book online; children, whose imaginations are often associated with the fantastic, and so would gravitate towards books such as our project; and college students, who would be our largest demographic and a familiar group to perform testing with. All age ranges involved target people still in educational activities.

1.2 – Platform

The entire project was hosted online for its ease in access and comparative ease of displaying the pictures we wanted to use. In all iterations of the project, we selected one of the members’ personal WPI websites to place all relevant code and images on. As the website was built using simple HTML and CSS, any changes made to the book could be done as quickly as possible.

1.3 – Scope

The project was to be completed on WPI campus and observed over the course of Fall Term 2019, lasting from August to December. By the end of the allotted time, the result would be a complete, twenty-page book with interactive pages and art. Interactive text, while desired, was optional, with the book's highest priorities being illustration and minor coding (two of the group's greater strengths).

Other particular goals set for this project included minor animation for at least two of the illustrations that would cue the reader to interact with the book.

Section 2 – Production

Roughly half of our time on the project was spent concepting and refurbishing art pieces, leading to the creation of a 22-page book including the front and back cover. The entire book was made with the mindset that it would be a four-inch by six-inch mini book available for eventual print as well as online. All of the images in the Alphafest build were made using Adobe Photoshop at a resolution of 300 dpi, standard image quality for printing.

2.1 – The Illustrations

2.1.1: Introduction

Twenty creatures were drafted and designed for the interactive book. Each creature is an original character designed by both Johnnie and Dolores, with Dolores serving as overall design leader. While the creatures themselves had no underlying theme connecting them, each design was drawn and refined to look as if they belonged to the same universe. In order to better convey each character, they are observed in a sequence rather than detached as in some bestiaries.

2.1.2: Art Style

Our original intention was not to make the book look like drawings in a field journal; rather, we intended to make it a more experimental art style in an attempt to make it stand out for

a bestiary. In one member's original idea, the art was done in a cubist style, with some inspiration from painters such as Rembrandt and Vincent van Gogh.

The style used for these early images were less focused on style and proportion, but more on the idea of conveying dynamic movement, something we felt was necessary for a short book about monsters. These images, in the end, did not resemble anything like the cubist images we had referenced, and furthermore they were not what the team was looking for in relation to what a proper bestiary should look like. The art felt inconsistent and aimless; the monsters made in this early stage lacked a backstory, a theme, and especially focused on uniqueness in detriment to the rest of the project. Because of all these reasons, the cubist aspect of the project was shelved.



Figure 1: Example of Failed Attempt

In order to integrate illustration into earlier forms of literature, blocks of wood, linoleum, or through lithographic methods would be die-cut or etched to have images on them that would be applied to paper later. Often, these etching styles would have bold, interconnected lines in order for the design to hold on its chosen material. This artistic style would influence the art of

stamping with rubber or other softer materials, and replication of such an art (such as with inexpensive stamps) can be completed in the home.

With some background in linoleum printing, Johnnie experimented with the medium to see if its methods could be adapted for a semester-long book project. A 4''x6'' linoleum block and Superball chiseling tool were bought from C.C. Lowell and experimented with. Beginning with a simple original design, she was in charge of transferring the image to linoleum, chiseling it, and testing a successful print. If the experiment succeeded, twenty linoleum blocks would be bought, chiseled and transferred in a similar fashion, and scanned for printing in the eventual final product.

Though the design was simple enough, the chiseling of the linoleum consumed the most time throughout the two weeks the experiment lasted. The total price of supplies was around \$15, with the block priced at about \$6; combined, the total expense for 20 more linoleum blocks would run about \$120, which was out of both group members' budget range. After showcasing the experiment to the project advisor and discussing the costs and time going forward, this design was scrapped.

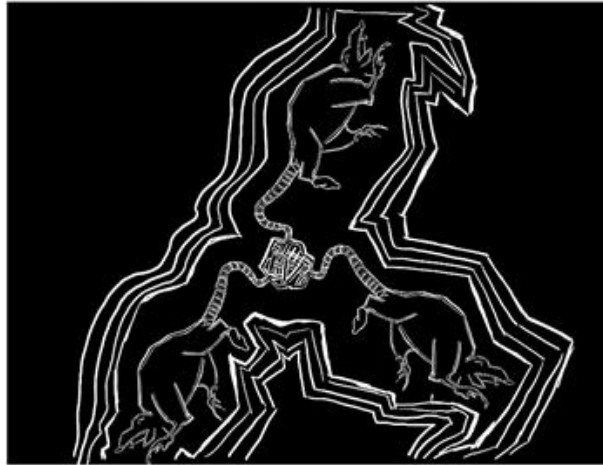


Figure 2: An example of the linoleum style we imitated digitally

Later advisor direction gave us the idea of making it look more like *The Voynich Manual*; its book of incomprehensible text, pictures, and limited color were along the lines of what we wanted to accomplish with the project. The fact that the book lacked some common elements was also a huge plus in our own project. When we came up with the idea of a bestiary, we wanted to make monsters that did not draw from the popular canon of monsters in order to make this project stand out.

Further research led us to the artwork of Stephen Gammell. While he has an overall varied artistic style, the art shown in *Scary Stories to Tell in the Dark* was close to what we were going for. All of the images seen in the book not only stuck to a monochrome palette, they also contained a lot of details.

In this iteration of the project, drawings made with a neutral color and tone lacked the brightness of the original inspiration since they were all drawn in a sepia color scheme, but the hand drawn quality of the images made the team think it resembled encyclopedia images more. Later images, to make it feel more ancient, were drawn simpler in order to invoke cave paintings.

2.1.4: Monsters with No Real-Life References

The original monsters for this build are the Stuck One, the Fishman, the Rune Creatures, the Tentacle Monster, the Deer, the Head Tree, the Moving Mask Wall, and the Foulskin (*Figure 6*). All of these monsters were designed with no idea from life in mind, although some creatures end up coincidentally resembling a few in common lore. These creatures were borne from the group's imagination and multiple strings of texts within other documents reworked into a plausible creature, rather than any one concept.

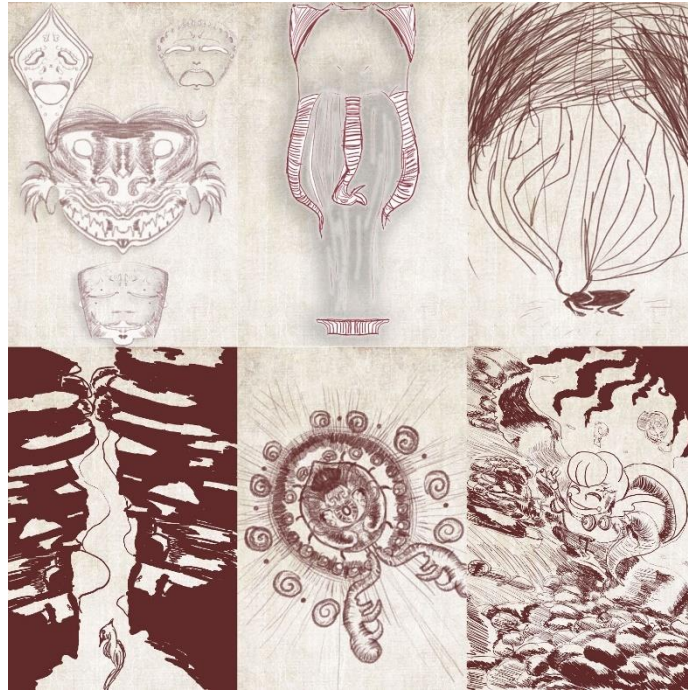


Figure 3: Selection of Original Monsters

2.1.3: The Monsters

As already mentioned, our intention was to make a book of twenty monsters that did not draw entirely from existing monster canon of any culture; however, along the way, we did come into contact with some animals and concepts that were already represented. We did make a mention of wanting to do monsters based off of Polynesian folklore and myth, but that was quickly scrapped in the first week of the project due to our fears of inaccuracy.

The monsters we made in the first half of the project did take from animals in real life, such as the Bull of Light, the Rat King, the Jewel Beetle, or the Sky Whales, but the rest we drew

without referencing anything. They are all connected to, and spawned from, a giant “father monster” that they all share certain features with. This monster was one of the first few shown during the concepting stage, depicted as a large-scale humanoid that would later become the basis for the Stuck One. However, this monster ended up being one of the few monsters that looked humanoid overall, besides the Half-Fish. The Birdmen, another humanoid monster we had designed, was scrapped for fear of making the entire bestiary more human oriented.

All other monsters had very loose themes that were eventually coupled off to make look like they complimented one another, in order to make the book flow better. The Sky Whales are shown above a mountain, where the Stuck One is contained; Fishman was to be partnered with the Great Fish, shown as it’s looking up with odd fascination at a large object above it; the Tentacle Monster compliments the Moving Mask Wall; the Beetle compliments the Head Tree; and so on.

Monsters Inspired by Real Life Concepts

The Bull

The Bull of Light takes some inspiration from the veneration of bulls throughout different cultures. The concept of a “Sacred Bull” or “Sacred Cow” has been around since at least Mesopotamian times, and many times a sacred bull will be seen as white. Bulls and cows have been associated with many different aspects of celestial importance, such as the Sun and the moon in Bulgarian folklore, or the element of Water in the Balkans (Baeva, 2014). Sometimes they are also seen as important enough to let live to their old age instead of killing them, or treating the species with such respect as to move out of the way for them. Bulls have also been seen in religious contexts, as the heads or companions of important figures. The fact that bulls and cows are held in such high esteem reflect their importance in pre-modern civilization as the muscle in carrying food, people, and assisting in fieldwork.



Figure 4: Sacred Ox statue (Pbase, 2004).

With this importance and association with sources of light and life, it is no wonder that the Bull of Light is also considered a blessing within the fictional universe (See Appendix B). It is designed to be a powerful, but revered and life-giving animal.

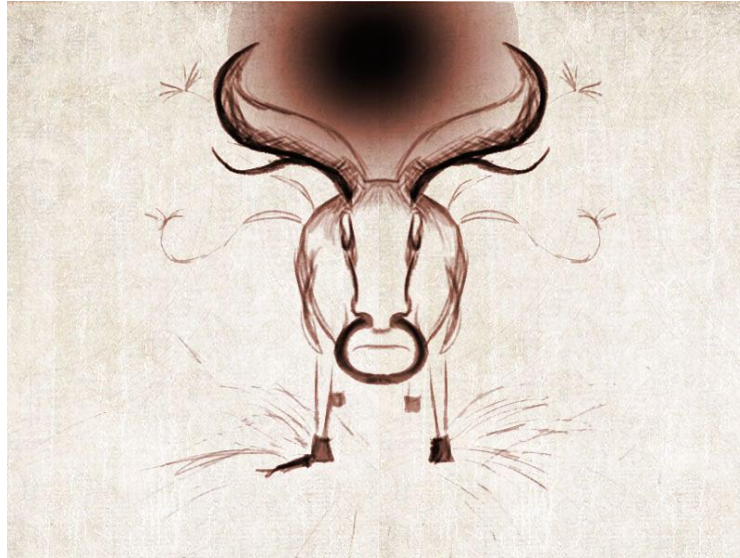


Figure 5: The Bull of Light as it appears in the Alphafest build

The Rat King

Rat Kings are clusters of rats connected by the tail by some factor such as generic entwinement or sticky substances connecting the tails together. While the phenomenon is well known for happening to rats, other small mammals such as squirrels and mice have been noted to get into such a formation as well in twenty-first century records (Riley, 2017). The idea of naturally occurring Rat Kings has had some hot debate over the centuries, with some saying it's possible as the result of sebum making the tails stick, some denying any longevity of such a

combination, and some saying that (Ossola, 2016). Rat Kings are heavily associated with German folklore, which feature them as signs of ill omen.

The Rat King featured in this book unfortunately does not change much about this lore. This group carries a similar tone of ill omen, but the number of rats is reduced from dozens to just three. The concept of these rats is that everyone has their own personal Rat King in the world, representing three of the most prominent traits a person displays throughout their life (see Appendix B). To meet your own personal rat was the sign of misfortune, but you were advised to stay away from rats regardless.



Figure 6: The Book's Rat King

Jewel Beetle

Jewel Beetles, in life, are only called such because of their “brilliant color” and iridescence (Hadley). Beetles with metallic shells were often used to embellish outfits in a phenomenon called Beetling. This concept is what led to the Jewel Beetle to be a creature associated with wealth in the book, and there’s little else reason for that.

The Two Whales

Sky Whales are popular creatures to include in fantasy settings, such as *The Legend of Zelda: Link's Awakening's* Wind Fish. The phenomenon is closely related to the earlier phenomenon of the Space Whale, a trend that was popular in art of the 1970s due to a combination of fascination with outer space, an already growing trend of nationwide popularity of whales, and associations with psychedelic mindsets and exploration (Onion, 2013). Both Sky and Space Whales are presented as wise, majestic, and awe-inspiring beings that reside in the “Oceans” of their respective mediums— “Oceans”, referring to the fact that both Sky and Outer Space have been considered untamed and unexplored territory much like the sea. The Sky Whales featured in this book also take from that idea, but their situation is less a case of a symbol of exploration and wisdom and more a case of mighty protectors of the island, which is also reinforced with the fact that a faint outline of one of the whales is featured near the mountaintop on page 5 of the Alphafest build.



Figure 7: The Two Sky Whales, later used as pages 3 and 4 for the book

2.1.5: The Cover

The book itself, now that the images were older looking and invoked a worn-out book, needed a cover to match. Originally, we had planned for it to look like sketch journal of monsters found on a specific island, reflected in the simple cover with a tacked-on name. The plan was for the in-universe distributor of the book to not make their product look like it was a private journal, and not some big published encyclopedia for the world to see. However, the simple cover did not draw the eyes of either the advisors nor the team members. Its simplicity was *too* simple; other was nothing to make it really stand out as a project, and the cover lacked certain elements that actually made it look like a cover. The second attempt ignored the sketch journal premise and made it look more like an ornate dictionary by keeping the colors more subdued and adding light embellishments to the cover. This was an improvement on the first iteration, but it did not leave much of an impact either, and did not look consistent with the color palette featured in the project at the time.

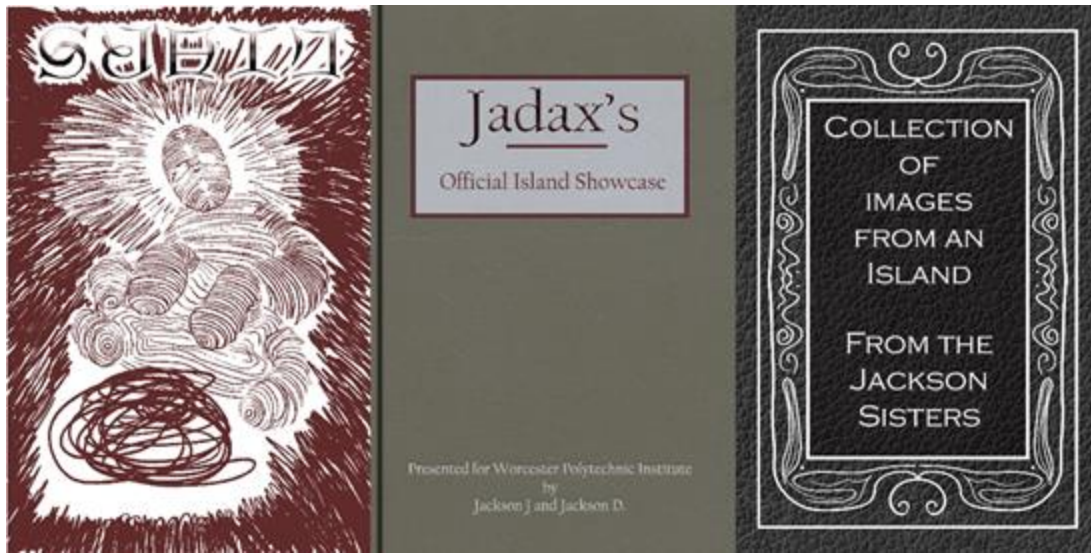


Figure 8: Iterations of the book's cover. From left to right: Placeholder, Alphafest 1, Alphafest 2 (Jackson, 2019)

The final iteration took notice of this and made the book a deep red with golden embellishments. The text was reentered and the cover edited to make it look more worn. This cover was approved, and later used in the Alphafest build of the project.

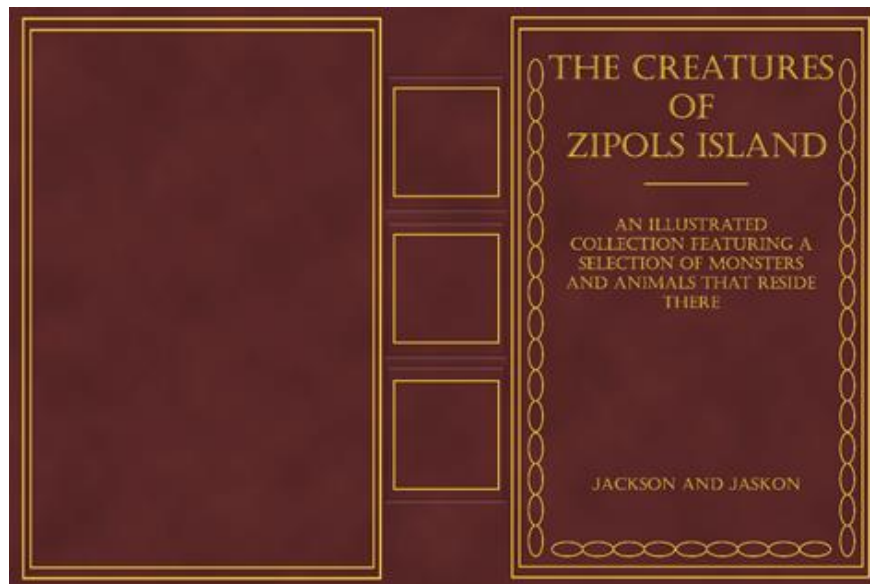


Figure 9: The finished cover for the Alphafest build (Jackson, 2019)

2.2: Writing

2.2.1: Text

A big part of the early concepts for this book was engagement through text. Many bestiaries have descriptions of their monsters, their life, culture, and how they interact with the greater narrative around them. Our goal at the time was to make twenty unique monsters that have interesting descriptions to be put on the pages of the final product, which we accomplished by making one to two sentence descriptions about them (refer to Appendix B). Unfortunately, while they were all unique, we couldn't make them a permanent part of the final product, with only one of the descriptions appearing in the Alphafest build. The descriptions we had at the time also do not entirely reflect the monsters shown in the current build.

In addition, the only other text we have in the Alphafest build concerns a content warning and an attempt to convey our real intentions with the book. As far as our plan to make the text a welcome and integrated part of the book, it ultimately did not come to be.

2.2.2: The Title

We didn't actually think of a title for the project because we were focused so much on completing it, but looking back that was just a major excuse. In reality, we didn't know what we

wanted to convey with this book. When we had the sketch journal, we gave it a simple description reflecting what we thought the project would have been at the time (*Jadax's Official Island Showcase*), then changed it into something that sounded less like a presentation (*Collection of Images from an Island*). Neither of the two initial titles stood out, and they both didn't give away anything of interest, so in the final build we embellished it to make it sound more interesting (*The Creatures of Zipols Island: An Illustrated Collection Featuring a Selection of Monsters and Animals That Reside There*). This title did cause us a bit of concern though, as tester response showed us.

2.3: Interactivity Methods

The second half of this project was spent trying to make the book engaging for digital readers, as the print version we planned would only have its illustrations as its selling point. As such, we planned to add interesting elements to the digital version of the book to help it stand out from other online bestiaries and illustration books.

2.3.1: With the Book Itself

The first thing we wanted to make sure of for the project's interactivity was making it more "book-like". *turn.js*, an open-source program that allows the user to add page turning animations to their display, was the program we used to accomplish this goal (García, 2013).

Turn.js has one first start constructing a size and shape for the book, and one can also adjust the speed of turning the page, the size of the pages themselves, and what background you wish to give them. When implementing the code in HTML, each page takes a sub div under one labelled as the type of page you want for your reading project. The code can also simulate hardcover and softcover books as well. For this project, we made it under the assumption that it would be seen as a hardcover book in real life.

```

<div id="album">
  <div class="hard" id="OnePoint0"></div>
  <div></div>
  <div></div>
  <div></div>
  <div></div>
  <div></div>
  <div><a href="ba.html"></a></div>
  <div><a href="ba2.html"></a></div>
  <div><a href="ba3.html"></a></div>
  <div><a href="harat.html"></a></div>
  <div><a href="harat.html"></a></div>
  <div></div>
  <div><a href="babog.html"></a></div>
  <div><a href="ba0.html"></a></div>
  <div><a href="badeer.html"></a></div>
  <div></div>
  <div><a href="bemaask.html"></a></div>
  <div><a href="bmbull.html"></a></div>
  <div><a href="bmbull.html"></a></div>
  <div></div>
  <div></div>
  <div><a href="barrone.html"></a></div>
  <div class="hard"></div>
  <div class="hard" id="TwoPoint0"></div>
</div>

```

Code Snippet 1: The HTML code for the book using *turn.js*

2.3.2: Parallax Images

Parallax as a term refers to the difference in position of an object when viewed at different points of sight (Miriam-Webster). It is best known as an illusory trick that makes objects closer to the viewer appear to move faster, while the reverse is true for things farther than the viewer's line of vision. Popular website design of the 2010s likes to include parallax effects in their website to create an illusion of depth in a two dimensional plane; the "parallax scrolling" phenomenon, which uses code to make images farther in the background move slower while the images in the foreground move faster when scrolling on a webpage, is such an example of this

popular design. These techniques are attributed to 2D animation of the early twentieth century, and is still popular in computer graphics animation today outside of website building.



Figure 10: Parallax from the perspective of a moving vehicle (bannersnack, 2017)

The particular method of parallax we used for this project was what some call 3D parallax, a technique attributed to making stationary pictures appear to be three dimensional without excessive animation. A normal two-dimensional image needs to be accompanied by a “depth map”.

Depth maps are separate images consisting of shapes and values that correspond to the depth of people, places, and things in the original image. In this case, what is meant by “depth” is the z angle representing “depth” in a 3D plane. The depth map itself needs to be a grayscale image; shapes closer to white will be closer to the front of the final product, while objects colored closer to black will be placed towards the “back” of the image. This is because the map works as an alpha channel (Rastogi, 2011). The depth is determined based on 256 levels numbered from 0-255, which represent the supposed distance from the viewport—0 corresponding to the darkest possible value, 255 corresponding to the lightest (Fischer et.al,

2003). When interpreted by a program that uses depth maps to make parallax animation, the pixels that correspond to the lighter colored parts of the depth map will respond more quickly to a mouse move, while the darker pixels will stay stationary.



Figure 11: Prototype Bull of Light



Figure 12: Bull's Depth Map

The image on the top, one of our first attempts at testing 3D parallax using the Bull of Light character featured in the Alphafest build, is the depth map of the image to the right. To

establish the supposed distance between the background and the body of the bull, pieces of the bull's body are all gradually colored in darker tones while the frontmost and lightest shape should be the bull's head and horns. Meanwhile, the farthest away from the image is as dark as possible without being near the true back of the piece. This comes together in the final image, which uses certain technology to make the image appear to have distance and weight. This concept would later become the basis of some experiments we did with depth maps in order to evoke certain special effects.

For the preliminary stage of this project, we used the OmniVirt 3D Photo Creator web application as inspiration for this element (OmniVirt, n.d.). The appeal of the application is that you can look at the image from any angle and move it with the mouse or a finger, which adds to the illusion of movement. However, OmniVirt is primarily used on Facebook, with the web demo able to demonstrate its capabilities but only give out downloadable files of the original image and depth maps for anyone willing to try it on their own. For this project to succeed, we needed to have a parallax system that worked outside of a demonstration. We wanted a system that could run properly on any browser, could evoke the same effects as OmniVirt whether by mouse or by finger, and was located on a website that anyone could access. As such, we could not use OmniVirt for the rest of the project.

Our first attempt at 3D parallax was using the open-source web program DEPTHY. Like the OmniVirt demo, DEPTHY parallax images could be stored for private use and made into videos or .gif files. While these images did convey the motion we intended for this project, it lacked the interactivity we wanted since the images would not be at full resolution and they would only move in a circular loop. HTML coding did allow for us to make minor interactive

animations using the pictures, such as hovering the mouse over an image to play the loop, but that was not the full extent of our intentions.

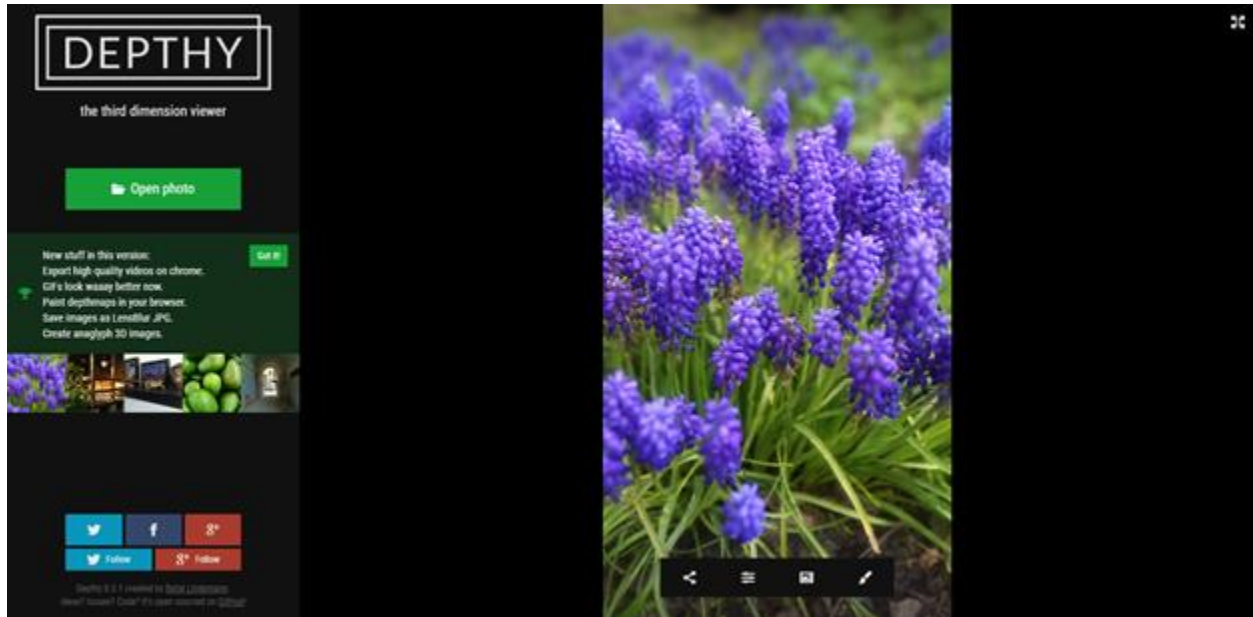


Figure 13: DEPTHY interactive website (Rastogi)

For our second major foray into 3D parallax, we used the PixiJS open-source web application (GoodBoy, 2019). One of many free-to-use depth map programs on the internet, PixiJS offered our team the means to make moving parallax images with the mouse. To function properly, it needed CSS coding and minor programming to make the image move how you wish among other uses. For this part of the project, we wished to put the application on a separate webpage and set everything to a pair of arrays—the twenty-two images on one part, the depth maps on another. The application as we had it in the Alphafest build did not work as we intended, so we separated all of the images onto multiple separate pages in order to make everything work without interference on the browsers we had to test at our disposal (Microsoft

Edge, Firefox, and Google Chrome). As a result, the size of all of the data hosted on the website increased to the point where we had to get rid of pictures

This build did work as intended, as we soon found out. When everything was properly implemented, the depth maps were able to move with the drag of the mouse, and displayed what we were able to see during our OmniVirt testing stages. As a result, over half of the illustrations we made had parallax effects. However, the project still lacked the interactivity we wanted; although we were happy with the fact that the pictures moved, we still wanted people to engage with the material in other ways.

2.3.3: Other Interactivity Methods

The other ideas we had in store were animations that moved independently of each other that could be started and stopped by hovering the mouse over it, and hidden page animations. For these, we designated three pages to test these ideas out—the prototypical “winged angel” for the separated animations, the “headless tree” for general animation on the book, and finally the Great Fish for a third interactive experience—a simulated flashlight. The former two would showcase interactive animations on text as well. The goal was to see how any one of them would respond to their own animations and how they would interfere with the page turning animations `turn.js` offered us.

Layered Animations

Since we were worried about all of the animations colliding with each other, we decided to keep each part of the animation separated from the rest by locking them to a specific z-layer in web coding. Z-layers go from back to front in terms of ascending order, with the lowest non-negative number, 0 being a typical base for the rest of the layers. With this in mind, we had hoped that the topmost animation would play over the animations of the book pages and, since it was already in the HTML coding of the book pages, turn and disappear with the rest of it. For the coding we had at the time of our project's Alphafest build, that was not the case.

The main problem with working on both a pre-established JavaScript/CSS code and adding more JavaScript on top of it is that they often collide and produce errors. In particular, the "winged angel" had the most trouble adjusting. When placing the animations on a separate z-layer from the rest of the animation, the page would stop showing the background that was supposed to be the bottommost layer of that particular page, yet it would still show the animations. Conversely, when I tried to lower the z-layer of the animation, it would appear on the page but it would not move accordingly. Other failed attempts included page resizing (the length and width of one page being a much bigger than the others, which when turned would show the next page in the sequence normally) and a combination of both resizing and the paper background not appearing. Eventually, because the animations on the wing monster would not work, the separated layered animations were scrapped, and the image taken out of the book's overall lineup. The tree's animation was also to be shown by hovering over the mouse in certain areas, but since it didn't

work, we left a looping GIF of the head and text to serve as that page's more complex animations.

Flashlights

For this part of the project, we wanted to make an interactive but intimidating page by first hiding the picture in darkness, only for dragging the mouse on the page to reveal the monstrous fish underneath as a surprise. The Great Fish's interactive feature, a JavaScript and CSS flashlight, was comparatively less of a problem.

To accomplish this, we define a size and shape for what the flashlight would be, which would actually be the shape of the object when it clips through the topmost layer of the page; the background would be the actual image. Then, with a function that activates on a mouse move, every place the mouse goes, the torch function clips by a certain number of pixels.

```

20  #torch {
21      position:absolute;
22      top:0px;
23      left:0px;
24      width:100vw;
25      height:100vh;
26      box-shadow: inset 0 0 150px 150px #612b2b;
27      background:url("MQP2019/Fish Mouth.png");
28      clip:rect(0px,400px,400px,0px);
29  }
30
31
32  </style></head>
33
34  <body>
35      <script>
36          document.body.addEventListener('mousemove',function(e){
37              var top = e.pageY;
38              var left = e.pageX;
39              var torch = document.getElementById('torch');
40              torch.style.clip = "rect("+(top-400)+"px,"+left+"px,"+top+"px,"+(left-600)+"px) ";
41          });
42  
```

Code Snippet 2: Flashlight code

As already said in the *Layered Animations* subsection, getting this animation to work with the *turn.js* page proved difficult, since, when the code was implemented, the result would be similar to those used in the layered animations and make the page it was on disappear, since including more animations to work with only complicated everything that much more. In the end the project was not shelved but we did move the contents to another page on the website, accessed if you click on the page much like the PixiJS pages. The most unfortunate thing is that, unlike the *turn.js* page flipping mechanic, we were not able to get the flashlight working on mobile in time for Alphafest. It was a feature that could only be used on PC (the mobile version does make a clipping square, but it is unable to move), which thankfully we had on hand during our Alphafest run.



Figure 14: The Flashlight function as seen on the website

Sound

We also wanted to include ambient audio that not only immersed the readers in the book, but also grew and changed with a reader's placement in it. There were three main areas we wanted to cover: the sky, the sea, and the land, which would be marked physically by the

drawings flowing in a sequential way to each location, and also by music. We had planned for this to be done without an audio button, so that the sound changes happened naturally as the reader was making their way through.

The pieces we used for this are two original sound files made by Johnnie (Sonic Alchemy – Ambience Reads by Water 03 which represents the deep sea, referring to where pages 7 and 8 are now in the Alphafest build; and the Sonic Alchemy- Water Creature Approaching, a track featuring footsteps and a creature approaching), and one fair use ambient track (UX Designer, 2017). When we implemented these things, they sounded fine, if needing a bit of tweaking so the music does not draw away from the experience of reading the book. The real problem came afterwards, when the music would not initially play on the Google Chrome browser; Chrome changed its policy regarding automatic audio in April of 2018, which includes the fact that something needs to be interacted with before the music can start or stop playing (Beaufort, 2017). Solutions to this problem included some way to include a button on the website, somewhere, but this went against the planned design.

Because the music always ran from the start, we circumvented this by using an extra condition in the HTML coding (jt25, 2018); this way the browser is tricked into playing the first, shorter clip, afterwards moving on to the longer clip to play so the system will be forced to play the latter.

```
<body>
  <iframe src="silence.mp3" allow="autoplay" id="audio" style="display:none"></iframe>
  <audio id="my_audio" autoplay loop> <source src="clouds.mp3" type = "audio/mp3"></audio>
  <audio id="my_audio2" autoplay loop> <source src="clouds.ogg" type = "audio/ogg"></audio>
  <script>
window.onload = function() {
  document.getElementById("my_audio").play();
  document.getElementById("my_audio2").play();
}
```

Code Snippet 3: The audio coding trick

The music featured in the Alphafest build still does not work properly on Google Chrome, but Edge and Firefox were able to play the audio. Because this part of the project ate up a lot of our time, and because the audio was not working as intended on Chrome before the intended testing period, we ended up only using the sky track as our main music.

Section 3 – Playtesting

3.1: Overview

The project was brought to IMGD Alphafest the night of November 22, 2019. Setup for its portion of the venue included a laptop running the website (provided by Johnnie), headphones to listen to audio (provided by the Academic Technology Center), a print copy of the book with numbered pages, and a mobile device hosting a survey created by Dolores to answer questions, in particular a Samsung Galaxy Note 8 and Kindle Fire 7 (both devices provided by Johnnie). To accommodate for both members of the group presenting their project and playtesting other groups' projects, they had decided to work in shifts; Johnnie would tablesit from 5:00 PM to 6:15 PM, while Dolores would tablesit from 6:15 PM to 7:30 PM.

Subjects were initially introduced to the book's website while the presenter explained the premise, project length, and characters. The presenter would also warn the subject of glitches and methods to turn the page, as well as problems previously encountered before Alphafest. The subjects were also informed of the after-testing survey during this time period, after which they would sign the provided printed agreement. After the debriefing, the subjects would be instructed to put on the headphones and begin reading through the book, and were allowed to comment on their experience as they read. Upon completing the book, the presenter would inform them once again of the survey, providing them the mobile device to answer the provided survey questions

(see Appendix D). After completing the survey, the mobile device was returned, and the presenter would provide the subject with a congratulatory piece of candy (bought by Johnnie and Dolores) for participating in the project.

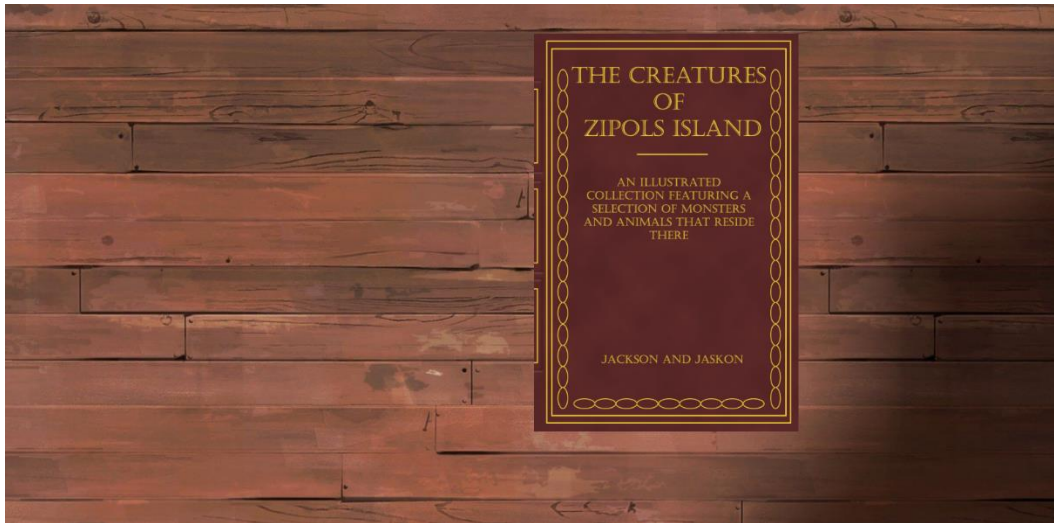


Figure 15: The opening screen for the Alphafest build

During Johnnie's shift, she presented the website on Google Chrome. Users during this time commonly expressed trouble with music playback, as the Chrome browser did not allow automatic music play on the site. This was eventually rectified during Dolores' shift, where she informed Johnnie of the problem and switched the browser playback to Mozilla Firefox.

Nine subjects overall tested and gave criticism on the project; however, only eight of those nine submitted a survey due to Johnnie forgetting to ask a subject to participate during one of the event's earlier tests. Three people had volunteered to use the project for IMGD playtest credit.

3.2: Results

3.2.1: Survey-Related Responses

Of the nine original surveys conducted for the experiment, reactions ranged neutral to positive. The most commonly liked page spreads were pages 3-4 (the depiction of the Sky Whales), who were also the second-most liked creatures of the set. Users looked to the Fishman as the most interesting creature. Text was considered highly legible by the readers, although most testers cited that they could not read page 19 legibly.

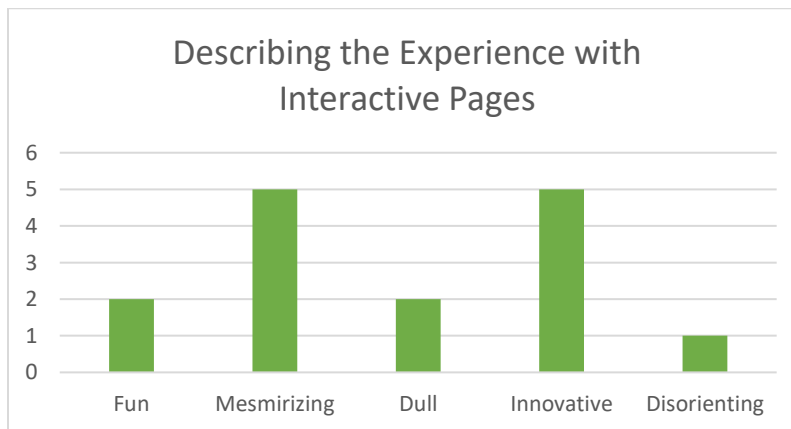


Figure 16: Responses to Survey Question 3

The interactive pages were met with warm reception; out of the five available descriptions for the pages ranging from negative to positive (see Appendix D, Question 3), most testers responded favorably to the pages, with the most common descriptors being “Mesmerizing” and “Innovative”. There was one count of the pages being labelled as

“Disorienting”, but overall the testers did not suffer from physical effects while reading the book, which was in line with how we had envisioned the build.

Despite this, there is a tie leaning towards a “bad” experience (4 votes) versus a “good” experience (6 votes); this can be tied to the results for “interactivity” and “audio”. The background music used for this build was commonly rated as “too little”, meaning the music was unable to be heard during a readthrough. While the subjects would not identify what constituted a bad “interactive” experience in the survey, they had informed the testers of their problems verbally (“Interactivity” as reported in the survey refers to the ability to search through the book at one’s own leisure, as well as giving and receiving feedback to and from the book through audiovisual cues).

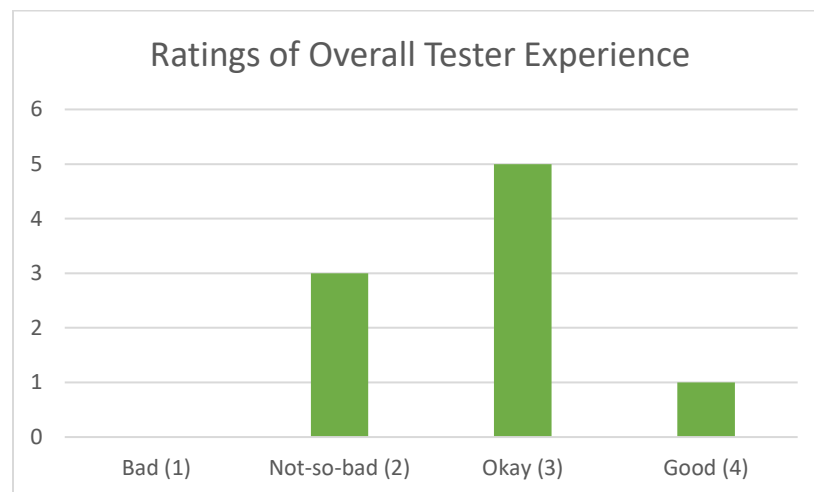


Figure 17: Chart of Overall Experience

3.2.2: Non-Survey Related Responses

Although many answers during the testing period were given through the surveys, some testers gave equally valid opinions as they leafed through the book. During Johnnie's session, the most common complaint was that certain pages would return the user to a previous image rather than a full view of the page they had clicked. This glitch resulted in the Fishman's page being the most often viewed, though not by choice. Another common complaint during this half of the testing period was the lack of ambient music playing during their sessions, something that was fixed going on into the second session and resulted in positive responses to the ambient sound. Many also commented during testing that they would like to learn more about the creatures featured in the book, but because of the lack of text they were not able to.

Section 4 – Post Mortem

4.1: Positives

The general goal we set, to make a 2D interactive illustration book, was possible within the timeframe of our project. Although the overall time frame for this project was four months, we were able to build a functioning website that successfully hosted an interactive illustration book considering our lack of serious programming skills. Our secondary goal to make a set of unique creatures was accomplished as well; all participants in the testing phase were largely satisfied with the look of the monsters and of the book's aesthetics.

The technical goal of making an interactive website was also met. The book in its Alphafest build was able to function properly on the website, complications with experimental animations aside. The pages were fully functional on mobile and on PC, meaning that it could be interacted with like an actual book, something we had hoped would happen. The interactive features we had planned for the website, such as the z-depth pages and the flashlight, were successfully implemented, and they were not found to be disorienting as we had feared.

Lastly, the idea that testers showed engagement in the world of the book was a very big positive for us. That they expressed dissatisfaction at the lack of backstory or information for the monsters featured in the book is good news, because that shows the audience wanted to learn more about what those creatures are.

4.2: Negatives

Despite the positives attributed to making the game, ultimately there were far more negatives during production. Our major faulting was not getting all of our assets done in time, which heavily affected how testers perceived the game. The interactivity we sought after was not present in the Alphafest build, which was only further hampered by the fact that all of the assets we sought to use in the book went without. While it was great that the testers liked the pictures, liked the music choice, and were intrigued by how the 3D parallax effect was made, ultimately it came down to links not lining up properly and the whole book relying on one main gimmick and a few other gimmicks used only once that brought down interested testers. The interactive options we conceptualized were put on the back burner to make a functioning website, a skill that both members of the team had little prior experience in, especially in the length of time we had for this project.

The twenty monsters we planned on designing, in the Alphafest build, only came up to fifteen unique characters, leaving us with five less than our intended goal. The other five monsters were shelved due to the complications in getting their animations to work properly and on time for the showcase, which was an unfortunate oversight on our part. In terms of true uniqueness, four of the fifteen are not wholly created for this project and went against our intended goal of not referencing certain countries' folklore.

Another large part of our failings was our inconsistent schedule. While the first half of the project went by with minimal problems, the second half was characterized by mismanaged

time, fixating on small lines of code and experimental interactivity when bigger problems were ignored, and most importantly a self-inflicted lack of guidance. While we were able to get many things done on our own, we did not utilize consultation to the best of our ability until it was too late.

Preparation was a huge negative in relation to poor scheduling. For at least a quarter of the meetings during the second half of the project, the assets we wanted to show off were in development stages, and because we were so focused on getting many aspects of the project done at once we did not have the time to properly deliver our weekly goals in a timely manner. The Alphafest build, in addition, was only salvaged by the fact that one of us was at the table while the other one was off watch. Because of our lack of preparation in this project, the team ended up more problematic than we had anticipated and caused the end product to be undeveloped.

4.3: What Could Have Been Better

The project was not as inclusive as it should have been. Some of the choices made for the project, such as the automatic audio, did not take from basic audio options on other websites, such as a mute button and volume control. The book's story could have been made more apparent in every step of production; because there is not a lot of text beyond the title and first page, all of engaging information about the monsters and in the illustrators' backstory did not factor into the way the readers interacted with the world of the book. For any possible future build of this book, we plan on implementing more text to help address the narrative set up.

The lack of mobile compatibility also hampered this project in a lot of ways. While *turn.js* was able to run on mobile, and the same with the PixiJS applications to a lesser extent compared to its movement on PC, the book was not completely mobile friendly. The book was resized on portrait and landscape, making it look small and clunky to handle. In addition, as already mentioned, the flashlight function was not able to work properly due to lack of optimization for mobile. In the future, to ensure that everyone can get a proper chance to read the book on any digital platform, we should strive for optimized performance on both PC and on mobile.

The resizing issue is also present on different screens. While the book may come off as completely visible on our testing screens, the book was cut off on other computer monitors in other test runs. Setting a universal adjustable size would be ideal in making the book more accessible for different digital mediums.

The animations we used for the book in its planning stages are not necessarily bad, but they could have been more visually interesting. The lone animation in the Alphafest build did garner some interest, which we were satisfied with, but in the future, we would like to include more in the book.

The website itself is in need of trimming, as the amount of HTML pages we had was superfluous for the amount of content we had at the time. One of the bigger problems that we were trying to be mindful of was the size of the overall website. As the book was hosted on a WPI personal server, as mentioned in Section 2, a certain amount of data could be stored in it. Because of the size of some of the items, such as the PNG files and especially the individual HTML files, the website had to have some data moved in order to keep everything on. In the

future, we need to keep careful note of the file sizes put into the website, and create more optimal solutions for displaying the z-depth images instead of relying on multiple copies of the same data.

The final thing we would need to consider is *consistency*. Consistency has been a problem with the project ever since the project's concepting stages, not only for the images and amount of interactive functions but also in our work schedule. In many aspects of the project, it felt uneven; with one animation and one flashlight function to nine z-depth pages, it felt like there were uneven breaks in the entire book that needed to be rectified. For future iterations of the project, we should be able to better balance all of the functions we plan to use and present them in a more natural context rather than just putting one unique experimental function in for every three or so of the same function.

Section 5 – Conclusion

The three-month period our team spent working on the Interactive Illustration project was not only valuable, but a lesson in underdevelopment and audience engagement. The original goal of the project was to make an online book of illustrations that not only allowed readers to interact with the pages, but also immersed them with writing, illustrations, and the illusion of depth. To accomplish this, we set out for a low maintenance project of twenty pictures and accompanying descriptions, along with effects that incorporated engagement such as moving parallax images or digital 2D animations. The illustrations themselves would be styled after old encyclopedias and field journals, while the illustrations would catch reader attention by being comprised of creatures not taken from establish myth and folktales.

The project started and ended with the intention that it was meant to be interacted with like a book, so we set out to find JavaScript programs that would allow us to make the book turn pages both on PC and on mobile devices. The page turning mechanic was successfully implemented, and it can be used on both platforms, but due to poor planning the sizing of the book was not optimized for all screens.

While the end product of twenty-two pages and fifteen unique illustrations for *The Creatures of Zipols Isle* featured five creatures less than of our original quota, and we ended up not using parallax images only for the project, the overall book was completed to a satisfactory level. However, our intended secondary goal of getting the readers immersed and interacting with the pages did not fare as well. While many testers were satisfied with the illustrations presented in the book and some did comment on how eager they were to learn about the world, our technical difficulties concerning the bugs in the Alphafest build and the lack of text for

people to read left much to be desired. For what it is worth, the pages were cited as unique and some of the techniques that we did incorporate, such as the flashlight and PixiJS pages, were met with positive reception.

As both members of the team had little prior experience in making a functioning website, the fact that *The Creatures of Zipols Isle* was as presentable as it was despite lacking many core elements and received constructive criticism was nothing short of a major success for us. While there were many mishaps that we wished could have gone better during this two-term project, we are satisfied with it standing on its own and are interested in improving upon it in the future.

References

- Baeva, Vira. (2014, Oct 5). Ox, cow and bull in folklore imagery and tales. Retrieved November 21, 2019 from <https://www.bnr.bg/en/post/100467575/ox-cow-and-bull-in-folklore-imagery-and-theses>
- Beaufort, François. (2017, Sep). Autoplay Policy Changes. Retrieved November 5, 2019, from <https://developers.google.com/web/updates/2017/09/autoplay-policy-changes>
- Fischer et.al., n.d. Pixel Values. Retrieved October 10, 2019, from <https://homepages.inf.ed.ac.uk/rbf/HIPR2/value.htm>
- Hadley, Debbie. Jewel Beetles of the Family Buprestidae. Retrieved from <https://www.thoughtco.com/jewel-beetles-family-buprestidae-1968126>
- jt25. (2018, Aug 18). How to make audio autoplay on Chrome [Online forum comment]. Message posted to <https://stackoverflow.com/questions/50490304/how-to-make-audio-autoplay-on-chrome>
- Lindemann, Rafal. n.d. DEPTHY: Third Dimension Viewer [Digital image]. Retrieved December 1, 2019 from <http://depthy.me/#/>
- Main, Jackie & Main, Peter. (2004, Sep 19). Nandi (sacred ox) [Digital Image]. Retrieved December 5, 2019 from <https://www.pbase.com/mr2c280/image/34078301>

Onion, Rebecca. (2013, Jul 28). The Fantastical Allure of the Space Whale. Retrieved November 8, 2019, from <https://www.laphamsquarterly.org/roundtable/fantastical-allure-space-whale>

Ossola, Alexandra. (2016, Dec 23). The Complicated, Inconclusive Truth About Rat Kings. Retrieved November 8, 2019, from <https://www.atlasobscura.com/articles/the-complicated-inconclusive-truth-behind-rat-kings>

Parallax. In *The Merriam-Webster.com Dictionary*. Retrieved November 12, 2019, from <https://www.merriam-webster.com/dictionary/parallax>

Professor Layton series [Computer software]. (2007-2017). Japan: Level-5.

Rastogi, Anish, n.d. "Tutorial: What is Z-depth". Retrieved October 16, 2019, from <http://www.cgarena.com/freestuff/tutorials/Zdepth/zdepth.html>

Riley, Lucas. (2017, Oct 24). An (Almost) Comprehensive History of Rat Kings. Retrieved from <https://www.mentalfloss.com/article/506504/almost-comprehensive-history-rat-kings>

Schwartz, Alvin. (1981). *Scary Stories to Tell in the Dark*. New York: Harper & Row.

Untitled. n.d. Retrieved from <https://codepen.io/anon/pen/WErXWe>

Voynich Manuscript. Unpublished Manuscript.

What is parallax and how to impress your readers [Digital Image]. Retrieved November 12, 2019, from <https://blog.bannersnack.com/what-is-parallax-and-how-to-impress-your-readers/>

Appendices

Appendix A – Informed Consent Agreement Form

Informed Consent Agreement for Participation in a WPI Research Study

Investigator: Brian Moriarty, IMGD Professor of Practice

Contact Information: bmoriarty@wpi.edu, 508 831-5638

Title of Research Study: Interactive Illustrations

Sponsor: WPI

Introduction: You are being asked to participate in a research study. Before you agree, however, you must be fully informed about the purpose of the study, the procedures to be followed, and any benefits, risks or discomfort that you may experience as a result of your participation. This form presents information about the study so that you may make a fully informed decision regarding your participation.

Purpose of the study: The purpose of this study is to obtain feedback on a Major Qualifying Project (MQP) project in order to facilitate design improvements and find/address operational bugs.

Procedures to be followed: You will be asked to read an interactive illustrated book requiring less than ten minutes to complete. After completing the book, you will be asked to complete a brief, anonymous survey describing your subjective experience.

Risks to study participants: There are no foreseeable risks associated with this research study.

Benefits to research participants and others: You will have an opportunity to enjoy and comment on a new interactive application under active development. Your feedback will help improve the reading experience for future players.

Record keeping and confidentiality: Records of your participation in this study will be held confidential so far as permitted by law. However, the study investigators and, under certain circumstances, the Worcester Polytechnic Institute Institutional Review Board (WPI IRB) will be able to inspect and have access to confidential data that identify you by name. Any publication or presentation of the data will not identify you.

Compensation or treatment in the event of injury: There is no foreseeable risk of injury associated with this research study. Nevertheless, you do not give up any of your legal rights by signing this statement.

For more information about this research or about the rights of research participants, or in case of research-related injury, contact the Investigator listed at the top of this form.

You may also contact the IRB Chair (Professor Kent Rissmiller, Tel. 508-831-5019, Email: kjr@wpi.edu) and the University Compliance Officer (Jon Bartelson, Tel. 508-831-5725, Email: jonb@wpi.edu).

Your participation in this research is voluntary. Your refusal to participate will not result in any penalty to you or any loss of benefits to which you may otherwise be entitled. You may decide to stop participating in the research at any time without penalty or loss of other benefits. The project investigators retain the right to cancel or postpone the experimental procedures at any time they see fit.

By signing below, you acknowledge that you have been informed about and consent to be a participant in the study described above. Make sure that your questions are answered to your satisfaction before signing. You are entitled to retain a copy of this consent agreement.

Study Participant Signature

Date: _____

Study Participant Name (Please print)

Signature of Person who explained this study

Date: _____

Appendix B: Unused Text for Project

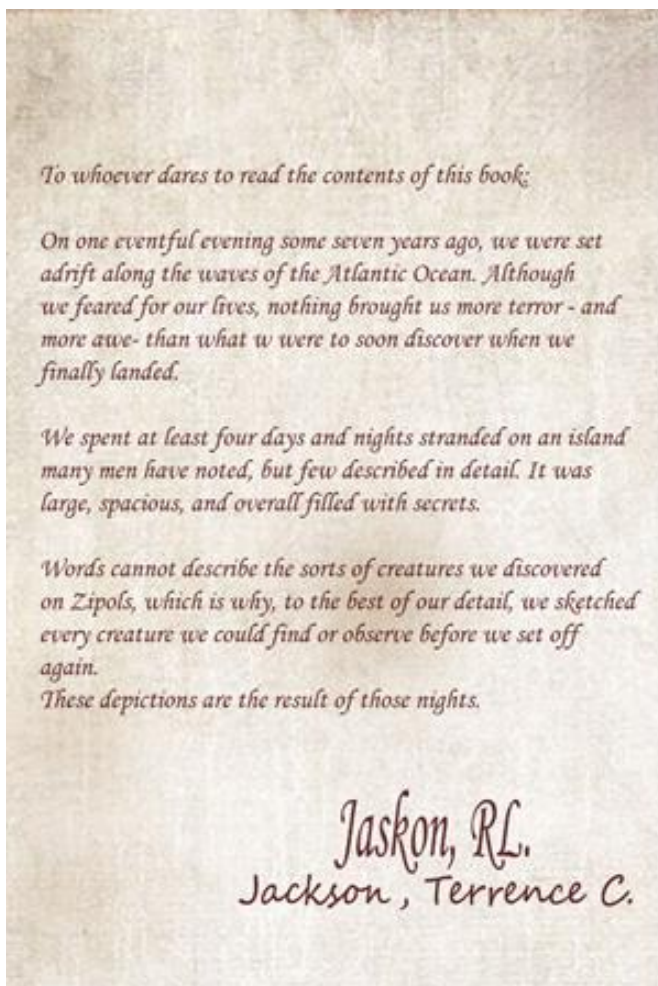
Name	Description
Sky Whales	One oversees the waves and the rate of change. The other oversees the mountains and its stubborn rigidity. Both, from up on high, will protect the island.
Shore	The rocks that gleam on this shore have been polished by the sea for centuries, and weathered away by time. They are the corpses of thousands that lived in their shell. Their hard outer casings were the only thing that could be preserved.
The Stuck One (Barf Monster)	A creature from an older time, an era unknown. It rests at the root of a mountain. The viscous substance that flows down its throat appears to be some kind of sap, but no one person has gotten close enough to confirm.
Fishman	Part Man, Part Fish, all danger. This creature likes to lie in wait in search of children drawn to its upper body's goofy appearance. Once an unlucky child grabs onto them, the creature rips them away with a suctioned and sticky grip and makes a mad break for water. It takes careful note not to be seen from the waist down, as its tentacles are the most inhuman feature this creature has.

Great Fish	Tread carefully in the cold and damp, because these creatures will be waiting at every turn. Originally seen at fishing bays among the day's hauls, these creatures have since evolved to crave anything wet, as long as they're near the ocean. These fish have since been used as cautionary tales for wayward children who liked to frolic in the water.
Bird Men	There are light-footed men, far lighter than the fleetest of feet on land. Perched atop mountains, hidden within brush, and scavenging overhead, all have one aspect in common: arms covered in membrane and plumage, and feet like birds.
Rat King	A trio of unique, frustrated rodents, tied together in an unbreakable bond by the tail. Their most prominent feature is their human-like emotions; each individual rat is said to be the truest embodiment of a living being. It is best not to cross the path of this rat king—if you find one that matches your personality, you will be cursed.
Head-Rolling Tree	One my rest their head against this weary tree, and soon find their heads parted the next morning.
Bull of Light	A bull born from the Father-of-All, and one of the earliest known spawn. It is said to come to ailing pastures in times of famine and drought, and with its presence comes prosperity. No one person has seen the bull up close, but many who have had the chance to look upon it have been blinded.

Billion-eye Frog	The insects it once consumed have assimilated into this form, and the billion eyes that see from its empty sockets record from all angles but behind. Though rotting, its mucus is especially potent.
Ring Woman	The Ring Woman knows no boundaries, as she sees the beginning and the end of all things. As long as the cycle continues, so too shall she.
Jewel Beetle	To collect one is to come face to face with riches for the rest of your life. But to meet it in its eye is to come face to face with danger.
Rune Creatures	They reside on the fields near caves and the shadows of war, innocently frolicking among the wreckage.
Tentacle Monster	Writhe if it must, convulse if it will, and retch if it may. The coldness of its own tendrils will never go away.
Moving Mask Wall	What at first glance appears to be a collection of masks on the wall turn out to be what is considered a gathering of seemingly enchanted items.
Deer	Look closer, and see that it still walks despite the towering burden upon its head. Where it moves, the tightly-woven cave moves also.
Foulskin	No mere half of grisly remains, this pheasant-like creature only resembles its plucked and gutted cousins. It hangs on the strings and walls of butcheries, waiting for heads to turn to finally sneak a bite of unguarded goods.

Appendix C: Unused Illustrations and Pages

Forewords

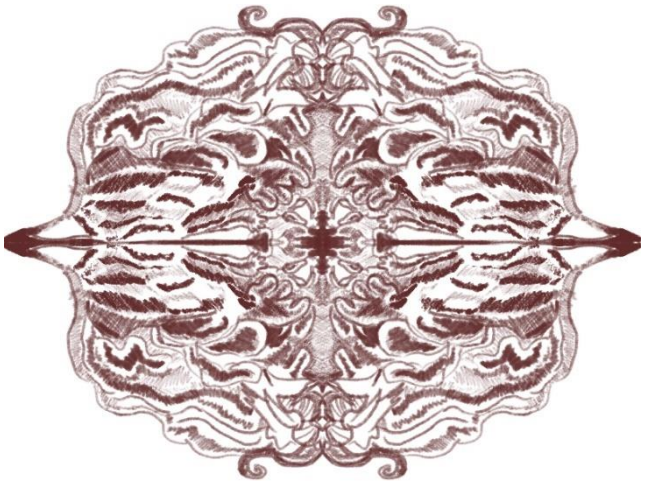



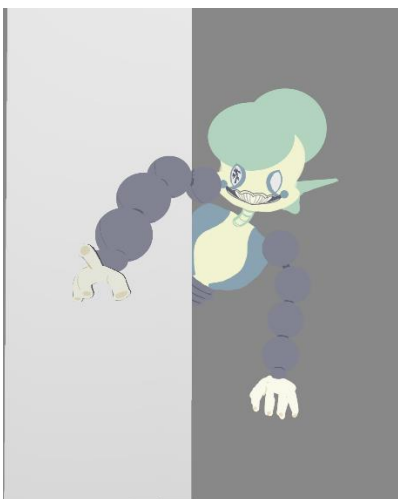
*Whoever discovers this book
shall be acquainted with
some of the strangest and
most intriguing animals
known to mankind.*

*It is a pity you shall only see
the drawings of them, as
they are much better up
close.*

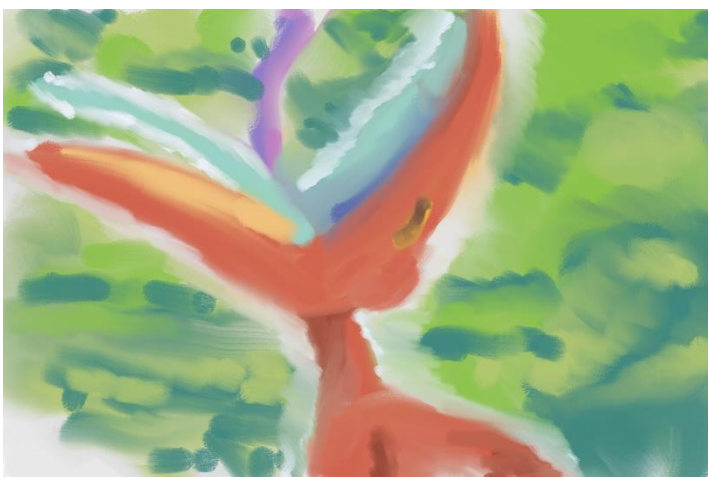
*Jaskon, RL.
Jackson, Terrence C.*

Unused Creature Designs and Concepts

	<p>Cover Creature</p>
	<p>Ring Woman</p>



Fishman



Birdman

Appendix D: Alphafest Survey

1. Which spreads interested you the most? Check all that apply.

- ☐ Pages 3-4
- ☐ Pages 9-10
- ☐ Pages 17-18

2. Which specific creatures interested you the most? Check all that apply.

- ☐ Pages 3-4
- ☐ Page 5
- ☐ Page 6
- ☐ Page 7
- ☐ Page 8
- ☐ Pages 9-10
- ☐ Page 12
- ☐ Page 13
- ☐ Page 14
- ☐ Page 15
- ☐ Page 16
- ☐ Pages 17-18
- ☐ Page 19
- ☐ Page 20

3. Check all adjectives that describe your experience with the interactive pages.

- ☐ Fun
- ☐ Mesmerizing
- ☐ Dull
- ☐ Innovative
- ☐ Disorienting

4. Rate the legibility of the text on the Cover and Foreword.

1 2 3 4
 Illegible ☐ ☐ ☐ ☐ Legible

5. Rate the legibility of the text on Page 19.

1 2 3 4 5
 Illegible ☐ ☐ ☐ ☐ ☐ Legible

6. Was the ambient music too much or too little?

Too Much ☐ 1 ☐ 2 ☐ 3 ☐ 4 Too Little

7. How do you feel about the website's interactivity?

Not interactive at all ☐ 1 ☐ 2 ☐ 3 ☐ 4 High Interactivity

8. How would you describe this experience to someone else?

Bad ☐ 1 ☐ 2 ☐ 3 ☐ 4 Good

Why?

9. If you could change one thing about this project, what would you change?

10. Any other inquiries?

Submit

Appendix E: Resource Library and Licensing

HDR Relaxing Sounds – Ambient Sound – dramatic Blue Sky - UX Designer

<https://www.youtube.com/watch?v=qkeKUwx7DoU>

OmniVirt 3D Photo Creator

<https://www.omnivirt.com/3d-photo/>

PixiJS - GoodBoy Digital

<https://cdnjs.cloudflare.com/ajax/libs/pixi.js/5.1.5/pixi.min.js>

TF2 Wood Textures – Spazloy

<https://www.turbosquid.com/FullPreview/Index.cfm/ID/528104>

turn.js. - Emmanuel García

<https://www.turnjs.com/>