# Creating a Tutorial for Online Exhibitions for the British Museum's International Training Programme





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# **Abstract**

Online exhibitions present an unexplored frontier in museum curation. The British Museum's International Training Programme (ITP) has very few resources for training curators on how to create and maintain online exhibitions. Using first-hand experience, surveying ITP fellows and interviewing museum professionals, we used Wordpress to create an online exhibition and developed a detailed tutorial for the ITP fellows to create their own online exhibitions. We recommend the tutorial be tested and the iterative process is used when creating a website.

# Acknowledgements

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# **Executive Summary**

Online exhibitions present a new and relatively unexplored frontier in museum curation. Once posted online, the exhibition is immediately accessible to anyone with an internet connection. Without the constraints of operating hours of a physical exhibition, it is one of the best ways of disseminating information. However, technological inexperience prevents the universal adoption of online exhibitions in museums. Creating for an increasingly digital world requires technical skills in order to develop and maintain a website. While museums have sufficient content to put online, the means for doing so are not readily at their disposal. Currently, the British Museum's International Training Programme (ITP) has very few resources for training curators on how to create and maintain online exhibitions.

The ITP is a global network of museum professionals working together to develop skills and disseminate best practices in a variety of Museum operations. The ITP's mission is to create a network that crosses borders, and in doing so helps to develop exhibitions that would not have previously been made possible. Our project's goal was to find an effective way to produce an online museum exhibition and develop a tutorial that allows ITP fellows to create their own online exhibitions in the future. At the end of the project we produced two deliverables for the ITP. The first was an online exhibition we created for the Bristol Museum & Art Gallery (a member of the ITP's network). The content for the website was curated by five ITP fellows and compiled by a sixth fellow, Sue Giles, who works at the Bristol Museum. Creating the exhibition gave us an opportunity to use the tools that we were recommending and writing a tutorial about. The tutorial on online exhibitions was written throughout the project based on our experience creating our prototype exhibition for Bristol. It was written for ITP staffers with no technical training and no experience creating websites so that an exhibition curator can walk through all the steps from setting up a server to designing each page. The tutorial can be found in Appendix G.

The first step of our project was to determine what platform to use when creating online exhibitions. We interviewed ITP fellows and ranked potential platforms in a matrix (see Appendix B for the platform comparison matrix). Figure i shows that among the ITP fellows who had experience with website-building platforms (twenty out of forty-five respondents) the majority had used **Wordpress**.

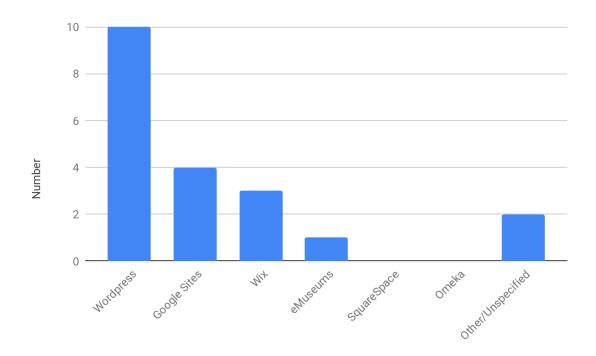


Figure i: Familiarity with Specific Platforms Among Respondents

Based on the ITP survey feedback and our own research into the platforms shown above, we decided to use **Wordpress** to build our own online exhibition and recommend it to the ITP. Many fellows had experience using Wordpress, and its low cost and array of plugins for different functionalities made it the best choice for this project.

Once we arrived in the UK, we conducted eight **interviews** with curators and museum professionals to gather information that helped us when creating our prototype website. The interviews provoked us to think about how online exhibitions promote international collaboration without requiring curators to be physically together and how the content of an online exhibition can be more complex than a physical exhibition because the audience is largely made up of people who already have an interest in the subject. See Appendix D for the individual interview summaries.

To create our prototype **online exhibition for the Bristol Museum** we conducted three iterations on our design to make improvements and make the best possible website using user feedback. Figure ii below shows the iterative development model we used. After improving our designs in each iteration, we sent a **survey** out to ITP fellows, museum employees, and peers for the testing phase. See Appendix E for iteration questions. Using these responses, we then made improvements for the next iteration. For more in-depth descriptions of each iteration see Appendix F.

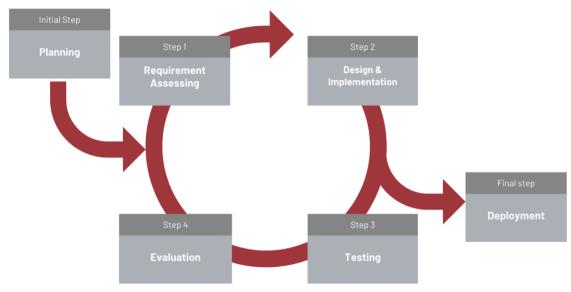


Figure ii: Iterative development model

For the first iteration, we created three different test sites labeled A1, B1, and C1 focusing on the **layout** and **navigation** of the website. The main navigation methods we decided to implement were click-based, map-based, and parallax scrolling-based.

Based on our first iteration feedback (Appendix E) we decided that a simple layout was the best way to move forward in terms of navigation.

From here, we created three new sites for iteration 2: A2, B2 and C2. The goal of this iteration was to see how users would like **content presented** to them on the **theme pages**: a standard web page of text and images (A2), a parallax-scrolling effect (B2) and a slide-scrolling animation (C2).

The feedback on the second iteration was largely similar to the first; again, testers preferred a simpler design.

Because of this we decided for the third (and last) iteration to continue with only one website. Site A3 was used for the third iteration. The goal of the last iteration was to get feedback on **small refinements**. Figure iii below shows the site genealogy from iteration one to iteration three.

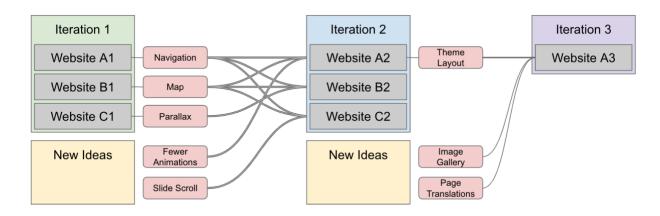


Figure iii: Site Genealogy

Feedback on iteration 3 was largely positive with testers appreciating the simple design and suggesting little to no changes. The changes we made for the final deliverable were to do with text and image positioning. Figure iv below shows the final home page of our online exhibition. To view the delivered website visit <a href="http://bristolthebiggerpicture.itponlineexhibitions.org/">http://bristolthebiggerpicture.itponlineexhibitions.org/</a>.

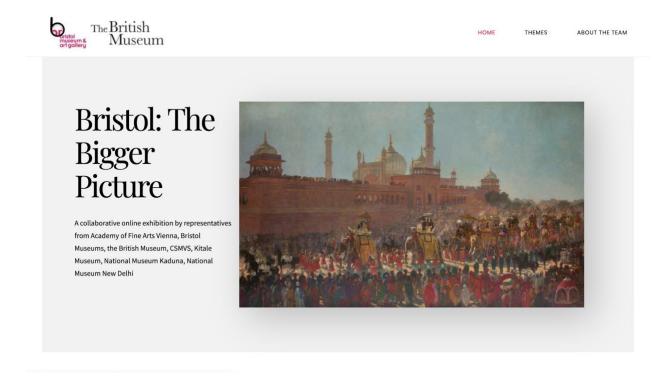


Figure iv: Final Online Exhibition Home Page

The **tutorial** was created throughout this process as we learned new information about Wordpress. For instance, at the beginning of the project while we were setting up our server and installing our Wordpress theme, we were taking notes on the process and writing the "Wordpress Setup" section. As we made design changes, we were writing the "Designing a

Page with WPBakery" section. Following this process, we were able to produce a well-informed tutorial based on our own experiences. Figure v below is from the title page of the tutorial.



Figure v: Title page of the tutorial

We recommend that the best way to continue with this project would be to **test the tutorial**. It was not feasible for us to test the tutorial with actual ITP fellows within the time allotted, but a testing period would help to produce the best possible product. Secondly, ITP fellows themselves should **maintain the tutorial**; if fellows were to update the tutorial as technologies evolved, it would keep the document up to date. We also recommend that when ITP fellows create their own website, they follow some sort of **iterative process**. Although it is not strictly necessary, it is a good way to avoid technical bugs and get real user feedback. Our next recommendation is for the ITP to **improve their surveying method**. The survey platform they use (SurveyMonkey) has many helpful features that are not being utilized. Our final recommendation is that some British Museum staff should spend some time learning about **web development**. There are a large number of resources online for learning about using HTML & CSS programs and taking advantage of these will open up new possibilities beyond what a Wordpress plugin could provide.

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Paragraph 2	Matt	Jacob
Paragraph 3	Jacob	Matt
Paragraph 4	Cormac	Michael
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2.2 The International Training Programme	Cormac	Matt
2.3 Online Exhibitions	Matt	Cormac
3.0 Project Tasks and Preparatory Work		
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5.0 Deliverables		
5.1 Final Online Exhibition for the Bristol Museum	Cormac	Matt
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6.0 Recommendations		
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Appendix A: Survey Questions for ITP Fellows	Rebecca	Michael
Appendix B: Platform Comparison Matrix	Michael	Jacob
Appendix C: Interview Questions for Museum Curators	Matt	Cormac
Appendix D: Interview Summaries	Cormac	Michael
Appendix E: Survey Question for Exhibition Iterations	Michael	Jacob
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# 1.0 Introduction

In the modern world, the average person's access to information has exploded in size and scope. With the advent of the internet, most people are able to search for information and retrieve it incredibly quickly. This means that the role of institutions like museums, which exist to inform and educate the public, is starting to change. In today's world, museums rely less on funding from wealthy philanthropists, but rather, they remain successful through visitor fees and government budgets. To prove their value and secure funding (either private or public), museums need to attract as many visitors as possible. It is important for museums to ask themselves if they are truly using all the available tools the modern world provides and what a 21st-century museum might look like.

Online exhibitions are a new frontier that museums are starting to explore for greater outreach. By putting images and text about artefacts online, museums can aid students, researchers, and the general public in learning, and also increase awareness about the museum and engage new audiences, which is important for their modern sustainability (Harcup & Nesbitt, 2006). Museums have the experience and knowledge required to create physical exhibitions, but creating an online exhibit requires a different skill set.

Technological inexperience prevents the universal adoption of online exhibitions in museums. Creating an online exhibition requires computer skills to develop and maintain a website. In addition, recreating the hands-on experiential aspects of visiting an exhibit through technology, such as virtual reality, is costly to develop and requires technical skills that are not always available to museum curators (Khoon & Ramaiah, 2008). While museums have sufficient content to put online, the means for doing so are not readily at their disposal. Currently, the British Museum's International Training Programme (ITP) has very few resources to use for training curators on how to create and maintain online exhibitions; their first effort is slated to be an exhibit at the Bristol Museum and Art Gallery, a member the ITP.

This project's goal was to find an effective way to create an online museum exhibition and produce a tutorial for future International Training Programme curators to create their own online exhibitions. The secondary deliverable that assisted in the creation of the instructional report was the production of an online exhibition for the Bristol Museum & Art Gallery. The deliverables were achieved by determining which website building platform to adopt, defining the design criteria for online exhibitions and developing and testing a prototype online exhibition. This methodology helped us produce a detailed and well-informed report for the ITP. This will make a difference for the programme and their fellows going forward because museum curators will have a model for creating their own online exhibits and will then have a better grasp of the process.

# 2.0 Background

In order to provide context for this project, in this chapter, we will introduce the British Museum in London and the Bristol Museum in Bristol, and their experiences in an increasingly online world. One of the British Museum's initiatives is the International Training Programme, and in this section, we will describe what it is, what it does, its online experience and some of the fellows/museums associated with it.

#### 2.1 The British Museum

The British Museum (2019a), located in London, England, was founded in 1753 and at the time was established as the first national public museum in the World. The museum contains ten curatorial and research departments, including the department of Ancient Egypt and Sudan that houses one of the collection's most famous artefacts, the Rosetta Stone. With nearly six million visitors a year, the British Museum continues to attract both native United Kingdom residents as well as tourists to the city of London.

#### 2.1.1 The British Museum and the Digital Age

In addition to housing impressive galleries in London, the British Museum has made notable strides in the modernization of museums in the digital age. In 1982 the museum's director, Sir David Wilson, expressed that they were one of the leading museums in the world; however, he also acknowledged that the physical space that housed the exhibits was a continual problem (Sanders, 1984). Today, in an attempt to overcome the limits of physical space, the museum's exhibits and artifacts have an impressive online presence. By their own count, "there are currently 2,335,338 records available, which represent more than 4,000,000 objects. There are 1,018,471 records that have one or more images", all on the museum's website (British Museum, 2019a, para 2). They are not stopping there, however, aiming to make records available on every object in the museum's halls through their website. The online collection has been worked on for thirtyfive years, and the database continues to be added to at the rate of about 2,000 new images a week. The primary goal that drives the museum's online movement is to support curatorial and research work of those without access to the physical galleries The British Museum has considerable influence in the online exhibit community and continues to be a pioneer in this growing field. One of museum's other initiatives in encouraging growth is the International Training Programme.

# 2.2 The International Training Programme

The British Museum coordinates the International Training Programme (ITP), which is a global network of museum professionals working together to develop skills and disseminate best practices in a variety of Museum operations (British Museum, 2019b). The ITP's mission is to create a network that crosses borders, and in doing so helps to develop exhibitions that would not have previously been made possible (ITP, 2018b).

The ITP (2007) was created by the British Museum in 2006, and it was designed to be a two-year training period for Egyptian curators (an indication of the British Museum's renowned Egyptian department). However, it was the next year (summer of 2007) that the programme was moulded into its current form. For over a month, eighteen curators and specialists from eight different countries attended the programme at the British Museum, with the final ten days spent at a separate UK institution. The programme has continued over the following eleven years, and the 2018 group contained twenty-three fellows from seventeen countries. In addition to the broad spectrum of nationalities represented in the summer training programme, the network of fellows totals 276 from forty-three countries. This large network of museum professionals helps the ITP (2018a) fulfil its mission of creating and promoting a, "sustainable global network of museum and heritage professionals" (p. 3) through sharing knowledge, skills and experiences.

As stated in its mission, the ITP (2018b) attempts to create a network that crosses borders, and in doing so helps to develop exhibitions that would not have previously been made possible. In September 2017 The Palestinian Museum started its education and public programme through the exhibition *Jerusalem lives*. Reaching 16,000 visitors, the exhibition was spearheaded by Obour Hashash, a member of the ITP network since 2014. Paul Kado Michael, a member of the ITP since 2012, helped to promote learning and engagement at the National Museum of Tanzania in 2018. The museum invited students and teachers from surrounding areas to come and view information that had a link to their schools' syllabus. The ITP's influence in helping to provide fresh ideas and techniques to its members allows museum professionals to create new exhibits and programmes within their local communities.

#### 2.2.1 The Bristol Museum

The Bristol Museum is part of the ITP (2018a) network within the UK, and is one of the locations where programme participants spend time during their training. Fellows from the ITP continue to work with the Bristol Museum to develop exhibits.

The Bristol Museum and Art Gallery (2019) contains a variety of artefacts and exhibits. In the halls one can find mummies from ancient Egypt, paintings from China and Japan, artefacts from ancient civilizations in the Middle East, and that is just scratching the surface. The galleries do not just house local Bristol and British history, they connect people from all over the world.

Despite the ITP's impressive track record of helping their fellows to flourish and develop impactful exhibitions, they have very limited experience in the realm of online museum curation (R. Horton, personal communication, January 23, 2019). Most fellows have no experience when it comes to either creating an exhibit solely for online use, or replicating a pre-existing exhibit in an online form. Because of their lack of knowledge and experience in this field the programme is interested in learning more about creating online exhibitions and to share that knowledge with their fellows.

#### 2.3 Online Exhibitions

As museums navigate their way through this digital age, they need new methods for reaching out to their target audiences. Developments of online exhibitions have seen wide success and allow

museums to change roles from displayers of artefacts to comprehensive social learning spaces (Choi & Kim, 2017).

The transition from physical to online exhibits is not a new development. This shift started before the prominence of the internet when museums began integrating multimedia displays into their exhibits (Khoon & Ramaiah, 2008). These displays, or kiosks, were a considerable step towards increasing user interaction with exhibit objects through digital museology. At the same time, museums were adapting to CDs/DVDs and new optical technology by the early 1990s, contributing to what was known as 'offline educational interactives' (Mateos-Rusillo & Gifreu-Castells, 2015). The aim of these services was to convey information or knowledge through hands-on activities. Museum wearables also increased the amount of interaction between the user and the exhibit by acting as real-time storytelling devices. These wearables have become more advanced in the last decade with the advent of virtual and augmented reality, allowing museums to enhance their storytelling capabilities through these experiences (Khoon & Ramaiah, 2008). In addition, these experiences have become significantly more accessible as museums put their content online in the form of an online exhibition.

The most important benefit from using online exhibitions is accessibility. Internet access has become relatively widespread, and while there are places that still have little to no internet access, internet access is likely to only increase. This means that museums can reach much larger audiences, and potentially attract significantly more visitors than if they did not have an online exhibition. Accessibility on the curators side is also really important. Online exhibitions allow curators from all over the world to work together and bring components from their own physical exhibitions for low cost.

#### 2.3.1 Pros and Cons of Online Exhibitions

Online exhibitions provide many benefits to both museums and visitors. Once posted online, the exhibition is immediately accessible to anyone with an internet connection and is without the constraints of operating hours of a physical exhibit, making it one of the best ways of disseminating information (Ramaiah, 2014). This means both students and teachers are able to use information from online exhibitions in the classroom, thus enhancing learning and scholarship. Moreover, the manpower, cost, and time commitment to assemble/disassemble exhibits is replaced with just the click of a mouse, all the while reducing the wear and tear on physical objects. While online exhibitions still take time and effort to produce, they are significantly less laborious to create and maintain than physical exhibits.

It is clear that online exhibitions serve as great resources for learning while eliminating many obstacles presented by physical exhibits, yet the fact that the content is viewed through a computer screen takes away from the hands-on experiential part of visiting a museum (Khoon & Ramaiah, 2008). An exhibit's effectiveness relies on the visitor's feeling, hearing, and seeing, and when this is taken away, the experience is no longer as memorable. Accurate representations of objects depend on image quality, and the finer details can often be lost when translated to the web, especially in places where there is not high-speed internet. Moreover, online exhibitions can also give rise to some educational drawbacks, such as reduced critical thinking, reading, and

writing skills because of the availability of information for students to copy, although this is an issue with any online source.

In addressing the needs of the ITP, our project will focus on tackling this problem by producing a tutorial for curators to follow in the future, as well as create a prototype online exhibition for the Bristol Museum and Art Gallery. Our main deliverable, producing a tutorial for the ITP, will have a lasting impact on the organization; members will have a greater understanding of how to utilize online exhibitions to fulfil their needs and will have a step-by-step guide on how to create their own exhibits for the modern world. In the next chapter, we outline the project tasks and steps we took to meet our project goal.

# 3.0 Project Tasks and Preparatory Work

The goal of this project was to develop an effective way to create an online museum exhibition and produce a tutorial for International Training Programme (ITP) curators to use in the future. In this chapter we discuss the steps we took to achieve our goal.

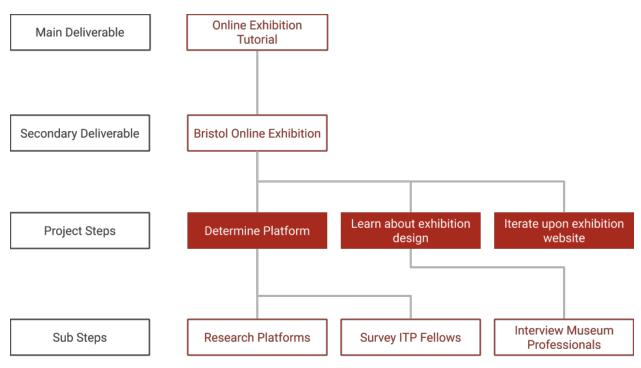


Figure 1: Project Tasks and Deliverables

Figure 3.1 shows the steps we took in producing tutorial for the ITP detailing how to create online museum exhibitions, and an online exhibition for the Bristol Museum and Art Gallery. In order to complete our deliverables, we developed three main objectives:

- Determine which platform to adopt
- Identify the design criteria for online exhibitions
- Develop and test a prototype online exhibition

#### 3.1 Producing an Online Exhibition Tutorial

The main deliverable was to develop a tutorial for ITP curators to use for creating online exhibitions. The ITP has fellows all over the world with varying degrees of technical skills. With online exhibitions, they can be connected and work together, combining artifacts and knowledge from their respective museums and countries. Traditionally, this would be very costly and time consuming as curators would need to physically travel to work together and museums would need to loan artifacts to other museums. These drawbacks can be overcome with online exhibitions by allowing curators to work together from around the world. The tutorial was intended to allow those with less technical experience to create online exhibitions without the steep learning curve of a

new platform slowing them down. We also included some more advanced options for curators who were more comfortable writing their own code.

## 3.2 Creating an Online exhibition

The secondary deliverable was the production of a prototype online exhibition for the Bristol Museum. The ITP coordinated the collaboration of six curators from around the world to work on an exhibition together. The online format was the best choice because it allowed the fellows to contribute their own stories from their respective cultures without physical limitations.

The exhibition focuses on Bristol as a port city; it connects the individual history of Bristol to that of the fellows' home nations. The fellows wrote all of the content, however they did not have the technical training to create an online exhibition. Because of this they needed our help to create this exhibition. In addition to helping the curators of this exhibit put their content online, the goal of this prototype exhibition was to provide us with firsthand experience to use when writing the instructional tutorial.

## 3.3 Preparing for an Online Exhibition

In producing our online exhibition and tutorial, there was a level of preparatory work that had to be conducted before beginning the online exhibition for the Bristol Museum. Firstly, we had to choose an online platform to create the exhibition with; we interviewed ITP fellows and ranked potential platforms in a matrix. Secondly, we had to learn how to curate exhibitions so we interviewed a variety of museum professionals.

## 3.3.1 Selecting a Platform: Wordpress

The first step in achieving our end goals was determining the platform that we would use to create the online exhibition. Using a platform designed to create websites was the best choice for this project because of the lack of technical experience within the International Training Program (ITP). Creating a website from scratch using HTML/CSS can result in the most attractive websites, however, that was not an option for this project because of the technical limitations of ITP fellows.

We began by identifying potential platforms that could be used to create our exhibition. A comparison chart was made covering information in three categories: objective features that the platforms had, such as support for custom HTML/CSS and multilingual support; quantitative information about the site, such as yearly price and number of available templates; and qualitative information, such as the ease of use for non-technically inclined people and the overall look/feel of the sites. (Appendix B).

We then sent out a survey to the ITP fellows asking about their familiarity with web development and the platforms that we identified. (Appendix A). We chose to use a survey to obtain this information because the ITP is a network of curators from around the globe. A survey allowed us to collect both quantitative data and qualitative data which made our analysis of the platforms

easier. In addition, the respondents were able to provide additional comments at the end of the survey. Using the feedback about the ITP fellows' familiarity with web development, we added the column of qualitative data titled "Familiarity among ITP Fellows" to the rubric. Figure 3.2 shows that just under half of the survey respondents had experience with online exhibitions (twenty out of forty-five respondents. Figure 3.3 shows that of those who did have such experience, most were familiar with wordpress.

# Have used online site-building platforms

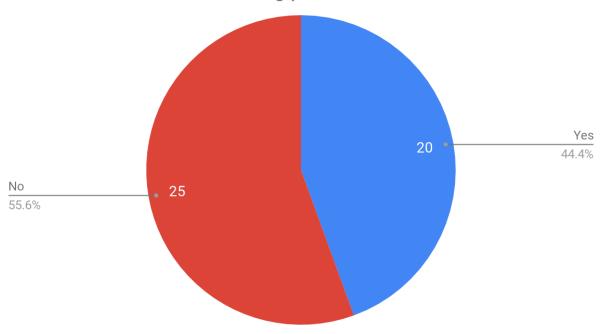


Figure 2: ITP Fellows Experience with Website Building Platforms

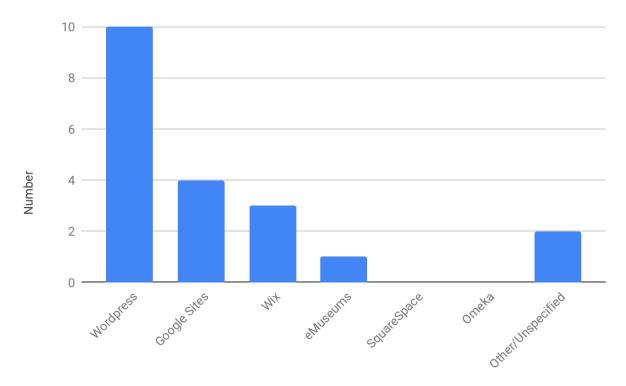


Figure 3: Familiarity of Specific Platforms Among Respondents Who Have Experience with Website Building Platforms

After having the final rubric compiled, we recommended two platforms to our sponsors: Wordpress and Squarespace.

We found that Wordpress was the best choice for the online exhibition platform since it had the greatest number of features, was the best known among the ITP fellows, and can be used to create the most professional looking sites. One of the main attractions of wordpress is the sheer number of templates that one can use as a starting point for their website/online exhibition. There were over 11,000 templates available at the time of writing (other website creators make them and upload them for anyone to use). There are also external plugins that are developed by third parties that can be utilized to suit the creator's needs, such as multilingual support and accessibility improvements. Wordpress' many features can seem daunting for a non-technical user, however, one can quickly pick up how to navigate around the platform to make a simple site. Many of the ITP fellows surveyed had experience using wordpress. For those people who indicated they have some experience with HTML and CSS, there is the functionality to allow for customization through these coding languages.

We also recommended Squarespace as a user friendly solution to creating websites. It is a drag and drop website maker that requires no coding experience. One drawback of Squarespace is that it only has a little over 100 templates to choose from. Squarespace has many of the same features as Wordpress such as external plugins, multilingual support, and accessibility, so the biggest difference between these two is customizability and the fact that more ITP members are familiar with Wordpress.

After a phone conversation with our sponsor, we decided to move forward with the online exhibition and tutorial using Wordpress.

#### 3.3.2 Interviewing Museum Professionals

Learning about how to design and organize museum exhibitions was crucial to creating an effective online exhibition. It was important, as engineering students with no curatorial experience, to learn about how to curate by talking with experienced museum professionals. Therefore, we conducted eight interviews to better understand this process. Interviewing was the logical choice to gather data because it provided us with qualitative results from the interviewees. It also helped us to probe deeper into what we were learning in a way that standard survey questions would not have. Lastly, because we interviewed a variety of professionals in different departments, our survey questions were not standard across all interviews. We were able to tailor the questions we wanted to ask based on who we were talking to. See Appendix C for interview questions.

Table 3.1 shows the variety of professionals we interviewed to gather more information about curating and experience with online exhibitions. See Appendix D for a summary of each interview.

Name	Museum	Position	Experience with Online Exhibitions
Jeffrey Forgeng	Worcester Art Museum	Curator	Υ
Mary Linkins	British Museum	Project Manager	N
Holly Wright	British Museum	Exhibition Manager	Υ
Marie Vandenbeusch	British Museum	Curator	Υ
Stuart Frost	British Museum	Head of Interpretation	Υ
Sue Giles	Bristol Museum & Art Gallery	Curator	N
Jennifer Gleadell	The Collection Museum, Lincoln	Exhibitions and Interpretation Officer	N
Chris Cullen	The Collection Museum, Lincoln	Digital Development Officer	N

Table 1: Interviewees Museum, Position and Experience with Online Exhibitions

#### **Key Interview Takeaways**

From these interviews we came away with some information that helped us when creating our website. Firstly almost every curator mentioned the importance of a narrative. These discussions aided in the development of our online exhibition following a narrative. In addition the curators also mentioned how when having a narrative there must be a balance with free choice. In many

of our interviews we talked about how this was one of the great benefits of an online exhibition, a user could click a link to go to a different page or website to learn more.

Many of our interviews identified and confirmed further benefits of online exhibitions. The new audiences museums could reach was something we had already thought about, but when curators told us this was a benefit it reinforced our initial beliefs. The interviews provoked us to think about how online exhibitions promote international collaboration without curators having to be physically together. Lastly the content of an online exhibition can be more complex because the audience is largely made up of those already having some interest in the subject. From our visit to The Collection Museum, we also thought about ideas that could be included in online exhibitions in the future, such as 3D models of artefacts, or controls of a telepresence robot to tour the museum for those who cannot physically travel to the location.

All of these interviews helped us think about how technology is used in museums and how online exhibitions are just the latest example of this. We realized how important the different forms of media are when it comes to online exhibitions. Without high resolution images and different ways to display information a website can easily become stale and boring.

Using the information we gained from interviewing museum professionals we were able to begin work on our online exhibition for the Bristol Museum.

# 4.0 Creating the Online Exhibition

A main deliverable for this project was the creation of an online exhibition for the Bristol Museum & Art Gallery. We developed the website using an iterative process. For iteration 1 and 2 three sites were developed with varying design choices; iteration 3 had one design choice that was then tested to refine for a final product. Results from the previous iteration were used to design the next iteration, resulting in a final product submitted to the ITP and the Bristol Museum.

#### 4.1 Iterative Development

In computer science, the idea of "iterative development", as seen in Figure 4.1, is often used to help refine a product throughout a development cycle. The process begins with planning, and then enters a cycle of assessment, design, implementation, testing and evaluation that can be repeated as many times as necessary. This process is valuable because it allows for feedback to be ingrained into the design choices made, making for a more robust product in the end.

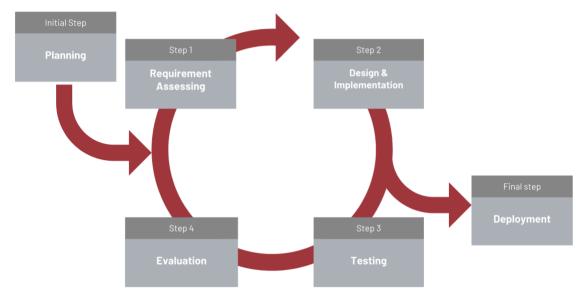


Figure 4: Iterative development model

We decided that this would be the best way to create an website because of the website's focus on the end user experience. Being able to receive feedback from people who have experience curating museum exhibits and who are likely to be the actual end users of the website was a huge advantage for this project. Additionally, the timeframe for our project allowed for a few iterations of development, which was more helpful than one drawn-out iteration. We conducted three iterations in total each focused on a different aspect of the website: **navigation**, **theme layout**, and **small changes**.

Our iteration processes were all very similar. Our "Requirement assessment" phase happened over the span of a few hours where we reviewed the feedback from the previous iteration and notes from our sponsor. We then brainstormed and designed three separate websites for the

iteration, with each iteration focusing on seperate parts of the website (navigation, theming, etc). Following that, we spent 3-4 days building the website in wordpress and documenting our steps. Once we had a finished iteration, we published the three versions onto our website and send out a survey to the ITP fellows as seen in Appendix E. This survey asked the users to rank each of the websites in certain areas such as ease of navigation or look and feel. Lastly, we closed the survey after a few days and review the data as a team and begin the requirement assessment again.

We combined an iterative process with the A-B testing of our surveys because it gave us many chances to incorporate user feedback without constraining our design process. Distributing our designs across three websites per iteration meant that we could try out ideas that were a bit more experimental, without making our project inaccessible for less technologically-literate users. Additionally, the A-B testing made our data much easier to analyze, allowing us to quickly process our survey results.

The following sections will detail the choices made in each iteration, followed by the feedback gathered on each iteration and how that affected changes made to future iterations.

## 4.2 Iteration 1: Navigation

For the first iteration, we created three different test sites labeled sites A, B, and C. The ITP gave us content to put on the website which included text and images for the homepage, pictures and biographies for six ITP fellows, and the theme pages that each fellow wrote. Since the content was given to us, we decided to focus on the layout and navigation of the website. The main navigation methods we decided to implement were click based, map based, and parallax scrolling based. These methods were chosen because when implemented effectively, they allow for a visually appealing website that is easy for the user to navigate. These three sites were put on a single landing page so that the participants in our survey could easily find each site, shown below in Figure 4.2.



Figure 5: Screenshot of the landing page

Each webpage had a unique design when it came to navigating throughout the exhibition. Website A was designed with a simple, flat layout where users clicked on images and links to go

to the author and theme pages; website B was designed with a large map in the center of the page which users would interact with in order to navigate throughout the exhibition; website C was a modern, infinitely-scrolling web page with each theme page available from the homepage and images the scrolled by with a parallax effect. More in-depth descriptions and images of the websites are available in Appendix F.

#### 4.2.1 Feedback on Iteration 1 (Navigation)

After finishing the development for iteration 1 we sent out a survey to gain feedback on the three designs. The survey consisted of ranking the sites in 3 different categories: ease of navigation, visual appeal, and how informative it was. See Appendix A for survey questions. We obtained responses from 24 individuals, and the feedback helped us learn what we should change for the next iteration.

We first looked at the quantitative results from the survey to obtain an initial understanding of how people felt about the three sites. Site A was the most popular in all of the categories, site C was second, and site B was the least popular. See Figure 4.3.

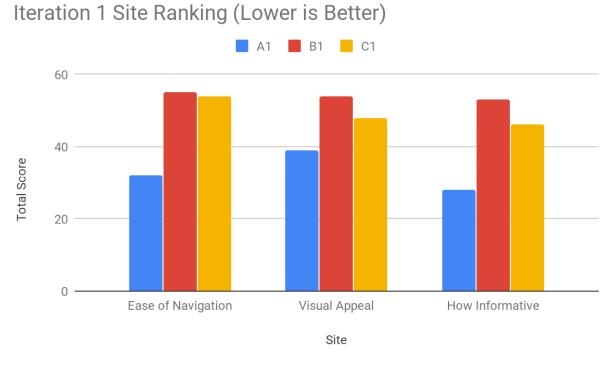


Figure 6: Rankings of Sites Iteration 1

We then looked at the qualitative data for explanations of why this was the case. For site A, many respondents felt that the moving text and images was too distracting. One suggestion was to only use the animations for important images or text. For site B, respondents generally found the map to be a poor choice for the main navigation on the page. From the responses, we realized that the "Read More" hyperlink at the end of the text summary was not obvious. Many people said this site had less information than the others, but three sites contained the exact same information.

This led us to understand that our method of navigation was unclear. Site C had some technical challenges, leading respondents who were using outdated browsers to only see the intro text.

From this feedback we made plans for our next iteration. We decided that all three sites of the second iteration would use the format of navigation from site A1. For site A2 we would keep the animations, but reduce the number of them so as to only highlight key pictures or text. For site B2 we would use the parallax image design that was originally in site C1, but only on the individual theme pages of the site. For site C2 we would implement a slide-scrolling feature for viewing the themes, as this was an idea we had been thinking about during iteration 1, but didn't have the time to implement. We also decided to modify our survey slightly, by adding a question asking what web browser the respondent was using, so that we can determine if certain web browsers are causing technical difficulties.

## 4.3 Iteration 2: Page layout

For the second iteration, we once again created three different versions of the website, which we called websites A2, B2, and C2. The results of iteration 1 surveys showed a huge preference for the navigation style of website A, so we used it's "home" and "about the team" pages throughout all of the iteration 2 websites. However, based on some positive feedback for website B's map, we added the map to the author page, which can be seen in Figure 4.4. It provided insight at a glance into the different locations of the fellows, without the navigational issues that people encountered in website B. An addition to those changes, in this iteration we focused on how the theme pages were designed.



Figure 7: The map at the bottom of the new author page

Website A2 was designed to look nearly identical to its predecessor, website A. The positive feedback from iteration 1 proved that a flat, simple layout would work well, but based on complaints we received in the surveys we decided to tone down the animations on the images and text, making it much more flat. Website B2 was designed after our website C's more modern look; while users didn't like the infinite scroll of website C, they had positive reactions to the parallax scrolling of images, so we brought that feature to this iteration. Lastly, website C2 was designed with a slide-scroll design, one where the theme pages were cut into one-page content chunks that the user would scroll to one-after-another. Figure 4.5 shows how iteration 2 sites were developed from iteration 1. More in-depth descriptions and images of the websites are available in Appendix F.

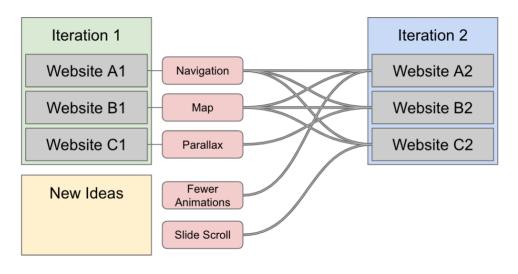


Figure 8: Site Genealogy from Iteration 1 to Iteration 2

#### 4.3.1 Feedback on Iteration 2 (Page Layout)

After finishing the development for iteration 2 we sent out a survey to gain feedback on the three designs. The survey contained the same questions as the survey from iteration 1, asking the reviewer to rank the sites in 3 different categories: ease of navigation, visual appeal, and how informative it was. In this survey we also asked the respondent two additional questions: what web browser they were using and if they had completed our previous survey. See Appendix E for survey questions. We obtained responses from 29 individuals, and the feedback helped us learn what we should change for our final iteration.

# Iteration 2 Site Ranking (Lower is Better)

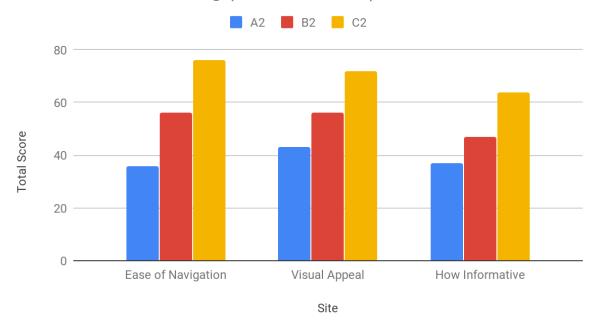


Figure 9: Ranking of Sites Iteration 2

First, we looked at the quantitative results from the survey to understand how people felt about the three sites. Site A was the most popular in all of the categories, site B was second, and site C was the least popular. See Figure 4.6.

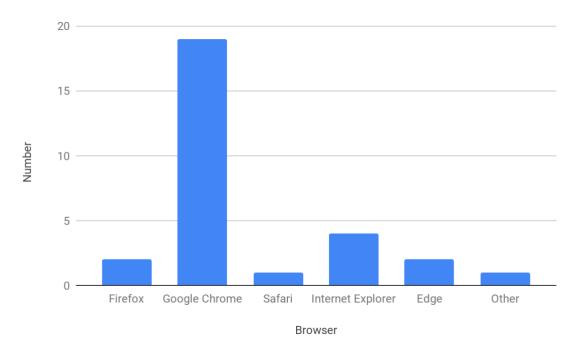


Figure 10: Browser Usage

Having statistics about the web browser that respondents were using is important because it would allow us to notice any potential technical issues, such as those we experienced in the first iteration, with content not displaying in Internet Explorer. The breakdown of web browsers can be seen below in Figure 4.7.

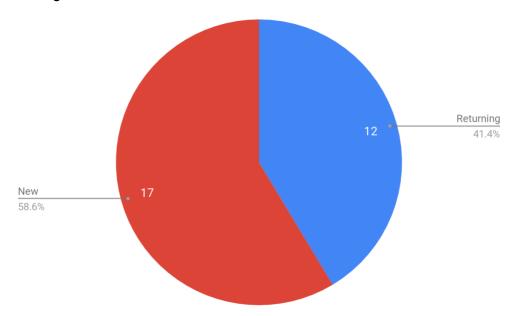


Figure 11: Number of Returning Respondents

The final bit of quantitative information we gathered was if the respondent had completed our first survey. Of the 24 respondents who took the first survey, half of them took this survey, making up 41% of this survey respondents. See Figure 4.8. When looking at the qualitative data we will pay special attention to the thoughts that these twelve individuals have with respect to the changes we have made from the last iteration.

After looking at the quantitative data available from our survey we began looking at the comments people left to obtain qualitative feedback. The majority of the users disliked having to keep clicking to view information on site C2, calling it annoying, distracting, and not user friendly. Site B2 seemed to be an overall improvement from our previous parallax scrolling attempt, with the technical issues fixed; however, some users noted the drawback of not being able to see the full image. While modern websites using this style for visual appeal don't require a user to see the full image at once, in the context of a museum exhibit, people would likely want to be able to see the full image of an artifact or piece of art. Finally, site A2 was universally liked for being simple and easy to navigate. People who had responded to our first survey thought that the reduction in the animations made it easier to look at and read.

#### 4.4 Iteration 3: Content & Refinement

For the third (and last) iteration we decided to create only one version: website A3. We made this decision because our survey results for iteration 2 showed a strong preference for website A2. A2 was the most simplistic design we had, however users clearly liked the intuitive designs. There

were no major suggestions for new designs from our respondents, just small additions or ways to improve; thus we decided to move forward with one version with the intent of discovering issues in the content and making minor refinements. Figure 4.9 shows how website A3 was developed using new features and website A2.

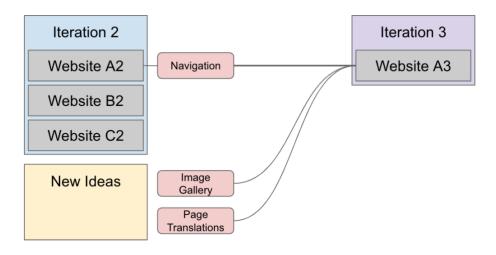


Figure 12: Site Genealogy from Iteration 2 to Iteration 3

Website A3 had the same layout as A2 with a few added features to improve user experience and based on iteration 2 feedback. We made every picture on the 'Themes' and 'About the Team' pages expandable. This allowed users to get a closer look at each image if they wanted. Image galleries were added to the bottom of the theme pages so that the user could scroll through all the images from that theme page. In addition, in Figure 4.10 you can see we added a google translate feature that translates the website into Arabic, Chinese, English, French, German, Hindi, Italian, Japanese, Russian, and Swahili. The languages were chosen based on the countries that the curators who wrote the website content were from and common languages of ITP fellows. More in-depth descriptions and images of the websites are available in Appendix F.



Figure 13: Translate options available on the exhibition

#### 4.4.1 Feedback on Iteration 3 (Final Content)

After finishing development of iteration 3 we sent out a survey to gather feedback on the one website we designed. The survey questions for this iteration were different than the other two because the respondee was longer being asked to compare three websites as they had been before. Instead the questions revolved around the content of the exhibition: did all of the content display correctly? Are there any changes you would make to the organization of the content? Are there any typos or image/text placement errors? Feedback from these questions was largely positive from the fourteen respondents. Figure 4.11 below shows that seventy-one percent of the testers would not change anything from our current website.

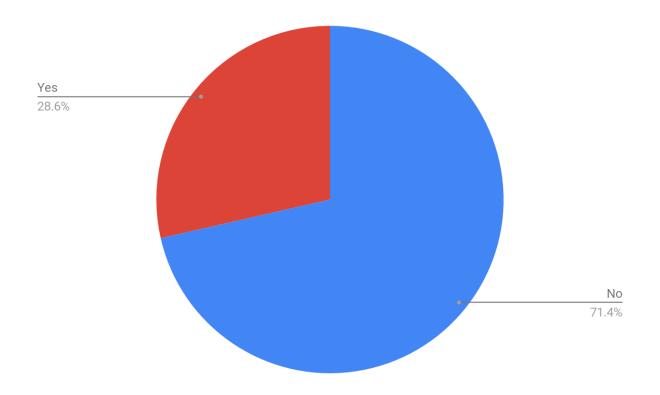


Figure 14: Are there any changes you would make to the organization or layout of the content?

Of those that that there were some changes that need to be made, they provided us with some useful qualitative feedback. For instance, one person said that the 'Next Page' button on each of themes confused them. They thought that it would continue information for that theme, when in reality it would take them to another theme. Because of that we changed the buttons text to 'Next Theme'. Feedback like this was very helpful and was just what we were looking for in iteration 3. The most feedback we got was from our sponsors. They provided us with lots of new text to replace what was previously on the website. In addition, they also helped to tell us when an image would be better served being in a new location. With this round of feedback we were able to make the small improvement necessary to deploy a final product.

#### 5.0 Deliverables

This section will present the two deliverables we produced. The first was the online exhibition for the International Training Programme (ITP) and the Bristol Museum & Art Gallery that was created using the iterative process outlined in section 4. Secondly we produced a tutorial for the ITP on how to create online exhibitions without technical experience the future.

#### 5.1 Final Online Exhibition for the Bristol Museum

The first deliverable that we produced was the final online exhibition for the Bristol Museum & Art Gallery. The exhibition was the culmination of the three iterations we conducted, resulting in a polished product. Figure 5.1 below shows the final home page of the online exhibition we created. To view the full website visit: http://bristolthebiggerpicture.itponlineexhibitions.org/.

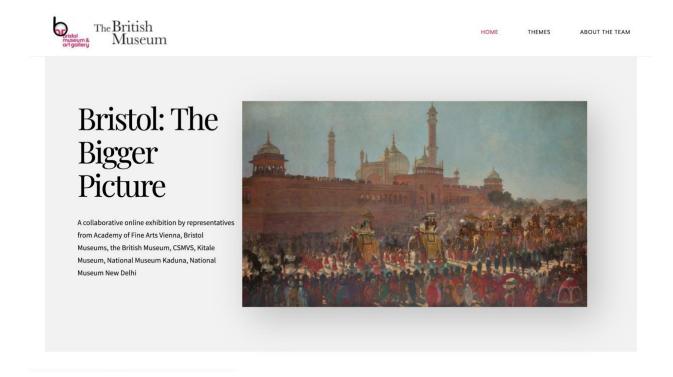


Figure 15: Final Online Exhibition Home Page

In summary, the iterative development model helped us to make data-driven decisions, many of which had to do with aspects of design. Iteration one helped us to decide that an intuitive, "classic" website design was the best way to navigate through the website. Iteration two taught us that displaying the theme pages as text, interspersed with images and occasional animations helped the user to learn the most information. Lasty, iteration three helped us to make the final choices on what images and text were useful to understanding the content, and where they should be positioned on each page.

In the end we produced an online exhibition tailored for the end user and fitting the needs of the ITP and the Bristol Museum & Art Gallery.

#### 5.2 Online Exhibition Tutorial

We worked on creating the online exhibition tutorial throughout our process of creating the online exhibition for the Bristol Museum. This allowed us to use our first-hand experience to create a detailed tutorial. We developed for someone with no technical training, and no experience with Wordpress; this meant step by step instructions in many places and lots of images so that our instructions were as clear as possible. Figure 5.2 below is from the title page of the tutorial. The full tutorial can be found in Appendix G.



Figure 16: Title page of the tutorial

#### 5.2.1 Tutorial Sections

Developing the section headers and the content sorted into each one was very important to our tutorial creation process. It was important to make each section broad and different. We created four main sections with a frequently asked questions section at the end.

#### **Section 1: Wordpress Setup**

The first section of the tutorial is about setting up Wordpress. This section was designed to help a new Wordpress user create their website from the very beginning. This includes choosing a host for the website, setting up a server, initializing the website and one of the most important aspects of Wordpress, choosing and installing a theme.

Inevitably, this was one of the most technically heavy sections of the tutorial. To counteract this, lots of images were used, and simple instructions issued. Another potential issue with this section was that it relies upon other technologies. For instance we used Amazon Lightsail for our server setup. Understandably, technology changes so rapidly that our instructions on setting up the server may be obsolete in as little as a few months time. Because of this we included links to the official tutorials from the individual companies, as well as a number of alternative options that could be used.

#### **Section 2: Wordpress Basics**

The second section of the report was about the basic functionalities provided by Wordpress. Here we presented a comprehensive overview of all the useful functionalities of Wordpress. To do this we went through each section of the menu, making sure that it was as clear as possible how a user could navigate to that part of the dashboard.

This section was important to write because it can help a user figure out how to do all of the customization of their website. For instance there is an a subsection (2.2) that is all about how to customize the general appearance of the website. If someone wanted to know how to change the font, or the color, or the size of text, they would find that sort of information here. Wordpress basics can also help someone figure out where they go to create a new page, write a new blog post etc.

#### Section 3: Designing a Page with WPBakery

One of the most important parts of our website making process was using the WPBakery plugin for wordpress. This plugin allowed us to customize our website with a drag and drop interface and with lots of new tools to display content. Because of this in the introduction to our tutorial we recommend this plugin and devoted an entire section to discussing it.

Our WPBakery section goes through how to create a well designed page from scratch utilizing the various features of the plugin. This way a user can walk through the guide and learn a little bit about the plugin as they go. There are also subsections that discuss how to make display content in a satisfying fashion. This can help fellows who have no experience with making online content.

#### **Section 4: Advanced Editing**

The last section we included was on advanced editing. This included things like custom code (CSS and HTML) as well as attaching a custom domain to the website. Although these were not strictly necessary for this tutorial designed for the those with no technical experience. We considered it to be extremely useful to have a section that outlined these features.

Specifically we thought that the CSS and HTML was important to include for those fellows that have some knowledge and want to apply it. For us, we could make the website and design it with no custom code, but to ensure the website looked its very best, some CSS editing was necessary. For instance if we wanted a link to not be underlined on some pages we dealt with custom CSS code.

#### Frequently Asked Questions (FAQ)

Finally, we wanted to finish our tutorial with a Frequently Asked Questions sections. Although we were not actually able to test the tutorial (something we will go into greater detail in 6.1) we were able to think of some faqs and with discussions with our sponsor we developed some to include in the tutorial. As the tutorial gets used more often, there is an opportunity to add even more. We thought that an FAQ section was extremely valuable to a tutorial. This way if someone had a question that they considered common, they could first check here to see if the answer was easily answerable.

The goal of this tutorial was to help future ITP fellows create their own online exhibitions. Using the aforementioned sections, a non-technically trained fellow would be able to create their own online exhibition from scratch without the help of anyone else.

#### 6.0 Recommendations

Our team has several recommendations for the International Training Programme (ITP) to move forward with online exhibitions and the tutorial that we have created. With these recommendations, the ITP will improve the tutorial and create better online exhibitions in the future.

#### 6.1 Test the Tutorial

Our first recommendation is that the tutorial we have created should be continuously tested by the ITP fellows who are using it. The timeframe for our project did not allow us to both iterate through a website design, write a tutorial about what we learned throughout that process, and also test the tutorial. It would be a good idea to have an inexperienced person attempt making a website using our instructions and note areas where something may have been unclear. This step will help to make sure that tutorial is actually effective for a new wordpress user.

#### 6.2 Maintain the Tutorial

Our second recommendation is that the tutorial should be updated and maintained by the ITP fellows who are using it. Technology changes rapidly, which has the potential for making the specific instructions we put into the tutorial obsolete within a year or two. ITP fellows should continuously note areas where instructions are unclear or have changed. Furthermore, the ITP fellows should be able to edit the tutorial should they find new ways to do something or want to add a more detailed explanation to a section. This will allow the document it will have a much longer usable lifespan. One way to implement the continuous updates from all of the fellows is to have a version of the tutorial on Google Docs. The ITP fellows can be given edit access, so that they can add things as needed. Google Docs also has the benefit of storing all of the revision history for a document, so if a section is accidentally deleted it can be recovered.

#### 6.3 Use Iterations to Create Online Exhibitions

Our next recommendation is that curators should go through some sort of iterative process on their website design. It can be difficult to catch all mistakes or ensure that there are no technical problems if only developing on one computer. The process that we went through of developing 3 sites for each iteration may be excessive; however, making 1 site, getting feedback on it, and then developing a final site can help discover problems and make the end exhibition much more usable. We recommend sending the site to a diverse group of people: from people with little technical experience to those who are highly skilled with technology, from young to old, and from countries around the world. The larger and more diverse the group the more likely you are at finding feedback that you would not have been able to gather yourself.

If using SurveyMonkey for this feedback as we did, spend time looking at the more advanced features of the platform. For our first survey we weren't familiar with the platform and had many questions similar to "If you answered yes to the above question please explain". SurveyMonkey allows you to do advanced page logic, where it can display specific questions based on the results to previous questions. This is useful, as a long survey can intimidate people and make them not want to continue filling it out. Optimizing surveys to make them quick and easy for the respondents will allow you to gather more feedback to make the exhibitions even better.

#### 6.4 Learn Web Development

Our final recommendation is that, depending on how far the ITP wants to go with online exhibitions, it may be worth it for the administrator or the primary stakeholder to spend some time learning about web development. There are a large number of resources online for learning about HTML & CSS, and taking advantage of these will open up new possibilities beyond what a Wordpress plugin could provide. HTML stands for HyperText Markup Language and it serves to tell the web browser where things should be located on the page and how they should be formatted. CSS stands for Cascading Style Sheets, and is used to globally change the formatting of specific elements from the HTML code. Aspects like the color of links, the size of headings, or the spacing of other elements can be customized by using CSS. For example, in our final site we used CSS to remove the automatic underlining of specific links, or to change their color. With only a few lines of code we were able to add a slight visual enhancement to the page.

Another important aspect of web design is the set up and management of the web server that the site is hosted on. Being familiar with the hosting platform will allow you to view the resource usage of the server as well as update software to newer versions to prevent security vulnerabilities. For example, when we sent out our first iteration of the online exhibition the site became slow and unresponsive for us and the users. We discovered that the server only had 50MB of RAM free and that we needed to upgrade to a more powerful tier for our server which had more RAM and processing power. Having a familiarity with the server host and a technical understanding of what is happening can prevent frustration when things aren't working for no apparent reason.

In conclusion, we hope that these recommendations and the completion of our project will have a lasting impact on the International Training Programme. They will be able to produce online exhibitions better than ever before, bringing together fellows from all over the world and displaying their museum content to new audiences.

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#### Appendix A: Survey questions for ITP fellows

#### Introduction:

The International Training Programme (ITP) seeks to engage fellows and partners in an active international network within the museum and heritage sector. With 276 fellows from 43 countries (and counting) we are looking to enhance our current range of ITP legacy projects by better utilising digital communication to ensure we engage will all fellows throughout the year.

Students from the Worcester Polytechnic Institute are working with the ITP team and the Bristol Exhibition Project group (Jana Alaraj (Palestine, ITP 2011), Ishaq Mohamed Bello (Nigeria, ITP 2012), Sue Giles (UK Partner Bristol Museums), Wendland Chole Kizili (Kenya, ITP 2013), Manisha Nene (India, ITP 2011) Rige Shiba (India, ITP 2013)) to publish their collaborative exhibition on a digital platform. The project group members had one physical meeting and have since communicated via email and social media to complete the project. The exhibition will be based on the groups Creating museums of world stories 2015 project Bristol: seeing the invisible.

This will be the ITP's first online exhibition and we hope to use the model for future potential collaborations and to create a template that we can share with you to help support and promote your institutions, collections, projects and programmes.

To help with this process we are calling on our ITP network for your opinions about the project and any advice you have from your own experiences.

#### Informed Consent Notice:

Your participation in the survey is completely voluntary. Your responses will be kept confidential.

This survey is being conducted by WPI student researchers on behalf of the ITP. The data collected may be used and published in our report. Should you not want your name publicly associated with any responses there will be a question at the end of the survey where you can indicate such.

The WPI Institutional Review Board has approved this survey. Should you have any comments or questions, please feel free to contact us at <a href="mailto:gr-lo19-bm@wpi.edu">gr-lo19-bm@wpi.edu</a>

#### Details:

- Name [short answer box]
- Name of the organisation you currently work for: [short answer box]

What year did you attend the ITP 6 week summer programme?
 [short answer box]

#### Online exhibitions as engagement:

#### Their museum

- Does your museum produce online exhibitions? [YES/NO option]
  - If yes, please copy and paste links to the online exhibition(s) below.
     [Comment box]
  - If yes, what are some of your favorite features?
     [Comment box]
  - If yes what are some of your least favorite features?
     [Comment box]

#### Other Chosen Exhibits

 Please copy and paste below, links to online exhibitions you like and explain what you like about them. If you have not seen one before, please do a quick google search. E.g. <a href="http://www.teachinghistory100.org/">http://www.teachinghistory100.org/</a>
 [Comment box]

#### General comments about online exhibitions

- What do you see as the benefits of online exhibitions and how can they support your work?
   [Comment box]
- Do you think ITP led online exhibitions is a good means of engaging with the network?
   [YES/NO option]
  - If no, explain [comment box]
- Are there any other barriers to you engaging with online exhibitions in your country, such as internet connection?
   [Comment box]
  - If yes, how can the ITP help you to overcome these barriers? [Comment box]
- Would you like to take part in an ITP collaborative online exhibition?
   [YES/NO option]

 What themes and narratives do you think should be addressed via ITP led online exhibitions? E.g. collections based, global issues, ITP network stories, international museum sectors...
 [Comment box]

#### Your experiences:

- Do you have any experience working with digital platforms such as Content
  Management Systems or Drag and Drop website makers? E.g. Wordpress, Virtual
  Exposure (ViEx), Omeka, EMu, Mimsy XG, squarespace, google sites, wix
  [YES/NO option]
  - If no, is this something you would like to develop skills in and how would you use your new skills within your institution?
     [Comment box]
  - If yes, please write down what platform you used, what your responsibility was and any lessons learnt from your experience. (Comment box)

#### Other:

- Other questions, comments, or feedback about online exhibitions or the WPI project
   [Comment box]
- Would you allow us to use any direct quotes from this survey in our report? [No, Yes without name, Yes with name]

#### Appendix B: Platform Comparison Matrix

	Yes/No Questions								Quantifiable		
Platform	Custom HTML/CSS available	Custom Domains	Templates Available	Multilingual Support	Accessibility (TTS, high contrast, etc)	Tech Support	Online Payment Processing	Site Analytics	Price/year (USD)	Storage Space (GB)	Number of Templates
Wordpress	Υ	Y	Y	Y	Υ	Y	Υ	Y	\$120.00	Unlimited	11000+
Omeka	N	Y	Y	N	N	Y	N	N	\$350.00	10 GB	11
eMuseum (Gallery Systems)	Y	Y	Y	Y	Y	Y	Y	Y	N/A	N/A	N/A
Google Sites	Υ	Υ	Y	Υ	N	Y	Y	Y	\$120.00	Unlimited	N/A
Wix	Y	Y	Y	N	N	Y	N	Y	\$360.00	20 GB	500+
SquareSpace	Y	Y	Y	Υ	Y	Y	Y	Y	\$216.00	Unlimited	100+

Figure B1: Quantitative platform information

	Qualitative (1-5 scale, 1 is worst, 5 is best)					
Platform	Suitable for non-technical user	Look and feel of sites using this platform	Familiarity among ITP fellows			
Wordpress	3	5	5			
Omeka	3	3	1			
eMuseum (Gallery Systems)	4	5	2			
Google Sites	5	2	4			
Wix	4	4	2			
SquareSpace	4	5	1			

Figure B2: Qualitative platform information

## Appendix C: Interview Questions for Museum Curators

#### Jeffrey Forgeng

- 1. What have you curated?
- How do you make an exhibit tell a story?
- 3. What are some simple tips on curating a good exhibit?
- 4. How do you balance different components of the exhibit?
- 5. How long is "too long"?
- 6. What is your experience with technology in museums/curating?
- 7. Have you seen any changes in curating with more technology in society?
- 8. Have you created online exhibitions?
- 9. Have you any experience with platforms? (wordpress, squarespace etc.)
- 10. What do you think of Wordpress as a Content Management System?
- 11. What are your top features for exhibition software?
- 12. Example of an online exhibition that did a particularly good job?
- 13. How does one attract visitors?
- 14. Have you ever worked on a project that required international collaboration?

#### Stewart Frost

- 1. Can you explain your role at the British Museum?
- 2. How do you balance different components of the exhibit?
- 3. How do you make an exhibit tell a story?
- 4. How do you let a visitor maintain their own freedom when viewing an exhibit?
- 5. What is your experience with technology in any of your roles working in the museum sector?
- 6. Do you have any experience working on an online exhibition?
- 7. Can you think of any good/bad examples of online exhibitions?
- 8. Any other questions, comments or advice about informative, attractive and creating user friendly exhibitions or online exhibitions?
- 9. How do you gain feedback and iterate upon physical exhibits
- 10. Could you share your experiences with working on the LGBT online exhibit

#### Mary Linkins & Holly Wright

- 1. Can you explain your role at the British Museum
- 2. What exhibitions have you managed in the past?
- 3. What are the advantages for online exhibitions vs physical?
- 4. How do you balance different components of the exhibit?

- 5. Emulate physical things?
- 6. How do you make an exhibit tell a story?
- 7. How do you let a visitor maintain their own freedom when viewing an exhibit?
- 8. What is your experience with technology in any of your roles working in the museum sector?
- 9. Do you have any experience working on an online exhibition?
- 10. Can you think of any good examples of an online exhibition?
- 11. Any experience with multinational collaboration?
- 12. Any other questions, comments or advice?

#### Marie Vandenbeusch

- 1. Can you explain your role at the British Museum
- 2. What exhibitions have you managed in the past?
- 3. What are the advantages for online exhibitions vs physical?
- 4. How do you balance different components of the exhibit?
- 5. Emulate physical things?
- 6. How do you make an exhibit tell a story?
- 7. How do you let a visitor maintain their own freedom when viewing an exhibit?
- 8. What is your experience with technology in any of your roles working in the museum sector?
- 9. Do you have any experience working on an online exhibition?
- 10. Can you think of any good examples of an online exhibition?
- 11. Any experience with multinational collaboration?
- 12. Any other questions, comments or advice?

#### Sue Giles

- 1. What is your role here at the Bristol Museum & Art Gallery
- What is your relationship to the ITP?
- 3. Can you tell us about your involvement in Bristol: The Bigger Picture?
- 4. Was there a reason you wanted this to be an online exhibition?
- 5. Any ideas that we haven't thought of?
- 6. Any websites you like as examples?
- 7. Are there any museums we should see?
- 8. Questions? Ideas?

#### **Appendix D: Interview Summaries**

#### Jeffrey Forgeng

#### **Worcester Art Museum: Curator**

Jeffrey Forgeng is a curator at the Worcester Art Museum who specializes in Arms & Armory and Medieval Art. He had previously had some experience with an online exhibition, albeit with some dated technology, that he curated in conjunction with students from Worcester Polytechnic Institute.

In our discussion we were able to get some tips on curating a good exhibition, something we had no practice with. Mr. Forgeng emphasized the importance of a narrative, making sure the visitors physical path through a museum followed a logical and designed sequence, whether it be by chronology or some other theme. Despite this, he also informed us that it is important to still allow a visitor to have freedom. Very few people will follow exactly the predefined route that curator would like them to take, because of this it is important that different aspects of the exhibition can still be informative without relying on the previous sections. We were able to take this information he gave us about using a narrative and maintaining freedom, and apply that to our online exhibition.

Because Mr. Forgeng's had experience with online exhibitions we were able to ask him about how that differed from tradition curating. One of the most important things he told us was that because technology changes so rapidly, whatever platform we choose to use could be obsolete in "3 years". This was one of the reasons we chose to use Wordpress because it was so popular, it is less likely to change so drastically. Mr. Forgeng also told us that in his eyes, the reason you would create on online exhibition is to attract visitors to go see physical objects. This was not something we had previously considered and gave us an additional perspective.

#### Mary Linkins and Holly Wright

#### **British Museum: Project Manager and Exhibition Manager**

Mary Linkins is a project manager and Holly Wright is an exhibition manager, both employed at the British Museum. This interview was conducted with both of them at the same time. Only Ms. Wright had experience with online exhibitions at a previous museum she worked at.

In our discussion with Ms. Linkins and Ms. Wright we got a greater understanding of the vast amount of work that goes into creating an exhibition. As a project manager, Ms. Linkins will work on an exhibition for almost eighteen months before it opens to the public. She oversees many aspects and works with curators, object handlers, interpretation etc. A lot of what she does involves managing other people to create the best exhibition possible. Something she said that we found the most useful was her praise of new media types. For instance she recommended 3D objects specifically for online exhibition as well as virtual reality. This information helped us to

appreciate how important different types of media are for an exhibition. If the entire exhibition is simply text and images it does not have the same effect as one with an interactive element.

Ms. Wright's previous experience with working on an online exhibition was not a positive one. She found that there were many problems with the technology. The quality of the infrastructure was not worth the work that went into the project. She also helped to further expand on Ms. Linkins point about types of media. When Ms. Wright was working with low resolution images, the quality of the exhibition was greatly hindered. This helped us to know that in addition to different types of media being important, the quality could also make a strong impact on the exhibition. Despite these problems that she experienced with online exhibitions, we also discussed some of the positive aspects of online instead of physical. The main takeaway was the benefit that the internet provides for allowing freedom in an exhibition. Ms. Linkins suggested that links to external web pages is a great way to achieve that.

#### Marie Vandenbeusch

#### **British Museum: Curator**

Marie Vandenbeusch is a curator at the British Museum in the Ancient Egypt and Sudan department. She did not have any online exhibition experience but she was still able to provide us with a lot of information on what she believed were the benefits over physical.

Ms. Vandenbeusch helped us to learn more about having an exhibition follow a narrative and how to maintain a visitors freedom. She emphasized that the structure is extremely important, having links between different objects can increase the sense of a story. She also said that in order to allow a visitor to maintain freedom, you must start with the basics as a foundation but you cannot assume that they have that foundation later on.

In our discussion of online exhibitions Ms. Vandenbeusch helped us to confirm more of the benefits that surrounds their application. Their ability to reach greater audiences was one we had already identified but now reiterated our thinking. The benefit she identified that really stuck with us was the way online exhibitions can facilitate collaboration. When she pointed this out it helped us to think about how our online exhibition is bringing together curators from all over the world to contribute to one project.

#### Stuart Frost

#### **British Museum: Head of Interpretation**

Stuart Frost is the head of interpretation at the British Museum. He works on a team with four others to develop the text panels that a visitor sees when walking through an exhibition. In addition, he also had some valuable experience with a recent online exhibition.

As the head of interpretation one of Mr. Frost's main concerns is how information must be accessible to a variety of audiences. He told us that at the British Museum they classify visitors

into six categories: families, schools, socially motivated, site seeres, self developers, and experts. Because of this they must focus on "layering" for the audience, presenting the information in different ways for different groups. This made us think about our project and the audience we are trying to reach. We can eliminate many of the groups Mr. Frost identified because of the nature of an online exhibition. Families, socially motivated, and site seeres are can all be removed as a potential user because the online format does not fit their profile. This leaves schools, self developers, and experts. Because of this online exhibition content can be slightly more complex because of what our users are looking for.

Mr. Frost recently worked on an online exhibition surrounding surrounding LGBT history. His team gathered seemingly unrelated objects in the British Museum and connected them to show their relation to LGBT history. This way of using an online exhibition showed us a new benefit; it can connect objects without the process of physically moving them together. This reduces cost and manpower. Mr. Frost's online exhibition followed a very strict narrative with a user being able to move left and right from one object to the next. This strict narrative benefits this site because of how it brings together objects from a previously unconnected trail where visitors have unlimited freedom. If a visitor is in the physical museum they have the freedom to look at other exhibits an information and then look at the website to learn more about that specific object. Now the online exhibition forces those visitors to follow that line of information.

#### Sue Giles

#### **Bristol Museum & Art Gallery: Curator**

Sue Giles is a curator at the Bristol Museum & Art Gallery. In addition she is also one of the six fellows who worked on the online exhibition we put together. Ms. Giles had no previous online exhibition experience beyond curating our content.

In our discussion with Ms. Giles we mainly discussed the website we had been creating and her opinions of it. There was less discussion around how she curates an exhibition and more around her advice for how to better present the content that we had already laid out. Our main takeaway from the conversation we had was that although an online exhibition's content can be more advanced than a traditional exhibition, we still had to take the users technological experience into account. There were many places on our website that Ms. Giles did not initially navigate through because the website design was unclear/unintuitive. For instance there were places where a user could click to learn more but she did not see those places. This helped us to improve upon our navigation to make sure it was clear for those who had not been editing the website for several weeks.

#### Jennifer Gleadell and Chris Cullen

**The Collection Museum:** Exhibitions and Interpretation Officer **and** Digital Development Officer

Our meeting with Ms. Gleadell and Mr. Cullen was not a formal interview, rather we had a discussion and we toured The Collection Museum, discussing the technology that they were using in their exhibitions. The main feature we looked at was a robot that could conduct guided tours around the museum. Seeing this technology being utilized resulted in a discussion about how online exhibitions can be beneficial. We thought about how a user could potentially use the robot through a website to tour the museum without having to be physically present.

### Appendix E: Survey Questions for Exhibition Iterations

The following sections are the survey questionnaires for each iteration. Highlighted in green are any changes from the previous iteration.

#### Iteration 1

Over the last 5 days 3 example sites of the Bristol online exhibition have been created. This is the first iteration of the project and we therefore hope to gain lots of feedback in order to develop an appropriate final site for the ITP network.

Please click on the link below and spend a few minutes browsing through the 3 example sites. Afterwards proceed to the next page of the survey, where we would like you to answer 7 questions about the look and feel of the different sites.

Thank you in advance for your time and feedback.

\_

We would like to ask for your name so that we can identify respondents who have provided feedback for multiple iterations. The answers to your questions will only be used to provide us with information on how to improve our exhibition.

What is your name [Text Box]

-

Which site was the easiest to navigate (1 = best, 3 = worst) [Ranking]

Was the information easily accessible on all of the sites? If not which ones were not clear and why? [Text Box]

Which site was the most visually appealing (1 = best, 3 = worst) [Ranking]

Do you have any comments or suggestions on the font, color scheme, images, animations, or any other aesthetic choices? [Text Box]

Which site was the most informative (1 = best, 3 = worst) [Ranking]

Were the exhibition themes & project participants clear to you in all of the sites? If not, which sites were not clear and why? [Text Box]

-

Do you have any final thoughts on any features that you enjoyed or disliked. [Text Box]

#### Iteration 2

Over the past week we have updated the 3 example sites of the Bristol online exhibition based on feedback from our previous iteration. These changes should make the sites more informative, better looking, and easier to navigate.

Please click on the link below and spend a few minutes browsing through the 3 example sites. Afterwards proceed to the next page of the survey, where we would like you to answer 7 questions about the look and feel of the different sites.

Thank you in advance for your time and feedback.

-

We would like to ask for your name so that we can identify respondents who have provided feedback for multiple iterations. The answers to your questions will only be used to provide us with information on how to improve our exhibition.

What is your name [Text Box]

Did you complete the survey for our previous iteration? [yes/no]

What web browser did you use to view the exhibition? [Drop Down List]

\_

Which site was the easiest to navigate (1 = best, 3 = worst) [Ranking]

Was the information easily accessible on all of the sites? If not which ones were not clear and why? [Text Box]

Which site was the most visually appealing (1 = best, 3 = worst) [Ranking]

Do you have any comments or suggestions on the font, color scheme, images, animations, or any other aesthetic choices? [Text Box]

Which site was the most informative (1 = best, 3 = worst) [Ranking]

Were the exhibition themes & project participants clear to you in all of the sites? If not, which sites were not clear and why? [Text Box]

-

Do you have any final thoughts on any features that you enjoyed or disliked. [Text Box]

#### Iteration 3

Over the past week we have continued working on the Bristol online exhibition based on feedback from our previous iteration. For our final iteration, we have one test site.

Please click on the link below and spend a few minutes the site. Afterwards proceed to the next page of the survey, where we would like you to answer a few questions about your experience.

Thank you in advance for your time and feedback.

http://itponlineexhibitions.org

-

We would like to ask for your name so that we can identify respondents who have provided feedback for multiple iterations. The answers to your questions will only be used to provide us with information on how to improve our exhibition.

What is your name [Text Box]

Did you complete the survey for our previous iteration? [yes - iteration 1 / yes - iteration 2 / yes - both iterations / no]

What web browser did you use to view the exhibition? [Drop Down List]

Did all of the exhibition content (images, text, audio, etc) display correctly for you? [yes / no (please specify)]

Are there any changes that you would make to the organization of the content? [no / yes (please specify)]

Are there any typos or image/text placement errors? [no / yes (please specify)]

Are there any features that should be added/changed/removed? [Text Box]

#### Appendix F: Website Descriptions

#### Iteration 1

#### Site A

Site A utilized the click based layout. This is the most common type of layout because it is simple and intuitive which is why we chose to use it. Since our content consisted of authors and the themes they wrote about, it made sense to organize the content into individual pages that were linked together based on author and theme page. The homepage (Figure F.1) included a title for the online exhibition, 'Bristol: the Bigger Picture', and the featured image that was chosen by our sponsor with a brief description of the exhibition. There were links to the curator's theme pages and biographies below so that all the content was accessible from the home page. In addition, there was a banner that stayed at the top of each page with links to 'home', 'themes', and 'about the team' pages so that the user could return to these at any time. This homepage was static with the exception of an image carousel that cycled between chosen pictures of the curators.

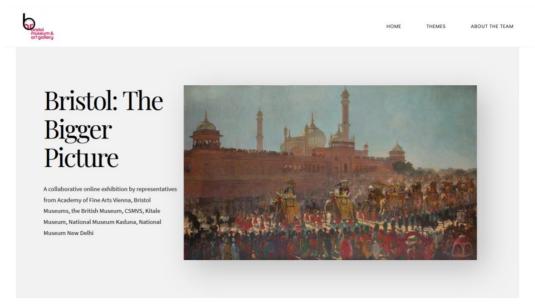


Figure F.1: Screenshot of the top of site A's homepage including the title, featured picture, and short description

The 'themes' page (Figure F.2) included a sample picture from each individual theme page with the theme title and a short description below. The theme names are in pink because we wanted to use the same black and pink color scheme that is on the Bristol Museum's logo. Since the purpose of this page was to list all the themes available, we organized the themes in a 2x3 grid so the user could easily choose whichever theme interested them most. The picture, title, and description were all clickable and led the user to the respective theme page.

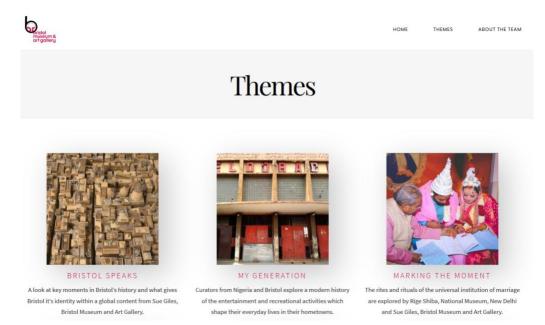


Figure F.2: Screenshot of the 'themes' page showing the first three theme pages

Each theme page displayed the given text and images side by side with various CSS animations in order to present the content in a visually appealing yet comprehensible way. The pages started out with the theme title, the author's name which linked back to their biography, and then the actual content. The authors made clear subtitles followed by text and photographs, so we maintained this organization by putting subtitles in header text and kept the content on the page under each subtitle. The text and photographs were organized side by side in rows where the text would alternate between the left and right side of the page with each new paragraph (Figure F.3). A vertical pink line was placed on the side that the text was adjusted to in order to group paragraphs, make them more visually appealing, clarify which side the text was adjusted to, and reinforce the pink and black color scheme. In addition, the text and images would slide in from the sides to make the page more interesting to look at. Often times, horizontal pink lines would be used to separate subsections or quotes of interest to add more variety to the page.

#### 'Popular' Music

Sue and Jana also expressed the importance of music to their cities. 'Bristol Sound' is a musical movement which Bristolians are particularly proud of as it has and continues to promote unique creativity and brings an international stage to its performers. For Palestinians across the world traditional Palestinian music is valued and constantly revived as it asserts a sense of belonging and identity, and stirs a sense of nostalgia.



Figure F.3: Screenshot of the content for the theme page 'sounds of the city' by Jana Alaraj.

Lastly for site A, there is a black banner at the bottom of each page with links titled 'International Training Programme (ITP)', 'Bristol Museum & Art Gallery', 'ITP Blog', and 'Back to top of the page'. These would allow the user to learn more about the ITP and Bristol Museum if they wished or just simply scroll back to the top of the page where they could click on another link of interest.

#### Site B

Site B used a map based navigation to provide the user with a visual representation of where the ITP fellows and their stories were from. The homepage looked the same as site A's except below the featured picture was a map that highlighted the countries that the fellows were from (Figure F.4). These countries were highlighted in red and had circles that showed where in that country the fellow was from. The user could click on the country to see which fellow worked there and see a green popup box that would give a description of the fellow and a link to their theme page. The purpose of this was to give the user an understanding of how worldwide these stories were and to make the user feel like they are 'traveling' to these places when they click on the theme pages from the map. Site B still had the same banners on the top and bottom of the page as site A as well as the same layout for the 'about the team', 'themes' and each individual theme page.

Figure F.4: Screenshot of the map navigation on site B's homepage

#### Site C

Site C used a parallax scrolling method because it allowed all the content to be displayed on one page and had a more modern look than the other pages. The parallax scrolling would keep the images still in the background will the text appeared to scroll up as the user scrolled through the page. The homepage was the same as the other sites, but the user would keep scrolling down to see all the theme pages. A preview of each theme was shown with a 'read more' button so that the user could chose which themes they wanted to read more of. This site still had the top and bottom banners with the same 'about the team' page as the previous sites.

they hear on the street, in local amenities and at cultural events and celebrations.

#### THE TOLLING OF BELLS AND A CALL TO PRAYER

Religious buildings continue to shape the landscapes of Christian and Muslim countries. Towering spires and Minerats either dominate the sky lines or compete with new sky scrapers. Not only do these buildings continue to draw attention architecturally but through the sounds of tolling of bells and proclamations of faith which call worshippers to their doors.





#### THE CHURCH BELLS OF BRISTOL

Bristol is a city of churches: a 1673 image shows 19 churches. Many closed in the late 20<sup>th</sup> century, but some have reopened to new Christian congregations over the past 20 years. The City of Bristol sits within the Diocese of Bristol, and is therefore under the pastoral care of the Archbishop of Canterbury. The diocese stretches from south Gloucestershire to north Wiltshire to Swindon, but the historic centre of the diocese is in Bristol, in the Bristol Cathedral. Today's Cathedral began as an Augustinian Abbey in 1140, founded by a prominent local man Robert Fitzharding. The church transepts, chapter house and abbey gatehouse that stand today, date back to those origins. The rebuilding work of the 1530s was never finished due to Henry VIII's dissolution of the monasteries between 1536 – 1541. The Church itself might have been sold but it became one of Henry's 'new foundation Cathedrals' – some suggest because of the campaigning efforts of the citizens of the second trading port to keep it as the local place of worship. For centuries the bells of Bristol Cathedral have been heard across the city as a central part of Christian workshop, calling people to the building for services, celebrations and during a crisis. The Cathedral has two sets of bells, one set is run electronically and another by hand, rung by volunteers and visiting groups. Today the bells chime every quarter hour to mark the time, toll for 10 minutes before daily services of Matin, Mass and Evensong, and for 30 minutes before Sunday Eucharist. The bells also ring for weddings and funerals, for special services and Friday evenings, when the bellfingers hold their practice. They fell silent for the duration of World War Two until victory was declared, and more recently for repairs in 2017. Otherwise, they and the other church bells continue to ring out and summon the faithful to prayer.

READ MORE

Figure F.5: Screenshot of site C's parallax scrolling with the 'read more' option

#### Iteration 2

#### Site A2

Website A2 was very similar to website A from the first iteration. The primary complaint for website A was that it had too many animations, so we changed the theme pages to only have minor animations on a few key elements per page. This helped us emphasize information rather than distracting the user.

#### Site B2

Website B2 was made to combine the navigation of website A with the theming of website C. Our feedback showed that while users liked the look and feel of C's "infinite scroll" design, the actual logistics of having all the theme pages in one place made the website harder to navigate. In order to remedy this, we used the parallax scrolling of website C, but separated the individual themes into their own pages. See Figure F.6.





Bristol is a city of churches: a 1673 image shows 19 churches. Many closed in the late 20<sup>th</sup> century, but some have reopened to new Christian congregations over the past 20 years. The City of Bristol sits within the Diocese of Bristol, and is therefore under the pastoral care of the Archbishop of Canterbury. The diocese stretches from south Gloucestershire to north Wiltshire to Swindon, but the historic centre of the diocese is in Bristol, in the Bristol Cathedral. Today's Cathedral began as an Augustinian Abbey in 1140, founded by a prominent local man Robert Fitzharding. The church transepts, chapter house and abbey gatehouse that stand today, date back to those origins. The rebuilding work of the 1530s was never finished due to Henry VIII's dissolution of the monasteries between 1536 – 1541. The Church itself might have been sold but it became one of Henry's 'new foundation Cathedrals' - some suggest because of the campaigning efforts of the citizens of the second trading port to keep it as the local place of worship. For centuries the bells of Bristol Cathedral have been heard across the city as a central part of Christian workshop, calling people to the building for services, celebrations and during a crisis. The Cathedral has two sets of bells, one set is run electronically and another by hand, rung by volunteers and visiting groups. Today the bells chime every quarter hour to mark the time, toll for 10 minutes before daily services of Matin, Mass and Evensong, and for 30 minutes before Sunday Eucharist. The bells also ring for weddings and funerals, for special services and Friday evenings, when the bellringers hold their practice. They fell silent for the duration of World War Two until victory was declared, and more recently for repairs in 2017. Otherwise, they and the other church bells continue to ring out and summon the faithful to prayer.

(left) Bristol Cathedral, west end, c1895. Taken by John York. From an album passed to the Bristol Record Office. PD11012 @ Bristol Culture

THE BETHLEHEM AZAAN IN PALESTINE

The city of Bethlehem in Palestine has for centuries embraced people from all over the world who come as visitors, pilgrims or seekers of knowledge. The city combines Christian and Muslim

Figure F.6: Site B2's parallax scrolling images

#### Site C2

Website C2 was a more experimental style, where we separated the content for each theme into multiple "slides". These slides took up the whole screen, and users were able to traverse through the slides with links at the end of each section. This style was chosen based on our conversations with museum curators and their emphasis on creating a narrative, as a slide-based system allows the content to be shown in a highly-controlled manner. Our sponsors had also expressed interest in displaying the content in this way, and we agreed that it added a strong narrative. See Figure F.7.

#### The Bethlehem Azaan in Palestine

The city of Bethlehem in Palestine has for centuries embraced people from all over the world who come as visitors, pilgrims or seekers of knowledge. The city combines Christian and Muslim culture in a harmonic way; one can hear chants coming from mosques minarets, blended with the chimes of the various churches in a mosaic of superb harmonic sounds. Two particular buildings, a church and a mosque, at the heart of the old city of Bethlehem, stand out framing the main square: Manager square. The Church of Nativity, which dates back to 6th century and is known as Christ's birthplace, marks a stepping stone in the pilgrims' route. The Mosque of Omar, built in 1860 AD, was named after the second Rashidun Muslim Caliph, Omar Ibn al-Khattab (581-644 AD), Historical accounts report that the two structures stand side by side because of the actions of Omar. Omar travelled to Bethlehem in 637 AD after the Siege of Jerusalem. Upon reaching the old city of Bethlehem, Omar declared his support and respect for the shrine and guaranteed security for all Christians and the clergy thus, the Church of Nativity was not transformed into a mosque at that time.



The City of Bristol map, U20 @ Bristol Culture

Today the juxtaposing architectural buildings are two of the oldest and foremost buildings in Bethlehem city that continue to be used for their original purpose. They manifest a Christian-Muslim coexistence and brotherhood and define the city's spaces through sounds blended together creating a vibrant meeting point for locals and for the town's pilgrims. The sounds shape a collective memory at the heart of the city through the various cultural activities that take place in Manager Square around the year. In the streets of Bethlehem the Azan / call can be heard 5 times a day every day.



↓ Continue Reading

Figure F.7: Site C2's Slide-based layout

#### Iteration 3

#### Site A3

Website A3 had the same layout as A2 with a few added features. Firstly, we made every picture on the 'Themes' and 'About the Team' pages expandable. This allowed users to get a closer look at each image if they wanted. We also updated many of the images with better cropped and higher resolution images. Image galleries were added to the bottom of the theme pages so that the user could scroll through all the images from that theme page. Figure F.8 shows the 'Next Page' button and image gallery added to the bottom of each theme page. This button helped users navigate throughout the online exhibition. In addition, we added a google translate feature that translates the website into Arabic, Chinese, English, French, German, Hindi, Italian, Japanese, Russian, and Swahili. The languages were chosen based on the countries that the curators who wrote the website content were from and common languages of ITP fellows.

















Figure F.8: Screenshot of the 'next page' button and image gallery added to site A3

#### Appendix G: Online Exhibition Tutorial

The remainder of this document contains the tutorial that we created for the ITP.

## Creating Online Museum Exhibitions using WordPress

# The British Museum



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#### 1.0 Introduction

This tutorial will cover the design of online exhibitions using WordPress. In order to make this tutorial easy for non-technically skilled users, we will detail most of the website design using the WPBakery plugin. This plugin provides a drag-and-drop website editing experience that is simple and intuitive.

In addition, we will cover all of the steps that one would need to follow to begin designing their own online exhibition: choosing a web host, installing Wordpress, navigating the menus of Wordpress, site design using WPBakery, followed by advanced features and options. We have included pictures demonstrating the process in order to make this as simple to follow as possible

As with most technology, things in this tutorial will change over time and/or become outdated. We have attempted to make this as useful as possible by providing links to outside sources for further reading. We recommend that the ITP fellows continue to both add to and modify this document to account for changes in the instructions.

This tutorial was created by a group of students from Worcester Polytechnic Institute (WPI) from Massachusetts, USA. It is our goal to provide the ITP with the technical knowledge to be able to create and collaborate on online museum exhibitions. As part of a university project we spent seven weeks in London working at the British Museum to develop an online exhibition titled "Bristol: The Bigger Picture." From our experience creating that exhibition, we have developed this tutorial.

#### 2.0 Wordpress setup

In this section we will go over the setup for the WordPress host, as well as choosing and installing a theme for the exhibition.

If you are working with the ITP wordpress site you shouldn't need to follow these steps, as there should be an existing site for you to work with. We have included it for sake of completeness, and also to enable the creation of non-ITP sponsored sites.

To make a website on the itponlineexhibitions.org domain, scroll down to section 2.7, "Adding a website to the multisite network".

#### 2.1 Choosing a Host

The first step when creating a Wordpress website is determining the website host. The host for a website is the company that owns the actual server the website runs on, we just rent space on that server for our own website.

There are many options for website hosting. Luckily, several have very easy integration with wordpress. It might also be a good idea to reach out to your IT team and see if they have any options that your museum is already using.

A few good choices are:

- Amazon Lightsail, a cheap and lightweight service with easy Wordpress integration
- Digital Ocean, a well-documented resource with easy Wordpress integration
- Tsohost, which specializes in wordpress hosting.
- BlueHost, which handles website naming, wordpress setup, and cybersecurity for you.
- Wordpress.com, a simple way of creating a single, standalone wordpress site

For this tutorial, we will focus on using **Amazon Lightsail**. We'll detail the steps here, but Amazon also has fantastic tutorials at the following two links.

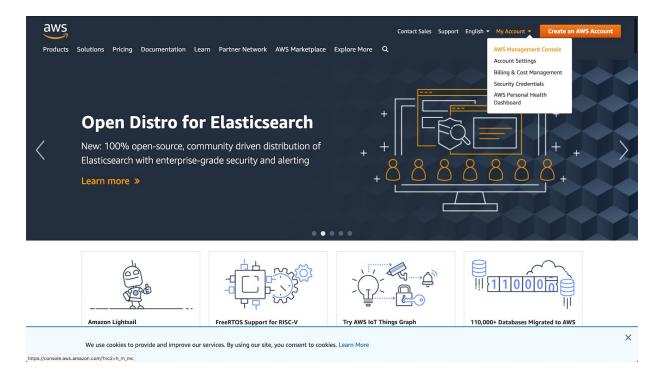
https://lightsail.aws.amazon.com/ls/docs/en/articles/getting-started-with-amazon-lightsailhttps://lightsail.aws.amazon.com/ls/docs/en/articles/getting-started-with-wordpress-and-lightsailhttps://lightsail.aws.amazon.com/ls/docs/en/articles/getting-started-with-wordpress-and-lightsailhttps://lig

If you get confused or if the installation instructions have changed since the writing of this tutorial then please use the links above. In general, the host that you choose should have their own instructions for setting up Wordpress.

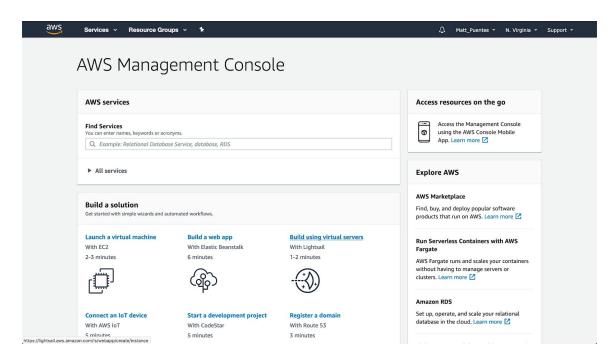
We chose to use Amazon Lightsail as it had a simple wordpress setup, was relatively inexpensive, and would also allow us to have multiple wordpress websites hosted on the same server (more on this in section 2.4).

#### 2.2 Amazon Lightsail Setup

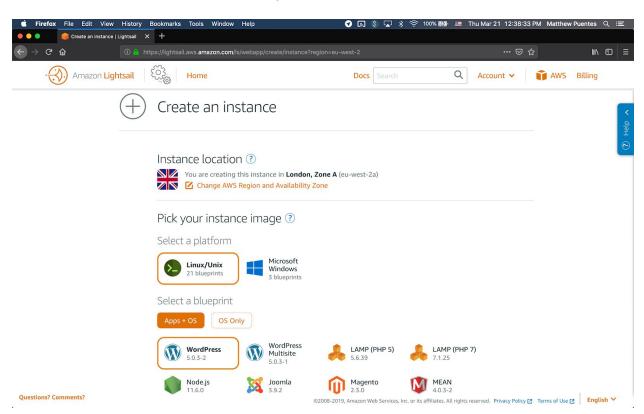
For this documentation, and for "Bristol: The Bigger Picture", we will be using Amazon Lightsail. The first thing you will need to do is go to the amazon web services homepage: <a href="https://aws.amazon.com/">https://aws.amazon.com/</a>. If you don't have an amazon account, you'll need to make one in order to continue.



Click on the "My account" Menu and then the "AWS Management Console" option from the dropdown. Sign in if prompted.



From the Dashboard, click on "Build using virtual servers"



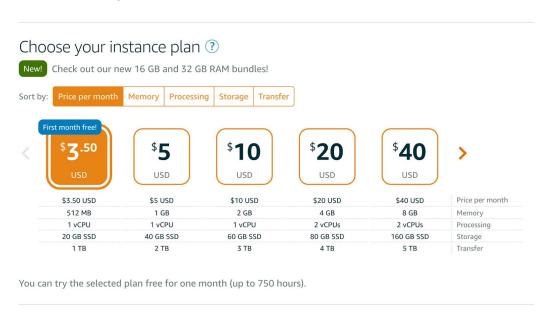
You should see a page asking you to create an instance. This is how we will customize our server to run wordpress.

For our settings:

- 1. Select a Location for your instance.
  - a. In the example above, our location is London, Zone A.
- 2. For your platform, choose Linux/Unix.
- 3. For the blueprint, make sure you have Apps + OS selected, and choose "Wordpress"

Your platform and blueprint should look like the above screenshot.

Next, comes the pricing.



The plan you want to use is up to you; for our online exhibition, we started with the \$3.50 version but needed to upgrade to the \$10 version once visitors started using the site to prevent crashes.

Change your instance name to be unique and memorable

Click "Create Instance"

Within a few minutes, your lightsail server should be up and running!

#### 2.2.1 Static IP

By default, your amazon lightsail image will have an IP address that changes whenever you start or stop your instance. Creating a static IP address will allow you to have an unchanging address, which can later be used to set up a custom domain name (covered in section 5.1)

https://lightsail.aws.amazon.com/ls/docs/en/articles/lightsail-create-static-ip

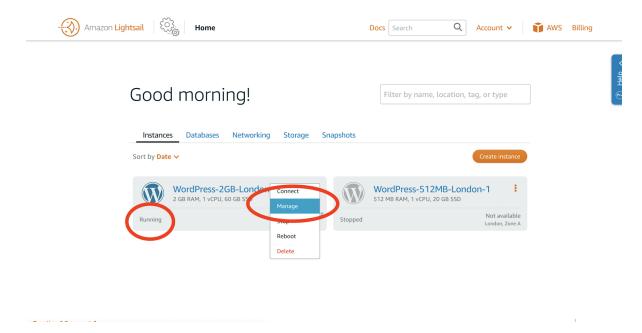
## 2.3 Wordpress Single-Site Setup

Now that you've set up a server, it's time to get wordpress is up and running.

This section of the tutorial is for if you want to have a single wordpress site hosted on the server. If you want to have more than one wordpress site on the server skip to the next section.

Go to your Amazon Lightsail Home page; you should see your newly-created server. Keep refreshing until the bottom corner says "Running" like in the example below.

Once it's up and running, click the three little dots in the corner and go to "Manage"



This page will let you manage, edit, and monitor your server.

You should see a button that says "Connect Using SSH". click on it and a black pop-up window like the one below should appear.

This is called a "terminal" window. It allows you to send commands to the server and get responses. It is pretty technical, so we're only going to run one command here.

In the terminal, type cat \$HOME/bitnami\_application\_password, and then hit enter.

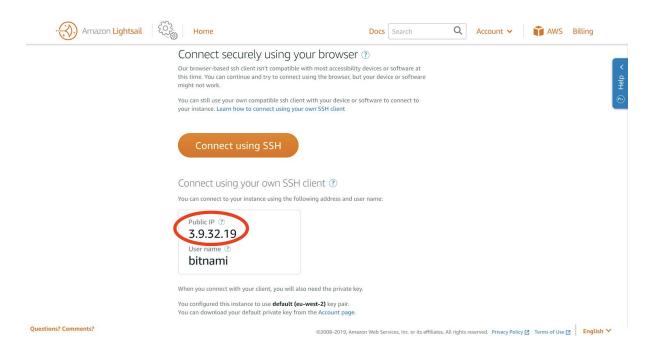
If you did it right, your terminal should look like the screenshot below, with your password where the white square is.

```
bitnami@ip-172-26-11-152:~$ cat $HOME/bitnami_application_password
```

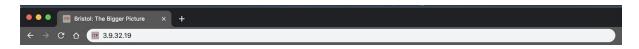
#### Write down your password. We will need it in a bit!

Now, let's go back to the management page. You can do this by closing the pop-up terminal.

Scroll down on the first page until you see an IP address. In our example, the address is "3.9.32.19".



This is the IP address used to connect to your website. Try it now, by pasting the IP into the address bar of your browser!

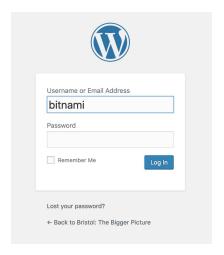


If everything is working correctly, your website should show up!

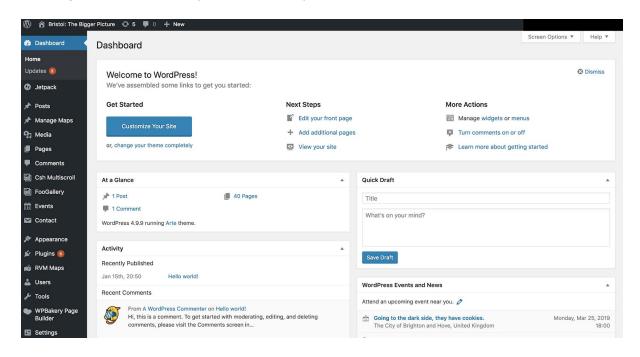
In the bottom-right corner, you should see an icon that says "Manage"



Click on that icon. It should ask for a Username and Password- The username should be "bitnami" and the password should be what you copied from the terminal earlier.



If the login was successful, you should finally be on the wordpress dashboard!



This dashboard is where most of your online exhibition management and editing; take some time to familiarize yourself now.

Now that you have access to the dashboard, you can add a user or change your user. You can do this by clicking "Users" on the sidebar, selecting your user from the list, and clicking "Edit".

## 2.5 Choosing a theme

Once wordpress has been set up on the server, a theme for the website must be chosen. Wordpress themes take away most of the hard work of writing a website in HTML and instead give the creator a much easier experience. Advanced users are also given the option of adding custom HTML/CSS code, but it is not required to get a website up and running.

Many wordpress themes are free to use, however some unique and higher-quality ones must be paid for. Some sites that offer wordpress sites are:

- themeforest.net
- templatemonster.com/wordpress
- wordpress.org/themes/browse/featured/

Themes may also include plugins that make designing certain site elements easier. For example, the "Arte" theme that we chose includes three useful, and normally paid-for, plugins in the \$70 cost:



While browsing themes it is important to note the version of wordpress that they work with. It is easy to upgrade the wordpress installation to a newer version, but it is more difficult to revert it to an older version. Your wordpress version can be found under the Dashboard tab in the "At a Glance" section.



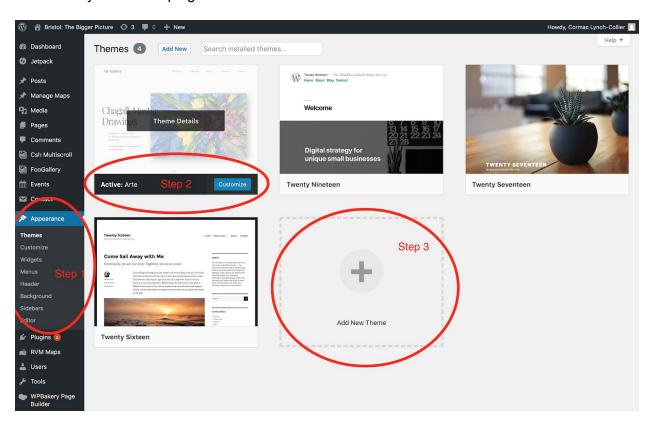
On the left you can see that our wordpress server is version 4.9.9, but the theme on the right is only compatible with a newer version.

When creating the "Bristol: The Bigger Picture" exhibition, our team spent a day browsing themes and creating a list of ones that we liked. We then compared them all to decide on our final theme. After purchasing the theme (if necessary) it can be downloaded as a .zip file to your computer.

## 2.6 Installing a Theme

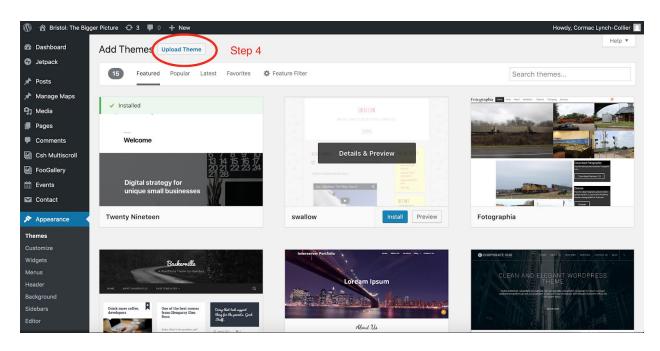
After choosing a theme and downloading it to your personal computer, the next step is to install that theme onto your wordpress site. Before you install your theme, it is important to confirm that the theme you chose is compatible with your wordpress version. This information is covered in section 2.5.

NOTE: If you are using a wordpress multisite setup then a network administrator will be required to install any themes or plugins

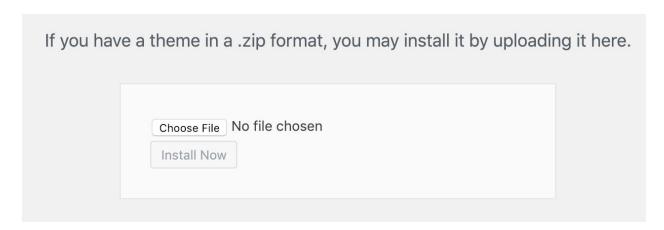


**Step 1**: Navigate to the "Appearance" tab and choose "Themes".

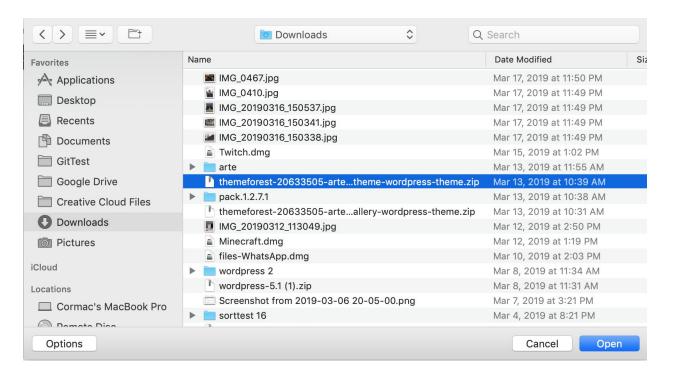
- **Step 2**: Here you will see whatever theme is currently installed (most likely it is a default Wordpress theme such as "Twenty Nineteen"). In ours, the "Arte" theme is currently installed.
- **Step 3**: To add your new theme click the "Add New Theme" square.



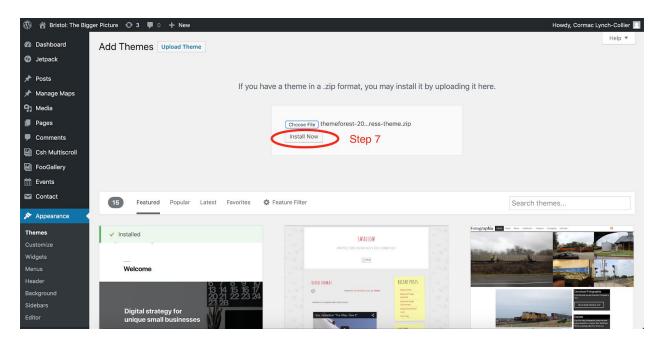
**Step 4**: Once you have clicked "Add New Theme" you should the screen above. From here you will see a variety of themes offered by wordpress. You want to click the "Upload Theme" button.



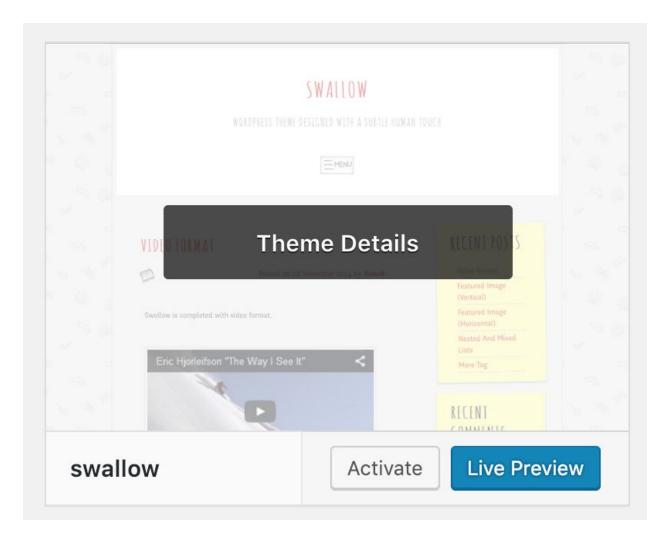
**Step 5**: Once you have clicked "Upload Theme" you should see the screen above. From here click, "Choose File".



**Step 6**: You will now be looking at something like the screen above (it may look slightly different depending on what kind of computer you have). Navigate to where your theme is (most likely in downloads) and select the theme you want. It must be the downloaded ".zip" file. In this case ours is the file titled "themeforest...". Then click "Open".



**Step 7:** You should now be seeing the screen above. Click "Install Now" below the "Choose File" button.



**Step 8**: You should be redirected to the Themes page. If not, return to the Themes page and you will see your recently installed theme on that page. Hover over that theme and click the activate button.

Your theme should now be installed and active on your website!

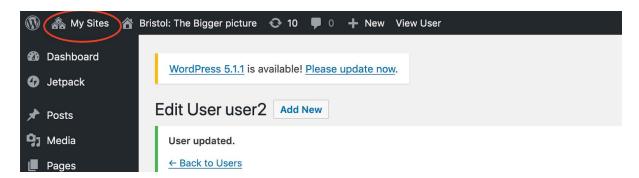
### 2.7 Adding a website to the multisite network

This section is for people who just want to add a website to the ITP's itponlineexhibitions.org domain.

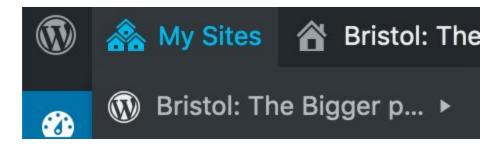
### 2.7.1 Introduction to Wordpress multisite

If you're reading this section, then lucky you! Most of the difficult work has already been done for you. Wordpress Multisite is a tool that lets a lot of different websites use the same plugins, themes, and URL! When you add a website to this page, it will show up as [WebsiteName].itponlineexhibitions.org.

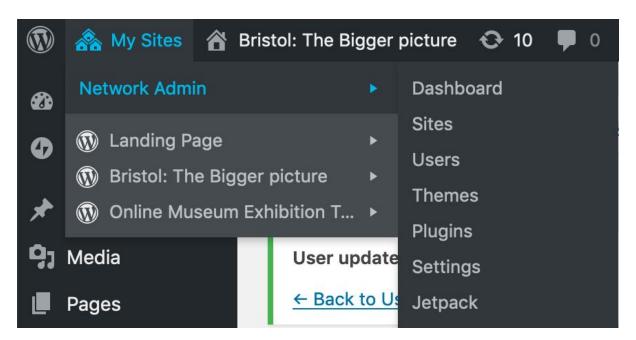
The big difference to the UI when using a multisite is up at the top. Instead of just showing the website name, it will show a "My Sites" drop down tab, as seen below.



If you're a normal user, you'll just see the websites that you have access to.



But if you're an admin, you'll have a "Network Admin" dropdown! This will let you do things like install plugins and themes for the entire network. We go into more detail on network administration in section 5.2.



It's important to pay attention which menu you're in! Editing an individual website is different than editing the multisite, so make sure you know which menu you're in.

#### 2.7.2 Plugins and Themes in Wordpress Multisite

The process for using and selecting plugins and themes for wordpress multisite is the same as it is for normal wordpress sites- if you need help with that, feel free to check out our sections on plugins and themes!

However, plugins and themes have a different process with installation. In order to install a theme or plugin on any site, you'll need to be a network admin on the multisite. If you aren't one, then ask one of the administrators to either make you an admin or help you with individual plugins.

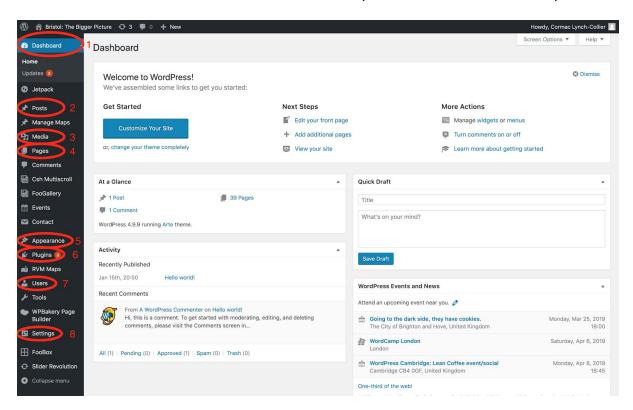
If you are a network admin, then the steps are almost the same as with a normal wordpress install. Follow our tutorial on how to install them in section 3.1.6- just make sure to enable them for all of the individual sites by clicking "Network Activate".

# 3.0 Wordpress Basics

This section will cover the menu options that you will work with in Wordpress. Some of these options are included with the 'Arte' theme that we purchased. The documentation for this theme can be found here.

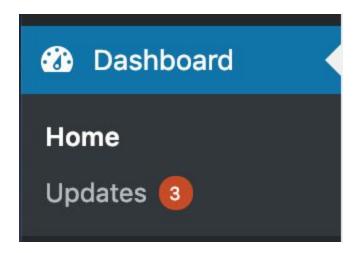
#### 3.1 The Sidebar

In this section we will cover the menu-bar on the side of the screen for wordpress and different functionalities it provides. All sidebars are slightly different because some plugins create their own menus located there. We will cover the standard options that come with all wordpress sites.



In the above image there are 8 sections circled and we will go into depth on each one.

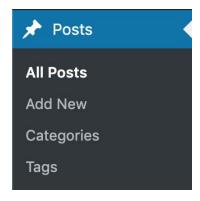
#### 3.1.1 Dashboard



Within the dashboard option there are two different options. "Home" details basic information such as the wordpress version and recent user activity. You are unlikely to ever do anything on this tab besides see what version of wordpress you are using.

Secondly there is the "Updates" tab. Here is where you can update wordpress and the plugins that you are using. For instance in the above image you can see that there are three updates requiring our attention. If we were to go into that page we could update whatever needs updating.

#### 3.1.2 Posts



The posts tab is primarily for blogging features of a website. This is not something we used in our online exhibition but it is a very popular aspect of wordpress.

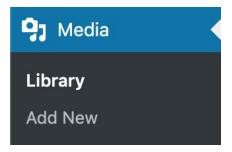
Firstly you can see their is the "All Posts" subsection. Here you can view all of your blog posts with some information about them such as the author or the date published.

Secondly there is the "Add New" subsection where you can write a new blog post. Clicking on this will bring you to the page where you can write the post's title, content etc.

Thirdly there is the "Categories" subsection. Here is where you can add new categories to organize your posts. You can also look at posts from a certain category, categorize existing posts etc.

Lastly there is the "Tags" subsection. Here you can add new tags to posts. You can also look at posts with a certain tags, chain the tag of existing posts etc.

#### 3.1.3 Media

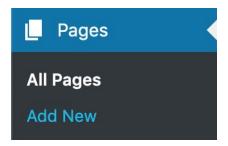


The Media tab is where you can find all media files that you have uploaded to use in your wordpress site. Media files are pictures, audio, video etc.

Firstly there is the "Library" subsection. Here you can view all the media files that you have uploaded to your website, both those that are currently displayed and those that are just in the library. You filter these items by type, for example you can just view your audio files. You can filter these items by date uploaded.

Secondly there is the "Add New" subsection. Here is where you can upload new media files. One thing to note here is that the "maximum upload file size" is 40 MB.

### **3.1.4 Pages**

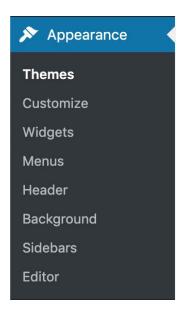


The Pages tab is where you can view and manage all of the pages for your website. A page is anything that has its own url. For instance www.itponlineexhibitions.org has its own page and then www.itponlineexhibitions.org/home/ has its own page.

Firstly there is the "All Pages" subsection. Here is where you can view all of your pages. You can delete a page here, you can edit a page which will bring you to the page editor.

Secondly there is the "Add New" subsection. Here is where you can add a new page to your website. Clicking on it will bring you to the page editor interface where you can add, a title, content etc.

#### 3.1.5 Appearance



The Appearance tab has many different functionalities all relating to how your website looks to a user.

Firstly there is the "Themes" subsection. Here is where you can manage the theme your wordpress site is using. Read 1.5 to learn more about installing a new theme.

Secondly there is the "Customize" subsection. There is a lot of customization that you can do here, because of that read 2.2 to learn more.

Thirdly there is the "Widgets" subsection. Widgets are certain aspects that you can feature on every page. For instance there is a Calendar widget. You can drag this widget to the footers section, then on every page you will see a calendar of when posts were published in the footer.

Fourth there is the "Menus" subsection. Here is where you can customize all the menus in your website. You can choose to add pages, posts or external links to any menu on your site. You can customize the footer or the top menu.

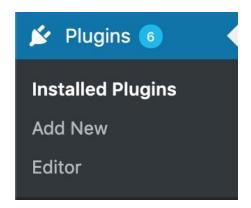
Fifth there is the "Header" subsection. This where you can add a header image to display on every page of your website. In each page you can choose whether or not to have a header image.

Sixth there is the "Background" subsection. Here is where you can select an image to display as the background of all your pages. If you don't add an image then there will just be a solid color as a background.

Seventh there is the "Sidebars" subsection. If you want to have a sidebar on your website you can "Add Sidebar" and customize it to display something on every page.

Lastly there is the "Editor" sub section. This is where all the code for your website and theme is. If you have no technical knowledge stay clear of this subsection. If you do have technical experience you can change custom javascript, css etc. in this subsection.

#### 3.1.6 Plugins



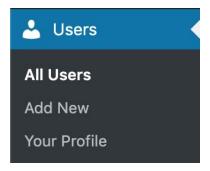
The Plugins tab is where you can manage any external plugins you have on your website. Plugins are one of the best features of wordpress because you can add very impressive aspects to your website without any technical coding.

Firstly there is the "Installed Plugins" subsection. Here you can view all of your plugins that are installed on your site. You can have plugins that are installed that are not "active". This means that they are not currently doing anything on your site. You can activate installed plugins on this page.

Secondly there is the "Add New" subsection. Here you can add new plugins from the marketplace to your website. There is a vast amount of plugins out there and you can search for certain plugins by keyword on this page. After installing you need to activate the plugin.

Lastly there is the "Editor" subsection. Here is where you can write your own plugins or manually edit the code for existing plugins. If you have no technical training stay away from this subsection so as not to damage any existing plugins.

#### 3.1.7 Users



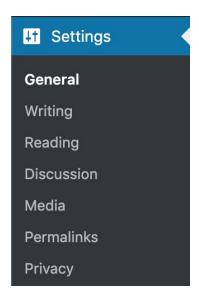
The Users tab is where you can manage all users of the website. Users can be those who write content for the website, author blogs, subscribe to blogs etc.

Firstly there is the "All Users" subsection. Here is where you can see all the current users of your website. You can delete users, change their role etc.

Secondly there is the "Add New" subsection. Here is where you can add new users to your website. You can fill out information such as username, email, etc.

Lastly there is the "Your Profile" subsection. Here you can view your own information associate with your user account. You can edit your personal information such as username email etc.

#### 3.1.8 Settings



The Settings tab is where you can edit some of the general settings for your website. The image above shows the settings that will be on every wordpress site, however some plugins will also show below these as their own settings.

Firstly there is the "General" subsection. Here you can change things like the site title, time zone, date format etc. All general settings can be managed here.

Secondly there is the "Writing" subsection. Here you can set defaults for blog posts including the category, and the mail server (if you have set one up).

Third, there is the "Reading" subsection. Here is where you can set defaults related to reading blog posts. So if you have a page with your blog posts you can set how many a user can view at one time etc.

Fourth, there is the "Discussion" subsection. Here is where you can edit that setting related to comments. For instance you can set your email preferences if someone comments on your blog post.

Fifth, there is the "Media" subsection. Here is where you set the default sizes for images: thumbnail, medium, and large.

Sixth, there is the "Permalinks" subsection. Here is where you can set the default links for new blog posts. For instance if you want the link to be .../day/month/year/ you can set that here.

Lastly, there is the "Privacy" subsection. Here is where you can link your privacy policy of your webpage.

## 3.2 Customize Appearance

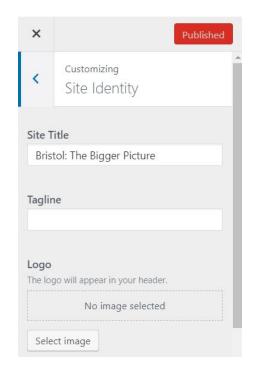
General appearance customization has its own menu in wordpress. To navigate to it look at the instructions and image in 3.1.5.



On the left side of the screen shot above you can see the menu bar for the customize screen. We are going to talk about all 12 options on the menu.

## 3.2.1 Site Identity

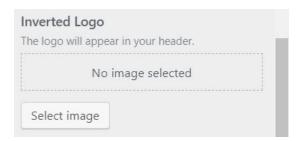
The 'site identity' tab allows you to create a title for your page and add logos to various spots on the page.



If you scroll down you will find some useful options. The 'retina logo' option will allow you to upload a logo that will load properly on a retina display. Many modern devices come with a retina display, and uploading a retina logo will make it look sharper on these devices. The image you upload for the retina logo has to be twice the size as your original logo you uploaded.



The 'inverted logo' option is where you would upload your inverted logo if you have one. An inverted logo reverses the colors and puts the logo on a colored background.

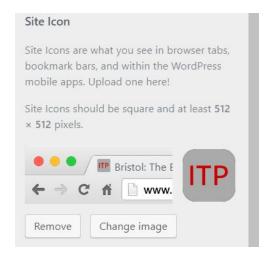


An example of an inverted logo is given below

The British Museum

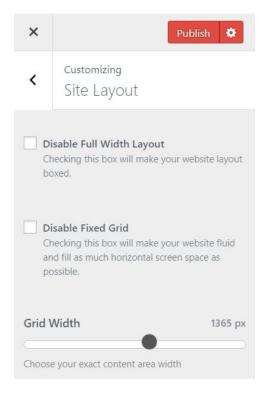
The Museum

You can also change the site icon which appears in the corner of the browser tab



## 3.2.2 Site Layout

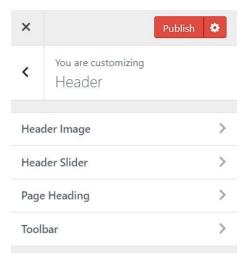
This page gives you three options for how to adjust your site layout. The options can be seen below:



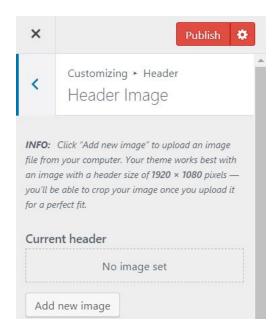
These options are for adjusting the amount of the screen that the website takes up. Each option has a helpful description that tells you what it does.

### 3.2.3 Header

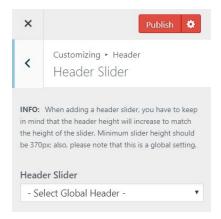
This section has four categories for editing the header. The header appears at the top of the front page. In order for any changes you make to go through, make sure to hit the orange 'publish' button.



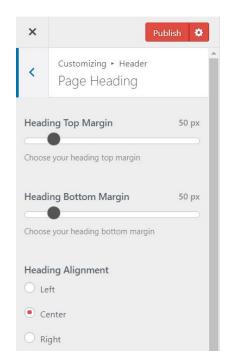
The 'Header image' tab allows you to change which image appears on the header and its height.



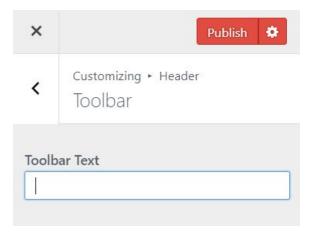
The header slider lets you add a carousel of images in the header.



The 'page heading' tab allows you to edit the margins and alignment of the header.

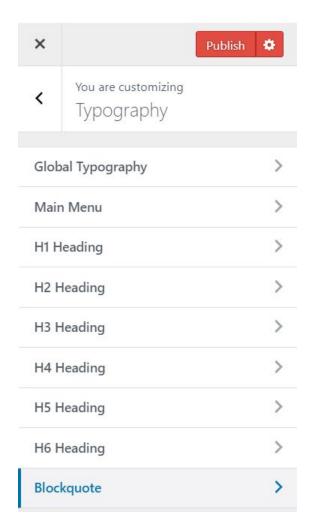


The 'toolbar' tab allows you to type text in the top right corner of the header.

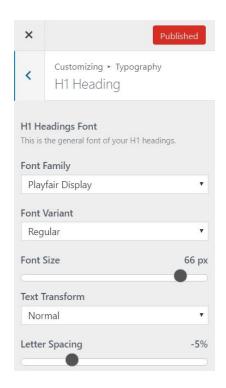


### 3.2.4 Typography

The typography tab allows you to adjust the font and size of text throughout the website. The 'global typography' affects the general text on the website, 'main menu' affects the text in the navigation tabs, the headings options are for the different headings you can chose when typing in a text block, and the 'block quote' is for blockquotes.

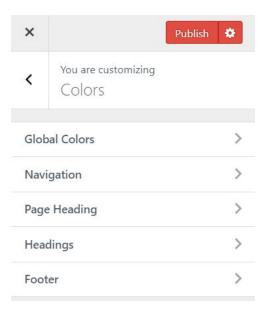


All of these tabs give you the same options for editing the text.



#### 3.2.5 Colors

The 'colors' tab allows you to change the color of various aspects of you website.

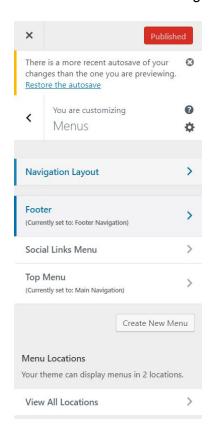


Each tab here will allow you to adjust specific colors of that section. You can also type in the hex code or RBG code for the color you want.

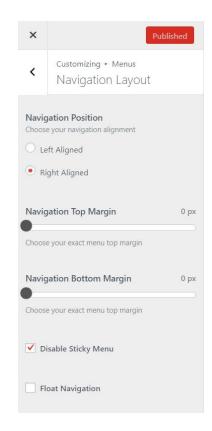


#### 3.2.6 Menus

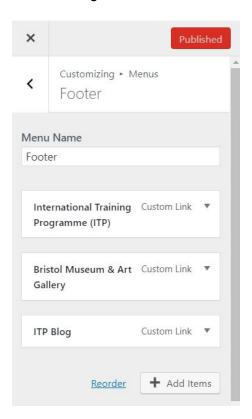
The 'menus' tab allows you to edit the location of links to navigate around the site.



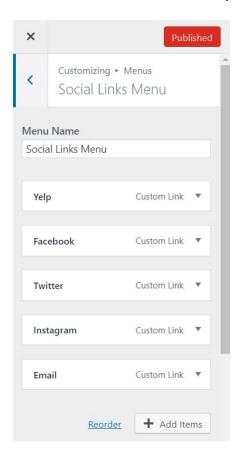
'Navigation layout' will change the margins of your navigation bar as well as which side it is adjusted to.



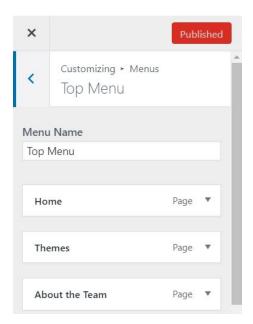
'Footer' will allow you to add links to a navigation bar at the bottom of the page.



'Social links menu' will allow you to link to different social media pages.

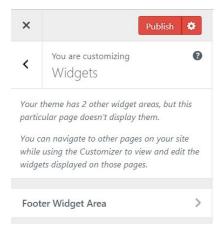


'Top menu' will allow you to edit the links on your top navigation bar

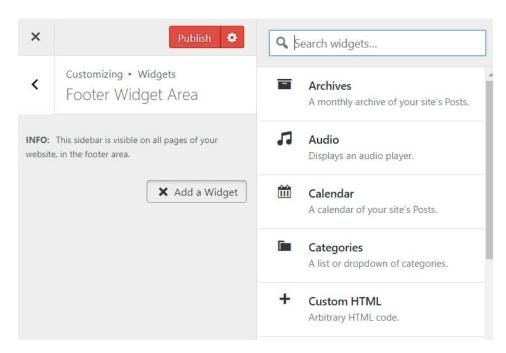


### 3.2.7 Widgets

The 'widgets' tab allows you to add widgets to your page. The theme we are using allows us to put widgets in the footer.

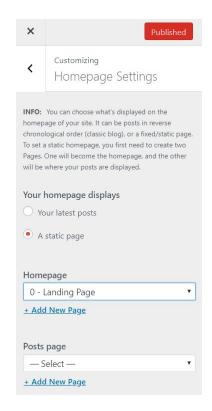


There are many widgets available that you can add. These will be added to every page of your website. Each widget has a handy description under it that describes what it does.



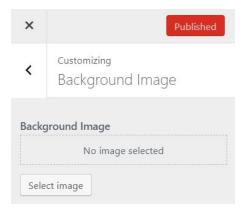
## 3.2.8 Homepage Settings

This page allows you to determine which pages are your homepages and posts pages.



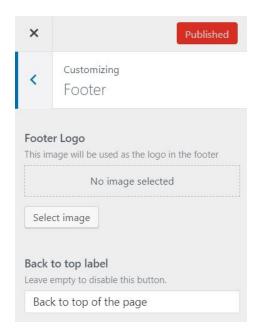
## 3.2.9 Background Image

This tab will let you add/edit the image that is in the background of your website.



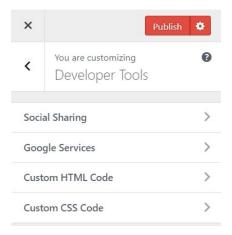
#### 3.2.10 Footer

This tab will allow you to edit the logo in the footer as well as add a button to bring the user back to the top of the page.



### 3.2.11 Developer Tools

This tab has more advanced options for your website.



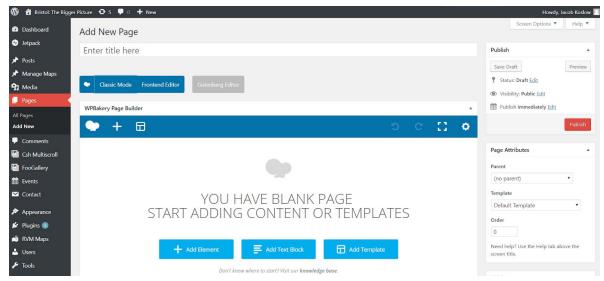
The 'social sharing' and 'google services' tabs have options for integrating sharing and google services to your website. The 'custom HTML code' and 'custom CSS code' require coding knowledge and have links to documentation.

#### 3.2.12 Additional CSS

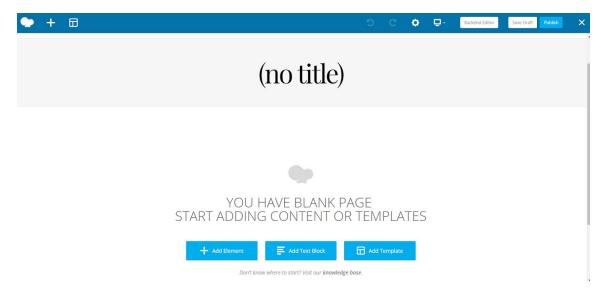
The additional CSS section is place for those with some technical training and understanding to add their own custom design code. If you do not know CSS stay away from this section. Additionally, the plugin we recommend, WPBakery, has a better way to do custom CSS, see section 5.3 for information.

# 4.0 Designing a Page With WPBakery

WPBakery is a plugin for wordpress that provides an easy to use interface for creating a webpage. The interface is much like creating a drag and drop website and is primarily visual. This means the user can create webpages without using any CSS code, although there is still the option to use code if the user wishes. WPbakery provides both a backend and frontend editor. The backend editor is a simpler editor that allows the user to add elements to the page without viewing the page in realtime. While you won't be able to see what the webpage looks like while you are editing it, the backend editor is a lot faster making it good for putting in lots of content. The frontend editor allows the user to edit the webpage directly in a "what you see is what you get" fashion. Since the frontend editor is more intensive, it is better to add all the content for your webpage into the backend editor first and then switch to the frontend editor to make the finishing touches.

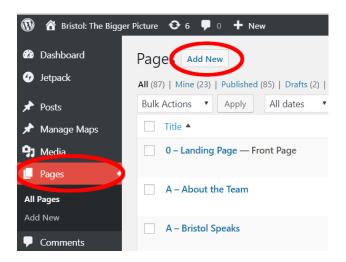


Screenshot of the backend editor

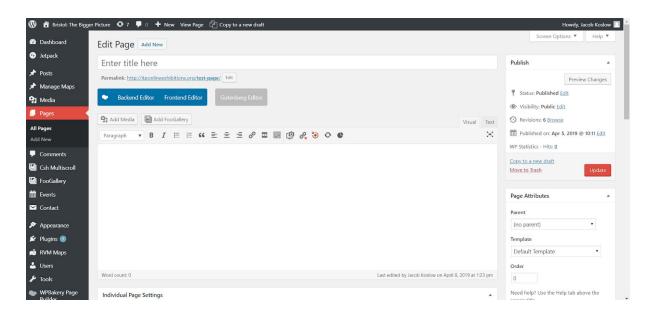


Screenshot of the frontend editor

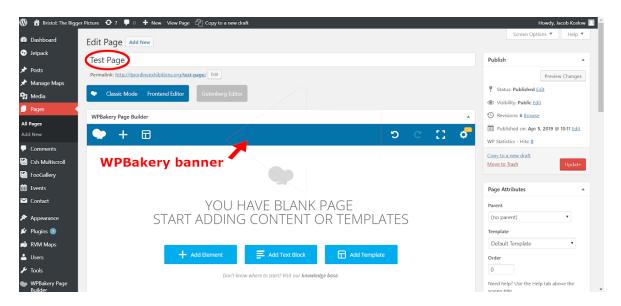
The first step is creating a new page. Go to your website's dashboard and click on 'pages' on the left column. Next, click 'add new' and you will be brought to the newly created page.



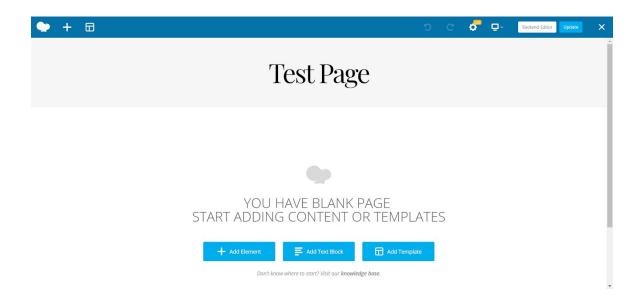
Here there are two blue buttons labeled 'backend editor' and 'frontend editor' which allow you to switch between the two. Right now we are in the 'classic editor' which means WPBakery is not being used. We will not use the classic editor since that involves typing HTML code directly into Wordpress.



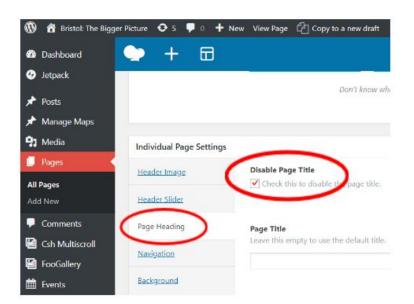
Click on 'backend editor' to switch to the backend editor. You will know that you are in the backend editor if that button says 'classic mode' instead of 'backend editor' and the blue WPBakery banner appears above the workspace. This blue banner shows up on both the frontend and backend editor. You will also see I entered a name for the test page circled in red.



If you click on 'frontend editor', you will see that the title is displayed over a grey banner.

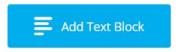


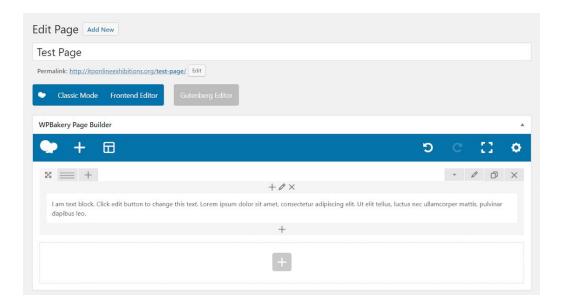
If you wish to display the title without the grey banner, then you can go back to the backend editor, scroll down to 'individual page settings', click on 'page heading' and check the checkbox that says 'hide title'. This will remove the title from the frontend editor.



## 4.1 Adding Elements

Now we want to start adding content to the page. Everything that you add onto the page is called an element. In order to add the title back in, you will have to retype it in a text block element. You can do this from either the frontend editor or backend editor. First let's use the backend editor. In the backend editor, click on 'add text block'. A text block with sample text will be inserted into the page like so.

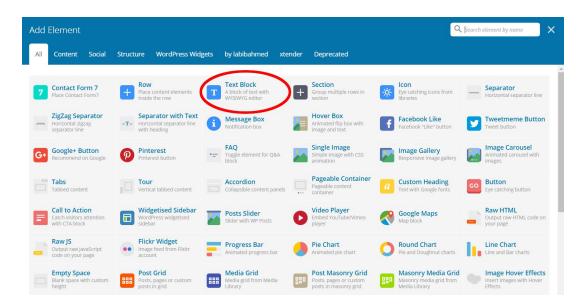




Alternatively you can click the '+' sign on the left side of the blue banner and a list of elements will show up.



You will be able to pick any element you want to add to the page from this menu. In addition, you can search for a specific element in the upper right hand corner. Right now we are going to click on 'text block'.



### 4.1.1 Row Element

The text block was inserted onto the page in what is a called a 'row element'. Everything that you put on the page will be inserted into a row element. Row elements organize the content on the page into rows and columns.



There are 7 tabs on the row element that will help you format your rows. Hovering over each tab will display a small tooltip that explains what each tab does. In fact, you can hover the mouse over any element or tab and it will tell you what each option does. This will help guide you when you are unsure of what an option does.

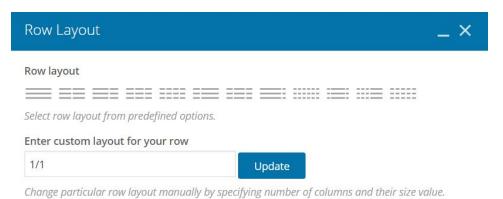
1. This tab allows you to drag the row to a new point on the page. This is useful for reordering row elements.



2. This tab allows you to adjust the spacing of columns and amount of columns in the row. If you hover over it, it will expand and allow you to pick from a few preset row layouts. Hovering over each layout will tell you the specific fractions that split up the row.



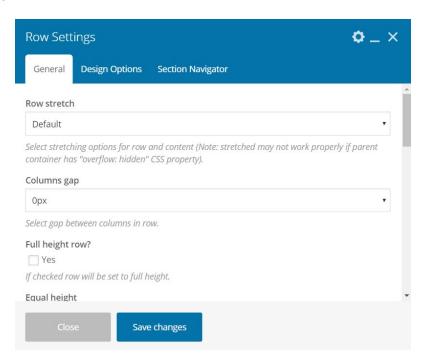
If you want to space your columns differently than the provided layouts, you can click on 'custom' and the following 'row layout' box will appear. Here you can enter your own fractions. These fractions will split up the row into blocks that take up the fractions of the page that you specified. **These fractions must add up to 1.** 



- 3. This tab will create a new column below the first one that is still within your row element.
- 4. This tab will show or hide the content in your row element.



5. This is the edit tab which will bring up a box called 'row settings' which allows you to change several settings and design options for the row element. We will explore some of these settings later.



- 6. This tab clones your row element and everything in it. This is useful if you did a lot of formatting in your row and want to keep that same formatting for a new row.
- 7. This tab deletes the row.

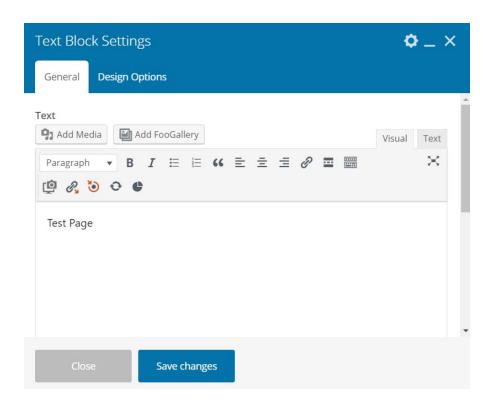
The last three options in the middle of the row element are ones we have seen before and are numbered accordingly. The difference here is that these options are for the columns.



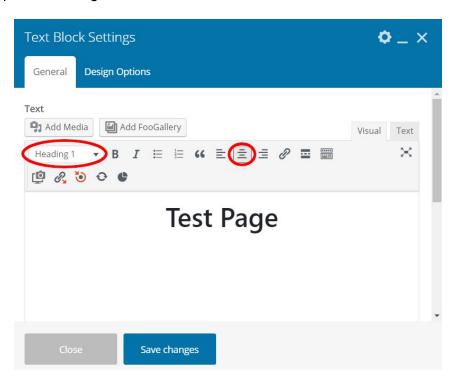
## 4.1.2 Text Block

Now that we know all about the row element and how to insert elements into the page, lets edit our text block. If you hover over the text block, a green popup will appear with a few options. Notice how these symbols are the same ones that we have seen before and therefore mean they will do the same thing. We are going to click the edit button which will display a popup window where we can edit the text and other settings for that text block.





As can be seen, the popup looks like a standard text editor with various features at the top to format the text. Since I want this text block to be the title for this page, I changed the text size from 'paragraph' to 'heading 1' and centered the text, shown with the red circles.

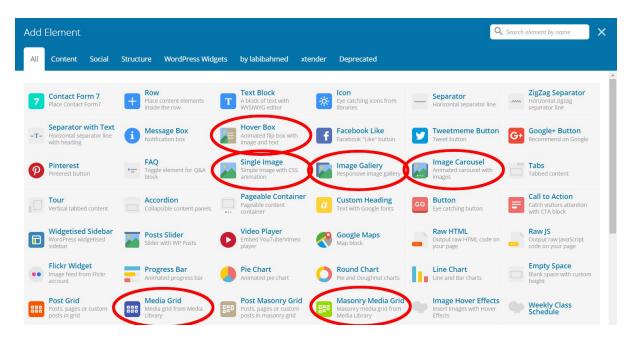


Now click 'save changes', click 'update' on the right side of the page and switch to the frontend editor to see what the published page looks like.

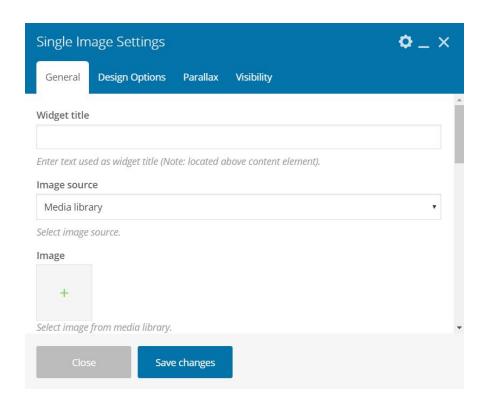


## 4.1.3 Adding Images

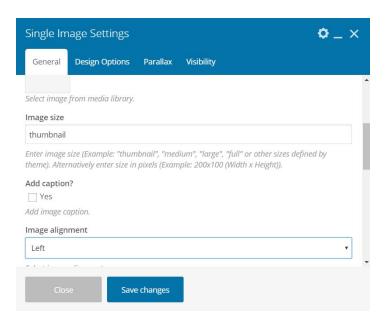
Let's go back to the backend editor and add some more content to the page, specifically images. You can add an element by pressing the '+' sign on the blue banner or the '+' sign below your first row element. This will bring up the 'add element' popup. The elements that can contain images are circled in red. While you can add images in a text block, it is usually better to just add the image as its own element so that you can control the placement of this image.



Each element has a short description for what it does and I encourage you to play around with each one to find out which one best fits your webpage. For the online exhibition we created, we used the 'single image' for the majority of the images. If you click on 'single image', a popup with different options will show up.

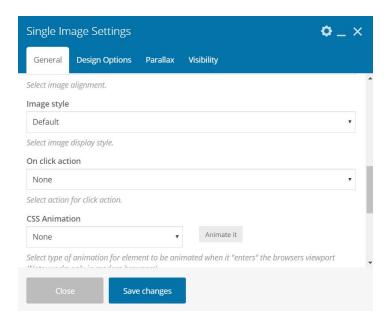


Here you can add an image and adjust its formatting. Notice how each option has a short description that tells you what that option does. Most of these options are self explanatory but it is helpful to take note of a few things. If you scroll down, you will see 'image size'. This option can be a little finicky with the size of the image on the page.



Often times you will have to specify a size in pixels to get the image to be the size that you want. This usually just involves some trial and error, but a general rule of thumb is to use a

square or 2:3 ratio. For example, if i want to use a 2:3 ratio, I could type 400x600. In addition, if you keep scrolling there are two more options worth mentioning.



The 'image style' option is great for adding effects that can make your images stand out on the page. You should look at the options that are provided and see which ones you like. One that generally looks nice and that we used is the 'large light shadow'. Another option that is useful is 'CSS Animation'. This will animate your image when it shows up on the screen. Take caution when using these because while good animations can enhance your webpage, they can also be overbearing and have the opposite effect. Some of the animations we used were the 'fading entrances' and 'appear from center'.

# 4.2 Editing Elements Using The Backend Editor

Now that we know how to add most of the content to the page, we can focus on making it look nice. I am going to use a page from the online exhibition we created as an example, where the final product can be seen below:

#### 'POPULAR' MUSIC

Sue and Jana also expressed the importance of music to their cities. 'Bristol Sound' is a musical movement which Bristolians are particularly proud of as it has and continues to promote unique creativity and brings an international stage to its performers. For Palestinians across the world traditional Palestinian music is valued and constantly revived as it asserts a sense of belonging and identity, and stirs a sense of nostalgia.



#### BRISTOL SOUND MUSIC SCENE

The city of Bristol is the biggest in the South West of England, one of the most racially diverse in the UK and renowned as a bustling centre of culture – as well as one of the best places to live in Britain.

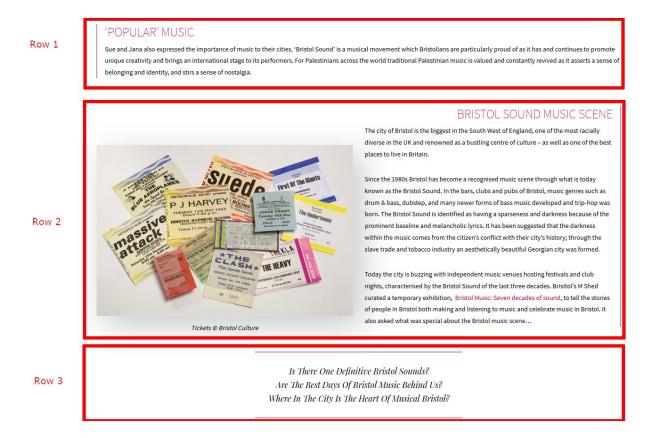
Since the 1980s Bristol has become a recognised music scene through what is today known as the Bristol Sound. In the bars, clubs and pubs of Bristol, music genres such as drum & bass, dubstep, and many newer forms of bass music developed and trip-hop was born. The Bristol Sound is identified as having a sparseness and darkness because of the prominent baseline and melancholic lyrics. It has been suggested that the darkness within the music comes from the citizen's conflict with their city's history; through the slave trade and tobacco industry an aesthetically beautiful Georgian city was formed.

Today the city is buzzing with independent music venues hosting festivals and club nights, characterised by the Bristol Sound of the last three decades. Brisitol's M Shed curated a temporary exhibition, Bristol Music: Seven decades of sound, to tell the stories of people in Bristol both making and listening to music and celebrate music in Bristol. It also asked what was special about the Bristol music scene...

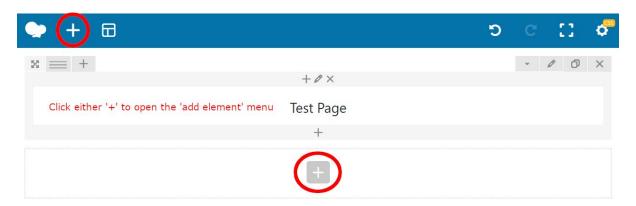
Is There One Definitive Bristol Sounds? Are The Best Days Of Bristol Music Behind Us? Where In The City Is The Heart Of Musical Bristol?

As can be seen, there are clear headings, paragraphs are clearly separated and the image is placed side by side with the text. Many websites that display lots of text and images will have images next to text and alternate which side the text is on. In addition, we put some featured questions between line separators for emphasis. The picture also has a caption, which gives more information about that image. While we went with this design, it is merely a design choice and you are encouraged to try different arrangements to find something you like. Lets jump to the backend editor and try to arrange the content ourselves.

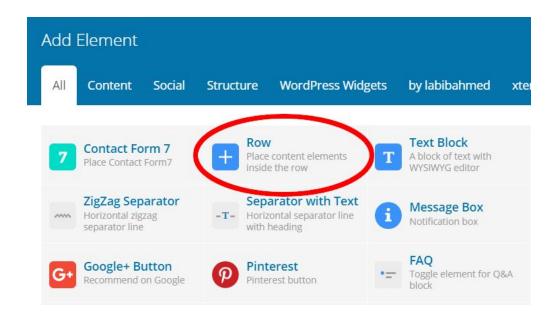
Usually, you want to have a vision of how you want your page to look like that you try to create. Looking at the final product above as our 'vision', you can tell that it is organized into three row elements.



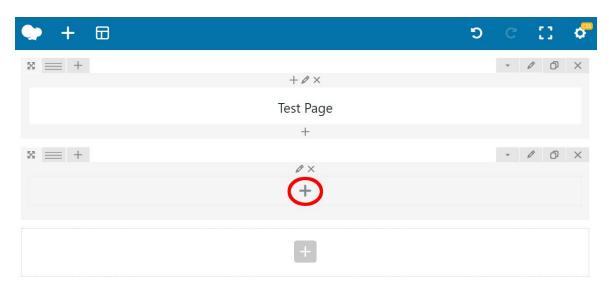
The first row of text, second row with a an image and text side by side, and lastly a row with the horizontal lines and text in between. The first thing we are going to do is add a row element to our test page.

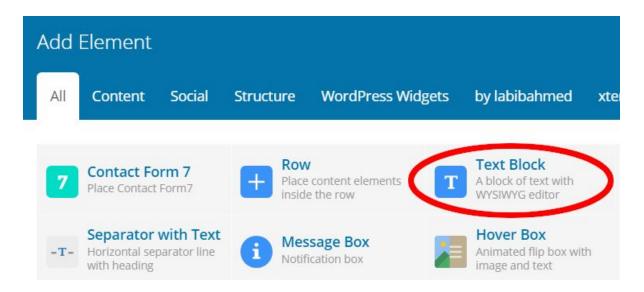


Click 'row' to add a row element

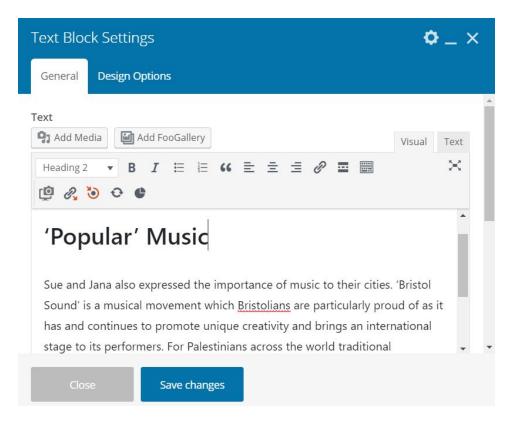


Now add a text block into the newly created row element

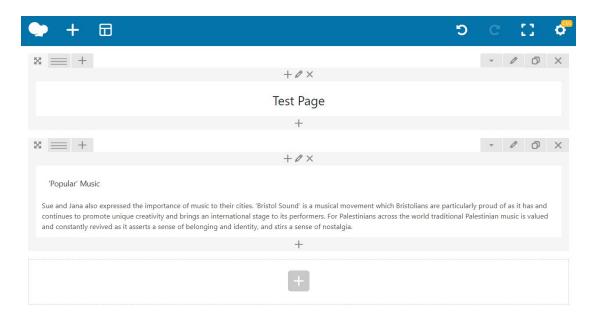




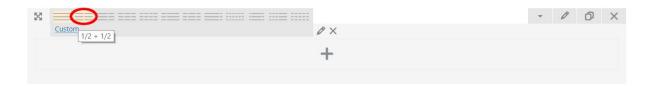
Replace the sample text with the text you want



Notice how the subtitle is using the 'heading 2' font size while the text is using the 'paragraph' font size. Once that is done, click 'save changes'. Now you should have something that looks like this:



Now we will add another row element. Change the row layout so that we have two equally space columns

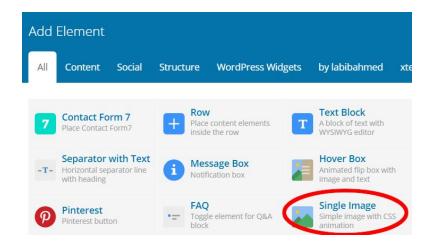


Now you should have two columns split into  $\frac{1}{2} + \frac{1}{2}$  that look like this:

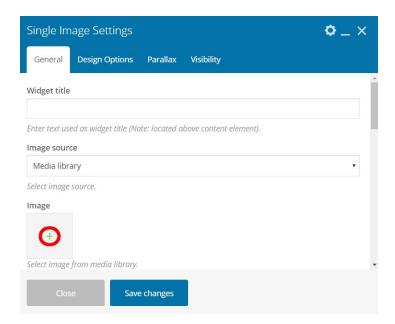


In the left one, we want to add a single image. Click on the '+' sign and add a 'single image' element to that column.





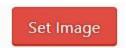
Insert the image you want by clicking the green '+' sign.



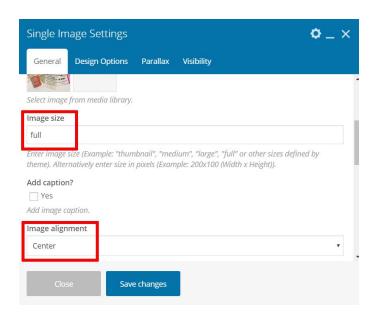
The image we want is in the bottom right corner. If you have not uploaded your image, you can just click 'upload files' and upload the ones you want.



Click on the image you want then click 'set image' in the bottom right.

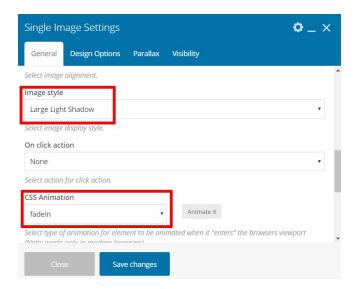


Next we want to format the image to make it look nicer. Scroll down on the 'single image settings' window until you see 'image size'. Type in 'full' so that the image will appear in its full size. Next, scroll down a little more to 'image alignment' and change it to 'center'. I almost always use 'center', as the other alignments can make the image seem either too far or too close to the text.

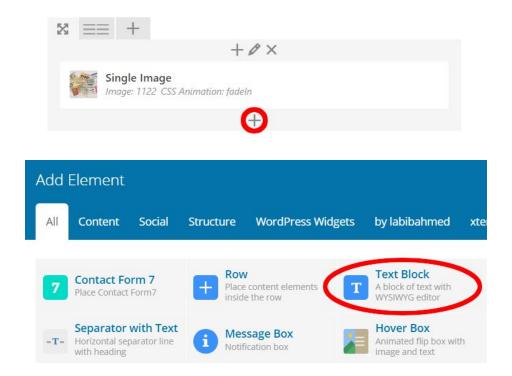


Next, scroll down some more until you see 'image style' and change it to 'Large Light Shadow'. This effect is subtle, but makes a big difference in the professionalism of your page. There are also many other options here that you will want to play around with. If you keep scrolling, you

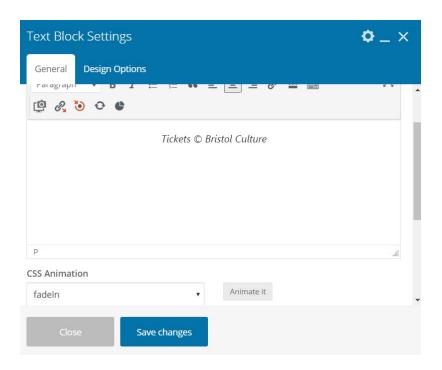
will find 'CSS animation'. Change that option to 'Fadeln'. This is a subtle animation that can draw attention to your images without being too distracting.



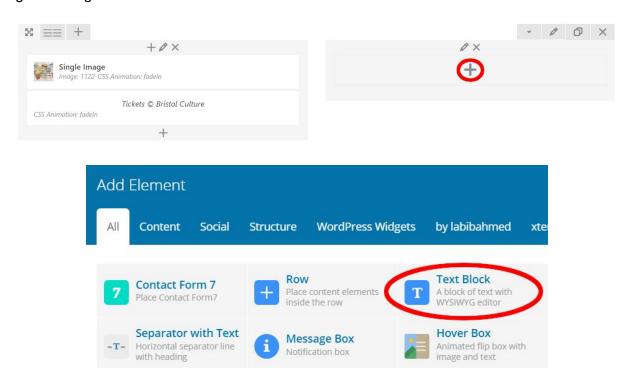
That is the last image setting we are going to use, so click 'Save changes'. Now we want to add a caption under the image using another text block. Click the '+' sign underneath the image to add an element to that same column.



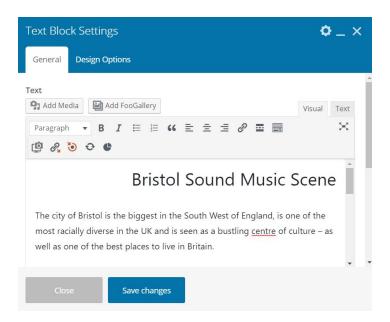
Type the text for the image caption and change it to center aligned and italicized. Scroll down to 'CSS animation' and change the animation to 'FadeIn' to match the image animation. Then click 'Save changes'.



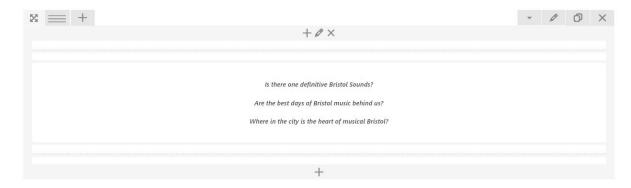
Now that the left column is complete, we can add the text to the right column. Click on the '+' sign in the right column and add a text block.



Now replace the filler text with your text. Since this text is on the right side of the page, I aligned the title to the right and text below it to the left because paragraphs tend to look awkward when aligned right. Click 'Save changes'.



Now add the last row element. Here we are going to add a separator element, then a text block, then another separator. Replace the filler text with your own.



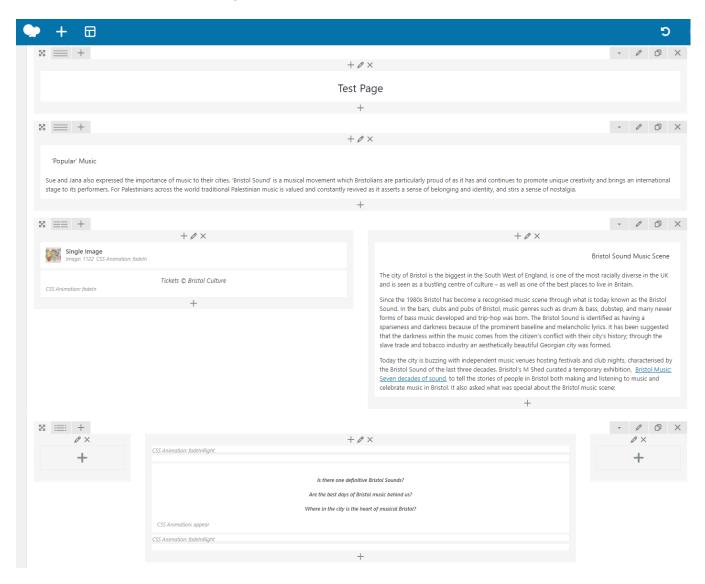
Next, I want to limit the length of the separator by changing the row layout.



I used 1/6 + 4/6 + 1/6 after some trial and error. I also added a 'FadeIn Left' animation to the top separator, 'appear from center' to the text block, and 'FadeIn Right' to the bottom separator to draw attention to the text.



When you change the row layout, it will keep all your elements in the first column, so you will have to drag them into the second column. Now that all our content is on the page, this is what the entire backend editor page looks like:

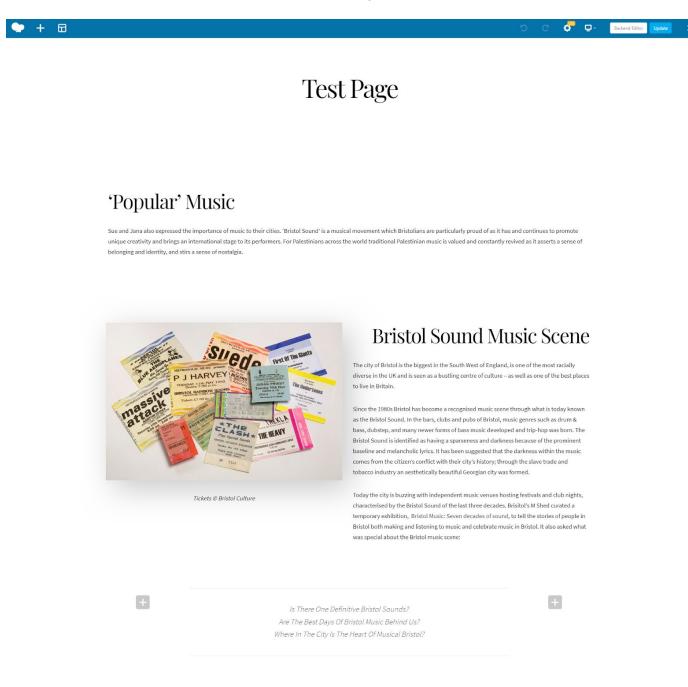


Lastly, one of the most important things you have to do is **click 'update' on the right hand** side to save your changes and publish the page. If you do not do this and close the page or

go to a different page, you will lose all your unsaved progress. It is a good habit to click this update button regularly.

# 4.3 Editing Elements Using The Frontend Editor

Click on the frontend editor to see what the webpage looks like so far.



It does not look quite like our 'vision'; there are large gaps between row elements, there's no pink horizontal lines, and the separators are also not pink. First, we are going to adjust the

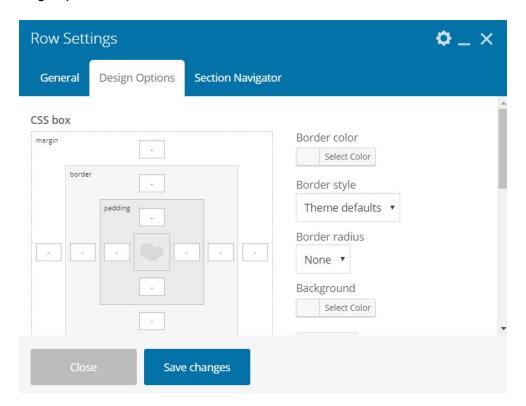
spacing between the row elements. Hover the mouse over the second row element and click on the arrow in the top left to reveal the row controls.



Click on the 'edit tool'

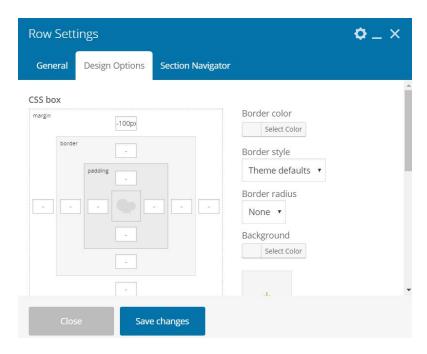


Click on 'design options'

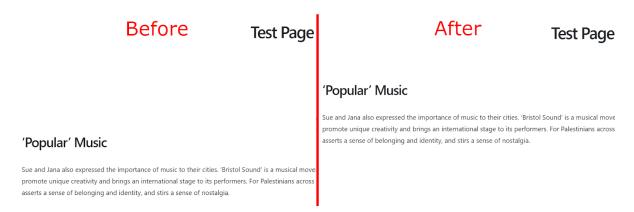


The 'CSS box' will be how we edit the spacing between elements and add the vertical pink lines. In each box with a '-', you can enter a number of pixels. There are four boxes each for 'margin',

'border', and 'padding' that cover all four sides of the element. You can see which box belongs to what option by which shaded box it is in. 'Padding' is the amount of space between the element itself and the border, 'border' is how thick the border is around the element, and 'margin' is how much space is between the border and everything outside the element. Putting in a negative number decreases these amounts, whereas positive numbers increase it. Since we want to decrease the space between our row elements, we are going to put a negative number in the top box of 'margin'. I put -100px, but you will have to play around with this number to find what looks best for your site.



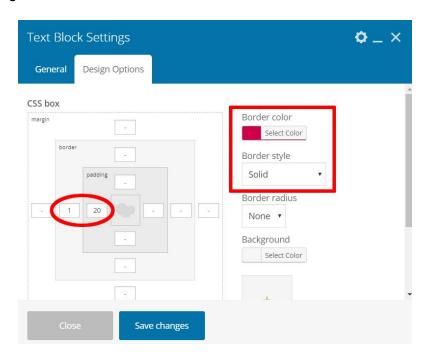
Now you can see that the first subtitle is closer to the title in this 'before and after' comparison. I will do this for every row element below this one as well.



Next we are going to add the pink vertical line. Go to the 'CSS box' for the text block in the second row element.



We want the line to be on the left side, so I put 20px for padding and 1px for the border. 20px for padding seemed to put the line an appropriate distance from the text and 1px for the border seemed like an appropriate thickness. Of course, you should play around with these numbers to get more familiar with how these options function as well as to find what you like. Next, to change the color, click on 'Border color' and click the color you want. If possible, you could get the RGB or hex code for specific colors you want. Click 'Border style' and change it to 'solid'. Click 'save changes'.

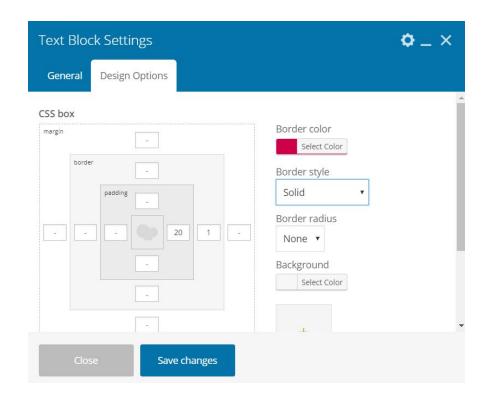


**Test Page** 

#### 'Popular' Music

Sue and Jana also expressed the importance of music to their cities. 'Bristol Sound' is a musical movement which Bristolians are particularly proud of as it has and continues to promote unique creativity and brings an international stage to its performers. For Palestinians across the world traditional Palestinian music is valued and constantly revived as it asserts a sense of belonging and identity, and stirs a sense of nostalgia.

Now doing the same for the other text block but on the opposite side





### Bristol Sound Music Scene

The city of Bristol is the biggest in the South West of England, is one of the most racially diverse in the UK and is seen as a bustling centre of culture – as well as one of the best places to live in Britain.

Since the 1980s Bristol has become a recognised music scene through what is today known as the Bristol Sound. In the bars, clubs and pubs of Bristol, music genres such as drum & bass, dubstep, and many newer forms of bass music developed and triphop was born. The Bristol Sound is identified as having a sparseness and darkness because of the prominent baseline and melancholic lyrics. It has been suggested that the darkness within the music comes from the citizen's conflict with their city's history; through the slave trade and tobacco industry an aesthetically beautiful Georgian city was formed.

Today the city is buzzing with independent music venues hosting festivals and club nights, characterised by the Bristol Sound of the last three decades. Brisitol's M Shed curated a temporary exhibition, Bristol Music: Seven decades of sound, to tell the stories of people in Bristol both making and listening to music and celebrate music in Bristol. It also asked what was special about the Bristol music scene:

The picture looks a little high so I am going to increase the margin until it is centered with respect to the text. 100px on the top margin seemed to do the trick.



Lastly, for the bottom row element, we just need to change the color of the horizontal separator. Click on 'edit' and choose one of the provided colors or click on 'custom color' and type in your RGB or hex code.



Now let's take a look at the completed page. Click 'update' in the top right hand corner then click the 'x' to the right of it to exit the WPBakery editor. The page should now look just like the 'vision' we had in the beginning.

# **Test Page**

# 'Popular' Music

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Is There One Definitive Bristol Sounds?

Are The Best Days Of Bristol Music Behind Us?

Where In The City Is The Heart Of Musical Bristol?

If you want to create other pages that are formatted the same as the one you just created, click on the 'templates' icon in the top left on the blue banner.



A 'templates' popup will appear where you can name and save your template as well as access all your previously saved templates.



If you have any additional questions about WPBakery, you can refer to the <u>WPBakery knowledge base</u>.

# 5.0 Advanced Editing

This section is for users that want more out of their website- these are optional, and require a little more technical expertise.

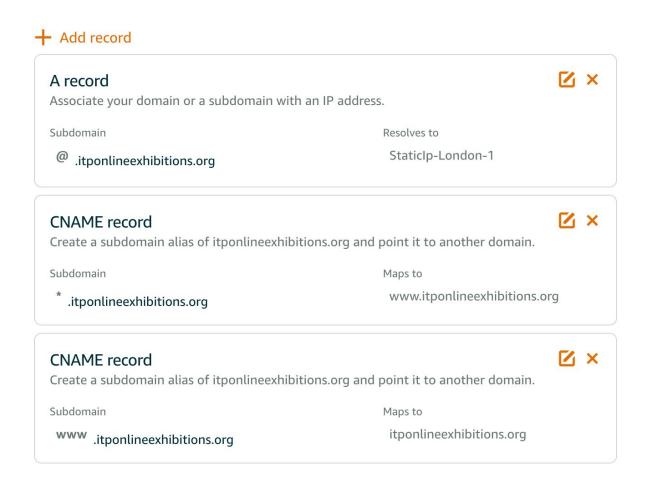
## 5.1 Custom Domain Name

While using an IP address is a fully functional way of accessing a website, it is difficult to remember and share with other. A domain name fixes this problem by linking the IP address of a site to its domain name. For example, britishmuseum.org is an easy to remember way of accessing the British Museum's website and is much more convenient than remembering and having to type 195.224.71.221 into your web browser.

Domain names can be purchased from many companies, and range in price from a few pounds per year to a few hundred pounds per year depending on the length and top level domain (.com / .org / .co / .club / etc). Some sites to look at when purchasing a domain name are:

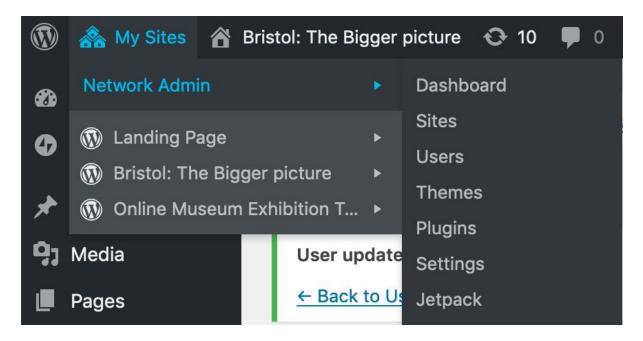
- namecheap.com
- godaddy.com
- Domains.google

The actual steps that must be taken when setting up this domain name vary by the companies you chose to buy the domain name from. Each company should have instruction to help you do this should you need to. In general, you will need to make an A record to map your domain name to your static IP address, a CNAME record to map www.{customdomain.com} to {customdomain.com}, and a CNAME record to map \*.{customdomain.com} to www.{customdomain.com}.



# 5.2 Wordpress Multisite Administration

This section of the paper is for those who have network administrator privileges on the itponlinexhibitions.org website. Being an admin comes with extra powers. As mentioned in section 2, you should have a special dropdown menu that looks like the one below.

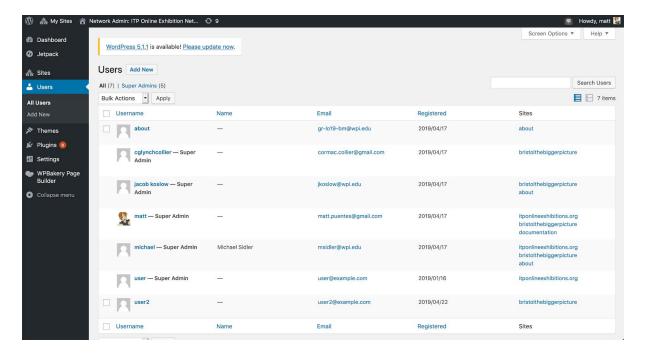


As an admin, you can make changes in these network panels that will affect all or some of the child websites.

## 5.2.1 Adding users

If you want to let people make websites or edit existing ones, you'll need to make them an account to log in with. Start by selecting "Users" from your network admin dropdown menu.

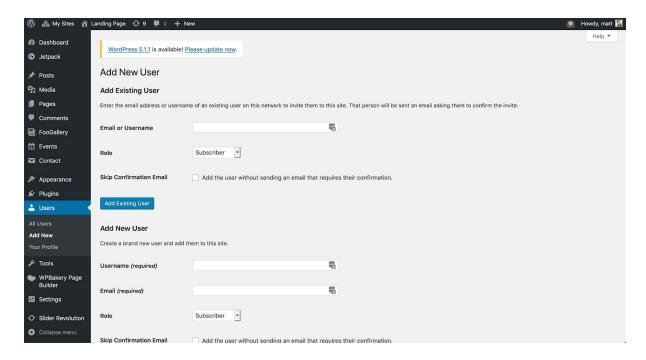
You should see a page like the one below



To add a new user, click the "Add New" button at the top of the page. It will prompt you for the username and email they'd like to use.

Add New User	
Username	user3
Email	user3@example.com
A password reset link will be sent to the user via email.	
Add User	

After you submit, you should see a banner that says the user has been successfully submitted. They should receive an email asking them to set a password, which should let them edit like normal! To assign them a website that they can edit, go to the Users page of the website, like the one shown below.

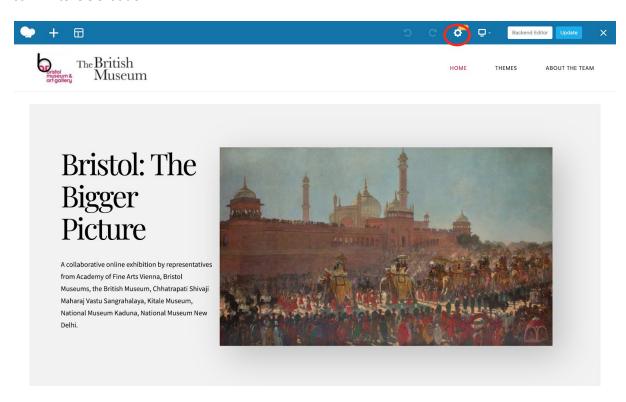


Type their email into the "Add existing user" section, and they should be able to edit the website! You can repeat this for as many websites as you'd like.

## 5.3 Custom CSS

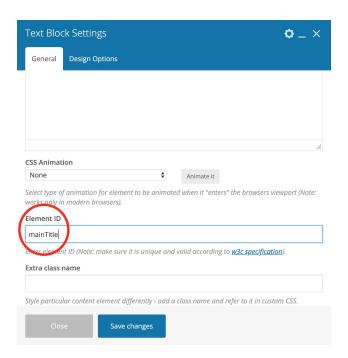
Custom CSS can be a great way to make your website look professional and attractive. If you already know CSS code, then here we will tell you where to find it, we will not be teaching CSS.

Wordpress has places where you can write your own CSS code (see section 3.2) however WPBakery is even better. On every page you make with WPBakery there is a place where you can write CSS code.



For example, above, in the WPBakery front end editor, you can see a gear icon in the top right corner. If you click on this then it brings up a text box where you can type in your css code.

Additionally, below, you can see where you can assign id and class tags to elements. This is a text box element where you can give it an ID or a Class name.



# 6.0 FAQ

# Resizing Images

While low resolution images can greatly detract from a website, having images that are too large can cause the webpage to take a long time to load. Furthermore, users with slow or limited internet connections may be unable to view them. For these reasons, it is important to consider the size of the image that you are uploading and how it will be used in the site.

Most current computer monitors have a resolution of 1080p ( $1920 \times 1080$  pixels) or 720p ( $960 \times 720$  pixels). This means that if you want to display a full-screen image it needs to be no larger than 1920 pixels wide by 1080 pixels tall. If you are uploading pictures that will be smaller than full screen, these numbers can be smaller.

To change the size of images before uploading them to wordpress we recommend using the default photo editor (paint) on your computer, or an application such as photoshop if you also want to do advanced photo editing such as rotating and skewing.

It can still be a good idea to upload the full image to wordpress in order to have it stored online so that others can use it. You may want to consider making an image gallery page, so that people can view the full image should they choose.

# What is the cheapest possible way to make an online exhibition?

A free wordpress site can be made by going to wordpress.com and making an account. The site will be limited in terms of the storage space and processing power, but that can be upgraded at any time by paying a monthly fee of comparative cost to the server host that we chose in section 2. Other limitations of the free wordpress site is that the URL will be limited to [SITENAME].wordpress.com and that there will be wordpress advertising on the site.

# The bar at the top is gone, how do I get it back?/How do I get to the Dashboard?

If you don't see the black bar at the top when you visit your website, then you'll have to login again. Go to your website address and append "/wp-admin/" to the end in order to receive the login prompt! (For example: <a href="itponlineexhibitions.org/wp-admin/">itponlineexhibitions.org/wp-admin/</a>).

# My actual site looks different than it does in the WPBakery frontend editor

Sometimes when there is a lot of content on a page, WPBakery won't place everything in exactly the right place. When in doubt, trust what the site looks like outside of any of the editors.

When in the frontend editor, sometimes you will have to click 'update' then click the 'x' in the top right corner to exit the editor to see any immediate changes you made. You might have to do this a couple times while making edits to see your true changes. Sometimes clicking 'update' and refreshing the page will fix anything that is not loading correctly.

# What if I could not find something in this tutorial?

Here are a few updated documentation pages that may be able to help you with issues from setting up Wordpress, using the 'Arte' theme, to WPBakery.

- Arte theme documentation
- WPBakery knowledge base
- Get started with Linux/Unix-based instances in Amazon Lightsail
- Getting started using WordPress from your Amazon Lightsail instance
- Create a static IP and attach it to an instance in Amazon Lightsail