| UFCFS4-30-3 Creative Technologies Project – Initial Proposal Document | |
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| Student Name: | Arron Taylor-Peter |
| Student Number: | 14041505 |
| Project Title: | An Alternative Reality: Augmenting Personal Storytelling to Gain a Sense of Place |

## Description

How can augmented reality (AR) change people's opinions and perceptions? My project will attempt to answer this question through a locative experience that uses AR as a means of mobile media storytelling at Bristol's 'floating harbour'. By following a heritage trail, the application will use marker-based AR to overlay the urban space with audio-visual elements. These elements will provide historical information about the space, combined with narrations from personal points of view from local people who inhabit the harbourside.

## Background and Research

How can personal stories be told using site-specific locations and augmented technology? My initial seed of interest came from a conceptual art project named 'Masterpieces Without the Director' (MWD). It was established for one day as an alternative audio guide for the Metropolitan Museum of Art in New York (Collins, 1991). The tours were unofficial (recorded on cassette), available free to the public outside the museum. The guide featured public commentary and sound collage of thoughts, history, and myths of the institution. By using technology (in my case AR) to virtually invade public spaces, I hope to inherit the ideals of MWD, to share and shape experiences in public spaces. In addition, I am taking this further by overlaying a range of mixed media to the user's mobile device; Stapleton et al. (2002) states that storytelling in mixed reality aims to occupy the imagination of the user, I hope to reflect this and investigate how users will be provoked along the harbourside.

AR by its nature, can provide engaging immersion and a richer user experience (Peddie, 2017). The availability of personal mobile devices that are capable of augmented and mixed reality (MR) technologies are ever more apparent and allow for a more personal experience that can be directed by the user (Mullen, 2011). A good example of using locative media in this way is 'Streetmuseum: Londinium' (Thumbspark, 2011). This application connects people to London's history by taking them outside The Museum of London. A range of multimedia elements are used including AR-video, 3D-models, text and photographs. These are a mix of some of the elements that I will try and implement in my experience. What I like about this application is the context-awareness a user can achieve. For example, users can 'dig', to reveal the artefacts found in specific London locations by interacting with their device.

During my project I will concurrently develop and gather research for my final artefact. My project will rely heavily on the assembly of personal stories and the history that surrounds Bristol's floating harbour. I intend to further understand theory's regarding locative media and layered environments by reading the resources listed in Appendix A.

# Objectives

## Project objectives

- To produce an innovative and interesting way of telling a story.
- Create an engaging, thoughtful and informative experience.
- Augment a layer of media to the environment using a mobile device.
- Promote the harbour area.
- Test the experience iteratively and evaluate.

## Research objectives

- Establish an audience for this project, will this be broad or niche?
- Investigate the physical area with field studies and desk research to understand the history and people who live/work there.
- Find a group of relevant participants.
- Investigate how to develop features and functionality required.

## Learning Objectives

- Develop my skills of JavaScript and other libraries.
- Better identify the opportunities and limitations of AR.
- Develop a greater understanding of theoretical concepts that encapsulate 'layered environments' and 'locative media'.
- Learn about Bristol's floating harbour.

# Methods, techniques, tools and processes

I propose to develop a Web-AR experience that will accompany a heritage trail (Bristol Floating Harbour, 2009). By using physical markers that will act as 'triggers' when they are presented to the camera, content will be displayed virtually within the user's environment. For example, '1600' (Nexus, 2016) does this well, but to use the application you must download it. Alternatively, the benefit of using Web-AR is that the experience will run entirely in the browser, meaning no app installation. As a result, my deliverable will not limit the audience by what device or capacity they have.

I have some experience with using Javascript and I hope during this project I will extend my skillset and understanding of the language. I plan to use AR.js (Etienne, 2018) which is an open source Javascript library. This library can be used in conjunction with A-frame (Mozilla, 2018) which is a framework that provides a declarative, extensible, and composable structure to three.js. Some obstacles I may find will include the ability to handle multiple independent markers at once or expanding content beyond the physical marker origin. These are areas I plan to delve into during the next stage of research.

Throughout the development of my project I will follow the Deming Cycle (Deming, 1950) to continuously challenge and improve my project. The final output will rely heavily on user experience (UX) research and principles to support answering my hypothesis. To help shape the final experience, I plan to carry out desk research, field observations of the physical space and interview people with connections to the floating harbour to build an understanding of the area. Subsequently I will be able to analyse my findings and produce a narrative for a user to follow.

## Risks and issues

| Risk | Mitigation | Contingency |
|---|---|---|
| Not getting participants to share stories. | Use different techniques to find people. E.g knock on doors, send emails or use social media. | Use freely available information from books or websites. |
| Insufficient stories to create personal narratives. | Do thorough research. Interview with open ended questions. | Create a fictional narrative based on available facts. |
| Corruptions of code. | Regular back-ups to a cloud based services such as GitHub. | Maintain and access version control. |
| Scope Creep. | Remember to refer to my objectives and aims at various points. | Focus on what's important and manage what can realistically be achieved. |
| Not completing the project. | Make a clear and realistic plan to meet the set deadlines. | Be flexible and prepared to adjust features and goals if possible. |

## Specialist resources and support required

For this project, I would like to work with external partners to gain information and participants. Although I plan to contact organisations and people with a connection to the floating harbour myself, I may require further assistance and support in contacting the relevant people.

## Sources and references


Peddie, J. (2017) *Augmented Reality: Where We Will All Live,* Springer International Publishing, Cham.

Mullen, T. (2011) *Prototyping augmented reality*, Wiley, Indianapolis, Ind.
Collins, G. (1991) Making an Art of the Met Tour. *The New York Times.* 26 September, p.15.

Stapleton, C., Hughes, C., Moshell, M., Micikevicius, P., Altman, M. (2002) Applying mixed reality to entertainment. *Computer.* Volume 35, Issue 12, Pages 122-124.

Thumbspark Ltd (2011) *Streetmuseum: Londinium.* (2011) [mobile application]. Available from: https://www.educationalappstore.com/app/streetmuseum-londinium [Accessed 10 October 2018].

Bristol Floating Harbour (2009) *Heritage Trails*. Available from: http://www.bristolfloatingharbour.org.uk/harbour-trails/ [Accessed 10 October 2018].

Nexus. (2016) *The White House 1600 - AR App*. Available from: http://nexusstudios.com/work/1600-ar-app [Accessed 10 October 2018].

Jerome Etienne (2018) *AR.js*. Available from: https://github.com/jeromeetienne/AR.js/blob/master/README.md [Accessed 10 October 2018].
Mozilla (2018) *A-Frame*. Available from: https://aframe.io/ [Accessed 10 October 2018].

Deming, W.E (1950) *Elementary Principles of the Statistical Control of Quality*. Japanese Union of Scientists and Engineers.

# Monthly project plan

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|---|---|---|
| **October** | Complete initial research around topic proposal.<br>**Final proposal to be submitted by 11/10/2018**<br>Begin second-phase, in-depth research.<br>Secondary Research: read about layered environments and look into locative media projects. | 5 days<br><br><br>3 days |
| **November** | Research AR.js functionality.<br>Primary research visit location and make observations.<br>Meet people who may be interested in contributing stories.<br>Conduct Interviews.<br>Analyse Research. | 5 days<br>1 day<br>2 days<br>2 days<br>2 days |
| **December** | Write a draft of research report.<br>Begin experimenting with Web-AR.<br>**Final research report hand-in - 13/12/2018**<br>Plan the experience with diagrams and wireframes.<br>Begin Prototyping. | 3 days<br>2 days<br><br>2 days<br>4 days |
| **January** | Test Prototype and source feedback with users.<br>**Prototype Demo Presentation - 16/01/2019**<br>Address any feedback or pain points.<br>Develop the final implementation. | 1 day<br><br>2 days<br>10 days |
| **February** | Continue with developing the final product. | 10 days |
| **March** | Begin writing final report.<br>User testing and documentation.<br>Iterate on findings during testing. | <br>3 days<br>3 days |
| **April** | Finish final draft of the report.<br>Film and edit the video.<br>**Final project hand-in 11/04/2019** | <br>1 day |

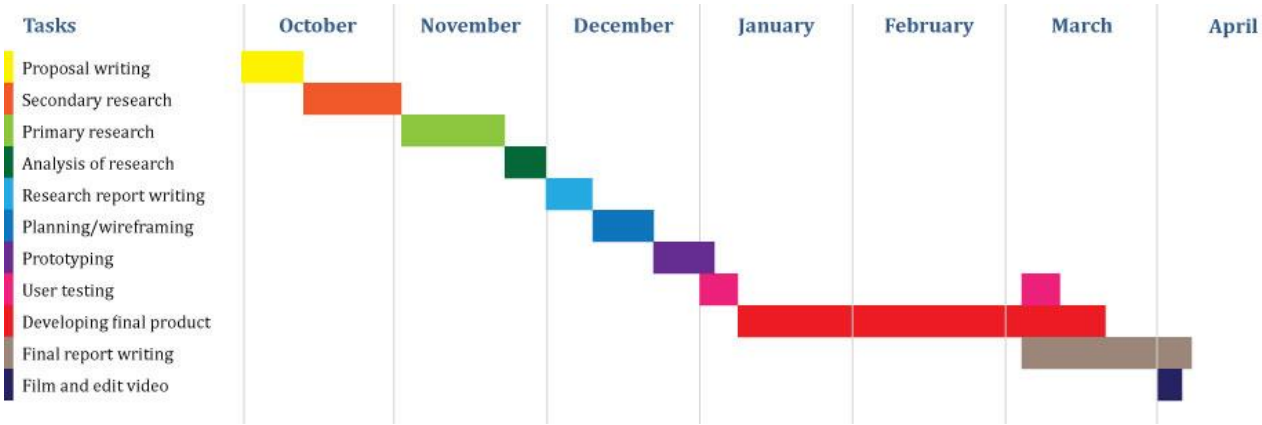


**Figure.1** Gantt Chart showing the planned monthly project plan.

# Appendices

## Appendix A – Planned Reading List


Farman, J. (2014) *The mobile story: narrative practices with locative*. New York: Routledge.

Farman, J. (2012) *Mobile interface theory: embodied space and locative media*. New York: Routledge.