Software Development Plan

4.1 Plan Introduction

This Software Development Plan provides details of the planned development for the Decadal Clock Interactive Storytelling installation which provides an interactive experience for users to learn about different decades in a new and unique way.

Decadal Clock allows users to select different time periods (decades) and explore the style and the most popular shows, movies, fashion, and trends during specific decades based on which one the user selects. The layout of the application will be of a digital analog clock; there will be a web-based application and a multimedia installation of a screen that will be triggered by the user choices on the application. This application is a mix of both arts of coding and multimedia software to have an engaging interactive user experience, as well as teaching the user about select decades along the way. Programs close to an application like this are out there using the term "digital storytelling". Some examples of applications that will be near to the idea of Decadal Clock would be The *Assassination of Abraham Lincoln* , as it is a web-based application that teaches about the assassination of Abraham Lincoln through a interactive map with different key location areas. The user can select those areas and this will trigger a picture to pop up with information about the place and what happened to Lincoln in that location or what was currently happening that lead to his death. The stories being told are completely separate, but the idea of teaching decade based information through interactive mediums is heavily similar between this application and Decadal Clock. The goal for this application is to have at least four decades done for users to explore, a user-friendly web-based application that can be set up to use on a mobile device, and digital monitor installation of a digital analog clock to use with the application. This application will be developed using either Javascript or React (I have yet to pick), HTML, CSS, and Bootstrap. The users will use the application via mobile device and monitor displays in installation form.

Justification:

Decadal Clock will be a good fit for this 402 class for me for multiple reasons. Now as a Individualized Studies major, this application allows me to combine everything that I have learned throughout the last four years of both mediums of both art and technology. Combing the use of multimedia and computer science skills to build a cohesive application that shows all of the skills that I have gained. This project will highlight skills learned in Programming Languages, Interactive Design, Multimedia Narratives, Online Computer Arts, and several other mixed media courses in both CS and art discipline. The project is about demonstrating what I have learned through my time here and why my major has strongly impacted my way of

thinking, learning, and showing others how they can learn as well. For me this project will be incredibly hard because not only will I have to potentially learn a new language, but also build a application that can work with a real-life installation that can trigger “experiences” with users. This is something that I have never done before and will force me to learn new skills such as working with monitors, building a working stand alone application, and many others. I believe that the whole semester is enough time to reach the goal of at least four decades because each decade will be able to have its own attention, along with allowing me the time to learn how to work these new technologies and build a comprehensive multimedia project. My estimate is about eight to nine weeks on this project with in week nine the multimedia showcase of the work for the following four weeks. A lot of people who I have discuss this idea with have been extremely interested and I am excited to bring my idea to life. I want to be able to show to not only others, but to myself as well that anything is possible.

4.1.1 Project Deliverables

1. D #01: Project Proposal Document Due Week Two
    a. The rational and reason behind doing this capstone project. The first section of the SDP document.
2. D #02: Software Requirements Document Due Week Five
    a. The requirements used and will be in Decadal Clock. Listing all the client/server connection information.
3. D #03: Software Development Plan Due Week Nine
    a. The plans for how the project will be executed in one document, including the requirements document and the rational/reasoning behind the project.
4. D #04: Software Development Plan (Updated) Due Week Eleven
    a. An updated version of the SDP document and updated to the critiques listed within git.
5. D #05: Software Requirements Document (Updated) Due Week Thirteen
    a. An updated version of the SRD document and updated to the critiques listed within git.
6. D #06: Preliminary Demonstration Presentations Due Week Fifteen
    a. A poster created for Decadal Clock that will be hung in the lab during the presentations to show what I have been working on for my senior project.
7. D #07: Final Project Presentation Due Week Sixteen
    a. Final presentation and update on the project that I have been working on all semester, along with a demonstration of how the project works.
8. D #08: Final code/ code freeze Due May 8th 2019
    a. All the coding due for the application and completely finalized.
9. D #09: Oral Status Reports (SCUM) Due Weekly in Class

a. An oral update in class weekly about what is needed to help us get the project done and what was worked on the pass week.

10. D #10: Written Status Reports Due Week Nine
    a. Written status report similar to the oral reports done weekly but only due every other week and written into the SDF of what was accomplished and what needs to be done in order to get to project completion.

4.2 Project Resources

In completion for Decadal Clock, it will uses the sources of both the Computer Science Lab and the Multimedia Show sources. Getting help from Professor Matthew Doyle to provide the items used for the installation such as an IPad, Mac Mini, and a Projector. As well as providing an installation place to showcase Decadal Clock in full interaction. With help from Professor BJ in Computer Science to built the application connections and to create poster to present for final presentations. Everything else is managed by Cherrell Finister, which will complete the coding and graphic design for Decadal Clock.

4.2.1 Hardware Resources

- Clients: IPad and Mac Mini
  - Displaying the mobile application (remote) and display clock
- Server: Fetch/PHP Connection
  - Hosting the web-based applications on digitalarts.lmu.edu host server(uploaded using fetch) and then using that server to create a PHP connection to host the remote connections.
- Projector used for large-scale interaction piece

4.2.2 Software Resources

- Atom Version 1.34.0
- JavaScript
- HTML/CSS
- Bootstrap 4
- LayerJS
- JQuery
- NodeJS Version 11.12.0
- PHP and MySQL

4.3 Project Organization

- Mobile Application (IPad) User interface/Graphic Design:
    - The UI/UX, code, and graphic design for one of the clients is created for the ipad.
- Clock Display (Mac Mini) UI/Graphic Design:
    - The UI/UX, code, and graphic design for one of the clients is created for the mac mini.
- Projector/installation setup:
    - Set up for the installation/show to showcase the user interaction and how decadal clock is a creative coding project. Set up for the wall, mounts, and projector for the application and connections between the clients.
- Server:
    - Using the digitalarts.lmu.edu host/server to create connections between the applications to create a php connection.
- Graphic Design:
    - Design and art direction for decadal clock. Along with the final presentation poster.

4.4 Schedule

This section provides schedule information for the Decadal Clock which will be detailed below in a GANTT Chart for deliverables and times and assumptions for when portions of the project will be complete. .

4.4.1 GANTT Chart

Coming soon.

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