**Capstone**

**Learning**

**Contract**

**For**

**My Project**

Authors: Steven Crosby, Phuc Huynh, and Gregory Pomeroy

Date: January 14, 2024

Table of Contents

[1. Capstone Project Overview 1](#_Toc92801369)

[2. Capstone Requirements 1](#_Toc92801370)

3. Capstone Documentation …………………………………………………………….1

4. Capstone Milestone …………………………………………………………………..2

[5. Progress 3](#_Toc92801371)

[5.1. Milestone 1 Completed: 3](#_Toc92801372)

[5.1.1. Sub-Paragraphs 3](#_Toc92801373)

[5.2. Milestone 2 Completed: 3](#_Toc92801374)

[5.2.1. Sub-Paragraphs 3](#_Toc92801375)

[5.3. Milestone 3 Completed: 3](#_Toc92801376)

[5.3.1. Sub-Paragraphs 3](#_Toc92801377)

[5.4. Milestone 4 Completed: 3](#_Toc92801378)

[5.4.1. Sub-Paragraphs 4](#_Toc92801379)

[6. Demonstration Paragraphs 4](#_Toc92801380)

[Appendix A. Requirements Traceability 4](#_Toc92801381)

List of Tables

**No table of figure entries found.**

List of Figures

**No table of figure entries found.**

# Capstone Project Overview

*The project focuses on developing an innovative Music Player application suite with multiple components, utilizing various technologies. The project aims to combine different aspects of music playing and visualization into a cohesive suite.*

***Requirement 1 (Team Collaboration):*** *Team members will actively participate in regular meetings, demonstrating collaborative project management. Documented in Section 5 (Progress), with each member's contribution and collaborative efforts detailed in weekly reports.****Topic:*** *Development of a Music Player Suite.****Team Assignments:***

*Phuc Huynh: Developing a web app Music Player API using JavaScript.*

*Gregory Pomeroy: Creating an audio visualizer that reacts to music.*

*Steven Crosby: Building the WPF music store*.

# Capstone Requirements

*The team needs to study different technologies relevant to their individual components, including WPF, JavaScript, and audio visualization techniques.*

***Requirement 2 (Application of Prior Learning):*** *Each team member will utilize skills from previous courses in their assigned tasks, as outlined in Section 3 (Capstone Documentation).****What team need to study / read:*** *WPF documentation, JavaScript frameworks, audio visualization methods.****What team need to do / build:*** *Collaboratively construct an MP3 Player suite consisting of a music store, web app API, and audio visualizer.*

# Capstone Documents

*Includes System Design, Testing, and Usage (User Manual), comprehensive documentation on requirements, a requirements list. Also documented are project tasks assigned to team members with weekly status reporting, which includes a graphic representation (e.g., Gantt chart).****Requirement 3 (Professional Communication):*** *Documentation and presentations will be tailored to different target audiences, ensuring clarity and professionalism. This will be evident in all sections, particularly in Section 6 (Demonstration Paragraphs).*

# Capstone Milestone *Creating a product that meets all approved project milestones. Requirement 4 (Product Creation): The team will develop the MP3 Player suite, meeting all set milestones. Progress towards these milestones will be tracked in Section 5 (Progress), with a focus on achieving all project deliverables.*

***Project Overview and Task Drafting:*** *We will provide a detailed description of the project and an initial list of tasks, complete with estimates. This information will be sufficient for team members to begin their research or initial design work.*

***Weekly Progress Reports:*** *Each team member will submit a weekly report, updating them on their tasks, estimated progress, and completion percentage. They will use the "Weekly Status Report" template for this purpose. These reports collectively reflect the team's overall progress.*

***Midterm Checkpoint:***

* ***Presentation:*** *Update on project status, showcasing current requirements, design, and any prototype or working system.*
* ***Documentation and System Files:*** *Deliver all related documentation for this phase and system files.*
* ***Review of Weekly Reports:*** *Assess all previous weekly reports for accuracy and improvement, demonstrating the progress leading to the midterm presentation.*

***Final Submission:***

* ***Final Presentation:*** *Explain the system's functionalities and demonstrate it live or through screenshots.*
* ***Complete Documentation and System Files:*** *Submit all related documentation and system files.*
* ***Comprehensive Review of Weekly Reports:*** *Analyze all weekly reports for accuracy and improvements, highlighting the journey towards the final project status.*
* ***Capstone Course Deadlines and Requirements:***
* ***Capstone Plan Submission:*** *January 14, 2024.*
* ***Weekly Reports:*** *Due on specific dates from January 19 to April 12, 2024.*
* ***Phase Presentations:*** *Four phases, from February 2 to April 17, 2024.*

***Presentation Guidelines:***

* ***Participation:*** *All team members must participate.*
* ***Format:*** *Presentations may be recorded.*
* ***Duration:*** *Limit each presentation to 15 minutes.*

# Progress

*Provide whatever level of detail makes sense. Note the paragraph numbering and stay in the 1.x paragraphs for Requirements if you wish.*

# Milestone 1 Completed:

For the first milestone of the project, I’ve constructed a rough draft of the bones of the project to begin getting everything in place. As of now, the web application has audio controls, audio file uploading, and a visualizer that uses the Web Audio API to convert the musical signal to a visualizer that responds to music appropriately.

# Sub-Paragraphs

The current website is a barebones version of the final product in terms of presentation and integration with the other two complimentary projects being completed by my teammates. The visualizer is working as intended using a straight line of bars that begins at the bottom of the current webpage and reacts by raising the bars upwards along the screen. For future iterations, I would like to utilize further styles of visualizations using the canvas method, and web audio API as well as integrate other stylistic choices.

Due to the CORS restrictions, I was unable to complete my original tasks of having the visualizer react to any audio coming from the computer. Instead I switched over to the audio upload button you can see in the video as this works better with the concept of Steven’s and Phuc’s projects as well.

# Milestone 2 Completed:

***To be detailed by March 1, 2024:*** *Summary of what I did for Milestone 2*

# Sub-Paragraphs

*Again, break down the subparagraphs in a way that makes sense. Include diagrams and tables as needed.*

# Milestone 3 Completed:

***To be detailed by March 22, 2024:*** *Summary of what I did for Milestone 3*

# Sub-Paragraphs

*Again, break down the subparagraphs in a way that makes sense. Include diagrams and tables as needed.*

# Milestone 4 Completed:

***To be detailed by April 12, 2024:*** *Summary of what I did for Milestone 4*

# Sub-Paragraphs

*Again, break down the subparagraphs in a way that makes sense. Include diagrams and tables as needed.*

# Demonstration Paragraphs

*This section will showcase the results of the project. To be completed as part of the Final Phase Presentation on April 17, 2024.*

# [Appendix A.](#_Toc92801381) Requirements Traceability

*This section will include code snippets, GUI snippets, and other relevant materials to demonstrate how the project requirements have been met. This will be organized to provide clarity and reduce clutter in the main document. Detailed content will be added following the completion of the Final Delivery on April 17, 2024.*