**Dakota Moore’s Proposal**

**for Software Services**

A Freelance Software Development Contract

**Proposed Project:** Code Clapper

**Client:**

Craig Stansbury

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**Developer:**

Dakota Moore – Software Engineer

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1. Introduction
   1. Problem Statement

There is no current software compatible with Mac OS and iOS specifically that let’s the user record new audio for a section of a video recording without having to restart the entire recording or go back and edit the file to insert the preferred audio, meaning that users have to waste additional time and work whenever they make a mistake or would prefer to rerecord only a small section of the entire video while recording.

* 1. Operational Environment

The software must be able to be deployed on the current version of Apples Mac OS and iOS, while maintaining compatibility with any future updates deployed to those operating systems.

* 1. Functional Requirements
     1. User Interface
* *Code Clapper* must be able to be fully controlled through the user interface.
* The user interface shall be hosted on a web application and be able to be accessed from an iPhone running iOS 14.7.1 or newer, or Apple Computer running macOS 11 or newer.
* The user interface shall be hosted on the machine that’s intended to be recorded from and shall be deployed on the machines local network.
* The user interface shall be able to let the user select which connected monitor or display source to capture.
* The user interface shall be able to let the user select which connected microphone or audio source to capture.
* The user interface shall let a user start recording from the specified hardware as well as let the user stop the recording.
* While recording, the user interface shall give the user the options to stop the recording, change the audio or video source, and pause the current recording.
* While recording and the user selects pause, the user interface shall give the options to unpause, rerecord new audio or video, or insert additional audio or video, for a specified amount of time as determined by the user.
* When a recording is paused and the user selects resume or after a new audio or video is inserted, the user interface shall instruct the host to continue the recording and give the user the options to stop or pause the recording.
* The user interface shall give the user an option to record additional audio clips that can then be selected to add to the current audio of the clip when the user selects the option to pause the recording to edit the previous audio.
* The user interface shall give the user an option to save, archive, or delete any clips recorded after a video is exported.
* The user interface shall give the user an option to select a destination for where the file(s) should be saved after deciding to save/export a clip/video, including the ability to create and select subfolders of the current projects folder.
  + 1. Host-Machine Services
* The host service for the user interface shall be deployed on the machine intended to do the recording.
* The software shall run the necessary services to detect audio and video hardware after the software is launched and the user interface is deployed, updating the user interface service with the attached audio and video hardware options for the user to select from.
* The software shall start the services needed to control the selected hardware after the user selects which sources to use.
* The software shall be able to record and save audio and video from the selected hardware, with the ability to continue the recording while saving a specified section (or clip) of the current recording if required.
* The software shall be compatible with USB-connected microphones.
* The software shall be able to store the recorded files to a destination that’s selected by the user.
* The software shall be able to temporarily stop actively recording audio or video if the user decides to rerecord either of them for a clip so that the device can be used to record the new audio/video for the clip.
* The software shall be able to insert additional audio or video into the recording if the user chooses the option to pause the recording for editing.
* The software shall be able to process and export the finalized recording to a destination selected by the user.
* The software shall give the user the options to delete, archive, or save any clips that remain after the final video is exported, to a destination selected by the user.
* The software shall delete any temporary files saved during the recording of a video after exportation of the final video file and the user has selected to save any files they do not want deleted.
* The software shall upload the exported video file to the clients preferred storage provider if the user wants to backup the file upon completion.
* The software shall be fully controlled through the hosted user interface service.
  + 1. Operational Environment
* *Code Clapper* shall be able to be deployed on any Apple computer that’s running at least macOS 11, and shall maintain full functionality with any updates to the operating system including the upcoming macOS 12.
* *Code Clapper* shall have a user interface that can be accessed from any Apple iPhone running at least iOS 14.7.1, and shall maintain full functionality with any updates to the operating system including the upcoming iOS 15.
* *Code Clapper* shall maintain full functionality for both Intel-powered Apple computers as well as Apple products that contain their own house-designed processor.
* *Code Clapper* shall be fully controlled through the use of the user interface accessed through a web browser on the local network that the host machine is connected to.
  1. Non-Functional Requirements
     1. User Interface
* If the software crashes during use, it shall log and show an appropriate error code and message with what went wrong on the user interface, when possible.
* The user interface shall have automated deployment when the software is launched.
* The user interface shall contain documentation that describes the purpose and intended use for each available option.
  + 1. Host-machine services
* The host machine shall list all of the devices that are connected to the computer and are able to capture audio or video.
* The host machine shall have automated deployment for the services required to list and control audio and video devices connected to the host machine.
  + 1. Maintainability
* The documentation made available through the project’s deliverables is descriptive enough for the client to understand how to modify the project properly when needed.
* When the client wishes to modify the project, the project shall not be difficult to modify.
* The documentation and source files shall be fully and thoroughly documented and commented so that future developers shall completely understand how the software is deployed, functions, and maintained, as well as a manual including possible failing points and fixes for when the software is deployed on a new operating system.
  1. Intended Users and Uses
  2. Assumptions and Limitations
  3. Expected End Product and Deliverables

1. Specifications and Analysis
   1. Proposed Design
   2. Development Process
   3. Design Plan
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   1. Technology Considerations
   2. Project Tracking Procedures
   3. Project Timeline
3. Testing and Implementation
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   5. Non-Functional Testing
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4. Closing Material
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   1. Operation Manual
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