

## Senior Project Design Proposal

**Student Name:** Mark Neitzel

**Advisor Name:** Dr. Hayes

**Expected Date of Graduation:** December 2020

**Description of Project:** People want to interact with the content of a recorded video presentation more directly if the recording included the semantic structure of the content rather than just raster images. For example, viewers may copy and paste the text from the slides, clicking on links, giving feedback, and jumping to logical segments. By creating a system to record and playback video-like content and audio playback with the semantic meaning intact via HTML will meet this need. The implementation will include adding features to a recorded video presentation with audio playback such as copy and paste text from the slides, clicking on links, giving feedback, and jumping to logical segments. The video presentation is going to record audio and video for later playback with the use of the audio-slideshow reveal.js plugin by rajgoel on GitHub.

**Proposed Implementation Language(s):** HTML/Javascript

**Any software/equipment needed:** [GitHub](#), [Reveal.js](#), [Visual Studio Code](#), and [audio-slideshow reveal.js plugin by rajgoel on GitHub](#).

### **Motivation and Problem Statement:**

If there was a program that allows people to highlight specific text from a video slide presentation, they would be able to use that text in their own notes so that they can view them later on. People want to interact with the content of a video presentation more directly by creating a system to record and playback video-like content with the semantic meaning intact via HTML will meet this need. Ideally, users will be able to interact with the content of a “video” presentation by copying text, clicking on links, and answer prompts for information (e.g.,

questions check understanding). However, the semantic meaning and structure of content is lost during the usual video recording process, which only captures a sequence of images. The demand for these features in education is apparent based on decisions with fellow students and teachers. YouTube provides partial support for these features through “cards”, captions, and description links, which indicates that these features are helpful. With the use of Reveal.js, Visual Studio Code, and VS Code storyteller by markm208 on GitHub, I will be able to design a way for people to be able to review the notes as they were presented in the slides by being able to copy and paste the exact text from the slides into their own notes.

### **Outline of Future Research Efforts:**

I will complete my project by doing some research on how to use Reveal.js and all of the features that it involves and how to use the Visual Studio Code Storyteller Plugin and all of the features that are involved with it. Another feature that I need to do some research on is identifying ways to add audio to a Storyteller file in Visual Studio Code. One way that I can accomplish this is by using the Chronieler extension in Visual Studio Code. Another way that I can accomplish this is by possibly using Audacity and importing the recorded audio file into the Storyteller file.

Some deliverables that can be expected are:

- A GitHub repository
- A “video” presentation player code created using Visual Studio Code
- Requirements Specification
- Test Plan Specification

### **Schedule:**

February 24, 2020 - Start creating GitHub repository

February 26, 2020 - Start working on Test Plan and Requirements

February 28, 2020 - Start setting up “video” presentation code from Storyteller Plugin for Visual Studio Code by markm208

April 13, 2020 - Have the majority of the “video” presentation code working

April 20, 2020 - Work out the kinks and errors in the code

April 24, 2020 - Have the audio-slideshow reveal.js plugin implemented into code

April 27, 2020 - Test and make sure that the code for the “video” presentation works properly

April 27, 2020 - Turn in completed Test Plan Specification and Requirements Specification documents

April 27, 2020 - Finish beta version

October 1, 2020 - Start working on implementing “video” presentation code from Storyteller Plugin

October 1, 2020 - Add an HTML feature, such as, search for a word that is used within the video at a particular time

October 1, 2020 - Add another HTML feature, such as, presenters may get feedback on understand through interaction (analytics)

October 1, 2020 - Add another HTML feature, such as, nest videos within other videos (avoiding copyright issues by using original sources)

October 1, 2020 - Add another HTML feature, such as, click directly on links to connect with sources

October 30, 2020 - Complete testing on beta version

November 6, 2020 - Complete project documentation

November 11, 2020 - Meet with Dr. Hayes for a final run through of presentation

November 13, 2020 - Have test cases created and fully tested

November 13, 2020 - Have presentation recorded and submitted to Dr. Hayes for final review

November 13, 2020 - Analyze results from testing and make changes (bug fixes, design changes, etc.)

November 16, 2020 - Have presentation completed, recorded, and submitted to Dr. Hayes for review by the other professors

November 20, 2020 - Defend project

**Future Enhancements:**

- Finalize the HTML search feature using JavaScript
- Possibly change the presenter feedback page to being a slide in the presentation instead of a clickable link to a separate page