

Title: Dash Cam Path Visualization

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Project URL: <https://cs.rit.edu/~jpw5681/cs711/Website/>

Summary: The goal of this project is to create a visualization of a recorded dash cam path on a 3D map. Additionally, when the user mouses over the path, a thumbnail of the video at that point will be displayed for the user to view. This project will emphasize interactivity. The user is able to move the camera around the scene to view the path from different angles as well as hover the mouse over the path to view the video at that point. This project will be accomplished by adding additional 3D elements to WebGL elements provided by the Google Maps API. It is currently unclear what will be needed additionally to plot a smooth path on the map, and display the video thumbnails over the route.

Objectives: My motivation for this project is to create a visualization that can be integrated with my capstone project which is a dash cam video management software.

System and Software: This project will be implemented using WebGL and make use of the Google Maps API for mapping. The project will be written in JavaScript and HTML and run in a web browser. The project will be hosted at the same URL as listed above.

Components: The currently the only planned component of this project is the visualization itself which is a GUI. A possible other component for this project would be a data loader, depending on the expected/needed format of the data.

Project Tasks:

- Loading 3D map
- Loading dash cam path
- Displaying correct portion of map based on path
- Displaying path on map
- Displaying video thumbnails on path on mouse over

Project Timeline:

- Week 4: Setting up project, loading 3D map
- Week 5: Loading dash cam data
- Week 6: Creating path from dash cam data (not yet displayed on map)
- Week 7: Displaying correct portion of map based on path coordinates
- Week 8: Displaying path on map
- Week 9: Displaying path on map (cont.)
- Week 10: Displaying video thumbnails on path on mouse over
- Week 11: Displaying video thumbnails on path on mouse over (cont.)
- Week 12: Improvements to UI and user experience
- Week 13: Improvements to UI and user experience (cont.)
- Week 14: Finishing touches

Final Presentation: The project will be demonstrated by demoing the visualization on a variety of dash cam routes.