

Latest Generation Data Portal for the Intelligent Mobility Meter

Purpose: This project set out to create an easy-to-use website and data portal to allow government agencies, nonprofits, and advocates anywhere in the country to submit data for the Intelligent Mobility Meter (IMM) project to analyze for free. With human assistance, the IMM uses automatized tools to analyze user-uploaded video traffic data to generate fine-grained statistics on pedestrian, cyclist, and vehicular traffic.

Approach: To maximize their data collection, the team used the following technologies when creating their web portal:

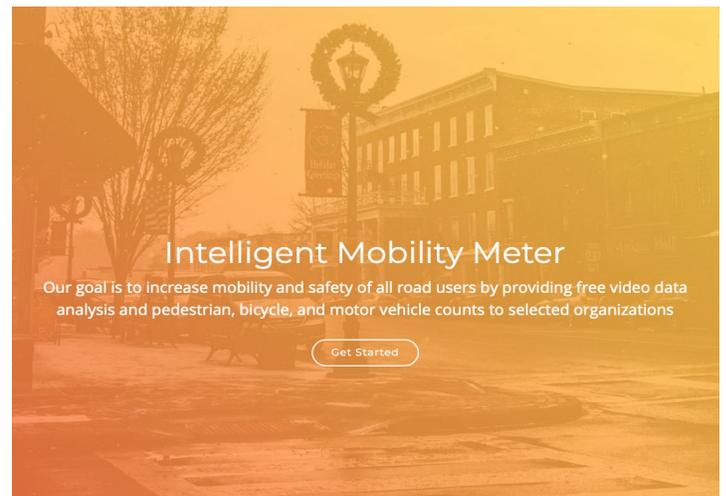
- *The public-facing page is organized as a single web page based on a predefined theme from Bootstrap, a popular front-end opensource toolkit that allows users to create responsive and mobile-enabled websites.*
- *The login and post-login websites were custom-built using the React JavaScript library, an open-source Facebook project that simplifies the creation of complex interactive UIs by using declarative views.*
- *Many of the views on login and post-login websites used the Material-UI open-source suite of React Components.*
- *The authorization and data storage back-end are supported by Google's Firebase suite of products and services.*

Key Findings:

To increase the number of potential partnerships with organizations outside the local Pittsburgh area, the project team developed a modern web portal where entities can:

- *Upload their video data, organized by projects and data-collection sessions.*
- *Add notes to their data to inform the IMM team of the relevant statistics to compile, as well as any out-of-the-ordinary situations that need special handling.*
- *Receive messages from the IMM team and review the status of the data analysis.*
- *Download the analysis results.*

Conclusion: This project was able to achieve its primary goal and allowed IMM users to better communicate with the team, share video data, and receive analysis results. Although the service could be broadened further, the current version opens the door to more collaborations, especially with organizations outside the immediate Pittsburgh area.



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Project Record:

- <https://ppms.cit.cmu.edu/projects/detail/189>

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