



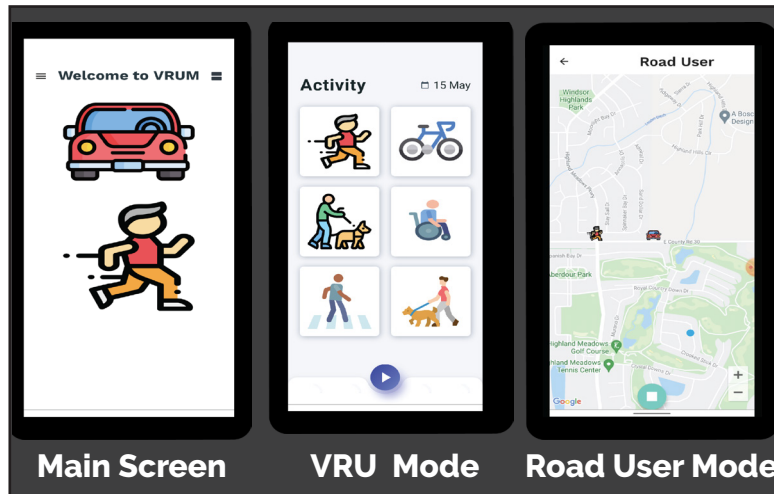
VRUM

VULNERABLE ROAD USER MISSION

"Enhancing Road safety for pedestrians while exercising"

Our mission is to develop a safety application for VRUs. It operates by notifying motorists about upcoming pedestrians in their path. This is accomplished by collecting Personal Safety Messages (PSM) describing location and heading for pedestrians and making them available to motorists for alerts.

VRUM MOBILE APPLICATION



Our application is designed for 2 personas: Fitness user (VRU) and motorist (RU). As a runner the user would open the app and select the fitness icon, then select the runner option and press start. This will initiate PSM's to start broadcasting and send to the cloud. After the user is completed with their activity, they would press stop. As a RU, this user would select the car icon and select start to begin alerts for VRUs in the direction of travel.

DATA ANALYTICS DASHBOARDS

Check out our VRUM Website: http://www.highlandersfrc.com/VRUM_Application/VRUM_Index.aspx

We gather all PSMs and notifications that are generated and save them to an Azure Cosmos DB where we create dynamic reports using PowerBi to analyze the data. We have started general reports, but we hope to analyze the reaction the RU takes after receiving a notification to develop a confidence level of how this will save lives.

Comming soon....



PROGRESS

Current Progress

We are excited to share that we have a working proof of concept mobile application. Check out what it can do today:

- VRU send PSMs to cloud
- RU receives PSMs and alerts of nearby VRU
- Map showing VRU and RU on mobile device
- Send all messages to database for reporting
- Google Store listing - waiting for acceptance
- Code on GitHub

<https://github.com/Highlanders-FRC/2021-VRUM>

Future plans

We are just getting started! Check out what we are working on:

- Further develop notifications for better accuracy
- Further develop the location of VRU's on map.
- Complete Google play store listing and submit to Apple store
- Develop dynamic reporting and put on website
- Continue to reach out to partners about implementing this solution to a broader audience.

Opportunities

Since we have been sharing our solution we have some amazing opportunities for future work:

- Neaera Consulting - internship available to implement with two current clients
- HERE - we reached out to HERE maps to see if we can develop our idea on a larger crowdsourcing platform