

Campus Map Accessibility Application

About this Project

As a public institution, the University of Massachusetts Amherst must ensure students, staff, faculty, and the community at large have access to the campus both physically and virtually. With approximately 1 in 5 individuals in the United States experiencing a disability, it is imperative we ensure physical access to the campus is accessible to the campus community and visitors.

With this in mind, UMass Amherst is looking to improve the effectiveness and efficiency regarding the way in which data is gathered about campus grounds to inform physical plant and facilities. Additionally, given the various construction projects on campus to update older buildings and improve accessibility, many roads and sidewalks have obstructions in the way. Obstructions or unexpected changes in pathways (temporary or permanent) can cause difficulty navigating campus for individuals who experience various disabilities, such as people who are blind, in wheelchairs, using crutches, and more. These obstructions also impact individuals who are navigating campus with strollers, making deliveries, or biking around.

The UMass Amherst Architectural Access Board has partnered with other departments on campus (Physical Plant, Facilities, Disability Services, and the Assistive Technology Center) to consider ways to address physical accessibility on campus.

From a user perspective, the idea is to create a mobile application using crowd-sourced information to inform the campus community and visitors of potential obstructions or changes to areas of campus (pathways, roads, sidewalks, etc.) due to the wide array of construction projects popping up around campus. Similar to [Waze](#), the UMass Amherst application would allow for people walking around campus to report obstructions in real time. Once a certain number of people report the obstruction exists, it appears on the map. Likewise, once enough people report it as removed, the obstruction will disappear from the map. The hope is the campus community, as well as visitors, will be able to map their route to check for any reported obstructions prior to embarking on their journey. Additionally, application users could also run the application while walking around campus and receive real-time alerts as they are approaching obstructions, allowing them to alter their direction.

Project Requirements

Developer(s)

- Some experience developing mobile applications.
- Willingness to collaborate, work, and learn with others.
- Willingness and dedication to extend the project into the school year (a stipend will be provided).
- Creativity and flexibility is desired.
- Sensitivity to individuals who have various types of disabilities.

Application

- Cross-platform GPS-based application.
- Ability to crowd-source information, such as hole(s) in a pathway, construction, obstructions in road/path/sidewalk, unknown objects, vehicles on paths/sidewalks, etc.
- All features of the application must be generally accessible, as well as to individuals who use screen reader technology (Voiceover, Talkback, etc.) on mobile platforms.

Incentive(s)

- \$3,000.00 prize money for one developer, \$1,500.00 each for two, or \$1,000.00 each for three (so on and so forth).
- An additional \$7,000.00 to split among student(s) who agree to carry on working with the project throughout the school year.
- A resume-building opportunity across a variety of disciplines.
- Potential collaboration with a variety of companies whose features may integrate with developed the application.