# CityGuide: Seamless and Inclusive Location-Based Services for Communities

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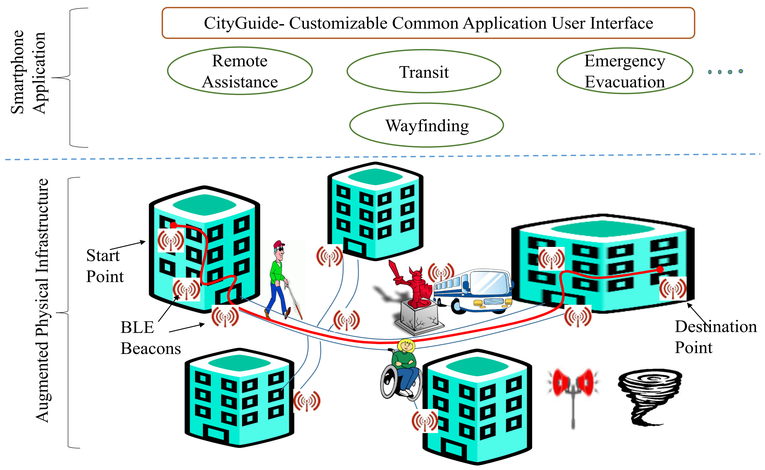
## Project Overview

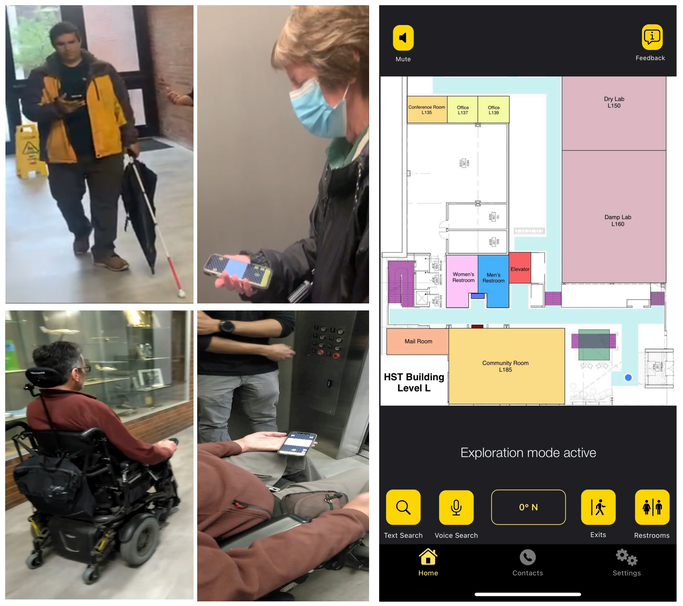
The long-term vision for this project is to design, deploy, evaluate, and refine an inclusive community-wide system named CityGuide, accessible through a smartphone app. CityGuide offers various auxiliary location-based services (ALBSs) for individuals with disabilities and the wider population, serving as a valuable complement to satellite-based GPS systems.

This project contributes to the advancement of understanding in several key areas: (i) facilitating seamless and scalable indoor and outdoor location-based services, (ii) tailoring contextually relevant cues and content for a variety of location-based applications, (iii) implementing universal design principles to enhance accessibility to location-based services, and (iv) assessing the impact of economies of scope and scale on the feasibility and sustainability of deploying accessibility technologies in communities.

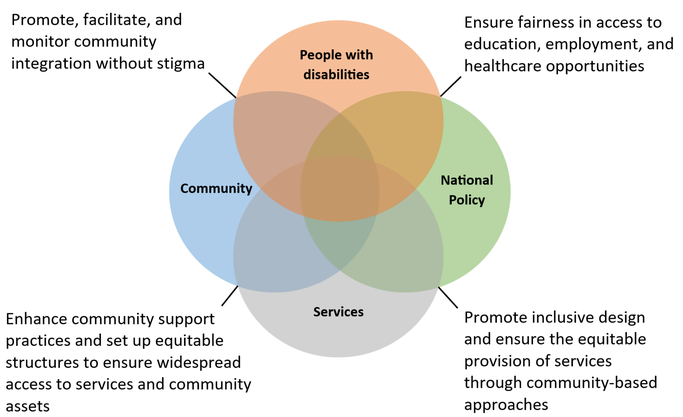



## Envisioning Impact

- Development of wayfinding tools benefits both individuals with disabilities and the general public, enhancing their independence and overall quality of life.




- Serves as a model for other similar future efforts (beyond wayfinding) to address the need for greater inclusivity in how various community-based services are accessed.




## Project Activities/Outcomes

- Evolved from exclusive indoor navigation, employing Bluetooth Low Energy (BLE) beacons, to a comprehensive navigation system encompassing both indoor and outdoor spaces, using a combination of BLE beacons and GPS technology.
- Redesigned mobile app user interface based on insights from usability testing results.
- Improved mobile app guidance for diverse user categories in exploration and navigation tasks.
- Expanded the beacon network by adding two additional entities: Lehigh University and Envision, a non-profit organization.