CityGuide: Seamless and Inclusive Location-Based Services for Communities

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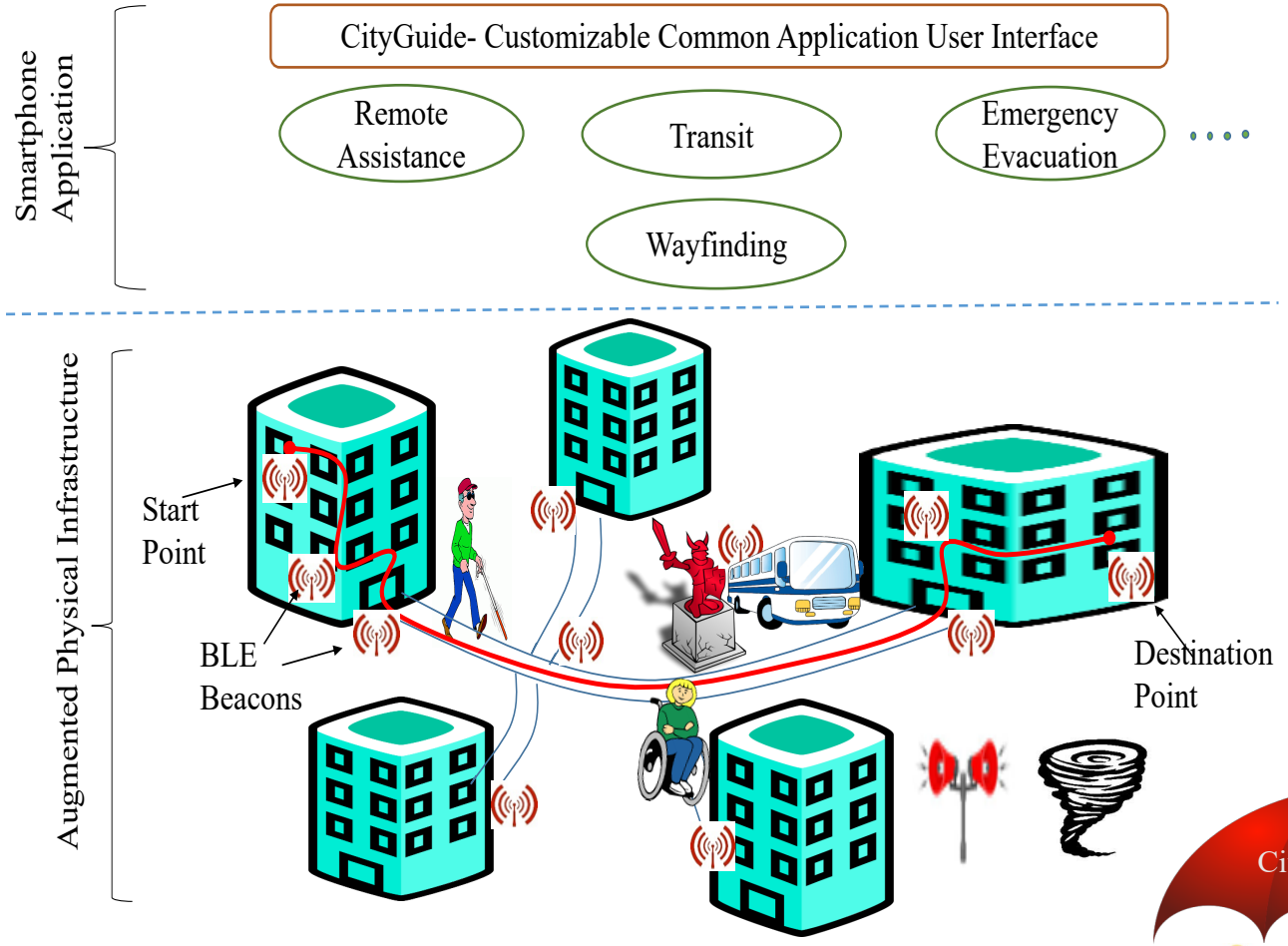
- Envision
- City of Wichita

Project Overview



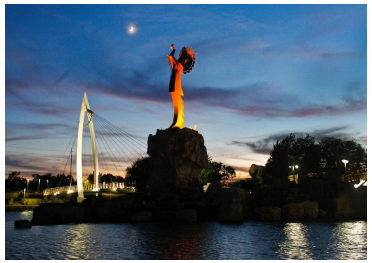
Project Vision

Serve wayfinding and associated needs of persons with disabilities in our communities through a low-cost, easy to use and reliable Auxiliary Location-Based Service (ALBS)

- works seamlessly within indoor and outdoor environments complementing GPS-based systems
- has interfaces that are usable by all but account for the constraints imposed by need of some
- Is scalable

Project Overview

Scenario:



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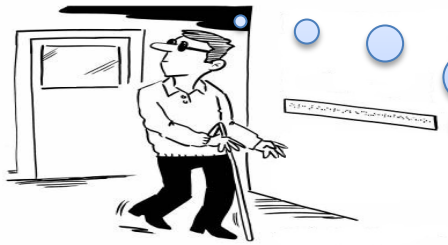
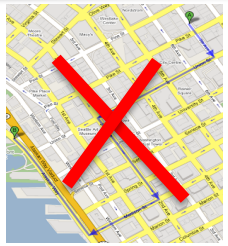
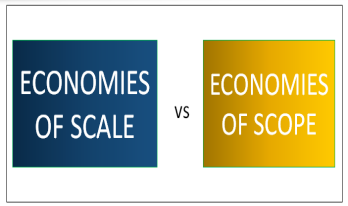
Need:



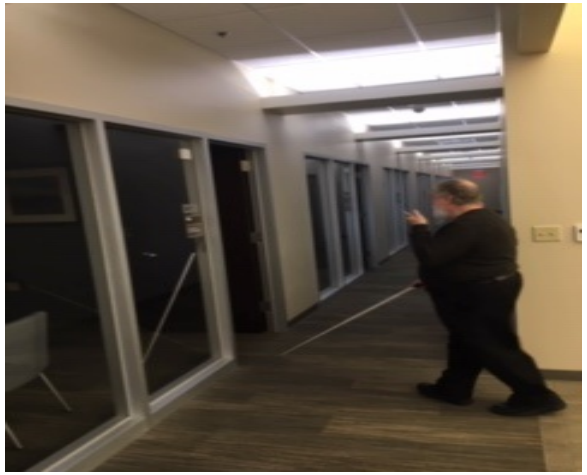


Opportunity:

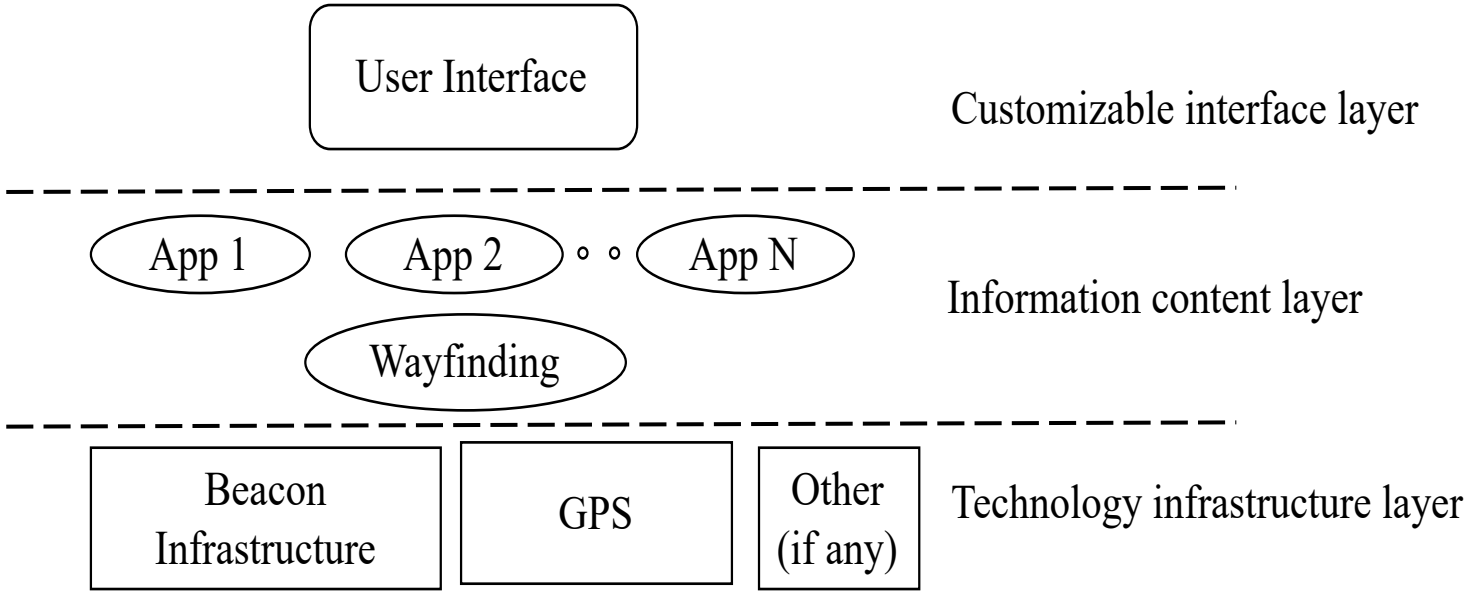


- How should we build the necessary ALBSs infrastructure complementing GPS? What approach(es) will scale best?
- How can we build systems that are truly seamless between indoor and outdoor spaces?
- What information and cues should the system provide, and with what timing, for users to make optimal decisions?
- How can we build interfaces that are usable by all but constrained by the special needs of some?
- How do we go about a benefit-cost analysis? What benefits do economies of scale and scope provide over prior efforts?

Project Update



Virtual Version



Project Evolution

Examples:
“Engagement (and planned engagement) with individuals from many more disability types is making us reconsider some of the applications and their perceived use. Our initial planning efforts had primarily engaged only people with visual impairments who stood to benefit significantly from remote assistance applications.”

“The City of Wichita had an initial plan of combining BLE beacons on transit stops with some long-range wireless technologies already deployed around the city. We are now using a community engagement event to solicit feedback on this plan and ask the community if there are other pain points that an be addressed simultaneously in addition to transit.

Anticipated outcomes & success measures for next year

Milestones:

- Software tool for mostly BLE infrastructure deployment
- Remote Assistance application prototype
- Community needs across various disability categories

Specific Research Activities:

- Expanded community engagement event across various disability groups
- Development of software tool to plan wayfinding infrastructure deployments
- Cross platform development of remote assistance application, initially with BVI individual needs in mind
- Focus group studies with individuals from various disability categories