Research Recap

Mobility21

A USDOT NATIONAL UNIVERSITY TRANSPORTATION CENTER

Accessibility with GetGoing

Purpose: When an individual wants to travel locally, they commonly rely on "Google" to get information about how to get where they are going. They can find out how to get around on foot, by car, by bicycle or with public transportation (wayfinding). But Google has limitations. Google does not map the interior of buildings and so cannot tell users what to do after they get to the building they need to enter. It cannot tell them which door to enter when there are several, which halls and elevators to take, etc. It also cannot help people with disabilities such as low vision or using a wheelchair. Finding the right entrance to a building, for example, consists of finding where there are no barriers, uneven sidewalks, etc.

Approach: The team chose UPMC Presbyterian Hospital Campus, which can be characterized by having several buildings, several entrances to each building, elevators and stairs, and many hallways. This location represents common difficulties encountered in wayfinding. The team then incorporated the pathVu routing API into the previous GetGoing version, to provide walking directions, including street crossing and destination orientation.

Key Findings:

- This project allowed the team to create a wayfinding system that can be used when traditional services stop (so people can get through a complex campus of buildings). Of all of the UPMC hospitals we chose Presbyterian because there are several buildings, a very large number of doctors (so getting the names right would be challenging), many different types of services and a hilly setting where finding the right entrance to a building is not evident.
- The post-project GetGoing code can be used for wayfinding in many situations, not just hospitals, but train stations, airports, etc.

Conclusion:

Although the COVID-19 pandemic did not allow the team to collect the range of data they would have liked, they were able to utilize test data to reflect the type of trips that real users would want GetGoing to inform them about. The GetGoing code can be used in many wayfinding situations and will hopefully be leveraged to expand it's reach across other applications.
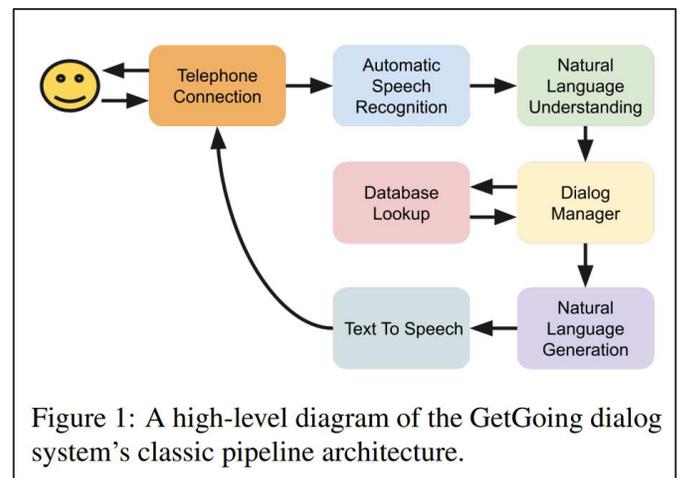

Figure 1: A high-level diagram of the GetGoing dialog system's classic pipeline architecture.

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Project Record:
- https://ppms.cit.cmu.edu/projects/detail/324

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