Overview:
Our paper prototype incorporates two components. The main component is a mobile application. Here the user has the option to find a parking spot ahead of time or find a space once in the area. The user has the ability to enter all the required information as well as any preferences directly into the application. The speech interface handles scenarios where the user may be unable to use their mobile device directly and they instead need to have a “conversation” with the application to find a parking space. It also updates the availability of parking space during the driving.

Mobile Application Interface
Speech Interface
**Task 1: Parking Planned Ahead**
User is planning ahead for finding parking in future at specific location.

After opening the app, the user chooses “Plan a Drive”

They can select addresses for “from” and “to” locations given a few presets to choose from and finally pick a date and time for their trip.
They will see their destination with the best parking marked on the map. They can select “details” to see more info about the parking. They can also ask the app to find them a different option or just show all available options using the “more options” dropdown.

At the end, the user gets a confirmation screen to verify they will be guided through voice guidance once they get close to their destination.
Task 2: Find parking when already in destination area
Scenario: The user is in downtown Seattle looking to find parking near a restaurant.

User: “I need to find parking.”
App through speech interface:

User: “I would like parking nearby.”
App through speech interface:

Follow up by application
App through speech interface:

User: “No, I would like more suggestions.”
App through speech interface:
Follow up by application.
App through speech interface:

User: “Yes, I would like this spot.”
App through speech interface:

App after finding a location.
App through speech interface:

User: “I really liked this location!”
App through speech interface:

User: “I’ll rate it a four out of five stars.”
App through speech interface:

Thanks for using SimPark.