



## The Ladies:

Alex Catron (a.catron@)  
 Nisha Garimalla (nisha@)  
 Kyunghee Kim (kyunghee.kim@)

## The Gentlemen:

Chris Lewis (cmslewis@)  
 Neel Murthy (nmurthy@)  
 Bo Zhang (bzhang09@)

CS247 · Winter 2012 · Final Project

## Current GPS Devices



- 👎 Busy user interfaces
- 👎 Strenuous reading & typing on small screens
- 👎 Slow, bloated, ineffectient flows
- 👎 Simplistic maps are difficult to interpret

## Our Design Goals

- 1 **Safety** — Our interactions needed to let drivers keep their eyes on the road as much as possible.
- 2 **Efficiency** — We wanted to stick to a single flow with as few steps as possible, for simplicity and speed.
- 3 **Legibility** — Every screen needed to be clear and quickly interpretable at a glance.

## Technologies of Interest

- |  |                      |  |                   |
|--|----------------------|--|-------------------|
|  | Microsoft Kinect SDK |  | Voice Recognition |
|  | Google Earth API     |  | HTML 5            |

## User Testing

### ?

 Primary Questions

- Preference for Earth view or for Map view?
- Preference for certain features based on route length?
- Any unintuitive gestures, features, or flows?
- Any missing gestures, features, or flows?

### ?

 Tasks

1. Find & navigate a route to a nearby destination
2. Find & navigate a route to a distant destination
3. Complete less obvious, granular subtasks (e.g. zooming in/out, moving map laterally, previewing later turns in the route, returning to the current location)

### Results — Compliments

Overall interface and flow  
 Speed of voice & gestural input modalities  
 Google Earth view's true-to-life representation of the world



### Results — Complaints

Gestures seem unsafe while driving  
 Unclear when app was expecting voice input  
 Unclear about the set of gestures app would recognize  
 No indicator for upcoming turns as they approach  
 No way to see nearby points of interest (e.g. gas stations)  
 No way to stay centered on the current location while zooming  
 Difficult to grasp where they were without regular map view as well



## Refinements

### - Removed

- Ability to move laterally around the map
- Ability to use gestures while car is in motion

### • Polished

- Map stays centered while zooming

### + Added

- Audio prompts to guide user through app flow
- Confirmation screen for destination input step
- One-time gesture explanation screen
- Audio and visual feedback for gesture recognition
- Map view to show more context on current location
- Counter for distance remaining before next turn

