Project Plan
GM Transportation Experience
The Capstone Experience

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Functional Specifications

- Help Visitors and Employees Find a Parking Spot
- Build iOS and Android Applications for Users
- Build a Web Portal for Administrators
Design Specifications

• App To Be Used in Parking Lot While Driving
• Simple User Interface with Large Visual Elements
• Limiting User Interaction
  ▪ Text-To-Speech APIs
Screen Mockup: Web Interface
Screen Mockup: Phone Interface
Screen Mockup: Phone Interface

Enter your full name
Johnny Appleseed
Enter your email address
j.appleseed@gmail.com
What building do you work at?
Design Building
What time do you come into work?
7:30 AM

Where are you going?
- Cadillac
- Design Building
- Design Dome
- ID Center
- Man A
- Man B
- Research & Development
- Vehicle Engineering Center

Map of building locations
- Parking Garage
- Employee Parking
- Visitor Interview
- Design Dome
- Design Building
- Man A
- Man B
- Research & Development
- Vehicle Engineering Center
Technical Specifications

• Server
  ▪ Ubuntu Server 16.04.1
  ▪ MySQL
  ▪ Python Flask For Backend RESTful API

• Mobile Applications
  ▪ Xamarin Forms (C#)
  ▪ Google Maps API
  ▪ Lyft API

• Web Portal
  ▪ HTML5, Bootstrap CSS, AngularJS
  ▪ Google Maps API
System Architecture
System Components

• Hardware Platforms
  ▪ Ubuntu Server 16.04.1
  ▪ MySQL
  ▪ Etc...

• Software Platforms / Technologies
  ▪ Xamarin Studio
  ▪ Visual Studio Code
  ▪ GitHub
  ▪ Etc...
Testing

• Use MSU Campus Parking Lots
  ▪ Geofence Small Area, Then Test With a Few Lots

• Postman for API Testing
  ▪ Google Maps API
  ▪ Lyft API
  ▪ Our backend API
Risks

• Predictive Parking Analysis
  ▪ Need to Predict Parking Lot Availability
  ▪ Historical User Data

• Limiting User Interaction
  ▪ App To Be Used in Parking Lot While Driving
  ▪ Simple UI, Prior Data Inputting

• Xamarin Forms
  ▪ Limited Features with Xamarin Forms
  ▪ Limit Stretch Goals, Keep Realistic Expectations
Questions?