Project Plan
Personal Shopping Assistant

The Capstone Experience

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Functional Specifications

• Chatbot that can answer questions about:
  ▪ Item Location
  ▪ Price Comparison
  ▪ mPerks/Coupons
  ▪ Item Stock Status

• Bluebird Integration
  ▪ Allows guest to notify team members about things like: missing items, mislabeled items, etc.
Design Specifications

• **Non-limiting interface**
  - "Thrifty" feels like a physical Meijer Team Member
  - Interface is simple, yet powerful
  - No options, user may ask "Thrifty" anything they wish

• **Search**
  - The user can search for items in the store with a question, and the app will show items that fit the search description

• **Item information**
  - Location in the specific store
  - Price
  - Whether the item is in stock
  - Competitor prices
  - Related products
  - If a coupon is available for the item they may clip it to their mPerks account.
Screen Mockup: Chat Interface

Hi, I'm Thrifty, your personal shopping assistant! Feel free to ask me anything, or you can tap this message for some more options.

These are some of the FAQ's tap one to begin your search.

"Is there a coupon for ___?"

"Is ___ in stock?"

"What are the competitor prices for ___?"

"Where can I find ___?"

Ask Thrifty

mPerks
Help
Screen Mockup: Functionality

- **Soda Pop**
- **Coca-Cola**
- **Pepsi**
- **Dr. Pepper**

**Out-Of-Stock**
Click here to alert a Meijer Team Member

**Coupon Available**

**Competitor Prices**

**Ask Thrifty**

**Competitor Prices on a 24 pack of Coke.**

- Coca-Cola: 24 pk
  - Meijer: $7.99
  - Walmart: $7.99
  - Kroger: $7.99
  - Target: $8.99

**Here is what I found.**
Technical Specifications

• Frontend Speech Recognition
  o Google/Swift Speech APIs

• Backend
  o Item information Data (SQL)
  o Natural Language Processing (Microsoft LUIS)
  o mPerks data (stored in SQL)

• Bot Coordinates Between Frontend and Azure
  o Accepts Post Requests from Apps
  o Consolidates item information into concise response
System Architecture

![Diagram showing system architecture with iOS, Android, Apple Speech, Google Speech, Azure, Bot Framework, mPerks, SQL, LUIS, and Bluebird]
System Components

• Hardware Platforms
  ▪ Bluebird

• Software Platforms / Technologies
  ▪ Microsoft Azure
  ▪ SQL Server
  ▪ Microsoft LUIS
  ▪ Development IDEs
    o Visual Studio
    o Android Studio
    o XCode
Risks

• Finding competitor pricing data
  ▪ Meijer does not store competitor price data internally, so we will have to find this information from outside sources.
  ▪ Search for sources on the internet and work with the Meijer team to look for ways of gathering this data.

• Making a bot using Microsoft Azure and Microsoft Bot Framework
  ▪ We need to implement a natural language bot to determine what shoppers are searching for in real time.
  ▪ Learn how to implement this feature by reviewing Microsoft Bot Framework documentation.

• Finding store-specific information about each product
  ▪ We need to be able to show the user information about a product in the store they are currently shopping at.
  ▪ Use Meijer data and research how to get information that Meijer may not have immediately available for us.

• Bluebird device integration
  ▪ Meijer Team Members carry around devices called Bluebirds that will alert them to perform various functions. The app should work with these devices to alert team members of out-of-stock items.
  ▪ We will work with Meijer to obtain a Bluebird device and work with their systems to send the required messages to these devices.

• Ensure user interface is what Meijer wants and meets the needs of customers.
  ▪ We were not initially sure what Meijer wants the app to look like and what the interface should be.
  ▪ We will make screen mockups of what the app could look like and work with Meijer to come up with a final design.
Questions?