

MICHIGAN STATE

UNIVERSITY

Project Plan Presentation

Meijer Smart Shopper

The Capstone Experience

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*From Students...
...to Professionals*

Functional Specifications

- Proof of concept
- Create a shopping experience for customers through smart speaker services
- Add/Remove items to Meijer Grocery List and Cart
- Check Meijer Product Availability
- Review Coupons

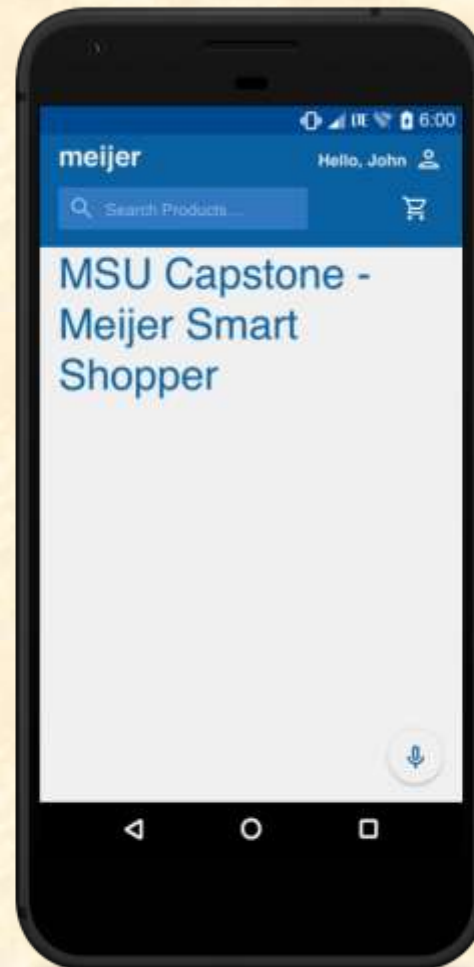


Design Specifications

- Look and feel of existing Meijer App
- Alexa services through button on app and website
- Alexa services through Alexa device
- ‘Hey Alexa, add bread to my Meijer shopping list/cart’, ‘What coupons do I have?’
- Alexa informs if product is out of stock
- Support user profiles, updating list/cart on both applications and website



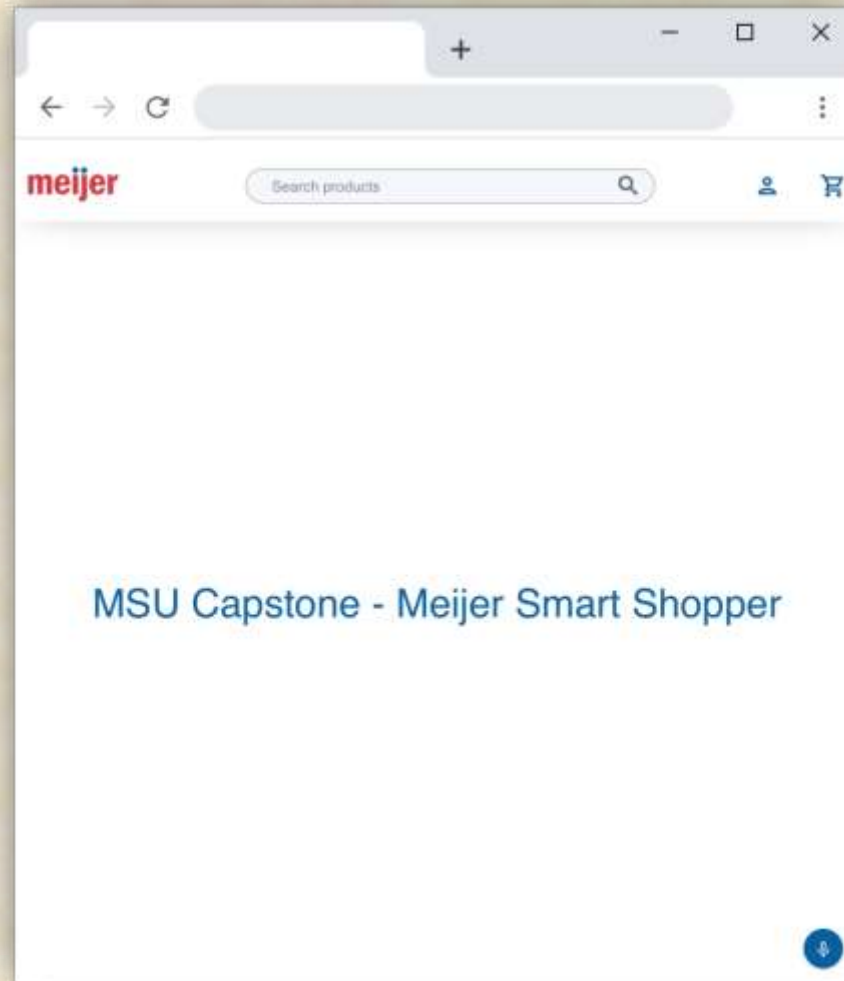
Screen Mockup: Mobile Application Home



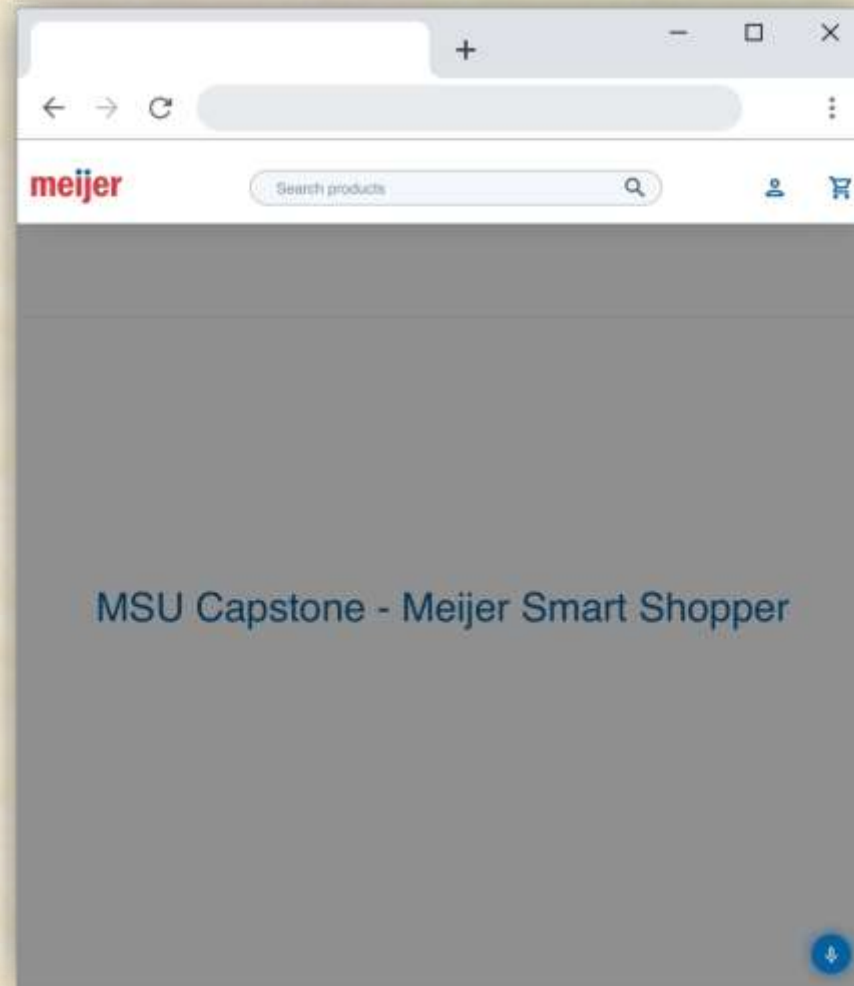
Screen Mockup: Mobile Application – Alexa enabled



Screen Mockup: Website Home



Screen Mockup: Website - Alexa Enabled

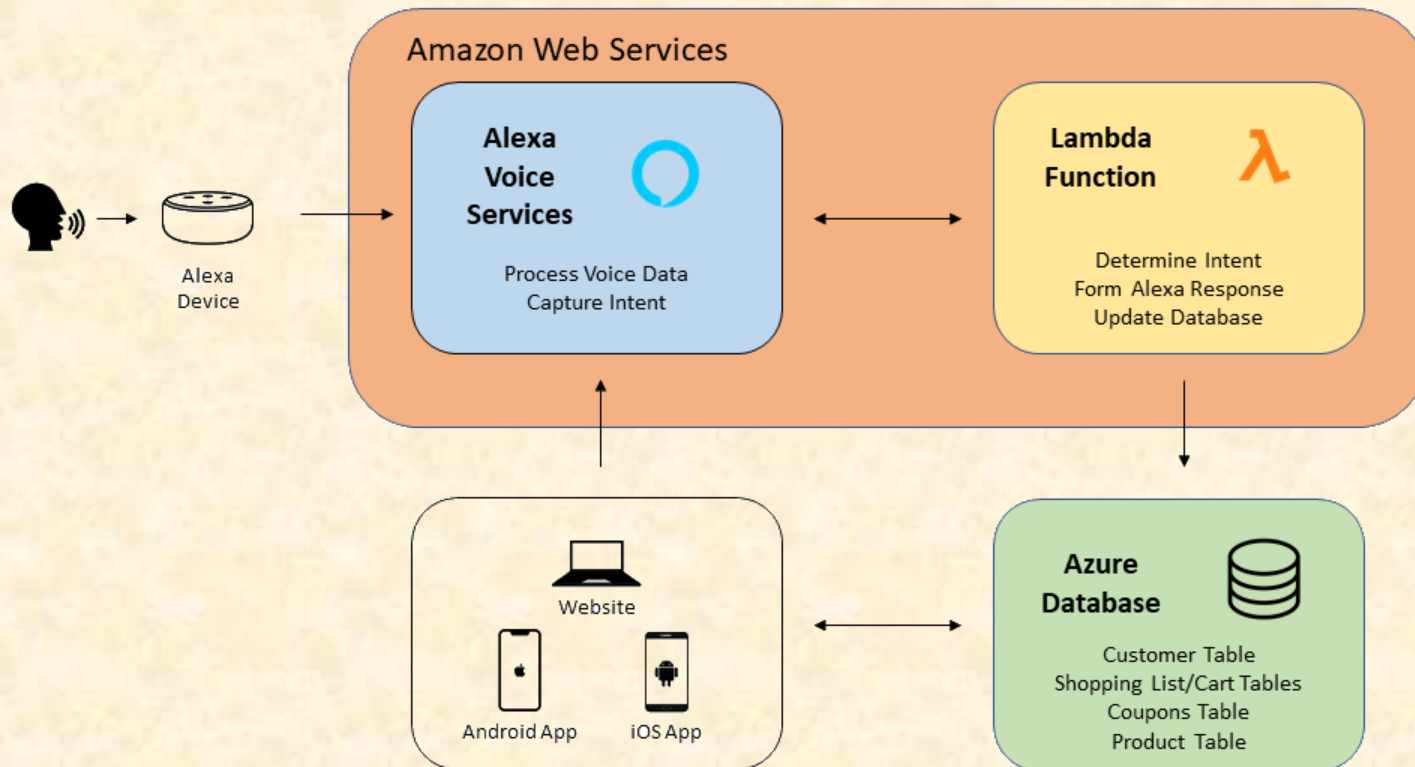


Technical Specifications

- Alexa Voice Services
- Amazon Web Services
 - Lambda Function
- Azure SQL Database



System Architecture



System Components

- Hardware Platforms
 - Alexa Smart Speaker
 - Mobile Device
 - Web Browsing Device
- Software Platforms / Technologies
 - Alexa Voice Services for natural language processing
 - AWS Lambda – ‘back-end’ of voice interactions
 - Azure SQL Database stores customer/store data
 - React/Node.js
 - Visual Studio/xCode/Android Studio



Risks

- Risk 1
 - Multi-word product indexing, ie. Kitty litter
 - We obtained lists of products, but not all products - Unsure how well Alexa will train itself on that data
- Risk 2
 - Alexa in-app functionality behind developer preview
 - Requested access to developer preview and await acceptance
- Risk 3
 - Which product brand to add to list
 - Just basic string first, then user manually picks brand, or determine based off purchase history
- Risk 4
 - Speed of database queries and passing of information
 - Efficient database schema and search algorithms



Questions?

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