From Students…
…to Professionals

Project Plan Presentation
Meijer Smart Shopper

The Capstone Experience

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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

MSU Capstone - Meijer Smart Shopper
Screen Mockup: Mobile Application – Alexa enabled
Screen Mockup: Website Home

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Screen Mockup: Website - Alexa Enabled

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Technical Specifications

• Alexa Voice Services
• Amazon Web Services
  ▪ Lambda Function
• Azure SQL Database
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?