

MICHIGAN STATE
UNIVERSITY

Project Plan Fresh-ipes

The Capstone Experience

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From Students...
...to Professionals

Functional Specifications

- Simplify shopping experience using Amazon Echo Show
- Determine household ingredients based on shopping history
- Suggest recipes based on household ingredients
- Create shopping list of missing ingredients or frequently bought items that are low

Design Specifications

- Interface to plan meals and purchase ingredients
- Recipe Box lets user search and save recipes
- My Pantry records currently owned items
- Shopping List has a custom list, needed ingredients, and commonly used ingredients
- Complete shopping lists using Meijer Curbside and Delivery



Screen Mockup: Echo Show

M Username

My Pantry

Shopping List


Planned Meals

Recipe Box


Suggestions

Favorites


Search



1. Chicken Pot Pie
75% ingredients in pantry



2. Hot Dogs
20% ingredients in pantry



3. Ap
10%

Try "Alexa, show me more."

Screen Mockup: Echo Show



Chicken Pot Pie

Servings: 2

Ingredients:

1 Chicken Breast
Pie Crust
4 Large Carrots

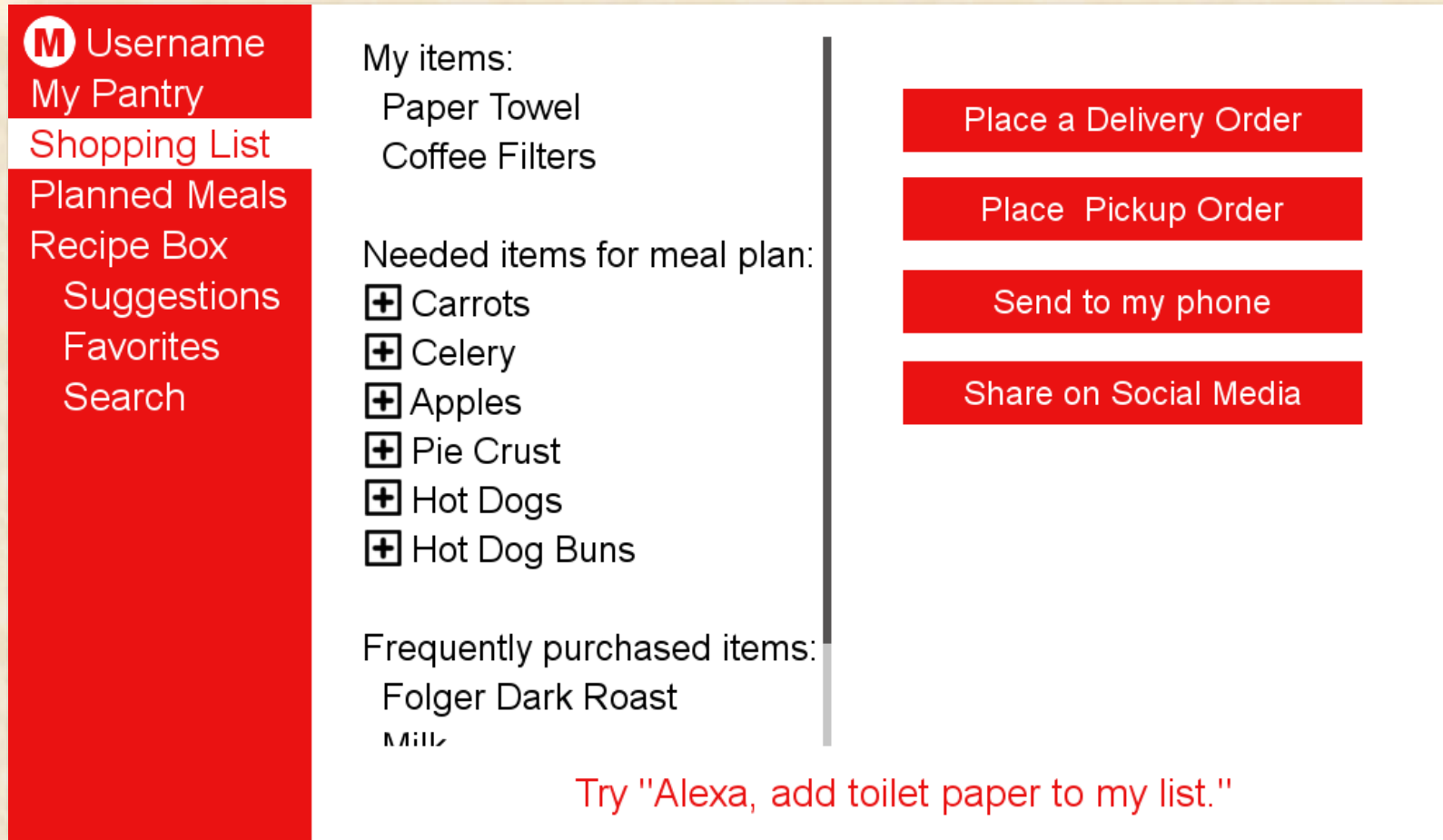
1 Bag of Frozen Peas
3 Stalks of Celery
1 Quart of Milk

Instructions:

- Step 1: Preheat oven to 400 degrees Fahrenheit.
- Step 2: Chop vegetables and chicken into palatable sizes.
- Step 3: Coat pie pan with nonstick spray and layer with the pie crust.
- Step 4: Brown chicken on the stove.
- Step 5: Pour milk into pie, then all other ingredients.
- Step 6: Cover with remaining pie crust and bake for 30 minutes.





Screen Mockup: Echo Show



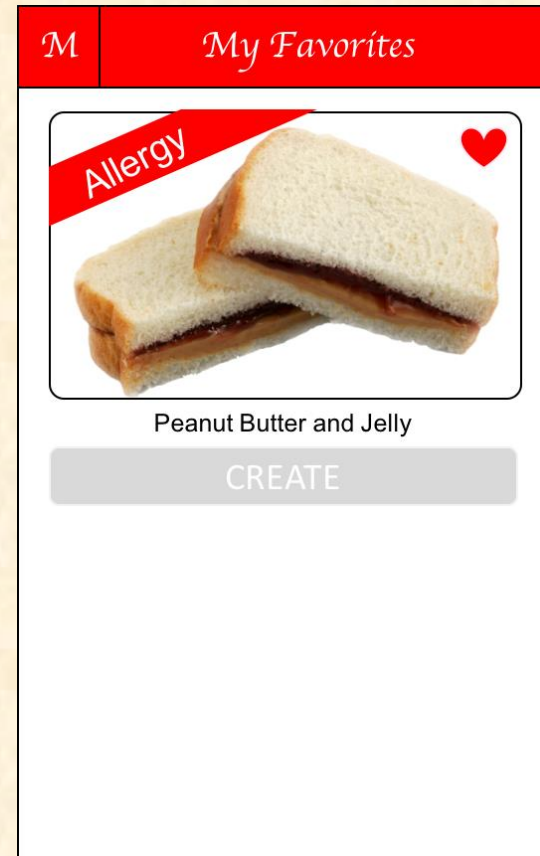
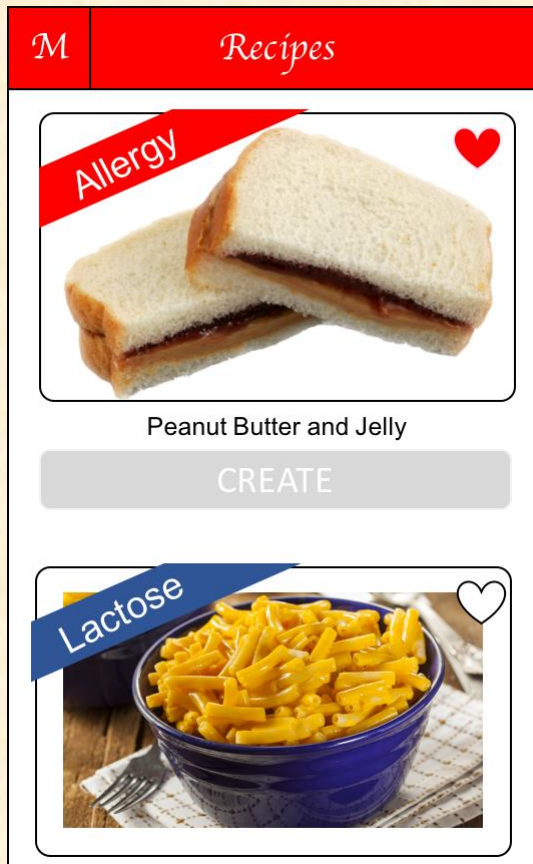
Screen Mockup: iOS/Android

M	My List	
	Butter	-
	Milk	-
	Eggs	-
	New Item	+
Recommended		
	• Kiwi	-
	• Butternut Squash	-
	• Star Fruit	-

M	My Pantry	
		Milk (Vitamin D) <input type="button" value="+"/> <input type="button" value="-"/>
		Beef <input type="button" value="+"/> <input type="button" value="-"/>
		<input type="button" value="+"/>

	<	
My Pantry		
Recipes		
My Favorites		
My List		
My Account	⚙️	

Screen Mockup: iOS/Android

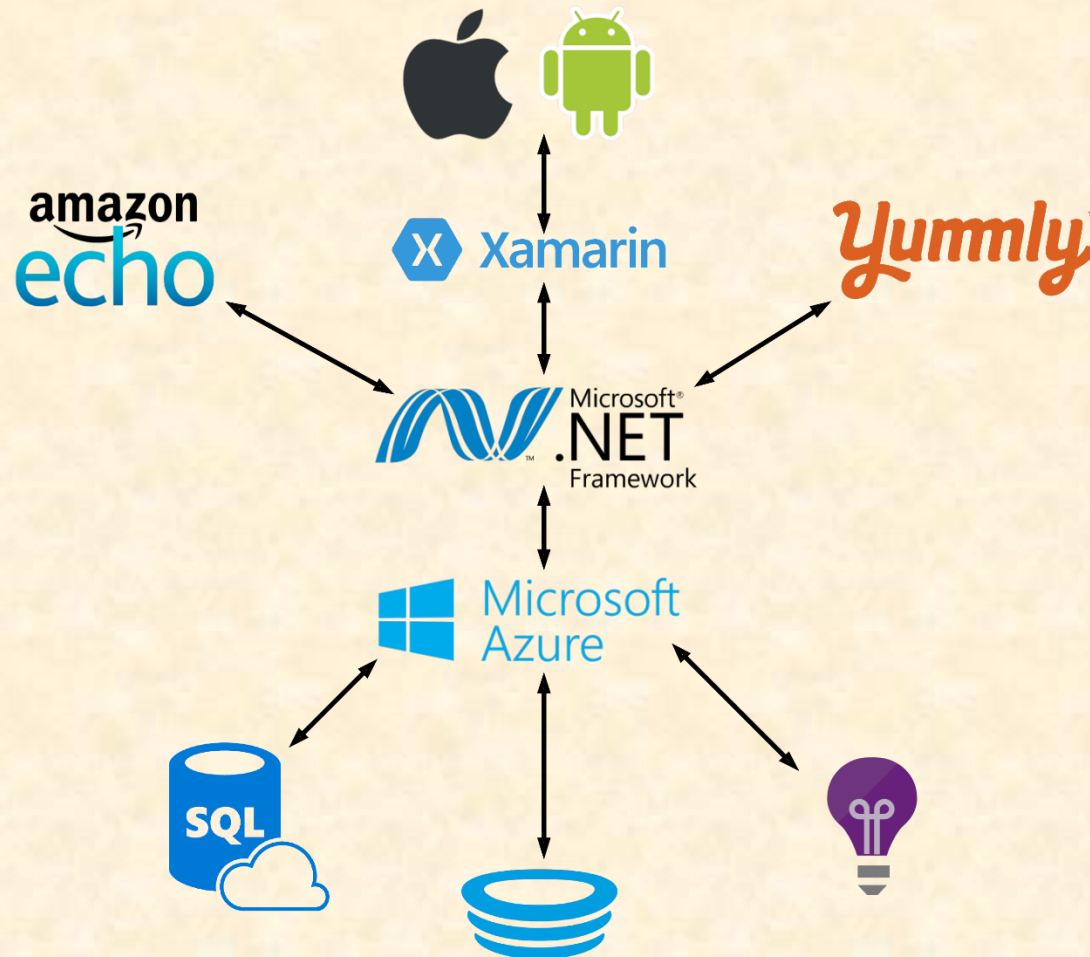


Technical Specifications

- .NET Framework
 - Class library and CRL
- Alexa Skills Kit
 - Invocation, intents, utterances
- Xamarin
 - C# codebase for Android and iOS
- Azure
 - SQL Server
- Yummly
 - Recipe API



System Architecture



System Components

- Hardware Platforms

- Amazon Echo Show

- Voice recognition with touch screen



- Software Platforms / Technologies

- Android

- iOS



Testing

- Azure



- Hockey App

- Controlled deployment of app



- Insights for Analytics

- Detect trends of user problems



Risks

- Data Integration (high)
 - How to normalize 20,000 line text file into database
 - Work with Meijer to ID key info and create database
- Sync state between Echo Show and mobile (medium)
 - How to properly sync data simultaneously between platforms
 - Get the Echo show working first before integrating mobile
- Integration with mPerks/Curbside and Delivery (medium)
 - How to integrate with Meijer proprietary software
 - Work closely with Meijer and ask a lot of questions
- Limited Echo Show UI options (medium)
 - UI options in Echo Show are limited to Amazon interface templates
 - Change UI design to accommodate limitations or find other templates



Questions?

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