

# Project Plan

## Intelligent Shopping List

### The Capstone Experience

#### Team Meijer

Christina Harper

Lauren Antakli

Jacob Buckley

Alex Wziontka

Adam Pruim

Department of Computer Science and Engineering  
Michigan State University

Fall 2016

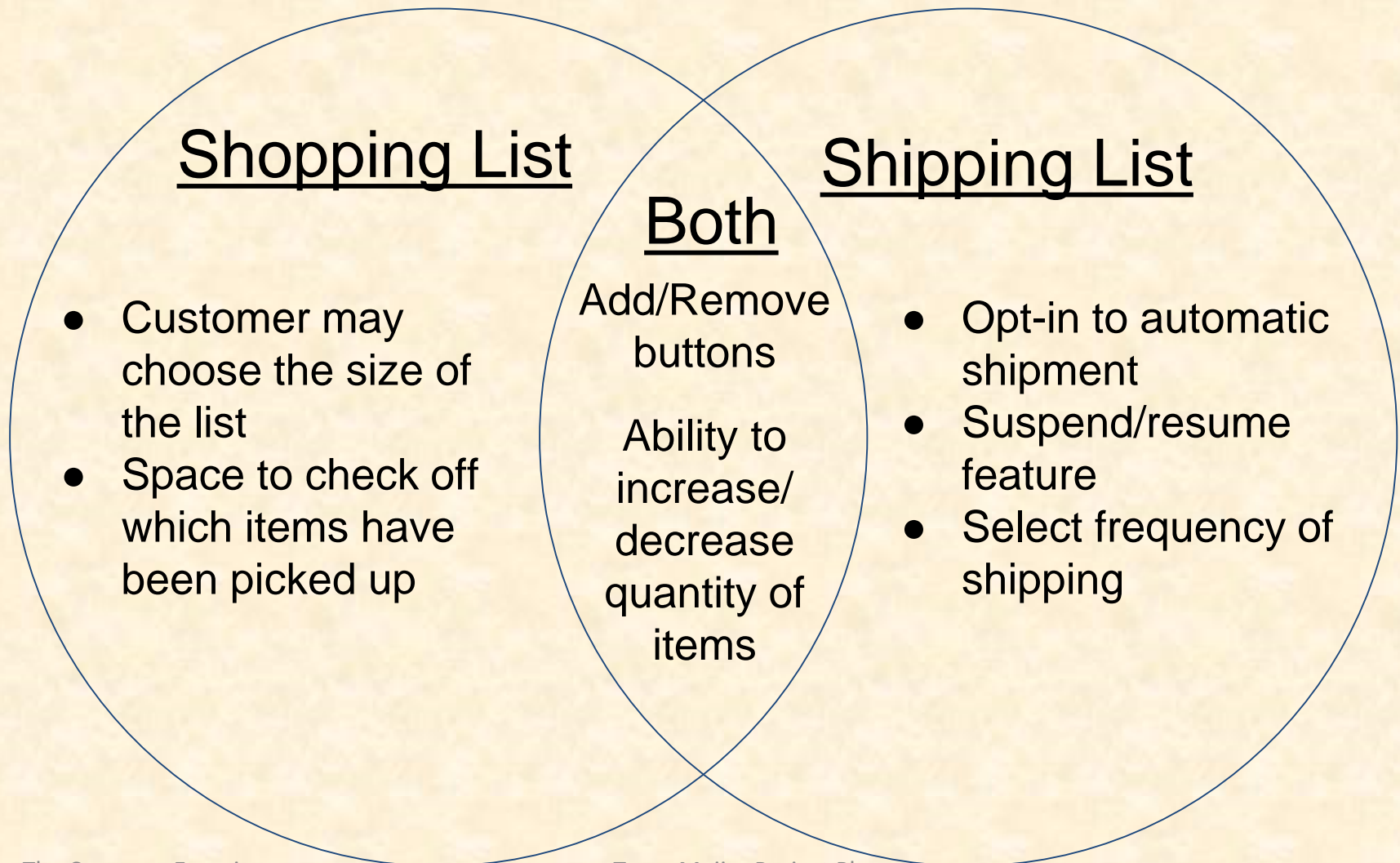


# Functional Specifications

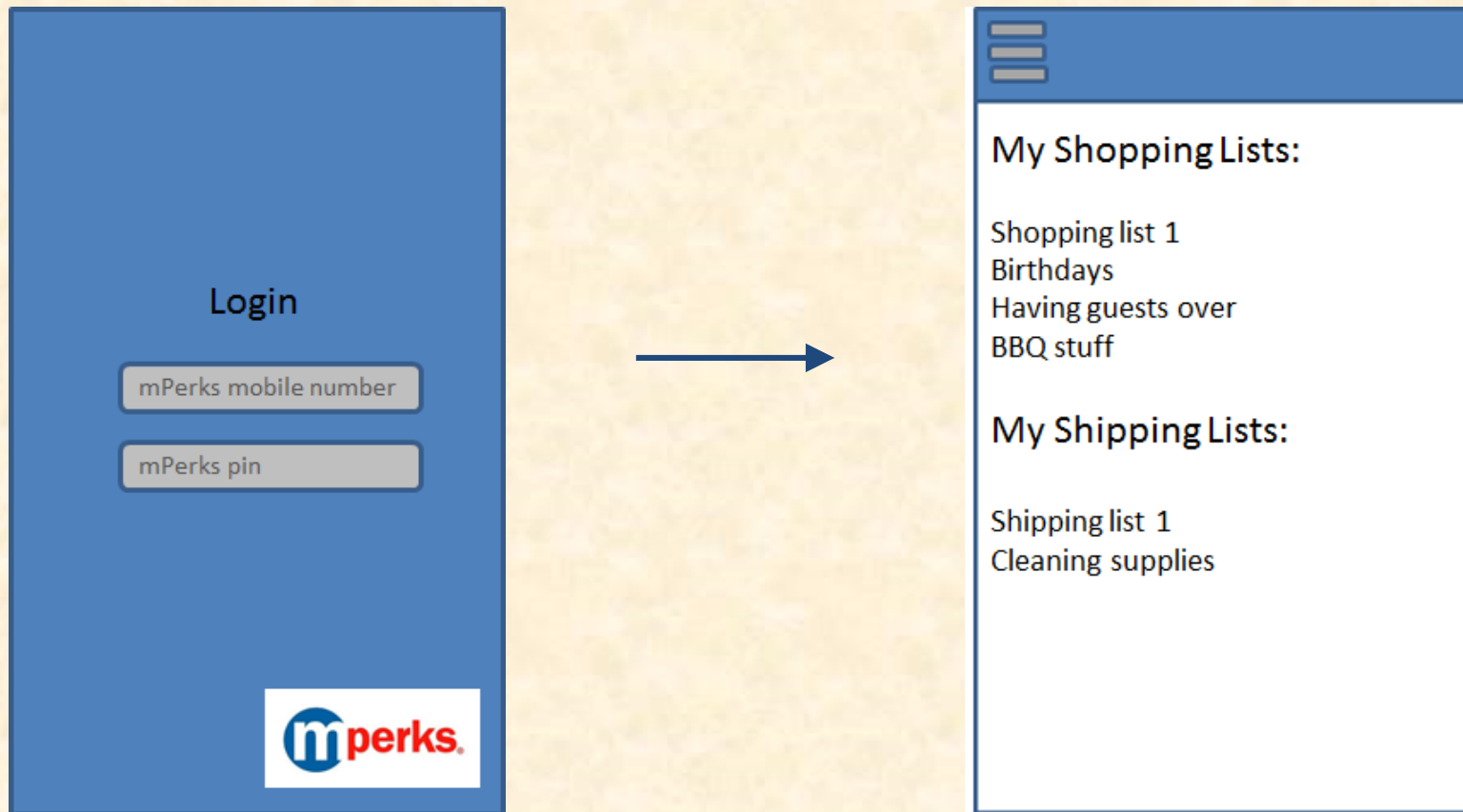
- Automatically generate a personal shopping list for the customer
  - Based on recent purchase data from mPerks
  - Customer will be able to edit the list as needed
  - Will contain a quantity recommendation for each item
  - Provides a way to mark which items have already been picked up
- Allow the customer to opt into a program that ships items to them directly
  - List will be generated similar to the shopping one
  - List will be editable
  - Suspend and resume features available on repeated orders



# Design Specifications



# Screen Mockup: Login and Home Screen




# Screen Mockup: Shopping List

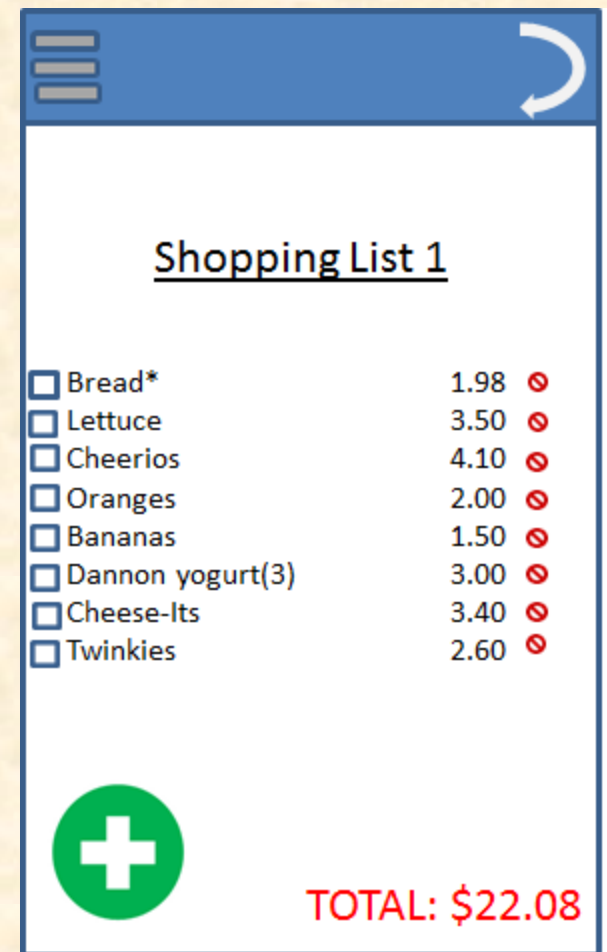
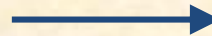


Shopping List 1









Bread*	1.98
Lettuce	3.50
Cheerios	4.10
Oranges	2.00
Bananas	1.50
Dannon yogurt(3)	3.00
Cheese-Its	3.40
Twinkies	2.60


 TOTAL: \$22.08

This mockup shows a shopping list titled 'Shopping List 1'. It contains a list of items with their prices. At the bottom, there is a green circle with a white checkmark and the text 'TOTAL: \$22.08' in red.



Shopping List 1


<input type="checkbox"/> Bread*	1.98	
<input type="checkbox"/> Lettuce	3.50	
<input type="checkbox"/> Cheerios	4.10	
<input type="checkbox"/> Oranges	2.00	
<input type="checkbox"/> Bananas	1.50	
<input type="checkbox"/> Dannon yogurt(3)	3.00	
<input type="checkbox"/> Cheese-Its	3.40	
<input type="checkbox"/> Twinkies	2.60	

 TOTAL: \$22.08

This mockup shows the same shopping list as the first, but with checkboxes added to the left of each item. At the bottom, there is a green circle with a white plus sign and the text 'TOTAL: \$22.08' in red.



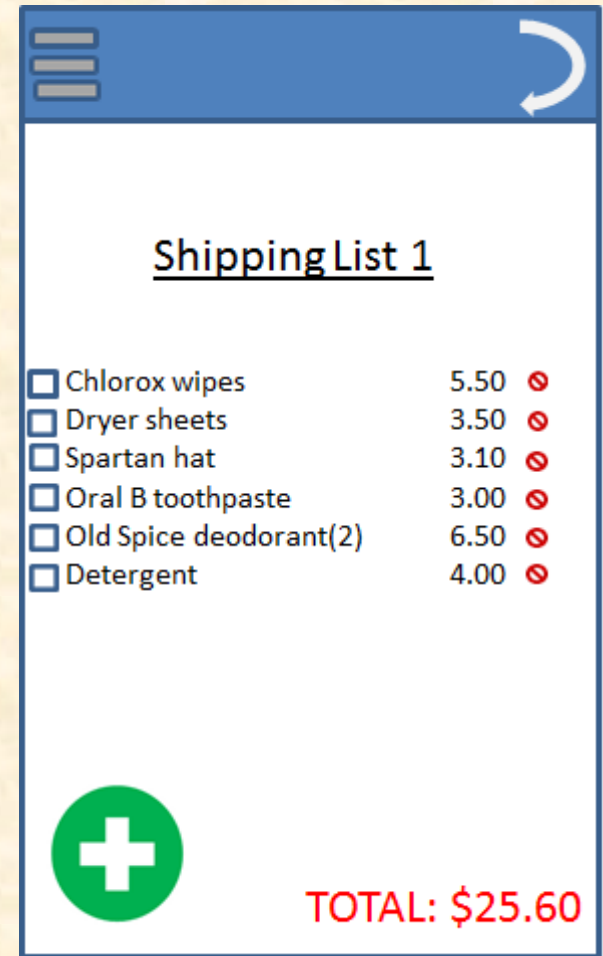
# Screen Mockup: Shipping List



Shipping List 1

Chlorox wipes	5.50
Dryer sheets	3.50
Spartan hat	3.10
Oral B toothpaste	3.00
Old Spice deodorant(2)	6.50
Detergent	4.00

A green circle with a white checkmark is located at the bottom left of the screen.



Shipping List 1

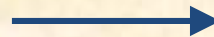
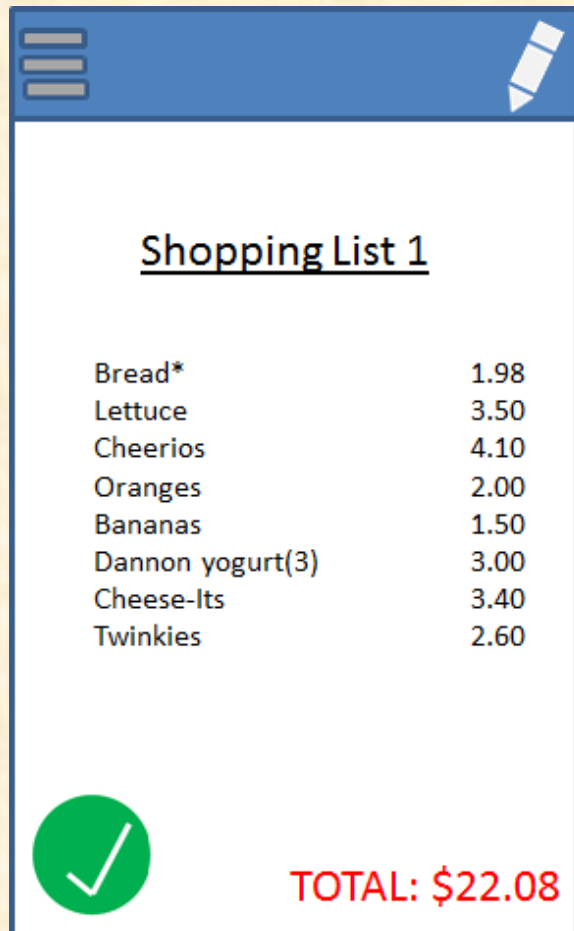
<input type="checkbox"/> Chlorox wipes	5.50	✖
<input type="checkbox"/> Dryer sheets	3.50	✖
<input type="checkbox"/> Spartan hat	3.10	✖
<input type="checkbox"/> Oral B toothpaste	3.00	✖
<input type="checkbox"/> Old Spice deodorant(2)	6.50	✖
<input type="checkbox"/> Detergent	4.00	✖

A green circle with a white plus sign is located at the bottom left of the screen.

**TOTAL: \$25.60**



# Screen Mockup: Side menu



# Screen Mockup: Order History

## Order History

Search

Name	Email	Address	Date	
User 1	user1@gmail.com	1234 Road Ln	9/15/16	View Order
User 2	user2@gmail.com	1234 Road Ln	9/15/16	View Order
User 3	user3@gmail.com	1234 Road Ln	9/15/16	View Order
User 4	user4@gmail.com	1234 Road Ln	9/15/16	View Order
User 5	user5@gmail.com	1234 Road Ln	9/15/16	View Order

Previous

1

2

3


Next





# Screen Mockup: Order Details

## Order Details



**Name**

User 1

**Email**

user1@gmail.com

**Items**

Item 1  
Item 2  
Item 3  
Item 4  
Item 5

**Shipping Address**

1234 Road Ln. City, State 56789

**Order Date**

9/15/16

**Payment**

\$27.55  
VISA  
\*\*\*\* \* 1234

**Details**

Knock on back door

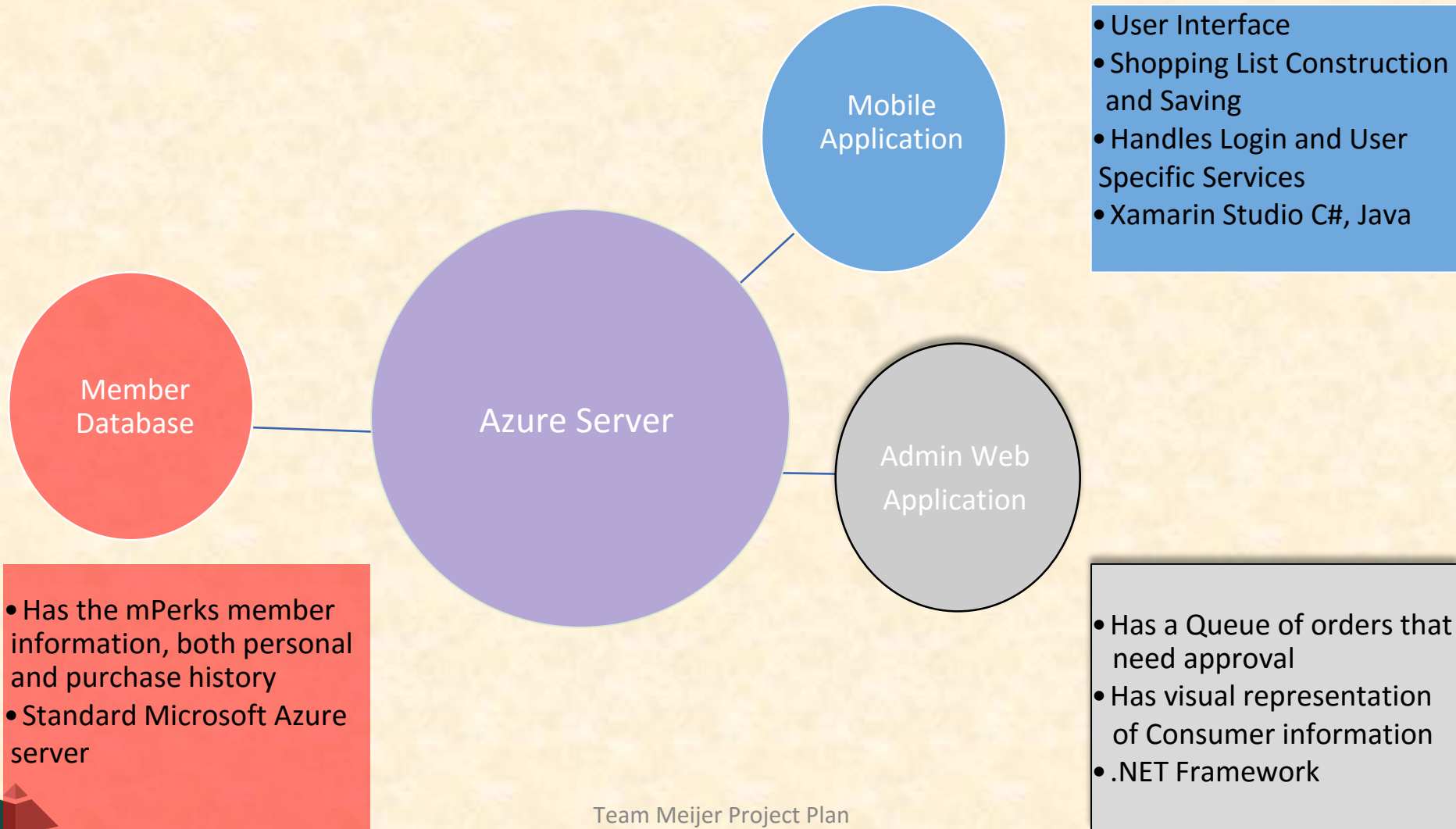


# Technical Specifications

---

- Azure Web Application Server
  - Host web app
  - API endpoints to expose database to web and mobile applications
- Microsoft SQL database server
  - Mocked and sample data based on Meijer's production database
- .NET web application
- Xamarin, iOS mobile application

# System Architecture



# System Components

---

- Hardware Platforms
  - iPhone
  - Android
- Software Platforms / Technologies
  - Azure Web Server, Database
  - Xamarin
  - Visual Studio Team Services
  - C#, .NET, SQL



# Testing

---

- Creating mock data to store on our server
- Test drawing information from data server to construct shopping list on the application and returning that information to the server
- Ensuring the data is stored and maintained properly and securely
- Creating and saving Shopping Lists for different use cases and when the application is closed



# Risks

## Generating the shopping list

- How can we create a list that is relevant and helpful?
- Mitigation: Brainstorming ideas on what the most effective solution is
- Status: Met with Meijer and decided that the customer's most frequently bought items during the current season will be displayed on the list

## Learning iOS

- Group members have little experience programming iOS applications
- Mitigation: Using resources including internet tutorials and classmates
- Status: Team members have begun researching the basics in iOS applications

## Access to Meijer's information

- Meijer is unable to provide us with access to a lot of their databases
- Mitigation: Begin working and keep in touch about other info we may need
- Status: A store delta with product information and also some dummy mPerks accounts are in the works

