MICHIGAN STATE
U N I V E R S I T Y

Project Plan Presentation
Recipe Progression Tracking

The Capstone Experience

Team Whirlpool

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From Students…
…to Professionals

Functional Specifications

- Revolutionize cooking experience

- Make recipes available in a single, easy to use location

- Collect user data to enhance cooking skills through modern technology
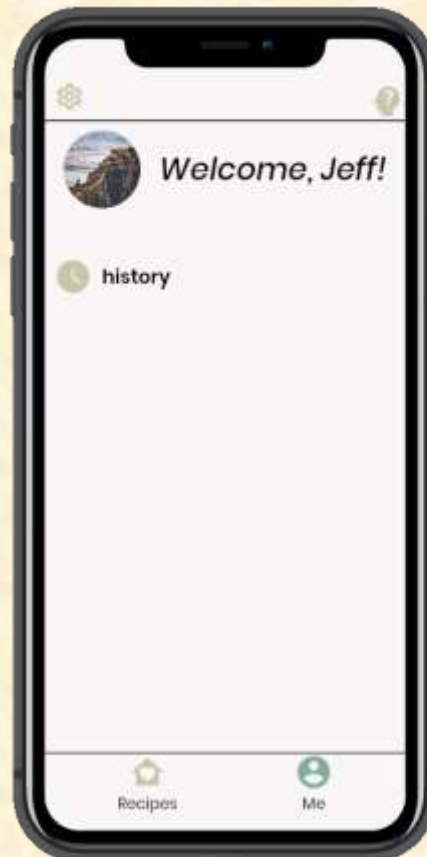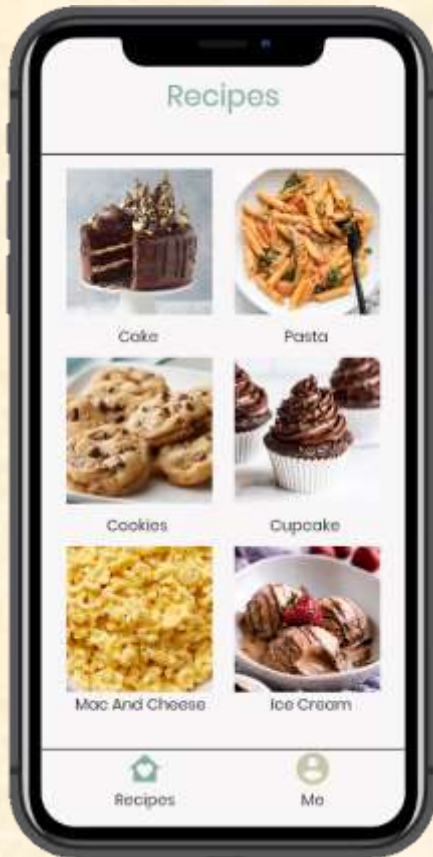
Design Specifications

- Connected mobile and smart watch apps

- Access library of Whirlpool recipes

- Data collection for improving algorithms

- Built in timer support for timed steps

- Automatic, gesture, and manual step progression

Screen Mockup: Main Screens

- Recipes Screen
- User Screen
  - Recipe history

Screen Mockup: Cooking Process

Screen Mockup: Gesture Step Progression

Set Your Gesture Step
Progression Movement:

Start Collecting

Collecting Your Gesture
Step Progression
Movement:

Stop Collecting

Data Collected for Gesture
Step Progression
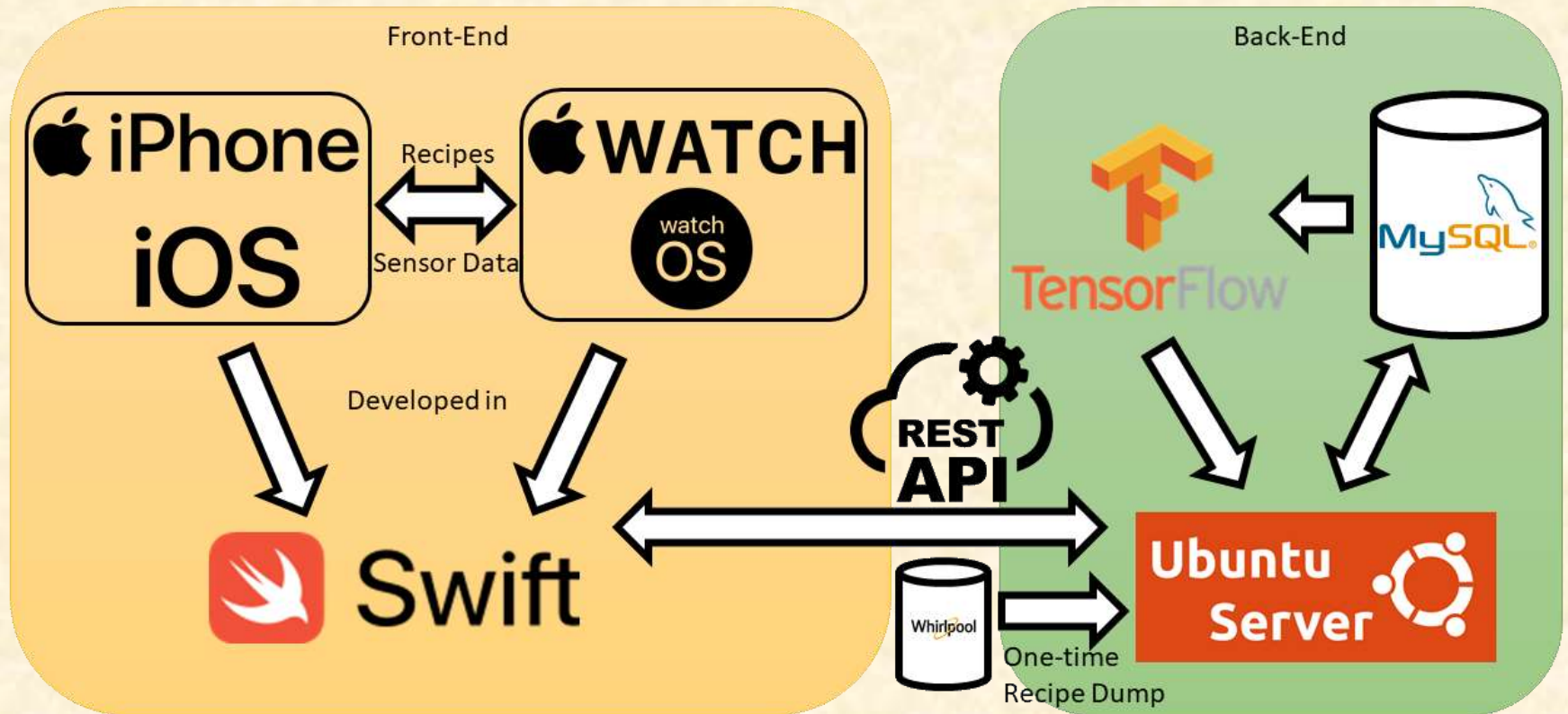Movement

Screen Mockup: Cooking Process pt.2

Technical Specifications

- Apple Watch – Swift on WatchOS

- iPhone – Swift on iOS

- Database Server
  - Collect labeled cooking data from WatchOS app

- Machine Learning Algorithms
  - Neural Network or Logistic Regression Algorithms
  - TensorFlow and Python
  - Trained on server and database

System Architecture

System Components

- Hardware Platforms
  - Apple Watch
    - Sensor data collection
  - Apple iPhone
  - Rack-mounted server/Virtual Machine server
- Software Platforms / Technologies
  - watchOS
  - iOS
  - Xcode/Swift
  - Ubuntu Server
  - MySQL
  - TensorFlow

Risks

- Risk 1 - Data Storage Specifics
  - Research efficient storage solutions
    - Decide on server/database architecture
- Risk 2 – Connectivity
  - Getting data from wearable device to database
  - WatchOS and IOS app displaying in unison
- Risk 3 – App Distribution
  - Recording data while disconnected from iMac
  - Deploying app locally

Questions?

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