MICHIGAN STATE UNIVERSITY

Beta Presentation

AI-Powered Precision Cooking with TasteLogic

The Capstone Experience

Team Whirlpool

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From Students…
…to Professionals

Project Overview

- A Mobile App that interconnects to a Whirlpool Oven
- Capitalizes LLM to create a better user experience
- Simplifies cooking by providing AI generated cooking attributes based off user preferences
- Multiple input options
- Collects user feedback

Team Member's Technical Tasks

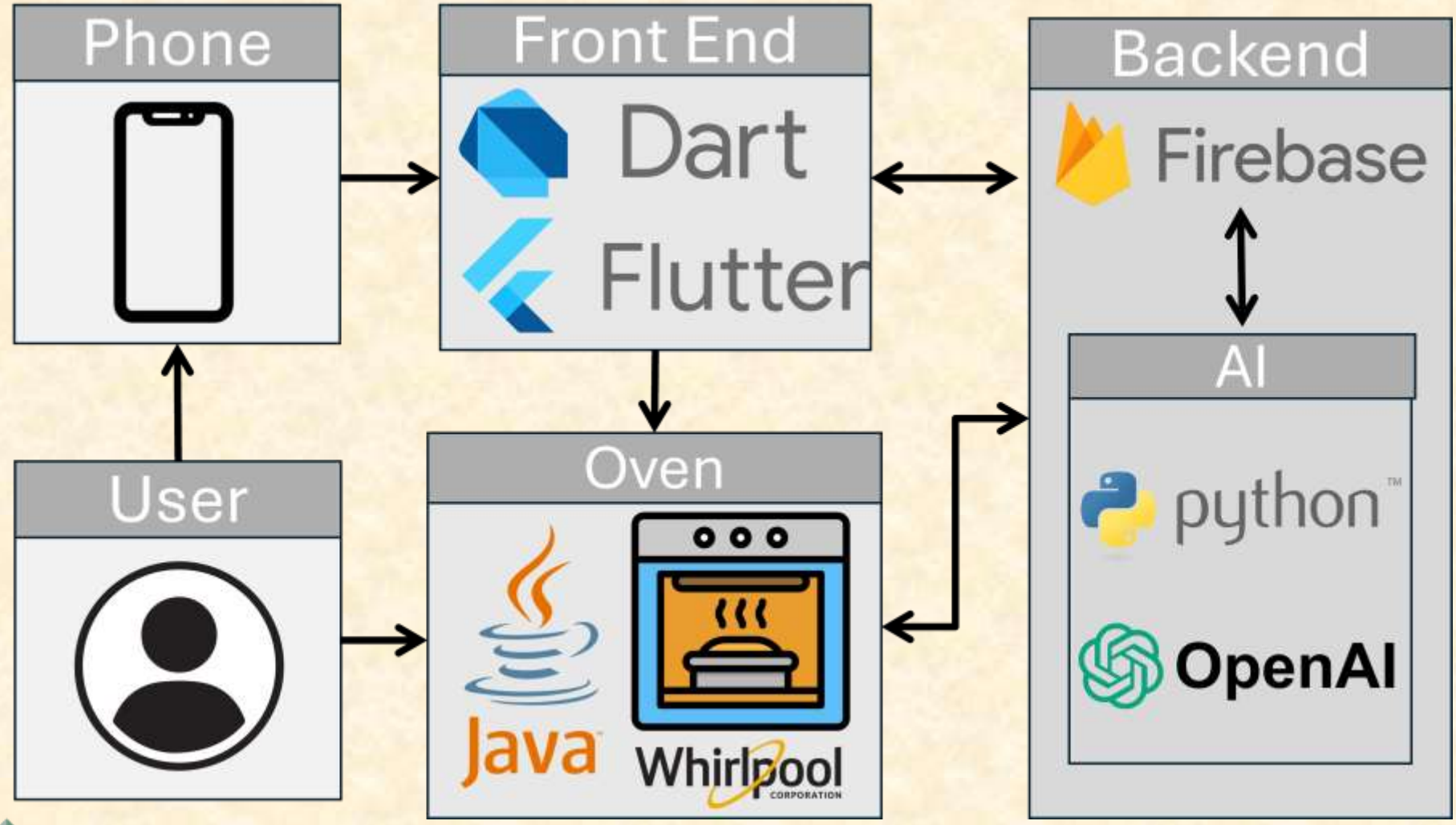
Technical Tasks Assigned

- Frank Puglise
  - Text Based Food Search/Speech Food Search + Firebase use
  - Created Structure to pass data through the app process Use AI to create Temperature/Time via Food, Weight, attributes
- Pavel Shevchenko
  - OpenAI API methods and implementation
  - Create WebSocket and Flask server
  - Modify CTO App for app connectivity and cycle adjustment
- Lauren Funk
  - Design a user-friendly flow for the mobile application
  - Main front end implementation
  - Design necessary screens for the baking process
- David Wasilewski
  - Add functionality to front end to support back-end actions
  - UI and UX updates to match sponsor requirements and user feedback
  - Modify CTO App for app connectivity and cycle adjustment
- Darayus Daboo
  - Set up the LLM agent (server, prompt, and API)
  - Connected LLM agent to both back end and front end
  - Added AI camera-based identification for the food
- Team Member Name 6
  - Firebase Backend connection + Login sign up/sign out of users
  - User profiles for unique food experiences
  - Recommendation and AI activation changes to make cooking process able to seamlessly cycle

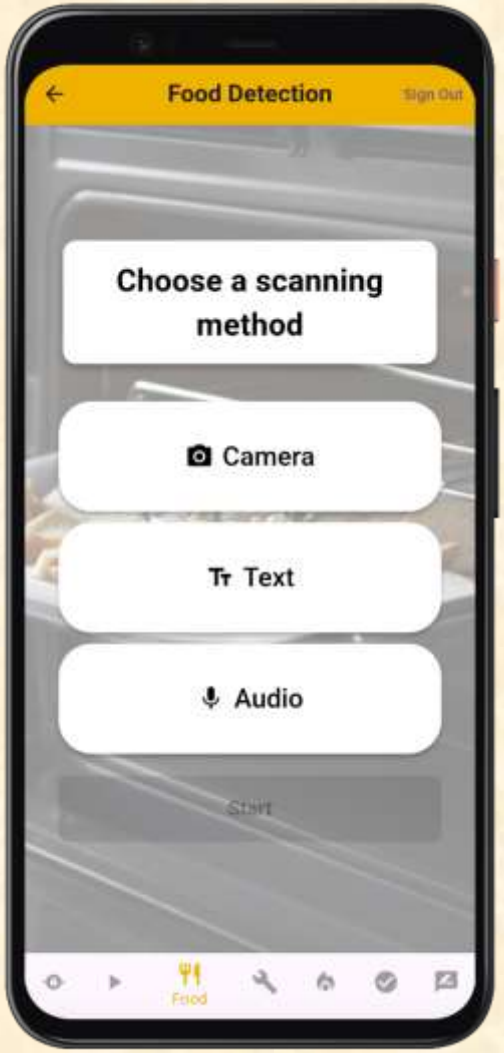
Technical Tasks Completed

- Team Member Name 1
  - Text Based Food Search/Speech Food Search + Firebase use
  - Created Structure to pass data through the app process Use AI to create Temperature/Time via Food, Weight, attributes
- Pavel Shevchenko
  - Built and implemented ADB Touch Control scripts
  - Develop HTTP and Flask servers for wireless app connectivity
  - Implement OpenAI API and perform prompt engineering
- Lauren Funk
  - Created a visually appealing custom cycle page
  - Designed and created login and signup pages
  - Designed and created food detection, review, and baking screens
- David Wasilewski
  - Add functionality to font end to support back-end actions
  - Control the oven remotely from a mobile device
  - UI and UX updates to match sponsor requirements, sponsor marketing materials, and user feedback
- Team Member Name 5
  - Set up the LLM agent (server, prompt, and API)
  - Connected LLM agent to both back end and front end
  - Added AI camera-based identification for the food
- Team Member Name 6
  - Firebase Backend connection + Login sign up/sign out of users
  - User profiles for unique food experiences
  - Recommendation and AI activation changes to make cooking process able to seamlessly cycle

System Architecture

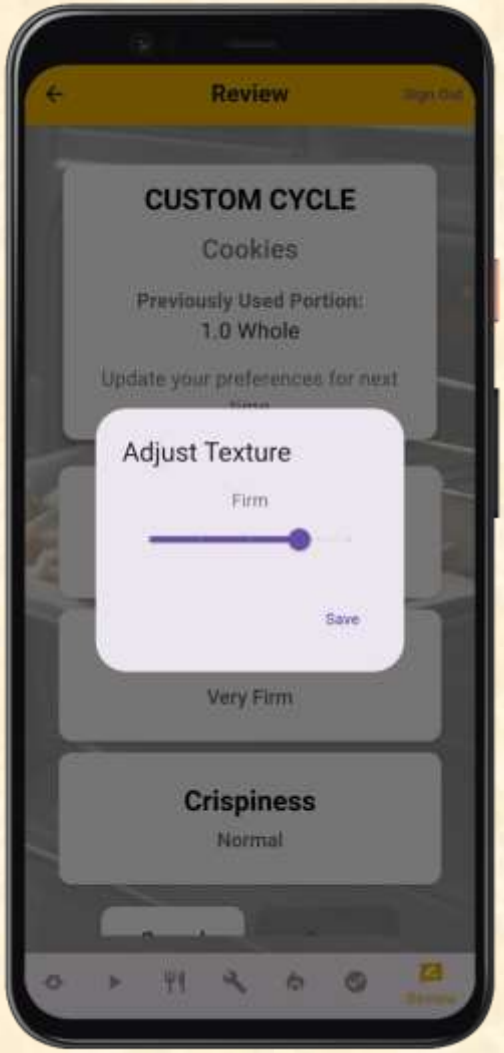


Mockup: Food Detection

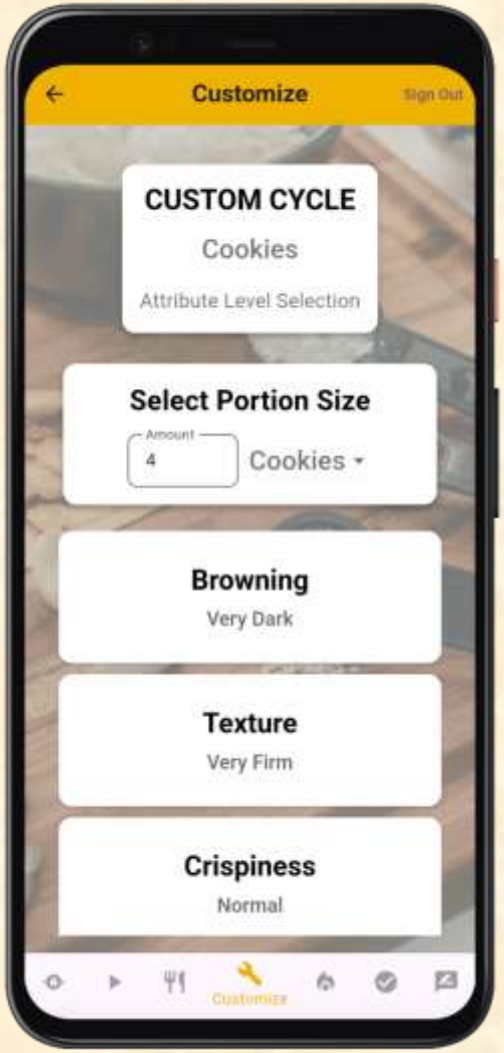


Mockup: Text Food Selection

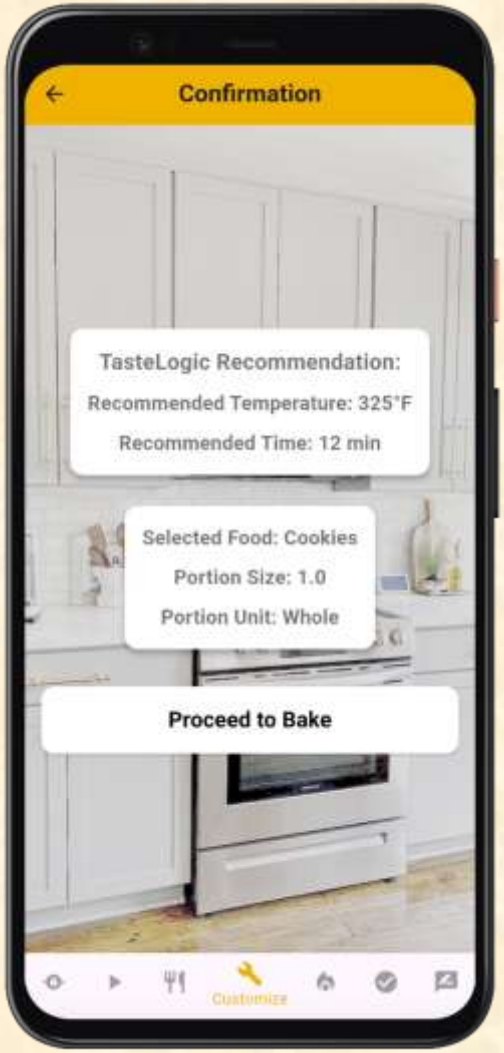
Mockup: Cycle Adjustment



Mockup: Custom Cycle



Mockup: Recommendation



What's left to do?

- Stretch Goals
  - Add the ability to check previous cook cycles
  - Turning the oven off via timer or app
  - Adding more cooking styles (Broil, Convection, etc.)
  - Add Bluetooth connection support
- Other Tasks
  - Adjust AI prompting
  - Ensure Food Temperature Safety
  - Use Browning Scales to further test
  - Further UI updates

Questions?