

POS Pioneers

Project 3 Final Presentation

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01

Introductions



Introductions



Keeley Mahoney



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02

Problem Description



Problem Description

- **The Problem**

- The existing POS System = not intuitive or accessible
- Manager functionality is limited
- Entirely local, does not utilize web features.

- **Importance and Motivation**

- Time is Money: Less efficient POS -> Less efficient ordering
- Customer Satisfaction
- New POS would address needs of diverse stakeholders

- **Key Solution Features**

- Full Suite of Manager/Admin Functionality
 - Inventory Management, Analytics, Menu Customization, etc.
- Intuitive Customer Experience
- Efficient Cashier Experience





03

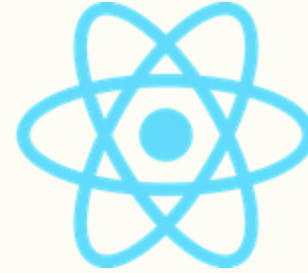
Tech Stack



Tech Stack

- **Front End**

- JavaScript Front End
- React JS
- Node.js runtime
- Render web hosting



- **Back End**

- JavaScript Back End
- Java Express
- Node.js Packages
- SQL Queries
- PostgreSQL Database





04

Software Development & Project Management



Software Development & Project Management

- **Software development process**
 - Agile Methodology with Scrum Framework
 - Scrum Master managed Agile Ceremonies and Product Management Roles
 - Flexible Sprint schedule allowed for MVP at every checkpoint
- **Project Management Tools**
 - Google Sheets for product and sprint backlogs
 - Excel for burndown charts





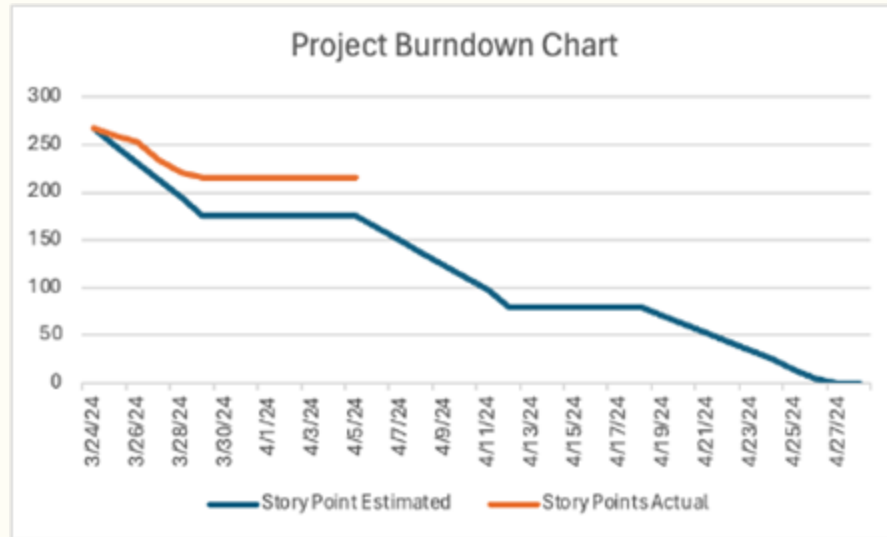
Sprint Summary

- Sprint 1
 - Set up framework
 - MVP - built each planned page
- Sprint 2
 - Complete functionality of pages
 - Catch up on sprint 1 tasks
 - Lost contact with one of our team members
- Sprint 3
 - Added kitchen and display order screens
 - Test all pages
 - Integrate API
 - Make product more visually appealing

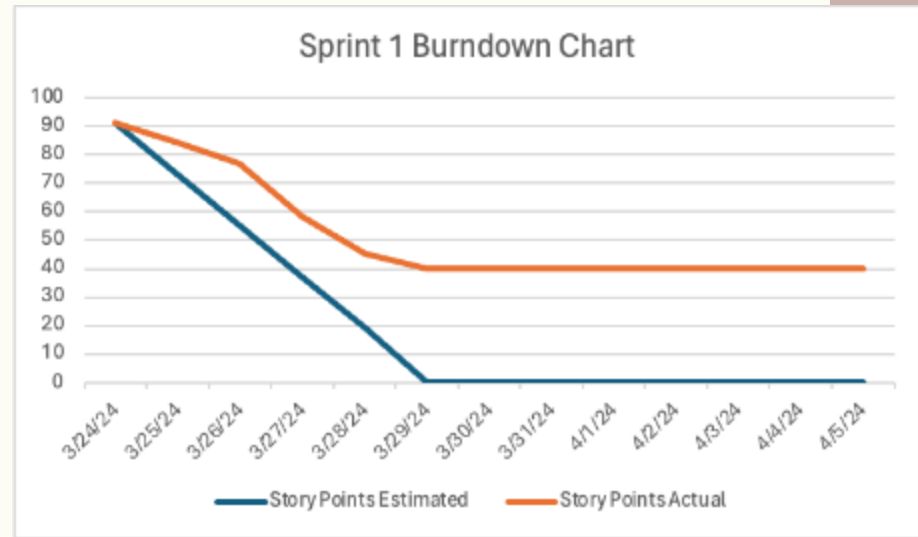




Burn Down Chart - Sprint 1



Projected Tasks - 49
Projected Story Points - 91



Completed Tasks - 26
Completed Story Points - 51

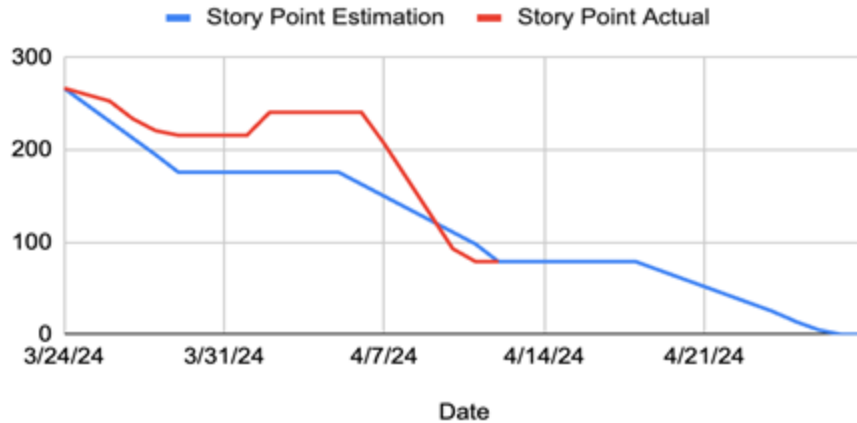




Burn Down Chart - Sprint 2

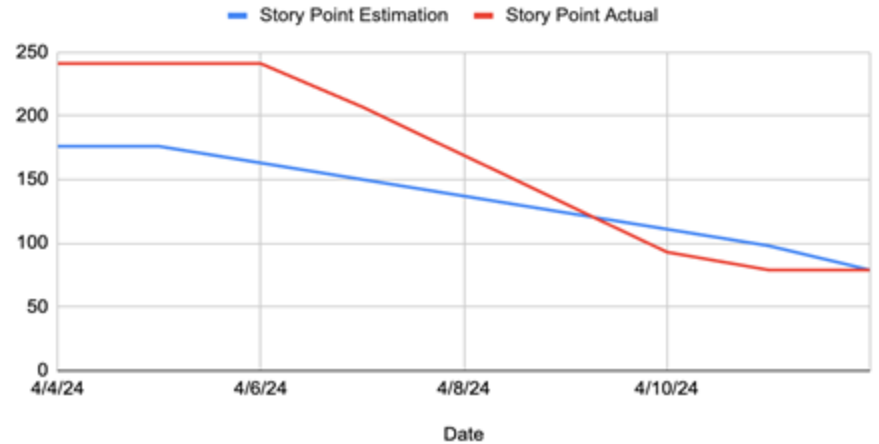
16 New Tasks Added
25 Story Points Added

Project Burndown Chart



Projected Tasks - 39
Projected Story Points - 94

Sprint 2 Burndown Chart



Completed Tasks - 55
Completed Story Points - 162

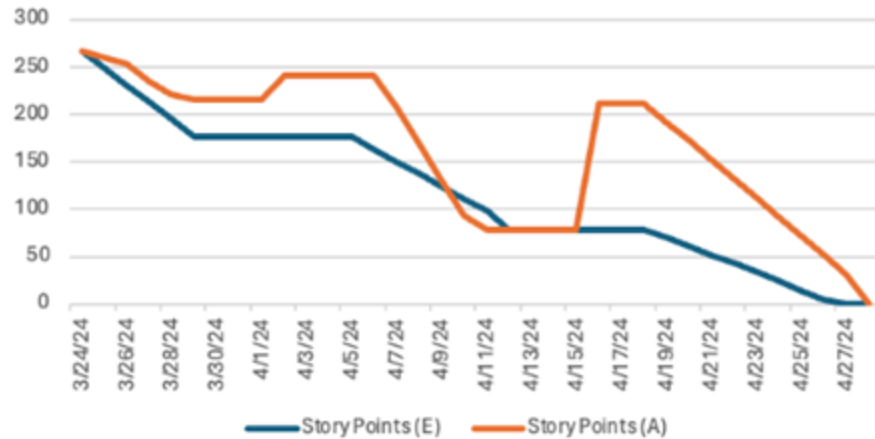




Burn Down Chart - Sprint 3

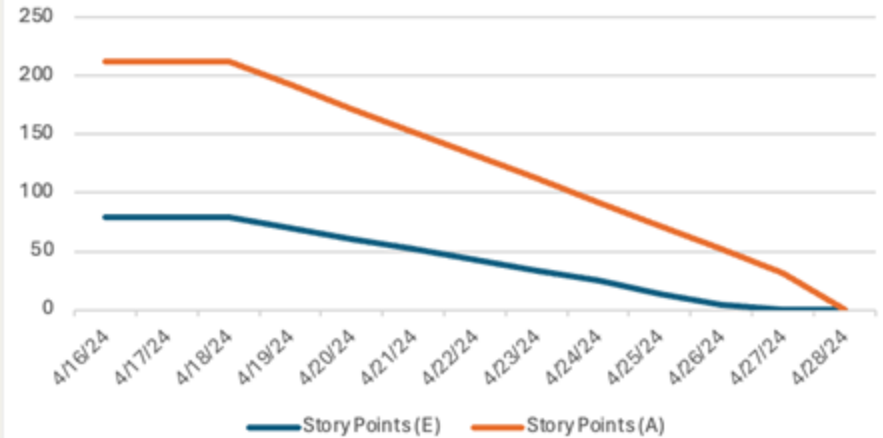
49 New Tasks Added
113 New Story Points Added

Project 3 Burndown Chart



Projected Tasks - 29
Projected Story Points - 79

Sprint 3 Burndown Chart



Completed Tasks - 84
Completed Story Points - 212





05

Response to User Feedback



Participants

- User Study
 - Diverse participants, different in ages, occupations, needs
 - Age range: student to grandparents
 - Visually impaired, unfamiliar with technology, not fluent in English
- Expert Panel
 - All current/past employees, have work experience with POS systems
 - Servers, cashiers, managers





User Study

Problems:

- Lack of Feedback
- Poor aesthetics

Solution:

- Confirmation Pop-up
- Consistent Styling on all pages
- Proper sizing for buttons
- Removed duplicate buttons for navigation
- Images for menu items





Expert Panel

Problems:

- Lack of simplicity and efficiency in cashier process
- Pop-up windows not user-friendly

Solution:

- Clear organization of information
 - Ingredients inventory organized by alphabetical order
 - Supplier order by dates
 - Employee by ID
- Fix styling and location pop-up window
- Add Notes section for cashier/manager order screens
- Allow managers to do cashier activities
- Simplify cashier screen





06

Accessibility



Accessibility Personas

Maria

- Cashier
 - Spanish translation
 - Clearly written
 - Unfamiliar with technology

Carol

- Customer
 - Hand Tremors
 - Enlarge Text
 - Unfamiliar with technology

Vishnu

- Manager
 - Low vision, Glaucoma
 - Need Color Contrast





User Interface

- User Interface is designed to offer consistent and intuitive navigation throughout the application
- A consistent and clearly differentiated color scheme keeps users engaged
- Accessible font choice (Helvetica, Sans-serif) leaves little room for ambiguity





Feature: Translation

- Google Translate API integrated to provide full translation support
- 100+ languages supported for translation across application pages
- Choice of language persists across pages





Feature: Text Customization

- Customizable text size and width is available for all written components of the application
- Toggle Bold Text
- Any user can cycle between 1x, 1.5x, 1.75x, and 2x text size
- Text size also scales up elements like buttons, headers, tables, etc.+





Feature: Color Contrast

- Option to toggle color inversion
- Improves color contrast
- Reduces brightness of colors
- Automatically applies to all pages





Feature: Mouseless Navigation

- Keyboard Navigation Friendly
- Tab, arrows, enter
- Focus from one element to another moves in a logical order





07

API Integration



API Integration

- **Google OAuth 2.0 Integration**
 - Requests authorization token from Google server
 - If successful, utilizes Gmail API for manager login
- **Google Translate Integration**
 - Utilizes Google Translate API to facilitate page translation
- **Weather API Integration**
 - WeatherAPI for past weather data on trends page
 - OpenWeatherMap for current weather data on customer order screen





08

Demonstration



Menu Board

- Split into 3 screens
 - Entrées
 - Desserts
 - Images & other categories
- Dynamic and Customizable
 - Responds to database changes
 - Managers can configure promoted items





Landing Screen

- Entry point for customers and employees
- Customers can intuitively begin to place an order
- Employees can navigate to Settings and Login





Customer: Self Order

- Sorted by categories on sidebar
- Shows current weather at the top
- Menu Item images and prices displayed for each menu item
- Pop-up window shows menu item details: ingredients, Vegetarian and GF labels
- Allows user to customize certain ingredients
- Checkout Screen
- Back button and edit customizations
- Order Confirmation and Number





Kitchen Screen

- View from Kitchen Login only
- Displays all of the orders that are currently "In Progress"
 - Order Number, Date, Time, Notes
 - Menu Items
 - Details with customizations
- Complete/Cancel Functionality
- Auto refresh after 1 minute
- Confirmation Pop ups after each action





Cashier: Login

- Employee Login area integrated into Settings page
- Employees can login with their ID and Password
- A newly added employee can login through this system as well





Cashier: Order Screen

- Menu Item Images omitted
- Pop-up window for customizations
- Checkout Screen
- Cashier can add notes for the kitchen
- Order Confirmation and Number





Manager: Login

- Employee Login area integrated into Settings page
- Managers can login with their ID and Password
- A newly added manager can login through this system as well
- Managers also have the ability to login using Google OAuth
- Pre-approved managers can login with Google to be redirected to manager functionality





Manager: Kitchen

- Displays all of the orders that are currently "In Progress"
 - Order Number, Date, Time, Notes
 - Menu Items
 - Details with customizations
- Complete/Cancel Functionality
- Auto refresh after 1 minute
- Confirmation Pop ups after each action





Manager: Display Orders

- Displays most recent 1000 orders to start
 - Order Number, Date, Time, Total Cost, Details, Status, Notes
 - Menu Item Details with customizations
- Filtering
 - Price
 - Date
 - Status
 - Order Number
- Refresh available





Manager: Order Screen

- Same functionality as cashier screens
- Manager can add notes for the kitchen
- Order Confirmation and Number





Manager: Inventory

- Display ingredients
 - Name, Quantity
 - Alphabetical order
- Add Ingredient
 - Name, Quantity, Minimum Quantity, Storage Location, Units, Vegetarian, Gluten Free, Customizable
 - Handles error for already existing ingredients
- Delete Ingredient
- Edit Ingredient
 - Low quantity → new supplier order
- Confirmation Pop ups after each action
- Refresh available





Manager: Supplier Order

- New Supplier Order
 - If clicked from inventory, already filled out with selected ingredient
 - Displays ingredients with low quantity
 - Supplier Name, Order Number, Ingredients with Quantity
 - Submitted with Current Date/Time
 - Confirmation pop up
- Display Previous Orders
 - See Details
 - Sorted by Date
- Refresh available





Manager: Trends

Sales Report

Display the sales volume by item within a given time frame.

Excess Report

Identify ingredients that have used only 10% of their inventory.

Restock Report

Determine which ingredients need to be restocked.

Double Order Report

Identify pairs of items that are frequently bought together.





Manager: Trends

Ingredient Usage Report

Track and visualize inventory usage over a selected time period.

X Report

Any day/time check of sales data by category .

Z Report

Final summary of daily business transactions by category.

Weather Menú Trend

Match menu planning with weather patterns.





Manager: Employees

- Display
 - Employee Name, Role, ID
 - Sorted by ID
- Add Employee
 - Name, Password, Manager Status
 - Manager status determines where login takes you
 - ID is automatically generated
- Edit Employee
- Delete Employee
- Confirmation Pop ups after each action
- Refresh available





Manager: Menu

- Displays Menu Items based on category
 - Then sorts alphabetically
- Add new Menu Item
 - Name, Category, Price, Description, Promoted in Menu Board, Image Link, Ingredients & Quantity
 - Vegetarian & Gluten Free automatically calculated
 - Image Link automatically shows
- Add Seasonal Menu Item
- Delete menu item
- Edit Menu Item
- Confirmation Pop ups after each action
- Refresh available





Menu Board Updates

- Dynamically Updated
- Reflects any menu item changes from manager screen
 - Name, Description, Price, V / GF
 - Images for promoted items



Any questions?

