Tasteful Panthers: Food Recommendation at Dining Halls

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Why?

- **Goal**
- Provide personalized dining recommendations for guests at Panther Dining Hall (PDH)
- **Motivation**
- Improve the campus dining experience by simplifying meal decisions
- Provide a connected platform for food reviews and guest interactions
- Allow guests to report food issues directly to PDH staff

Approach

- **Recommendations**

1. Guests receive tailored meal suggestions based on:
    1. Dietary restrictions/preferences
    2. Past meal choices and food reviews

2. Ensures guests are immediately aware of dining options suited to them

3. Notifications sent upon arrival at PDH

Approach

- **Reviews**

1. Guests can leave feedback on meals:
   1. Text reviews, images/videos, star ratings, and tags
   2. Highlight issues or share satisfactions
2. Reviews help other guests make informed decisions
3. Notifications remind guests to review meals 10-20 minutes after arrival

Approach

1. **Contests and Leaderboards:**
   1. *Top Reviewer of the Week*: Based on positive ratings received from random guests
   2. *Tomorrow's Prediction*: Predict the highest-rated food item for the next day

2. Boosts engagement and fosters a community

Approach

1. Staff can address low-rated reviews and flagged issues
   1. Red flag for active issues
   2. Flip to green once fixed
2. Guests can confirm resolution
3. Aimed at improving food and service quality

Novel Features/Functionalities

1. **GPS-Enabled Recommendations:**
   1. Sends timely meal suggestions based on guest's real-time location

2. **High-Level Meal Prediction Algorithm:**
   1. Analyzes factors like dining history, preferences, and trending meals
   2. Utilizes keywords, tags, and user interactions to provide accurate suggestions

Algorithms and Tools

- **Programming Language:** Swift (iOS app dev)
- **IDE:** XCode or VSCode
- **Database:** SQLite or CoreData
- **Web Scraping:** For PDH menu retrieval
- **Encryption Tool:** For securing user information
- **iPhone Emulator:** XCode or VSCode

Technical Challenges

1. Learning Swift for app dev
2. Developing a sorting algorithm for meal recommendations
3. Implementing encryption for user data protection

Milestone 1 (Feb 24)

- Compare and select:
  - Technical tools
  - Collaboration platforms
- Provide "demos" to evaluate our selected tools
- Resolve technical issues working with:
  - Swift
  - iPhone emulation/App Simulators
- Requirement, Design, and Test documents

Milestone 2 (Mar 26)

- Implement, test, and demo:

- User accounts (signup/login)

- Web scraping for PDH menu

- Reviews (text, star ratings, tags)

- Database for saving data

Milestone 3 (Apr 21)

- Implement, test, and demo:
- Reviews with images/videos
- Personalized recommendation algorithm
- Notifications for recommendations and review reminders
- Contests and leaderboards

Task Matrix for Milestone 1

Task	Alex	Jiahao	Anthony	Lexi
Compare and Contrast Technical Tools	Web/Information Scraping	IDE	Database	IDE
Tool Demos	Web/Information Scraping	IDE	Database	IDE
Resolve Technical Challenges	Swift, sorting algorithm	Swift, sorting algorithm	Swift, algorithm, encryption/decryption	Swift, sorting algorithm
Collaboration Tools	Communication	Documents/presentations	Software development	Task calendar
Requirement Document	Write 40%	Write 20%	Write 20%	Write 20%
Design Document	Write 20%	Write 20%	Write 20%	Write 40%
Test Plan	Write 20%	Write 20%	Write 40%	Write 20%

Thanks

- Questions?