

Milestone 3 Progress Evaluation

Tasteful Panthers: Food Recommendation at Dining Halls

Team Members

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Current Milestone Task Matrix

Task	Completion	Alex	Anthony	Jiahao	Lexi	To do
Dev & Demo Reviews with Tags and Media	80%	70%	10%	10%	10%	Complete integration of video upload to reviews.
Dev & Demo Menu Items Updated to App	100%	50%	10%	30%	10%	None
Dev & Demo GPS Triggered Notifications and Time Recording	80%	10%	70%	10%	10%	Implement average dining time tracking.
Dev & Demo User Accounts	80%	40%	20%	20%	20%	Add editable user profile with favorite dishes and dining time statistics.

Discussion of Tasks

Dev & Demo Reviews with Tags and Media - We have implemented the core functionality for posting and displaying reviews. Each review includes content, star rating, and associated tags. The support for attaching videos is not yet complete.

Dev & Demo Menu Items Updated to App - The PDH menu scraping system is fully implemented. It runs daily as an automated cloud function that fetches the latest menu data from the PDH official website, stores it in the database, and updates the app interface accordingly. The latest menu is now viewable directly within the app.

Dev & Demo GPS Triggered Notifications and Time Recording - GPS triggered notification is implemented. Users now receive a reminder upon arriving at PDH. However, because the average dining time feature is not yet implemented, in-meal review popups are not yet active, but this is planned and not technically difficult to implement.

Dev & Demo User Accounts - Users can now register and log into the app via Firebase Authentication. Once signed in, their username is automatically associated with their reviews. The app also allows users to view their own review history within the account section.

Discussion of Contribution

Alex Laureano: I was responsible for implementing the app's user interface and handling all aspects of database integration. This included designing and coding the layout and interactive components, ensuring a smooth and intuitive user experience. I also developed all in-app functionality, such as data input, retrieval, and user interactions, with the exception of the GPS and video features. My work ensured that the app was fully functional in terms of navigation, data flow, and responsiveness, forming the backbone of the user experience and backend communication.

Anthony Hordesky: I set up a local program scheduler for our PDH menu scraping code, so we can have that updating for free while we develop. Current day and next day menu items are updated everyday at 12 am. I also completed the notification and geofence functionality for the mobile app. Device location is now constantly being tracked in the background, with notifications being sent whenever the device enters or exits a 10 meter radius surrounding PDH.

Jiahao Shu: I was responsible for updating all review-related screens to read data from the Firestore database. This included implementing the `ReviewService.fetchAllReviews()` method, modifying `ReviewCard` to use `FutureBuilder` for asynchronous review loading, and updating `ReviewItem` to display review content from the database. The review interface now dynamically shows ratings, tags, text, and media based on backend data.

Lexi Franklin: This milestone I worked on getting videos implemented in reviews. I had gotten an API that works with a user's own Google sign in credentials. We discussed as a group whether this would be ideal or not, and after our advisor meeting we decided to proceed with using Google sign in for each user to upload their own videos to YouTube to include in the reviews.

Next Milestone

Task	Alex	Anthony	Jiahao	Lexi
Dev & Demo Review Submission UI	40%	20%	20%	20%
Dev & Demo Review Filtering & Display	20%	40%	20%	20%
Dev & Demo Smart Notifications	20%	40%	20%	20%
Dev & Demo Enhanced User Profiles	20%	20%	40%	20%
Dev & Demo Collaborative Meal Recommendations	20%	20%	20%	40%

Discussion of Planned Tasks

Dev & Demo Review Submission UI - Implement video uploads and four interactive buttons—one for favorites and three for category tagging.

Dev & Demo Review Filtering & Display - Enable filtering by star rating, tags, and keywords; ensure alignment with the requirements document.

Dev & Demo Smart Notifications - Trigger notifications on PDH entry and mid-visit, redirect to personalized dashboard and review interface, and log visit duration.

Dev & Demo Enhanced User Profiles - Display favorite dishes, update and show PDH visit duration, and structure profile information clearly.

Dev & Demo Collaborative Meal Recommendations - Calculate user similarity, identify the closest match, and recommend new high-rated dishes not yet tried.

Dates Met With Client: 4/4, 4/18

Client Feedback

See Faculty Advisor Feedback below.

Dates Met

We met with our Client/Faculty Advisor on 4/4 and 4/18

Faculty Advisor Feedback

April 4th, 2025 -

1. iOS/Android platform
 - a. Focus on one platform
 - b. Finish entire project on one, only then move to next platform
 - c. Platform of our choosing
2. Writing Reviews
 - a. Missing Tags, Images, Videos for GUI
 - b. Missing Connection to Database, i.e. saving data in database & getting data from database
 - c. Dish to be reviewed could be searched from dishes currently offered at that meal time, sorted by whether the user likes dishes or not, separate drop-down menus
 - d. 4 separate buttons, previously liked dishes, sorted by user rating, a-k, l-o, p-z (for example) which provide drop downs, alphabetical sorting
3. User Profile / Account
 - a. Missing User Profile Page
 - b. Missing Entries for Favorite Dish, Duration at PDH
4. Notification & Time Recording
 - a. Notify the user while entering PDH
 - b. Notify the user while halfway to write a review (based on user profile information)
 - c. Timestamps need to be recorded while entering and leaving to calculate difference (duration at pdh) and update PDH duration in user profile
5. Draft of Progress Evaluation for Milestone 3
 - a. As before, plan on milestone 4
 - b. Copy the notes into the report as feedback

April 18th, 2025 -

1. Writing Reviews
 - a. Incorporate Video
 - b. Improve menu drop down to 4 buttons, 1 for previously liked items, 3 for shorter groups of alphabet letters
2. User Profile
 - a. Include highly rated dishes display (4 stars or above, possibly 5 stars only)
 - b. Display for the user profile, including pdh duration and favorite dishes
 - c. (Low Priority) Later on, allow for configurable profile data, i.e. override favorite dishes threshold and/or pdh duration
 - d. Avg = current average, Count = number of visits, NewD = New Duration,
$$\text{Avg} = (\text{Avg} * \text{Count} + \text{NewD}) / (\text{Count} + 1)$$
3. Notifications
 - a. Recording entry and exit times to calculate duration

- b. Update average duration in user profile, see 2.d. For calculation
 - c. Generate a second notification halfway through duration after entry
 - d. Clicking on review reminder notification should redirect to review screen
 - e. Clicking on first notification should redirect to dashboard for recommendation
- 4. Progress evaluation
 - a. Copy notes into document as feedback
 - b. Milestone 4
 - i. Writing Reviews: Incorporate video and 4 buttons, 1 for favorite items, 3 for shorter alphabet groupings
 - ii. Reading Reviews: Filter by star rating, tags, key words, check requirements document
 - iii. Notifications: Include second notification halfway through PDH and redirection to dashboard of recommendations and to writing reviews for 1st and 2nd notification, recording entry and exit times for duration
 - iv. User Profile: Include highly rated dishes, updating pdh duration, and displaying profile. Add allergy tags, youtube account info (for video integration)
 - v. Personalized Meal Recommendation:
 - Step 1: Calculate distances to other users, then Divide distance by number of overlapping dishes
 - Step 2: Find the closest
 - Step 3: Recommend highly rated dish that user D has not tried (i.e. no rating before)
 - vi.

User	Dish 1	Dish 2	Dish 3	Dish 4	Distance from D
A	5	2	2	5	1 / 2
B	1	3	5		8 / 2
C	5	4	5		4 / 2
D	5	?	1	?	-
E	4				1 / 1

- vii. Dashboard: The 1st entry is a recommendation based on Tasteful Twin (personalized recommendation). The 4th entry is a new dish that is available today and was suggested/voted by guests (from dish suggestions to the staff)