RU HUNGRY PROPOSAL
CS 04321: SOFTWARE ENGINEERING I

Team Mavericks

High Level Description/Summary

Rowan University provides students with numerous opportunities to join clubs and organizations that also offer free food and merchandise. While the events are posted in ProfLink, the sheer amount of events each day can often clutter the Proflink UI. Through scattered flyers, emails, or word-of-mouth, it can be easy to miss these opportunities. Students can benefit from a centralized app that lists and organizes all upcoming events while specifying what free food is served.

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Project Title:

RU Hungry *- Find Free Food Events on Rowan University Campus*

Problem Statement:

Many Rowan college students are unaware of the free food events hosted on campus due to the often cluttered and unorganized ProfLink user interface. These events are often advertised via unorganized flyers, emails, and word-of-mouth. It makes it difficult for students to enjoy the benefits of free food that comes from committing to a club and/or organization. The application developed by our team will aim to organize food-related events so that they are more accessible to the Rowan student body.

Proposed Solution:

The application shall provide a real-time event locator for free food opportunities on campus. Students should be able to quickly check: what is happening in the event, where the event is located on campus, when the event will take place, who the event organizers are, and what type of food will be served (i.e. pizza, snacks, drinks, etc). Alongside the pre-existing ProfLink features, this new application should improve the user experience significantly.

Key functionalities include:

1) Interactive Map View: Interactive campus map showing locations of free food events for easy access. Below are examples of interactive maps.

2) Event Discovery: Event feed with time, location, and type of food offered.
3) Real-Time Notifications: Push notifications/reminders for nearby or upcoming events.
4) Search & Filters: Filtering/search by food type, event category, or sort by date and time.
5) Organized Calendar: In-built calendar that can push notifications about registered and unregistered events.
6) Visual Dashboard: Color-coded event calendar or dashboard that complies with W3C Standards.

Key Features:

Here are five Product Backlog Item with user stories and short descriptions of what the user needs and why:

1) As a student, I want to browse a list of upcoming free food events on campus so that I don't miss opportunities.
2) As a student, I want to view events on an interactive campus map so that I can easily find the location.
3) As a student, I want to receive push notifications when a free food event is happening nearby so that I can decide quickly.
4) As a student, I want to filter events by time, location, or type of food so that I can find the ones I'm most interested in.
5) As a student, I want a visually color-coded calendar and dashboard with all the unregistered and registered events for easy access.

Technology Stack:

1) Frontend (Mobile App):
    a) Expo Native: for simplified mobile application and testing.
    b) Figma: UI design and wireframing
    c) Coolors: Pick a better color palette.
2) Authentication & User Management:
    a) Clerk: secure authentication (login, signup, session handling).
3) Backend (Server & APIs):
    a) Node.js with Express: server framework to handle API requests.
4) Database & Caching:
    a) NoSQL cloud database for storing event data.
    b) Caching layer
5) Middleware & APIs:
    a) Openstreetmaps API and Mapbox: to display campus maps and events pins.
    b) Expo Push Service: for push notifications.
6) Hosting & Deployment:
    a) App Stores (iOS/Android): for distributing the mobile app.
7) Project Management & Collaboration (Scrum):
    a) Trello/GitHub: backlog tracking, sprint planning, and task assignments.

Team Roles & Responsibilities:

Team responsibilities and roles are interchangeable and each team member is allowed to step into other team members' roles.

Shreeya Kamal	QA Tester	Test features across devices, verify event posting and notifications, technical bugs, and confirm readiness before deployment.
Qasim Chaudhry	Frontend Developer	Designs the UI/UX of the mobile view, codes the wireframes, such that backend developer can easily integrate the endpoints
Sarvagya Dwivedi	Backend Developer	Designs the architecture of the dataflow inside the app, and designs the database for efficient and optimized data fetching.
Zeshan Rehan	Scrum Master	Schedules weekly standups, Holds people accountable

Expected Outcomes:

1) Accessible Deployed Software: A minimalist functional mobile app that students can download and use to discover free food events on campus.
2) Demo: A live demonstration of all the features of the app
3) Artifacts & Documentation:
    a) Product backlog and sprint board (Scrum artifacts).
    b) Architecture diagrams and database schema.
    c) User stories and acceptance criteria.
    d) Testing documentation and bug reports.
4) Interaction with Rowan ProfLink API: This app will fetch approved campus event data (with date, time, location) in real-time from the Engage API and display it to users.
5) Deployment: The app will be published for testing via Expo and/or TestFlight/Play Store.