



PSU Food Hub Mobile Application

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1. Overview

Our team aims to improve Prince Sultan University's campus dining experience by addressing long queues and limited digital access to food services. The PSU Food Hub Mobile Application will enable students and staff to browse menus, customize orders, pay securely, and receive notifications when food is ready for pickup. By integrating with PSU's payment system and displaying nutritional information, the app enhances convenience, promotes healthy eating, and reduces waiting times, creating a faster and smarter dining experience on campus.

2. Problem Statement

Prince Sultan University currently relies on traditional, manual food ordering systems, where students and staff must queue to place and collect orders. During busy hours, this results in long waiting times, crowded spaces, and frequent errors in order handling. Additionally, the lack of a digital interface makes it difficult for users to preview menus, check item availability, or make informed food choices. This inefficient system negatively affects both users and cafeteria staff — reducing productivity, lowering satisfaction, and increasing operational stress. Without a digital solution, PSU cafeterias cannot effectively manage high demand or provide data-driven insights into food consumption trends.

3. Opportunity Statement

The **PSU Food Hub Mobile Application** presents an opportunity to transform the university's food service experience through technology-driven innovation. The app will provide an intuitive interface for students and staff to explore menus, customize their meals, make digital payments, and receive real-time updates about order status. Cafeteria staff will benefit from a streamlined order management dashboard that reduces errors and improves service speed. The system will integrate securely with PSU's existing payment infrastructure and promote healthier lifestyles by making on-campus dining more efficient, convenient, and user-friendly. Overall, the PSU Food Hub App will enhance operational efficiency, elevate user satisfaction, and support PSU's ongoing digital transformation efforts.

4. Project Goals

1. Using and waiting time at PSU campus cafeterias

Enable advance ordering, pickup notifications, and real-time status updates to significantly decrease the time students and staff spend in physical lines.

2. Improve user convenience and satisfaction

Provide a smooth and intuitive mobile experience so users can browse menus, customize orders, and pay digitally, increasing adoption and satisfaction.

3. Promote healthier food choices and transparency

Integrate nutritional information to highlight healthier menu items and encourage better dietary awareness among students and staff.

4. Integrate with PSU's existing payment and campus systems

Ensure seamless integration with PSU's payment infrastructure such as student accounts and campus card systems, as well as authentication and notification platforms.

5. Enhance operational efficiency and coordination for cafeteria staff

Provide tools such as order dashboards and alerts to help staff manage orders efficiently, reduce food waste, and balance kitchen workload.

6. Ensure security, privacy, and system reliability

Deliver a robust and secure system that protects user data and maintains consistent performance, especially during peak hours.

7. Deliver the project within time, budget, and quality constraints

Complete the system on schedule and within allocated resources while meeting PSU's quality standards and stakeholder expectations.

5. Stakeholders List

1. Primary Stakeholders

- **Students and Staff (Users):**

The main users of the Food Hub app. They browse cafeteria menus, customize meals, place digital orders, pay securely through PSU's system, and receive notifications when their food is ready. Their feedback helps improve menu options and service quality.

- **Restaurant and Coffee Shop Staff (Managers and Operators):**

employees of Tim Hortinze, KUDO, and Selu, among other college eating establishments. Through the app's dashboard, they oversee incoming orders, cook meals, instantly update menu availability, and guarantee prompt pickup and service.

2. Secondary Stakeholders

- **Project Manager:**

Oversees project progress, coordinates communication, and ensures timely completion.

- **Designers and Developers :**

Responsible for the mobile app's UI/UX and backend infrastructure. They ensure smooth navigation, secure data handling, and seamless integration with PSU's systems

- **University IT Department:**

The university's IT department helps with platform integration across PSU systems, maintains server infrastructure, offers technical assistance, and guarantees cybersecurity.

3. External Stakeholders

- **Payment Gateway Providers:**

Payment gateway providers are outside businesses in charge of safely processing electronic payments and making sure that financial transaction requirements are followed.

4. Executive Stakeholders

- **University Administration / Management:**

Provides strategic direction, approves project goals, allocates resources, and ensures that the Food Hub supports PSU's broader digital transformation and sustainability initiatives.

6. Team Organizational Structure

Our team is a student-driven group that follows the Scrum framework to promote agility, teamwork, and continuous improvement. The team is composed of five members, each contributing to various aspects of the project, including planning, development, testing, and documentation. Given our team size, we operate collaboratively and flexibly, allowing members to take on multiple responsibilities instead of adhering to rigidly defined roles. This approach encourages shared accountability, active communication, and efficient problem-solving throughout the project lifecycle.

7. Detailed Scope Statement

The PSU Food Hub Mobile Application aims to simplify and enhance the on-campus dining experience by providing a digital platform for students, staff, and cafeteria vendors. The project focuses on reducing long queues, improving food service efficiency, and promoting healthier eating habits through real-time ordering, digital payments, and live order notifications.

In Scope Features

- **User Authentication:** Secure login using PSU Single Sign-On (SSO) for students and staff.
- **Menu Browsing:** View daily menus with item details, prices, availability, and images.
- **Meal Customization:** Choose portion sizes, add or remove ingredients, and include preparation notes.
- **Digital Payments:** Pay seamlessly through PSU's internal payment system for a cashless experience.

- Order Tracking: Monitor order progress and receive notifications when food is ready for pickup.
- Role-Based Access Control (RBAC): Manage permissions and protect data privacy by assigning specific access levels to users, such as students, cafeteria staff, and administrators.
- Healthy Choices Filter: Highlight nutritious, vegetarian, and allergen-free meal options.
- Vendor Dashboard: Allow cafeteria staff to manage menus, update availability, and process incoming orders.
- Bilingual Support: The interface is available in both Arabic and English for inclusivity and accessibility.
- Admin Controls: Provide PSU administrators with oversight of vendors, transactions, and usage analytics.

Out of Scope Features

- Food delivery outside the PSU campus.
- Integration with third-party restaurants or external delivery services.
- AI-based meal recommendations.