Patuakhali Science and Technology University
Faculty of Computer Science and Engineering

CCE 310 :: Software Development Project-I

Sessional Project Proposal

Project Title : PSTU Diary
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Submitted from,	Submitted to,
Md. Sharafat Karim **ID** : 2102024, **Reg** : 10151, **Semester** : 5 (Level-3, Semester-1)	1. **Prof. Dr. Md Samsuzzaman** Professor, Department of Computer and Communication Engineering, Patuakhali Science and Technology University. 2. **Arpita Howlader** Assistant Professor, Department of Computer and Communication Engineering, Patuakhali Science and Technology University.

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PSTU Diary

1. Introduction

PSTU Diary is a cross-platform application designed to help students and faculty members of Patuakhali Science and Technology University (PSTU) efficiently access resources and contact information of various departments, faculties, and administrative offices. The app aims to provide a user-friendly interface for quick navigation and retrieval of essential information, enhancing the overall experience of the university community.

It stores contact information of our University "Patuakhali Science and Technology University" all employees including Teacher, Staff, MLSS and Others who are directly or indirectly related to this University. Contact information includes phone number, email address.

2. Objectives

- To develop a user-friendly mobile application that provides easy access to contact information of PSTU departments and personnel.
- To ensure the application is accessible on Web, Android and iOS platforms.
- To provide administrative features for updating and managing contact information.
- Implement different pages for different club and societies of PSTU.
- Implement a notice board for important announcements and updates.
- Implement a feedback system for users to report issues or suggest improvements.
- Implement blood donor finder feature for emergency situations.
- Implement a lost and found section for reporting and locating lost items.
- Implement a campus map for easy navigation around the university.
- Implement an event calendar for upcoming university events and activities.
- Ensure data security and privacy for all users of the application.

3. Problem Statement

Existing applications and websites often lack a centralized and user-friendly platform for accessing university contact information. Users may face difficulties in finding accurate and up-to-date information, leading to inefficiencies in communication.

Also the existing application "PSTU Diary (পবিপ্রবি ডায়েরি)" is no longer maintained and has several limitations, including a less intuitive user interface, lack of features for updating contact information, and limited platform support (only available on Android). This creates a need for a more modern, efficient, and accessible solution.

4. Related Work

- [1] **PSTU Diary (পবিপ্রবি ডায়েরি) - Old Version** - Old version, no longer maintained. It lacks the ability to update contact information and has a less intuitive user interface. It also doesn't support iOS or web platforms.[1]

- [2] **PSTU Diary (পবিপ্রবি ডায়েরি) - Admin Version** - Only for Admin, with unstable API. It is not available for general users and has limited functionality. Database is not well-structured. And it uses MySQL as for the database source, which is not well protected with row level security.[2]

5. Scope

The application will focus on providing contact information for all departments and personnel within PSTU. It will include features such as search functionality, categorization of contacts, and an admin panel for updating information. The app will be developed for Android, iOS, and web platforms to ensure wide accessibility.

6. Methodology

6.1. Technology Stack

The development of PSTU Diary will follow an agile methodology, allowing for iterative improvements and user feedback. Our technology stack will includes,

- **Frontend**: Flutter[3] (Dart)
- **Backend**: Supabase
- **UI/ UX Design**: Figma
- **Database**: PostgreSQL
- **Authentication**: JWT or OAuth2
- **Hosting (web app)**: Vercel or Netlify
- **CI/CD**: GitHub Actions, Docker (optional)

6.2. Design Principles

The design of PSTU Diary will adhere to the following principles,

- **Material Design**: Following Google's Material Design guidelines for a consistent and modern UI/UX in Android.
- **Responsive Design**: Ensuring the application works seamlessly on various screen sizes and orientations, including the web app.
- **User-Centric Design**: Focusing on user experience and ease of use, with intuitive navigation and clear UI elements.
- **Cross-Platform**: Ensuring consistent functionality and design across Android, iOS, and web platforms.
- **Documentation**: Providing comprehensive documentation for developers and users, including API documentation and user guides.
- **Security**: Implementing best practices for data security and user privacy, including secure authentication and data encryption.
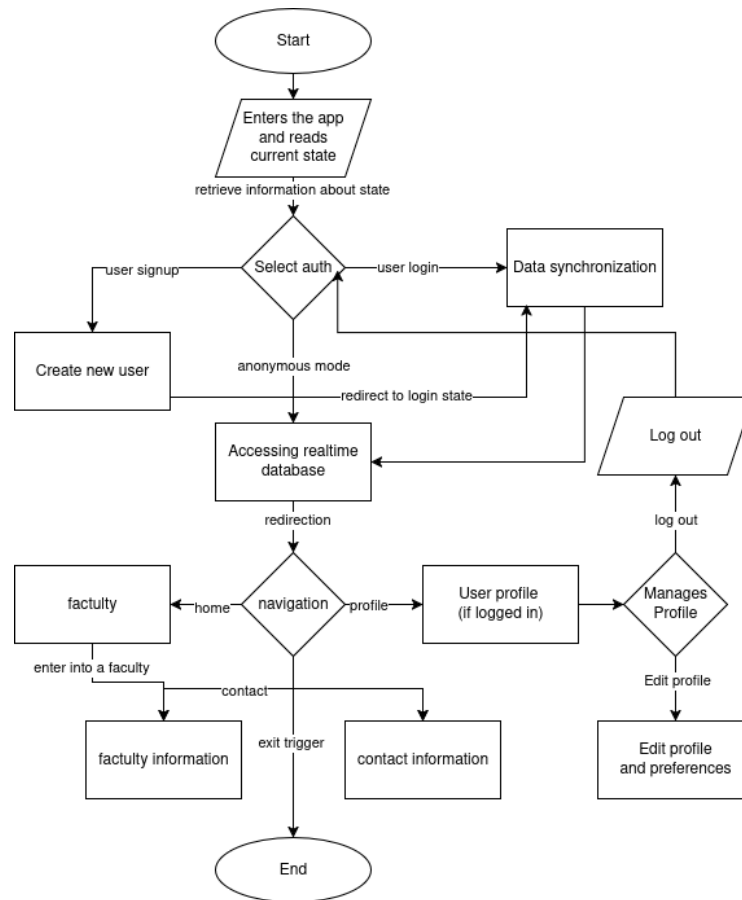
7. Visual Models

7.1. Flow Chart Diagram

Figure 1: Flow Chart of PSTU Diary Architecture
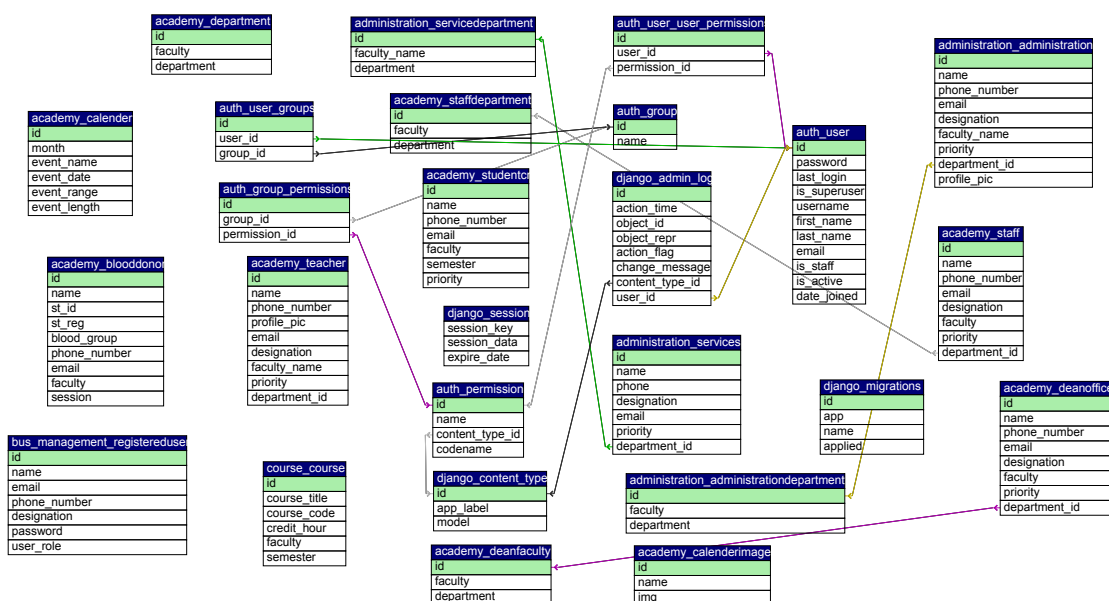
7.2. Schema Diagram

Figure 2: Database Schema Diagram of PSTU Diary
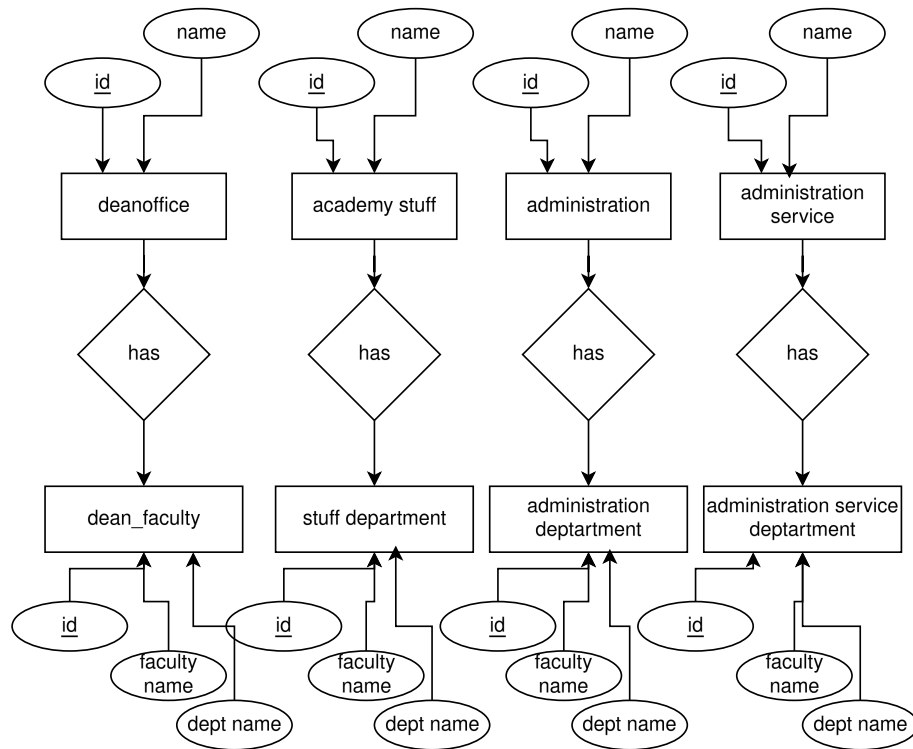
7.3. ERD (Entry Relationship Diagram)

Figure 3: Entity Relationship Diagram of PSTU Diary

The above Figure 3 illustrates the entity-relationship diagram for PSTU Diary, showing the entities, their attributes, and relationships between them. The ERD helps in understanding the data model and how different entities interact with each other.

7.4. Timeline (Gantt Chart)

The base timeline for the development of PSTU Diary is as follows,

Task	Week 1-2	Week 3-4	Week 5-6	Week 7-8	Week 9	Week 10	Week 11	Week 12
Requirements & UI Mockup	✓		✓					
App structure and navigation design		✓	✓					
Basic UI and supabase/ backend integration			✓	✓				
Admin panel design with role-based access control			✓	✓	✓			
Fetch data realtime from db						✓		
UI Polish & Documentation						✓	✓	
Final Testing & Deployment								✓

Table 1: Development Timeline of PSTU Diary

The timeline is divided into 12 weeks, with specific tasks allocated to each period which describes an approximate timeline for the whole development process.
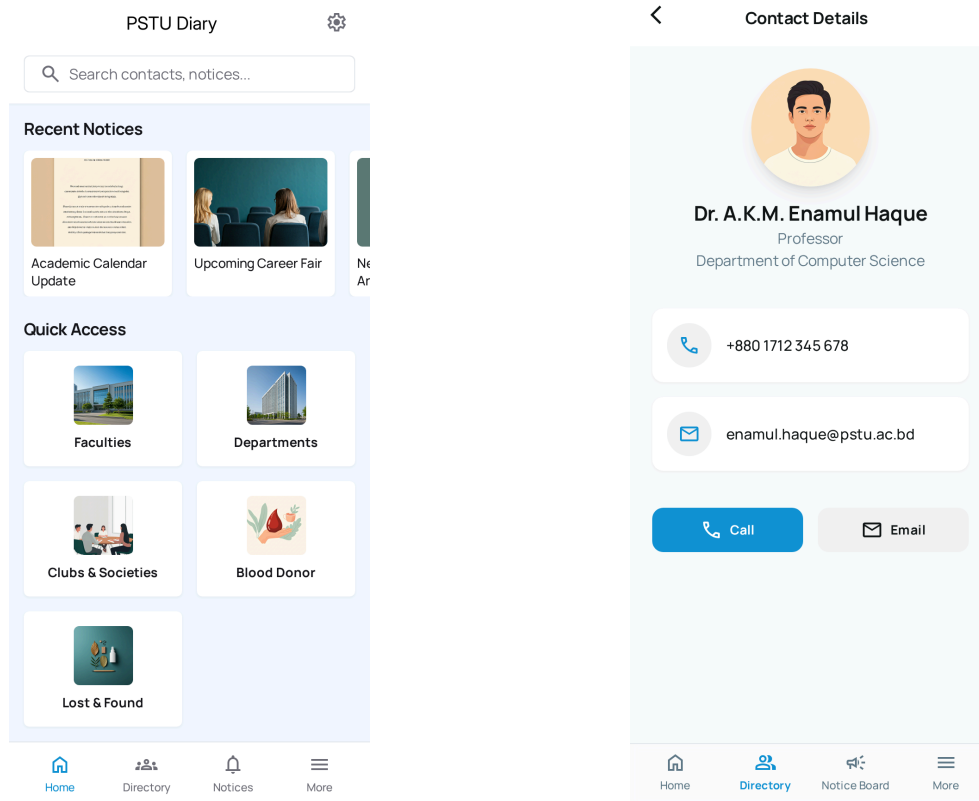
7.5. UI Mockups

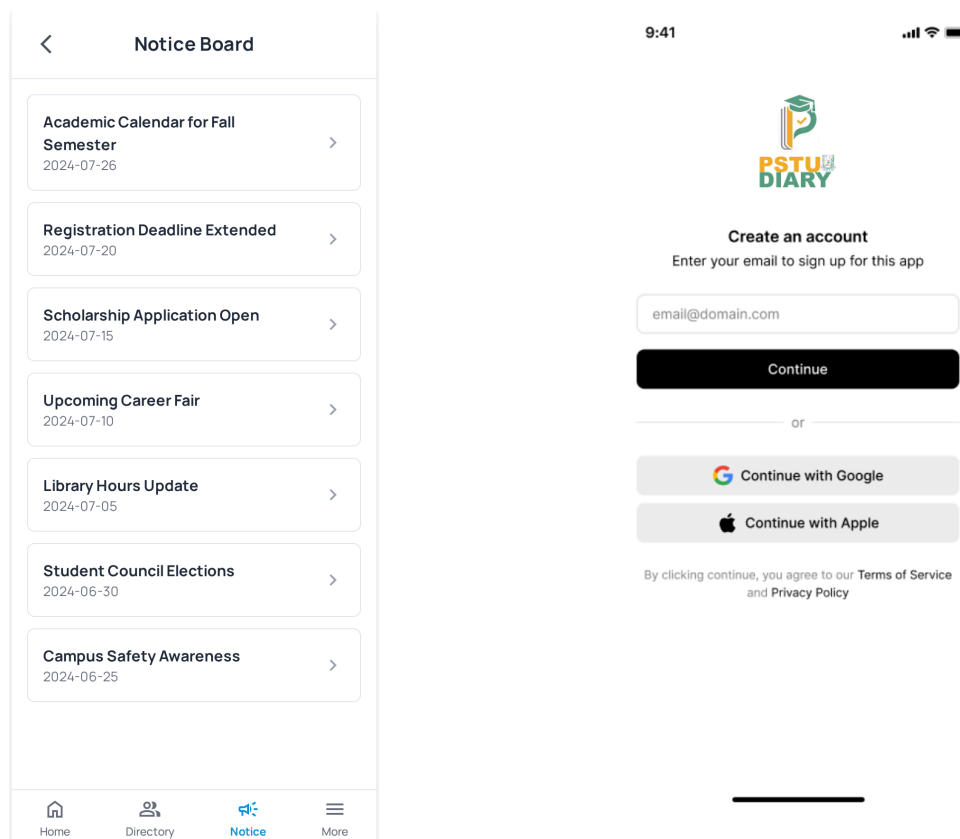Figure 4: Add Bookmark page and reader page's UI concept

Figure 5: Settings and sign in page's UI concept

8. Future Plans

1. Implementing more features like event calendar, campus map, lost and found section, blood donor finder etc.
2. Adding more information about club activities.
3. Implementing student section for students to enable self-service features and recommendations.
4. Enhancing the admin panel with more functionalities.
5. Improving the UI/UX based on user feedback.
6. Implementing push notifications for important updates and announcements.

9. Result

The project is aimed to give students and faculty members of Patuakhali Science and Technology University (PSTU) a centralized platform to access contact information and resources efficiently. The application is expected to enhance communication within the university community and provide a user-friendly experience across multiple platforms.

10. References

[1] "PSTU Diary (পবিপ্রবি ডায়েরি) - Old Version." Accessed: Jul. 18, 2025. [Online]. Available: https://play.google.com/store/apps/details?id=com.monir24.pstu.diary&hl=en-US

[2] "PSTU Diary (পবিপ্রবি ডায়েরি) - Admin Version." Accessed: Jul. 18, 2025. [Online]. Available: https://dairy.pstu.ac.bd/

[3] "Flutter." [Online]. Available: https://flutter.dev/

11. Weekly Report

No.	Date	Objective	Status	Remarks
1		**Project proposal** • Initial research on existing solutions • Defining objectives and scope • Creating initial UI mockups		
2		**Environment and navigation setup** • Setting up development environment • Designing app structure and navigation • Creating basic UI components		
3		**Basic UI and backend integration** • Implementing basic UI screens • Integrating with Supabase for authentication and authorization • Theming and multilingual support		
4		**Admin panel design with role-based access control** • Designing admin panel UI • Implementing role-based access control for different user types • Testing admin functionalities		
5		**Realtime data fetching from database** • Implementing real-time data fetching using Supabase • Testing data synchronization across devices • Optimizing data queries for performance		
6		**UI Polish & Documentation** • Refining UI elements for better user experience • Creating comprehensive documentation for users and developers • Preparing for final testing and deployment		
7		**Final Testing & Deployment** • Conducting final testing on all platforms • Fixing bugs and issues identified during testing • Deploying the application to app stores and web hosting platforms		