



BRAC Uni-Verse: Your Cosmic Companion

Software Engineering (CSE470)

Summer 2024

Section 1

Submitted by Group 3

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SRS Document of BRAC Uni-Verse

1. Introduction

1.1 Purpose

The purpose of this document is to describe the requirements for the University Campus Management System. The system aims to integrate various functionalities needed for students, faculty, and alumni within the campus to improve their experience and interaction with campus facilities.

1.2 Scope

The system will include modules for user authentication, class schedule integration, academic and event calendar integration, lost and found management, rental services (ToLet), faculty information, alumni corner, academic resources, emergency alerts, campus navigation, and a feedback and suggestion portal.

1.3 Definitions, Acronyms, and Abbreviations

- USIS: University Student Information System
- VC: Vice Chancellor
- DCO: Department Coordination Office
- ROBU: Robotics Club
- BUCC: BRAC University Computer Club
- G Suite: Google Suite (Brac University Mail)

1.4 References

- University Campus Policies
- Relevant technical documentation for USIS and G Suite integrations

2. Overall Description

2.1 Product Perspective

The University Campus Management System is an integrated web-based platform that centralizes various services required by students, faculty, and alumni. It will interface with existing systems such as USIS and G Suite for seamless integration.

2.2 Product Functions

The main functions of the system include:

- User Authentication
- Class Schedule Integration
- Academic and Event Calendar Integration
- Lost and Found Management
- Rental Services (ToLet)
- Faculty Information Access
- Alumni Corner
- Academic Resources Repository
- Emergency Alerts
- Campus Navigation
- Feedback and Suggestion Portal

2.3 User Classes and Characteristics

- Students: Primary users who will interact with class schedules, academic resources, and campus navigation.
- Faculty: Users who will provide consultation hours, room numbers and email address.
- Alumni: Users who will access the alumni corner for job offerings and career guidance.
- Admin: Users who will manage the system, handle lost and found items, and monitor emergency alerts.

2.4 Operating Environment

The system will be web-based and accessible through modern web browsers on desktop and mobile devices.

2.5 Design and Implementation Constraints

- Integration with existing systems (USIS and G Suite)
- Data privacy and security compliance
- Scalability to handle a large number of users

2.7 Assumptions and Dependencies

- Users have access to the internet.
- Necessary APIs for USIS and G Suite integration are available.

2.8 Out of Scope Features

- Augmented Reality (AR) Navigation: Use AR to overlay directions and information on the campus map through users' smartphone cameras.
- Accessibility Features: Routes optimized for wheelchair access, visual and auditory guidance for visually and hearing-impaired users.

3. Specific Requirements

3.1 User Authentication

3.1.1 Features

- Login: Allows users to log in using their G Suite email or user ID and password.
- G Suite Mail/User ID: Enables users to log in with their university-provided G Suite email or user ID.
- Password: Ensures secure access to the system through a password mechanism.
- Forgot Password: Provides a way for users to reset their password if they forget it.
- Sign Up: Allows new users to create an account by providing their name, ID, G Suite email, and password.

- Reset Password: Enables users to change their password by entering their old password and creating a new one.

3.2 Class Schedule Integration

3.2.1 Features

- Import Class Schedule from USIS: Automatically imports the user's class schedule from the USIS.
- Search for Vacant Classrooms and Labs: Allows users to search for available classrooms and labs for study or meetings.
- Import User Class Routine: Integrates the user's class routine into the system for easy access.
- Notifications for Class Schedules: Sends notifications to users about their upcoming classes.
- Notifications for Midterms and Finals: Provides alerts for upcoming midterm and final exams.
- Manual Reminder Settings: Allows users to set custom reminders for their classes and exams.

3.3 Academic and Event Calendar Integration

3.3.1 Features

- Event Notifications: Sends notifications about upcoming events on campus.
- Organization by Clubs: Displays events organized by various campus clubs such as ROBU and BUCC.
- Academic Notifications: Provides alerts for academic deadlines and important dates such as payments, seminars etc.

3.4 Lost and Found

3.4.1 Features

- Report Lost Items: Allows users to report lost items by uploading pictures and providing details.
- Check Received Items: Lets users check if their lost item has been found and received.
- Search by Item Name: Provides a search functionality to find lost items by their name, such as ID cards.

3.5 ToLet

3.5.1 Features

- Male/Female Sections: Segregates rental listings based on gender.
- Upload Pictures and Details: Allows users to upload pictures and descriptions of rooms available for rent.
- Status Updates: Provides status updates on the availability of rental properties.
- Search by Location: Enables users to search for rental properties based on their location.

3.6 Faculty Information

3.6.1 Features

- Name: Displays the name of the faculty member.
- Room Number: Shows the room number where the faculty member can be found.
- Consultation Hour: Provides information on the faculty member's available consultation hours.
- Email: Displays the email address of the faculty member for contact purposes.

3.7 Alumni Corner

3.7.1 Features

- Alumni Profiles: Displays profiles of alumni, including their achievements and contributions.
- Job Offers by Alumni's Organizations: Lists job opportunities provided by organizations where alumni are employed.
- Career Guidelines: Provides career advice and guidance from alumni.

3.8 Academic Resources

3.8.1 Features

- Recorded Lectures: Provides access to recorded lectures for students to review.
- Previous Semester Notes and Slides: Offers notes and slides from previous semesters for reference.
- Quiz, Midterm, and Final Questions: Provides past questions for quizzes, midterms, and final exams for practice.

3.9 Emergency Alerts

3.9.1 Features

- Fire Alarm Initiation by Username: Allows authorized users to initiate a fire alarm.
- Earthquake Alarm Initiation by Username: Allows authorized users to initiate an earthquake alarm.

3.10 Campus Navigation

3.10.1 Features

Locations of Campus Facilities: The campus navigation feature provides detailed information about the location and structure of various campus facilities, including the number of rooms and floors in each building such as Brac bank, medical center etc.

3.11 Feedback and Suggestion Portal

3.11.1 Features

- Submit Feedback: Allows users to submit feedback about their experience on campus.
- Submit Suggestions: Enables users to provide suggestions for improvements.

4. External Interface Requirements

4.1 User Interfaces

Web-based interface accessible via browsers

4.2 Hardware Interfaces

None

4.3 Software Interfaces

Integration with USIS and G Suite

4.4 Communication Interfaces

HTTPS for secure communication

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The system should handle concurrent users efficiently.

5.2 Safety Requirements

The system must ensure data privacy and comply with relevant regulations.

5.3 Security Requirements

- Authentication and authorization mechanisms
- Data encryption

5.4 Software Quality Attributes

- Usability
- Reliability
- Scalability

5.5 Operational Policies

- Users must be authenticated to access personalized features.
- Only authorized personnel can initiate emergency alerts.

6. Other Requirements

- Regular backups of data
- Support for multiple languages (Bangla, English)