**COMSATS University Islamabad**

A blue and white logo

Description automatically generated**Abbottabad Campus**

**Assignment No.** **01**

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**Course: Software Engineering Concepts**

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**1. Introduction**

**1.1 Purpose**

This document defines the software requirements for the *Campus Navigation and Information System* (CNIS). The system will help students, faculty, staff, and especially visitors to navigate the campus, find points of interest, and stay informed about campus events, announcements and guide the visitors.

**1.2 Scope**

CNIS is a mobile and web-based application designed to provide a digital map of the campus, real-time navigation assistance, and information about departments, buildings, events, and services on campus.

**1.3 Definitions, Acronyms, and Abbreviations**

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| --- | --- |
| **Term** | **Definition** |
| CNIS | Campus Navigation and Information System |
| GPS | Global Positioning System |
| UI | User Interface |
| POI | Point of Interest |

**1.4 References**

* IEEE SRS Standards
* Sample Mobile Map Applications (e.g., Google Maps)
* University/Campus Layout Documents (hypothetical)

**2. Overall Description**

**2.1 Product Perspective**

CNIS is a standalone system but may integrate GPS for real-time location tracking. It will offer an intuitive UI for users to easily search for locations and events.

**2.2 Product Functions**

* Display interactive campus map
* Search for buildings, departments, classrooms, POIs
* Provide directions (walking routes) across campus
* List of upcoming campus events
* Show real-time announcements (e.g., building closures)

**2.3 Assumptions and Dependencies**

* Users will have mobile devices with GPS and internet access.
* Campus map data will be provided and updated periodically by the administration.
* Integration with external event systems is possible but optional.

**3. Specific Requirements**

**3.1 Functional Requirements**

* The system will allow users to view the campus map.
* The system will allow users to search for a specific building or location.
* The system will provide walking directions from the user's location to a selected destination.
* The system will display a list of upcoming events.
* The system will allow administrators to post announcements.

**3.2 Non-Functional Requirements**

* **Usability:** The UI must be user-friendly and intuitive for all user groups.
* **Performance:** Map and search features should respond within 2 seconds.
* **Reliability:** The system should be available 99% of the time.
* **Security:** Admin access should be protected by authentication.

**3.3 External Interface Requirements**

* **User Interface:** Mobile app (Android/iOS) and responsive web design.
* **Hardware Interface:** Mobile device sensors (GPS).
* **Software Interface:** Integration with external calendar APIs for events (optional).

**3.4 Constraints**

* Limited to GPS accuracy.
* Dependency on mobile data/internet connection for real-time navigation.

**4. Appendices**

**4.1 Glossary**

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| --- | --- |
| **Term** | **Definition** |
| POI | Points of Interest like libraries, cafeterias, sports facilities |
| Real-time Updates | Immediate display of new events or announcements |

**4.2 Supporting Documents**

* Campus building floorplans