The University of Faisalabad

SOFTWARE REQUIREMENT SPECIFICATION

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Software Requirement Specification

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Introduction

Purpose: This document outlines the requirements for the TUFMAP project, a software application designed to display room schedules and schedules for specific times in classrooms within the University of Faisalabad (TUF).

Scope: The scope of this project includes:

- Displaying the complete schedule of a given classroom.
- Displaying the schedule of a given classroom at a specific time slot.
- Providing a user-friendly interface for input and output.

The scope does not include:

- Real-time updates to the schedule.
- Integration with any external scheduling systems.
- Advanced features like search, filtering, or calendar integration.

Overall Description

Product Perspective: TUFMAP is a standalone command-line application. It does not require any external dependencies beyond the standard C++ library.

Product Functions: Display Room Schedule:

- Given a room number as input, the system should display the complete schedule for that room.
- The schedule should include time, teacher, subject, department, and semester for each time slot.

Display Room Schedule at a Specific Time:

- Given a room number and a specific time slot as input, the system should display the schedule for that room at the specified time.
- The output should include teacher, subject, department, and semester.

User Characteristics

The primary users of TUFMAP are expected to be students, faculty, and staff of TUF.

Basic computer literacy is assumed.

Operating Environment

- TUFMAP is designed to run on any platform with a C++ compiler.
- No specific operating system requirements are defined.

Specific Requirements

Functional Requirements:

FR1: Room Schedule Display:

- The system shall accept a room number as input.
- The system shall validate the input room number.
- The system shall display the schedule for the specified room, including time, teacher, subject, department, and semester for each time slot.
- The system shall display an error message if the room number is invalid.

FR2: Room Schedule Display at Specific Time:

- The system shall accept a room number and a time slot as input.
- The system shall validate the input room number and time slot.
- The system shall display the schedule for the specified room at the specified time, including teacher, subject, department, and semester.
- The system shall display an error message if the room number or time slot is invalid.

Non-Functional Requirements

Performance: The system shall respond to user input within a reasonable time frame.

Usability: The user interface shall be simple and easy to understand.

Reliability: The system shall function correctly under normal operating conditions.

Maintainability: The code shall be well-documented and easy to maintain.

Portability: The system shall be easily adaptable to different environments.

User Interfaces

Command-Line Interface:

- The system shall provide a simple command-line interface for user interaction.
- The interface shall display a menu of options to the user.
- The user shall select an option and provide necessary input.
- The system shall display the results of the operation to the user.

Other Non-Functional Requirements

Design Constraints:

- The system shall be developed using C++.
- The system shall use static data to store room schedules.

Assumptions:

- Room schedules are static and do not change frequently.
- The accuracy of the data provided in the code is assumed.

This SRS provides a high-level overview of the requirements for the TUFMAP project. It can be further elaborated and refined as needed during the development process.