University of Information Technology & Sciences- University Information System Management (UITS-UISM)

Requirements Specification Report
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Name	ID
Shariful islam sajib sarker	2125051016

Lead Software Engineer

Prepared for

Dr. Md. Ashraful Islam designation: Professor and Dean

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Table of Contents

1. Introduction

1.1 Purpose

The purpose of this document is to present a detailed description of the University Information System Management, It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli.

1.2 Intended Audience

There are different type of intended audience for this document such as developers, project managers, stakeholders, and anyone involved in the development of the University Information System Management.

1.3 Intended Use

The University Information System Management is designed to facilitate the management, monitoring, and maintenance of various information systems utilized within the university, including student information systems, academic systems, administrative systems, and more.

1.4 Product Scope

The University Information System Management will include features such as system monitoring, user access control, data management, system integration, and reporting capabilities for administrators and stakeholders.

1.5 Definitions and Acronyms

UISM: University Information System Management

RSR: Requirements Specification Report

2. Overall Description

2.1 User Needs

The UISM aims to meet the following user needs:

- Centralized management and monitoring of university information systems.
- Efficient user access control and permissions management.
- Seamless integration with existing information systems and databases.

- Comprehensive reporting capabilities for administrators to track system performance and usage.

2.2 Assumptions and Dependencies

Assumption: The UISM will be developed as a web-based application accessible via standard web browsers.

Dependency: The UISM will integrate with existing university databases and information systems for data retrieval and management.

3. System Features and Requirements

3.1 Functional Requirements

3.1.1 System Monitoring

Provide real-time monitoring of university information systems to track performance, usage, and potential issues.

3.1.2 User Access Control

Implement user authentication and authorization mechanisms to control access to sensitive information and system functionalities.

3.1.3 Data Management

Enable administrators to manage and update data within university information systems securely.

3.1.4 System Integration

Facilitate seamless integration with existing university databases and information systems for data sharing and synchronization.

3.1.5 Reporting Capabilities

Generate customizable reports for administrators to analyze system performance, usage statistics, and other relevant metrics.

3.2 External Interface Requirements

3.2.1 User Interface

The UISM shall provide a user-friendly web interface accessible via standard web browsers.

3.2.2 Database Interface

The UISM shall interface with existing university databases and information systems for data retrieval, storage, and synchronization.

3.3 System Features

3.3.1 Dashboard

Provide administrators with a centralized dashboard to monitor system status, access reports, and manage user permissions.

3.3.2 User Management

Allow administrators to create, modify, and delete user accounts, as well as assign roles and permissions.

3.3.3 Data Visualization

Incorporate data visualization tools to present system performance metrics and usage statistics in an easily understandable format.

3.4 Nonfunctional Requirements

3.4.1 Performance

The UISM shall be capable of handling a large volume of concurrent users without significant performance degradation.

3.4.2 Security

The UISM shall implement robust security measures to protect sensitive information and ensure user privacy.

3.4.3 Reliability

The UISM shall be reliable and available for use during scheduled hours of operation.

3.4.4 Scalability

The UISM architecture shall be designed to accommodate future growth and expansion of university information systems.

4. Software Requirement:

4.1 Operating System

The University Information System Management (UISM) shall be compatible with the following operating systems:

- Windows 10 or later
- macOS 10.14 or later
- Linux distributions (Ubuntu, CentOS, etc.)

4.2 Web Server

The UISM shall require a web server to host the application. Compatible web servers include:

- Apache HTTP Server
- Nginx
- Microsoft Internet Information Services (IIS)

4.3 Database Management System

The UISM shall utilize a relational database management system (RDBMS) for data storage and management. Compatible RDBMS include:

- MySQL
- PostgreSQL
- Microsoft SQL Server
- Oracle Database

4.4 Programming Languages and Frameworks

The UISM shall be developed using the following programming languages and frameworks:

Frontend: HTML, CSS, JavaScript, React.js

Backend: Node.js, Express.js, Python (Django or Flask)

5. Hardware Requirements:

5.1 Processor (CPU)

- Minimum: Dual-core processor (Intel Core i3 or equivalent)
- Recommended: Quad-core processor (Intel Core i5 or equivalent)

5.2 Memory (RAM)

- Minimum: 4 GB RAM
- Recommended: 8 GB RAM or higher

5.3 Storage

- Minimum: 100 GB of available disk space
- Recommended: 250 GB or more of available disk space

5.4 Network

The UISM shall require a stable internet connection for accessing web-based functionalities and communicating with external systems.The UISM shall require a stable internet connection for accessing web-based functionalities and communicating with external systems.

6. References:

1. **UIU UCAM**
   https://ucam.uiu.ac.bd/Security/LogIn.aspx
2. **NSU Portal**
   https://rds3.northsouth.edu/
3. **BUFT UCAM**
   https://ucam.buft.edu.bd/Security/Login.aspx