

**Department of Information and Communication Technology**

**Faculty of Technology**

**University of Ruhuna**

**Database Management Systems Practicum**

**ICT 1222**

**Assignment 02 – DRD**

Group 03

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**Data Requirement Document (DRD) - Faculty of Technology Student Information and Result Management System**

**Introduction**

**Purpose**

The purpose of this Data Requirement Document (DRD) is to provide a complete overview of the data needs, sources, formats, and constraints for the Faculty of Technology Student Information and Result Management System (FOT-SIRMS) project.

**Scope**

This document includes the data requirements of the FOT-SIRMS project, including both functional and non-functional aspects. It serves as a reference guide for data modeling, database design, and data management throughout the project lifecycle.

**Data Sources**

**Internal Sources (Database)**

The primary data source for FOT-SIRMS is the MySQL database system. The database will store all student-related data, academic records, attendance records, and user information.

**External Sources**

External sources of data may include integration with university systems for student registration information and any additional data required to enrich the FOT-SIRMS dataset.

**Data Needs**

**Functional Data Requirements**

The functional data requirements for FOT-SIRMS include the following:

* **User Data**: User account details, including role, username, password, and contact information.
* **Student Data**: Information about students, including registration numbers, names, statuses, and other relevant attributes.
* **Faculty Member Data**: Details of faculty members, including employee IDs, names, roles, and contact information.
* **Course Unit Data**: Course unit information, including course codes, names, credits, and assigned faculty members.
* **Attendance Data**: Records of student attendance for each course unit, including dates, percentages, and medical leave information.
* **Assessment Criteria Data**: Criteria for assessing student performance in course units, including names and weightages.
* **Marks Data**: Marks recorded for different assessments, linked to assessment criteria.
* **Results Data**: Final results for students, including CA marks, final marks, and eligibility status.

**Non-Functional Data Requirements**

Non-functional data requirements include data quality, accuracy, consistency, and security. Data should be maintained in accordance with university policies and regulations.

**Data Description**

**Entities and Attributes**

The following entities and their associated attributes are key to the FOT-SIRMS:

* Users
* Students
* Faculty Members
* Course Units
* Attendance
* Assessment Measures
* Marks
* Results

**Data Types**

Data types for attributes will be defined in accordance with standard database conventions, including VARCHAR, INT, DATE, and DECIMAL, among others.

**Constraints**

Data constraints will include primary keys, foreign keys, unique constraints, and check constraints to ensure data integrity.

**Data Flow**

Data within the FOT-SIRMS will flow through various processes, including data entry, processing, storage, and retrieval.

**Data Security**

Data security measures will be implemented to ensure access control, encryption, and auditing.

**Data Maintenance**

Data maintenance procedures, including backup and recovery plans and data archiving strategies, will be established and documented in accordance with best practices.

**Data Dictionary**

The Data Dictionary section will provide detailed definitions and descriptions of all data entities and attributes, including data types, constraints, and relationships.