SOFTWARE METHODLOGIES LAB
EXAM MANAGEMENT SYSTEM
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1. Introduction

1.1 Purpose

The purpose of this document is to outline the requirements and specifications for the development of an Exam management System, aiming to streamline the process of exam management for students and enhance administrative efficiency for university staff.

1.2 Scope

The Exam management System will cover the entire process of exam management including user authentication, marks calculation marksheet management, and displaying of results . It will cater to both students and administrators, providing a user-friendly interface for seamless interaction.

1.3 Overview

The Exam management System will facilitate the calculation oof marks of students for various exams conducted by the university. It will feature authentication mechanisms for user access, a comprehensive exam database, and administrative tools for managing exam details and generating report cards

1.4 Characteristics

User-Friendly Interface: Intuitive design for easy navigation and interaction. Secure Authentication: Robust authentication mechanisms to safeguard user data. Comprehensive Features: All-inclusive features for exam management. Scalability: Ability to scale to accommodate increasing numbers of users and exams.

1.5 Features

User authentication and login

Student marks and percentage calculation

Display of gradeds for respective subjects

Calculation of cgpa

Display of final marksheet

2. Functional Requirements

2.1 Interface Requirements

2.1.1 User Interface

Intuitive interface with clear navigation and informative prompts. Support for multiple languages and accessibility features.

2.1.2 Administrative Interface

Administrative dashboard for managing exam details, registrations, and reports.
Role-based access control for administrators with varying levels of permissions.

2.2 Performance Requirements

2.2.1 Response Time

User interactions should have a response time of less than 2 seconds.
System should support concurrent access by multiple users without performance degradation.

3.2.2 Workload

System must support approximately 10,000 users at the time of launch. Scalability to accommodate increasing workload as the user base grows.

3.3 Design Constraints

Compatibility with Android

4.1 or later versions for mobile access.
Integration with existing university systems for authentication and data management.

4. Non-Functional Attributes

4.1 Security

User data must be securely stored and transmitted.
Role-based access control to restrict unauthorised access to sensitive information.

4.2 Reliability

System availability of at least 99.9% uptime.
Regular backups of data to prevent loss in case of system failure.

4.3 Usability

Intuitive user interface with clear navigation and informative prompts. Support for multiple languages and accessibility features.

4.4 Scalability

EXPECTED OUTCOMES:- display of the marksheet including marks , percentage and cgpa of the student with their name and roll no .

DFD:-

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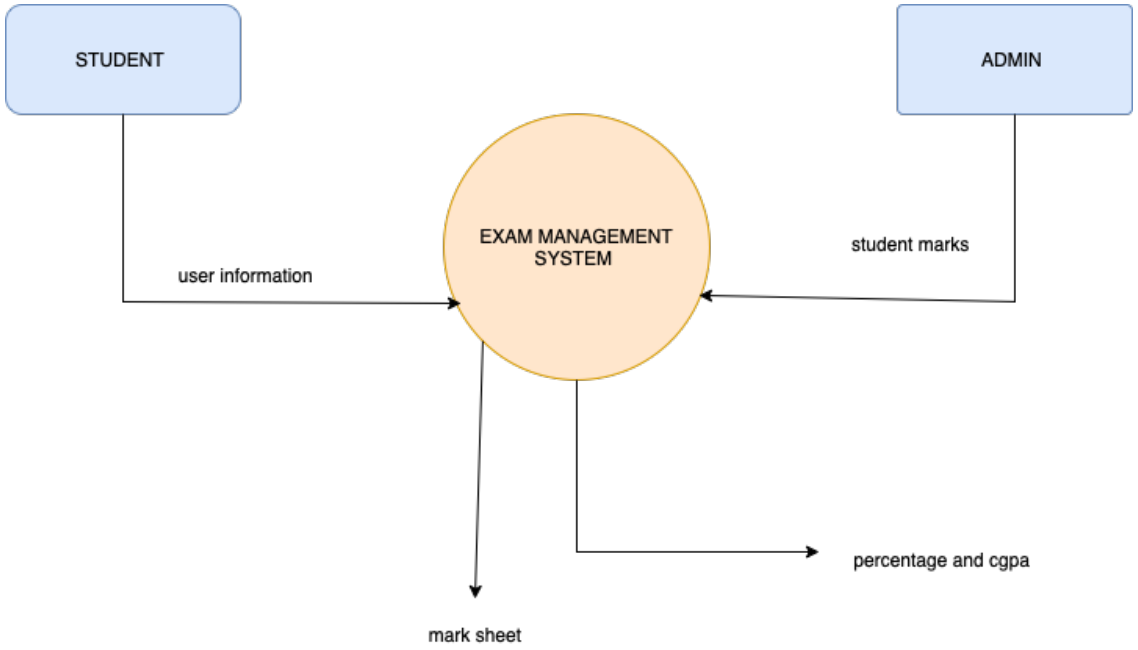
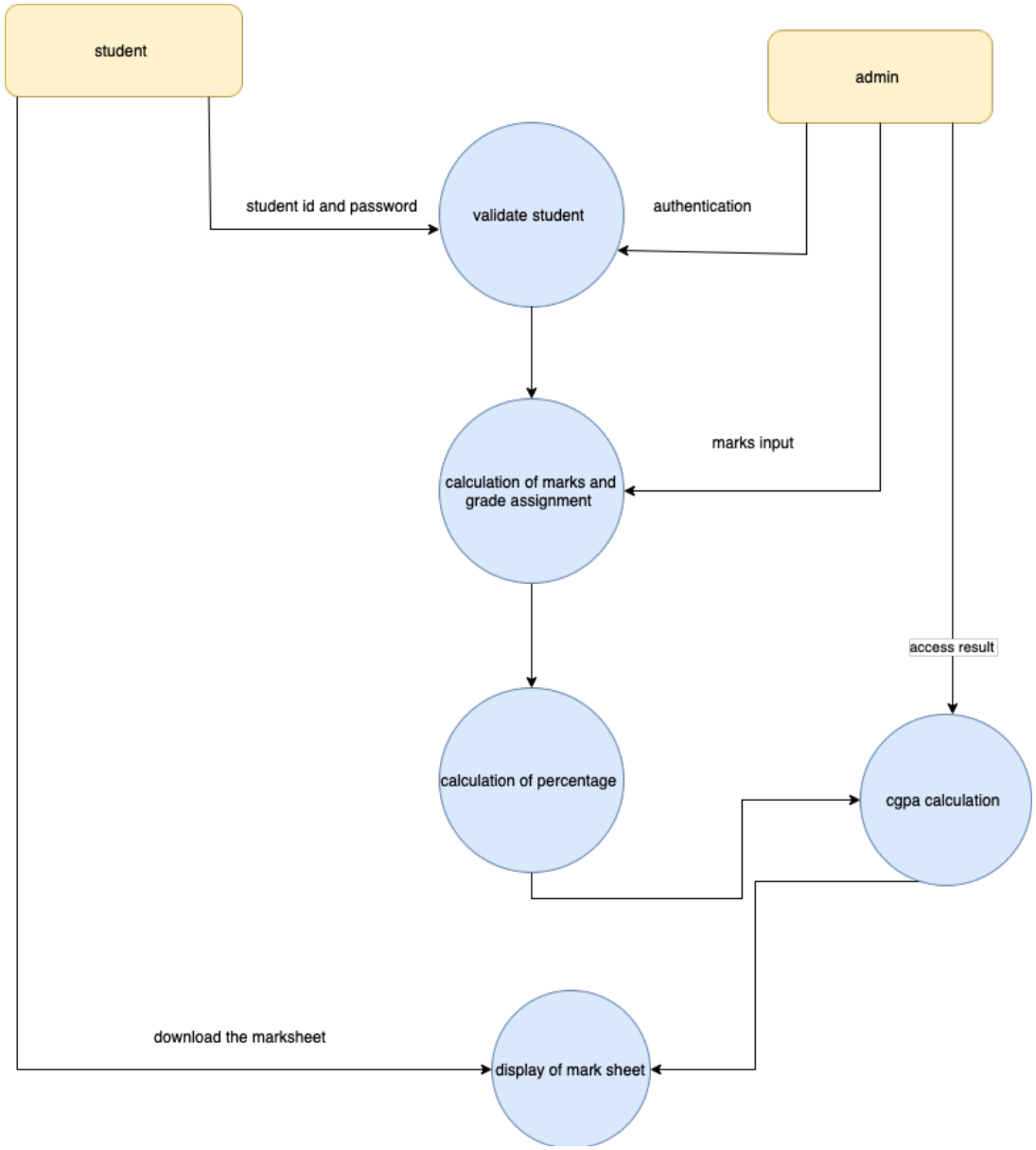


LEVEL 1 DFD


student
admin
student id and password
validate student
authentication
marks input
calculation of marks and grade assignment
access result
calculation of percentage
cgpa calculation
download the marksheet
display of mark sheet