

Design Document

Automated Question Paper (MCQ) Generator

Version 1.0

Prepared by:

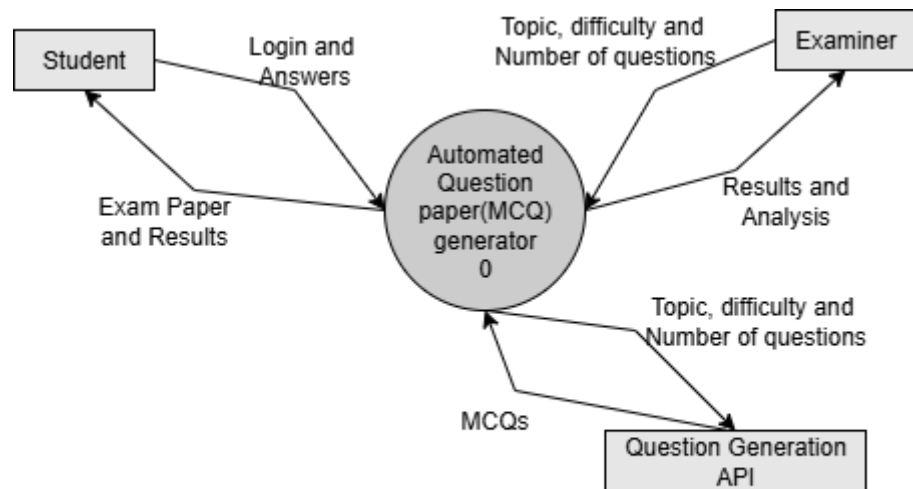
Varun Acharya K.V (231IT083)

Suvarna G (231IT077)

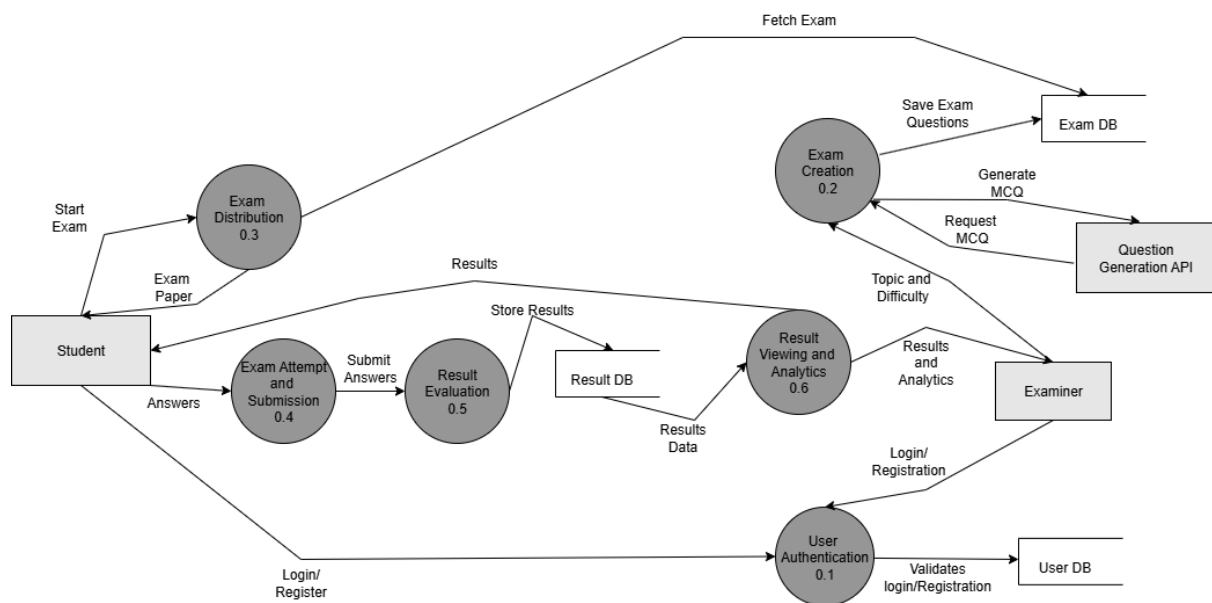
Padi Napa (231IT045)

September 8, 2025

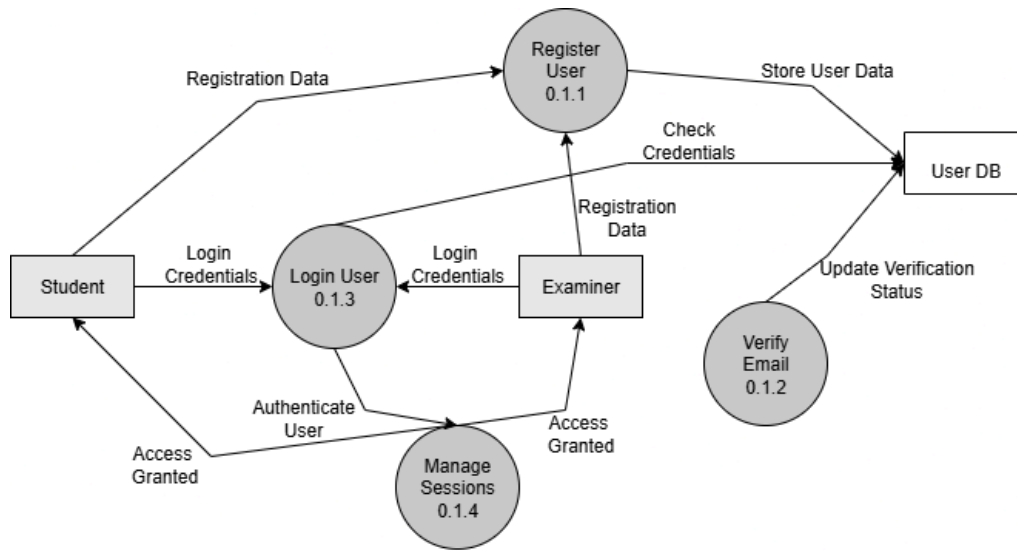
1. Data Flow Diagram Model



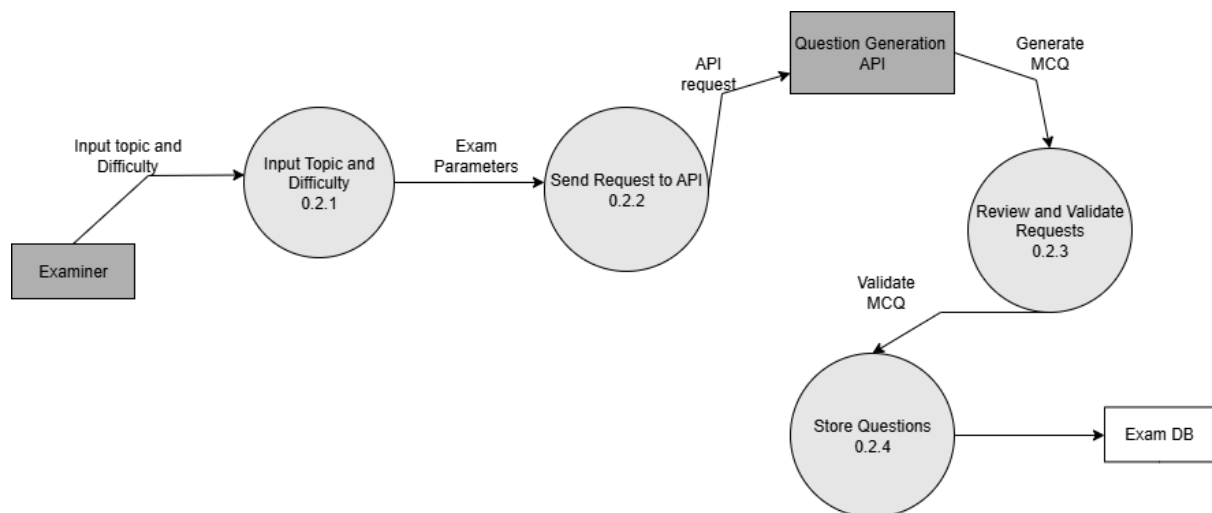
(a) Context Diagram



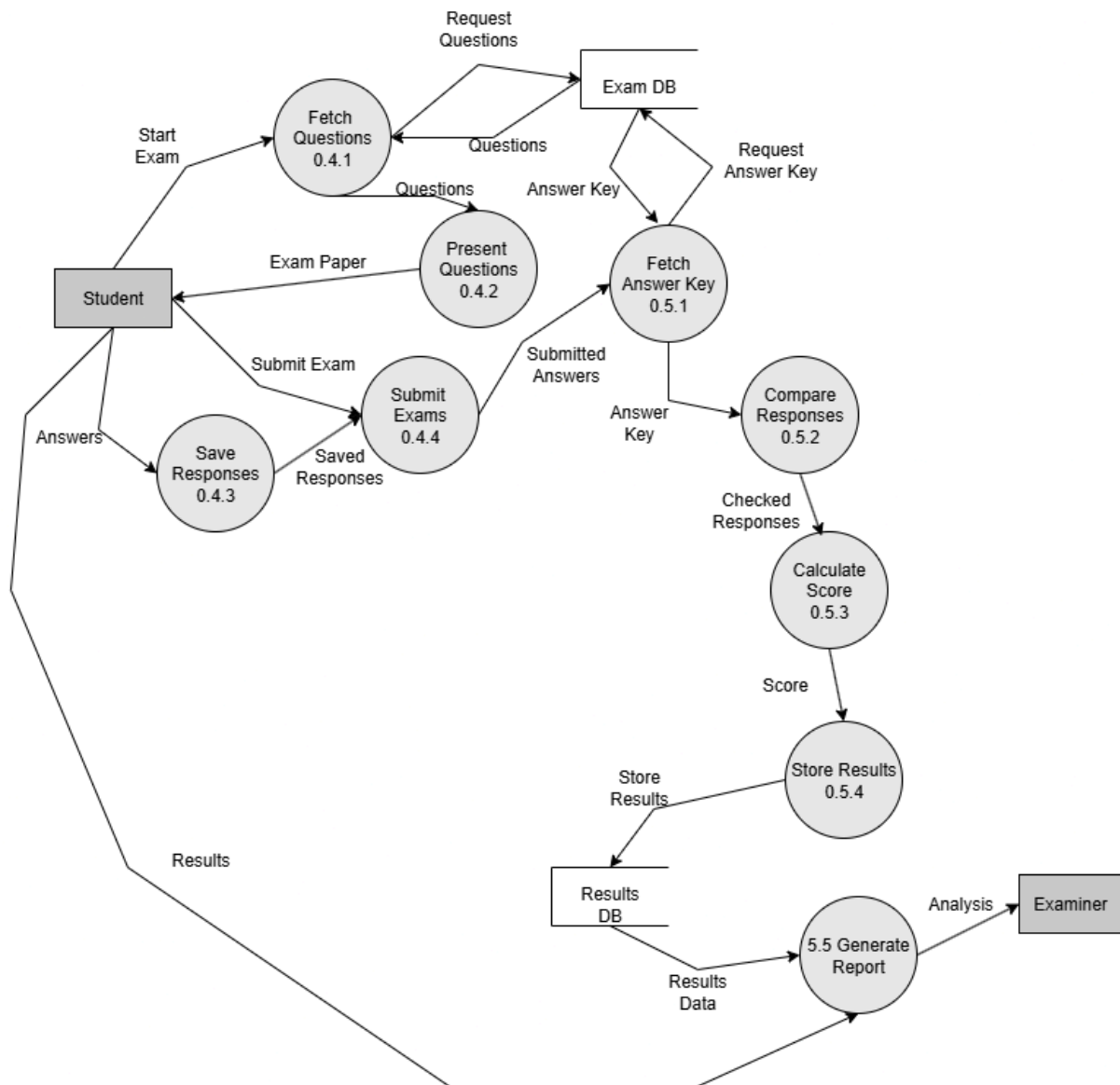
(b) Level 1 DFD



(a) Level 2 DFD



(b) Level 2 DFD



(c) Level 2 DFD

Data Dictionary:

Input-Data

- Login/Registration Data: Username + password + role
- Exam creation Data : Topic + difficulty level + Number of questions
- Answers : student_id + exam_id + answer_list
- Submit Answers: student_id + exam_id + answer_list

Response-Data

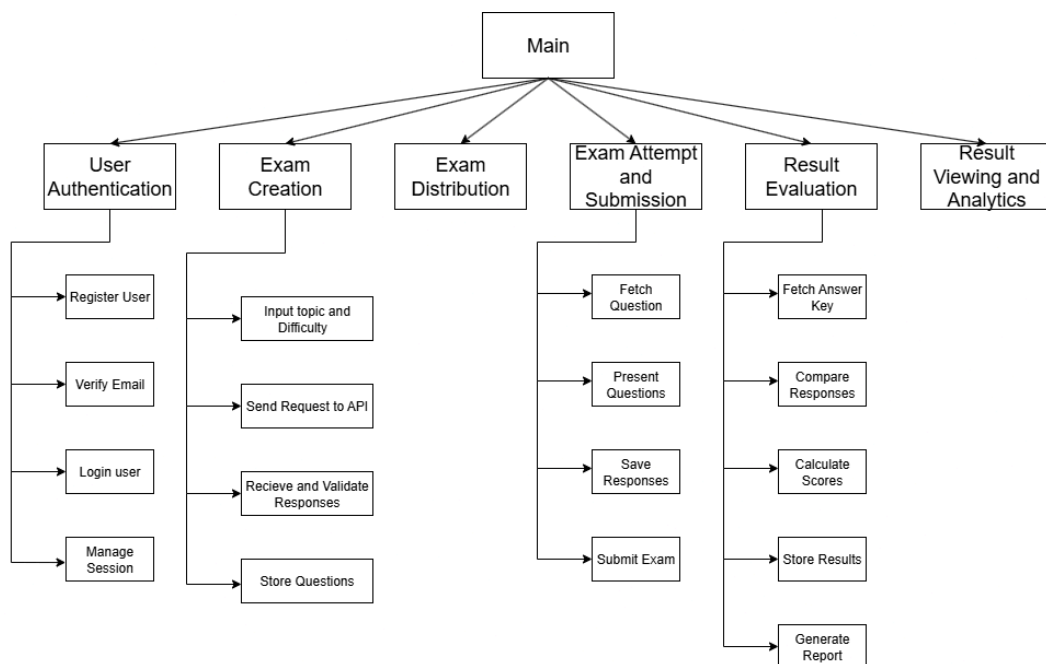
- authentication response: login_status + user_role + user_id
- exam paper response: exam_id + question_list + duration
- exam creation response: exam_id + creation status
- exam paper generation response: question_list
- result response: student-id + exam-id + score
- analytics response: statistics-type + statistics-data

- save question response: save_status

Supporting Data Structures

- username: string
- password: string
- role: student or examiner
- user_id: string
- examiner_id: string
- student_id: string
- exam_id: string
- exam_title: string
- subject: string
- difficulty_level: easy medium or hard
- question_list: list of strings
- question: question_id + question_text + options + correct_answer
- question-id: string
- options: integer(multiple)
- option: integer
- correct-answer: integer
- duration: integer (minutes)
- answer-list: answer (multiple)
- answer: question_id + selected_option
- score: integer
- login-status: success or failure
- user-role: student or examiner
- creation-status: success or failure
- save-status: success or failure

2. Structure Chart



3. Modular Division Of Work Among Teammates

- Teammate-1 : Varun Acharya K.V
 - Exam Creation - 0.2
 - Exam Attempt and Submission – 0.4
- Teammate-2 : Padi Napa
 - Result Evaluation - 0.5
 - Results Viewing and Analysis - 0.6
- Teammate-3 : Suvarna G
 - User Authentication - 0.1
 - Exam Distribution - 0.3