Online Examination System

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Table Of Content

- Defining Online Examination System.
- Types of Online Examination System.
- Project Scope.
- Hardware/software Requirements.
- System Modules.
- Roles and Functionalities of Major Entities.
- Diagrams:
  → Data Flow Diagram.
  → Entity Relationship Diagram.
- Data Dictionary.

Defining Online Examination System

- An Online Examination System enables students to appear for different types of exams digitally.

- Along with students, teachers are also benefitted as exam assessment gets faster and easier with these types of smart systems.

- Such systems also provide 'space shift' and 'resource shift'.

Types of Online Examination System

- This system can be developed to conduct following types of exams:

  a) Competitive exams: CMAT,GMAT,CAT.

  b)Recruitment Oriented Objective Exam.

  c)Exam moodle of particular insitute/university.

  d) Examination portal of Government Bodies.

Scope

- This system is designed by keeping in mind Educational Organizations(like school , institutes and university).

- The proposed system handles all basic operations necessary for a online examination to function as well as generates reports on successful completion of the test.

- The question bank of the system consist of multiple choice question(MCQ) or True/false.

Hardware/Software Requirements

- HARDWARE
  - ServerSide HardWare
    - Intel core i3 , 20GB HDD , 4 RAM
  - ClientSide HardWare
    - Hardware required by respective clients machine operating system
    - 2 RAM , Communication hardware

- SOFTWARE
  - ServerSide
    - Web server : GlassFish 1.8
    - Server Side Scripting : JSP
    - DataBase Tool : Mysql
    - Compatible OS : Windows 10
  - ClientSide
    - Web browser

System Modules

- Login Module.
- Student Enrolling Module
- Examination Module.
- Grade Report Generation Module.

Roles and Functionalities of Major Entities

ADMIN

- Central role of maintaining the system.

- Admin can create a department whose job would be to create exam

- Admin can accept and verify the Exam request from departments

- Admin can review all reports/information of exams , department , student , examiner ,etc.

- DEPARTMENT:

    The main responsibility is to create an exam with details like exam name , exam host(examiner) , schedule ,etc and to review various exam of a particular department and students enrolled for the same with its respective examiner.

EXAMINER:

    Is the host of an exam.

    Examiner is allocated for a specific exam to post its question bank along with the correct answers .

    Can view student appeared for exam and their grades.
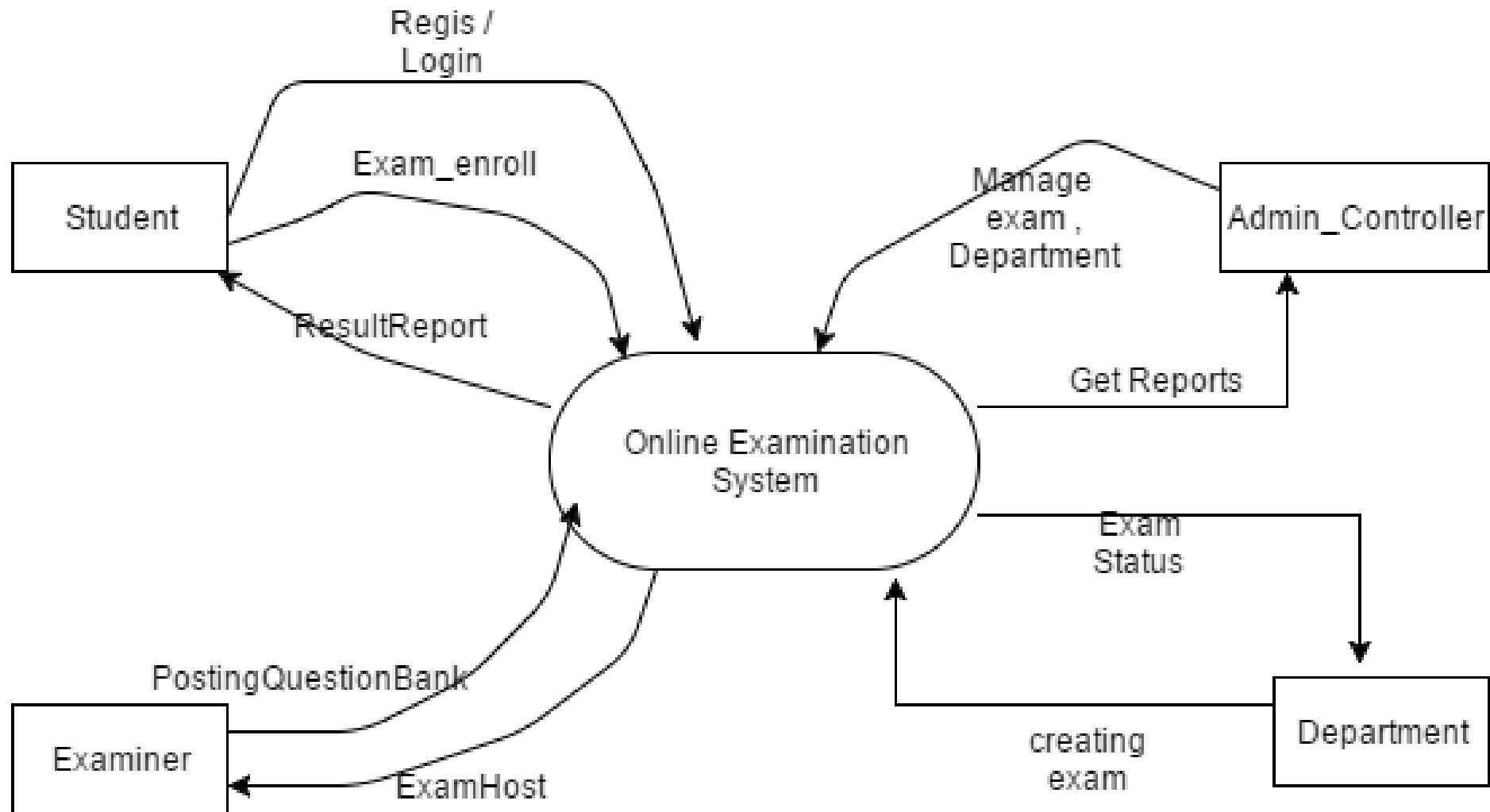
- STUDENT

    Is the actual user for this system.
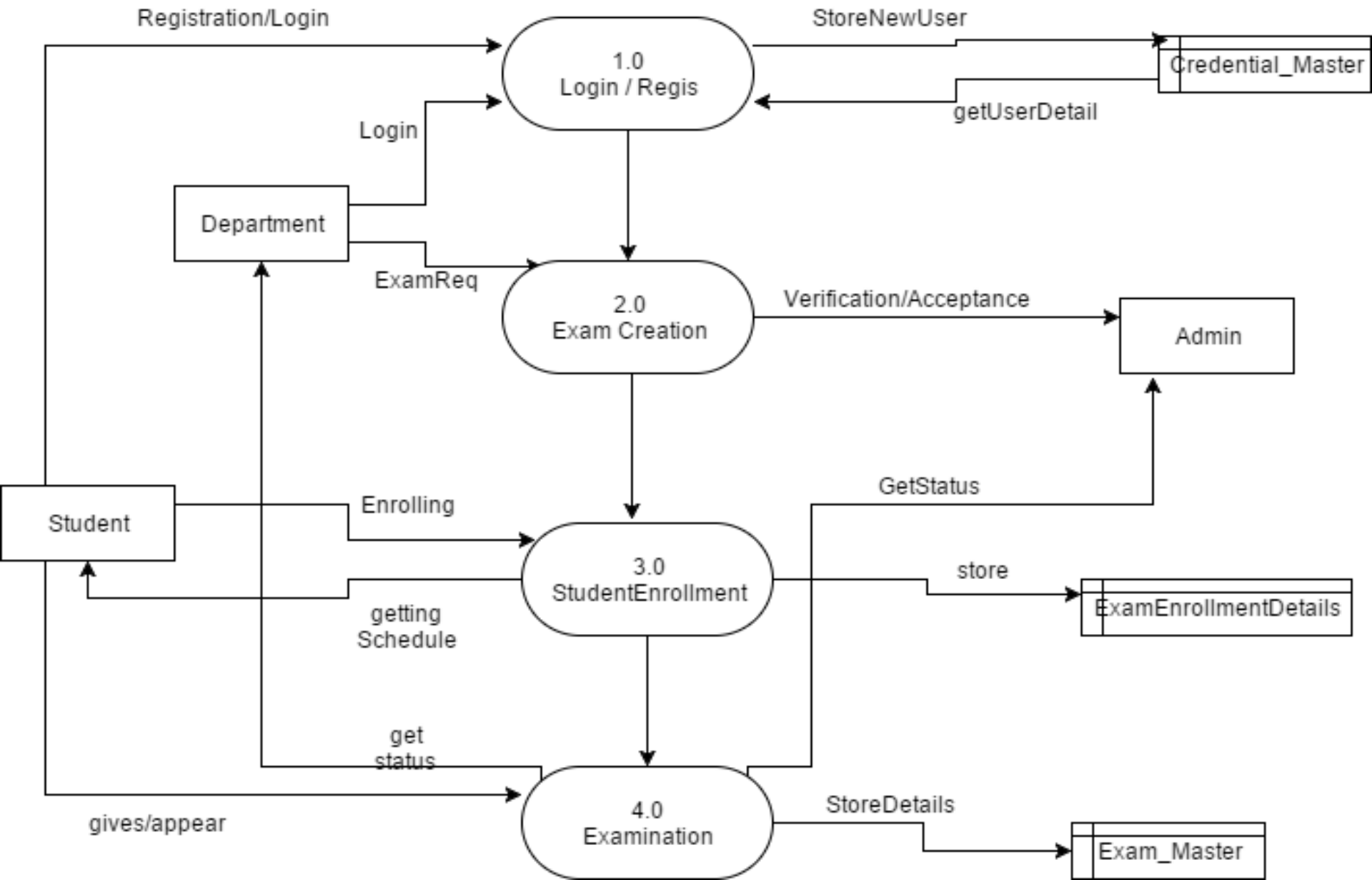
    Students can register in the system by providing a set of personal and academic details.

    They can in future login to the system with the help of login credentials provided by the admin.
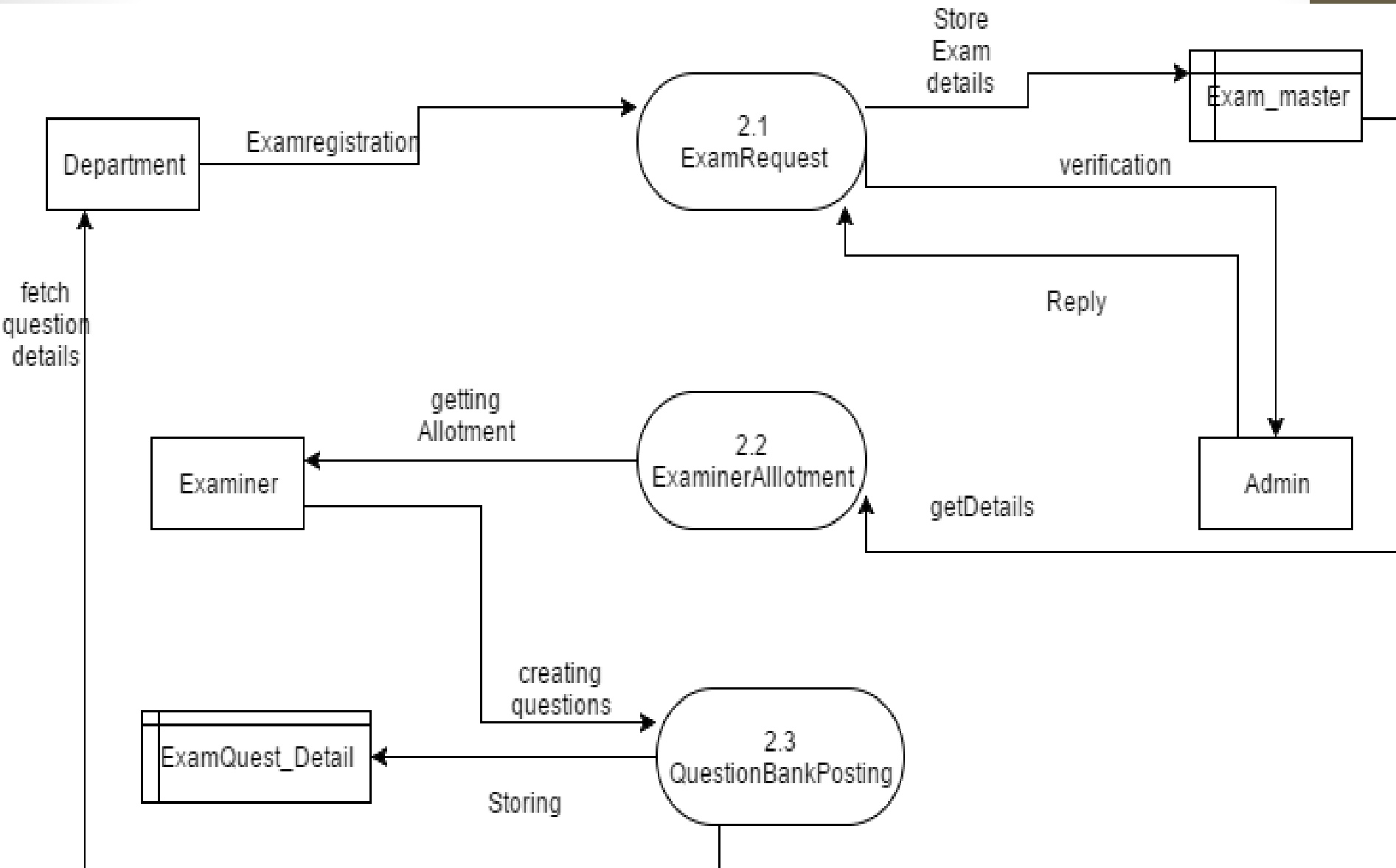
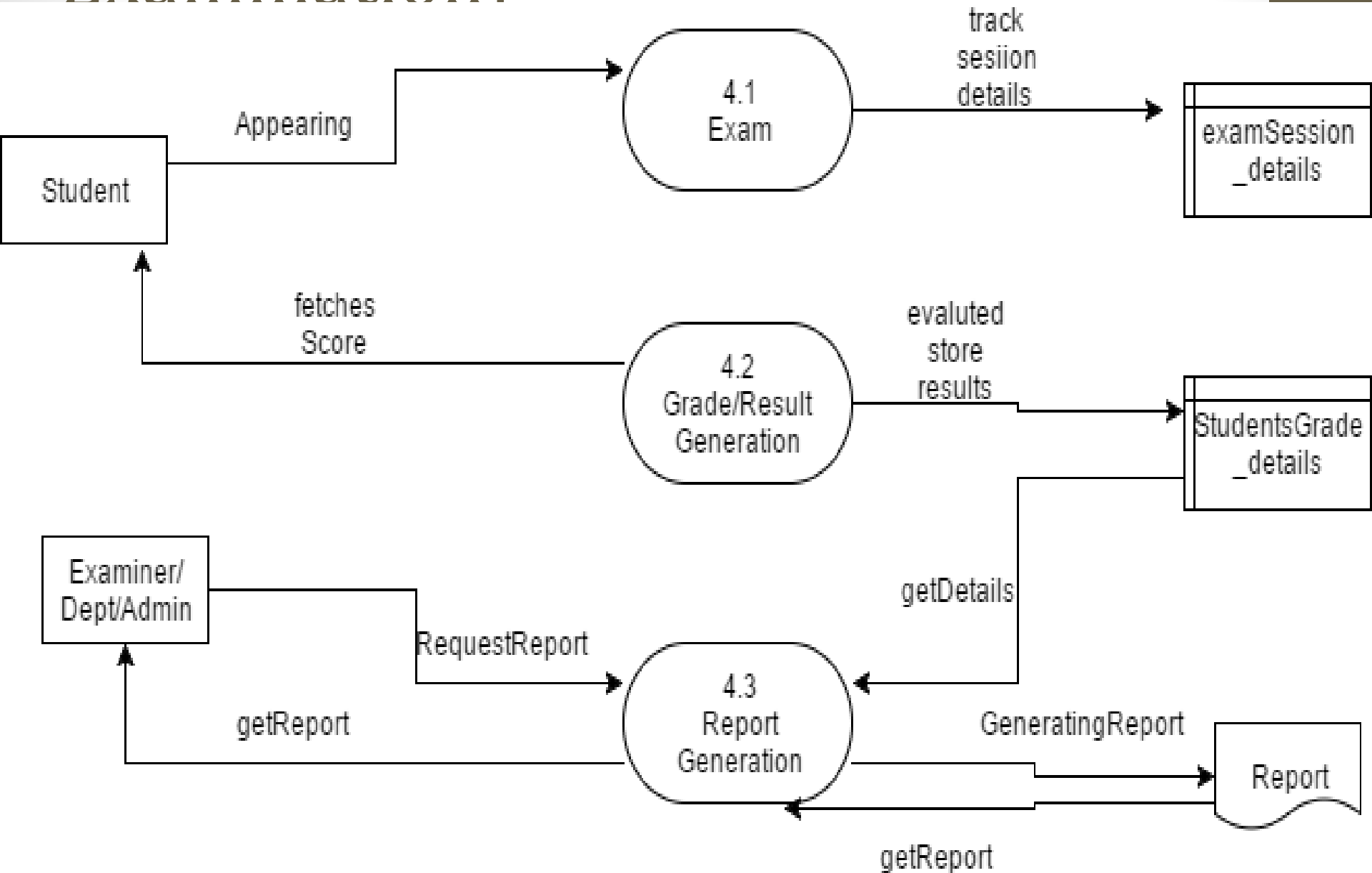# Data Flow Diagram [Context-Level]

Data Flow Diagram [1-Level]

Data Flow Diagram [2-Level Exam Creation]

Data Flow Diagram [2-Level Examination]

ENTITY RELATIONAL DIAGRAM

Admin
- adminId
- AdminCredentials
- AdminName

Department
- department_id
- departmentName
- Institute

Examiner
- examinerId
- ExaminerName
- DateOfJoining
- NewAttribute

Student Enrollment
- TotalEnrolled
- enrollNumber
- StudentEnrolled

Exam
- Weightage
- Schedule
- examHost
- examId

Question Bank
- questionId
- Question
- options
- NewAttribute
- answer

Result
- resultId
- examid
- TotalCorrect
- score
- totalWrong
- TotalLeft

Student
- Branch
- Rollno
- studentName

Relationships
- Admin — Manage Department — Department
- Department — Appoints — Examiner
- Department — Creates — Exam
- Admin — verify — (Exam)
- Admin — View/Modify — Student Enrollment
- Examiner — views — Student Enrollment
- Examiner — Posting question bank — Question Bank
- Exam — fetch — Question Bank
- Student Enrollment — Fetch — Result
- Result — View — Student
- Exam — appear/action — Student

Data Dictionary

Table Name: Admin
Use: To Store Login Details

Field Name	Data Types	Constraint	Relationship
Admin_id	varchar(20)	NOT NULL	Primary Key
Admin_password	varchar(10)	Default NULL	
Admin_emailid	varchar(40)	Default NULL	

Table Name: Login
Use: To Store login Details

Field Name	Data Types	Constraint	Relationship
Login_id	varchar(20)	NOT NULL	Primary Key
Login_password	varchar(10)	Default NULL	
Identify_login	varchar(25)	Default NULL	

Table Name: Department
Use: To Store Department Details

Field Name	Data Types	Constraint	Relationship
dept_id	varchar(7)	NOT NULL	Primary Key
dept_name	varchar(20)	Default NULL	
Login_id	varchar(7)	Default NULL	Foreign key(login table)
Institute_id	varchar(7)	Default NULL	Foreign key(Institute table)
Dept_email_id	text	Default NULL	

Table Name: exam
Use: To Store exam Details

Field Name	Data Types	Constraint	Relationship
Exam_id	varchar(7)	NOT NULL	Primary Key
Exam_name	text	Default NULL	
Dept_id	varchar(7)	Default NULL	Foreign key(department table)
Schedule_id	varchar(7)	Default NULL	Foreign key(exam schedule table)
Examinerl_id	varchar(7)	Default NULL	Foreign key(examiner table)
Total_Marks	varchar(5)	Default NULL	
Is_it_approved	tinyint(1)	Default NULL	
exam_date	date	Default NULL	

Table Name: examiner
Use: To Store examiner Details

Field Name	Data Types	Constraint	Relationship
Examiner_id	varchar(7)	NOT NULL	Primary Key
Examiner_name	varchar(20)	Default NULL	
Login_id	varchar(7)	Default NULL	Foreign key(Login table)
Examiner email_id	text	Default NULL	

Table Name: examiner_appointed
Use: To Store examiner_appointed Details

Field Name	Data Types	Constraint	Relationship
examiner_appointed id	varchar(7)	NOT NULL	primary key
Examiner_id	varchar(7)	Default NULL	Foreign key(examiner table)
dept_id	varchar(20)	Default NULL	Foreign key(dept table)
exam_id	varchar(7)	Default NULL	Foreign key(exam table)
appointed_date	text	Default NULL	

Table Name: exam_schedule
Use: To Store exam_schedule Details

Field Name	Data Types	Constraint	Relationship
ScheduleId	varchar(7)	NOT NULL	primary key
StartTime	time	Default NULL	
EndTime	time	Default NULL	
Duration	varchar(10)	Default NULL	

Table Name: institute
Use: To Store institute Details

Field Name	Data Types	Constraint	Relationship
Institute_id	varchar(7)	NOT NULL	primary key
Institute_name	varchar(60)	Default NULL	

Table Name: options
Use: To Store options Details of questions

Field Name	Data Types	Constraint	Relationship
option_id	varchar(10)	NOT NULL	primary key
question_id	varchar(10)	Default NULL	foreign key(question table)
option	text	Default NULL	
correct_option	tinyint(1)	Default NULL	
isitcorrect	tinyint(1)	Default NULL	
option image	text	Default NULL	

Table Name: questionbank
Use: To Store question_bank of questions

Field Name	Data Types	Constraint	Relationship
questionBank_ID	varchar(10)	NOT NULL	primary key
ExamId	varchar(7)	Default NULL	foreign key(exam table)
TotalMarks	int(11)	Default NULL	
ExaminerId	varchar(7)	Default NULL	foreign key(examiner table)

Table Name: questions
Use: To Store questions details

Field Name	Data Types	Constraint	Relationship
questionId	varchar(10)	NOT NULL	primary key
questionBank_Id	varchar(7)	Default NULL	foreign key(question bank table)
question	int(11)	Default NULL	
marks	varchar(7)	Default NULL	
questionImage			

Table Name: student
Use: To Store student details

Field Name	Data Types	Constraint	Relationship
StudentRollno	varchar(10)	NOT NULL	primary key
StudentName	varchar(40)	Default NULL	
DeptId	varchar(7)	Default NULL	foreign key(department table)
LoginId	varchar(7)	Default NULL	foreign key(login table)
StudentEmailId	text	Default NULL	
TotalExamEnrolled	int(10)	Default NULL	
StudentDOB	date	Default NULL	
StudentPicture	text	Default NULL	
StudentAddress	text	Default NULL	
StudentMobileNo	varchar(10)	Default NULL	

Table Name: student_exam_appearance
Use: To Store student_exam_appearance details

Field Name	Data Types	Constraint	Relationship
StudentEnrollId	varchar(10)	NOT NULL	primary key foreign key(student_exam_enrollment_
StudentStartTime	datetime	Default NULL	
StudentFinishTime	datetime	Default NULL	
StudentAppeared	tinyint(1)	Default NULL	
ExamSubmission	tinyint(1)	Default NULL	

Table Name: student exam enrollment
Use: To Store student exam enrollmentdetails

Field Name	Data Types	Constraint	Relationship
StudentEnrollId	varchar(10)	NOT NULL	primary key
StudentRollno	varchar(10)	Default NULL	foreign key(student table)
ExamId	varchar(7)	Default NULL	foreign key(exam table)
ExamEnrolledDate	date	Default NULL	