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Project Title: Quiz Management System

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Abstract

Quiz Management System is a web-based examination system where quiz is taken through the internet using computer system. Quiz Management System is to take Semester Quizzes in an efficient manner and no time wasting for checking the paper. Teachers can administer quizzes using the Quiz Management System. The system will show result after the examination is finished. A teacher has control in the question bank and is supposed to make schedule for the quiz. The system carries out the examination and auto-grading for multiple choice questions which is fed into the system. Administrative control of the whole system is provided. Here the software which is being specified is Online quiz management system. In this project we've shown that how a Quiz Management System works and its process step by step through Use Case Diagram, CRC Card, Data Flow Diagram, Class diagram, Sequence Diagram, State Diagram and Activity Diagram.

The purpose of this project is to develop an object-oriented model for Quiz Management System.

The benefits of this project are the system will offer a complete quiz management system that integrated with the online quiz giving process to help the users.

1. The system provides an online interface to the users where they can log in and give or take quizzes online.

2. The administrator is concerned with the login issue. Teachers and students can use the system.

3. Provide a platform for the students and teachers to ensure online-based exams.

The main objective of creating the document about the software is to know about the list of the requirements in the software. It specifies the requirement to develop a processing software part that completes the set of requirements. The core objectives of the project are the following:

1. To propose an online quiz management system.

2. To identify the user requirement for an online quiz management system.

3. To efficiently evaluate the candidate through a fully automated system that not only saves a lot of time but also gives fast results.

Quiz management system is an interface between the Student, Teacher and Administration responsible for the issue of the exam. It aims at improving the efficiency in the issue of online exams and reduces the complexities involved in it to the maximum possible extent.

Chapter 1

Introduction

The Quiz Management system allows students to take quizzes online, provided by their respective teachers without the need to be present physically which acts as the main objective for creating this application, due to the pandemic. Overcoming manual errors, saving time and making a computerized system that is both efficient and easy to use is the goal. The process starts with the teacher logging in and then he/she uploads the quiz making it accessible to the students. The teacher has the authority to modify or add any question, alter the scores each question carries, limit the time within which the students have to submit the quiz and while entering the question he/she will be able to select the right answer for the questions. In their assigned time, the students log in to the system, take the quiz when the teacher starts it and then submit it, failing to submit it on time will provoke auto submission of the quiz. The application will be able to evaluate each question by comparing its correct answer. Online quiz management systems can be implemented in colleges, universities, or at home to check the preparation of students and revise contents of different courses.

1.1 Problem statement

Due to the epidemic, everyone is performing their duties from their own position, so this application is being created for the convenience of the students. Through this application, he/she will be able to participate in the online exam even if he/she is not present in the classroom, which will be controlled by his/her teacher. In addition, this application reduces the waste of time as well as the answer sheet can be checked and selected accurately.
From the above discussion, we can say that the problem of “Quiz Management System” is important to consider.

1.2 Objective (Proposed Solution)

To deal with the problem we are going to propose some solutions which are given below:

1. The project is to be focused on developing a “Quiz Management System” to ensure the effectiveness of taking online exams.
2. Quiz can be done online without the need of paper or physical presence anymore. It is also helping the users to ensure the best use of time.
3. Teachers will get an easier way to check the answers of the students. Students can also join the exam from anywhere.

This solution is particularly appropriate to solve the problem because students and teachers can do this quiz process staying at home and without facing any paperwork issues and it can be done easily because of technology. It will also decrease the waste of time.

The solution is feasible to meet the business objective. Because in this system students and teacher will have to be connected through the network and here the network provider will also get the business benefit.

Chapter 2

Literature review

2.1 Introduction

A Quiz Management System is to perform the examination for the student where a teacher can add questions, set quiz, set timer for the exam and types of examination depends on the category. As a user student can attend those exams. The student user can submit the test after finish the exam and they can view results. A teacher and administration user can get the history of his exam results. Administration also can check the complete activity of all the users and teacher users. Like exams and results. There are some existing software solutions are available to solve the mentioned problem in our surroundings. If we look into some University's, we can see that they are using online platform where students, faculties and Administrators are connected. As American International University of Bangladesh (AIUB) uses the Online Portal, and Microsoft Teams for online classes and also for exams. So, we can say that there is some existing software for this kind of problem.

Chapter 3

Analysis of System

3.1 Introduction

Online Quiz Management System is a digital and innovative project. Exams without any hassle and doing the whole exam and checking process in an online platform with one device is kind of a blessing for both students and teachers.

3.2 Stakeholders (User)

Teachers and Students are users of the quiz management system. The teacher will upload the question and the student will give that exam which is the proposal of this project. All the students will give that exam perfectly because the server will perform very well.

3.3 Functional Requirements

Quiz Management System provides an online interface to the users where they can log in and give or take quizzes online. The administrator is concerned with the log in issue. Teachers and students can use the system. Provide a platform for the students and teachers to ensure online based exams.

3.4 Non-Functional Requirement

Quiz Management's proposed system is very efficient. Now a student can take a quiz from anywhere. The person can even get the exam details. They don’t need to go outside and have to give exams in the classroom. So, because of easy access, they can complete their exam process staying anywhere with just one device and internet connection. Sometimes students might face some issues because of their poor network connection. Besides this sometimes the server may slow down because of too much traffic in the system. But we can say this issue can be taken into consideration. As the issue is worth solving so this is a good side of this project. Also, for the teachers, this project is helpful because it’s easy to control. This kind of project might be available in the market but we can assure you that we’ve got the best solution for the problem which can be solved easily.

Chapter 4

Design

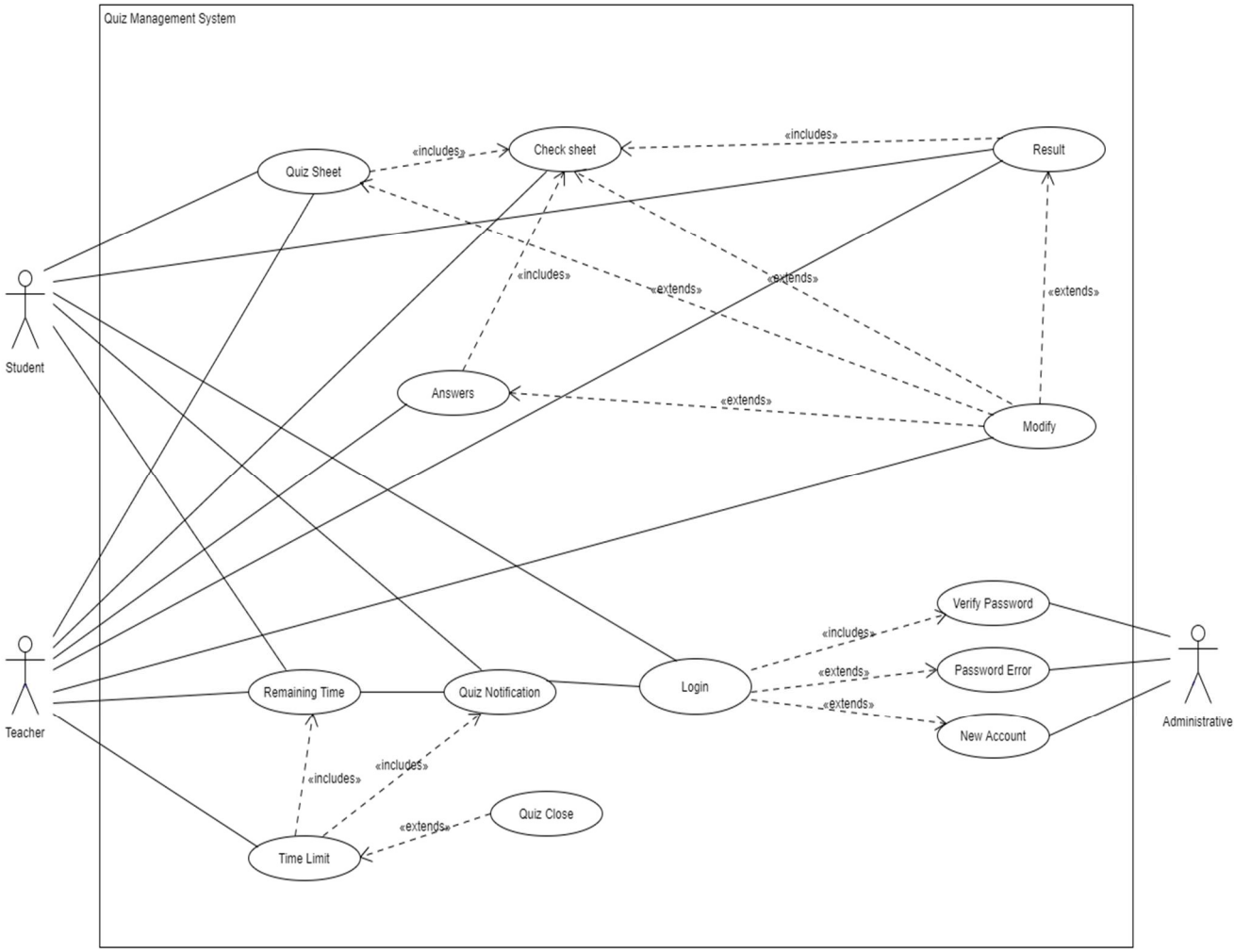
4.1 Introduction

In this project, the Use Case diagram include the major use cases, actors who perform the use cases and the relationships among the use cases needed to deliver by the system. Here we've three actors in our project: Student, teacher and administrative. The relationship among the use cases is clearly shown by the features. And, the class diagram includes four major classes like Student, teacher, Administrative and quiz. Here the class diagram includes the relation among the classes needed to deliver by the system. The state diagram and activity diagram include the major states needed to deliver by the system.

4.2 Use Case Diagram

Case Study: Quiz management system has three actors. Student and teacher as primary and administrative as secondary actor. The system starts when a teacher logs in the system. An administrative check for correct password or if the user is new, then gives new account form. A teacher can create a quiz sheet and set the time limit of the quiz. The teacher also provides answer to the system in order to auto check the quiz sheet. A teacher can also modify quiz sheet, answers and results. A student can login in the system and it will also be checked by the administrative or provided a new account form. Then a student will get a quiz notification 30 minutes before the quiz. The quiz sheet will appear to the student at the right time. Students can see the remaining time of the quiz. When the time is over, the quiz sheet will be auto submitted. Then the quiz sheet will be auto checked with the answers provided by the teacher. Then both student and teacher can see the result of the quiz.

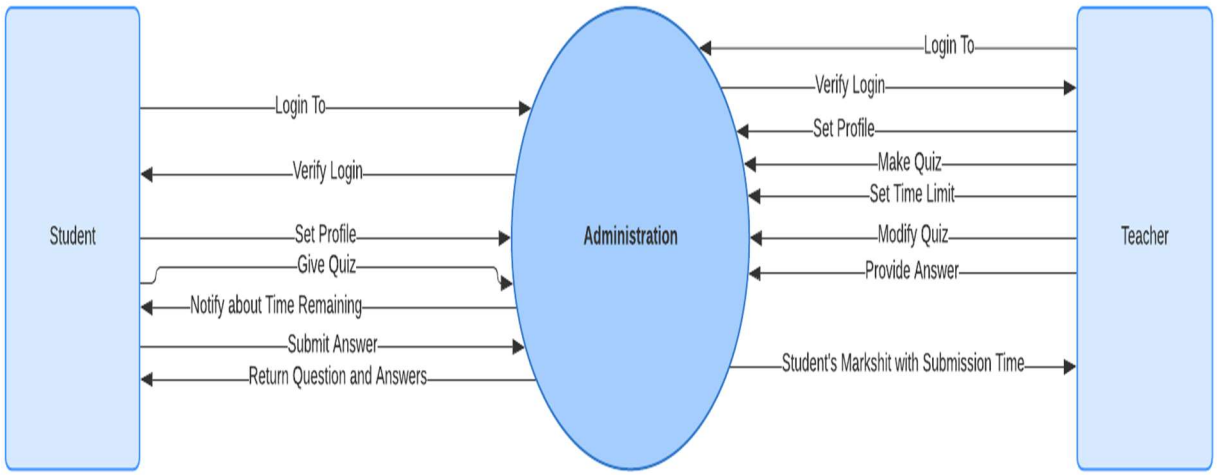
Diagram:



4.3 Data Flow Diagram

Case Study: Quiz Management System in an online platform where teachers can take quizzes for students to attend. To attend quizzes Students first have to login into the administrative. Many students can log into one administrative. Similarly, the teachers also have to login into the system. Administrative handles all the login processes. Many teachers can log into one system. Teachers can also modify the quiz paper. They can set the time limit for each quiz. Every quiz has different numbers and also, and they are of different subjects. There is an opening time and also closing time for the quiz. When a paper is opened the students get the notification. Students get notified about the time remaining of the quiz in this system. Teachers can see student's answers and marks on quizzes. When the student will submit the quiz, they can see their quiz results.

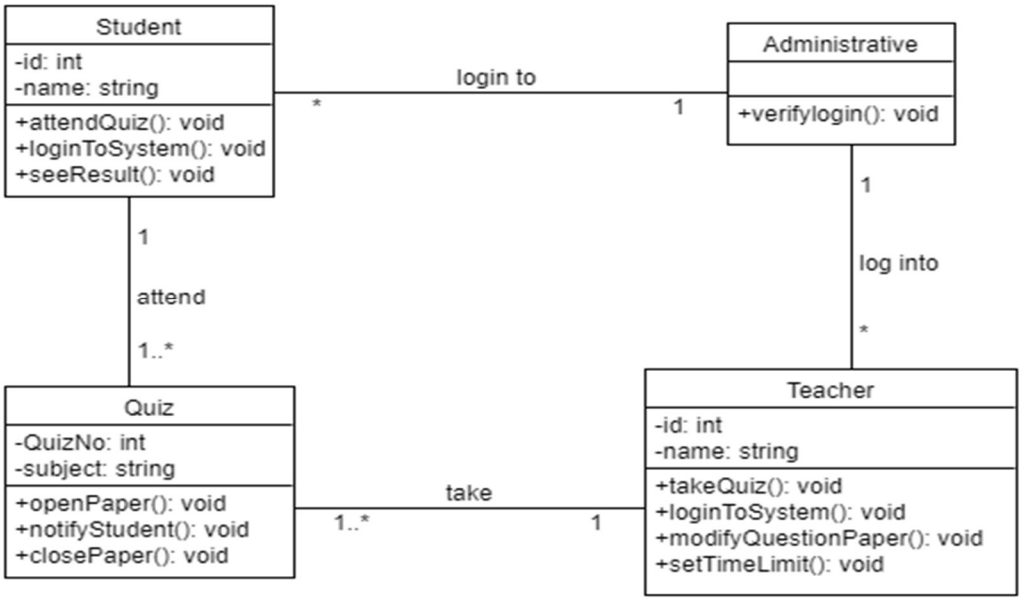
Diagram:



4.4 Class diagram

Case Study: Quiz Management System in an online platform where teachers can take quizzes for students to attend. To attend quizzes Students first have to login into the administrative. Many students can log into one administrative. Also, students can see their quiz results. Similarly, the teachers also have to login into the system. Administrative handles all the login process. Many teachers can log into one system. Teachers can also modify the quiz paper. They can set the time limit for each quiz. Every quiz has different numbers and also, they are of different subjects. There is opening time and also closing time of the quiz. When a paper is opened the students get notification. Students attend the quiz. One student can attend one to many quizzes. On the other hand, Teachers take the quizzes and one can take one to many quizzes.

Diagram:



4.4.1 CRC Card

Class:	**Student**
Description:	Keep track of Student's info and gives the user ability to log in and give quiz.
Responsibilities	**Collaborators:**
Set Profile	Student's Profile
Give Quiz	
View Remaining Time	Time
Submit Answer Script	
View Result	

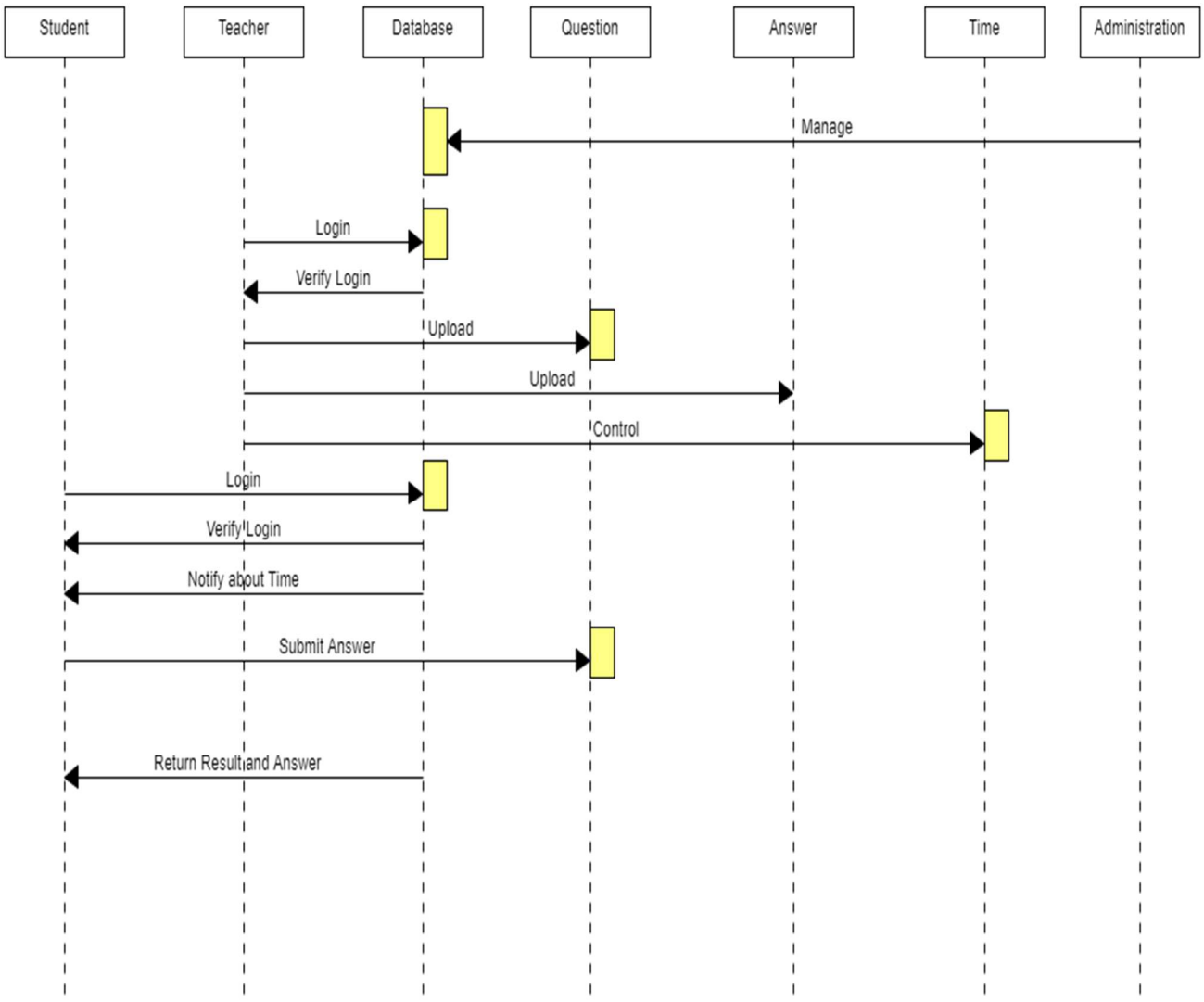
Class:	**Teacher**
Description:	Keep track of the Teacher's info and give the user the ability to log in, make quizzes, set time limits, modify quizzes and enter answers for auto check.
Responsibilities	**Collaborators:**
Set Profile	Teacher's Profile
Make Quiz	
Set Time limit	Date and Time
Modify Quiz	
Set Answers	

Class:	**Administrator**
Description:	Keep track of Student and Teacher login and verify their password.
Responsibilities	**Collaborators:**
Verifying Student and Teacher's password	
Notify Remaining Time to Student	Date and Time
Return questions and answers	Auto Check

4.5 Sequence Diagram

Case Study: In the sequence diagram, students and teachers will have to request for login with y their right information which is available in the database. And the administrative controls the database. If they are valued the teachers and students can use the system. The teacher can assign questions and control timing. Students answer the questions and submit it. The system compares them with the given answer by the teacher. After that, the system returns the result to the student.

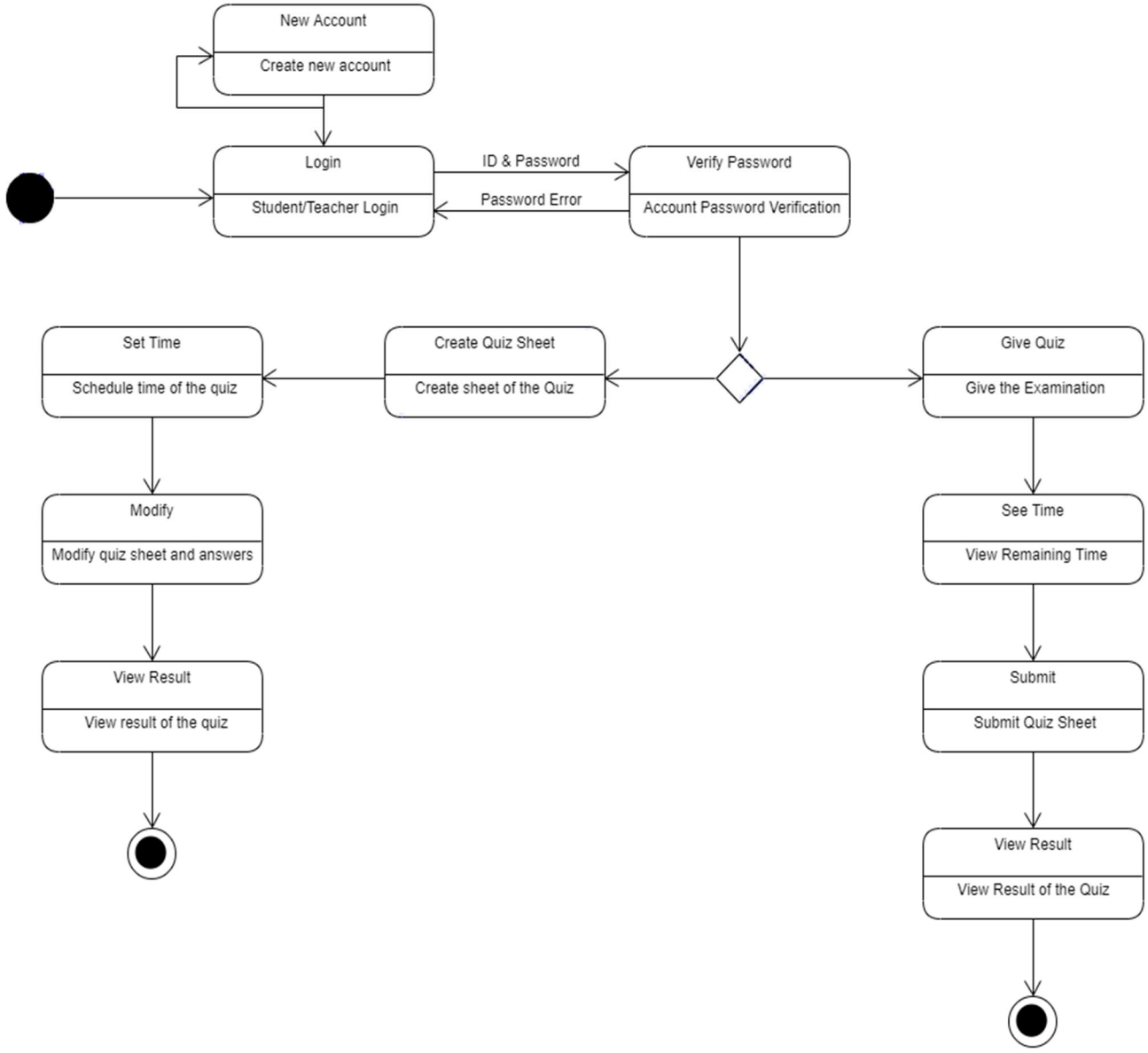
Diagram:



4.6 State Chart Diagram

Case Study: When the system starts, a user student/teacher has to login into the system. If there is no account then the system would suggest to set a new account and login again. After login is passed to verify password section, it will check and if the data is incorrect then it will go back to login. Otherwise, the system will go further. Now it comes to a decision where a teacher can create a quiz sheet, then set the time of the sheet, and modify the quiz or answers. Then the teacher can also see the result and then the system will stop. Another part is a student can give a quiz then see the remaining time, submit the quiz sheet and finally view results and then the system will stop.

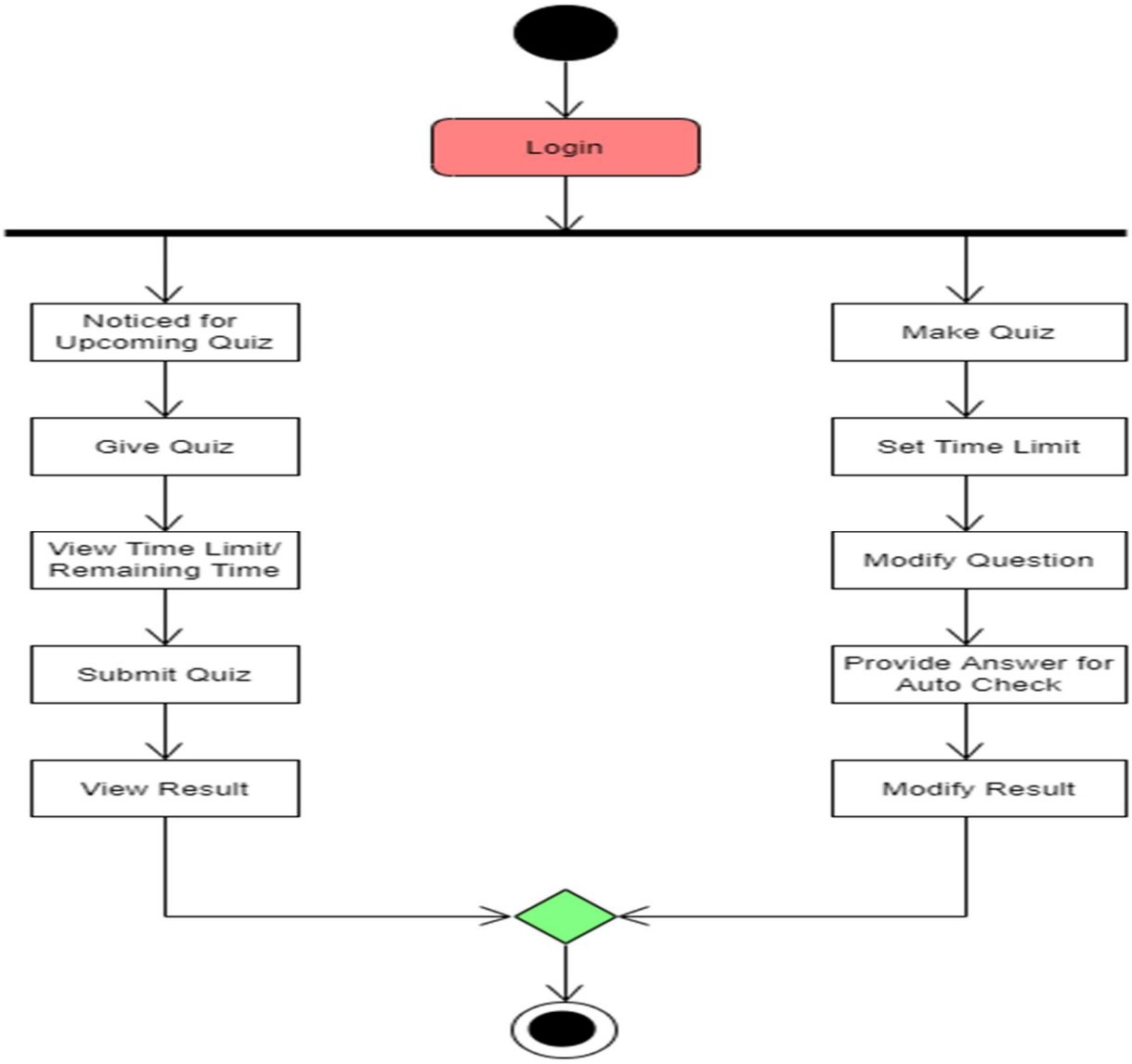
Diagram:



4.7 Activity Diagram

Case Study: Quiz Management system is an online platform where teachers can take quiz for students to judge their performance. To attend the quiz students first have to login into the administrative. Similarly, teachers can also login. Administrative handles all the login process. After login students get notified for their upcoming quizzes. The they can take their quizzes then they can view their time limit or remaining time for answering. Then they can submit their answer form. After that they can view their quiz marks. Besides after login teachers can make the quiz's question, they can set the quiz time and also can modify the time. Then the teacher can modify the question. Teachers can provide the answer for auto check the answer form. After result publishing they can also modify the result. By this quiz management system students can attend different subject's one to may quizzes and teacher also can take different subject's one to many quizzes.

Diagram:



Chapter 5

Conclusion

The online quiz management project aims to improve the efficiency and user-friendliness of university exams by replacing the existing paper-based system. The proposed system uses access as the backend, improving basic requirements and making it more user-friendly. Students can take quizzes from anywhere, access exam details, and complete their exam process with just one device and internet connection. The project also addresses issues like poor network connections and server downtime due to excessive traffic. Teachers can benefit from the easy control of the system. The thesis focuses on an automated system that replaces manual quiz methods, introducing student-performance evaluation and feedback in the online quiz. This method allows educational institutes to automate their examination process, register teachers for various disciplines, and provide students with the ability to register their courses for examinations via the Quiz Management System. As an MCQ-based quiz system, this innovative and interesting project is unique and distinct from other similar projects in the market. It is primarily intended for educational institutions but can be customized for other types of examinations such as job interviews and quiz contests. The project is new, innovative, and different from other similar projects in the market.

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