

**Course Number: ECE655**

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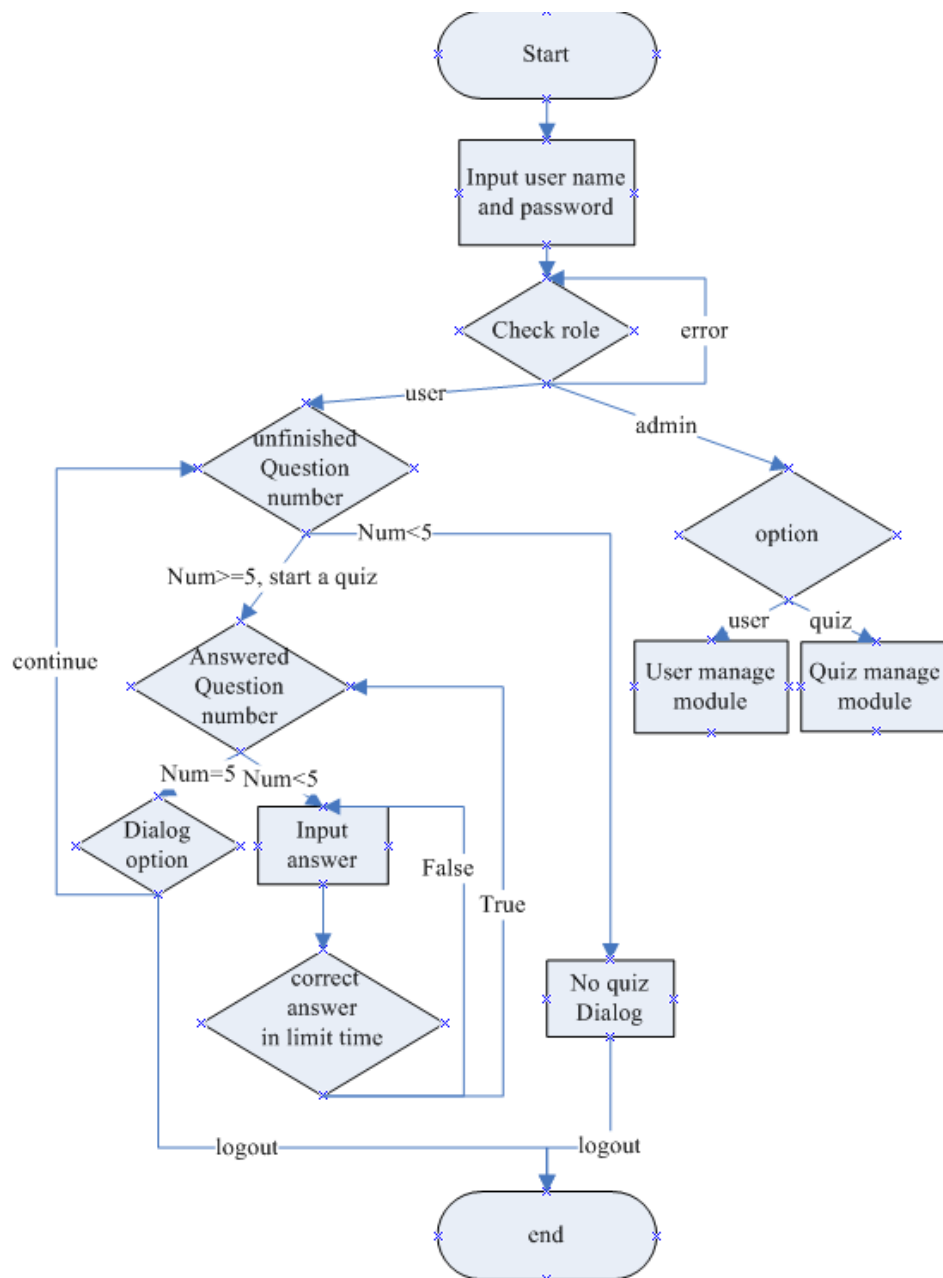
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## Abstract

The project is for user to give quizzes and take quizzes. The quizzes are all multiple-choice. There are two kinds of users: quiz master (QM) and quiz taker (QT). Quiz master is to manage user data and quiz data. Quiz taker (QT) is to take quiz in limit time and see his performance. The quiz application is developed under Android SDK API 15(Android 4.0.3) and JDK 1.7.0.

## Control Flow Graph



# Database

## User (record for each user and its performance)

id	INTEGER PRIMARY KEY AUTOINCREMENT
name	TEXT
password	TEXT
totalAnswered	INTEGER
totalCorrect	INTEGER

## Question (record for each question and its limit time)

id	INTEGER PRIMARY KEY AUTOINCREMENT
question	TEXT
choice	TEXT
answer	TEXT
time	INTEGER

## UserQuestion (record for the finished question by each user)

id	INTEGER PRIMARY KEY AUTOINCREMENT
userId	TEXT
questionId	TEXT

# Function

## QM module

### 1. Master Login

There is only one manager to organize user data and quiz data. The manager username is admin and password is 123456. If login error happens due to wrong password, there will be input error message. If login success, there will be two entries for managing user data and quiz data.

### 2. User Manage

In user list view there is user table showing name, attempted times and correct times. In user detail view master can add, modify or delete user information and statistics. When deleting user, the app also delete the data recording finished question for that user. If there is no disk space to store new user, the app flags an error message.

### **3. Quiz Manage**

In question list view there is question table showing question and answer. In question detail view master can add, modify or delete question information. When deleting user, the app also delete the data recording the user who finished that question. The default time given to a question is 10 seconds, and the minimum time is 10 seconds and the maximum time is 30 seconds. If there is no disk space to store new quiz, the app flags an error message.

## **QT module**

### **1. User Login**

If login error happens due to wrong password, there will be input error message. If login success, app will lead to quiz taking view.

### **2. Quiz Taking**

- 1) It selects 5 unfinished questions for each round. If there are less than 5 questions, there will be no quiz error message leading to logout.
- 2) If a question is correctly answered or not answered within the given time, the app gives an indication by flashing the correct answer. For an incorrect answer, it is shown in red.
- 3) The remaining time is displayed in seconds. If a question is correctly answered, the app takes the user to the next question. When the question finished, the user performance will be updated.
- 4) When the quiz finished, the app tells user the attempted time and correct time for both each round and total rounds. Then there will be an option for user to continue another round or logout.
- 5) When taking quiz, there is no option to close quiz app. As other apps may interrupt the quizzing process. If the quiz app is temporary closed, user can continue to answer the question. If the quiz app is completely closed, user will restart the quiz and the missing question will be regard as new question.

## **Future Function**

As for the user performance, this app only record the attempted times and correct times for total quizzes. In the future application, the database will record how many quizzes the user has taken and the user performance for each quiz. Besides, the app only allow user to logout after finishing each round quiz rather than logout during quiz. So in the future application, it should add a button for user to logout during quiz.