

Selected Topic : Learning material to help users learn the computer network class, especially TCP/IP and OSI models, ARQs, Routing protocols, TCP congestion control, including quiz, and solutions

PENQUIZ - Checkpoint Overview

In this checkpoint, our project has to choose two activities. We focus on log-in and register on our application and we will keep data information (email, password) on the firebase.

The objective of the project

The objective of this project is that users have to register and login before users will learn the material computer network class, especially TCP/IP and OSI models, ARQs, Routing protocols, TCP congestion control. It has several quizzes and solutions. Users firstly have to register to keep information (username, password) of the user for login next time. Therefore, users who already register, are able to log in and then can do the quiz because the system has to keep information on firebase.

The application design

- Register System
 - Before users can access an PENQUIZ application to do a quiz, users are required to register but if users have an account already, he can directly access an application via login system. In the registration system, we decided to connect an application to a local database, Firebase, to keep information of registered users, questions because it provides us with a lot of functionality and an easy to manage database. We create an interface of this action which consist of three main elements including username, password, and confirmed password block. Moreover, it provides two buttons including the cancel and submit button. On this interface, users have to fill these three blocks after users complete filling information, users have to click submit button otherwise clicking cancel button. When a submit button is clicked, all filled

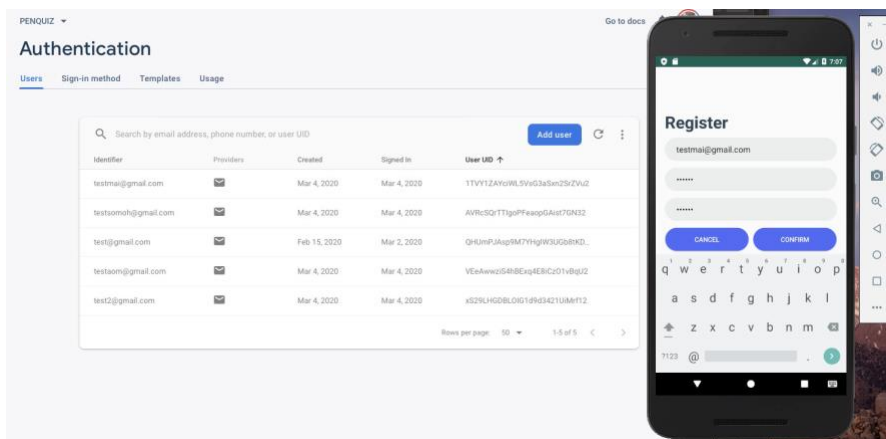
information will be sent to Firebase. Once users have registered, they can skip the login step.

- Log In System

- Since users register, the firebase already has to keep the information of the user ,including email and password. Therefore, when users open the application, they can type email and password that they did register before. If users type the username and password wrong, users can not sign in.In contrast, if user type username and password correctly,Next, users can click the sign in button to go to do the quiz.In addition, the interface of login system, it will show that user need to fill the username and password for using the quiz service.

- Database design

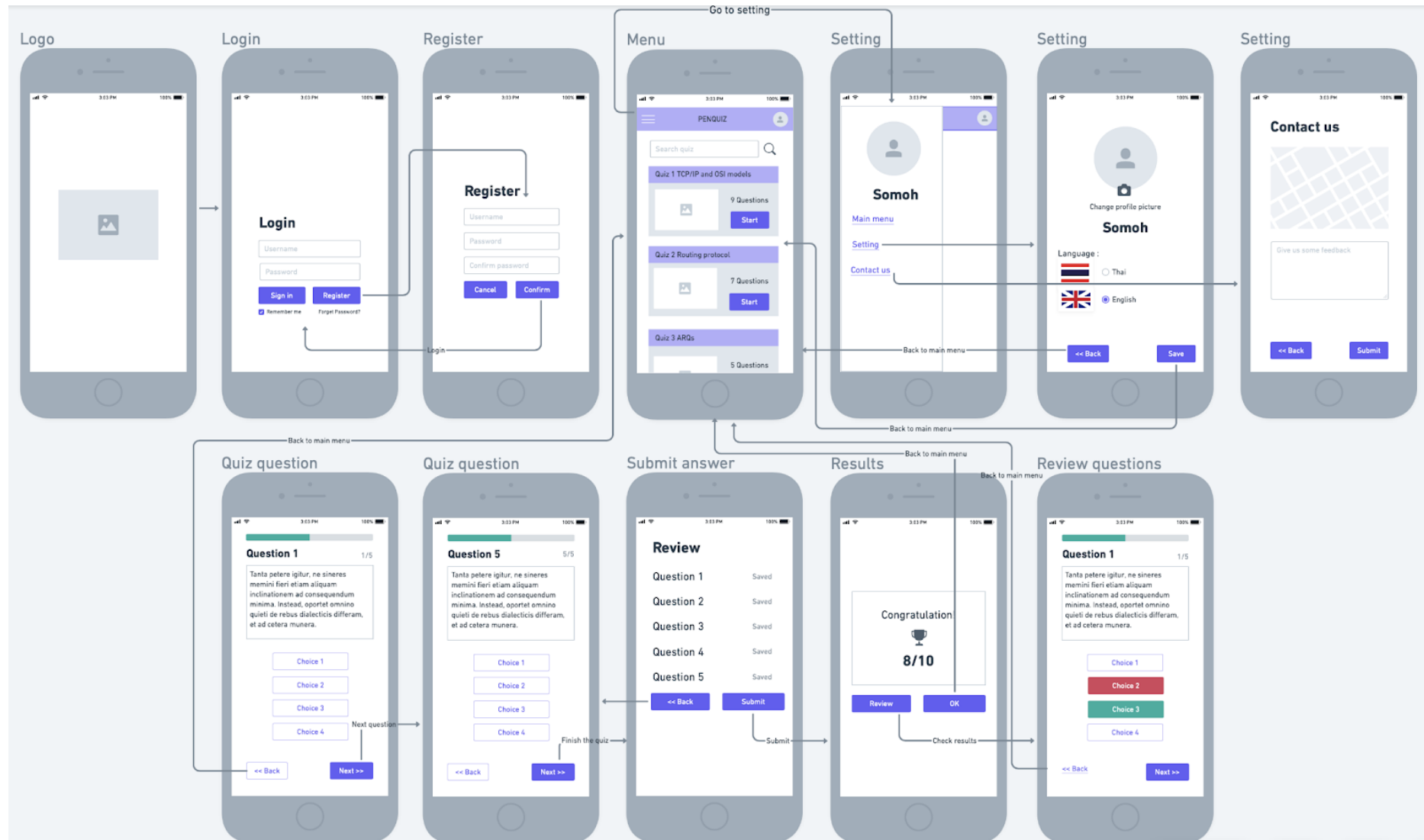
- User information is kepted on Firebase after a user register.



Firebase

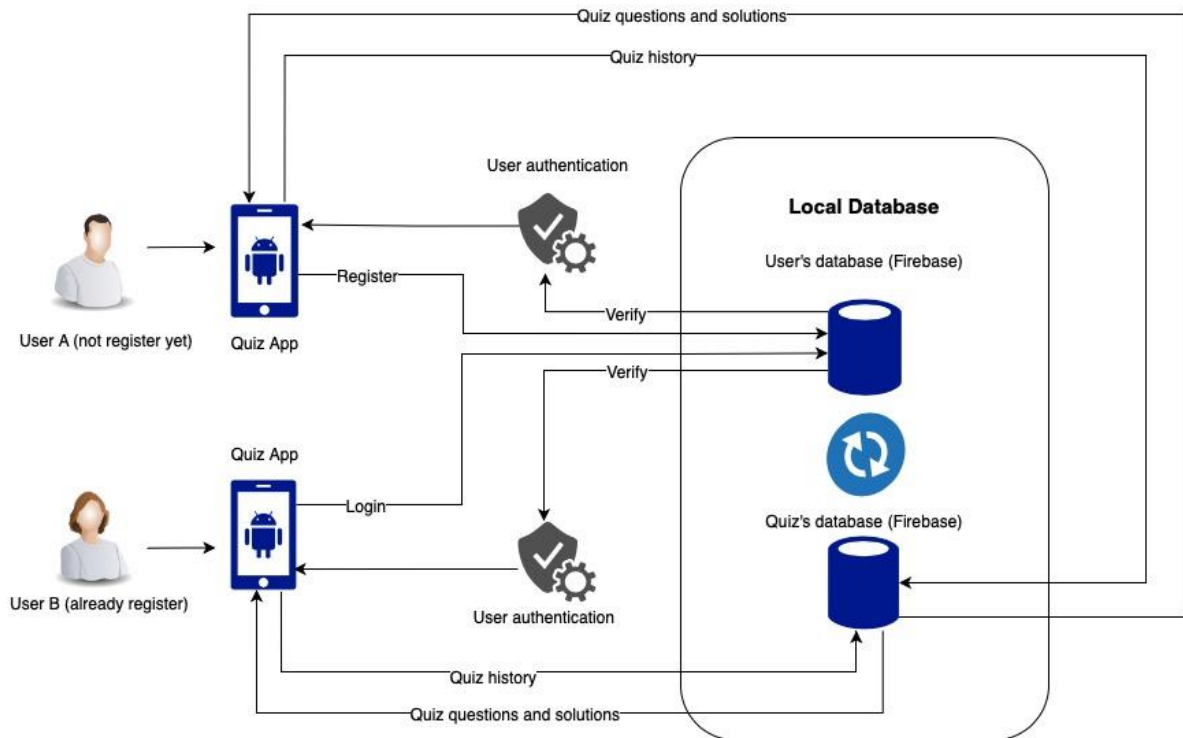
User	
PK	<u>userid</u>
	username
	password
	signin_date
	create_date

Database



The system architecture

From the picture, it illustrates the system of quiz service. It has two cases of



users which are user A and user B.

1. User A (who does not register yet)

- Firstly, user have to do register, the information of user which are username and password. Therefore, the system will create the user's database on firebase and bring that information to keep in database. Next, the system will tell user to do the use authentication and then user can log in now. After that, user can access the quiz service. When user do the quiz, system will create the quiz's database on firebase for keeping

2. User B (who already do register)

- User can access the quiz without doing the register. We already create the username and password (username : testsomoh@gmail.com , password: 123456) that keep in user's database on firebase. Therefore, user can do the quiz. And when user do the quiz, the system will keep it on the database and sent to the quiz app.

Screenshots of at least two activities of application

