



EAST WEST UNIVERSITY

# **Question Bank Application**

## App Description:

The Question Bank app is a comprehensive educational platform designed for students . It provides a user-friendly interface to access a repository of educational resources, making it easy to discover, practice, and master various subjects.

## Issues and Challenges:

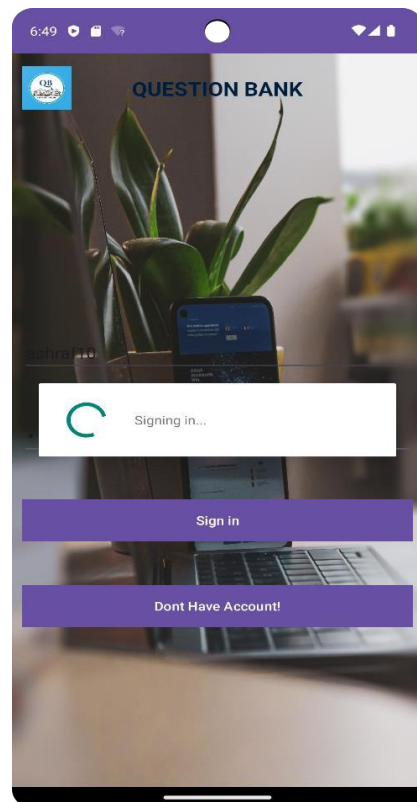
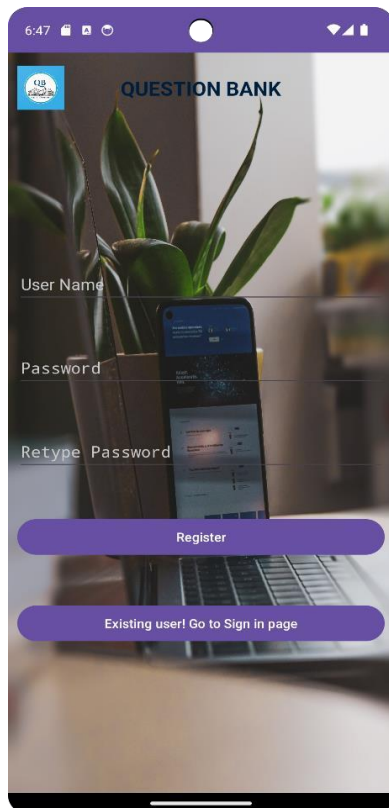
While the app showcases a user-friendly design and diverse features, there are a few areas that need attention:

1. Background Image: The app currently lacks a full-screen background image. Implementing a full-screen background image can enhance the visual appeal and create a more engaging user experience.

3. Color Scheme: The color scheme of the app is crucial for readability and aesthetics. Considerations for dynamic color changes and suggestions for suitable color codes have been provided, but the implementation is pending.

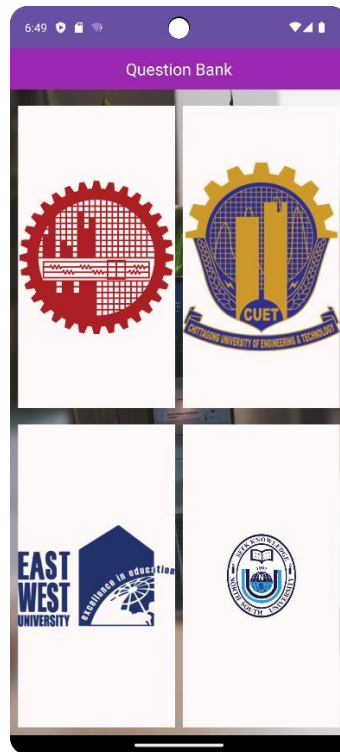
## User Authentication and Database:

The SignupActivity and loginActivity activities handle user registration and login processes. The app employs a SQLite database to store user credentials securely.



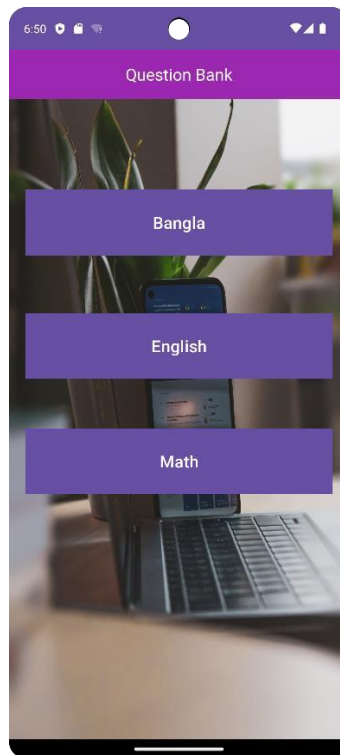
### Homepage (HomeActivity):

- The homepage serves as a central hub for users to access various universities or institutions.
- Each university or institution is represented by a button (e.g., BUET, CUET, EWU, NSU).
- Clicking on a university button directs users to the SubjectActivity for that specific institution.



### Subject Activity (SubjectActivity):

- Upon selecting a university, users are directed to the SubjectActivity.
- This activity presents a list of subjects or courses available within the chosen institution.
- Subject buttons (e.g., Bangla, English, Math) allow users to explore content related to a specific subject.
- Clicking on a subject button initiates the payment process for access to subject-specific content



### Algorithms and Dataset:

The app primarily focuses on retrieving and displaying educational content. The algorithmic complexity lies in the fetching and rendering of questions. The dataset, currently in JSON format, is obtained from a placeholder API for demonstration purposes.

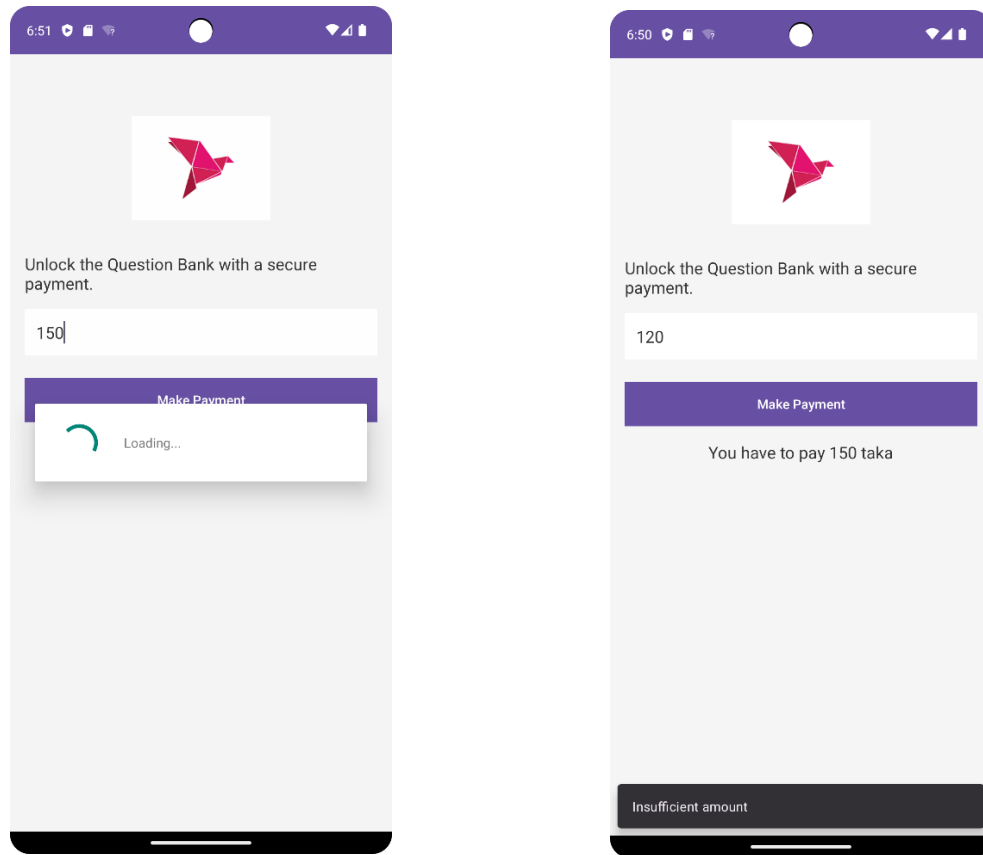
```
private void displayRetrofitData() {
    Retrofit retrofit=new Retrofit.Builder()
        .baseUrl(BaseUrl)
        .addConverterFactory(GsonConverterFactory.create())
        .build();

    myApi=retrofit.create(MyApi.class);
    Call<ArrayList<Model>>arrayListCall= myApi.callModel();
    arrayListCall.enqueue(new Callback<ArrayList<Model>>() {
        @Override
        public void onResponse(Call<ArrayList<Model>> call, Response<ArrayList<Model>> response) {
            modelArrayList=response.body();
            for(int i=0;i<modelArrayList.size();i++){
                //create adapter
                Custom custom =new Custom(modelArrayList, context: MainActivity.this,R.layout.singleview);
                lv.setAdapter(custom);
            }
        }

        @Override
        public void onFailure(Call<ArrayList<Model>> call, Throwable t) {
            Toast.makeText(context: MainActivity.this, text: "Failed to load data",Toast.LENGTH_SHORT).show();
        }
    });
}
```

## Multithreading:

Multithreading is employed during the payment process in the paymentGateWay activity. A loading ProgressDialog is displayed to simulate the payment process, and a handler thread ensures a smooth transition back to the main activity after a simulated delay.



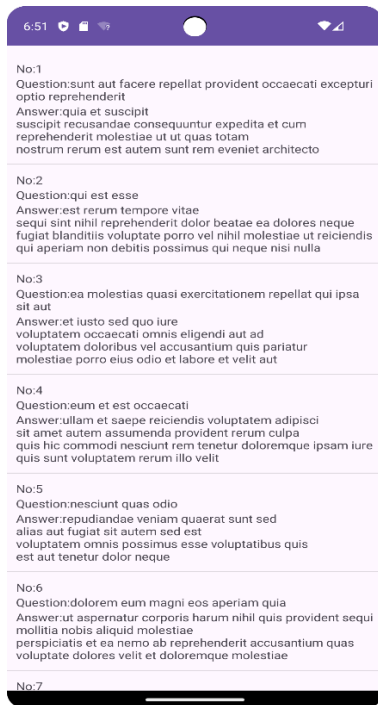
Also I used google snackbar to show the error message of payment gateway. Which is show in the bottom of the app.

## Business Model:

The business model includes a payment gateway functionality, where users are prompted to make a payment of a specific amount. Users have to purchase subject-wise questions to read and prepare for each subject. The simulated payment process involves a loading dialog and a delay before returning to the main activity, providing a seamless user experience.

## Question :

After Completing the payment user can access the question of the subject.



## Conclusion:

The Question Bank app holds great potential for educational support. Addressing the mentioned issues and implementing the recommendations can further enhance user satisfaction and engagement. Additionally, continuous improvement and feature enhancements will contribute to the app's success in the competitive educational technology landscape.