Credit Task 3.1

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Outcome	Weight
Unit Learning Outcome 1	♦♦♦◇◇
Unit Learning Outcome 2	♦♦♦◇◇
Unit Learning Outcome 3	♦♦♦◇◇

learned about various concepts such as Data Persistence, Intents, Fragments, and Recycler View

April 19, 2024

SIT708-TASK 3.1C

Video link for quizz- https://youtube.com/shorts/ahFQ7ni4Lxk?feature=share

GitHub link for quiz app : https://github.com/akash271291/sit708task3.1c.git

GitHub link for calculator app: https://github.com/akash271291/sit708task3.1cb.git

Video link for calculator- https://youtu.be/BTL6NF2y3QQ

Using Llama 2 and similar Large Language Models (LLMs) can improve different parts of the app. By adding these Below mentioned are few features we can include in the application

Checking Answers Right Away: Using Llama 2 to check answers lets the app see if users are right or wrong in real-time. By telling users right away if they are right or wrong, the app helps them learn better and keeps them interested.[2]

Making Questions on the Go: Llama 2 and similar LLMs can be used to make quiz questions based on certain topics. By looking at lots of text, these models can make many different and fitting questions, making the quiz better for users to fit each user's likes and learning goals.[2]

Personalized Suggestions: Using LLMs like Llama 2 lets the app look at how users use and what they like to make suggestions for quizzes. By knowing how users act and learn, the app can suggest good quiz topics, how hard the quiz should be, and learning things that fit each user which makes users more interested and helps them learn better.[1]

Continuous Learning and Improvement: The app can learn and get better over time by using LLMs for data analysis and processing user feedback. The software can improve customized suggestions, answer grade accuracy, and question creating algorithms by tracking user performance, preferences.[1]

Integration with External Knowledge Sources: To improve the app's content and instructional materials, LLMs can be integrated with external knowledge sources including open-access databases, educational websites which can provide users with access to a vast repository of knowledge and supplementary materials.[2]

References

[1]

N. Meißner, S. Speth, J. Kieslinger, and S. Becker, "EvalQuiz – LLM-based Automated Generation of Self-Assessment Quizzes in Software Engineering Education," dl.gi.de, 2024. https://dl.gi.de/items/1561864d-a5b9-42d2-821d-41baf80eb630(accessed Apr. 17, 2024).

[2]

Z. Zhang and X. Huang, "The impact of chatbots based on large language models on second language vocabulary acquisition," Heliyon, vol. 10, no. 3, p. e25370, Feb. 2024, doi: https://doi.org/10.1016/j.heliyon.2024.e25370

```java
1   package com.example.calculatorapplication;
2
3   import android.os.Bundle;
4   import android.view.View;
5   import android.widget.Button;
6   import android.widget.EditText;
7   import android.widget.TextView;
8   import androidx.appcompat.app.AppCompatActivity;
9
10  import com.example.calculatorapplication.R;
11
12  public class MainActivity extends AppCompatActivity {
13
14      EditText editTextValue1, editTextValue2;
15      TextView textViewResult;
16
17      @Override
18      protected void onCreate(Bundle savedInstanceState) {
19          super.onCreate(savedInstanceState);
20          setContentView(R.layout.activity_main);
21
22          editTextValue1 = findViewById(R.id.editTextValue1);
23          editTextValue2 = findViewById(R.id.editTextValue2);
24          textViewResult = findViewById(R.id.textViewResult);
25
26          Button addButton = findViewById(R.id.addButton);
27          Button subButton = findViewById(R.id.subButton);
28
29          addButton.setOnClickListener(new View.OnClickListener() {
30              @Override
31              public void onClick(View v) {
32                  addValues();
33              }
34          });
35
36          subButton.setOnClickListener(new View.OnClickListener() {
37              @Override
38              public void onClick(View v) {
39                  subtractValues();
40              }
41          });
42      }
43
44      private void addValues() {
45          String value1Str = editTextValue1.getText().toString();
46          String value2Str = editTextValue2.getText().toString();
47
48          if (!value1Str.isEmpty() && !value2Str.isEmpty()) {
49              double value1 = Double.parseDouble(value1Str);
50              double value2 = Double.parseDouble(value2Str);
51
52              double result = value1 + value2;
53              textViewResult.setText("Result: " + result);
```

```
54          } else {
55              textViewResult.setText("Please enter both values");
56          }
57      }
58
59      private void subtractValues() {
60          String value1Str = editTextValue1.getText().toString();
61          String value2Str = editTextValue2.getText().toString();
62
63          if (!value1Str.isEmpty() && !value2Str.isEmpty()) {
64              double value1 = Double.parseDouble(value1Str);
65              double value2 = Double.parseDouble(value2Str);
66
67              double result = value1 - value2;
68              textViewResult.setText("Result: " + result);
69          } else {
70              textViewResult.setText("Please enter both values");
71          }
72      }
73 }
74 ----------------------------------------
75 package com.akash.quizapp;
76 import androidx.appcompat.app.AppCompatActivity;
77 import android.content.Context;
78 import android.content.Intent;
79 import android.content.SharedPreferences;
80 import android.os.Bundle;
81 import android.view.View;
82 import android.widget.Button;
83 import android.widget.EditText;
84 import android.widget.Toast;
85
86 public class MainActivity extends AppCompatActivity {
87      SharedPreferences sharedPrefs;
88      EditText username;
89      Button startQuizButton;
90
91      @Override
92      protected void onCreate(Bundle savedInstanceState) {
93          super.onCreate(savedInstanceState);
94          setContentView(R.layout.activity_main);
95          username = findViewById(R.id.nameEditText);
96          startQuizButton = findViewById(R.id.startquizButton);
97
98          sharedPrefs = getSharedPreferences("akash", Context.MODE_PRIVATE);
99
100         startQuizButton.setOnClickListener(new View.OnClickListener() {
101             @Override
102             public void onClick(View view) {
103                 String name = username.getText().toString();
104                 if (name.isEmpty() || name.equals(null)) {
105                     Toast.makeText(view.getContext(), "Please enter your name",
                        ↪  Toast.LENGTH_SHORT).show();
```

```java
106                    return;
107                }
108                // Store the name in SharedPreferences
109                SharedPreferences.Editor editor = sharedPrefs.edit();
110                editor.putString("name", name);
111                editor.apply();
112                // Launch the QuestionActivity
113                Intent intent = new Intent(MainActivity.this,
                   ↪   QuestionActivity.class);
114                startActivity(intent);
115            }
116        });
117        Intent intent = getIntent();
118        String nameInt = intent.getStringExtra("name") != null ?
           ↪   intent.getStringExtra("name") : "";
119        if (!nameInt.equals(null) && !nameInt.equals("")) {
120            username.setText(nameInt);
121        }
122
123
124    }
125 }
126
127 ------------------------------------------------
128 package com.akash.quizapp;
129
130 import android.os.Bundle;
131 import android.util.Log;
132 import android.view.View;
133
134 import androidx.appcompat.app.AppCompatActivity;
135 import androidx.recyclerview.widget.LinearLayoutManager;
136 import androidx.recyclerview.widget.RecyclerView;
137
138 import com.akash.quizapp.adapter.QuestionAdapter;
139 import com.akash.quizapp.model.QuestionModel;
140 import com.google.gson.Gson;
141 import java.util.List;
142
143 public class QuestionActivity extends AppCompatActivity {
144
145    private RecyclerView recyclerView;
146    List<QuestionModel> questionList;
147    private int currentQuestionIndex = 0;
148    private QuestionAdapter QSadapter;
149    @Override
150    protected void onCreate(Bundle savedInstanceState) {
151        super.onCreate(savedInstanceState);
152        setContentView(R.layout.activity_question);
153        questionList = ParseJSON("{\n" +
154                " \"questions\": [\n" +
155                "   {\n" +
156                "     \"title\": \"Android Quiz\",\n" +
```

```
157                "        \"question\": \"Choose the correct option related to
               ↪   Android.\",\n" +
158                "        \"answers\": [\"Android is a web browser\", \"Android is an
               ↪   Operating System\", \"Android is a web server\", \"None\"],\n" +
159                "        \"correctAnswerIndex\": 1\n" +
160                "      },\n" +
161                "      {\n" +
162                "        \"title\": \"Android Quiz\",\n" +
163                "        \"question\": \"In android mini activities are also known
               ↪   as?\",\n" +
164                "        \"answers\": [\n" +
165                "          \"Adapter\",\n" +
166                "          \"Activity\",\n" +
167                "          \"Fragments\",\n" +
168                "          \"None of the above\"\n" +
169                "        ],\n" +
170                "        \"correctAnswerIndex\": 2\n" +
171                "      },\n" +
172                "      {\n" +
173                "        \"title\": \"Android Quiz\",\n" +
174                "        \"question\": \"For which of the following Android is mainly
               ↪   developed?\",\n" +
175                "        \"answers\": [\"Servers\", \"Desktops\", \"Laptops\",
               ↪   \"Mobile Phones\"],\n" +
176                "        \"correctAnswerIndex\": 3\n" +
177                "      },\n" +
178                "      {\n" +
179                "        \"title\": \"Android Quiz\",\n" +
180                "        \"question\": \"APK stands for?\",\n" +
181                "        \"answers\": [\n" +
182                "          \"Android Phone Kit\",\n" +
183                "          \"Android Page Kit\",\n" +
184                "          \"Android Package Kit\",\n" +
185                "          \"None of the above\"\n" +
186                "        ],\n" +
187                "        \"correctAnswerIndex\": 2\n" +
188                "      },\n" +
189                "      {\n" +
190                "        \"title\": \"Android Quiz\",\n" +
191                "        \"question\": \"Choose the option which is contained in the
               ↪   src folder\",\n" +
192                "        \"answers\": [\n" +
193                "          \"Manifest\",\n" +
194                "          \"Java source code\",\n" +
195                "          \"XML\",\n" +
196                "          \"All of the above\"\n" +
197                "        ],\n" +
198                "        \"correctAnswerIndex\": 1\n" +
199                "      }\n" +
200                "    ]\n" +
201                "}\n");
202        Log.d("TAG", "onCreate: "+questionList.get(0).getQuestion());
203
```

```java
204         recyclerView  = findViewById(R.id.recyclerView);
205         recyclerView.setLayoutManager(new LinearLayoutManager(this));
206         recyclerView.setVisibility(View.GONE);
207         QSadapter = new QuestionAdapter(questionList,recyclerView,this);
208         recyclerView.setAdapter(QSadapter);
209         loadQuestion(currentQuestionIndex);
210
211
212
213     }
214
215     private static class QuizModel {
216         private List<QuestionModel> questions;
217
218         public List<QuestionModel> getQuestions() {
219             return questions;
220         }
221
222     }
223     public List<QuestionModel> ParseJSON(String json){
224
225         Gson gson = new Gson();
226         QuizModel quiz = gson.fromJson(json, QuizModel.class);
227         return quiz.getQuestions();
228
229     }
230
231     public void onAnswerSubmitted() {
232         currentQuestionIndex++;
233         recyclerView.setVisibility(View.GONE); // hide the current question
234
235         // load the next question
236         loadQuestion(currentQuestionIndex);
237     }
238
239     private void loadQuestion(int questionIndex) {
240         if (questionIndex >= questionList.size()) {
241             return;
242         }
243         Log.d("questionIndex", "loadQuestion: "+questionIndex);
244         QSadapter.setCurrentQuestionIndex(questionIndex);
245         QSadapter.notifyDataSetChanged();
246
247         if (recyclerView.getVisibility() == View.GONE) {
248             recyclerView.setVisibility(View.VISIBLE);
249         }
250
251     }
252
253 }
254 --------------------
255 package com.akash.quizapp;
256 import com.akash.quizapp.databinding.FragmentFirstBinding;
```

```java
257  import android.view.LayoutInflater;
258  import android.view.View;
259  import androidx.annotation.NonNull;
260  import androidx.fragment.app.Fragment;
261  import android.os.Bundle;
262  import androidx.navigation.fragment.NavHostFragment;
263  import android.view.ViewGroup;
264
265  public class FirstFragment extends Fragment {
266
267      private FragmentFirstBinding binding;
268
269      @Override
270      public View onCreateView(
271              LayoutInflater inflater, ViewGroup container,
272              Bundle savedInstanceState
273      ) {
274
275          binding = FragmentFirstBinding.inflate(inflater, container, false);
276          return binding.getRoot();
277
278      }
279
280      public void onViewCreated(@NonNull View view, Bundle savedInstanceState) {
281          super.onViewCreated(view, savedInstanceState);
282
283          binding.buttonFirst.setOnClickListener(new View.OnClickListener() {
284              @Override
285              public void onClick(View view) {
286                  NavHostFragment.findNavController(FirstFragment.this)
287                          .navigate(R.id.action_FirstFragment_to_SecondFragment);
288              }
289          });
290      }
291
292      @Override
293      public void onDestroyView() {
294          super.onDestroyView();
295          binding = null;
296      }
297
298  }
299
300  --------------------------------
301  package com.akash.quizapp;
302
303  import android.os.Bundle;
304  import android.view.LayoutInflater;
305  import android.view.View;
306  import android.view.ViewGroup;
307
308  import androidx.annotation.NonNull;
309  import androidx.fragment.app.Fragment;
```

```java
310   import androidx.navigation.fragment.NavHostFragment;

311

312   import com.akash.quizapp.databinding.FragmentSecondBinding;

313

314   public class SecondFragment extends Fragment {

315

316       private FragmentSecondBinding binding;

317

318       @Override
319       public View onCreateView(
320               LayoutInflater inflater, ViewGroup container,
321               Bundle savedInstanceState
322       ) {

323

324           binding = FragmentSecondBinding.inflate(inflater, container, false);
325           return binding.getRoot();

326

327       }

328

329       public void onViewCreated(@NonNull View view, Bundle savedInstanceState) {
330           super.onViewCreated(view, savedInstanceState);

331

332           binding.buttonSecond.setOnClickListener(new View.OnClickListener() {
333               @Override
334               public void onClick(View view) {
335                   NavHostFragment.findNavController(SecondFragment.this)
336                           .navigate(R.id.action_SecondFragment_to_FirstFragment);
337               }
338           });
339       }

340

341       @Override
342       public void onDestroyView() {
343           super.onDestroyView();
344           binding = null;
345       }

346

347   }

348

349   ------------------------------
350   package com.akash.quizapp;

351

352   import android.annotation.SuppressLint;
353   import android.content.Intent;
354   import android.os.Bundle;

355

356   import com.google.android.material.snackbar.Snackbar;

357

358   import androidx.appcompat.app.AppCompatActivity;

359

360   import android.view.View;
361   import android.widget.Button;
362   import android.widget.TextView;
```

```java
363
364    import androidx.navigation.NavController;
365    import androidx.navigation.Navigation;
366    import androidx.navigation.ui.AppBarConfiguration;
367    import androidx.navigation.ui.NavigationUI;
368
369    import com.akash.quizapp.databinding.ActivityFinalBinding;
370
371    public class Final extends AppCompatActivity {
372
373      private Button btn_cong;
374        private Button btn_final;
375        private TextView text_cong;
376        private TextView text_point;
377        @Override
378        protected void onCreate(Bundle savedInstanceState) {
379            super.onCreate(savedInstanceState);
380          setContentView(R.layout.activity_final);
381          btn_cong=findViewById(R.id.restart);
382          btn_final=findViewById(R.id.Finish);
383          text_cong=findViewById(R.id.cong);
384          text_point=findViewById(R.id.point);
385          Intent intent = getIntent();
386          int point = intent.getIntExtra("point",0);
387          int total = intent.getIntExtra("total",0);
388          String userName = intent.getStringExtra("name");
389          text_cong.setText("Congratulation "+userName);
390          text_point.setText("Your Score:\n"+point+"/"+total);
391
392          btn_cong.setOnClickListener(new View.OnClickListener() {
393            @Override
394            public void onClick(View view) {
395              Intent intent = new Intent(Final.this, MainActivity.class);
396              intent.putExtra("name",userName);
397              startActivity(intent);
398
399            }
400          });
401          btn_final.setOnClickListener(new View.OnClickListener() {
402            @Override
403            public void onClick(View view) {
404                finishAffinity();
405            }
406          });
407        }
408
409
410    }
411
```