



King of Karaoke

– a quiz app composed of various features

Course Project for CISC3002
Mobile Application Programming
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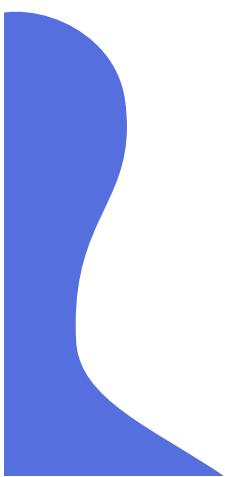


Introduction

01 02



**Technique
Details**



Demonstration

03 04

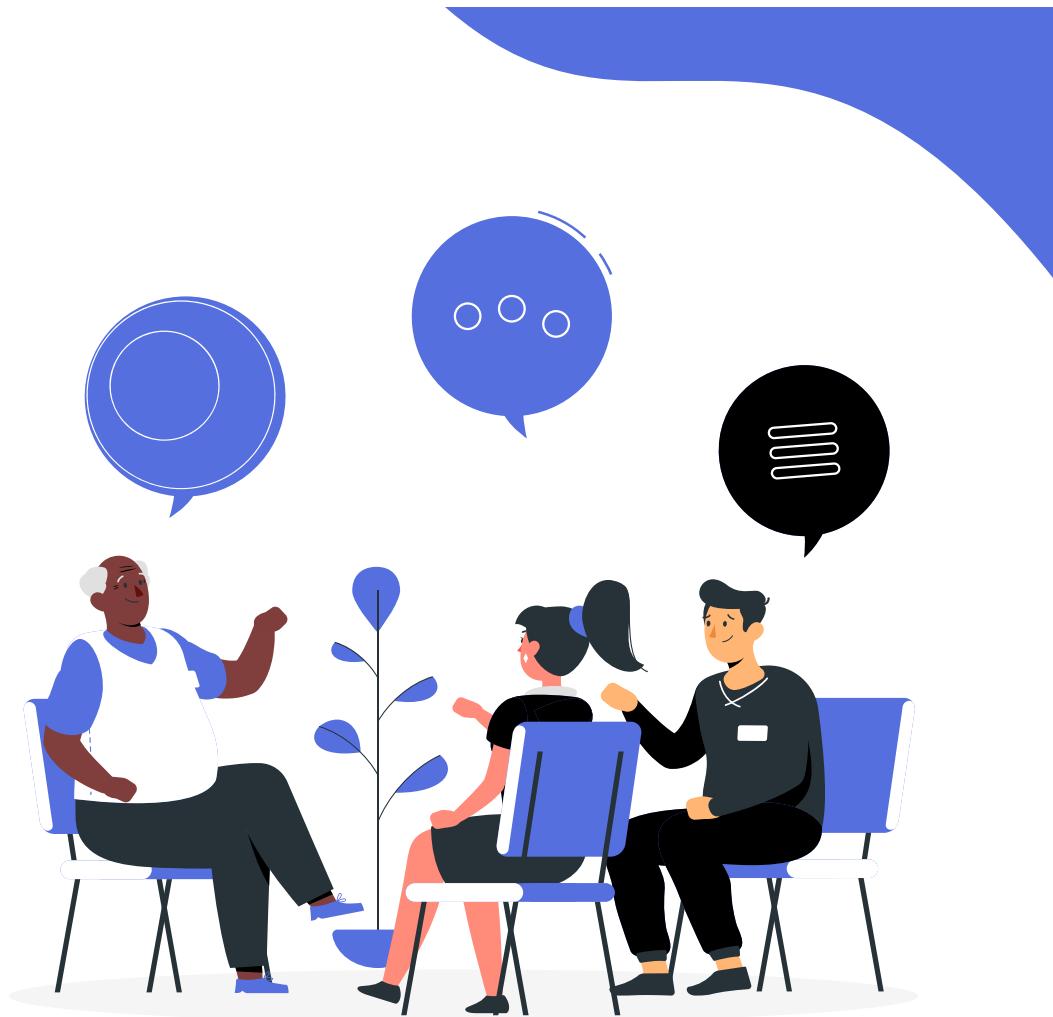


**Questions &
Answers**



01 Introduction

King of Karaoke is an android application for music quizzes, uses problem set updatable online and support login and score updating.



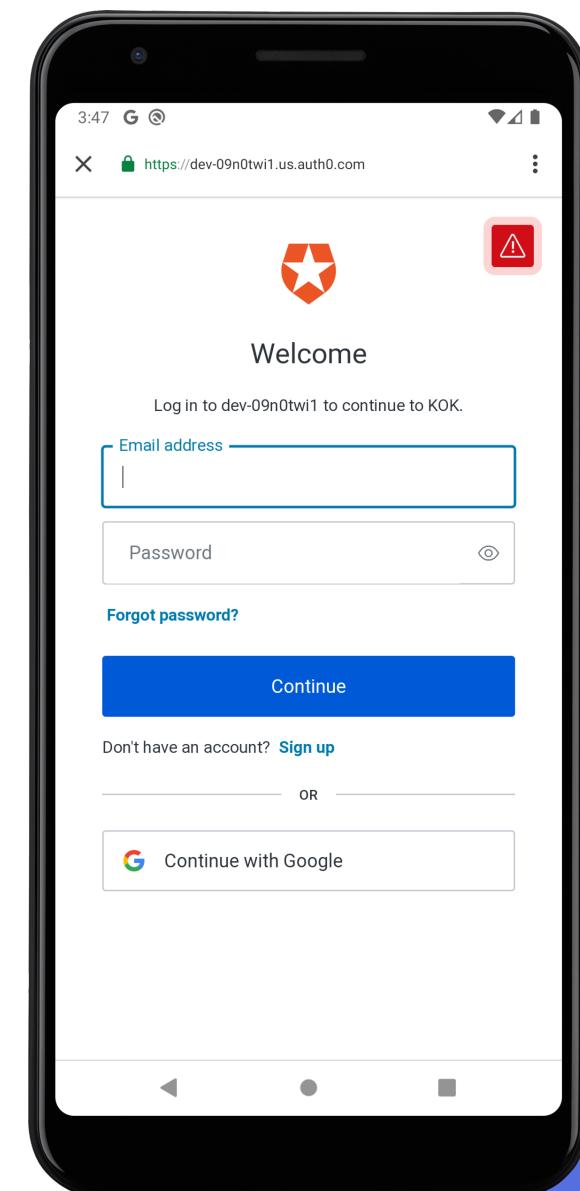
Login to the App

- **Usages**

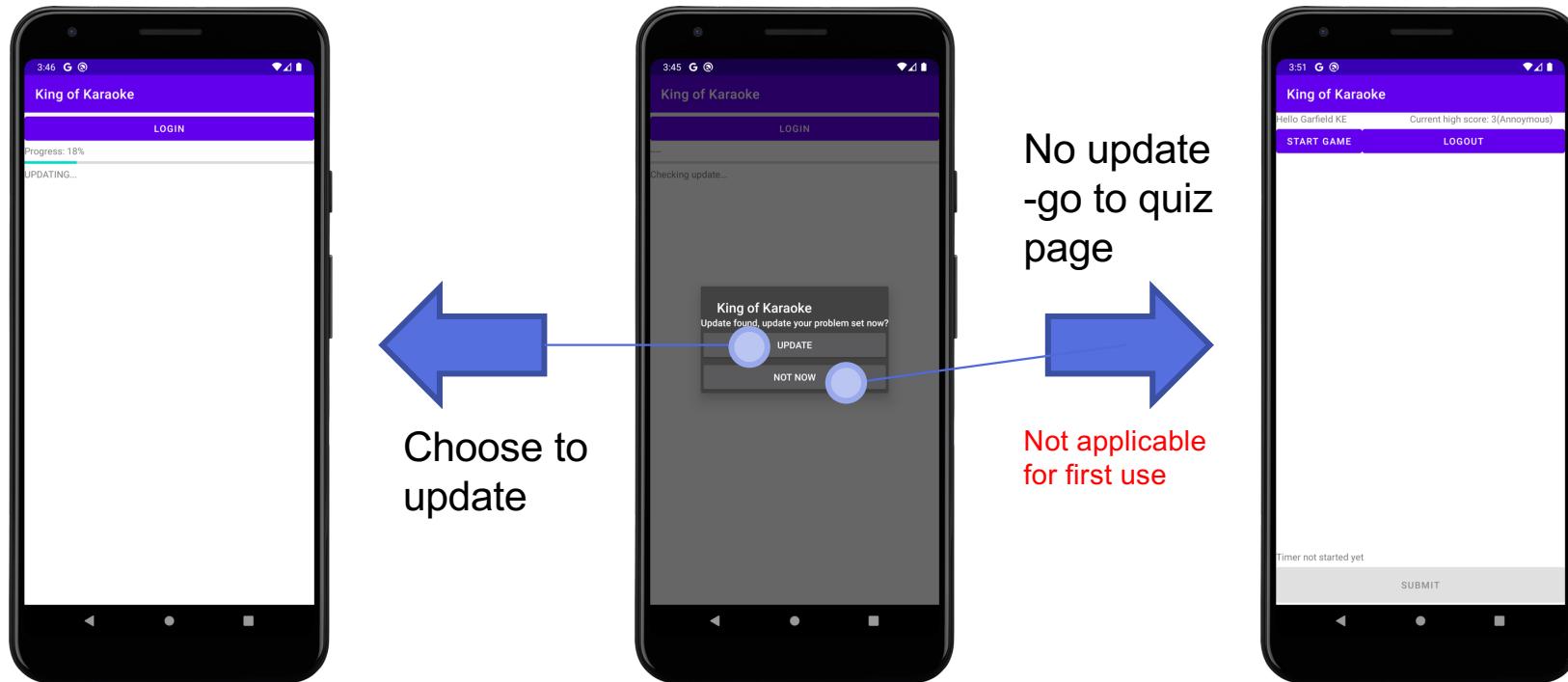
To record the players' identity for scoring

- **Ways**

Using an email address or Google account (suggested for Android devices)



Updating Problem Set



Problem set can be updated online

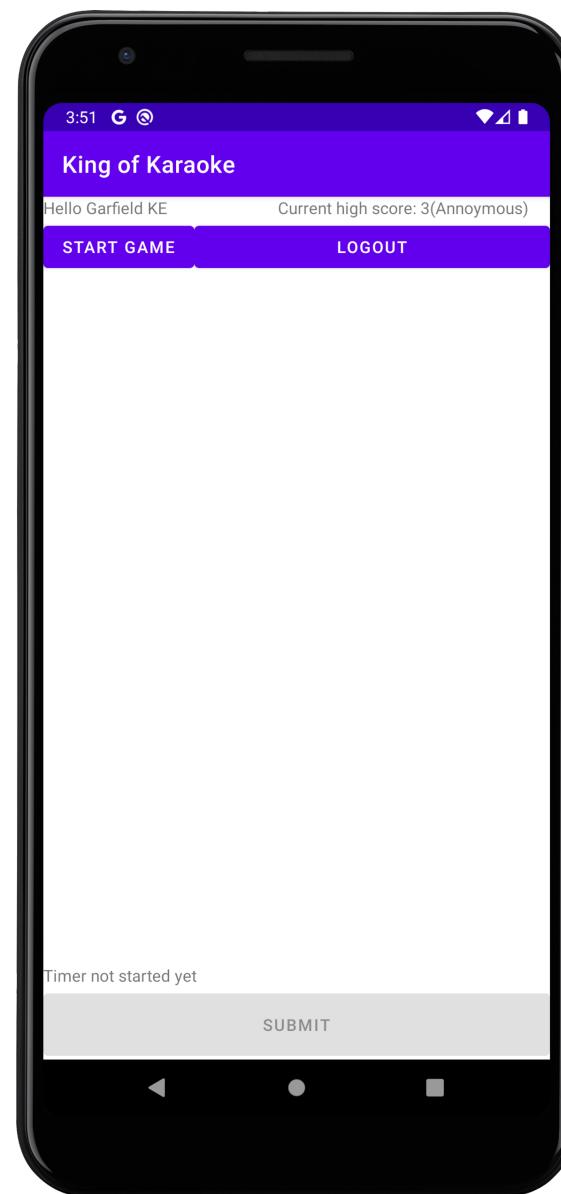
Main Quiz Page

- **Start Game**

Click to start a game
(3 minutes timer start once
clicked)

- **Log out**

Exit to the login page



Main Quiz Page (Quiz started)

- **Music Player**

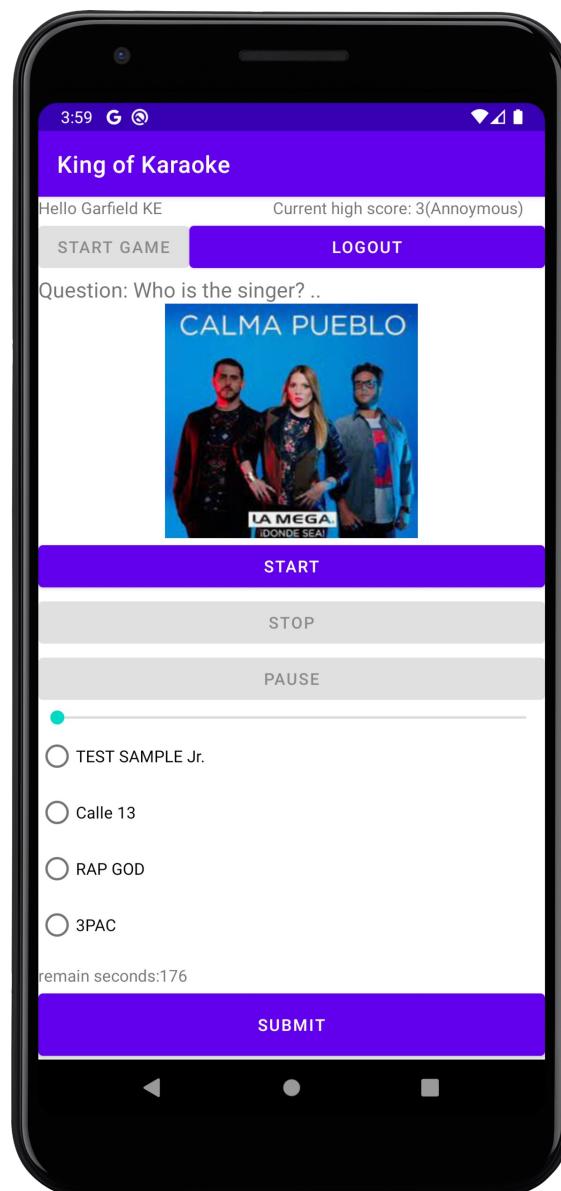
Click to listen to the music

- **Submit**

confirm after **answering all**

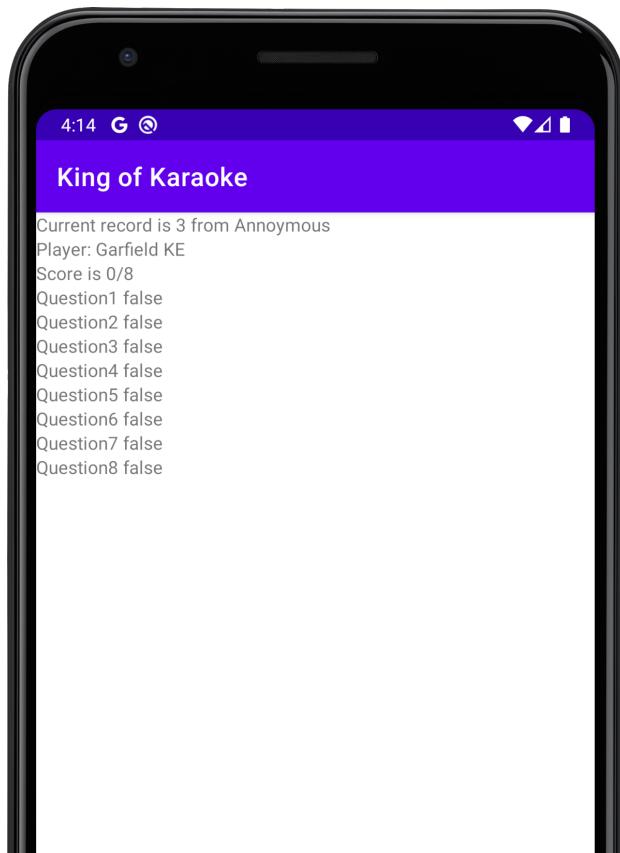
- **Next question**

Swipe for next/ previous question

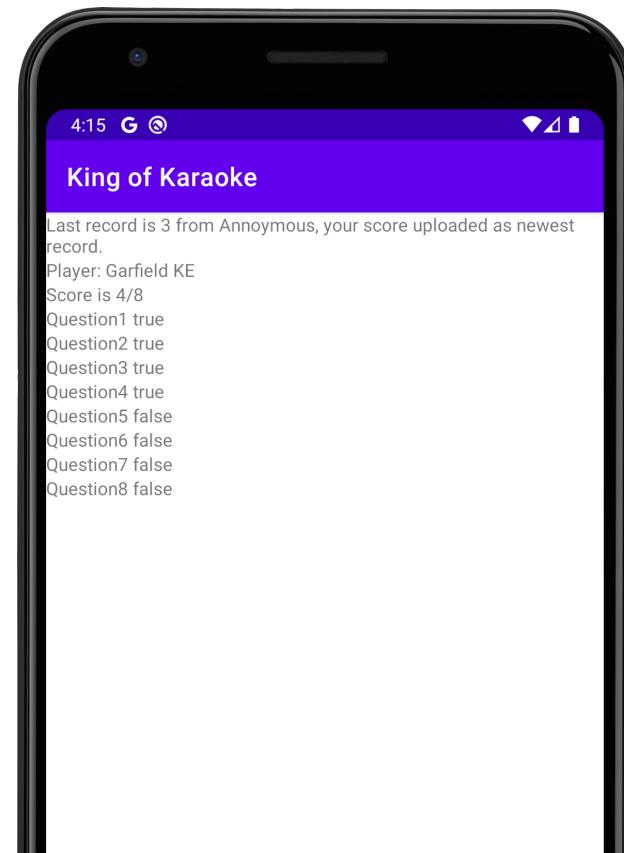


Score Submission

Not best score



New best score

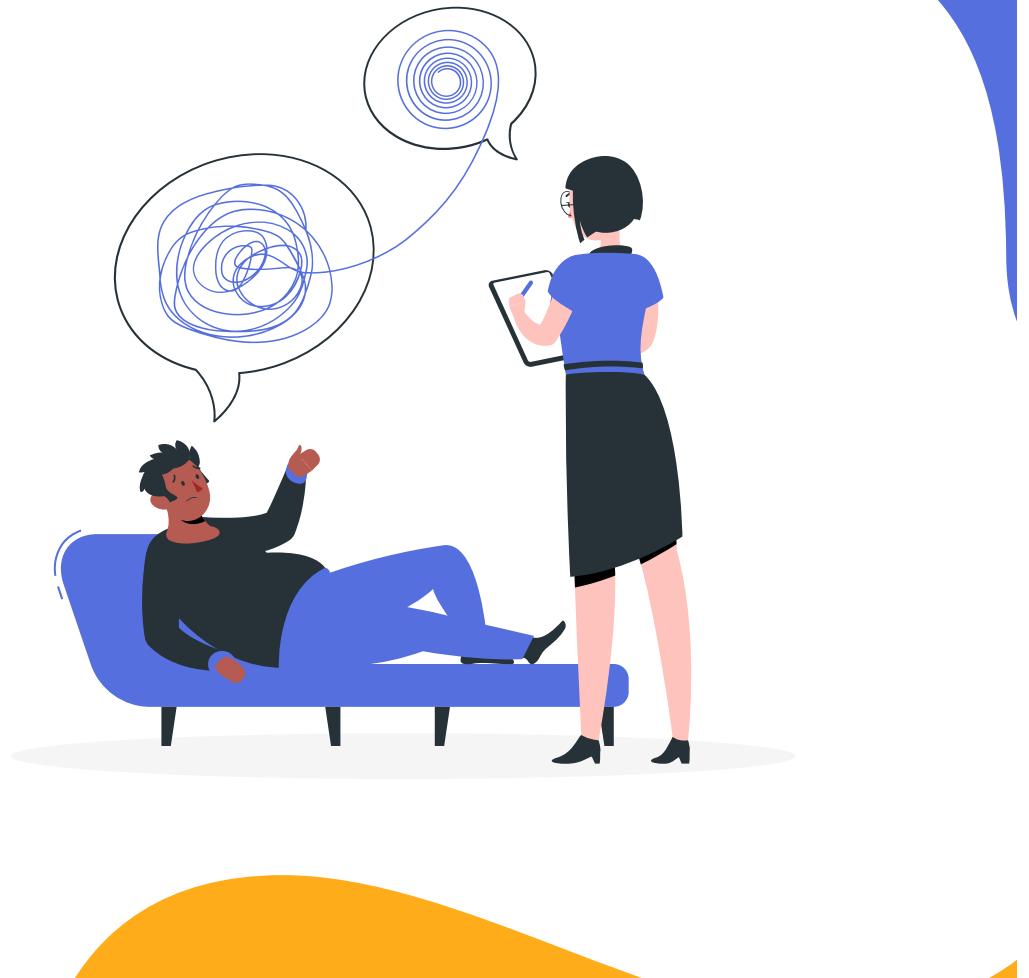


Click back to
restart a **new game**



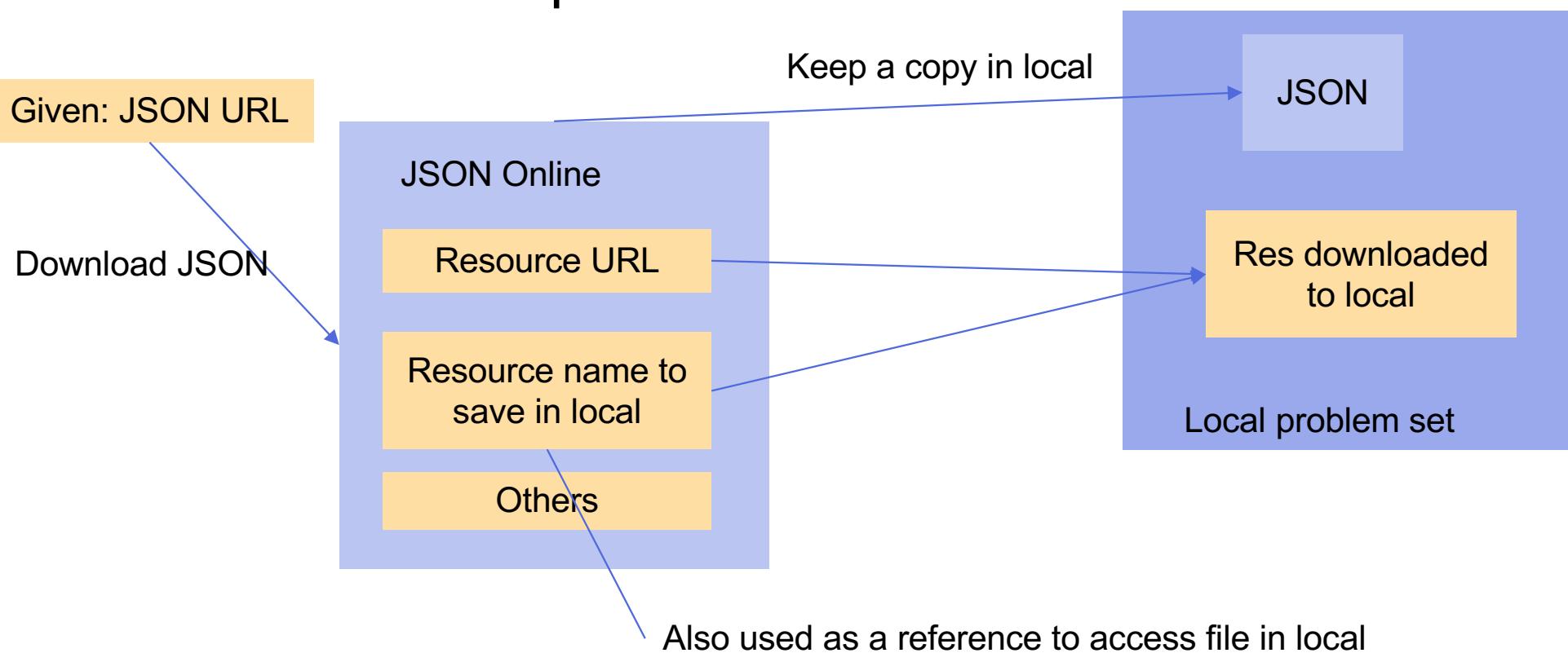
02 Technique details

ViewPager, JSON, AsyncTask...



Download Problems

Download problems described in JSON





Problem Set

20 questions in total (update online)

8 will be drafted in each round



Problem Set – Draft Questions

Load JSON from local storage and randomly pick 8

```
private void LoadJsonDataLocal() {
    String filename="problems.json";
    //StringBuilder text = new StringBuilder();
    FileInputStream in = null;
    StringBuilder sb = new StringBuilder();
    try {
        in = openFileInput(filename);
        InputStreamReader inputStreamReader = new InputStreamReader(in);
        BufferedReader bufferedReader = new BufferedReader(inputStreamReader);

        String line;
        while ((line = bufferedReader.readLine()) != null) {
            sb.append(line);
        }
        inputStreamReader.close();
    } catch (IOException e) {
        e.printStackTrace();
    }
}
```

```
String data=sb.toString();
Gson gson=new Gson();
Type type=new TypeToken<List<Problem>>().getType();
final List<Problem> list=gson.fromJson(data,type);
MainActivity.this.runOnUiThread(new Runnable() {
    @Override
    public void run() {
        problemList.clear();
        //problemList.addAll(list);

        Random r = new Random();
        int[] allProblems= new int[20];
        for (int i = 0; i < 20; i++) {
            allProblems[i]=i;
        }
        int[] selectedProblems= new int[8];
        for (int i = 0; i < 8; i++) {
            selectedProblems[i]=-1;
        }

        for (int i = 0; i < 8; i++) {
            int num = r.nextInt( bound: 20);
            if(ifContain(selectedProblems,num, length: 8)){
                selectedProblems[i]=num;
                problemList.add(list.get(num));
            }else{
                i--;
            }
        }
    }
})
```

Problem Set -JSON

Problem set loaded into List<Problem> with Gson

```
public class Problem {  
    String strQuestion;  
    String strAnswer1;  
    String strAnswer2;  
    String strAnswer3;  
    String strAnswer4;  
    String imgUrl;  
    String audioUrl;  
    String imgDir;  
    String audioDir;  
    int correctAns;  
    int userAns;  
    int version;  
    int SN;  
}
```

```
[  
  {  
    "SN":1,  
    "version":0,  
    "strQuestion":"Question: Who is the singer? .",  
    "strAnswer1":"Volcano",  
    "strAnswer2":"3PAC",  
    "strAnswer3":"The Beach Boys",  
    "strAnswer4":"Gene",  
    "imgUrl":"https://garfieldw33.github.io/CISC3002/Project/ph  
    "audioUrl":"https://upload.wikimedia.org/wikipedia/en/trans  
%27Weird_Al%27_Yankovic_-_The_Saga_Begins.ogg.mp3",  
    "imgDir":"Volcano.png",  
    "audioDir":"Volcano.mp3",  
    "correctAns":1,  
    "userAns":-1  
  },  
  {  
    "SN":2,  
    "version":0,  
    "strQuestion":"Question: What is the capital of France? .",  
    "strAnswer1":"Paris",  
    "strAnswer2":"London",  
    "strAnswer3":"Berlin",  
    "strAnswer4":"Madrid",  
    "imgUrl":"https://garfieldw33.github.io/CISC3002/Project/ph  
    "audioUrl":"https://upload.wikimedia.org/wikipedia/en/trans  
%27Weird_Al%27_Yankovic_-_The_Saga_Begins.ogg.mp3",  
    "imgDir":"Paris.png",  
    "audioDir":"Paris.mp3",  
    "correctAns":1,  
    "userAns":-1  
  }]
```

Media Player – Local Music

Music in local storage transferred into URI

```
//String musicURL=problem.audioUrl;  
//String musicURL=getActivity().getFilesDir()+problem.audioDir;  
  
File audioFile = new File(getActivity().getFilesDir(), problem.audioDir);  
//uri= Uri.parse(musicURL);  
uri=Uri.fromFile(audioFile);
```

"imgDir": "Volcano.png",
"audioDir": "Volcano.mp3",
"-----"

audioDir in JSON: The filename to save the file

Fragment –Adapter

Data in List<Problem> inflated to the Fragment

```
lse {  
    final com.example.kingofkaraoke.Problem problem = ((MainActivity) getActivity()).pi  
    ((TextView) view.findViewById(R.id.question)).setText(problem.strQuestion);  
    ((RadioButton) view.findViewById(R.id.answer1)).setText(problem.strAnswer1);  
    ((RadioButton) view.findViewById(R.id.answer2)).setText(problem.strAnswer2);  
    ((RadioButton) view.findViewById(R.id.answer3)).setText(problem.strAnswer3);  
    ((RadioButton) view.findViewById(R.id.answer4)).setText(problem.strAnswer4);  
  
    /*...*/  
  
    File file = new File(getActivity().getFilesDir(), problem.imgDir);  
    ImageView imageView = view.findViewById(R.id.imageQuestion);  
    Glide.with(imageView).load(file).placeholder(R.drawable.load).into(imageView);  
  
    //String musicURL=problem.audioUrl;  
    //String musicURL=getActivity().getFilesDir()+problem.audioDir;  
  
    File audioFile = new File(getActivity().getFilesDir(), problem.audioDir);  
    //uri= Uri.parse(musicURL);  
    uri=Uri.fromFile(audioFile);  
  
    RadioGroup radioGroup = view.findViewById(R.id.radioGroup);  
    radioGroup.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {
```

Fragment –Local Images

Glide accessing local images instead of online URL

```
File file = new File(getActivity().getFilesDir(), problem.imgDir);  
ImageView imageView = view.findViewById(R.id.imageQuestion);  
Glide.with(imageView).load(file).placeholder(R.drawable.load).into(imageView);
```

参数	说明
.load(String string)	string 可以为一个文件路径、uri 或者 url
.load(Uri uri)	uri 类型
.load(File file)	文件
.load(Integer resourceId)	资源 Id,R.drawable.xxx 或者 R.mipmap.xxx
.load(byte[] model)	byte[]类型
.load(T model)	自定义类型

「使用 Glide 加载图片系列之一：
从不同的数据源加载图片」
<https://www.imzhiqiang.com/2015/10/27/Load-images-from-difference-data-sources/>

Score

Users' choices in Radio group selection recorded

```
RadioGroup radioGroup = view.findViewById(R.id.radioGroup);
radioGroup.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {
    @Override
    public void onCheckedChanged(RadioGroup group, int checkedId) {
        if (checkedId == R.id.answer1) {
            //modify user answers
            //let the activity to know the choice of user
            problem.userAns = 1;
        }
        if (checkedId == R.id.answer2) {
            //modify user answers
            //let the activity to know the choice of user
            problem.userAns = 2;
        }
        if (checkedId == R.id.answer3) {
            //modify user answers
            //let the activity to know the choice of user
            problem.userAns = 3;
        }
        if (checkedId == R.id.answer4) {
            //modify user answers
            //let the activity to know the choice of user
            problem.userAns = 4;
        }
    }
})
```

Total score calculated after submission

```
ic void submitScore(String username) {
//if(username!=null)
{
    //start the score activity
    Intent intent=new Intent(packageContext: MainActivity.this, ScoreActivity
//Intent intent=new Intent(MainActivity.this, LoginActivity.class);
    int nScore=0;
    ArrayList<String> listCorrectNot=new ArrayList<~>();
    for(int i=0;i<problemList.size();i++)
    {
        listCorrectNot.add("false");
        if(problemList.get(i).userAns== problemList.get(i).correctAns) {
            nScore++;
            listCorrectNot.set(i,"true");
        }
    }
    intent.putExtra( name: "Score",nScore);
    intent.putExtra( name: "username",username);
    intent.putExtra( name: "recordName",recordName);
    intent.putExtra( name: "recordScore",recordScore);
    intent.putStringArrayListExtra( name: "UserAnswerCorrectNot", listCorrect
    //TextView textTemp=findViewById(R.id.usernameTextView);
    //textTemp.setText(""+nScore+" "+listCorrectNot);
    startActivityForResult(intent, REQUEST_CODE);
    //startActivity(intent);
    //}
}
```

Timer

3 minutes (180) timer:
Force to submit when time is up

Placed as object in onClick
(instead of a function) for cancel
if submitted manually

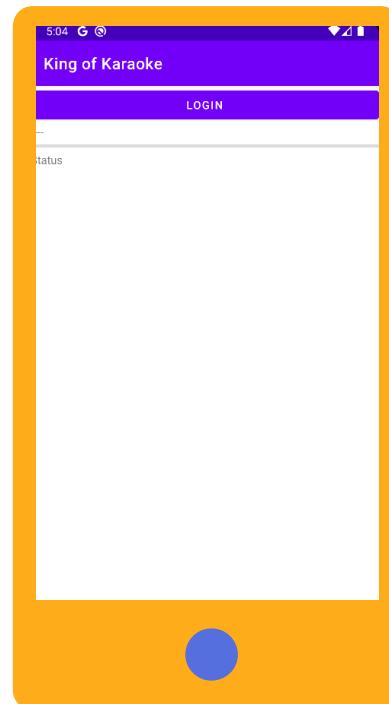
```
@Override
public void onFinish() {
    //when timer count down to 0
    TextView textView=findViewById(R.id.remainText);
    textView.setText("Time up");
    if(timerRelied) submitScore(username);
}
//start the timer
timer.start();
```

```
buttonStart.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        timerRelied=true;
        TextView textView=findViewById(R.id.remainText);
        textView.setVisibility(View.VISIBLE);
        timer=new CountDownTimer( millisInFuture: 180000, countDownInterval: 1000 ) {
            @Override
            public void onTick(long millisUntilFinished) {
                //according to the remaining time, set the text
                TextView textView=findViewById(R.id.remainText);
                textView.setText("remain seconds:"+millisUntilFinished/1000);
            }
        }
        @Override
        public void onFinish() {
            //when timer count down to 0
            TextView textView=findViewById(R.id.remainText);
            textView.setText("Time up");
            if(timerRelied){
                buttonStart.setEnabled(true);
                submitScore(username);
                timerRelied=false;
                TextView textView1=findViewById(R.id.remainText);
                textView1.setVisibility(View.INVISIBLE);
            }
        }
    }
}
```



03 Demonstration

Demonstration video available at
YouTube



Demonstration

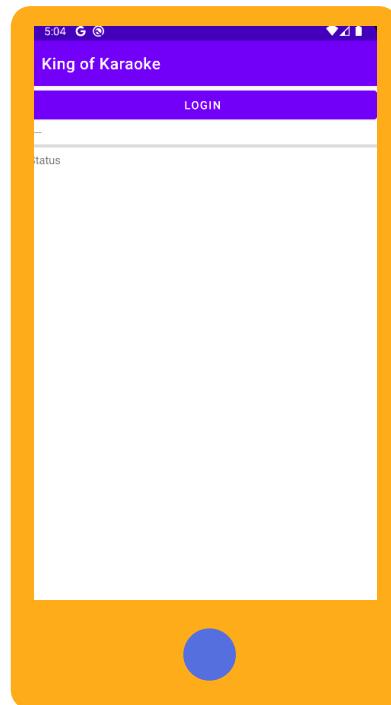


https://youtu.be/m_E59Pfmnq4

Scan QR or go to the link to view



04 Q & A



Questions & Answers

For issues and suggestions, please email
mailto: garfield.ke@connect.um.edu.mo

Download the slides, and report :

<https://garfieldw33.github.io/CISC3002/Project/downloadsPage.html>

(or scan the code)



Thanks for attention!