Green University of Bangladesh

Department of Computer Science and Engineering (CSE)

Faculty of Sciences and Engineering

Semester: (Fall, Year:2022), BSc. in CSE (Day)

LAB REPORT - 04

Course Title: Mobile Application Development Lab

Course Code: CSE-426 **Section:** PC-201 DB

Student Details

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Lab Date: 22-12-2022

Submission Date: 29-12-2022

Course Teacher's Name: Md. Shihab Hossain

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Lab Report Status	
Marks: ……	**Signature: ……**
Comments: ……	**Date: ……**

1. TITLE OF THE LAB EXPERIMENT

Design and Development of students data Store using Android Studio.

2. OBJECTIVES/AIMS

- To develop an application in Android device.
- To create Database.
- To perform simple SQL query.
- To create different types of activity.
- To create responsive components.
- To know new new class and object of Android Studio.

3. PROCEDURE / ANALYSIS / DESIGN

This experiment is mainly based on software. From this experiment we will try to create an application that use for data storing of students. In this application, students has choice three option. 1st is INSERT where students insert their name and college name. 2nd is DISPLAY where students see their record and 3rd is EXIT where students can exit the application. From this experiment we use two xml page. 1st page has two TextView (Name and College), two EditText and three Button (INSERT, DISPLAY, EXIT). And 2nd page has two TextView (Name and College), two EditText and three Button (HOME, PREVIOUS, NEXT). If we click previous button then it will show previous user information in database and If we click next button then it will show next user information in database When students insert successfully then show the massage "Registration Complete!". When we click DISPLAY button it goes 2nd page. We use Intent for those types of switching. We use database for storing students information.

4. IMPLEMENTATION

activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity"
android:orientation="vertical"
>
<LinearLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="30dp"
android:orientation="horizontal"
>
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Name: "
```

```
        android:textSize="30dp"
        android:padding="5dp"
        android:layout_margin="10dp"
        android:textColor="@color/black"
        >
    </TextView>
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/name_field"
        android:textSize="28dp"
        android:padding="5dp"
        android:layout_margin="10dp"
        android:textColor="@color/black"
        >
    </EditText>
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="25dp"
    android:orientation="horizontal"
    >
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="College: "
        android:textSize="30dp"
        android:padding="5dp"
        android:layout_margin="10dp"
        android:textColor="@color/black"
        >
    </TextView>
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/college_field"
        android:textSize="28dp"
        android:padding="5dp"
        android:layout_margin="10dp"
        android:textColor="@color/black"
        >
    </EditText>
</LinearLayout>
<LinearLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_margin="25dp"
    android:layout_gravity="center"
    android:orientation="horizontal"
    >
    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/insert_btn"
        android:layout_margin="15dp"
        android:text="Insert"
        android:textSize="20dp"
        >
    </Button>
    <Button
```

```
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/display_btn"
            android:layout_margin="15dp"
            android:text="Display"
            android:textSize="20dp"
            >
        </Button>
    </LinearLayout>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/exit_btn"
        android:layout_gravity="center"
        android:text="Exit"
        android:textSize="20dp"
        >
    </Button>
</LinearLayout>
```

activity_PreView.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    >
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="25dp"
        >
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Name: "
            android:textSize="30dp"
            android:textColor="@color/black"
            >
        </TextView>
        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/name_text"
            android:textColor="@color/black"
            android:textSize="25dp"
            android:background="@color/white"
            >
        </TextView>
    </LinearLayout>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="25dp"
        >
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
```

```
            android:text="College: "
            android:textSize="30dp"
            android:textColor="@color/black"
            >
        </TextView>
        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/college_text"
            android:textSize="25dp"
            android:textColor="@color/black"
            android:background="@color/white"
            >
        </TextView>
    </LinearLayout>
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_margin="25dp"
        android:layout_gravity="center"
        >
        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="15dp"
            android:text="Previous"
            android:textSize="20dp"
            android:id="@+id/previous_btn"
            >
        </Button>
        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="15dp"
            android:text="Next"
            android:textSize="20dp"
            android:id="@+id/next_btn"
            >
        </Button>
    </LinearLayout>
    <Button
        android:layout_width="180dp"
        android:layout_height="wrap_content"
        android:id="@+id/home_btn"
        android:layout_gravity="center"
        android:text="Home"
        android:textSize="20dp"
        >
    </Button>
</LinearLayout>
```

MainActivity.java:

```
package com.example.datastore;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
```

```
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {

    EditText name_field, college_field;
    Button insert_btn, display_btn, exit_btn;
    String name,collegename;
    SQLiteDatabase db;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name_field = findViewById(R.id.name_field);
        college_field = findViewById(R.id.college_field);
        insert_btn = findViewById(R.id.insert_btn);
        display_btn = findViewById(R.id.display_btn);
        exit_btn = findViewById(R.id.exit_btn);
        db = openOrCreateDatabase("Mydb", MODE_PRIVATE, null);
        db.execSQL("CREATE TABLE IF NOT EXISTS student (name VARCHAR, college VARCHAR)");
        display_btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(getApplicationContext(),PreView.class);
                startActivity(intent);
                finish();
            }
        });
        insert_btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                name = name_field.getText().toString();
                collegename = college_field.getText().toString();
                db.execSQL("INSERT INTO student VALUES('"+name+"', '"+collegename+"');");
                Toast.makeText(getApplicationContext(), "Registration Complete!",
Toast.LENGTH_SHORT).show();
                name_field.setText("");
                college_field.setText("");
            }
        });
        exit_btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                System.exit(0);
            }
        });
    }
}
```

PreView.java:

```
package com.example.datastore;
import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.content.Intent;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;
```

```
import com.example.datastore.MainActivity;
public class PreView extends AppCompatActivity {
    TextView name_text, college_text;
    Button previous_btn, next_btn, home_btn;
    SQLiteDatabase db;
    @SuppressLint("Range")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_pre_view);
        name_text = findViewById(R.id.name_text);
        college_text = findViewById(R.id.college_text);
        previous_btn =findViewById(R.id.previous_btn);
        next_btn = findViewById(R.id.next_btn);
        home_btn = findViewById(R.id.home_btn);
        db = openOrCreateDatabase("Mydb",MODE_PRIVATE, null );
        final Cursor c = db.rawQuery("SELECT * FROM student", null);
        c.moveToFirst();
        name_text.setText(c.getString(c.getColumnIndex("name")));
        college_text.setText(c.getString(c.getColumnIndex("college")));
        next_btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    c.moveToNext();
                    name_text.setText(c.getString(c.getColumnIndex("name")));
                    college_text.setText(c.getString(c.getColumnIndex("college")));
                }
                catch (Exception e){
                    Toast.makeText(getApplicationContext(), "Last Data",
Toast.LENGTH_SHORT).show();
                }
            }
        });
        previous_btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                try {
                    c.moveToPrevious();
                    name_text.setText(c.getString(c.getColumnIndex("name")));
                    college_text.setText(c.getString(c.getColumnIndex("college")));
                }
                catch (Exception e){
                    Toast.makeText(getApplicationContext(), "First Data",
Toast.LENGTH_SHORT).show();
                }
            }
        });
        home_btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent intent = new Intent(getApplicationContext(), MainActivity.class);
                startActivity(intent);
            }
        });
    }
}
```

5. TEST RESULT / OUTPUT

When we open the application then the interface will show,

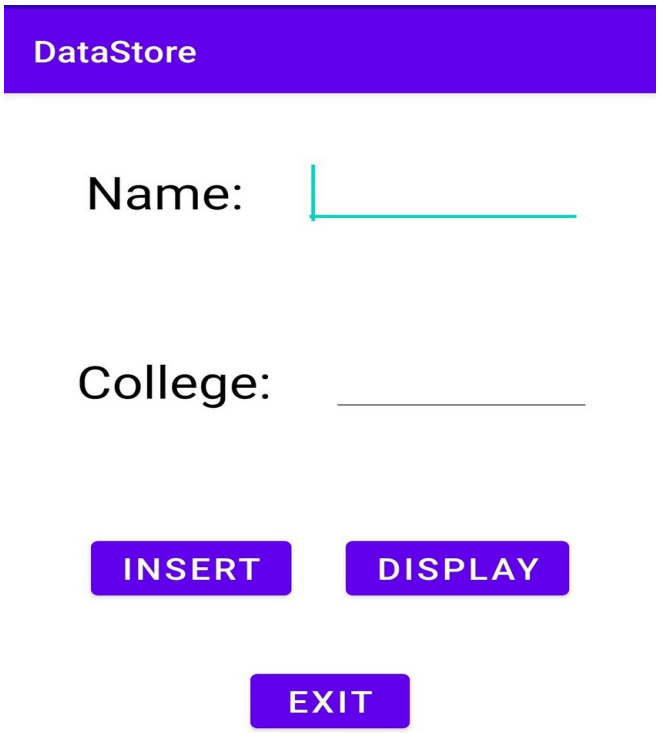

Figure_1: First Interface of the Application

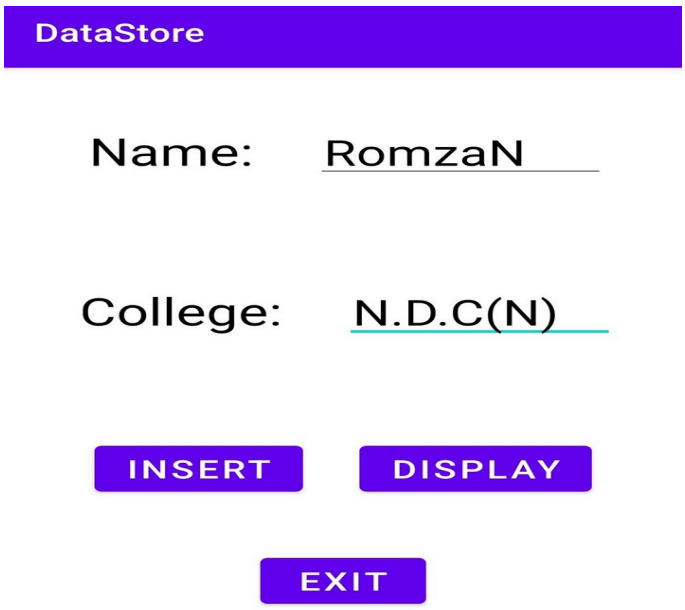

Figure_2: Putting Information

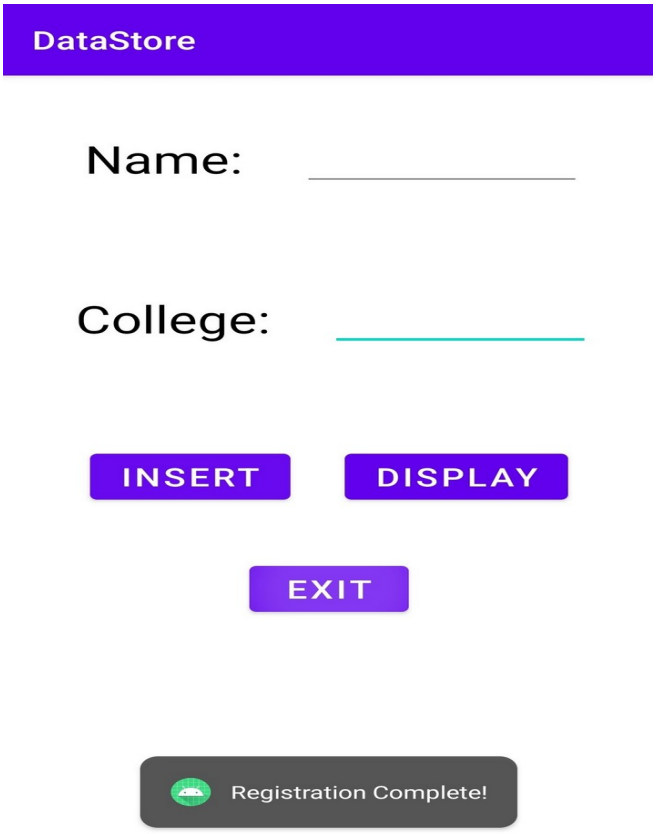

Figure_3: After Successful Insert

Figure_4: Click Display and Show data

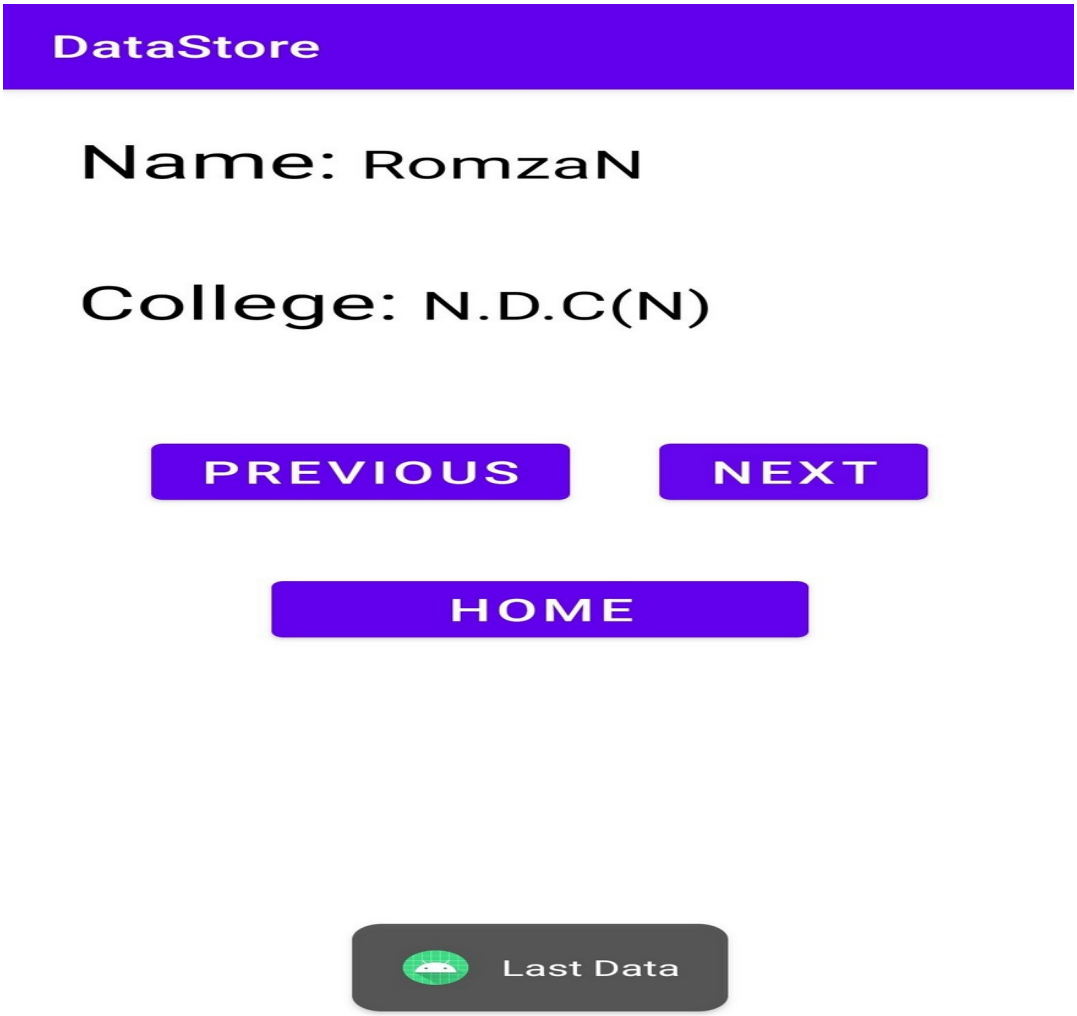

Figure_5: Last Data of Database(Storage)

6. SUMMARY/ CONCLUSION

In this experiment we will try to create an application where user can store their name and college name in database. In this application we have three option (INSERT, DISPLAY, EXIT). When user insert successfully then show the massage "Registration Complete!". When user click DISPLAY it goes another page and show user information where user can able to show first to last user information using previous and next button. Here has also home button to go to home page. Finally user has last EXIT button to exit the application. From this experiment we will learn database, intent, different object etc. Those are helping to create new new item. In this experiment, the main hard part was storing data, switching page and responsiveness all components. We face so many problem of those part. From this experiment we knew that how to create a real application that can use everyone in offline as a data store. That's why this experiment is very interesting and helpful for future.