Experiment1.4

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Subject Name: Mobile App Development **Subject Code: 21CSH-355**

1. **Aim:** Create an Android app that uses Intent with button to create a page and passes values from one activity to another.

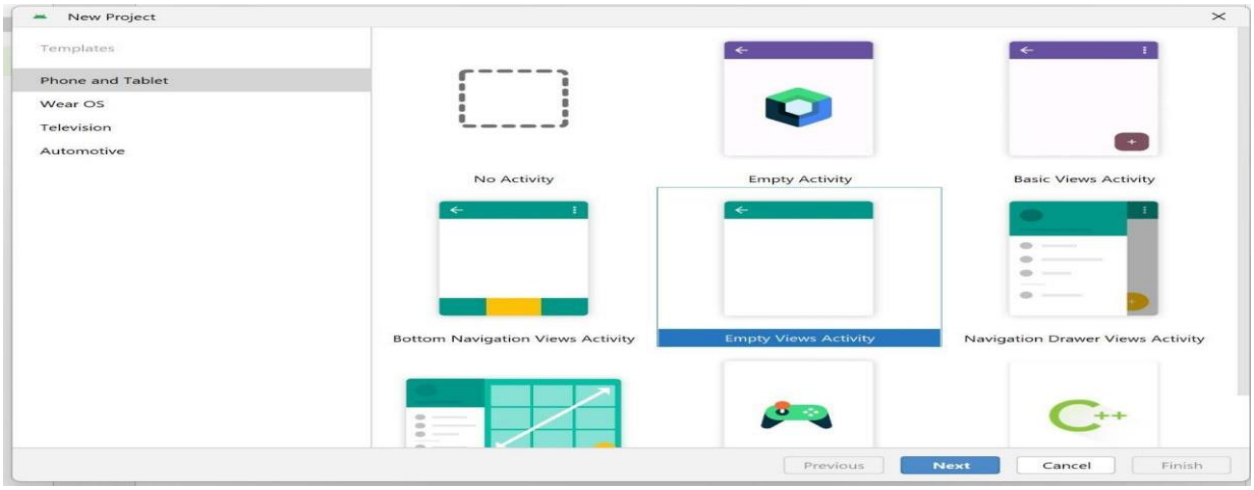
2. **Objective:** The objective of an Android app that uses Intent with a button to create a page and passes values from one activity to another could be to demonstrate and implement a simple data communication flow between different activities within an Android application. This type of app is commonly used to understand and showcase the concept of passing data between different screens or pages in Android**.**

3. **Input/Apparatus Used:**

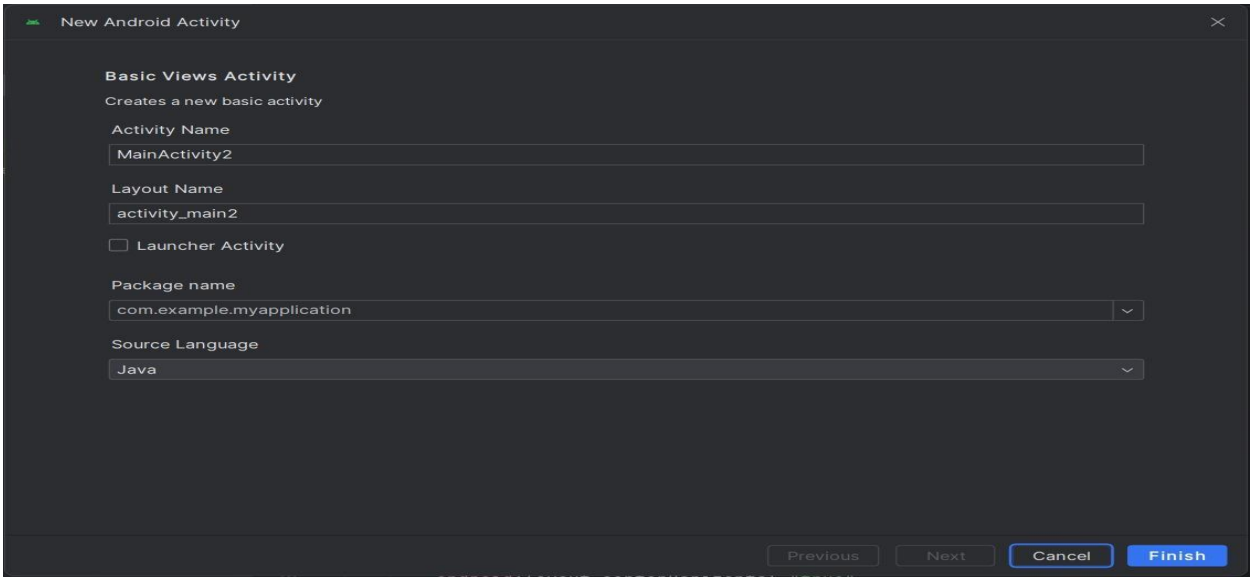
- **Android Studio:** The official IDE for Android development. Download and install Android Studio from the official website: Android Studio.
- **Android SDK:** The Android Software Development Kit (SDK) is essential for developing Android applications. Android Studio usually comes bundled with the SDK, but you may need to update it through the SDK Manager within Android Studio.
- **Java Development Kit (JDK):** Android apps are primarily written in Java or Kotlin. Make sure you have the Java Development Kit installed. Android Studio supports JDK. You can download it from the Oracle website: Java SE Downloads.
- **Android Virtual Device (AVD) or Physical Android Device:** You need a device to test your Android application. You can use an emulator (AVD) that comes with Android Studio or a physical Android device connected to your computer.

4. Procedure:

Step 1: Open Android Studio: Open Android Studio and create a new project.



Step 2: Make a new main activity file called Second Activity:



Step 3: Design the Layout in the xml files and set up the main activity files of both the activities:

activity_main.xml | activity_second.xml | MainActivity.java | SecondActivity.java

```xml
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/nameEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter Name"
        android:layout_margin="16dp"/>

    <EditText
        android:id="@+id/ageEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter Age"
        android:inputType="number"
        android:layout_below="@id/nameEditText"
        android:layout_margin="16dp"/>
```

Step 4: Create an emulated virtual device in Device Manager and Run the App:

SOURCECODE:

MainActivity:

```
package com.example.mad21
import android.os.Bundle
import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.widget.Button
import android.widget.EditText

class MainActivity : AppCompatActivity() {
  override fun onCreate(savedInstanceState: Bundle?) {
      super.onCreate(savedInstanceState)
      setContentView(R.layout.activity_main)

      val nameEditText = findViewById<EditText>(R.id.nameEditText)
      val ageEditText = findViewById<EditText>(R.id.ageEditText)
      val navigateButton = findViewById<Button>(R.id.navigateButton)

      navigateButton.setOnClickListener {
val name = nameEditText.text.toString()
          val age = ageEditText.text.toString().toIntOrNull()

          val intent = Intent(this, SecondActivity::class.java)
          intent.putExtra("name", name)
          intent.putExtra("age", age)
          startActivity(intent)
}
}
}
```

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
  android:layout_width="match_parent"
  android:layout_height="match_parent">

<TextView
      android:id="@+id/nameTextView"
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Name:"
        android:textSize="45sp"
        android:textColor="#000000"
        android:textStyle="bold"
        android:layout_marginTop="50dp"/>

    <EditText
        android:id="@+id/nameEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/nameTextView"
        android:layout_marginStart="20dp"
        android:layout_marginEnd="20dp"
        android:hint="name"/>

    <TextView
        android:id="@+id/ageTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Age:"
        android:textSize="45sp"
        android:textColor="#000000"
        android:textStyle="bold"
        android:layout_below="@id/nameEditText"
        android:layout_marginTop="20dp"/>

    <EditText
        android:id="@+id/ageEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/ageTextView"
        android:layout_marginStart="20dp"
        android:layout_marginEnd="20dp"
        android:inputType="number"
        android:hint="age"/>

    <Button
        android:id="@+id/navigateButton"
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@id/ageEditText"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="30dp"
        android:text="Navigate to Second Activity"/>

</RelativeLayout>
```

SecondActivity:

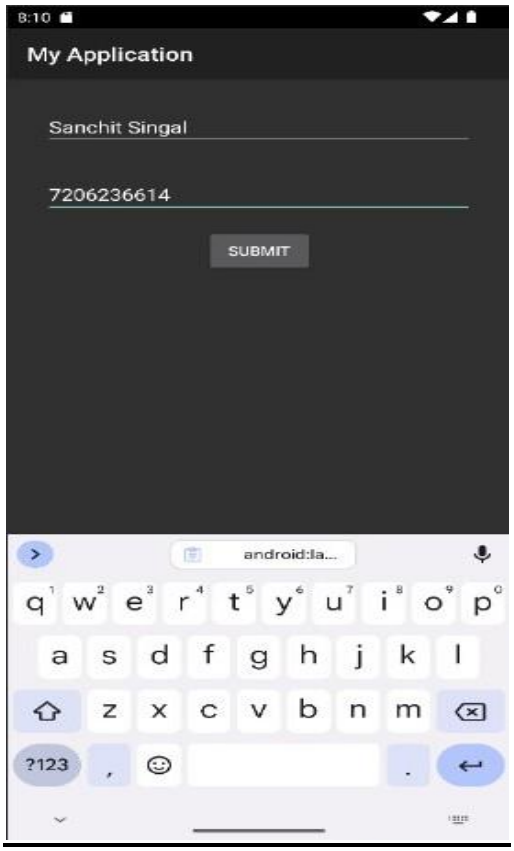
```
package com.example.mad21

import android.os.Bundle
import android.widget.TextView
import androidx.appcompat.app.AppCompatActivity


class SecondActivity : AppCompatActivity() {
   override fun onCreate(savedInstanceState: Bundle?) {
       super.onCreate(savedInstanceState)
       setContentView(R.layout.activity_second)
       val intent = intent
val name = intent.getStringExtra("name")
       val age = intent.getIntExtra("age", 0)
       val welcomeTextView = findViewById<TextView>(R.id.welcomeTextView)
       welcomeTextView.text = "Hi! $name"
       val ageTextView = findViewById<TextView>(R.id.ageTextView)
       ageTextView.text = "Your age is $age"
   }
}
```

Activity_second.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="match_parent"
   android:layout_height="match_parent">

<TextView
       android:id="@+id/welcomeTextView"
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="20sp"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="100dp"/>

<TextView
        android:id="@+id/ageTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="20sp"
        android:layout_below="@id/welcomeTextView"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp"/>

</RelativeLayout>
```

5. Output:



6. Learning Outcomes:

1. I have learned the process of installing Android Studio, a tool for Android app development.
2. I understand the importance of configuring SDKs and virtual devices for a smooth development environment.
3. I now understand the significance of testing applications on a virtual device, ensuring a well-prepared development setup.