Mobile Computing Lab

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Roll No. - 64

Aim : - CalendarView is a user interface component in Android that provides a simple way to display and interact with a calendar. It allows users to select dates, making it useful for applications that require date input, such as scheduling or event planning apps.

XML Code :

```xml
activity_main.xml        MainActivity.java

1    <?xml version="1.0" encoding="utf-8"?>
2    <androidx.constraintlayout.widget.ConstraintLayout
3        xmlns:android="http://schemas.android.com/apk/res/android"
4        xmlns:app="http://schemas.android.com/apk/res-auto"
5        xmlns:tools="http://schemas.android.com/tools"
6        android:layout_width="match_parent"
7        android:layout_height="match_parent"
8        tools:context=".MainActivity">
9
10       <CalendarView
11           android:id="@+id/calendarView"
12           android:layout_width="0dp"
13           android:layout_height="wrap_content"
14           android:layout_margin="16dp"
15           android:dateTextAppearance="?android:attr/textAppearanceSmall"
16           app:layout_constraintTop_toTopOf="parent"
17           app:layout_constraintStart_toStartOf="parent"
18           app:layout_constraintEnd_toEndOf="parent" />
19
20       <TextView
21           android:id="@+id/tvSelectedDate"
22           android:layout_width="wrap_content"
23           android:layout_height="wrap_content"
24           android:text="Selected Date: "
```

```xml
2        <androidx.constraintlayout.widget.ConstraintLayout
20           <TextView
24               android:text="Selected Date: "
25               app:layout_constraintTop_toBottomOf="@id/calendarView"
26               app:layout_constraintStart_toStartOf="parent"
27               app:layout_constraintEnd_toEndOf="parent"
28               android:layout_marginTop="16dp" />

30           <EditText
31               android:id="@+id/etEvent"
32               android:layout_width="0dp"
33               android:layout_height="48dp"
34               android:hint="Enter event details"
35               app:layout_constraintTop_toBottomOf="@id/tvSelectedDate"
36               app:layout_constraintStart_toStartOf="parent"
37               app:layout_constraintEnd_toEndOf="parent"
38               android:layout_marginTop="8dp" />

40           <Button
41               android:id="@+id/btnSaveEvent"
42               android:layout_width="wrap_content"
43               android:layout_height="wrap_content"
44               android:text="Save Event"
45               app:layout_constraintTop_toBottomOf="@id/etEvent"
```

```xml
    <Button
        android:id="@+id/btnSaveEvent"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Save Event"
        app:layout_constraintTop_toBottomOf="@id/etEvent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        android:layout_marginTop="16dp" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

Main Activity Code :

```java
package com.example.calendar;

import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CalendarView;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

import com.example.calendar.R;

import java.text.SimpleDateFormat;
import java.util.Date;
import java.util.HashMap;
import java.util.Locale;

public class MainActivity extends AppCompatActivity {
```

```java
public class MainActivity extends AppCompatActivity {
    2 usages
    CalendarView calendarView;
    2 usages
    TextView tvSelectedDate;
    4 usages
    EditText etEvent;
    2 usages
    Button btnSaveEvent;
    5 usages
    HashMap<String, String> eventMap = new HashMap<>();

    7 usages
    String selectedDateString = "";


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        calendarView = findViewById(R.id.calendarView);
        tvSelectedDate = findViewById(R.id.tvSelectedDate);
        etEvent = findViewById(R.id.etEvent);
        btnSaveEvent = findViewById(R.id.btnSaveEvent);

        calendarView.setOnDateChangeListener(new CalendarView.OnDateChangeListener() {
            2 usages
            @Override
            public void onSelectedDayChange(CalendarView view, int year, int month, int dayOfMonth) {
                selectedDateString = dayOfMonth + "/" + (month + 1) + "/" + year;
                tvSelectedDate.setText("Selected Date: " + selectedDateString);

                // Show event for the selected date if available
                if (eventMap.containsKey(selectedDateString)) {
                    etEvent.setText(eventMap.get(selectedDateString));
                } else {
                    etEvent.setText("");
                }
            }
        });

        btnSaveEvent.setOnClickListener(new View.OnClickListener() {
```

```java
            btnSaveEvent.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    String eventDetails = etEvent.getText().toString().trim();

                    if (!selectedDateString.isEmpty() && !eventDetails.isEmpty()) {
                        eventMap.put(selectedDateString, eventDetails);

                        Toast.makeText( context: MainActivity.this,
                                text: "Event Saved for " + selectedDateString, Toast.LENGTH_SHORT).show();

                        highlightEventDates();
                    } else {
                        Toast.makeText( context: MainActivity.this,
                                text: "Please select a date and enter an event.", Toast.LENGTH_SHORT).show();
                    }
                }
            });
        }
```

```java
                        Toast.makeText( context: MainActivity.this,
                                text: "Please select a date and enter an event.", Toast.LENGTH_SHORT).show();
                    }
                }
            });
        }

    1 usage
    private void highlightEventDates() {...}
    }
```

Output :

June 2024

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

Selected Date: 24/6/2024

My birthday

Save Event