

AgeCalci - Project Report & Source Code

Project Description

Project Title: AgeCalci

Description:

AgeCalci is a simple Android application that calculates a user's age based on their birth year.

It demonstrates basic Android development skills including UI design, input handling, and Java/Kotlin logic.

Components:

1. MainActivity.kt - Contains the logic for calculating age.
2. activity_main.xml - XML layout for UI elements.
3. AndroidManifest.xml - Declares app components and configuration.
4. styles.xml - Defines the theme and appearance.
5. strings.xml - String resources for UI labels and messages.

Working:

- User inputs a birth year.
- On clicking "CALCULATE", the app validates input and calculates the age.
- Displays the calculated age using current year.

Viva Questions and Answers

Viva Questions & Answers:

Q1. What does this app do?

A1. It calculates the age of a user based on their birth year.

Q2. Which function is used to handle button click?

A2. `setOnClickListener` is used on the calculateButton.

Q3. How do you get the current year?

A3. Using `Calendar.getInstance().get(Calendar.YEAR)`.

Q4. What happens if input is empty or invalid?

A4. A Toast message prompts the user to enter a valid year.

Q5. What layout did you use?

A5. `LinearLayout` with vertical orientation.

Q6. What is the role of `AndroidManifest.xml`?

A6. It declares app components like `MainActivity` and the app theme.

Q7. What is the theme used in the project?

A7. `Theme.AppCompat.Light.NoActionBar` with customized primary colors.

AgeCalci - Project Report & Source Code

Q8. How is the UI customized?

A8. Through styles.xml and colors in the layout.

Q9. How did you ensure input is valid?

A9. Used isEmpty check and toIntOrNull for numeric validation.

Q10. What is the minimum SDK used?

A10. (Answer based on actual SDK in build.gradle)

MainActivity.kt

MainActivity.kt:

```
package com.example.agecalci
```

```
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.TextView
import android.widget.Toast
import androidx.appcompat.app.AppCompatActivity
import java.util.Calendar
```

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

        val yearEditText = findViewById<EditText>(R.id.yearEditText)
        val calculateButton = findViewById<Button>(R.id.calculateButton)
        val resultTextView = findViewById<TextView>(R.id.resultTextView)

        calculateButton.setOnClickListener {
            val userDOB = yearEditText.text.toString().trim()
            val currentYear = Calendar.getInstance().get(Calendar.YEAR)

            if (userDOB.isEmpty()) {
                Toast.makeText(this, "Please enter your birth year",
                    Toast.LENGTH_SHORT).show()
                return@setOnClickListener
            }

            val birthYear = userDOB.toIntOrNull()
            if (birthYear == null) {
                Toast.makeText(this, "Enter a valid year (numbers only)",
                    Toast.LENGTH_SHORT).show()
                return@setOnClickListener
            }
        }
    }
}
```

AgeCalci - Project Report & Source Code

```
        if (birthYear > currentYear) {
            Toast.makeText(this, "Year cannot be in the future",
Toast.LENGTH_SHORT).show()
            return@setOnClickListener
        }

        val age = currentYear - birthYear
        resultTextView.text = "Your age is $age years"
    }
}
```

activity_main.xml

activity_main.xml:

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center_horizontal"
    android:padding="16dp"
    android:background="#673AB7">

    <TextView
        android:id="@+id/projectInfoTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="MAD mini project\nSection 'A'\nAdithya RV:22BTAI101\nMuktha R:22BTAI102\nPrerana Yadav:22BTAI105"
        android:textColor="#FFFFFF"
        android:textSize="16sp"
        android:textStyle="bold" />

    <TextView
        android:id="@+id/titleTextView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="100dp"
        android:text="Calculate Age"
        android:textColor="#FFFFFF"
        android:textSize="30sp"
        android:textStyle="bold" />

    <EditText
        android:id="@+id/yearEditText"
        android:layout_width="200dp"
```

AgeCalci - Project Report & Source Code

```
android:layout_height="wrap_content"
android:layout_marginTop="40dp"
android:background="#FFFFFF"
android:hint="Example:2002"
android:inputType="number"
android:padding="12dp"
android:textAlignment="center" />
```

```
<Button
    android:id="@+id/calculateButton"
    android:layout_width="200dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="40dp"
    android:text="CALCULATE"
    android:textColor="#FFFFFF" />
```

```
<TextView
    android:id="@+id/resultTextView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="40dp"
    android:text="Your age is 0 years"
    android:textColor="#FFFFFF"
    android:textSize="20sp" />
```

```
</LinearLayout>
```

styles.xml

styles.xml:

```
<resources>
    <style name="Theme.AgeCalci" parent="Theme.AppCompat.Light.NoActionBar">
        <item name="colorPrimary">#673AB7</item>
        <item name="colorPrimaryDark">#512DA8</item>
        <item name="colorAccent">#FF9800</item>
    </style>
</resources>
```

AndroidManifest.xml

AndroidManifest.xml:

```
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.agecalci">

    <application
        android:allowBackup="true"
```

AgeCalci - Project Report & Source Code

```
android:icon="@mipmap/ic_launcher"
android:label="@string/app_name"
android:roundIcon="@mipmap/ic_launcher_round"
android:supportsRtl="true"
android:theme="@style/Theme.AgeCalci">
<activity
    android:name=".MainActivity"
    android:exported="true">
    <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
    </intent-filter>
</activity>
</application>
</manifest>
```