ITU-FAO-DOA-TRCSL

Training on

"Innovation & Application Development for E-Agriculture"

Shared Preferences

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Shared Preferences

Agenda

- **Storing Data**
- **Retrieving Data**
- **Practical**

Shared Preferences

The SharedPreferences class is used to store primitive data types in a key-value pair. Data stored in this SharedPreferences persists application sessions.

- Data gets deleted when

    The application gets uninstalled.

    User clears the data from application settings

- Data doesn't get deleted when application is killed or closed.

- The shared preferences file is stored in

"shared_pref" folder under data/data/{application_package_directory}/

Storing Data

Following are the steps to write data in preferences.

- Access the preferences

- Open preferences file in edit mode

- Write primitive data in key-value pair form

- Save the preference file.

Retrieving Data

Following are the steps to retrieve data from preferences.

- Access the preferences

- Call one of the get methods to retrieve data

Create a new Android application project with name "SharedPreference".

Open the "strings.xml" file from the "values" folder of the newly created project and following strings in this file.

```xml
<string name="title">Shared Preferences</string>
<string name="save_data">Save</string>
<string name="load_data">Retrieve</string>
<string name="saved_name">Your name</string>
<string name="enter_name">Enter your name</string>
<string name="save">Save</string>
<string name="show">Show</string>
```

Now open the "activity_main.xml" file and enter the following code in this file.

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

    <TextView
        android:id="@+id/title"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="16dp"
        android:text="@string/title"
        android:textSize="20sp"
        android:textStyle="bold" />



    <TextView
        android:id="@+id/data_to_save"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentLeft="true"
        android:layout_below="@+id/title"
        android:layout_marginLeft="23dp"
        android:layout_marginTop="63dp"
        android:textSize="20sp"
        android:text="@string/save_data" />

    <EditText
        android:id="@+id/enter_data"
```

```xml
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/title"
    android:layout_marginLeft="20dp"
    android:layout_marginRight="15dp"
    android:layout_marginTop="55dp"
    android:gravity="left|top"
    android:layout_toRightOf="@id/data_to_save"
    android:hint="@string/enter_name" />

<Button
    android:id="@+id/save"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/data_to_save"
    android:layout_marginLeft="25dp"
    android:layout_marginTop="66dp"
    android:text="@string/save" />

<TextView
    android:id="@+id/data_to_load"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignParentLeft="true"
    android:layout_below="@+id/save"
    android:layout_marginLeft="23dp"
    android:layout_marginTop="63dp"
    android:text="@string/load_data"
    android:textSize="20sp"/>

<Button
    android:id="@+id/show"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/data_to_load"
    android:layout_marginLeft="25dp"
    android:layout_marginTop="36dp"
    android:text="@string/show" />

<EditText
    android:id="@+id/load_data"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/save"
    android:hint="@string/saved_name"
    android:layout_toRightOf="@+id/data_to_load"
    android:layout_alignBottom="@+id/data_to_load"
    android:layout_marginLeft="20dp"
    android:layout_marginTop="40dp" />
```

</RelativeLayout>

This was the designing part of your application. Now you will write code to add functionality to this design. To do this open the "MainActivity.java" from the package folder that lies inside the "src" folder of your project. Paste the following code inside this file.

```java
import android.app.Activity;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends Activity implements View.OnClickListener {

    private EditText saveData;
    private TextView retrieveData;

    private Button saveBtn;
    private Button showBtn;

    /** Called when the activity is first created. */
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        retrieveData = (TextView)findViewById(R.id.load_data);
        saveData = (EditText)findViewById(R.id.enter_data);
        saveBtn = (Button)findViewById(R.id.save);
        showBtn = (Button)findViewById(R.id.show);
        saveBtn.setOnClickListener(this);
        showBtn.setOnClickListener(this);
        showBtn.setEnabled(false);


        if(retrieveName().length()>0)
            showBtn.setEnabled(true);

    }


    @Override
    public void onClick(View v) {
        switch(v.getId()){

            case R.id.save:
```

```java
            saveName("name", saveData.getText().toString());
            showBtn.setEnabled(true);
            break;
        case R.id.show:
            retrieveData.setText(retrieveName());
            break;
    }

}

private void saveName(String key, String value){
    SharedPreferences sharedPreferences = getPreferences(MODE_PRIVATE);
    SharedPreferences.Editor editor = sharedPreferences.edit();
    editor.putString(key, value);
    editor.commit();
}

private String retrieveName(){
    SharedPreferences sharedPreferences = getPreferences(MODE_PRIVATE);
    String savedData = sharedPreferences.getString("name", "");
    return savedData;

}


}
```

Now run this application and you should get the screen like