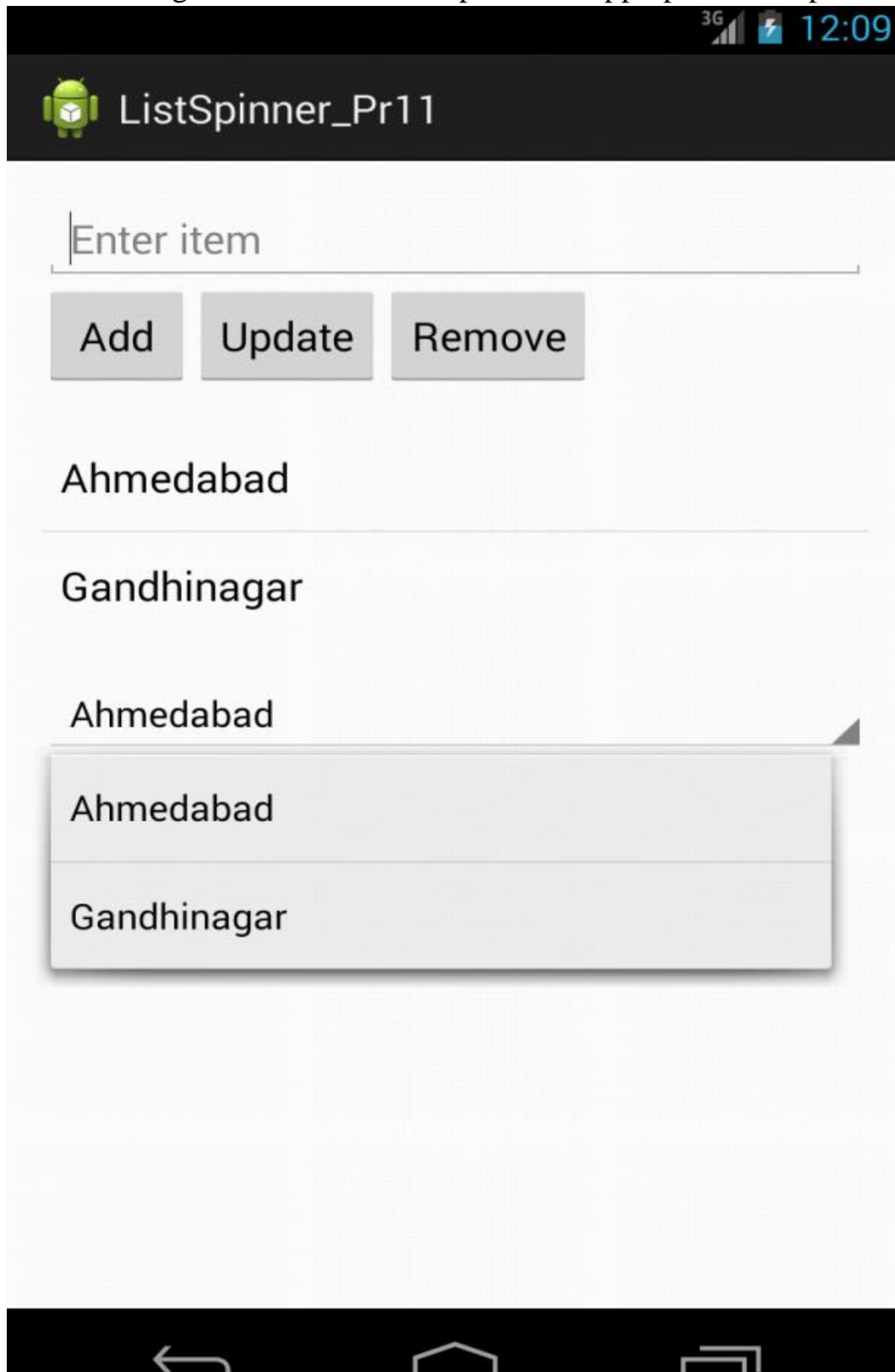


Practical 11 Develop the code to implement the ListView and the Spinner views, perform add, update, remove items operations and implement the item selection event handling over ListView and Spinner for appropriate example.



Activity_Main.xml

```
<LinearLayout 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"
    android:orientation="vertical"
    android:padding="16dp"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/edit_text"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter item" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">

        <Button
            android:id="@+id/add_button"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Add" />

        <Button
            android:id="@+id/update_button"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Update" />

        <Button
            android:id="@+id/remove_button"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Remove" />
    </LinearLayout>

    <ListView
        android:id="@+id/list_view"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp" />

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="16dp" />

</LinearLayout>
```

MainActivity.java

```
package com.example.listspinner_pr11;
```

```

import java.util.ArrayList;

import android.os.Bundle;
import android.annotation.SuppressLint;
import android.app.Activity;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.Adapter;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ListView;
import android.widget.Spinner;
import android.widget.Toast;

@SuppressLint("NewApi")
public class MainActivity extends Activity {
    ListView listView;
    Spinner spinner;
    EditText editText;
    Button addButton, updateButton, removeButton;

    ArrayList<String> itemList;
    ArrayAdapter<String> listAdapter, spinnerAdapter;

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

        listView = (ListView) findViewById(R.id.list_view);
        spinner = (Spinner) findViewById(R.id.spinner);
        editText = (EditText) findViewById(R.id.edit_text);
        addButton = (Button) findViewById(R.id.add_button);
        updateButton = (Button) findViewById(R.id.update_button);
        removeButton = (Button) findViewById(R.id.remove_button);

        itemList = new ArrayList<String>();
        listAdapter = new ArrayAdapter<String>(this,
android.R.layout.simple_list_item_1, itemList);
        listView.setAdapter(listAdapter);

        spinnerAdapter = new ArrayAdapter<String>(this,
android.R.layout.simple_spinner_item, itemList);

        spinnerAdapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdo
wn_item);
        spinner.setAdapter(spinnerAdapter);

        addButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String newItem = editText.getText().toString();
                if (!newItem.isEmpty()) {
                    itemList.add(newItem);
                    listAdapter.notifyDataSetChanged();
                    spinnerAdapter.notifyDataSetChanged();
                    editText.setText("");
                    Toast.makeText(MainActivity.this, "Item added",
Toast.LENGTH_SHORT).show();
                }
            }
        });
    }
}

```

```

    }
});

updateButton.setOnClickListener(new View.OnClickListener() {
    @SuppressWarnings("NewApi")
    @Override
    public void onClick(View v) {
        int selectedPosition = listView.getCheckedItemPosition();
        if (selectedPosition != ListView.INVALID_POSITION) {
            String updatedItem = editText.getText().toString();
            if (!updatedItem.isEmpty()) {
                itemList.set(selectedPosition, updatedItem);
                listAdapter.notifyDataSetChanged();
                spinnerAdapter.notifyDataSetChanged();
                editText.setText("");
                listView.clearChoices();
                Toast.makeText(MainActivity.this, "Item updated",
Toast.LENGTH_SHORT).show();
            }
        }
    }
});

removeButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        int selectedPosition = listView.getCheckedItemPosition();
        if (selectedPosition != ListView.INVALID_POSITION) {
            itemList.remove(selectedPosition);
            listAdapter.notifyDataSetChanged();
            spinnerAdapter.notifyDataSetChanged();
            editText.setText("");
            listView.clearChoices();
            Toast.makeText(MainActivity.this, "Item removed",
Toast.LENGTH_SHORT).show();
        }
    }
});

listView.setOnItemClickListener(new
AdapterView.OnItemClickListener() {
    @Override
    public void onItemClick(AdapterView<?> parent, View view, int
position, long id) {
        String selectedItem = itemList.get(position);
        editText.setText(selectedItem);
    }
});

spinner.setOnItemSelectedListener(new
AdapterView.OnItemSelectedListener() {
    @Override
    public void onItemSelected(AdapterView<?> parent, View view,
int position, long id) {
        String selectedItem = itemList.get(position);
        Toast.makeText(MainActivity.this, "Selected item: " +
selectedItem, Toast.LENGTH_SHORT).show();
    }
}

    @Override

```

```
        public void onNothingSelected(AdapterView<?> parent) {
            // Do nothing
        }
    });
}
}
```



ListSpinner_Pr11

Enter item

Add

Update

Remove

abc

def

def

abc

def