Ex.No: 8 Date :	**Develop an application that makes use of RSS Feed**

AIM:

To develop an application that makes use of RSS Feed.

PROCEDURE:

1. Open Eclipse IDE.
2. Create the project Ex_No_8.
3. Go to package explorer in the left hand side. Select the project Ex_No_8.
4. Go to res folder and select layout. Double click the activity_main.xml file.
5. Now you can see the Graphical layout window.
6. Create the FrameLayout.
7. Create a new layout named as fragment_layout.xml which has following components: a. ListView
    b. ProgressBar
8. Create another one layout named as rss_item.xml which has only one TextView.
9. Again go to package explorer in the left hand side. Select the project Ex_No_7.
10. Go to src folder. Double click the MainActivity.java file.
11. In java file write the activities done by the application.
12. Create the following additional classes for this application:
    a. Constants.java
    b. PcWorldRssParser.java
    c. RssAdapter.java
    d. RssFragement.java
    e. RssItem.java
    f. RssService.java
13. Write appropriate actions for the created additional classes.
14. Get the following permission in AndroidManifest.xml file: `<uses-permission android:name="android.permission.INTERNET" />`
15. Finally run the android application.

PROGRAMS:

activity_main.xml:

```
<?xml version="1.0" encoding="utf-
8"?>
<FrameLayout
    xmlns:android="http://schemas.android.com/apk/res/andr
```

```
    oid"                android:layout_width="fill_parent"
    android:id="@+id/fragment_container"
    android:layout_height="fill_parent" />
```

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ent_lay

out.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"
android:orientation="vertical" >

      <ListView
        android:id="@+id/listVi
        ew"
        android:layout_width="f
        ill_parent"
        android:layout_height="
        fill_parent"  >
    </ListView>

    <ProgressBar
        android:id="@+id/progres
        sBar"
        style="?android:attr/progressBarStyleLarge"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerInParent="true" />

</RelativeLayout
```

> rss_item.xml:

```
<?xml version="1.0" encoding="utf-
8"?>
<TextView
    xmlns:android="http://schemas.android.com/apk/res/a
    ndroid"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/itemTitle"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="18dp" tools:ignore="SpUsage" />
```

MainActivity.java:

```
package   com.example.ex_no_8;   import
android.os.Bundle;               import
android.support.v4.app.FragmentActivit
y;                               import
android.support.v4.app.FragmentManager
;                                import
android.support.v4.app.FragmentTransac
tion; public class MainActivity extends
FragmentActivity {
      @Override
      public void onCreate(Bundle
            savedInstanceState) {
            super.onCreate(savedInstanceState
            );
            setContentView(R.layout.activity_
            main); if (savedInstanceState ==
            null) { addRssFragment();
            }
      }
      private void addRssFragment() {
            FragmentManager               manager               =
            getSupportFragmentManager();      FragmentTransaction
            transaction = manager.beginTransaction(); RssFragment
            fragment = new RssFragment(); transac-
tion.add(R.id.fragment_container, fragment); transaction.commit();
      }
      @
      O
      v
      e
      r
      r
      i
      d
      e
      protected       void       onSaveInstanceState(Bundle       outState)       {
            super.onSaveInstanceState(outState); out-
            State.putBoolean("fragment_added", true);



      }
}
```

Constants.java

```
package com.example.ex_no_8; public
class Constants { public static
final String TAG = "RssApp"; }
```

PcWorldRssParser.
java

```
package
com.example.ex_no_8;
import
java.io.IOException;
import
java.io.InputStream;
import
java.util.ArrayList;
import java.util.List;
import
org.xmlpull.v1.XmlPullParser;
import
org.xmlpull.v1.XmlPullParserExc
eption; import
android.util.Xml; public class
PcWorldRssParser { // We don't
use namespaces private final
String ns = null;
      public     List<RssItem>     parse(InputStream     inputStream)     throws
XmlPullParserException, IOException { try {
                    XmlPullParser parser = Xml.newPullParser(); par-
                    ser.setFeature(XmlPullParser.FEATURE_PROCESS_NAMESPACES,
                    false);       parser.setInput(inputStream,       null);
                    parser.nextTag(); return readFeed(parser);
             }     finally     {
                    inputStream.
                    close();
             }
      }
      private     List<RssItem>     readFeed(XmlPullParser     parser)     throws
XmlPullParserException, IOException { parser.require(XmlPullParser.START_TAG, null,
"rss");
             String title = null;
             String link = null;
             List<RssItem> items = new ArrayList<RssItem>();
             while             (parser.next()             !=
             XmlPullParser.END_DOCUMENT)         {         if
             (parser.getEventType()                     !=
             XmlPullParser.START_TAG) { continue;
                    }
                    String    name    =
                    parser.getName();
                    if
                    (name.equals("titl
                    e"))  {  title  =
                    readTitle(parser);
                    }         else         if
                          (name.equals("link
                          "))   {   link   =
                          readLink(parser);
                    }
                    if (title != null && link != null) {
```

```
                        RssItem    item    =    new
                        RssItem(title,       link);
                        items.add(item);   title   =
                        null; link = null;
                  }
            }
            return items;
      }
      private String readLink(XmlPullParser parser) throws XmlPullParserException,
      IOException
{     parser.require(XmlPullParser.START_TAG,     ns,
            "link"); String link = readText(parser);
            par-
            ser.require(XmlPullParser.END_TAG,      ns,
            "link"); return link;
      }
      private String readTitle(XmlPullParser parser) throws XmlPullParserException,
      IO-
Exception  {  parser.require(XmlPullParser.START_TAG,
            ns,    "title");    String    title    =
            readText(parser); par-
            ser.require(XmlPullParser.END_TAG,       ns,
            "title"); return title;
      }
      // For the tags title and link, extract their text values.
      private   String   readText(XmlPullParser   parser)   throws   IOException,
      XmlPullParserException
{
            String result = "";
            if       (parser.next()       ==
                  XmlPullParser.TEXT)      {
                  result = parser.getText();
                  parser.nextTag();
            }
            return result;
      }
}
```

RssAdapter.java

```
package
com.example.ex_no_8;
import
java.util.List;
import
android.content.Cont
ext;           import
android.view.View;
import
android.view.ViewGro
up;            import
android.widget.BaseA
```

```
dapter;        import
android.widget.TextV
iew;
public  class  RssAdapter  extends
       BaseAdapter { private final
       List<RssItem>       items;
       private    final    Context
       context;
       public      RssAdapter(Context      context,
              List<RssItem>  items)  {  this.items  =
              items; this.context = context;
       }
       @
       O
       v
       e
       r
       r
       i
       d
       e
       public        int
              getCount()
              {    return
              items.size
              ();
       }
       @
       O
       v
       e
       r
       r
       i
       d
       e
       public    Object    getItem(int
              position)    {    return
              items.get(position);
       }
       @
       O
       v
       e
       r
       r
       i
       d
       e
```

```
        public long
                getItemId(int id)
                { return id;
        }

        @Override
        public View getView(int position, View convertView, ViewGroup
                parent) { ViewHolder holder; if (convertView == null) {
                convertView = View.inflate(context, R.layout.rss_item,
                null); holder = new ViewHolder();
                        holder.itemTitle                    =                    (TextView)
                        convertView.findViewById(R.id.itemTitle);
                        convertView.setTag(holder);
                }  else  {  holder  =  (ViewHolder)
                        convertView.getTag();
                }
                holder.itemTitle.setText(items.get(position).getTi
                tle()); return convertView;
        }
        static class ViewHolder {
                TextView itemTitle;
        }
}
```

RssFragement.java

```
package
com.example.ex_no_8;
import      java.util.List;
import
android.content.Intent;
import     android.net.Uri;
import   android.os.Bundle;
import  android.os.Handler;
import
android.os.ResultReceiver;
import
android.support.v4.app.Fra
gment;                import
android.view.LayoutInflate
r;                    import
android.view.View;    import
android.view.ViewGroup;
import
android.widget.AdapterView
;
import
android.widget.AdapterView.OnItemClickLi
stener;  import  android.widget.ListView;
import android.widget.ProgressBar; import
android.widget.Toast;
```

```
public class RssFragment extends Fragment implements
      OnItemClickListener { private ProgressBar progressBar;
      private ListView listView; private View view; @Override
      public void onCreate(Bundle savedInstanceState) {
            super.onCreate(savedInstanceState);
            setRetainInstance(true);
      }
      @
      O
      v
      e
      r
      r
      i
      d
      e
      public View onCreateView(LayoutInflater inflater, ViewGroup container,
Bundle savedInstanceState) { if (view == null) { view =
inflater.inflate(R.layout.fragment_layout, container, false); progressBar =
(ProgressBar) view.findViewById(R.id.progressBar); listView = (ListView)
view.findViewById(R.id.listView); listView.setOnItemClickListener(this);
startService();
            } else {
                  ViewGroup parent = (ViewGroup) view.getParent();

                  parent.removeView(view);
            }
            return view;
      }
      private void startService() {
            Intent intent = new Intent(getActivity(),
            RssService.class);
            intent.putExtra(RssService.RECEIVER,
            resultReceiver);
            getActivity().startService(intent);
      }
      private final ResultReceiver resultReceiver = new ResultReceiver(new
      Handler()) {
            @SuppressWarnings("unchecked")
            @Override
            protected void onReceiveResult(int resultCode, Bundle resultData) {
            progress-
                  Bar.setVisibility(View.GONE);
                  List<RssItem> items = (List<RssItem>) result-
Data.getSerializable(RssServ
                  ice.ITEMS
                  );     if
                  (items !=
                  null) {
                        RssAdapter adapter = new RssAdapter(getActivity(), items);
                        listView.setAdapter(adapter);
```

```
                } else {
            Toast.makeText(getActivity(), "An error occured while downloading
the rss feed.",
                                    Toast.LENGTH_LONG).show();
                }
            };
        }
        ;
        @
        O
        v
        e
        r
        r
        i
        d
        e
        public void onItemClick(AdapterView<?> parent, View view, int position, long
            id) { RssAdapter adapter = (RssAdapter) parent.getAdapter(); RssItem
            item = (RssItem) adapter.getItem(position);
            Uri uri = Uri.parse(item.getLink());
            Intent   intent   =   new   Intent(Intent.ACTION_VIEW,   uri);
            startActivity(intent);
        }
}
```

RssItem.java

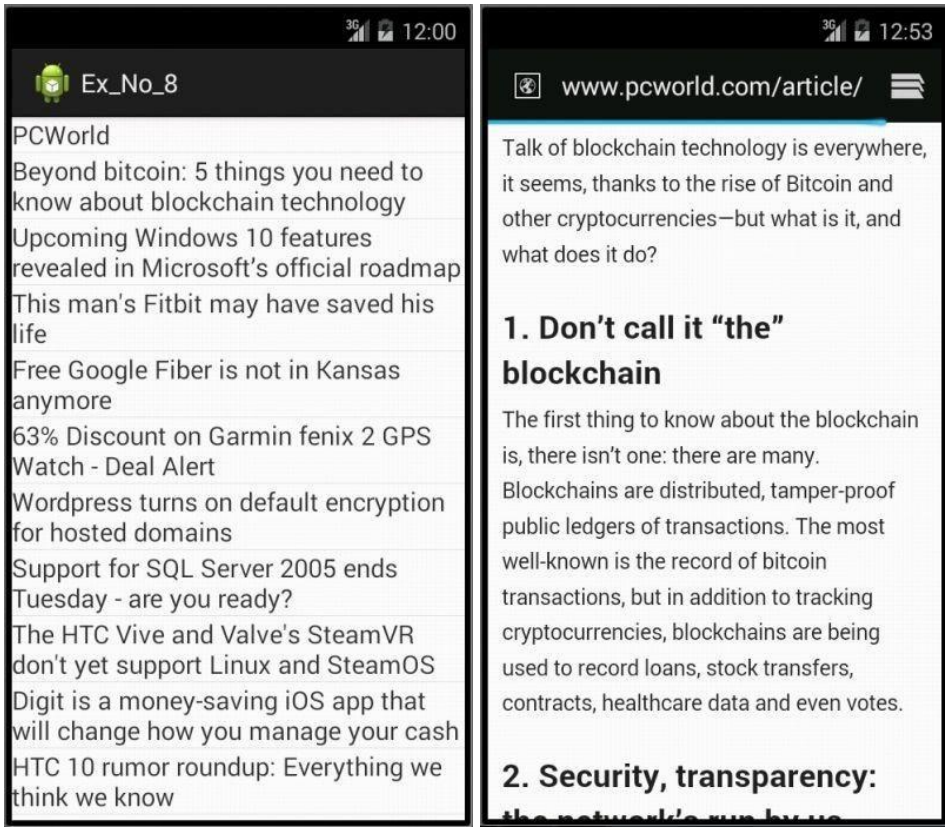
```
package
com.example.ex_no_8;
public class RssItem
{ private final
String title;
private final String
link;
        public  RssItem(String  title,
            String      link)      {
            this.title   =   title;
            this.link = link;
        }
        public        String
            getTitle()  {
            return title;
        }
        public       String
            getLink()  {
            return link;
        }
}
```

RssService.java

```
package
com.example.ex
_no_8; import
java.io.IOExce
ption; import
java.io.InputS
tream; import
java.io.Serial
izable; import
java.net.URL;
import
java.util.List
;
import
org.xmlpull.v1.XmlPullParserExc
eption;                    import
android.app.IntentService;
import   android.content.Intent;
import android.os.Bundle; import
android.os.ResultReceiver;
import android.util.Log;
public class RssService extends IntentService { private static
       final String RSS_LINK = "http://www.pcworld.com/index.rss";
       public static final String ITEMS = "items"; public static
       final String RECEIVER = "receiver"; public RssService() {
       super("RssService");
       }
       @
       O
       v
       e
       r
       r
       i
       d
       e
       protected void onHandleIntent(Intent intent) {
              Log.d(Constants.TAG, "Service started");
              List<RssItem>
              rssItems = null; try {
```

```
                PcWorldRssParser      parser      =      new
                PcWorldRssParser();         rssItems        =
                parser.parse(getInputStream(RSS_LINK));
            }   catch   (XmlPullParserException   e)   {
                Log.w(e.getMessage(), e);
            } catch (IOException e) {
                Log.w(e.getMes
            sage(), e); }
            Bundle bundle = new Bundle(); bun-
            dle.putSerializable(ITEMS, (Serializable) rssItems);
            ResultReceiver   receiver   =   intent.getParcelableExtra(RECEIVER);
            receiver.send(0, bundle);
        }
        public                      InputStream
            getInputStream(String   link)   {
            try {
                URL url = new URL(link);
                return url.openConnection().getInputStream();
            } catch (IOException e) {
                Log.w(Constants.TAG, "Exception while retrieving the input
                stream", e); return null;
            }
        }
}
```

OUTPUT:



RESULT:

Thus the application that makes use of RSS Feed has been developed and the output was verified.