

```

1 package net.sleepinginthevoid.horoscope;
2
3 import java.io.FileOutputStream;
4 import java.io.IOException;
5 import java.io.OutputStreamWriter;
6 import java.text.SimpleDateFormat;
7 import java.util.ArrayList;
8 import java.util.Date;
9 import java.util.List;
10
11 import android.content.Context;
12 import android.content.pm.ApplicationInfo;
13 import android.app.Activity;
14 import android.content.pm.PackageInfo;
15 import android.content.pm.PackageManager;
16
17 public class AppData {
18     Activity activity;
19     PackageManager packageManager;
20     List<PackageInfo> packageList;
21     PackageInfo packageInfo;
22     String thisPackage;
23     String appLabel;
24     String packageName;
25     String permissions;
26     String installed;
27     String lastModified;
28
29     public AppData(MainActivity main, PackageManager pm, List<PackageInfo> pl) {
30         thisPackage = "net.sleepinginthevoid.horoscope";
31         activity = main;
32         packageManager = pm;
33         List<PackageInfo> allPackageList = pl;
34         packageList = new ArrayList<PackageInfo>();
35
36         // To filter out system apps
37         for (PackageInfo pi : allPackageList) {
38             boolean b = isSystemPackage(pi);
39             if (pi.packageName.equals(thisPackage)) { // Ignore the Horoscope app
40                 b = true;
41             }
42             if(!b) {
43                 packageList.add(pi);
44             }
45         }
46         // Get package information
47         for (int i = 0; i < packageList.size(); i++) {
48             packageInfo = packageList.get(i);
49             appLabel = packageManager.getApplicationLabel(packageInfo.applicationInfo).toString();
50             packageName = packageInfo.packageName;
51             installed = setDateFormat(packageInfo.firstInstallTime);
52             lastModified = setDateFormat(packageInfo.lastUpdateTime);
53
54             if (packageInfo.requestedPermissions != null) {
55                 permissions = getPermissions(packageInfo.requestedPermissions);
56             } else {
57                 permissions = "none";
58             }
59             // Writing a file to Device File Explorer > data/data/net.sleepinginthevoid.horoscope
60             try {
61                 FileOutputStream fOut = activity.openFileOutput("appdata.txt",
62                     Context.MODE_APPEND);
63                 OutputStreamWriter osw = new OutputStreamWriter(fOut);
64                 // Write the strings to the file
65                 osw.append("App name: " + appLabel + "\n");
66                 osw.append("Package name: " + packageName + "\n");
67                 osw.append("First installed: " + installed + "\n");
68                 osw.append("Last modified: " + lastModified + "\n");
69                 osw.append("Permissions: " + "\n" + permissions + "\n");
70                 osw.close();
71             } catch (IOException ioe) {
72                 ioe.printStackTrace();
73             }
74         }
75     }
76
77     // Return whether the given PackageInfo is a system package
78     private boolean isSystemPackage(PackageInfo pkgInfo) {
79         return (pkgInfo.applicationInfo.flags & ApplicationInfo.FLAG_SYSTEM) != 0;
80     }
81
82     private String setDateFormat(long time) {
83         Date date = new Date(time);

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84     SimpleDateFormat formatter = new SimpleDateFormat("MMM dd, yyyy, h:mm a");
85     String strDate = formatter.format(date);
86     return strDate;
87 }
88
89 private String getPermissions(String[] requestedPermissions) {
90     String permission = "";
91     for (int i = 0; i < requestedPermissions.length; i++) {
92         permission = permission + requestedPermissions[i] + "\n";
93     }
94     return permission;
95 }
96 }
97
```

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1 package net.sleepinginthevoid.horoscope;
2
3 import android.content.pm.PackageInfo;
4 import android.content.pm.PackageManager;
5 import android.os.Bundle;
6
7 import androidx.appcompat.app.AppCompatActivity;
8 import androidx.appcompat.widget.Toolbar;
9 import android.view.Menu;
10
11 import java.util.List;
12
13 public class MainActivity extends AppCompatActivity {
14     PackageManager packageManager;
15
16     @Override
17     protected void onCreate(Bundle savedInstanceState) {
18         super.onCreate(savedInstanceState);
19         setContentView(R.layout.activity_main);
20         Toolbar toolbar = findViewById(R.id.toolbar);
21         setSupportActionBar(toolbar);
22         // Get List of installed apps with permissions
23         packageManager = getPackageManager();
24         List<PackageInfo> allPackageList = packageManager.getInstalledPackages(
25             PackageManager.GET_PERMISSIONS);
26         new AppData(this, packageManager, allPackageList);
27     }
28
29     @Override
30     public boolean onCreateOptionsMenu(Menu menu) {
31         // Inflate the menu; this adds items to the action bar if it is present.
32         getMenuInflater().inflate(R.menu.menu_main, menu);
33         return true;
34     }
35 }
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1  /* Facade for app listing tool
2   * Display horoscope text */
3
4  package net.sleepinginthevoid.horoscope;
5
6  import android.os.Bundle;
7  import android.view.LayoutInflater;
8  import android.view.View;
9  import android.view.ViewGroup;
10
11 import androidx.annotation.NonNull;
12 import androidx.fragment.app.Fragment;
13 import androidx.navigation.fragment.NavHostFragment;
14
15 public class FirstFragment extends Fragment {
16
17     @Override
18     public View onCreateView(
19         LayoutInflater inflater, ViewGroup container,
20         Bundle savedInstanceState
21     ) {
22         // Inflate the layout for this fragment
23         return inflater.inflate(R.layout.fragment_first, container, false);
24     }
25
26     public void onViewCreated(@NonNull View view, Bundle savedInstanceState) {
27         super.onViewCreated(view, savedInstanceState);
28
29         view.findViewById(R.id.buttonAries).setOnClickListener(new View.OnClickListener() {
30             @Override
31             public void onClick(View v) {
32                 String str = "Aries";
33                 FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =
34                     FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
35                 NavHostFragment.findNavController(FirstFragment.this).navigate(action);
36             }
37         });
38
39         view.findViewById(R.id.buttonTaurus).setOnClickListener(new View.OnClickListener() {
40             @Override
41             public void onClick(View v) {
42                 String str = "Taurus";
43                 FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =
44                     FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
45                 NavHostFragment.findNavController(FirstFragment.this).navigate(action);
46             }
47         });
48
49         view.findViewById(R.id.buttonGemini).setOnClickListener(new View.OnClickListener() {
50             @Override
51             public void onClick(View v) {
52                 String str = "Gemini";
53                 FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =
54                     FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
55                 NavHostFragment.findNavController(FirstFragment.this).navigate(action);
56             }
57         });
58
59         view.findViewById(R.id.buttonCancer).setOnClickListener(new View.OnClickListener() {
60             @Override
61             public void onClick(View v) {
62                 String str = "Cancer";
63                 FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =
64                     FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
65                 NavHostFragment.findNavController(FirstFragment.this).navigate(action);
66             }
67         });
68
69         view.findViewById(R.id.buttonLeo).setOnClickListener(new View.OnClickListener() {
70             @Override
71             public void onClick(View v) {
72                 String str = "Leo";
73                 FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =
74                     FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
75                 NavHostFragment.findNavController(FirstFragment.this).navigate(action);
76             }
77         });
78
79         view.findViewById(R.id.buttonVirgo).setOnClickListener(new View.OnClickListener() {
80             @Override
81             public void onClick(View v) {
82                 String str = "Virgo";
83                 FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =

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84         FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
85         NavHostFragment.findNavController(FirstFragment.this).navigate(action);
86     }
87 });
88
89 view.findViewById(R.id.buttonLibra).setOnClickListener(new View.OnClickListener() {
90     @Override
91     public void onClick(View v) {
92         String str = "Libra";
93         FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =
94             FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
95         NavHostFragment.findNavController(FirstFragment.this).navigate(action);
96     }
97 });
98
99 view.findViewById(R.id.buttonScorpio).setOnClickListener(new View.OnClickListener() {
100     @Override
101     public void onClick(View v) {
102         String str = "Scorpio";
103         FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =
104             FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
105         NavHostFragment.findNavController(FirstFragment.this).navigate(action);
106     }
107 });
108
109 view.findViewById(R.id.buttonSagittarius).setOnClickListener(new View.OnClickListener() {
110     @Override
111     public void onClick(View v) {
112         String str = "Sagittarius";
113         FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =
114             FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
115         NavHostFragment.findNavController(FirstFragment.this).navigate(action);
116     }
117 });
118
119 view.findViewById(R.id.buttonCapricorn).setOnClickListener(new View.OnClickListener() {
120     @Override
121     public void onClick(View v) {
122         String str = "Capricorn";
123         FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =
124             FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
125         NavHostFragment.findNavController(FirstFragment.this).navigate(action);
126     }
127 });
128
129 view.findViewById(R.id.buttonAquarius).setOnClickListener(new View.OnClickListener() {
130     @Override
131     public void onClick(View v) {
132         String str = "Aquarius";
133         FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =
134             FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
135         NavHostFragment.findNavController(FirstFragment.this).navigate(action);
136     }
137 });
138
139 view.findViewById(R.id.buttonPisces).setOnClickListener(new View.OnClickListener() {
140     @Override
141     public void onClick(View v) {
142         String str = "Pisces";
143         FirstFragmentDirections.ActionFirstFragmentToSecondFragment action =
144             FirstFragmentDirections.actionFirstFragmentToSecondFragment(str);
145         NavHostFragment.findNavController(FirstFragment.this).navigate(action);
146     }
147 });
148 }
149 }

```

```

1  /* Facade for app listing tool
2  *  Display sign buttons */
3
4  package net.sleepinginthevoid.horoscope;
5
6  import android.os.Bundle;
7  import android.view.LayoutInflater;
8  import android.view.View;
9  import android.view.ViewGroup;
10 import android.widget.TextView;
11
12 import androidx.annotation.NonNull;
13 import androidx.fragment.app.Fragment;
14 import androidx.navigation.fragment.NavHostFragment;
15
16 public class SecondFragment extends Fragment {
17
18     @Override
19     public View onCreateView(
20         LayoutInflater inflater, ViewGroup container,
21         Bundle savedInstanceState
22     ) {
23         // Inflate the layout for this fragment
24         return inflater.inflate(R.layout.fragment_second, container, false);
25     }
26
27     public void onViewCreated(@NonNull View view, Bundle savedInstanceState) {
28         super.onViewCreated(view, savedInstanceState);
29
30         String str = SecondFragmentArgs.fromBundle(getArguments()).getMyArg();
31         TextView horoscopeView = view.findViewById(R.id.textviewHoroscope);
32
33         switch (str) {
34             case "Aries" :
35                 horoscopeView.setText(getString(R.string.ariesText));
36                 break;
37             case "Taurus" :
38                 horoscopeView.setText(getString(R.string.taurusText));
39                 break;
40             case "Gemini" :
41                 horoscopeView.setText(getString(R.string.geminiText));
42                 break;
43             case "Cancer" :
44                 horoscopeView.setText(getString(R.string.cancerText));
45                 break;
46             case "Leo" :
47                 horoscopeView.setText(getString(R.string.leoText));
48                 break;
49             case "Virgo" :
50                 horoscopeView.setText(getString(R.string.virgoText));
51                 break;
52             case "Libra" :
53                 horoscopeView.setText(getString(R.string.libraText));
54                 break;
55             case "Scorpio" :
56                 horoscopeView.setText(getString(R.string.scorpioText));
57                 break;
58             case "Sagittarius" :
59                 horoscopeView.setText(getString(R.string.sagittariusText));
60                 break;
61             case "Capricorn" :
62                 horoscopeView.setText(getString(R.string.capricornText));
63                 break;
64             case "Aquarius" :
65                 horoscopeView.setText(getString(R.string.aquariusText));
66                 break;
67             case "Pisces" :
68                 horoscopeView.setText(getString(R.string.piscesText));
69                 break;
70         }
71
72         view.findViewById(R.id.buttonPrevious).setOnClickListener(new View.OnClickListener() {
73             @Override
74             public void onClick(View view) {
75                 NavHostFragment.findNavController(SecondFragment.this)
76                     .navigate(R.id.action_SecondFragment_to_FirstFragment);
77             }
78         });
79     }
80 }

```