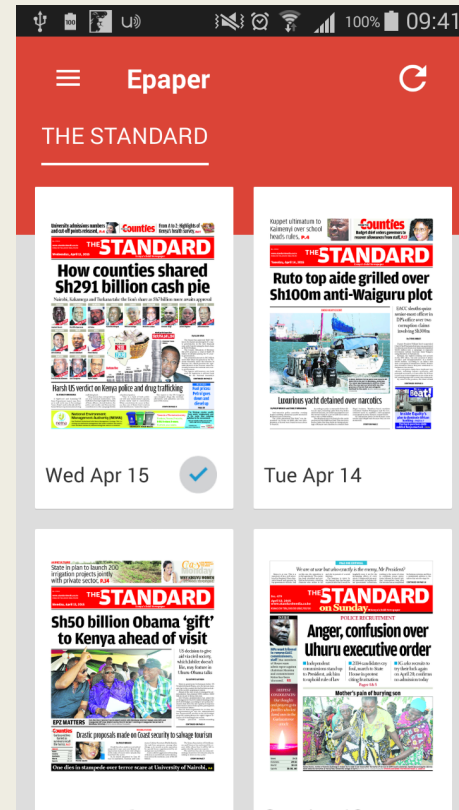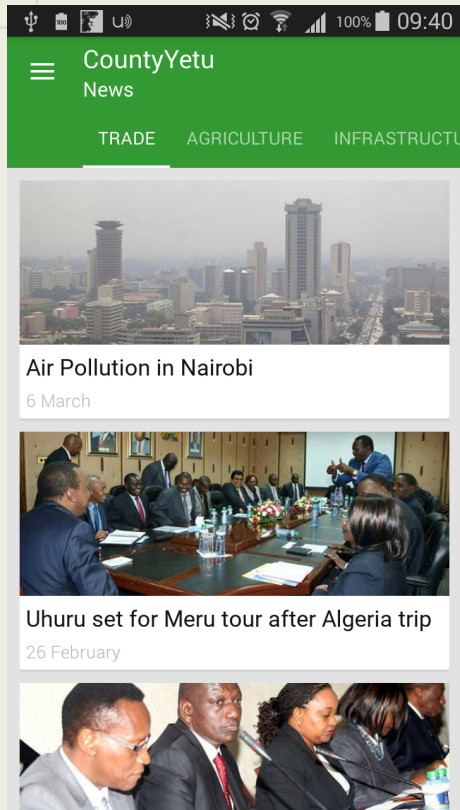# Android Concepts

Android ListView

LIstView

Android listview groups and display several data items into a vertical scrollable list.

An adapter is used to insert the data items to the list;the source of the data can either be an array or a database.

Listview together with GridView are subclasses of AdapterView and they can be populated by binding them to an adapter.

Two most common adapters are ArrayAdapter and SimpleCursorAdapter.

ListView and GridView

ListView Attributes

android:id	ID which uniquely identifies the list
android:divider	Drawable or colour to draw between list items
android:dividerHeight	This specifies the height of the divider. Mostly in dp
android:footerDividersEnabled	When set to false, the ListView will not draw the divider before each footer view. The default value is true.
android:entries	specifies the reference to an array resource with data to populate the ListView
headerDividersEnabled	When set to false, the ListView will not draw the divider after each header view. The default value is true.

ArrayAdapter

You can use this adapter when your data source is an array.

For each data item, the adapter will create a view for it, then place it on the TextView:

ArrayAdapter adapter = new ArrayAdapter<String>(this, R.layout.ListView, StringArray);

What the arguments mean:
➔   this :- the application context. This particular class
➔   R.layout.ListView :- xml layout that will be used to render each data item
➔   StringArray :- the array with the data to display in the list

ArrayAdapter Cont'd

Once you have the adapter created, call setAdapter on your ListView

ListView lvCars = (ListView) findViewById(R.id.list);
lvCars.setAdapter(adapter);

ListView: Example

➜ Create a new project
➜ At the top of the onCreate function in your MainActivity, define an array of counties and call it countiesArray as shown below:

String[] countiesArray = {"Nairobi", "Machakos", "Mombasa", "Kisumu"};

➜ Inside the onCreate function;
◆ Create an ArrayAdapter and pass the required arguments i.e. application context, layout and datasource

ArrayAdapter adapter = new ArrayAdapter<String>(this, R.layout. counties_list_item, countiesArray);

ListView: Example Cont'd

◆ Define a ListView

ListView lvCars = (ListView) findViewById(R.id.my_listView);
lvCars.setAdapter(adapter);

NB: Remember to import the necessary classes

ListView: List item listener

We can listen to click events on the list items and perform an action like launching a new activity then pass the item clicked;

```java
//listening to single list item on click
lvCars.setOnItemClickListener(new AdapterView.OnItemClickListener() {
    @Override
    public void onItemClick(AdapterView<?> parent, View view, int position, long id) {

        //selected item
        String county = ((TextView) view).getText().toString();

        //We launch a new activity on selecting single item
        Intent newIntent = new Intent(getApplicationContext(), DetailsActivity.class);
        newIntent.putExtra(DetailsActivity.COUNTY_NAME, county);
        startActivity(newIntent);
    }
});
```

Resourceful links

Colour codes - http://www.google.com/design/spec/style/color.html#color-ui-color-application

Json - http://www.w3schools.com/json/

http://developer.android.com/reference/android/widget/BaseAdapter.html