ListView in Android

Android **ListView** is a view which groups several items and display them in vertical scrollable list. The list items are automatically inserted to the list using an **Adapter** that pulls content from a source such as an array or database.

For displaying the items in the list method setAdaptor() is used. setAdaptor() method conjoins an adapter with the list.

Android ListView is a ViewGroup that is used to display the list of items in multiple rows and contains an adapter that automatically inserts the items into the list.

XML Attributes of ListView

- **android:divider -**A color or drawable to separate list items.
- **android:dividerHeight -**Height of the divider.
- **android:entries -**Reference to an array resource that will populate the ListView
- **android:footerDividersEnabled** When set to false, the ListView will not draw the divider before each footer view.
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Features of ListView

- It displays a vertically-scrollable collection of views, where each view is positioned immediately below the previous view in the list.
- ListView uses Adapter classes which add the content from data source (such as string array, array, database etc.)
- ListView is a default scrollable which does not use other scroll view.

GridView in Android

GridView is a type of AdapterView that displays items in a two-dimensional scrolling grid. Items are inserted into this grid layout from a database or from an array. The adapter is used for displaying this data, **setAdapter()** method is used to join the adapter with GridView..

The main function of the adapter in GridView is to fetch data from a database or array and insert each piece of data in an appropriate item that will be displayed in GridView.

XML Attributes of GridView

- **android:numColumns**: This attribute of GridView will be used to decide the number of columns that are to be displayed in Grid.
- **android:horizontalSpacing**: This attribute is used to define the spacing between two columns of GridView.
- **android:verticalSpacing**: This attribute is used to specify the spacing between two rows of GridView.

RecyclerView in Android

The RecyclerView widget is a more advanced and flexible version of ListView. If your app needs to display a scrolling list of elements based on large data sets (or data that frequently changes), you should use RecyclerView.

RecyclerView is mostly used to design the user interface with the fine-grain control over the lists and grids of android application. It was introduced in Marshmallow.

We can use one of our standard layout managers (such as LinearLayoutManager or GridLayoutManager), or implement your own.

A few points need to understand about RecylerView

- The views in the list are represented by view holder objects. These objects are instances of a class you define by extending **RecyclerView.ViewHolder**
- The view holder objects are managed by an adapter, which you create by extending **RecyclerView.Adapter**. The adapter creates view holders as needed. The adapter also binds the view holders to their data.
- onBindViewHolder() method is used the view holder's position to determine what the contents should be, based on its list position.

Features of RecylerView

- RecyclerView widget is a more advanced and flexible version of ListView. So, we can use RecyclerView to display large dataset.
- RecyclerView contains integrated animations for adding, updating and removing items.
- RecyclerView enforces the recycling of views by using the ViewHolder pattern.
- RecyclerView supports both grids and lists
- RecyclerView supports vertical and horizontal scrolling

Thanks!

Any questions?