

## Scroll Views

- use ViewGroup to define the layout of the children within a ScrollView.

For a child to be as big as the ScrollView if it would otherwise be smaller.

android:fillViewport = "true".

Good approach

- wrap UIs in ScrollView.
- it should support landscape view.

Android does not handle scrollview in scrollview very well.

- to use that make a custom view or better avoid it.

Challenge in mobile app development is.

- it has limited memory footprints.
- using too much at a time
- leaks.

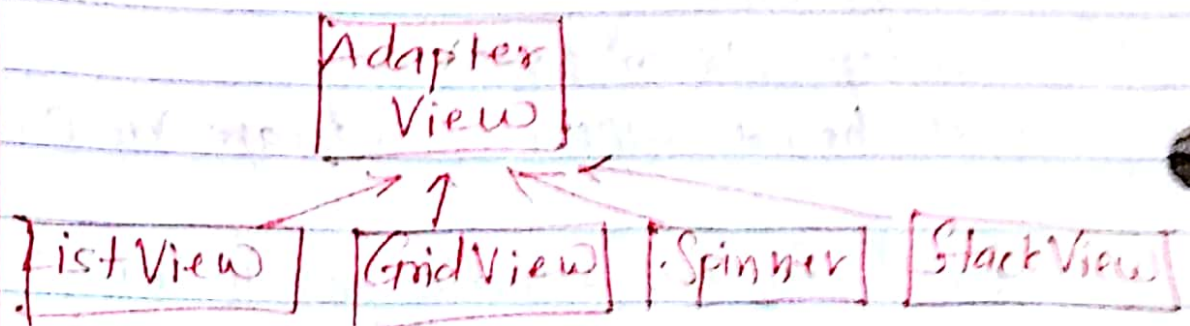
Adapter Views take care of only allocating views that are "on-screen".

## Adapter Views & Adapters

Adapter views — display lists or collections of things

Adapter. — create user interface views for list of items in data list.

Adapter view + Adapter → views that are displayed are in memory



### using an Array adapter.

- Implements ListAdapter.
- it is a base class provided by android that you can use List views with
- backed by an Array or List collection.



## Use

- Create new subclass of ArrayAdapter.
- get View - to return a view for each item.
- create layout-file with a ListView.
- create instance of ArrayAdapter class.
- Give your array adapter the data Collection.
- ListView. set-Adapter (your Adapter). to connect the two.

if data is changed.

- notifyDataSetChanged.

## Recycling

### Convert View.

As views are scrolled off screen, their java objects are reused for the new items.

- Avoids expensive allocation & garbage collection.
  - to monitor in android studio
- # LogCat.

## Using Views

in getView.

if convertView == null

create/inflate a new view

else reset convertView,  
reuse convertView.

## Holder Pattern

avoids "findViewById"

provides a place for providing data to  
click listener

setOnClickListener(new OnClickListener {

@Override

public void onClick (Adapter view,  
View, int position, long id).

## Cursor Adapters

windows to DB or other large resources.

SQLite support built in.

extends CursorAdapter instead.

- acts as a pointer to a list.

always points at row.

Get val in each column.



## Adapter Interface

2 complete classes

- Array adapter
- cursor adapter.

Create your own by extending  
Base Adapter.

or

implement ListAdapter / SpinnerAdapter.

## Recycler View

- alternative to ListView.
- subclass of ViewGroup.
  - each listitem have views & own layout.
- ViewHolder holds a view.
- RecyclerView, ViewHolder class to create such a holder.

it never creates views by themselves.

it creates ViewHolders which brings views.

Adapter bind ViewHolders to data from model layer.