RESOURCES

Chapter Objectives

Get knowledge about concept of RelativeLayout.

Layout

- A way to organize Views inside an UI

- XML files in res/layout
- Hierarchical "structure" of one UI

1. Layout XML

- Containers (ViewGroups) contain Views (TextView, ImageView, EditText, Button, ImageButton. . .)
- Required: layout_width, layout_height

Framelayout

- Can contain multiple children (Views)
- Multiple layers, Z-based order: like a Photoshop design
- First child will be at the bottom
- Support child margins
- Support gravity

Linearlayout

- One direction
- Horizontal or Vertical
- Use layout_weight
- Based on orientation

    - horizontal: stretch width
    - vertical: stretch height

- no layout_weight: no stretch
- width/height is calculated based on weight of child i as

$$\omega_i = \frac{\gamma_i}{\sum_{j=0}^{n-1} \gamma_j} \times \left(\omega_{parent} - \sum_{k=0}^{n-1} \omega_k | \gamma_k = 0 \right)$$

RelativeLayout

1. Description

- RelativeLayut - a view group which displays child views in relative position (relative to sibling elements or relative to the parent RelativeLayout area).
- Multiple layers, Z-order based

2. Examples

- android:layout_below -> position the bottom edge of this view is below the given anchor view ID.
- android:layout_alignParentLeft -> the left edge of this view match the left edge of the parent.

3. Other ViewGroup

1.1. Description

- Some other ViewGroup for create layout: ScrollView; GridView; CardView; ListView; DrawerLayout; CoordinatorLayout; RecyclerView

1.2. Details & Examples

- ScrollView : displays scrollable items for a view hierarchy
- GridView : displays items in a two-dimensional, scrollable grid
- CardView: show information inside cards
- ListView : displays a list of scrollable items
- DrawerLayout : allows for interactive "drawer" views to be pulled out from one or both vertical edges of the window
- CoordinatorLayout: container for specific interaction with child views
- RecyclerView: provides layout for positioning items, default animations for common item operations