Android Resources (Part1,2)

[Group 1] Hanh Tran

hanh.usth@gmail.com

2 Nov 2016

I.   Chapter objectives

- Understand resources and layouts in Android and apply to practice.

II.   Resources

- <u>Description</u>: Things embedded into the app, in res/directory

    Access through code **R.\<category\>.\<resourceName\>**

- <u>Example</u>: MyProject/
    ```
    src/
        MyActivity.java
    res/
        drawable/
            graphic.png
        layout/
            main.xml
            info.xml
        mipmap/
            icon.png
        values/
            strings.xml
    ```

    Types of resources are mentioned below.

1.   Layouts

- <u>Description</u>: A way to organize View inside an UI

    Hierarchical structure of one UI

    Can be created by code, can be nested

    XML files in **res/layout**

- <u>Example</u>: Popular layout classes:

    o **FrameLayout**

- Can contain multi-children (Views)
- Multi layers, Z-based order
- Support child margins and gravity
- First child will be at the bottom
- **LinearLayout**
  - One direction: horizontal or vertical
  - Use layout_weight (no layout_weight → no stretch)
  - Based on orientation
    - Horizontal: stretch width
    - Vertical: stretch height
  - Width/height w_i formula:

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

- **RelativeLayout**
  - Multiple layers, Z-order based
  - Relativity of children's position and size:
    - To parent
    - To each other
  - Children are relative to parent and to each other.
- **ViewPager**
  - Layout manager that allows the user to flip left and right through pages of data.

Android Resources (continue···)

2. Values
3. Drawables
4. Raw
5. Styles, Design Guidelines