Trường Đại học Bách Khoa Hà Nội
Hanoi University of Science and Technology

Chapter 4. Graphical User Interfaces

Hanoi University of Science and Technology

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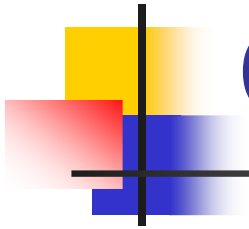
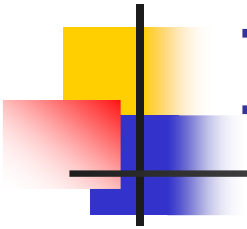


Content

- 4.2. Basic Widgets
  - Images
  - EditText
  - Checkbox
  - RadioGroup

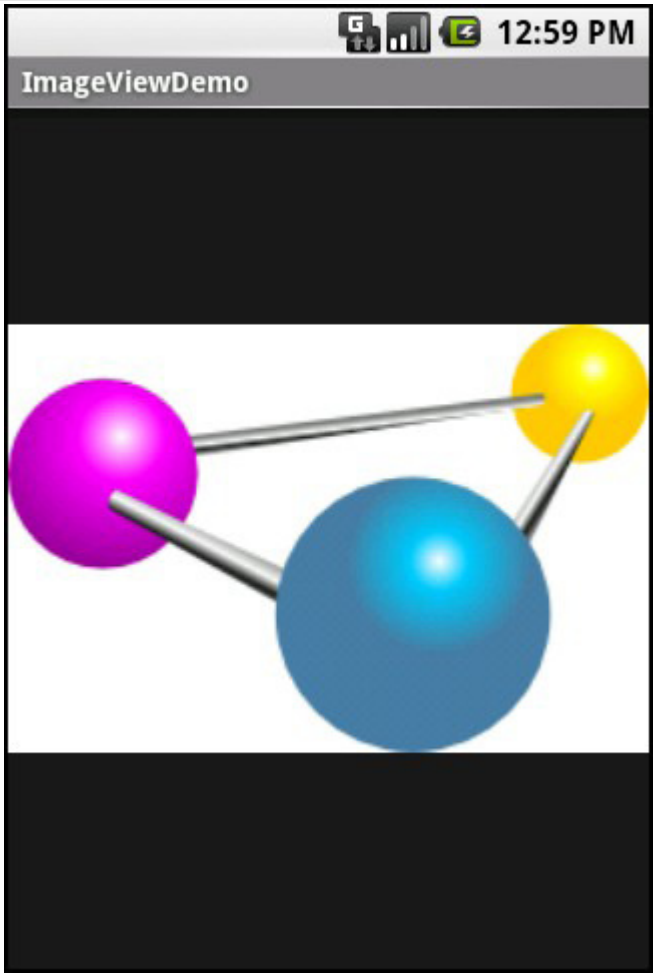
4.2. Basic Widgets
Images



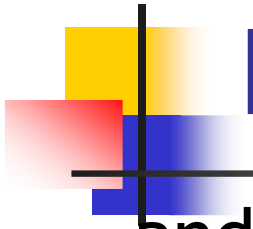
- Android has two widgets to help embed images in your activities:
  - ImageView
  - ImageButton
- android:src – specify what picture to use

4.2. Basic Widgets
Images - Example

```
<ImageView
    android:id="@+id/icon"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:adjustViewBounds="true"
    android:src="@drawable/molecule"
/>
```



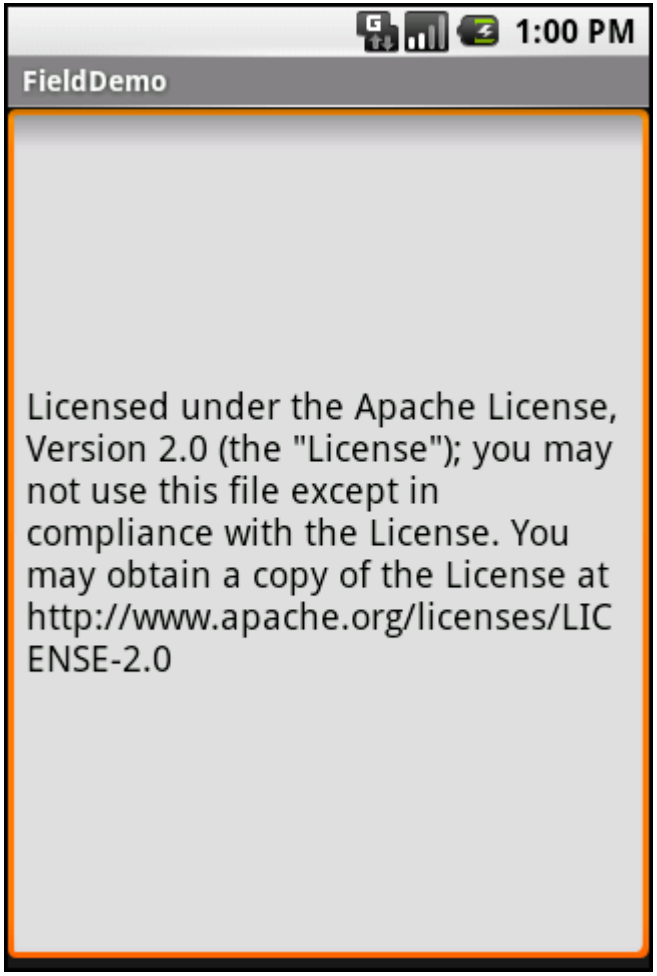
4.2. Basic Widgets
EditText

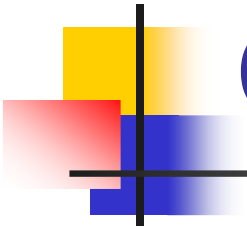


- android:autoText, to control if the field should provide automatic spelling assistance
- android:capitalize, to control if the field should automatically capitalize the first letter of entered text (e.g., first name, city)
- android:digits, to configure the field to accept only certain digits
- android:singleLine, to control if the field is for single-line input or multiple-line input
  - (e.g., does <Enter> move you to the next widget or add a newline?)

4.2. Basic Widgets
EditText - Example

```
<EditText
    android:id="@+id/field"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:singleLine="false"
/>
EditText
   fld=(EditText)findViewById(R.id.field);
fld.setText("Licensed under the Apache
   License, Version 2.0 “);
```

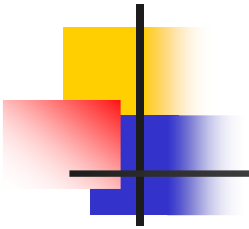




4.2. Basic Widgets
CheckBox

- The classic checkbox has two states: checked and unchecked.
- Clicking the checkbox toggles between those states to indicate a choice

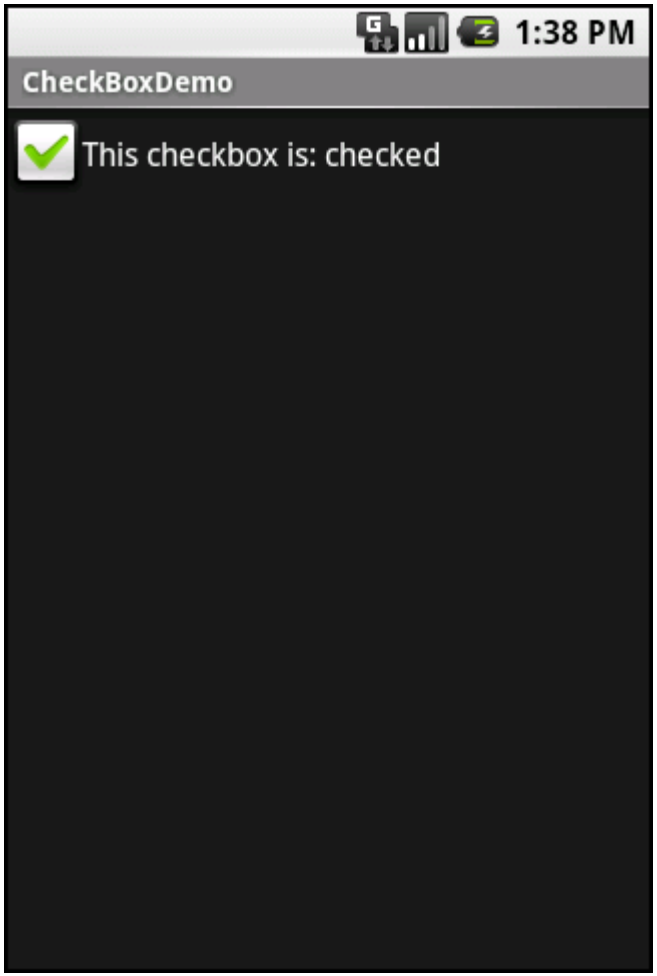
4.2. Basic Widgets
CheckBox - methods



- isChecked() to determine if the checkbox has been checked
- setChecked() to force the checkbox into a checked or unchecked state
- toggle() to toggle the checkbox as if the user checked it

- Listener object : an instance of CompoundButton.OnCheckedChangeListener

4.2. Basic Widgets
CheckBox - Examples



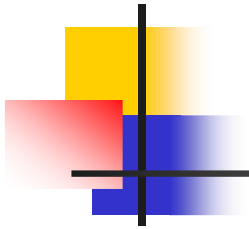
4.2. Basic Widgets
CheckBox - Examples

```
<CheckBox
    android:id="@+id/check"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="This checkbox is: unchecked" />

cb=(CheckBox)findViewById(R.id.check);
cb.setOnCheckedChangeListener(this);
```

4.2. Basic Widgets
CheckBox - Examples

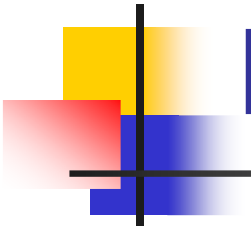
```
public void onCheckedChanged(CompoundButton
    buttonView, boolean isChecked) {
     if (isChecked) {
        cb.setText("This checkbox is: checked");
     }
     else {
        cb.setText("This checkbox is: unchecked");
     }
}
```



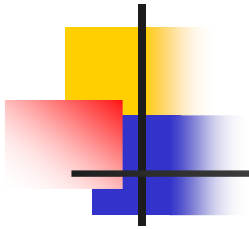
4.2. Basic Widgets RadioButton

- Radio buttons are two-state, like checkboxes, but can be grouped such that only one radio button in the group can be checked at any time

4.2. Basic Widgets RadioButton



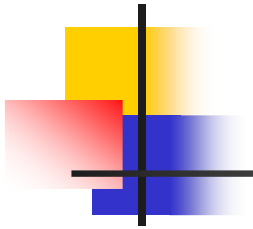
- Like CheckBox, RadioButton inherits from CompoundButton, which in turn inherits from TextView. Hence, all the standard TextView properties for font face, style, color, etc. are available for controlling the look of radio buttons.
- Similarly, we can call isChecked() on a RadioButton to see if it is selected, toggle() to select it, and so on.



4.2. Basic Widgets RadioGroup

- Put your RadioButton widgets inside of a RadioGroup
- RadioGroup indicates a set of radio buttons whose state is tied, meaning only one button out of the group can be selected at any time

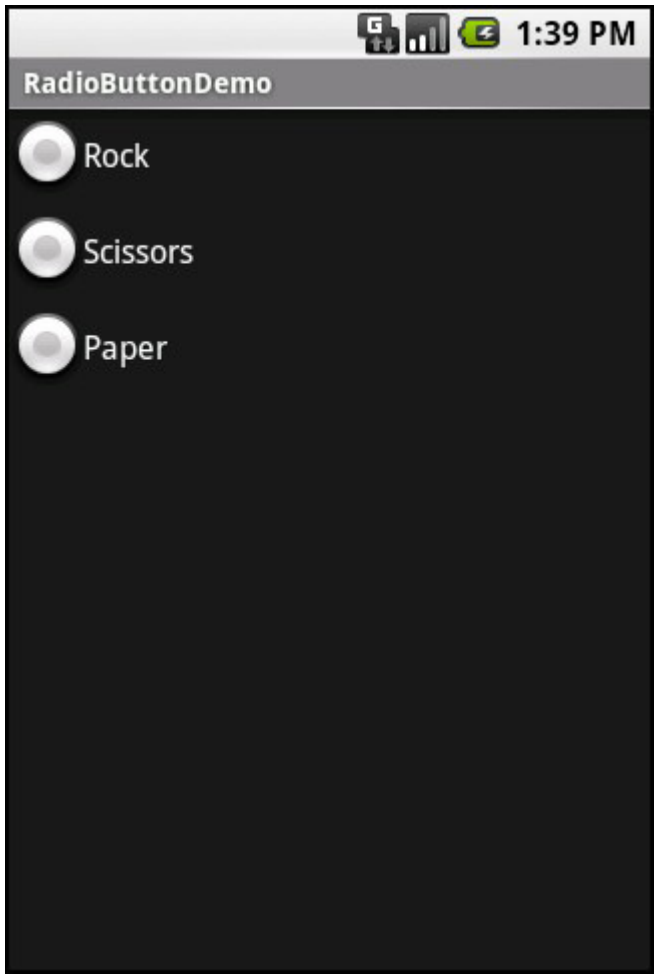
4.2. Basic Widgets RadioGroup



- check() to check a specific radio button via its ID (e.g., group.check(R.id.radio1))
- clearCheck() to clear all radio buttons, so none in the group are checked
- getCheckedRadioButtonId() to get the ID of the currently-checked radio button (or -1 if none are checked)

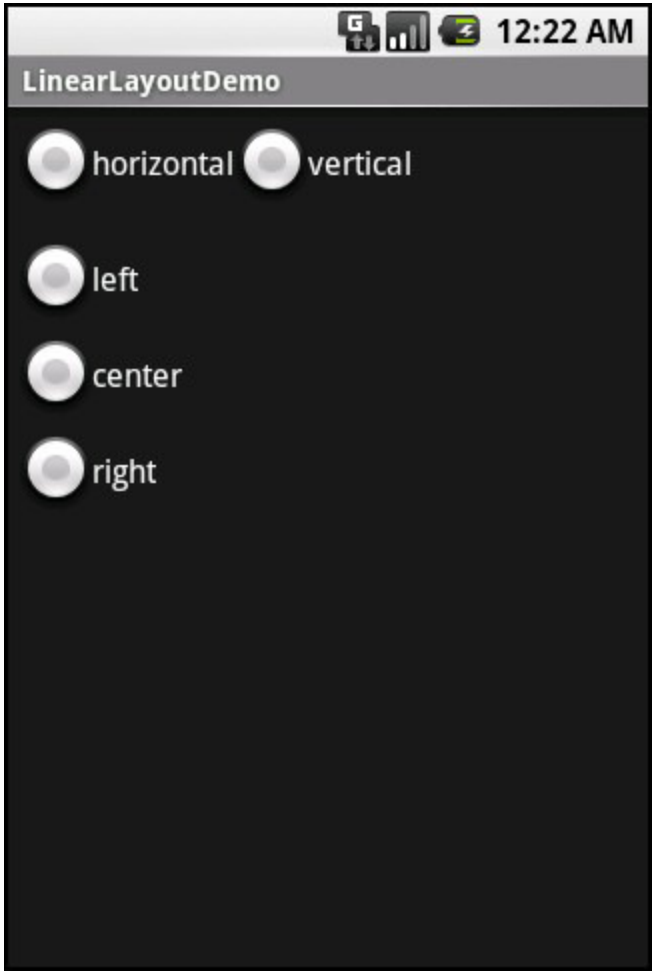
4.2. Basic Widgets
RadioButton - Example

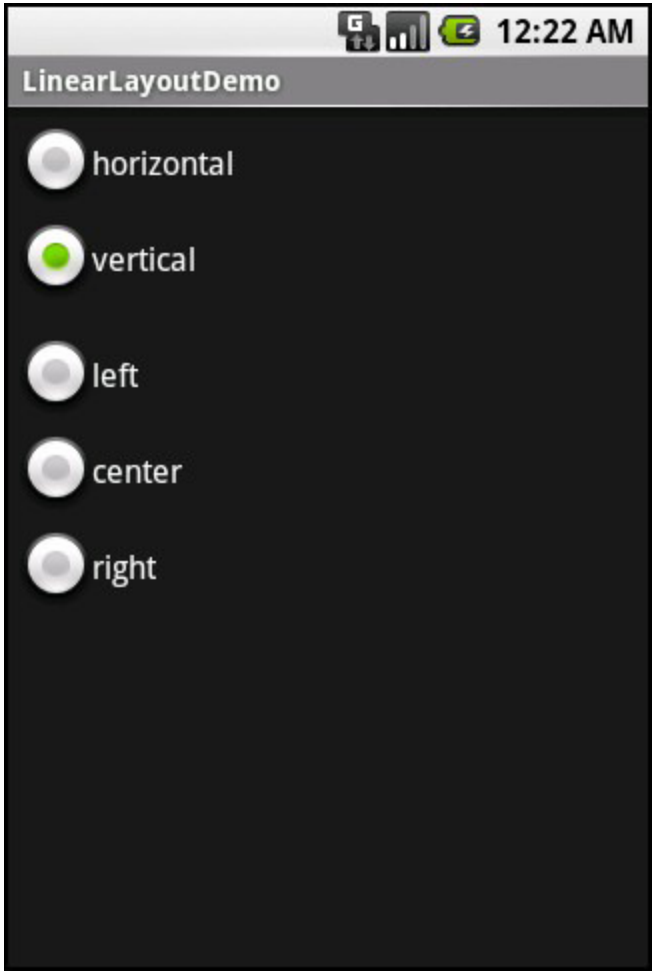
```
<RadioGroup>
    <RadioButton
        android:id="@+id/radio1"
        android:text="Rock" />
    <RadioButton
        android:id="@+id/radio2"
        android:text="Scissors" />
    <RadioButton
        android:id="@+id/radio3"
        android:text="Paper" />
</RadioGroup>
```



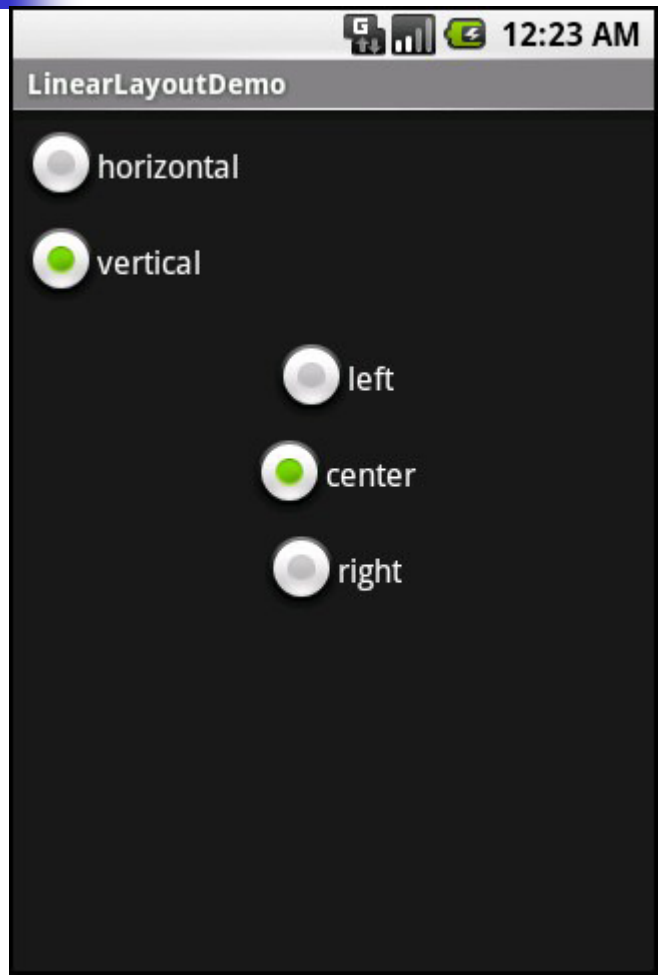
4.2. Basic Widgets RadioButton - Exercise

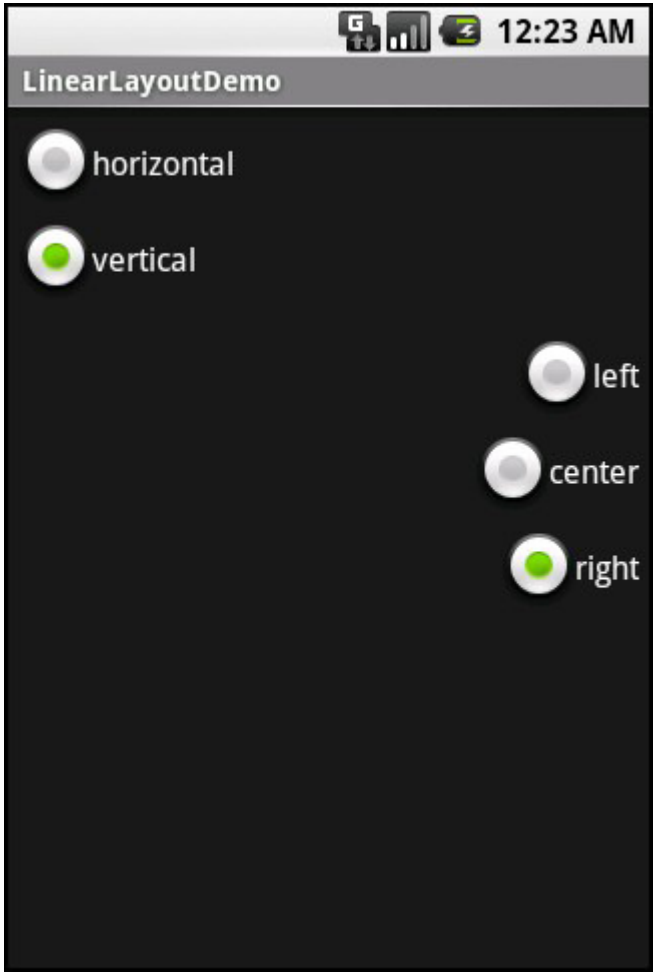
- If we toggle on the "vertical" radio button, the top RadioGro up adjusts to match





4.2. Basic Widgets
RadioButton - Exercise





4.2. Basic Widgets
RadioButton - Exercise

- Gợi ý (RadioGroup):
  - setOrientation(LinearLayout.HORIZONTAL/ VERTICAL);
  - setGravity(Gravity.LEFT/ CENTER_HORIZONTAL/ RIGHT);

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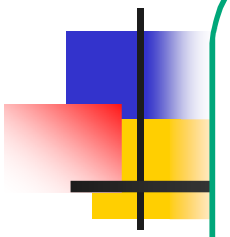

End of Lecture

Q&A