Android - Widgets

- Application to demonstrate the available widgets in Android which enhance the UI experience
- The application demonstrates only the visual representation and not the associated callbacks.
- Android widgets are available in the package `android.widget.*`
- In this example, the widgets are implemented using layout XML - `res/layout/main.xml` (it can be implemented programmatically)

- `ScrollView`
  - Enables user to scroll, where the view is larger than the physical display
  - Should contain a child which contains the contents that need to be scrolled

- `TextView`
  - Used to display any text to the user

- `Button`
  - Implements a simple button which can be pressed or clicked upon
  - The image of the button can be customized based on the various states of the button using state list drawable

- `EditText`
  - Subclass of TextView with editing capabilities

- `CheckBox`
  - Based on the 2 states - checked/unchecked, necessary actions can be taken

- `RadioGroup`
  - Used to create a scope for set of radio buttons
  - When one of the radio button within this scope is checked, the rest are unchecked
  - The RadioGroup can be cleared to remove the checked state of the radio button.

- `RadioButton`
  - Has two states - checked/unchecked
  - The radio button cannot be unchecked. This can be achieved by clearing the RadioGroup instead

- `ToggleButton`
  - Is used to render the on/off states like a switch

- `RatingBar`
  - Used to indicate the rating using the stars.
  - The rating bar can be set to read only if required.
  - A listener can be set to handle the change in the ratings.

- `AnalogClock`
  - Displays the time in form of analogic clock

- `DigitalClock`
  - Displays time digitally with seconds

- `TimePicker`
  - Is used to enable user to select the time from 24 hour or AM/PM mode.

- `DatePicker`
  - Is used to select a date.
  - The user can select the year, month and day.
  - It can be customized such that the user is constrained to select between a range of dates.
  - The `DatePicker` can be initialized with an initial by passing the year, month, date and a listener when the date value is changed to `init()`

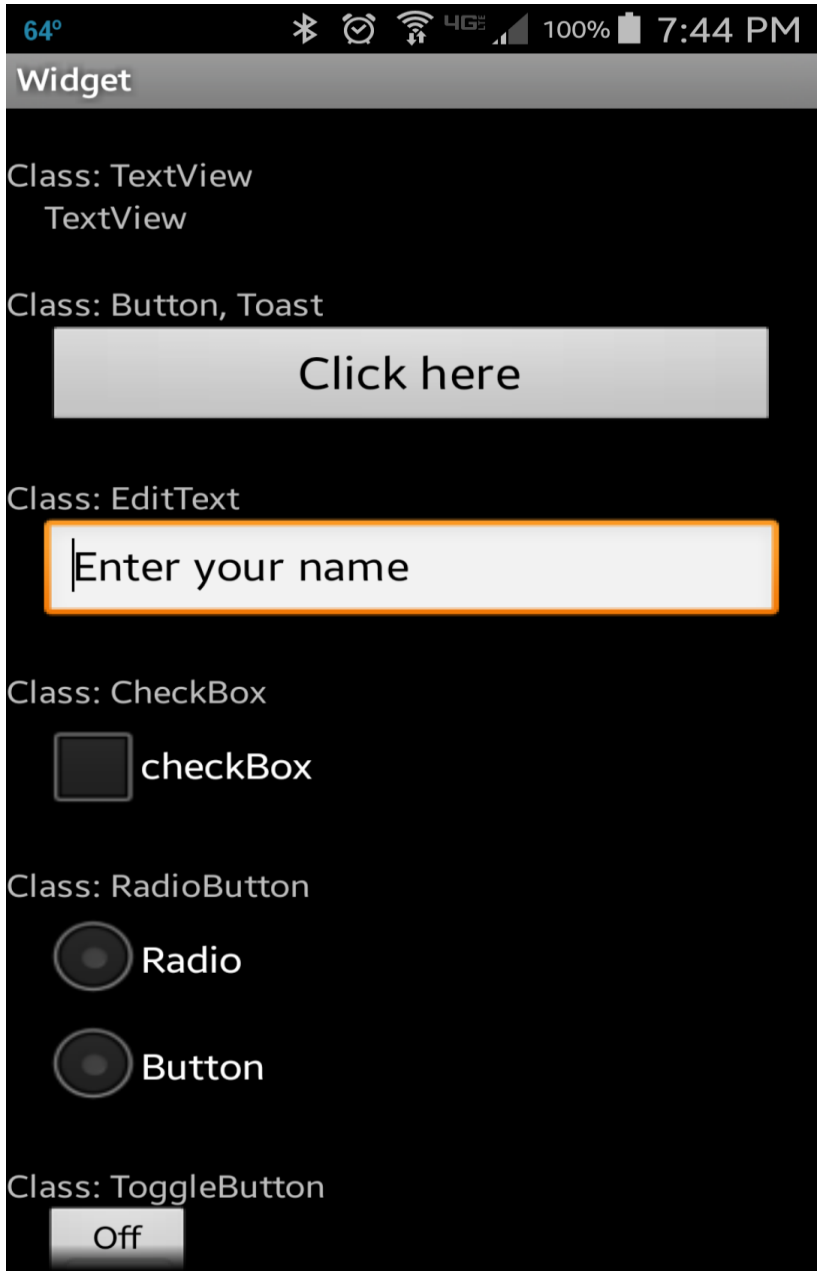
- `ProgressBar`
  - Is used to indicate the progress of any on-going operation. The progress displayed on the bar can be controlled by the application.
  - The indeterminate indicator can be used to indicate the progress when the time taken for the operation is not known.

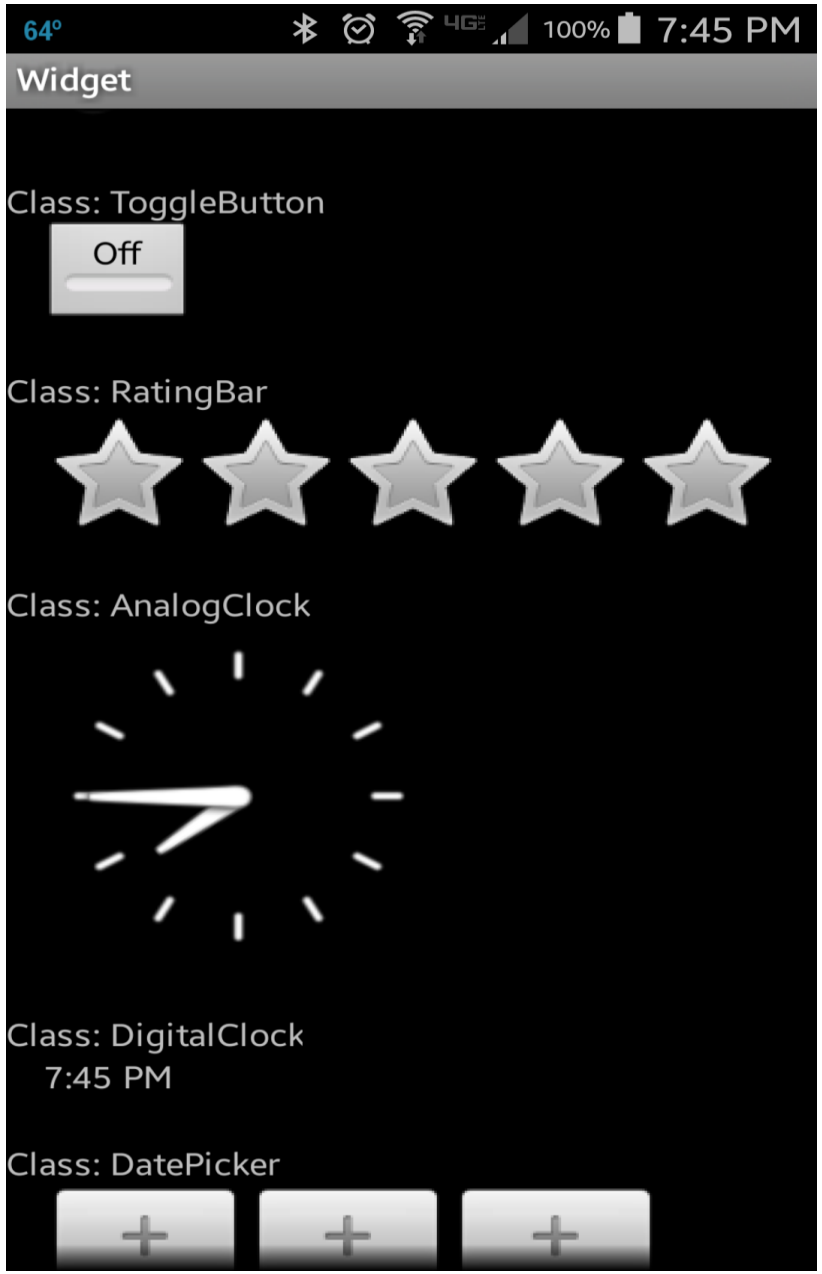
- `SeekBar`
  - Is similar to progress bar but it has a draggable element which the user can use to drag.

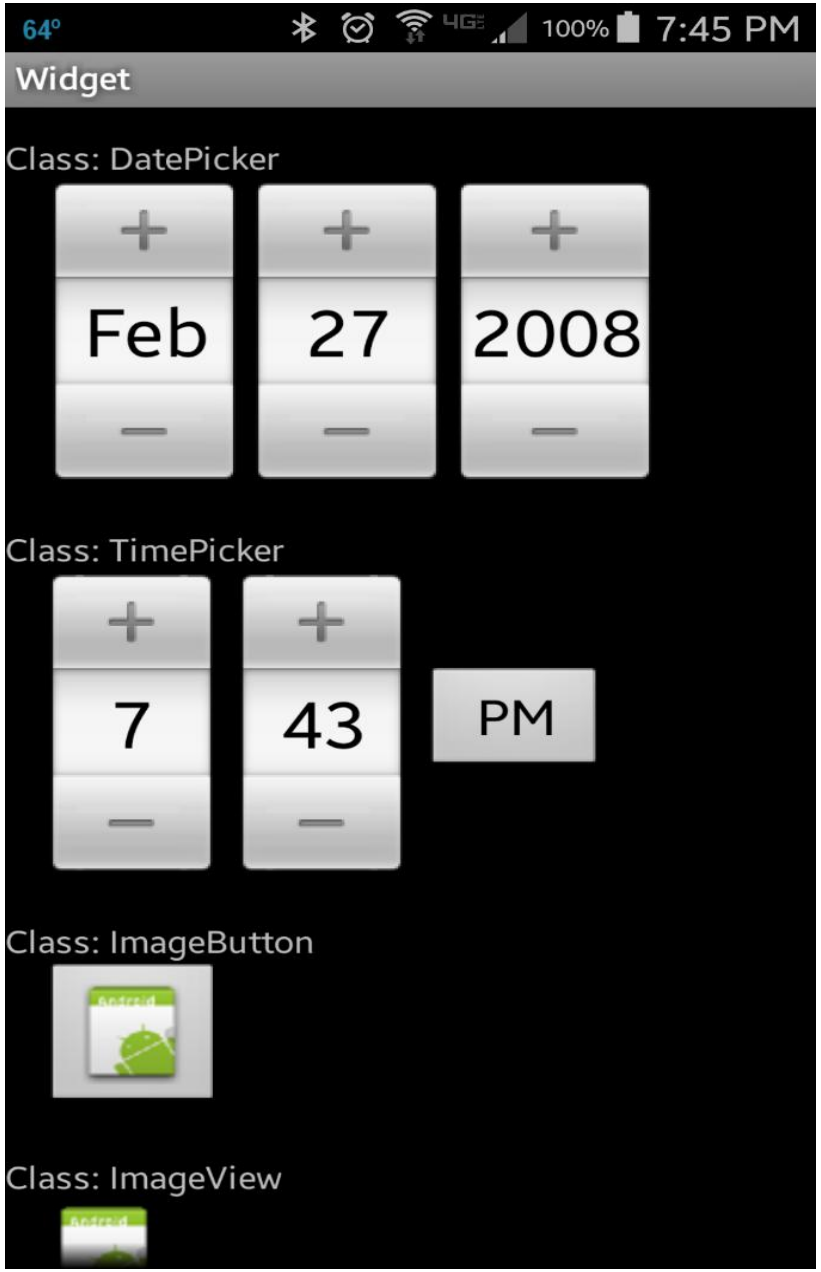
- `Toast`
  - Is used to notify user.
  - It remains visible only for specified period of time and disappears automatically.

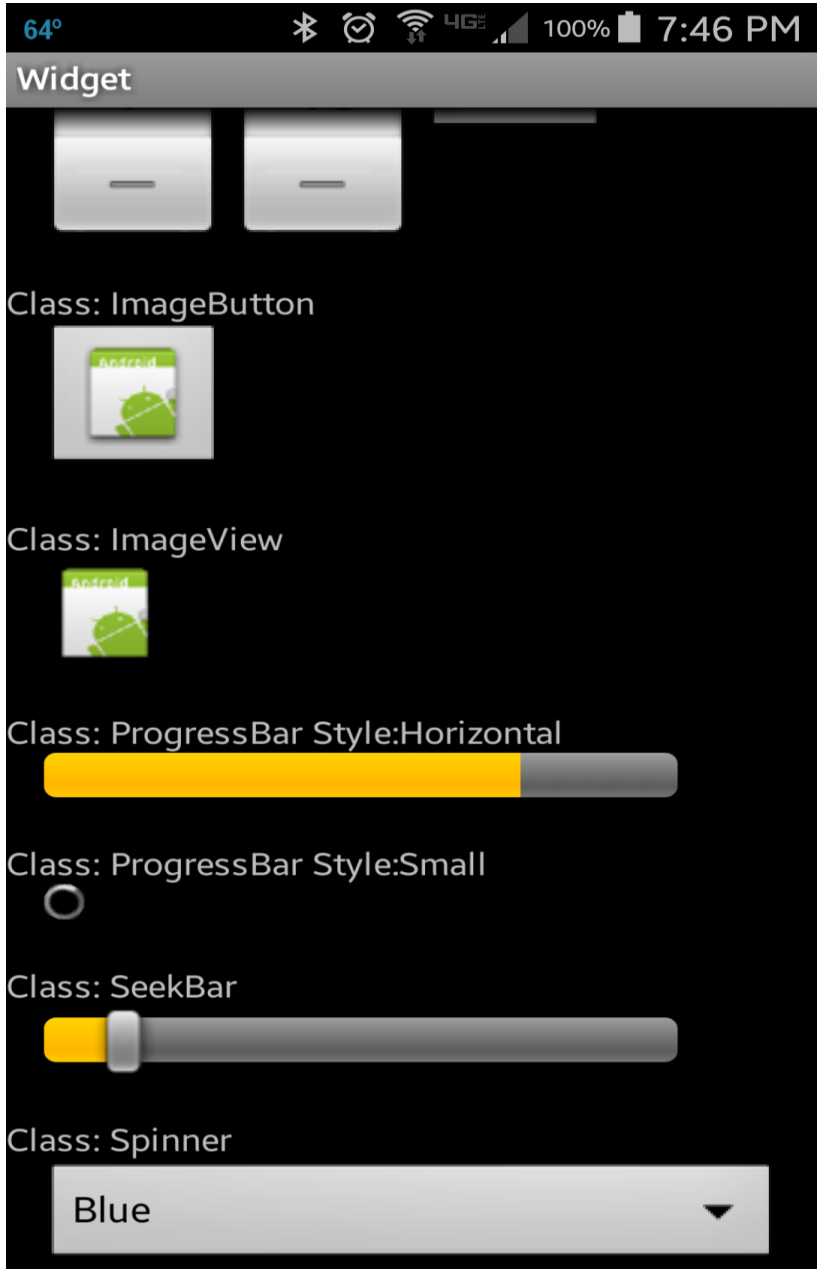
- `ImageButton`
  - Renders a button with an image.
  - The image is defined using `android:src` (if using xml) or `setImageResource()` (programmatically)

- `Spinner`
  - Is like a drop down list which enables user to select from a list of items.
  - The list of strings that should be displayed in the selection dialog is defined in `res/values/strings.xml`
  - Each item in the string array(defined in `strings.xml`) is bound with initial appearance and an `ArrayAdapter` is created using `createFromResource()` which is required to set the data.


64°
100%
7:44 PM
Widget
Class: TextView
TextView
Class: Button, Toast
Click here
Class: EditText
Enter your name
Class: CheckBox
checkBox
Class: RadioButton
Radio
Button
Class: ToggleButton
Off


64°
100%
7:45 PM
Widget
Class: ToggleButton
Off
Class: RatingBar
Class: AnalogClock
Class: DigitalClock
7:45 PM
Class: DatePicker


64°
100%
7:45 PM
Widget
Class: DatePicker
Feb
27
2008
Class: TimePicker
7
43
PM
Class: ImageButton
Class: ImageView


64°
100%
7:46 PM
Widget
Class: ImageButton
Class: ImageView
Class: ProgressBar Style:Horizontal
Class: ProgressBar Style:Small
Class: SeekBar
Class: Spinner
Blue

References

- Android Widgets
- ScrollView
- TextView
- Button
- EditText
- CheckBox
- RadioGroup
- RadioButton
- ToggleButton
- RatingBar
- AnalogClock
- DigitalClock
- DatePicker
- TimePicker
- ImageButton
- SeekBar
- ProgressBar
- Spinner
- Toast

Exercise

- Nothing to do!