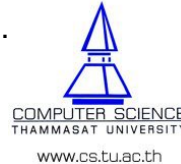


CS355

Mobile Application Development การพัฒนาโปรแกรมประยุกต์สำหรับอุปกรณ์พกพา



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MA08: Input Controls
การควบคุมข้อมูลรับเข้า

1

Input Controls

- ส่วนต่อประสานรับค่าจากผู้ใช้งาน application
- Android มีเครื่องมือให้ใช้งาน เพื่อรับค่าจากผู้ใช้
 - Button
 - Text Field (Text Box)
 - Checkbox
 - Radio Button
 - Toggle Button
 - Spinner
 - Picker
 - Rating Bar
 - Progress Bar

2

Button with Image



- `<Button` `android:layout_width="wrap_content"`
`android:layout_height="wrap_content"`
`android:text="@string/button_text"` `/>`
- `<ImageButton` `android:layout_width="wrap_content"`
`android:layout_height="wrap_content"`
`android:src="@drawable/button_icon"` `/>`
- `<Button` `android:layout_width="wrap_content"`
`android:layout_height="wrap_content"`
`android:text="@string/button_text"`
`android:drawableLeft="@drawable/button_icon"` `/>`

3

Text Field (1)

1. `<EditText` `android:id="@+id/editText1"`
2. `android:layout_width="fill_parent"`
3. `android:layout_height="wrap_content"`
4. `android:hint="@string/hi"`
5. `android:inputType="text"` `/>`

- Input Type
 - text : แสดง keyboard ปกติ
 - emailAddress : มี '@'
 - textUri : มี '/'
 - number : มีแต่ตัวเลข
 - phone : key โทรศัพท์

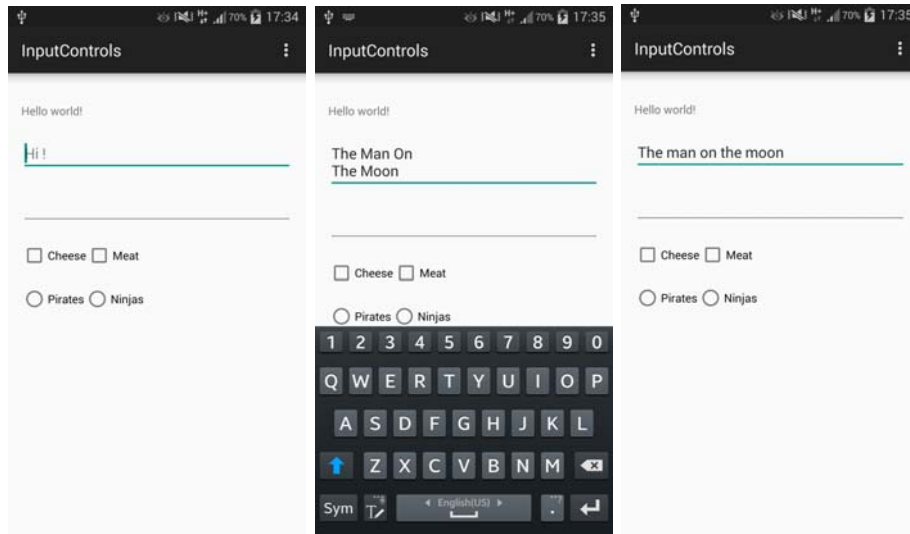


Controlling Behavior

- textCapSentences
- textCapWords
- textPassword
- textMultiLine



Text Field (2)



android:inputType= "textCapWords/textMultiLine"

android:inputType= "textCapSentences"

5

Text Field with AutoComplete : Code



```

1. @Override
2. protected void onCreate(Bundle savedInstanceState) {
3.     super.onCreate(savedInstanceState);
4.     setContentView(R.layout.activity_main);
5.
6.     autoCompleteTextView textView =
7.         (AutoCompleteTextView) findViewById(R.id.autocompleteView);
8.
9.     String[] countries = getResources().getStringArray(R.array.countries_array);
10.    ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,
11.        android.R.layout.simple_list_item_1,
12.        countries);
13.
14.    textView.setAdapter(adapter);
15. }

```

6

Text Field with AutoComplete : Layout and strings.xml

res/values/activity_main.xml

```

<AutoCompleteTextView
    android:id="@+id/autocompleteView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="20dp" />

```

res/values/strings.xml

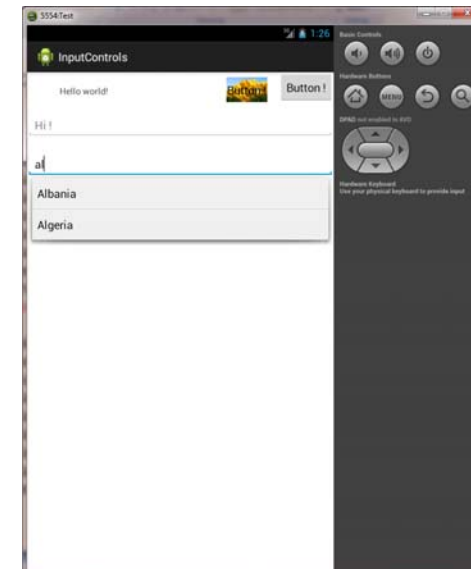
```

1. <string-array name="countries_array">
2.     <item>Afghanistan</item>
3.     <item>Albania</item>
4.     <item>Algeria</item>
5.     <item>American Samoa</item>
6.     <item>Andorra</item>
7.     <item>Angola</item>
8.     <item>Anguilla</item>
9.     <item>Antarctica</item>
10. </string-array>

```

7

Text Field with AutoComplete



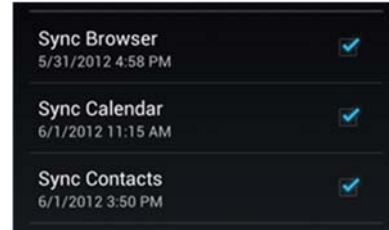
8

Checkbox : Code

```

1. public void onCheckboxClicked(View view) {
2.     // Is the view now checked?
3.     boolean checked = ((CheckBox) view).isChecked();
4.     final TextView txtView=(TextView)findViewById(R.id.txtView);
5.
6.     switch(view.getId()) {
7.         case R.id.checkbox_meat:
8.             if (checked){
9.                 txtView.setText(" Meat ");
10.            }else{
11.                txtView.setText(" No Meat ");
12.            }
13.            break;
14.         case R.id.checkbox_cheese:
15.             if (checked){
16.                 txtView.setText(" Cheese ");
17.            }else{
18.                txtView.setText(" No Cheese ");
19.            }
20.            break;
21.     }
22. }

```



9

Checkbox : Layout

```

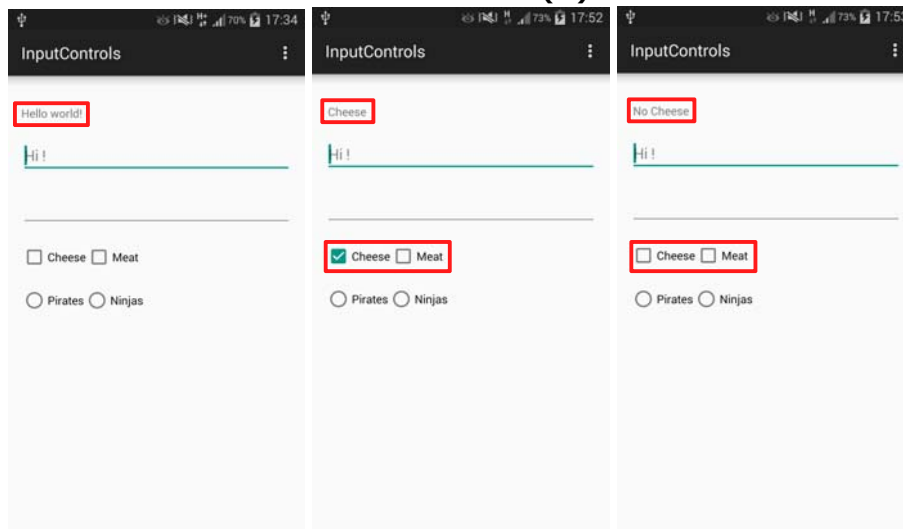
1. <CheckBox
2.     android:id="@+id/checkbox_cheese"
3.     android:layout_width="wrap_content"
4.     android:layout_height="wrap_content"
5.     android:onClick="onCheckboxClicked"
6.     android:text="@string/cheese" />

7. <CheckBox
8.     android:id="@+id/checkbox_meat"
9.     android:layout_width="wrap_content"
10.    android:layout_height="wrap_content"
11.    android:onClick="onCheckboxClicked"
12.    android:text="@string/meat" />

```

10

Checkbox (1)



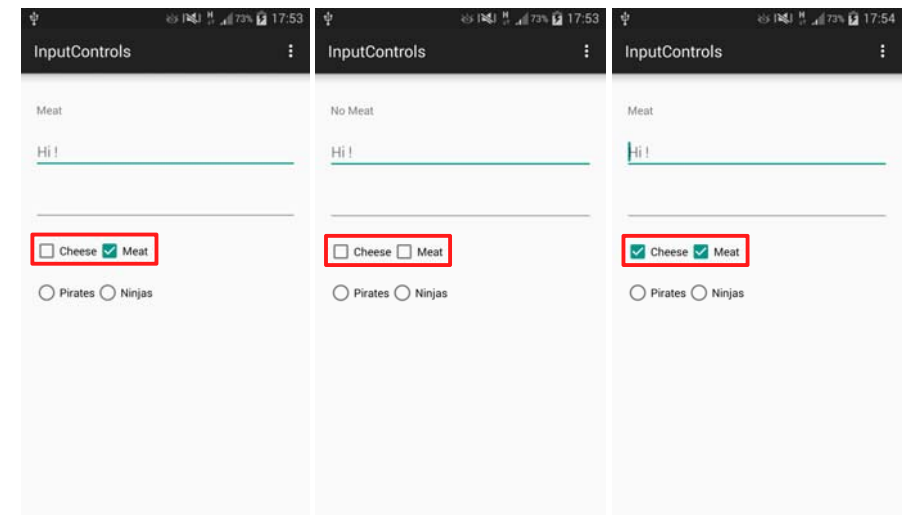
เริ่มต้น

Select "Cheese"

Deselect "Cheese"

11

Checkbox (2)



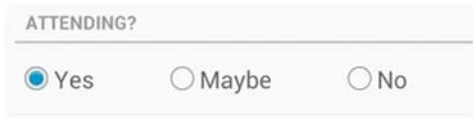
Select "Meat"

Deselect "Meat"

Select both
"Cheese" and "Meat"

12

Radio Button : Code



```

1. public void onRadioButtonClicked(View view) {
2.     // Is the button now checked?
3.     boolean checked = ((RadioButton) view).isChecked();
4.     final TextView txtView=(TextView)findViewById(R.id.textView);
5.
6.     // Check which radio button was clicked
7.     switch(view.getId()) {
8.         case R.id.radio_pirates:
9.             if (checked)
10.                txtView.setText(" Pirates ! ");
11.             break;
12.         case R.id.radio_ninjas:
13.             if (checked)
14.                txtView.setText(" Ninjas ! ");
15.             break;
16.     }
17. } // end

```

13

Radio Button : Layout

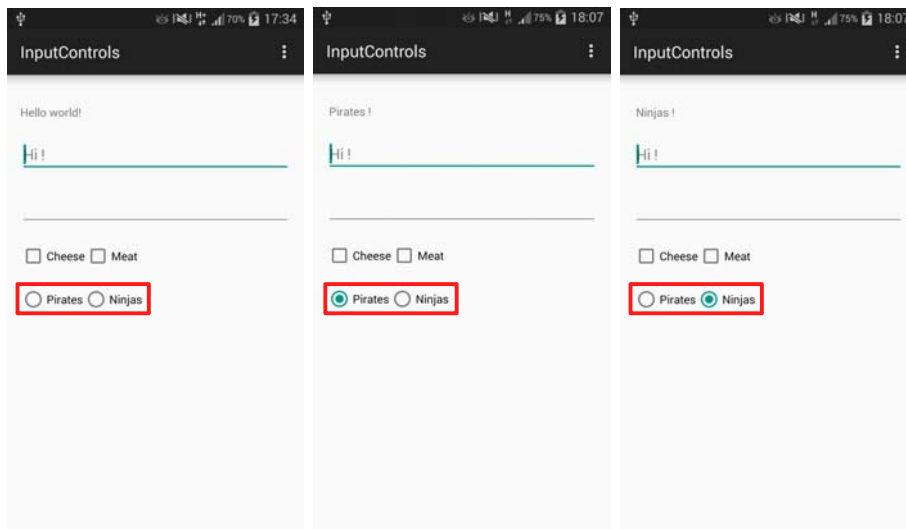
```

1. <RadioGroup
2.     android:layout_width="match_parent"
3.     android:layout_height="wrap_content"
4.     android:orientation="horizontal"
5.     android:layout_marginTop="20dp" >
6.
7.     <RadioButton
8.         android:id="@+id/radio_pirates"
9.         android:layout_width="wrap_content"
10.        android:layout_height="wrap_content"
11.        android:onClick="onRadioButtonClicked"
12.        android:text="@string/pirates" />
13.
14.     <RadioButton
15.         android:id="@+id/radio_ninjas"
16.         android:layout_width="wrap_content"
17.         android:layout_height="wrap_content"
18.         android:onClick="onRadioButtonClicked"
19.         android:text="@string/ninjas" />
20. </RadioGroup>

```

14

Radio Button



เริ่มต้น

Select "Pirates"

Select "Ninjas"

15

Toggle Button : Code (1)



```

1. protected void onCreate(Bundle savedInstanceState) {
2.     super.onCreate(savedInstanceState);
3.     setContentView(R.layout.activity_main);
4.
5.     ToggleButton toggle = (ToggleButton) findViewById(R.id.toggleButton1);
6.     toggle.setOnCheckedChangeListener(new
7.         CompoundButton.OnCheckedChangeListener() {
8.             public void onCheckedChanged(CompoundButton buttonView,
9.                 boolean isChecked) {
10.                 TextView text1 =(TextView)findViewById(R.id.textView);
11.                 if (isChecked) {
12.                     text1.setText("Toggle ON");
13.                 } else {
14.                     text1.setText("Toggle OFF");
15.                 }
16.             }
17.         });

```

16

Toggle Button : Code (2)

```

18. public void onToggleClicked(View view) {
19.     boolean on = ((ToggleButton) view).isChecked();
20.     TextView text1 =(TextView)findViewById(R.id.textView);
21.
22.     if (on) {
23.         text1.setText("Toggle ON");
24.     } else {
25.         text1.setText("Toggle OFF");
26.     }
27. }

```

17

Toggle Button : Layout

```

1. <ToggleButton
2.     android:id="@+id/toggleButton"
3.     android:layout_width="wrap_content"
4.     android:layout_height="wrap_content"
5.     android:layout_marginTop="20dp"
6.     android:onClick="onToggleClicked"
7.     android:textOff="Off"
8.     android:textOn="On" />

9. <ToggleButton
10.     android:id="@+id/toggleButton1"
11.     android:layout_width="wrap_content"
12.     android:layout_height="wrap_content"
13.     android:layout_marginTop="20dp"
14.     android:textOff="Off"
15.     android:textOn="On" />

```

Implement Toggle Button
แบบผูก function กับ Layout

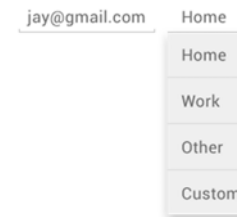
Implement Toggle Button
แบบผูก function กับ Code
โดยใช้ event Listener

18



19

Spinner : Code and Layout



```

<Spinner
    android:id="@+id/planets_spinner"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="20dp" />

```

```

1. protected void onCreate(Bundle savedInstanceState) {
2.     super.onCreate(savedInstanceState);
3.     setContentView(R.layout.activity_main);

4.     Spinner spinner = (Spinner) findViewById(R.id.planets_spinner);
5.     ArrayAdapter<CharSequence> adapter =
6.         ArrayAdapter.createFromResource(this,
7.             R.array.planets_array, android.R.layout.simple_spinner_item);
8.     adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
9.     spinner.setAdapter(adapter);
10. } //end onCreate

```

20

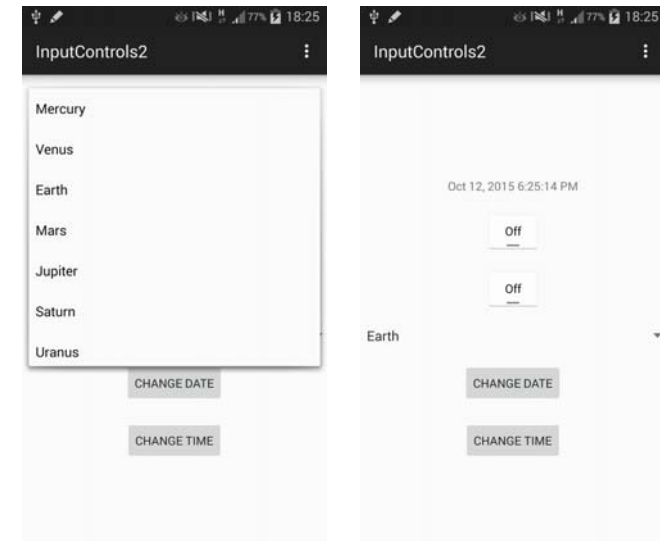
Spinner : strings.xml

■ res/values/strings.xml

1. `<string-array name="planets_array">`
2. `<item>Mercury</item>`
3. `<item>Venus</item>`
4. `<item>Earth</item>`
5. `<item>Mars</item>`
6. `<item>Jupiter</item>`
7. `<item>Saturn</item>`
8. `<item>Uranus</item>`
9. `<item>Neptune</item>`
10. `</string-array>`

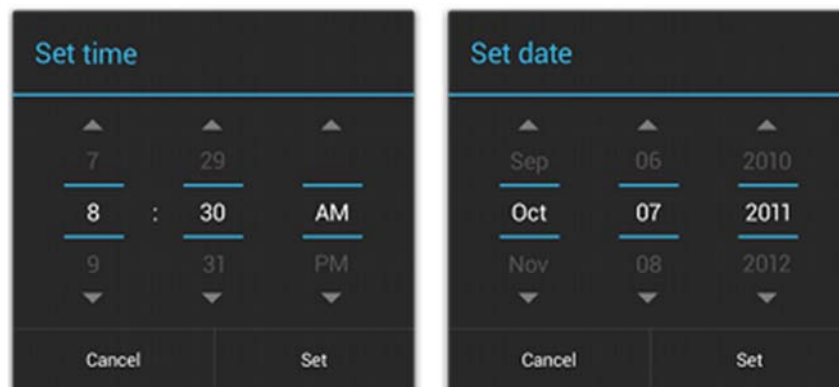
21

Spinner



22

Time and Date Pickers



23

Picker: Code (1)

```

1.  DateFormat fmtDateAndTime = DateFormat.getDateTimeInstance();
2.  Calendar myCalendar = Calendar.getInstance();
3.  @Override
4.  protected void onCreate(Bundle savedInstanceState) {
5.      super.onCreate(savedInstanceState);
6.      setContentView(R.layout.activity_main);
7.      Button btnDate = (Button) findViewById(R.id.btnChangeDate);
8.      btnDate.setOnClickListener(new View.OnClickListener() {
9.          public void onClick(View v) {
10.              new DatePickerDialog(MainActivity.this, d,
11.                  myCalendar.get(Calendar.YEAR), myCalendar.get(Calendar.MONTH),
12.                  myCalendar.get(Calendar.DAY_OF_MONTH)).show();
13.          }
14.      });
15.      Button btnTime = (Button) findViewById(R.id.btnChangeTime);
16.      btnTime.setOnClickListener(new View.OnClickListener() {
17.          public void onClick(View v) {
18.              new TimePickerDialog(MainActivity.this, t,
19.                  myCalendar.get(Calendar.HOUR_OF_DAY),
20.                  myCalendar.get(Calendar.MINUTE), true).show();
21.          }
22.      });
23.      updateLabel();
24.  } // end onCreate
    
```

24

Picker : Code (2)

```

25. DatePickerDialog.OnDateSetListener d = new DatePickerDialog.OnDateSetListener() {
26.     public void onDateSet(DatePicker view, int year, int monthOfYear, int dayOfMonth) {
27.         myCalendar.set(Calendar.YEAR, year);
28.         myCalendar.set(Calendar.MONTH, monthOfYear);
29.         myCalendar.set(Calendar.DAY_OF_MONTH, dayOfMonth);
30.         updateLabel();
31.     }
32. };

33. TimePickerDialog.OnTimeSetListener t = new TimePickerDialog.OnTimeSetListener() {
34.     public void onTimeSet(TimePicker view, int hourOfDay, int minute) {
35.         myCalendar.set(Calendar.HOUR_OF_DAY, hourOfDay);
36.         myCalendar.set(Calendar.MINUTE, minute);
37.         updateLabel();
38.     }
39. };

40. private void updateLabel() {
41.     TextView text1 =(TextView)findViewById(R.id.textView);
42.     text1.setText(fmtDateAndTime.format(myCalendar.getTime()));
43. }

```

25

Picker : Layout

```

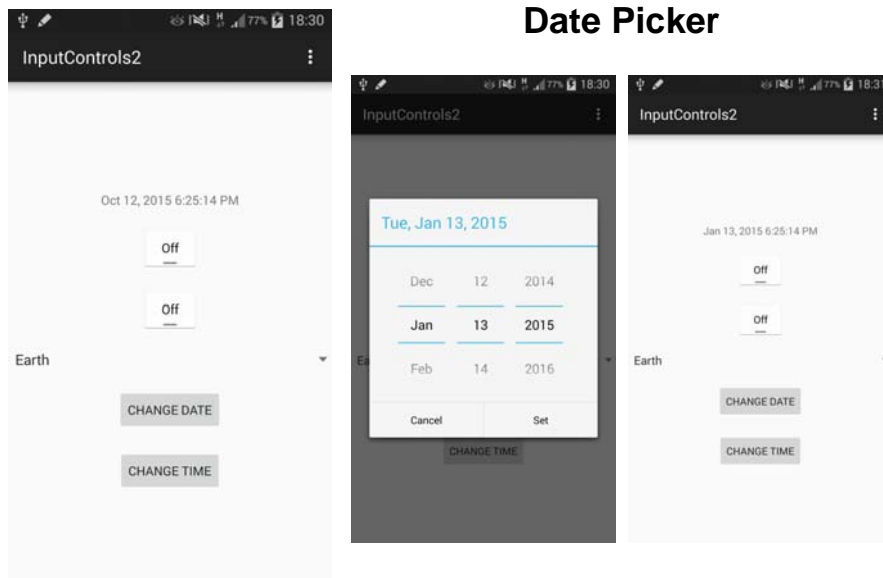
1. <Button
2.     android:id="@+id/btnChangeDate"
3.     android:layout_width="wrap_content"
4.     android:layout_height="wrap_content"
5.     android:layout_marginTop="20dp"
6.     android:text="@string/change_date" />

7. <Button
8.     android:id="@+id/btnChangeTime"
9.     android:layout_width="wrap_content"
10.    android:layout_height="wrap_content"
11.    android:layout_marginTop="20dp"
12.    android:text="@string/change_time" />

```

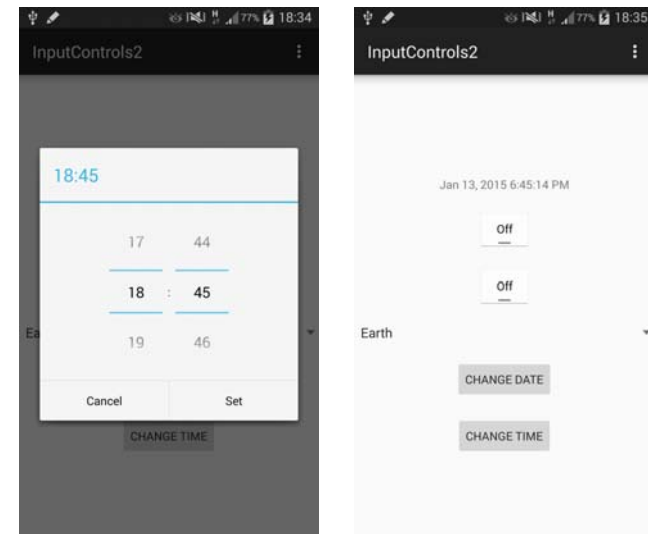
26

Date Picker



27

Time Picker



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Rating Bar



Layout:

```
<RatingBar
    android:id="@+id/ratingBar"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:numStars="4"
    android:stepSize="1.0"
    android:rating="2.0" />
```

29

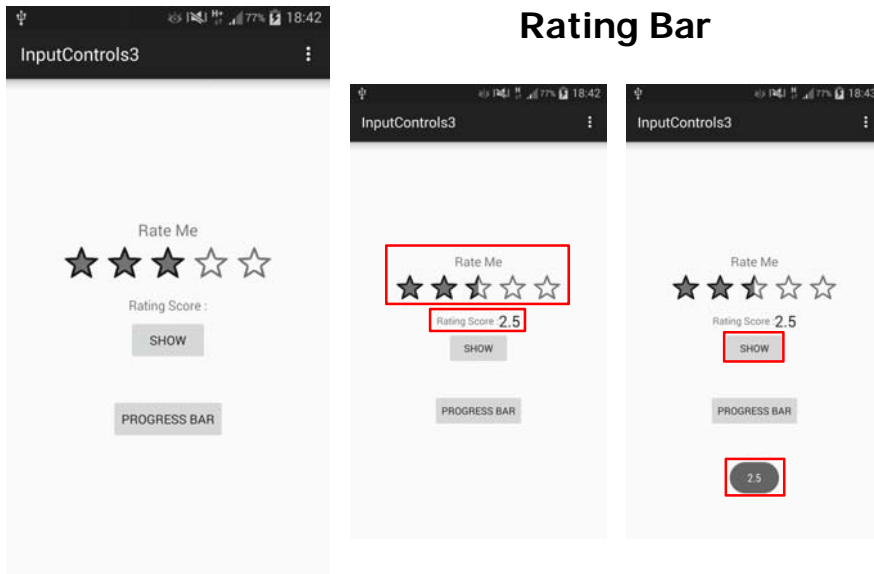
Rating Bar : Code

```
1. final TextView txtView = (TextView) findViewById(R.id.textRatingValue);
2. final RatingBar ratingBar = (RatingBar) findViewById(R.id.ratingBar);
3. final Button btnShow = (Button) findViewById(R.id.btnShow);

4. ratingBar.setOnRatingBarChangeListener(new OnRatingBarChangeListener() {
5.     public void onRatingChanged(RatingBar ratingBar, float rating, boolean fromUser) {
6.         txtView.setText(String.valueOf(rating));
7.     }
8. });

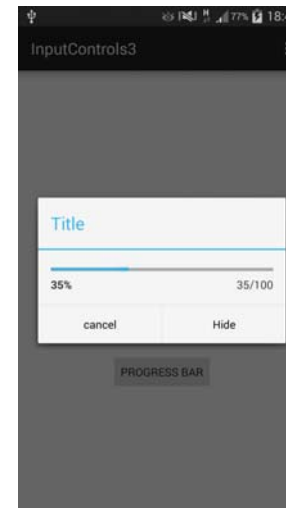
9. btnShow.setOnClickListener(new OnClickListener() {
10.    @Override
11.    public void onClick(View v) {
12.        Toast.makeText(MainActivity.this,String.valueOf(ratingBar.getRating()),
13.            Toast.LENGTH_SHORT).show();
14.    }
15. });
```

30



31

Progress Bar



```
1. final Button progress_button = (Button) findViewById(R.id.progressBar);
2. progress_button.setOnClickListener(new OnClickListener() {
3.    @Override
4.    public void onClick(View v) {
5.        dialog = new ProgressDialog(MainActivity.this);
6.        dialog.setTitle("Title");
7.        dialog.setProgressStyle(ProgressDialog.STYLE_HORIZONTAL);
8.        dialog.setMax(MAX_PROGRESS);
9.        dialog.setButton(DialogInterface.BUTTON_POSITIVE, "Hide",
10.            new DialogInterface.OnClickListener() {
11.                public void onClick(DialogInterface dialog, int whichButton){
12.                    /* User clicked Yes so do some stuff */
13.                }
14.            });
15.        dialog.setButton(DialogInterface.BUTTON_NEGATIVE, "cancel",
16.            new DialogInterface.OnClickListener() {
17.                public void onClick(DialogInterface dialog, int whichButton){
18.                    /* User clicked No so do some stuff */
19.                }
20.            });
21.        progress = 0;
22.        dialog.show();
23.        dialog.setProgress(0);
24.        pHandler.sendEmptyMessage(0);
25.    });
26. });
27. pHandler = new Handler() {
28.    @Override
29.    public void handleMessage(Message msg) {
30.        super.handleMessage(msg);
31.        if (progress >= MAX_PROGRESS) {
32.            dialog.dismiss();
33.        } else {
34.            progress=progress+5;
35.            dialog.incrementProgressBy(5);
36.            pHandler.sendEmptyMessageDelayed(0, 100);
37.        }
38.    }
39. };
```

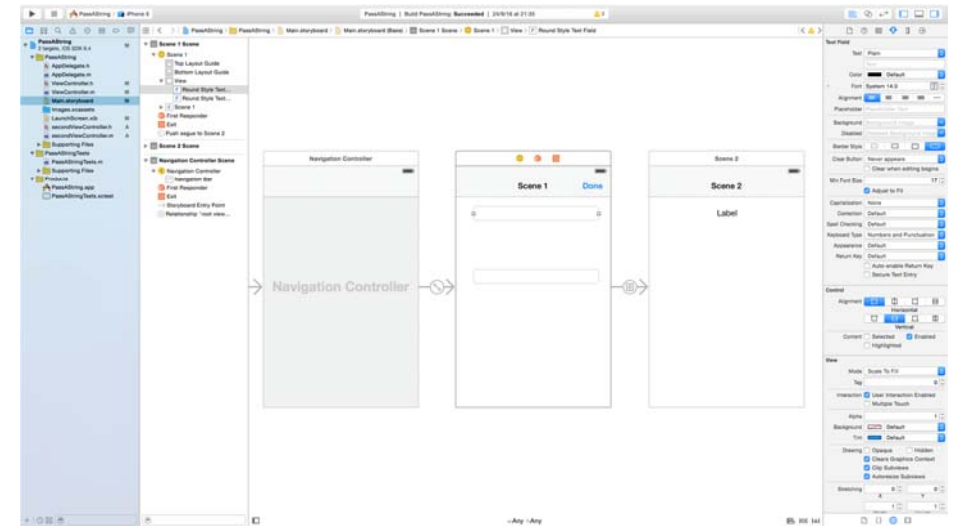
32

References

- <http://developer.android.com>
- <http://www.java-samples.com/showtutorial.php?tutorialid=1520>
- mkyong, Android Rating Bar Example,
Posted on November 27, 2011 , Last modified : August 29, 2012
<http://www.mkyong.com/android/android-rating-bar-example/>
- Pavan Deshpande, Android Bar Styled Progress Dialog Example,
<http://www.pavanh.com/2013/04/android-progress-dialog-example.html>

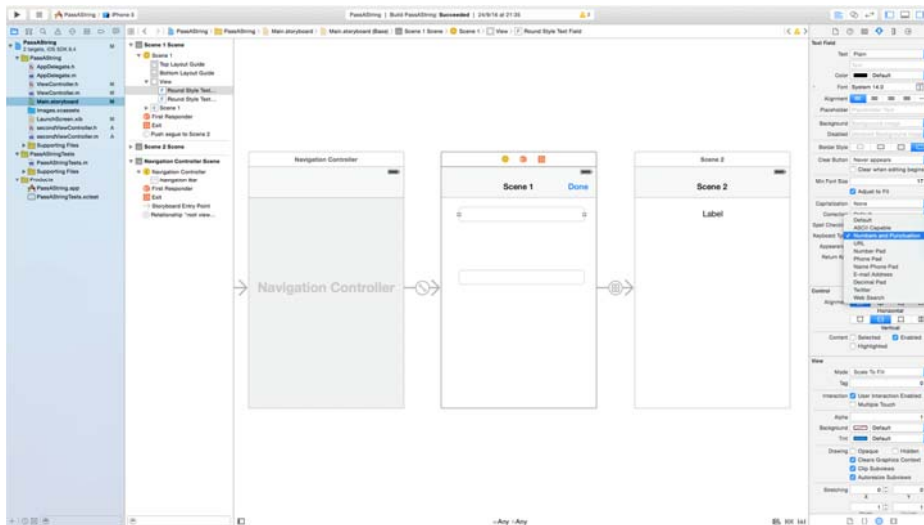
33

Input Controls for iOS (1/7)



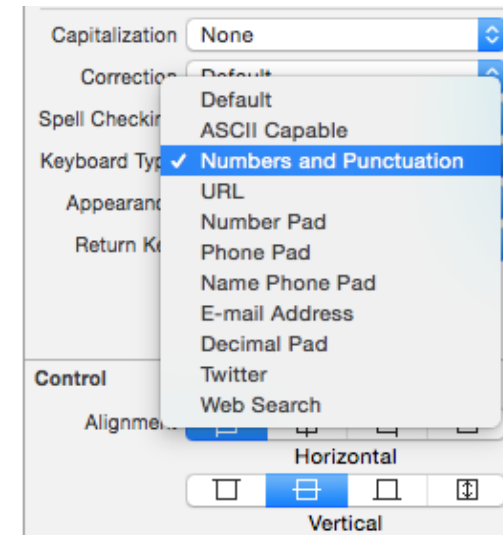
34

Input Controls for iOS (2/7)



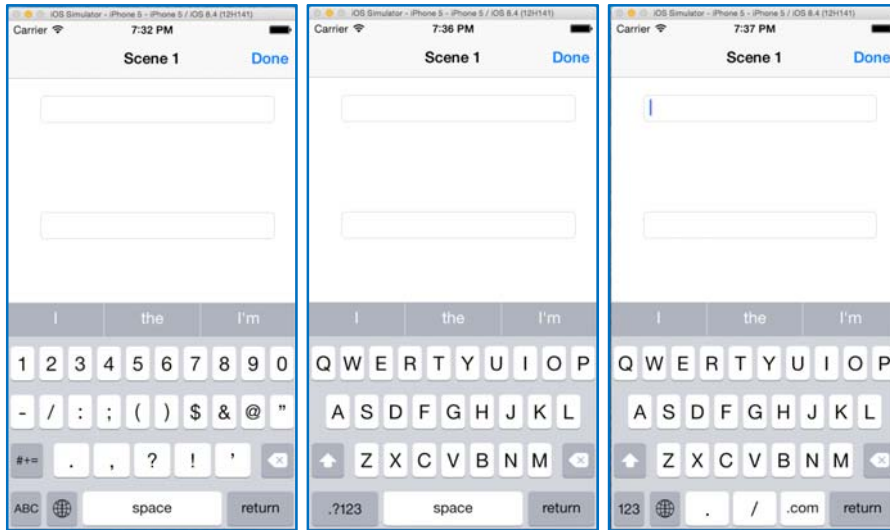
35

Input Controls for iOS (3/7)



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Input Controls for iOS (4/7)



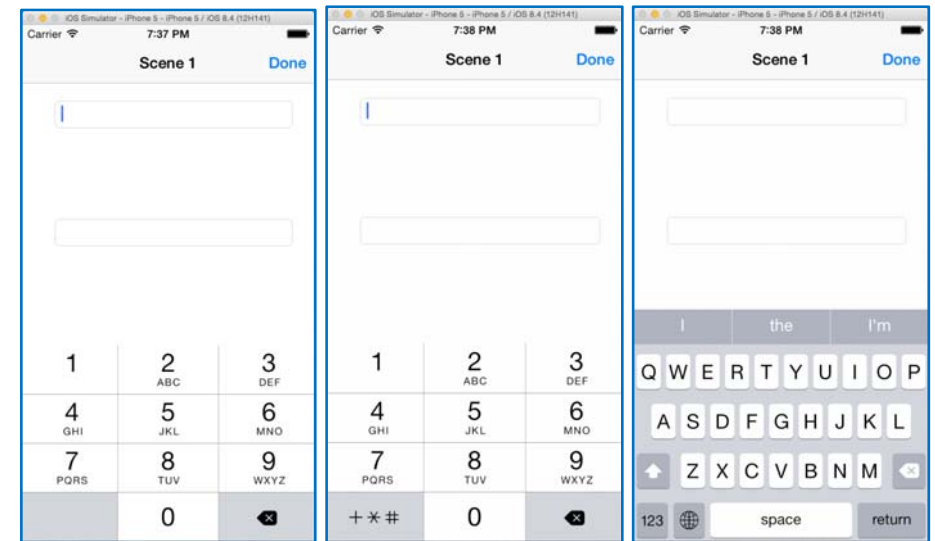
Numbers & Punctuation

ASCII Capable

URL

37

Input Controls for iOS (5/7)



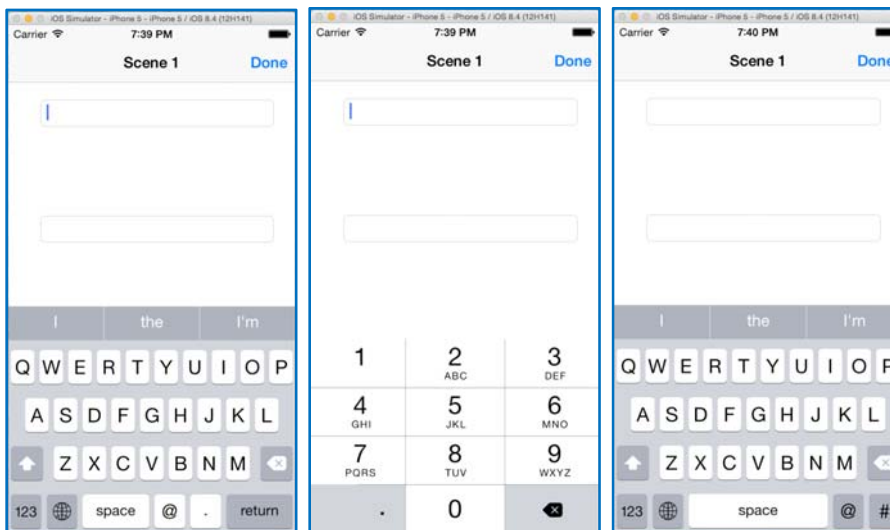
Number Pad

Phone Pad

Name Phone Pad

38

Input Controls for iOS (6/7)



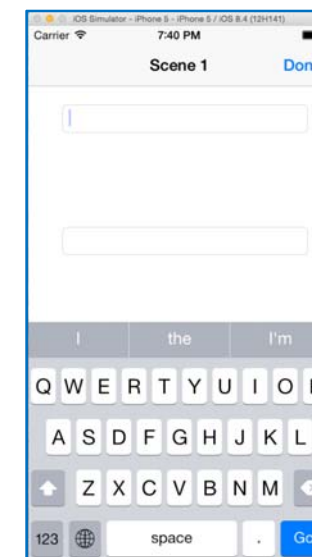
E-mail Address

Decimal Pad

Twitter

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Input Controls for iOS (7/7)



Web Search

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