

P82 Mobile Application Development - Android

Events

Capture events from the View element

- Usually done in onCreate ()
- Button
 - SetOnClickListener /
New OnClickListener /
onclick
- TextView, EditText
 - addTextChangedListener
TextWatcher
onTextChanged, beforeTextChanged,
afterTextChanged

Capture events from the View element

- CheckBox, Radio Button, RadioGroup, ToggleButton
- SetOnCheckedChangeListener / OnCheckedChangeListener
onCheckedChanged

Event Management

- ♦ Some events return a boolean.
 - Indicates whether event was consumed or not;
 - If true event will continue to run
 - If false event will stop

onLongClick, onKey, onTouch

onTouch

◆ OnTouchListener event is specific to touch screens

◆ Different phases in Event -> event.getAction()

- MotionEvent.ACTION_DOWN

When you pause the on the screen

- MotionEvent.ACTION_MOVE

When you move your finger the event will be triggered

- MotionEvent.ACTION_UP

When leaving the screen

<http://developer.android.com/reference/android/view/MotionEvent.html>

onTouch (continued)

Can get the number of finger on screen

- `Event.getPointerCount ()`

Can get the position of the pointers,
`event.getX ()`, `event.getY ()`

If multiple pointer (x, y), use `getX(n)` and `getY(n)` where n is the pointer number

Can get the pressure exerted on the screen

- `event.getPressure ();`

Specialized Event

- Since OnTouch -> could create a lot of events on motion
- Already exists interface that will handle these events
 - **Scroll** during movement:
 - knows the starting position
 - current position of the pointer
 - distance between the two
 - gives direction
 - **Fling**
 - knows the starting position
 - current position of the pointer
 - gives us a velocity in x

GestureDetector

- ♦ implementing GestureDetector.OnGestureListener

Note that the coordinates of pointers obtained in onTouch, onScroll or onFling, are relative to the screen and not the ViewGroup

- ♦ Create a GestureDetector attribute

```
gd = new GestureDetector(context, this);
```

- ♦ Pass it to onTouchEvent from the main view

```
@Override  
public boolean onTouchEvent(MotionEvent event) {  
    gd.onTouchEvent(event);  
    return true;  
}
```


Override Methods

- ♦ `@Override`
`public boolean onDown(MotionEvent e) {`
 `return false;`
`}`
- `@Override`
`public void onShowPress(MotionEvent e) {`
`}`
- `@Override`
`public boolean onSingleTapUp(MotionEvent e) {`
 `return false;`
`}`
- `@Override`
`public boolean onScroll(MotionEvent e1, MotionEvent e2, float distanceX, float distanceY) {`
 `return false;`
`}`
- `@Override`
`public void onLongPress(MotionEvent e) {`
`}`
- `@Override`
`public boolean onFling(MotionEvent e1, MotionEvent e2, float velocityX, float velocityY) {`
 `return false;`
`}`