

Android 3

21 Multithreaded Programming Part I: General Techniques

Why threads?

Basic approach

Make a task list with `Executors.newFixedThreadPool`

Add tasks to list with `taskList.execute(someRunnable)`

Three variations on the theme

Separate classes that implement `Runnable`

Main Activity implements `Runnable`

Inner classes that implement `Runnable`

Related topics

Race conditions and synchronization

Helpful Thread-related methods

Advanced topics in concurrency

22 Multithreaded Programming Part II: Android-Specific Techniques

GUI update guidelines

Updating UI after threads complete

Downloading images from Internet

Updating UI with `View.post`

Updating UI with AsyncTask

23 Android Storage

Android Preferences

Internal Storage

External Storage

24 Android Graphics- 2D Drawing Part 1: Using onDraw

Extending a View

Using onDraw

Referring to custom View in layout file

Drawing basic shapes with Canvas

Drawing bitmaps (images) with Canvas

25 Android Graphics- 2D Drawing Part 2: Coordinate Transformations and

ShapeDrawable

Canvas coordinate transformations

translate

rotate

skew

scale

Using ShapeDrawable

Motivation

Making a ShapeDrawable

Drawing a ShapeDrawable

26 Android Animation

Android Animation

27 Android Device

Bluetooth Tutorial

List Paired Devices

WIFI

28 Networking I: General Techniques

Socket basics

Requesting Internet permission

Example: NIST atomic time

Aside: simple String formatting and parsing

Example: FTP welcome messages

Example: validating URLs with HEAD

29 Networking II: HTTP and JSON Techniques

URLConnection

HttpClient

Examples: Searching Web pages

Using JSON

Example: remote loan calculations

Example: Google translation services

30 Custom Components

Custom components: big idea

Using onMeasure

If told how big to be: resizing content to fit current size

If asked how big you want to be: calculating desired sizes

Reading custom XML attributes

Declaring attributes in attrs.xml

Setting a custom namespace in layout file

Using the custom attributes in layout file

Extracting values from AttributeSet in View constructor