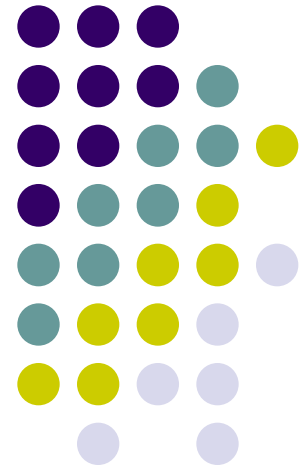
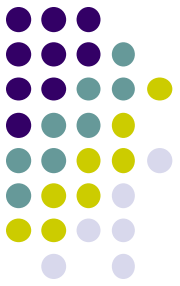


Mobile Application Development

Background Tasks in Android Thread



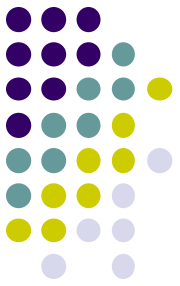
A Basic Threading in Android



- The **first step** will be to highlight the risks involved in not performing **time-consuming** tasks in a **separate thread** from the **main thread**.



Example -1: without Threads



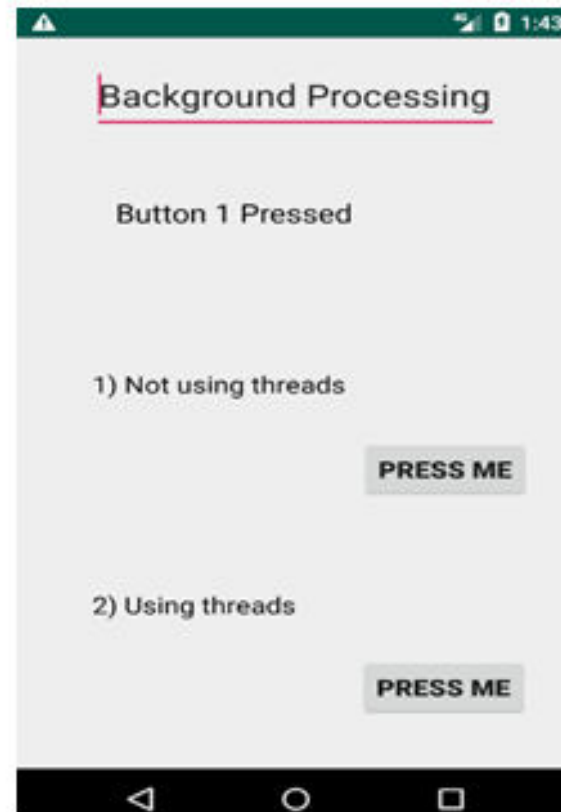
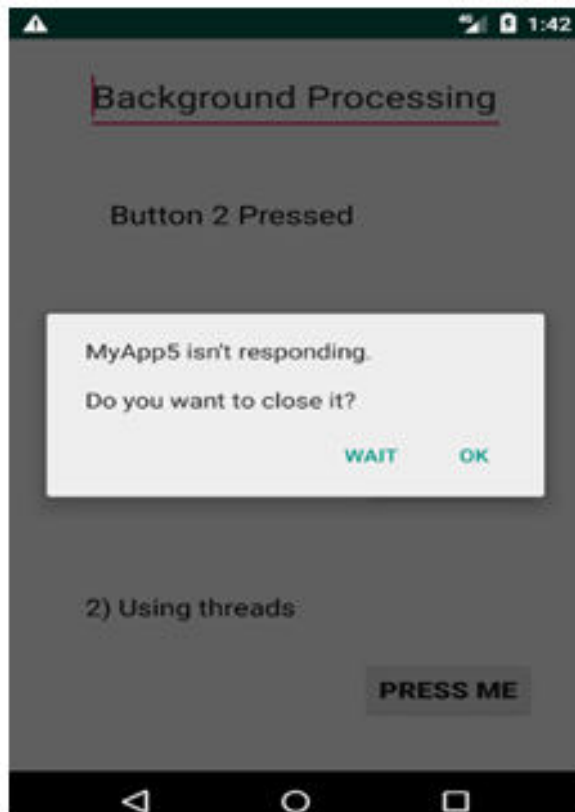
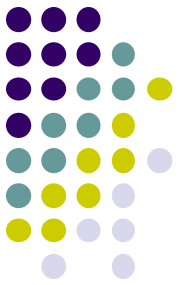
...

```
public void buttonClick(View view)
{
    long endTime = System.currentTimeMillis() + 20*1000;

    while (System.currentTimeMillis() < endTime) {
        synchronized (this) {
            try {
                wait(endTime - System.currentTimeMillis());
            } catch (Exception e) { }
        }
    }
    TextView myTextView = (TextView)findViewById(R.id.myTextView);
    myTextView.setText("Button Pressed");
}
```

...

To avoid ANR



Example -2: Using Threads



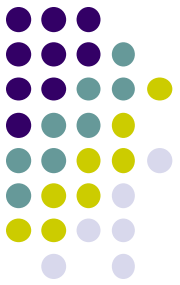
...

```
public void buttonClick(View view)
{
    Runnable runnable = new Runnable() {
        public void run() {
            long endTime = System.currentTimeMillis() + 20*1000;

            while (System.currentTimeMillis() < endTime) {
                synchronized (this) {
                    try {
                        wait(endTime - System.currentTimeMillis());
                    } catch (Exception e) { }
                }
            }
        }
    };
    Thread mythread = new Thread(runnable);
    mythread.start();
}
```

Projects

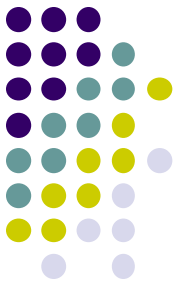
(These are the API packages.)



android	android.database.sqlite	android.inputmethodservice
android.accessibilityservice	android.drm	android.location
android.accounts	android.gesture	android.media
android.animation	android.graphics	android.media.audiofx
android.annotation	android.graphics.drawable	android.media.browse
android.app	android.graphics.drawable.shapes	android.media.effect
android.app.admin	android.graphics.fonts	android.media.midi
android.app.assist	android.graphics.pdf	android.media.projection
android.app.backup	android.hardware	android.media.session
android.app.job	android.hardware.biometrics	android.media.tv
android.app.slice	android.hardware.camera2	android.mtp
android.app.usage	android.hardware.camera2.params	android.net
android.appwidget	android.hardware.display	android.net.http
android.bluetooth	android.hardware.fingerprint	android.net.nsd
android.bluetooth.le	android.hardware.input	android.net.rtp
android.companion	android.hardware.usb	android.net.sip
android.content	android.icu.lang	android.net.wifi
android.content.pm	android.icu.math	android.net.wifi.aware
android.content.res	android.icu.text	android.net.wifi.hotspot2
android.database	android.icu.util	android.net.wifi.hotspot2.omadm

Projects

(These are the API packages.)



android.net.wifi.hotspot2.pps	android.sax	android.system
android.net.wifi.p2p	android.se.omapi	android.telecom
android.net.wifi.p2p.nsd	android.security	android.telephony
android.net.wifi.rtt	android.security.keystore	android.telephony.cdma
android.nfc	android.service.autofill	android.telephony.data
android.nfc.cardemulation	android.service.carrier	android.telephony.euicc
android.nfc.tech	android.service.chooser	android.telephony.gsm
android.opengl	android.service.dreams	android.telephony.mbms
android.os	android.service.media	android.test
android.os.health	android.service.notification	android.test.mock
android.os.storage	android.service.quicksettings	android.test.suitebuilder
android.os.strictmode	android.service.restrictions	android.test.suitebuilder.annotation
android.preference	android.service.textservice	android.text
android.print	android.service.voice	android.text.format
android.print.pdf	android.service.vr	android.text.method
android.printservice	android.service.wallpaper	android.text.style
android.provider	android.speech	
android.renderscript	android.speech.tts	