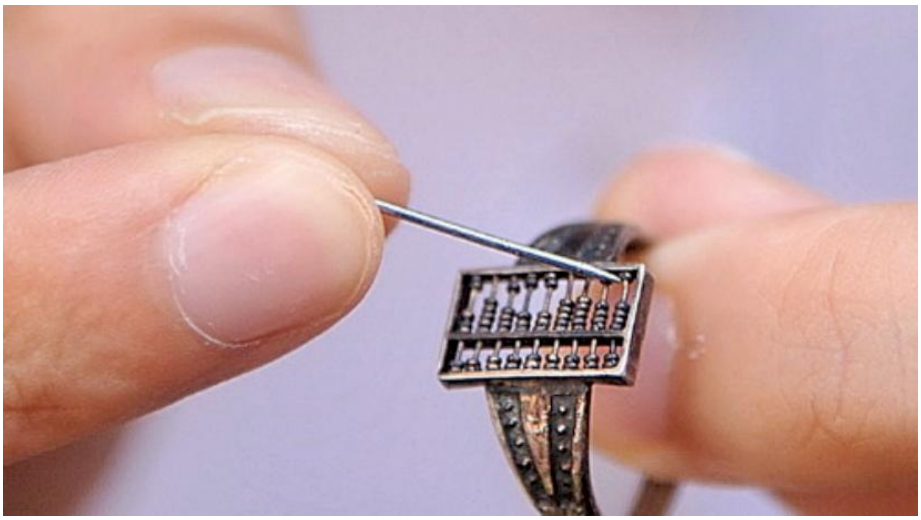
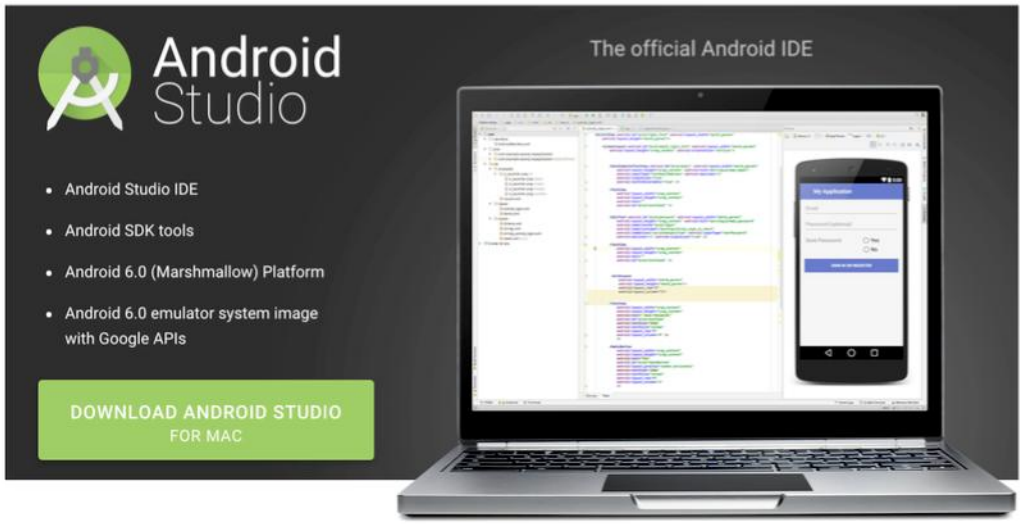
Chapter 1: Welcome to Wearable Computing



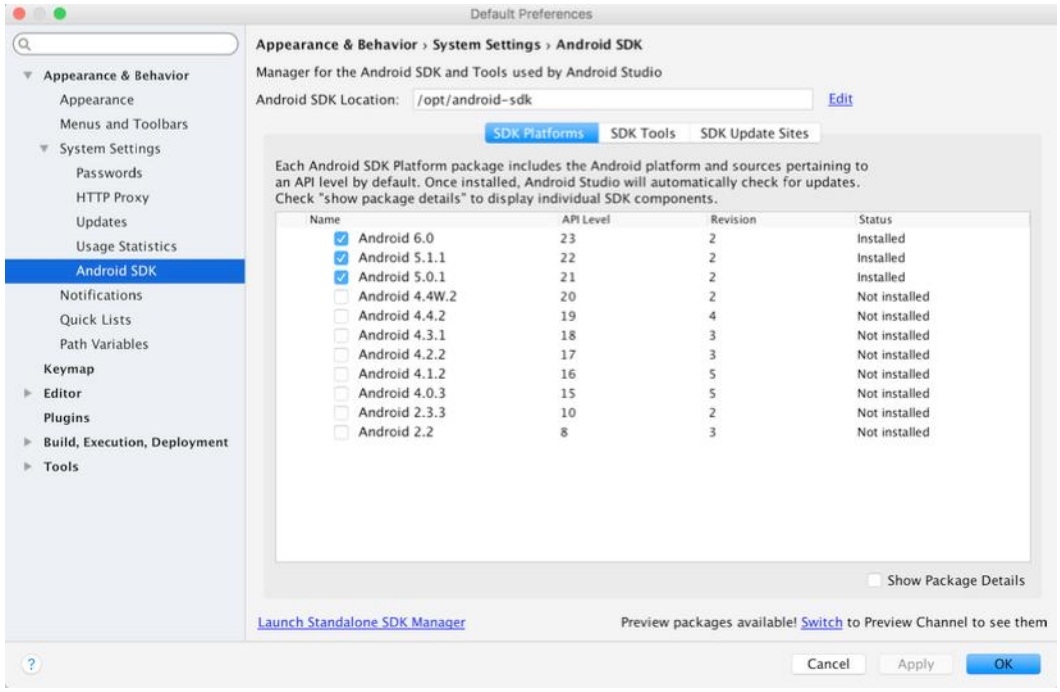
08:03
10:10
07:07
20:25
9:30
22:57

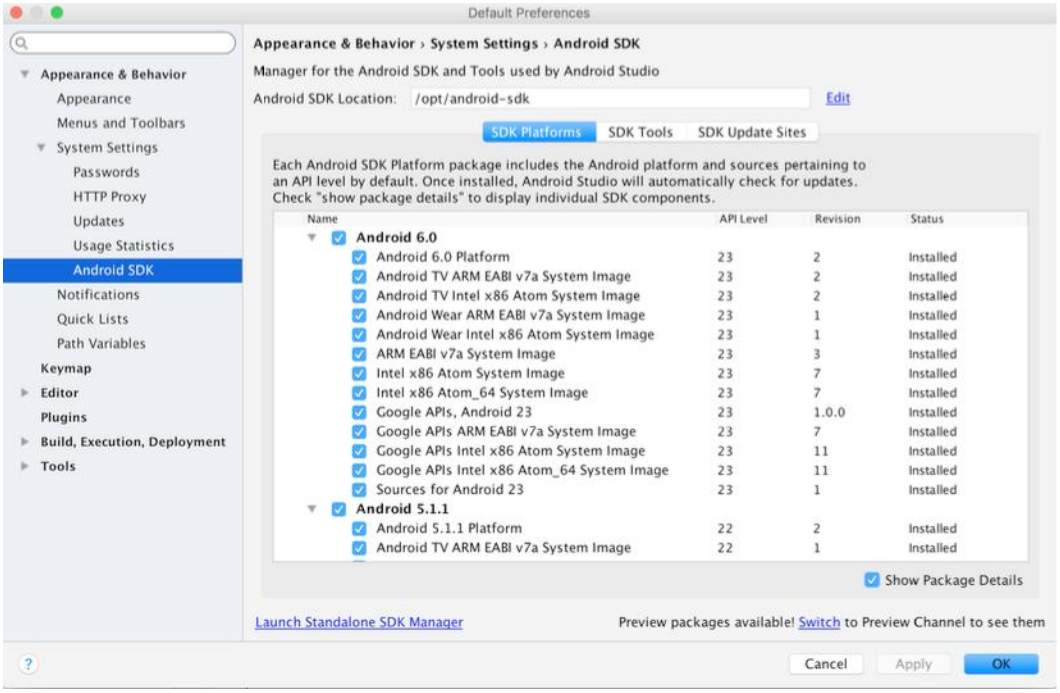
Chapter 2: Setting up Development Environment on Android Studio

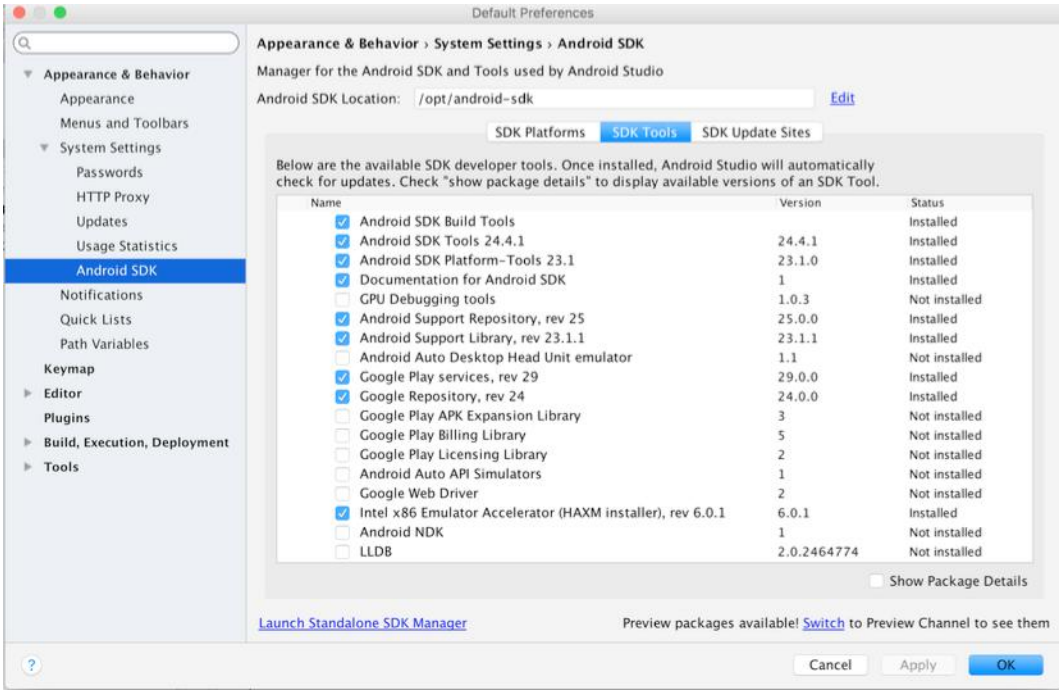
```
SiddiquesMBP:~/Projects$ java -version
java version "1.7.0_55"
Java(TM) SE Runtime Environment (build 1.7.0_55-b13)
Java HotSpot(TM) 64-Bit Server VM (build 24.55-b03, mixed mode)
SiddiquesMBP:~/Projects$ javac -version
javac 1.7.0_55
```

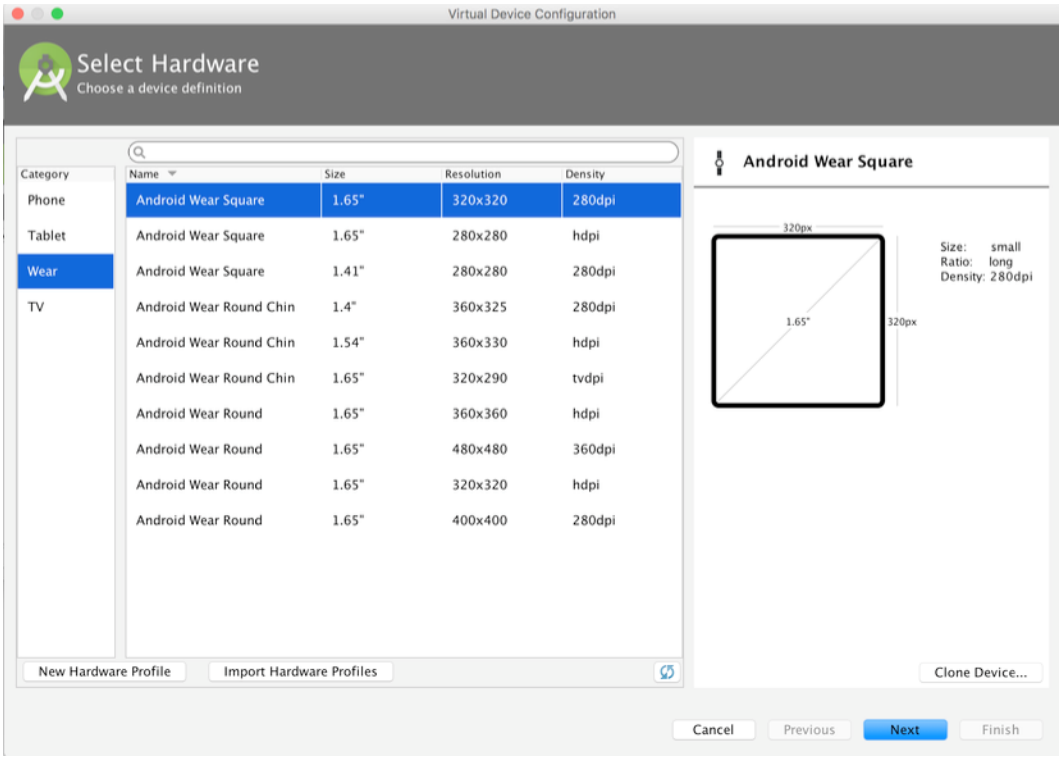


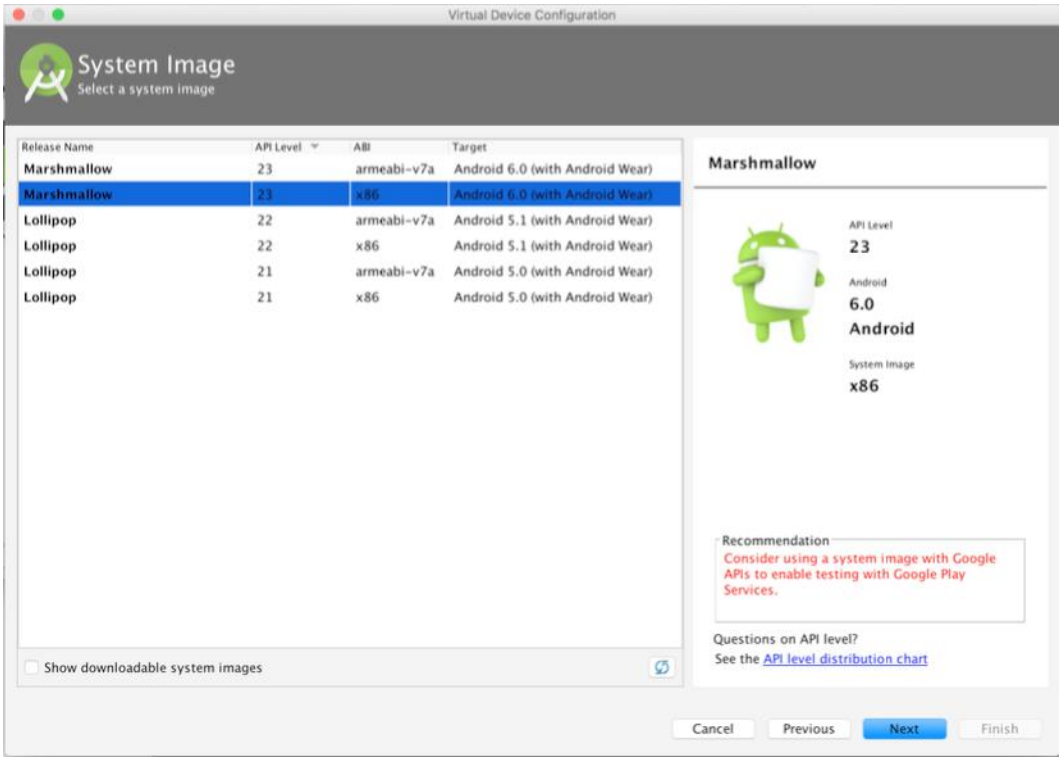

```
SiddiquesMBP:~/Projects$ git --version
git version 2.5.4 (Apple Git-61)
SiddiquesMBP:~/Projects$
```

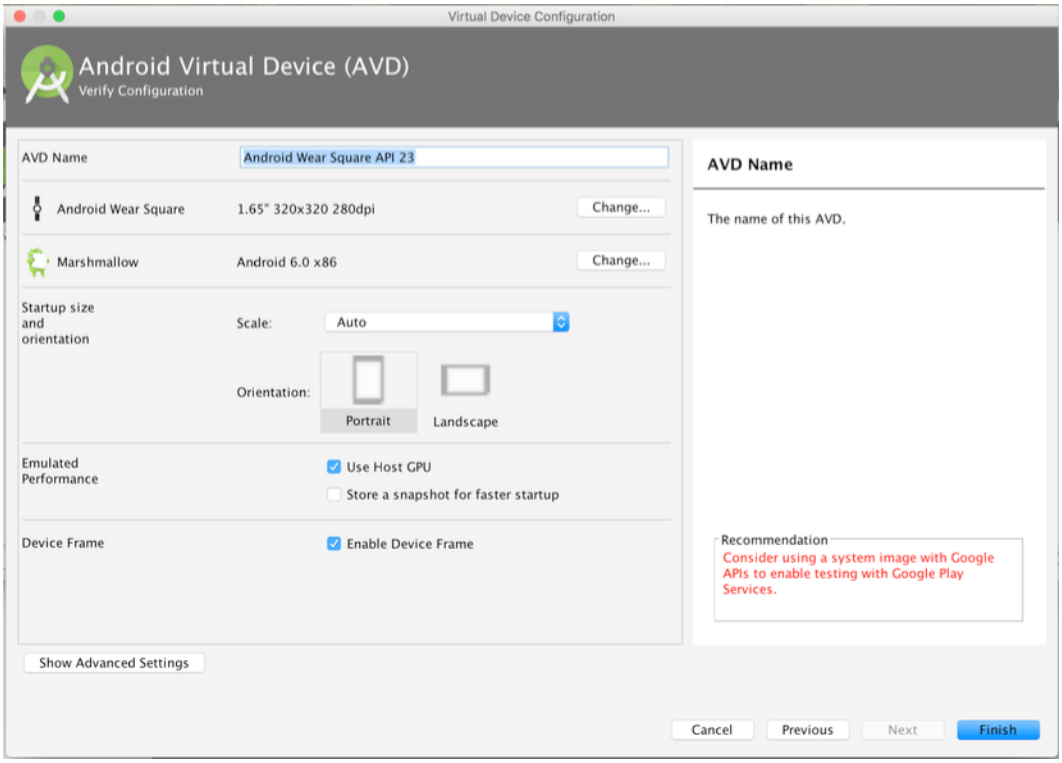

Default Preferences
Appearance & Behavior
Appearance
Menus and Toolbars
System Settings
Passwords
HTTP Proxy
Updates
Usage Statistics
Android SDK
Notifications
Quick Lists
Path Variables
Keymap
Editor
Plugins
Build, Execution, Deployment
Tools
Appearance & Behavior › System Settings › Android SDK
Manager for the Android SDK and Tools used by Android Studio
Android SDK Location: /opt/android-sdk
Edit
SDK Platforms
SDK Tools
SDK Update Sites
Each Android SDK Platform package includes the Android platform and sources pertaining to an API level by default. Once installed, Android Studio will automatically check for updates. Check "show package details" to display individual SDK components.
Name
API Level
Revision
Status
Android 6.0 23 2 Installed
Android 5.1.1 22 2 Installed
Android 5.0.1 21 2 Installed
Android 4.4W.2 20 2 Not installed
Android 4.4.2 19 4 Not installed
Android 4.3.1 18 3 Not installed
Android 4.2.2 17 3 Not installed
Android 4.1.2 16 5 Not installed
Android 4.0.3 15 5 Not installed
Android 2.3.3 10 2 Not installed
Android 2.2 8 3 Not installed
Show Package Details
Launch Standalone SDK Manager
Preview packages available! Switch to Preview Channel to see them
Cancel
Apply
OK

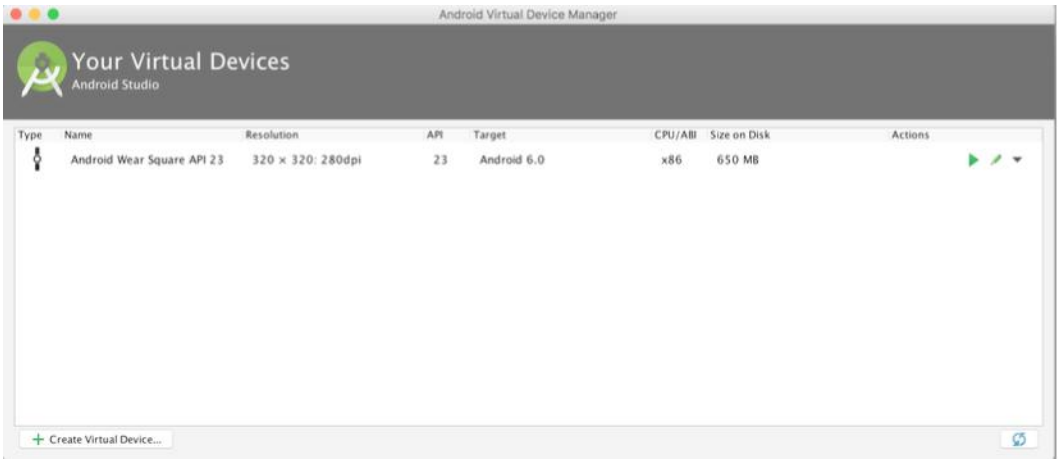

Default Preferences
Appearance & Behavior
Appearance
Menus and Toolbars
System Settings
Passwords
HTTP Proxy
Updates
Usage Statistics
Android SDK
Notifications
Quick Lists
Path Variables
Keymap
Editor
Plugins
Build, Execution, Deployment
Tools
Appearance & Behavior › System Settings › Android SDK
Manager for the Android SDK and Tools used by Android Studio
Android SDK Location: /opt/android-sdk
Edit
SDK Platforms
SDK Tools
SDK Update Sites
Each Android SDK Platform package includes the Android platform and sources pertaining to an API level by default. Once installed, Android Studio will automatically check for updates. Check "show package details" to display individual SDK components.
Name
API Level
Revision
Status
Android 6.0
Android 6.0 Platform 23 2 Installed
Android TV ARM EABI v7a System Image 23 2 Installed
Android TV Intel x86 Atom System Image 23 2 Installed
Android Wear ARM EABI v7a System Image 23 1 Installed
Android Wear Intel x86 Atom System Image 23 1 Installed
ARM EABI v7a System Image 23 3 Installed
Intel x86 Atom System Image 23 7 Installed
Intel x86 Atom_64 System Image 23 7 Installed
Google APIs, Android 23 23 1.0.0 Installed
Google APIs ARM EABI v7a System Image 23 7 Installed
Google APIs Intel x86 Atom System Image 23 11 Installed
Google APIs Intel x86 Atom_64 System Image 23 11 Installed
Sources for Android 23 23 1 Installed
Android 5.1.1
Android 5.1.1 Platform 22 2 Installed
Android TV ARM EABI v7a System Image 22 1 Installed
Show Package Details
Launch Standalone SDK Manager
Preview packages available! Switch to Preview Channel to see them
Cancel
Apply
OK

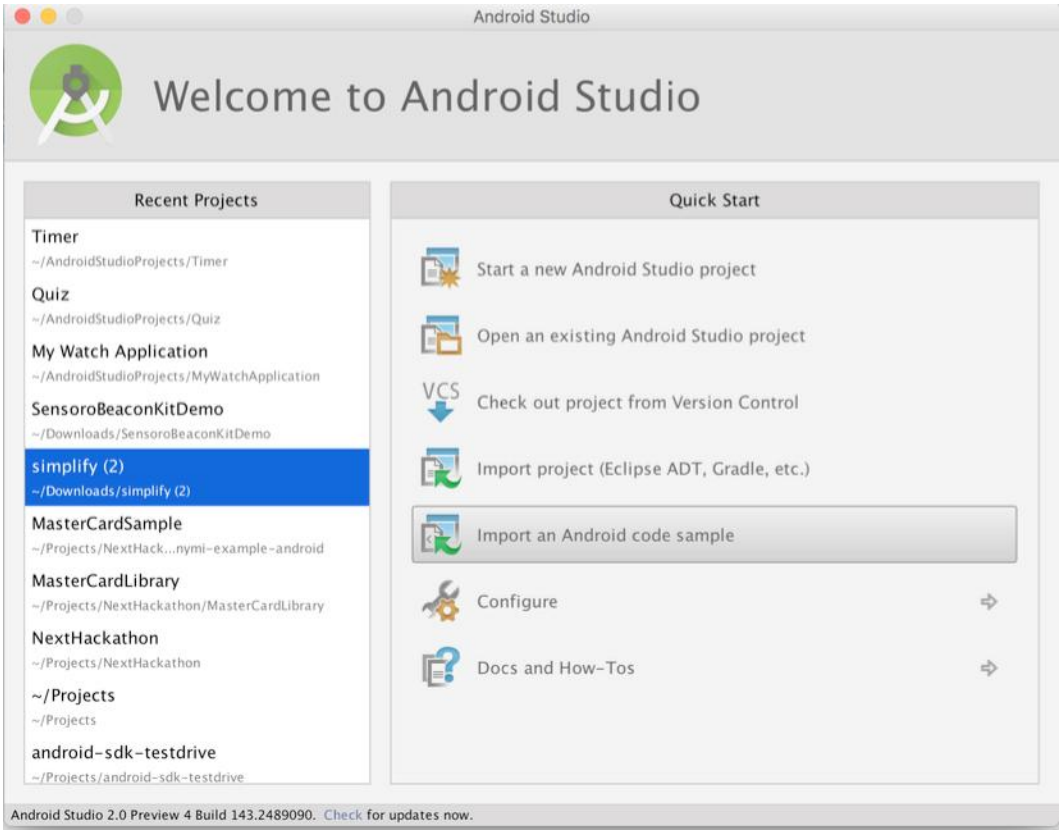

Default Preferences
Appearance & Behavior
Appearance
Menus and Toolbars
System Settings
Passwords
HTTP Proxy
Updates
Usage Statistics
Android SDK
Notifications
Quick Lists
Path Variables
Keymap
Editor
Plugins
Build, Execution, Deployment
Tools
Appearance & Behavior › System Settings › Android SDK
Manager for the Android SDK and Tools used by Android Studio
Android SDK Location: /opt/android-sdk
Edit
SDK Platforms
SDK Tools
SDK Update Sites
Below are the available SDK developer tools. Once installed, Android Studio will automatically check for updates. Check "show package details" to display available versions of an SDK Tool.
Name
Version
Status
Android SDK Build Tools
Installed
Android SDK Tools 24.4.1
24.4.1
Installed
Android SDK Platform-Tools 23.1
23.1.0
Installed
Documentation for Android SDK
1
Installed
GPU Debugging tools
1.0.3
Not installed
Android Support Repository, rev 25
25.0.0
Installed
Android Support Library, rev 23.1.1
23.1.1
Installed
Android Auto Desktop Head Unit emulator
1.1
Not installed
Google Play services, rev 29
29.0.0
Installed
Google Repository, rev 24
24.0.0
Installed
Google Play APK Expansion Library
3
Not installed
Google Play Billing Library
5
Not installed
Google Play Licensing Library
2
Not installed
Android Auto API Simulators
1
Not installed
Google Web Driver
2
Not installed
Intel x86 Emulator Accelerator (HAXM installer), rev 6.0.1
6.0.1
Installed
Android NDK
1
Not installed
LLDB
2.0.2464774
Not installed
Show Package Details
Launch Standalone SDK Manager
Preview packages available! Switch to Preview Channel to see them
Cancel
Apply
OK

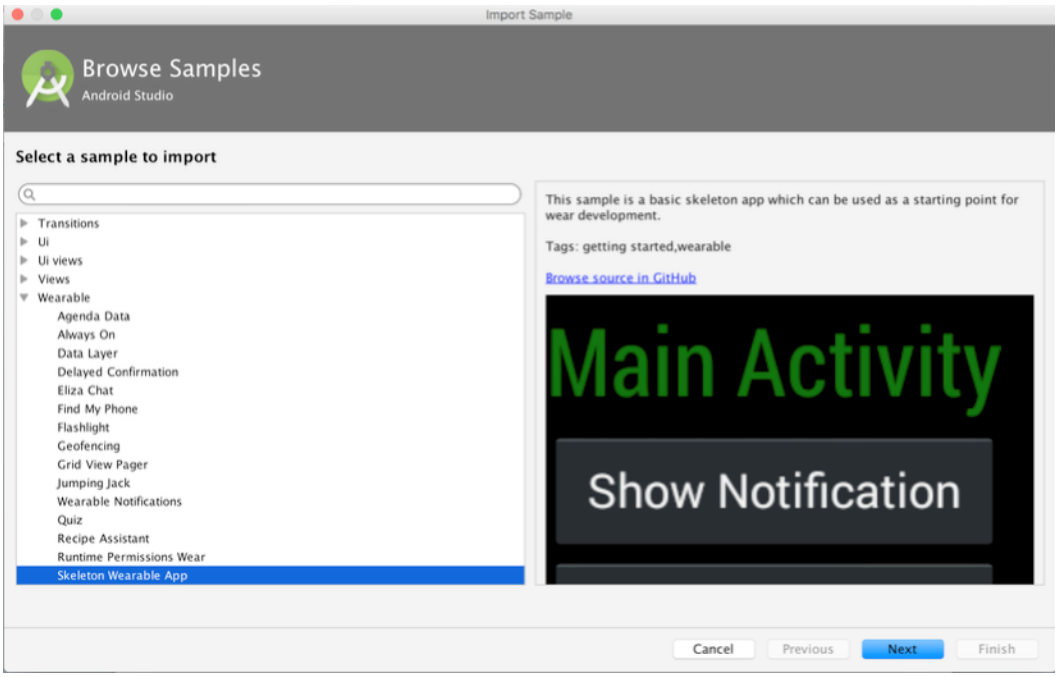

Virtual Device Configuration
Select Hardware
Choose a device definition
Category
Phone
Tablet
Wear
TV
Name
Size
Resolution
Density
Android Wear Square
1.65"
320x320
280dpi
Android Wear Square
1.65"
280x280
hdpi
Android Wear Square
1.41"
280x280
280dpi
Android Wear Round Chin
1.4"
360x325
280dpi
Android Wear Round Chin
1.54"
360x330
hdpi
Android Wear Round Chin
1.65"
320x290
tvdpi
Android Wear Round
1.65"
360x360
hdpi
Android Wear Round
1.65"
480x480
360dpi
Android Wear Round
1.65"
320x320
hdpi
Android Wear Round
1.65"
400x400
280dpi
Android Wear Square
320px
1.65"
320px
Size: small
Ratio: long
Density: 280dpi
New Hardware Profile
Import Hardware Profiles
Clone Device...
Cancel
Previous
Next
Finish

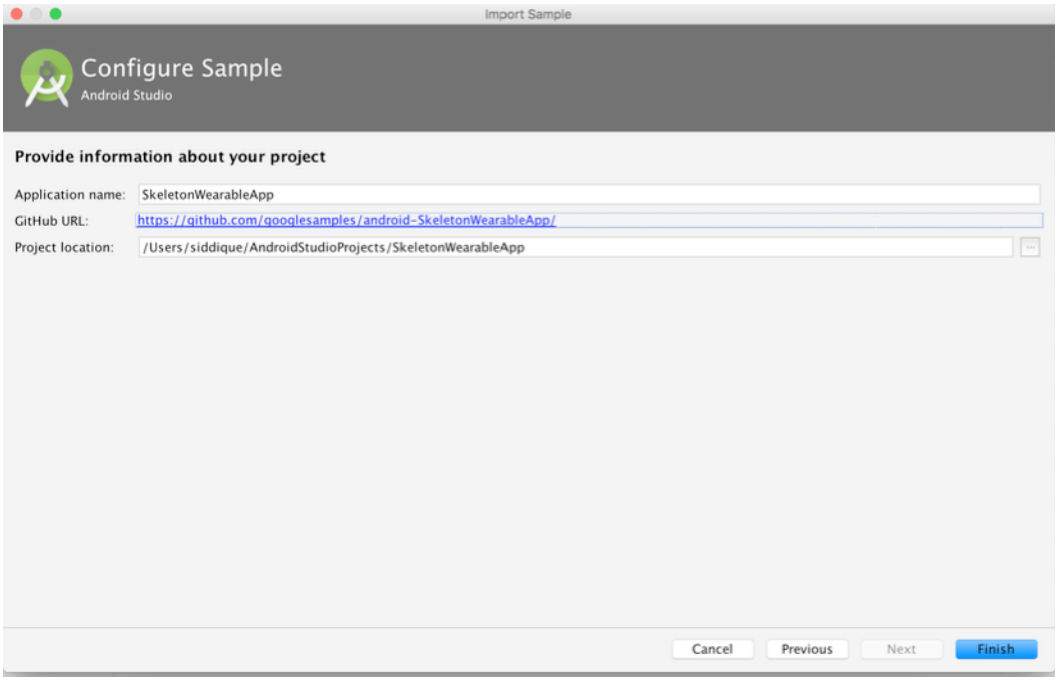

Virtual Device Configuration
System Image
Select a system image
Release Name
API Level
ABI
Target
Marshmallow
23
armeabi-v7a
Android 6.0 (with Android Wear)
Marshmallow
23
x86
Android 6.0 (with Android Wear)
Lollipop
22
armeabi-v7a
Android 5.1 (with Android Wear)
Lollipop
22
x86
Android 5.1 (with Android Wear)
Lollipop
21
armeabi-v7a
Android 5.0 (with Android Wear)
Lollipop
21
x86
Android 5.0 (with Android Wear)
Show downloadable system images
Marshmallow
API Level
23
Android
6.0
Android
System Image
x86
Recommendation
Consider using a system image with Google APIs to enable testing with Google Play Services.
Questions on API level?
See the API level distribution chart
Cancel
Previous
Next
Finish

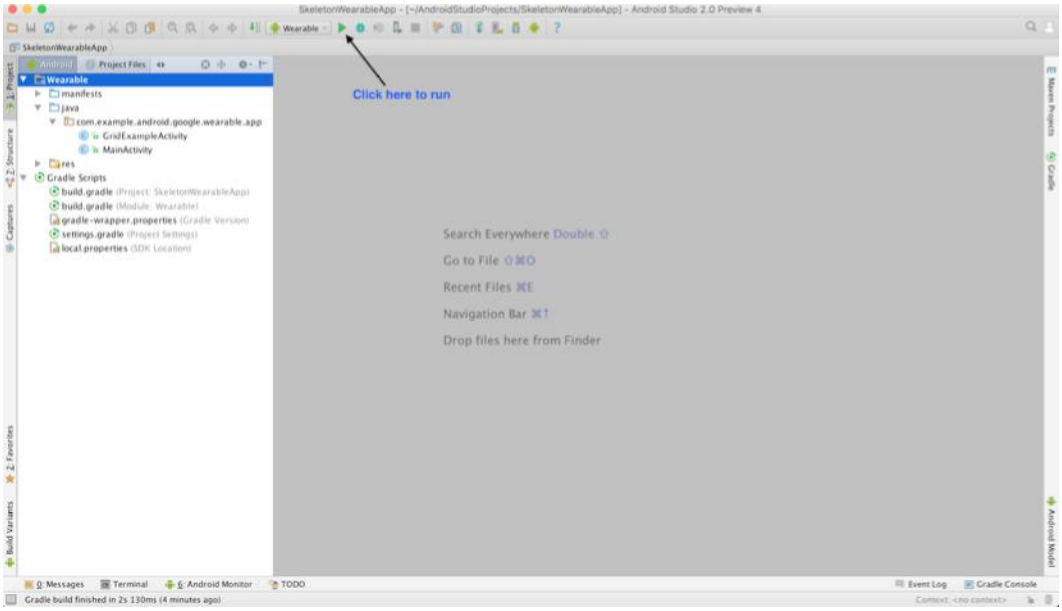

Virtual Device Configuration
Android Virtual Device (AVD)
Verify Configuration
AVD Name
Android Wear Square API 23
Android Wear Square
1.65" 320x320 280dpi
Change...
Marshmallow
Android 6.0 x86
Change...
Startup size and orientation
Scale:
Auto
Orientation:
Portrait
Landscape
Emulated Performance
Use Host GPU
Store a snapshot for faster startup
Device Frame
Enable Device Frame
Show Advanced Settings
AVD Name
The name of this AVD.
Recommendation
Consider using a system image with Google APIs to enable testing with Google Play Services.
Cancel
Previous
Next
Finish

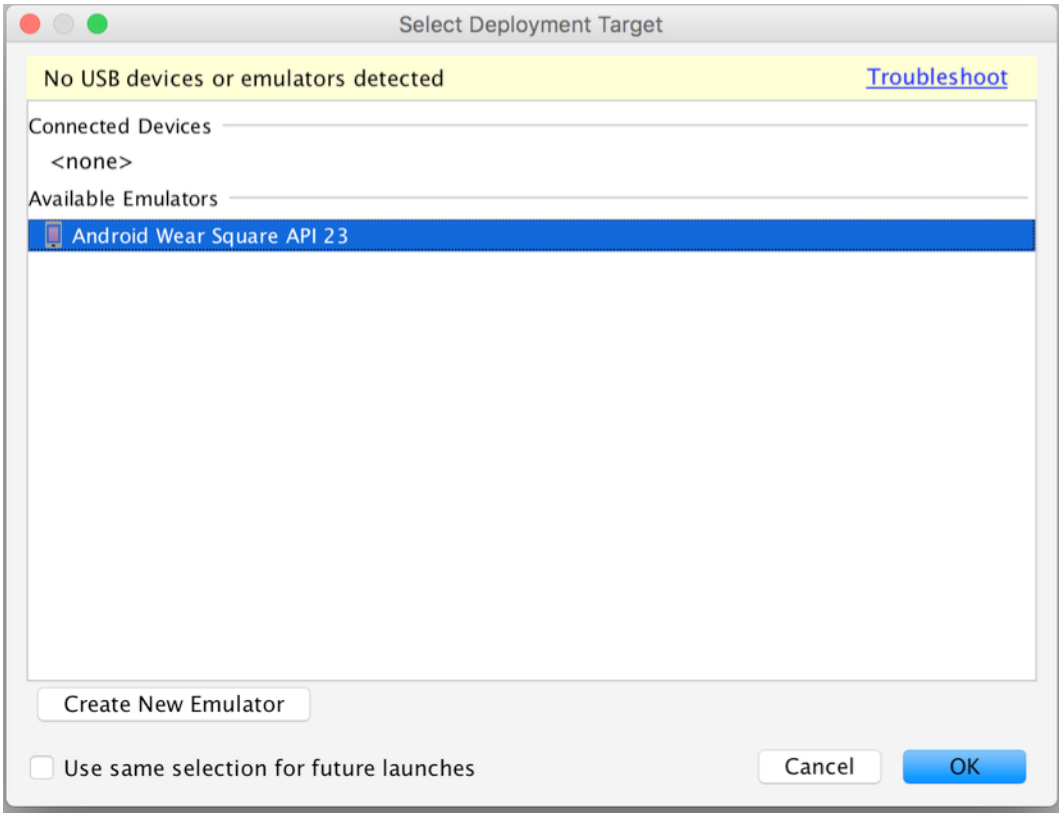

Android Virtual Device Manager
Your Virtual Devices
Android Studio
Type
Name
Resolution
API
Target
CPU/ABI
Size on Disk
Actions
Android Wear Square API 23
320 × 320: 280dpi
23
Android 6.0
x86
650 MB
Create Virtual Device...

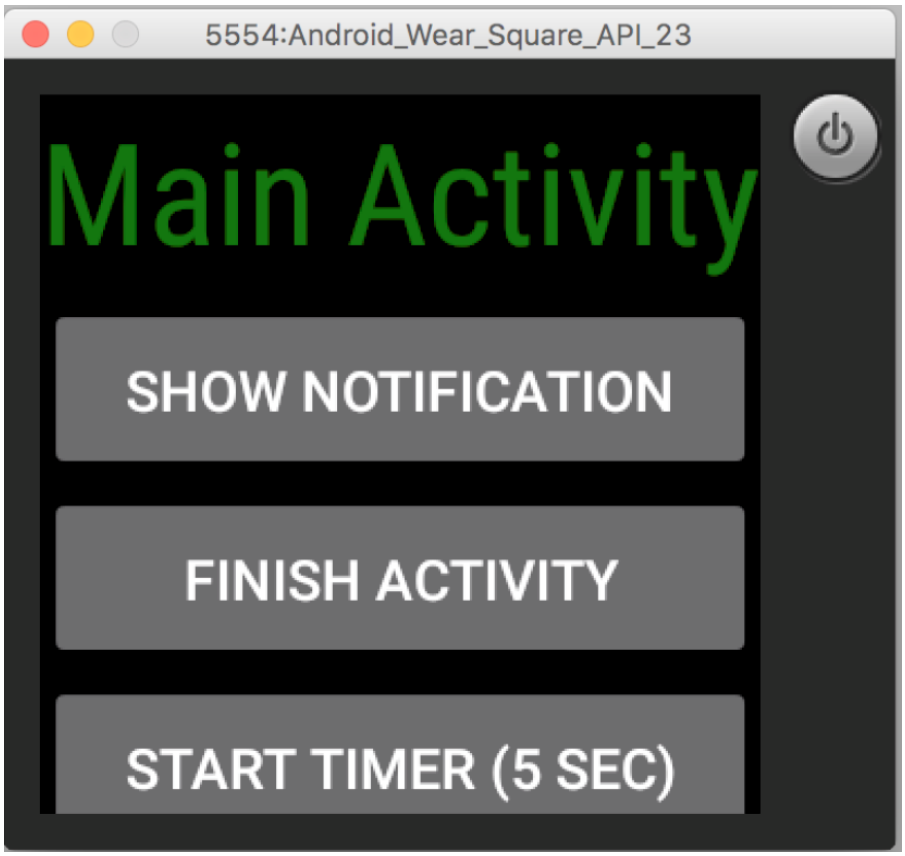

Android Studio
Welcome to Android Studio
Recent Projects
Timer
~/AndroidStudioProjects/Timer
Quiz
~/AndroidStudioProjects/Quiz
My Watch Application
~/AndroidStudioProjects/MyWatchApplication
SensoroBeaconKitDemo
~/Downloads/SensoroBeaconKitDemo
simplify (2)
~/Downloads/simplify (2)
MasterCardSample
~/Projects/NextHack...nymi-example-android
MasterCardLibrary
~/Projects/NextHackathon/MasterCardLibrary
NextHackathon
~/Projects/NextHackathon
~/Projects
~/Projects
android-sdk-testdrive
~/Projects/android-sdk-testdrive
Quick Start
Start a new Android Studio project
Open an existing Android Studio project
VCS
Check out project from Version Control
Import project (Eclipse ADT, Gradle, etc.)
Import an Android code sample
Configure
Docs and How-Tos
Android Studio 2.0 Preview 4 Build 143.2489090. Check for updates now.

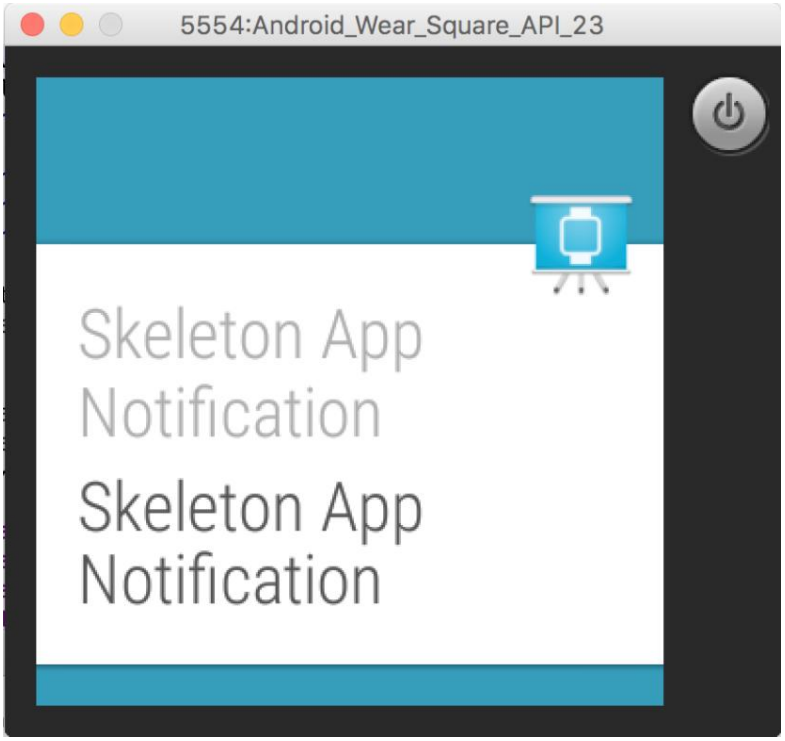

Import Sample
Browse Samples
Android Studio
Select a sample to import
Transitions
Ui
Ui views
Views
Wearable
Agenda Data
Always On
Data Layer
Delayed Confirmation
Eliza Chat
Find My Phone
Flashlight
Geofencing
Grid View Pager
Jumping Jack
Wearable Notifications
Quiz
Recipe Assistant
Runtime Permissions Wear
Skeleton Wearable App
This sample is a basic skeleton app which can be used as a starting point for wear development.
Tags: getting started,wearable
Browse source in GitHub
Main Activity
Show Notification
Cancel
Previous
Next
Finish

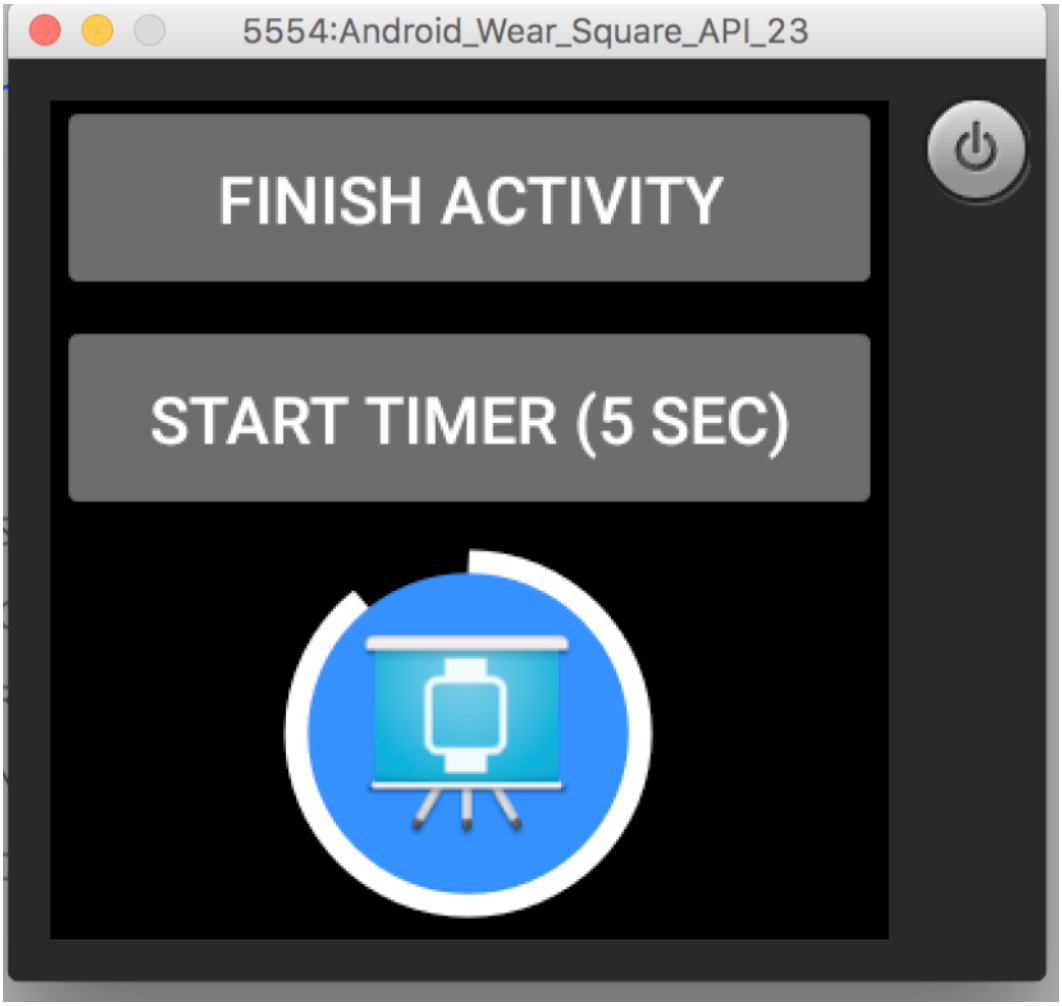

Import Sample
Configure Sample
Android Studio
Provide information about your project
Application name:
SkeletonWearableApp
GitHub URL:
https://github.com/googlesamples/android-SkeletonWearableApp/
Project location:
/Users/siddique/AndroidStudioProjects/SkeletonWearableApp
Cancel
Previous
Next
Finish


Click here to run
Search Everywhere Double ⇧
Go to File ⇧⌘O
Recent Files ⌘E
Navigation Bar ⌘↑
Drop files here from Finder

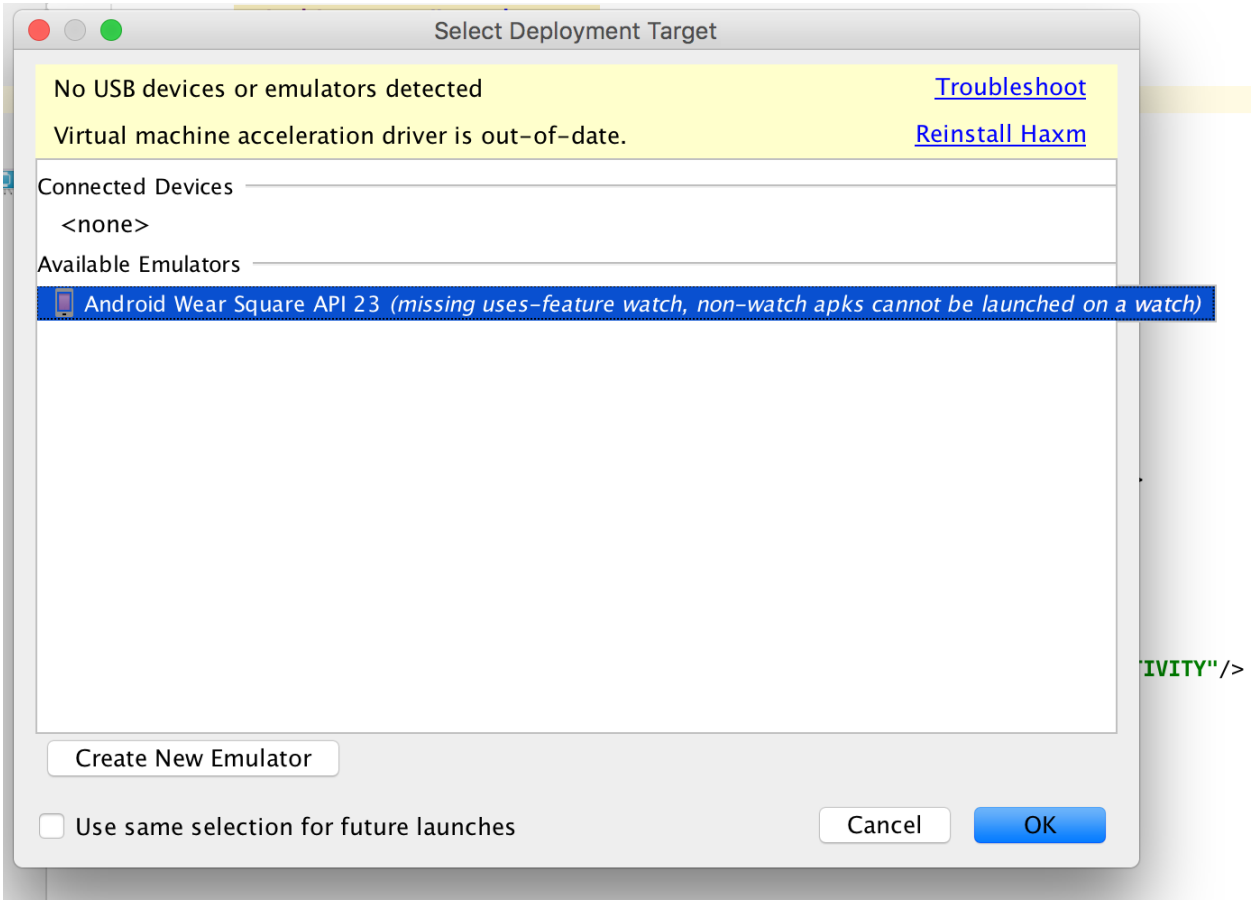

Select Deployment Target
No USB devices or emulators detected
Troubleshoot
Connected Devices
<none>
Available Emulators
Android Wear Square API 23
Create New Emulator
Use same selection for future launches
Cancel
OK

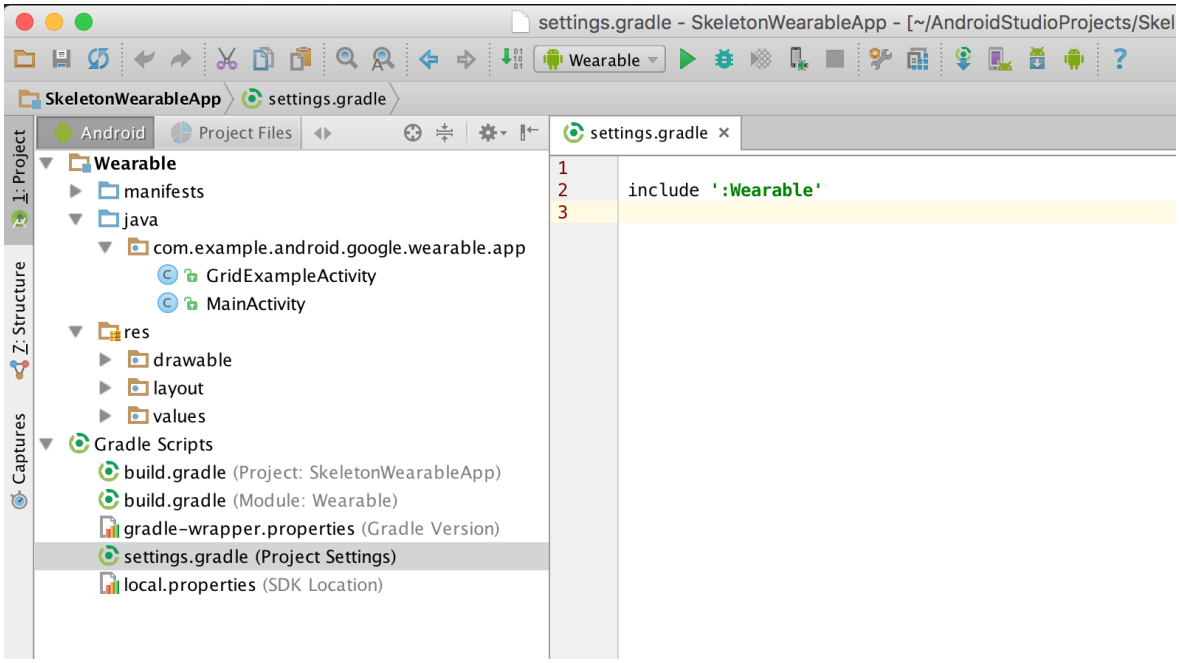

5554:Android_Wear_Square_API_23
Main Activity
SHOW NOTIFICATION
FINISH ACTIVITY
START TIMER (5 SEC)

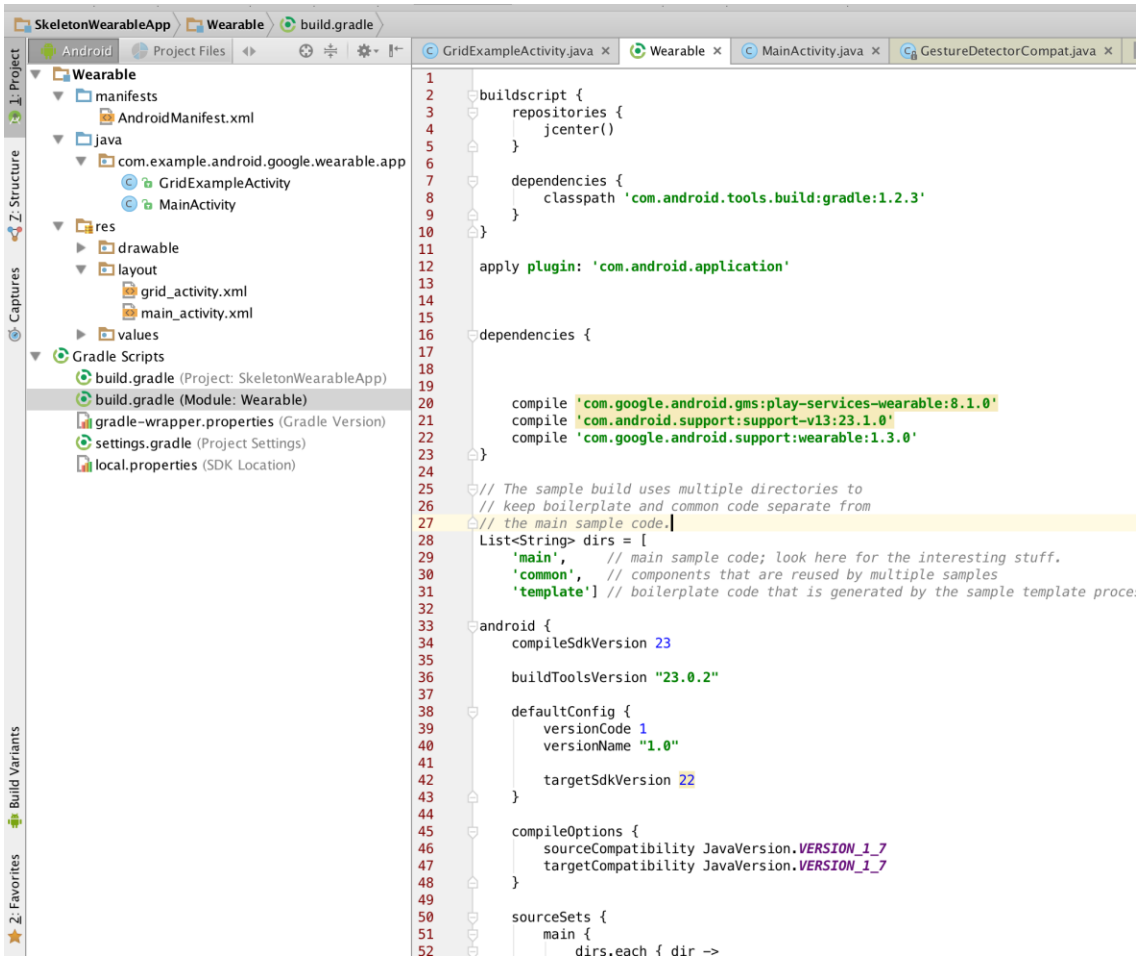

5554:Android_Wear_Square_API_23
Skeleton App
Notification
Skeleton App
Notification

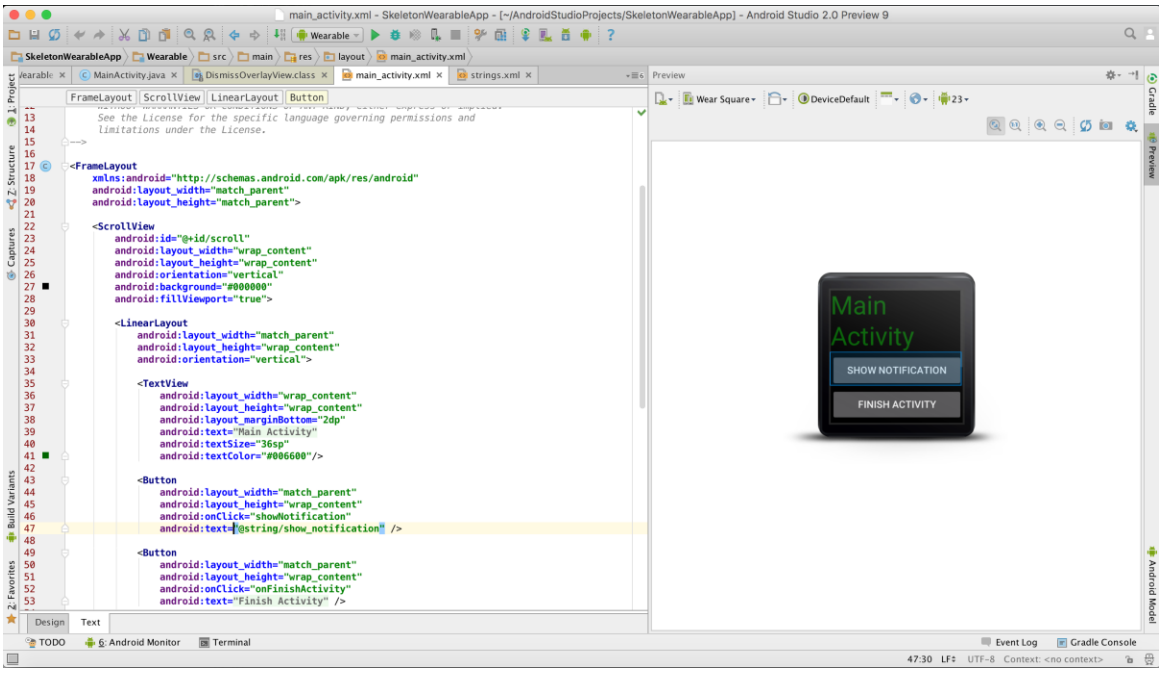

5554:Android_Wear_Square_API_23
FINISH ACTIVITY
START TIMER (5 SEC)

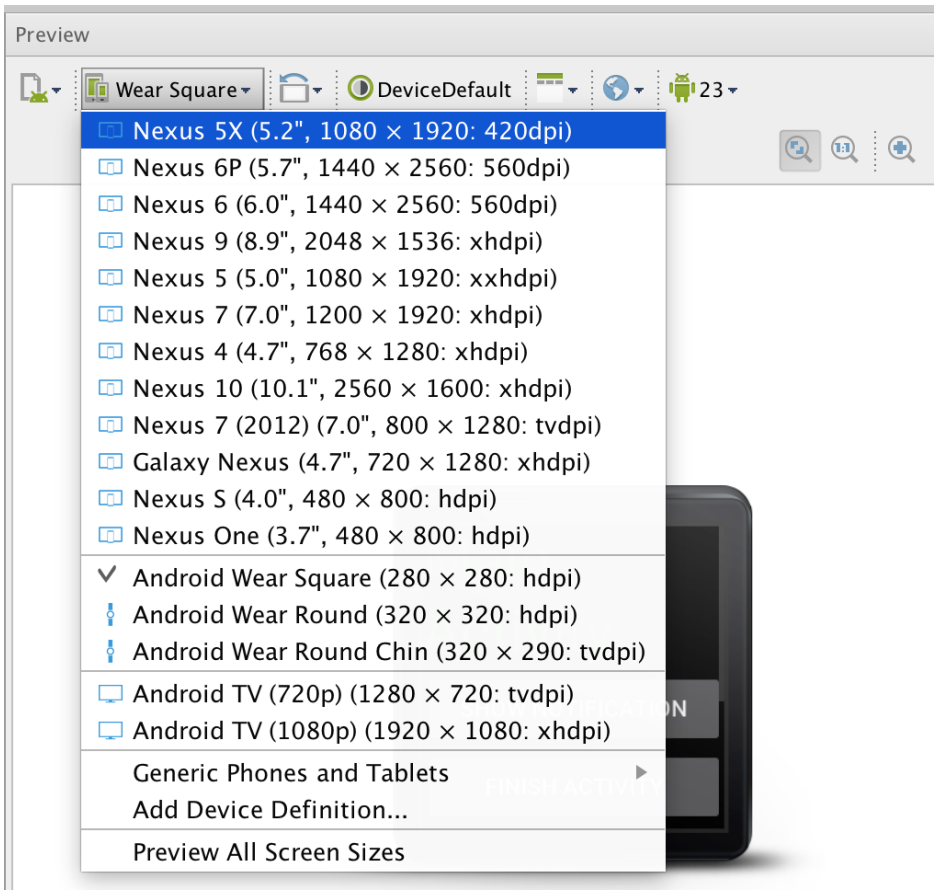
Chapter 3: Developing the Android Wear App

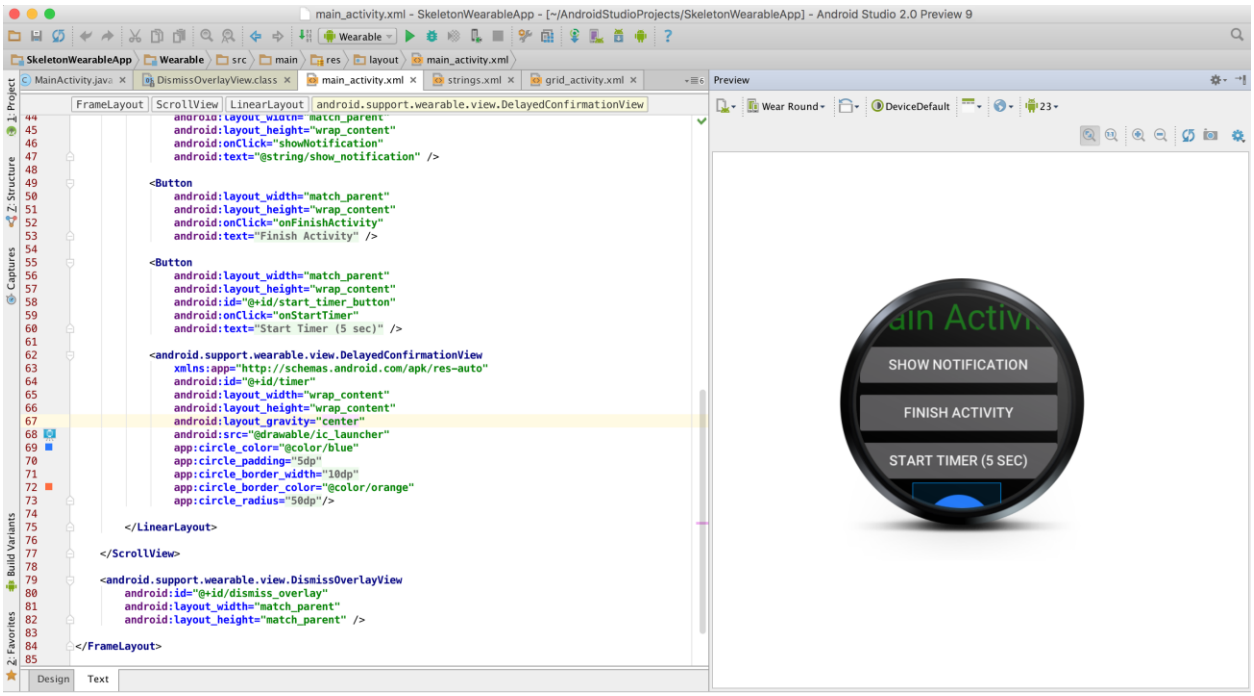


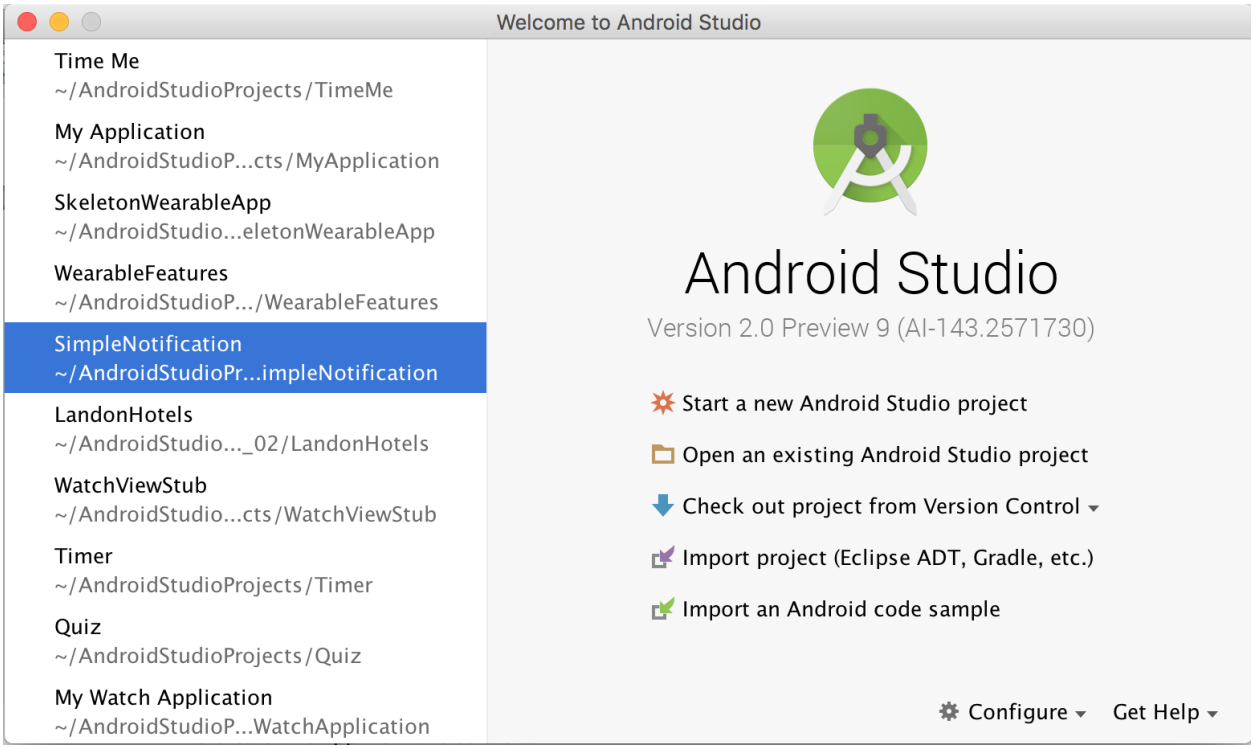

settings.gradle - SkeletonWearableApp - [~/AndroidStudioProjects/Skel
Wearable
SkeletonWearableApp
settings.gradle
Android
Project Files
settings.gradle
Wearable
manifests
java
com.example.android.google.wearable.app
GridExampleActivity
MainActivity
res
drawable
layout
values
Gradle Scripts
build.gradle (Project: SkeletonWearableApp)
build.gradle (Module: Wearable)
gradle-wrapper.properties (Gradle Version)
settings.gradle (Project Settings)
local.properties (SDK Location)
include ':Wearable'

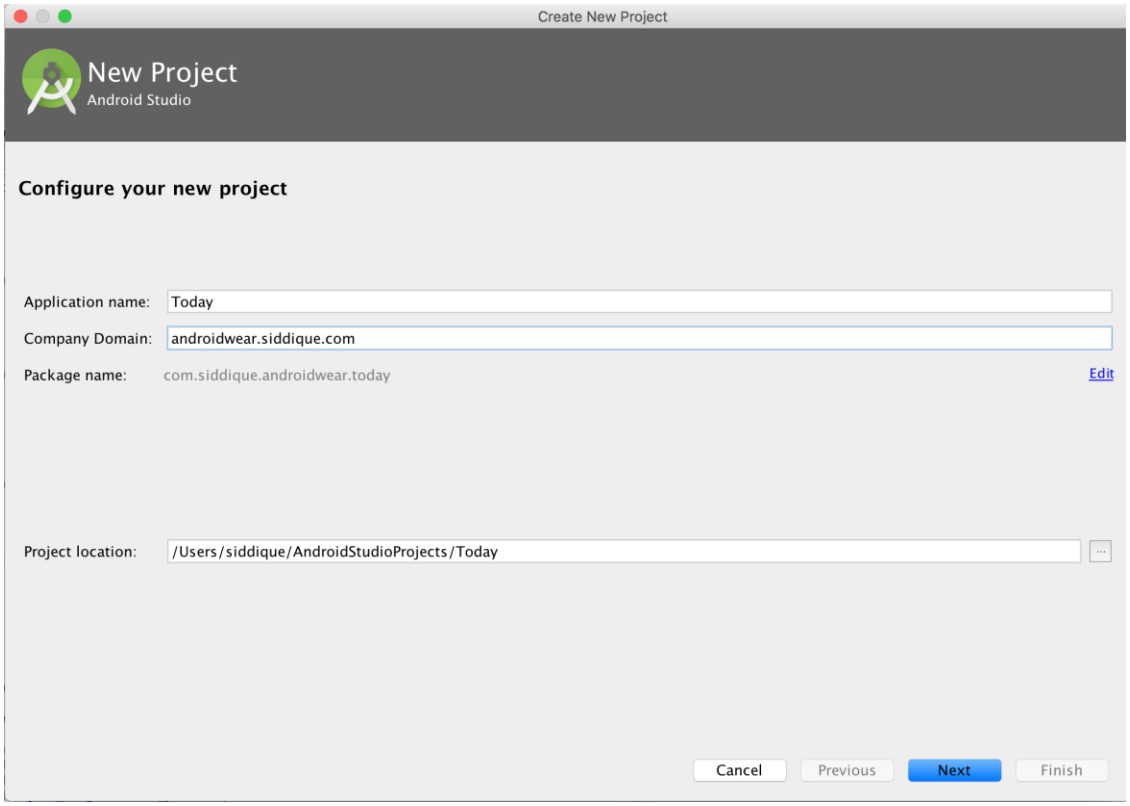

SkeletonWearableApp
Wearable
build.gradle
GridExampleActivity.java
MainActivity.java
GestureDetectorCompat.java
AndroidManifest.xml
grid_activity.xml
main_activity.xml
buildscript {
repositories {
jcenter()
}
dependencies {
classpath 'com.android.tools.build:gradle:1.2.3'
}
}
apply plugin: 'com.android.application'
dependencies {
compile 'com.google.android.gms:play-services-wearable:8.1.0'
compile 'com.android.support:support-v13:23.1.0'
compile 'com.google.android.support:wearable:1.3.0'
}
// The sample build uses multiple directories to
// keep boilerplate and common code separate from
// the main sample code.
List<String> dirs = [
'main',
// main sample code; look here for the interesting stuff.
'common',
// components that are reused by multiple samples
'template'] // boilerplate code that is generated by the sample template proce
android {
compileSdkVersion 23
buildToolsVersion "23.0.2"
defaultConfig {
versionCode 1
versionName "1.0"
targetSdkVersion 22
}
compileOptions {
sourceCompatibility JavaVersion.VERSION_1_7
targetCompatibility JavaVersion.VERSION_1_7
}
sourceSets {
main {
dirs.each { dir ->

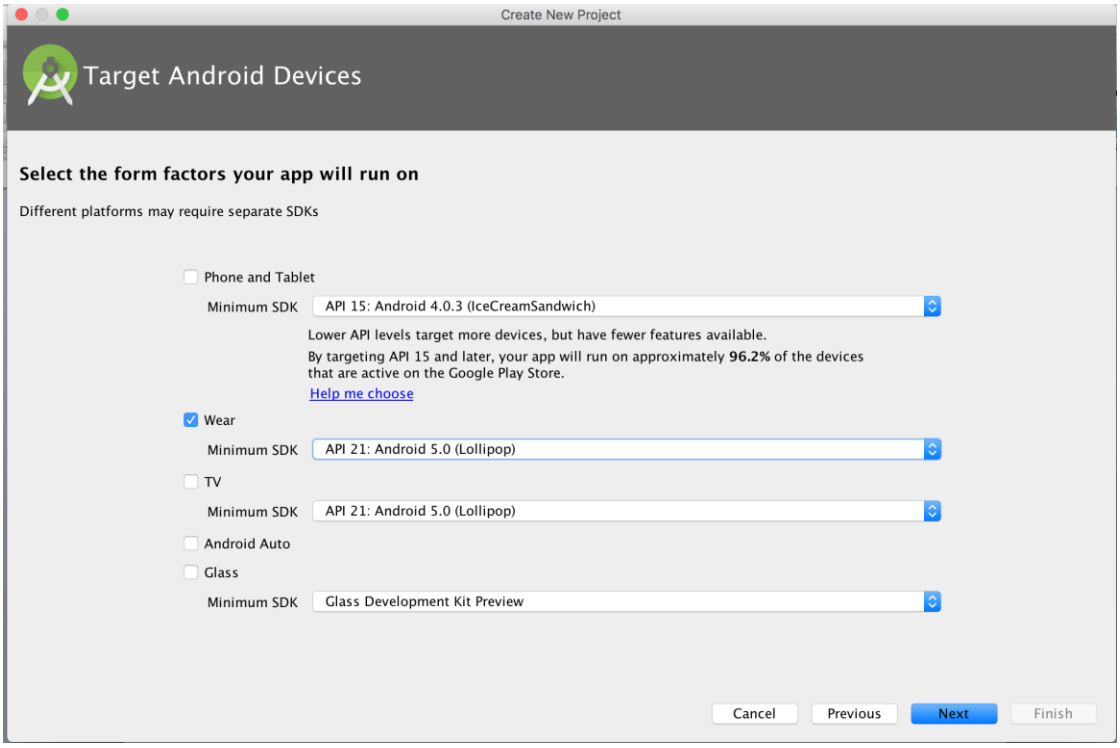

main_activity.xml - SkeletonWearableApp - [~/AndroidStudioProjects/SkeletonWearableApp] - Android Studio 2.0 Preview 9
Wearable
SkeletonWearableApp
Wearable
src
main
res
layout
main_activity.xml
MainActivity.java
DismissOverlayView.class
main_activity.xml
strings.xml
FrameLayout
ScrollView
LinearLayout
Button
See the License for the specific language governing permissions and
limitations under the License.
-->
<FrameLayout
xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="match_parent"
android:layout_height="match_parent">
<ScrollView
android:id="@+id/scroll"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:orientation="vertical"
android:background="#000000"
android:fillViewport="true">
<LinearLayout
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:orientation="vertical">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginBottom="2dp"
android:text="Main Activity"
android:textSize="36sp"
android:textColor="#006600"/>
<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:onClick="showNotification"
android:text="@string/show_notification" />
<Button
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:onClick="onFinishActivity"
android:text="Finish Activity" />
Design
Text
Preview
Wear Square
DeviceDefault
23
Main Activity
SHOW NOTIFICATION
FINISH ACTIVITY
TODO
6: Android Monitor
Terminal
Event Log
Gradle Console
47:30
LF
UTF-8
Context: <no context>

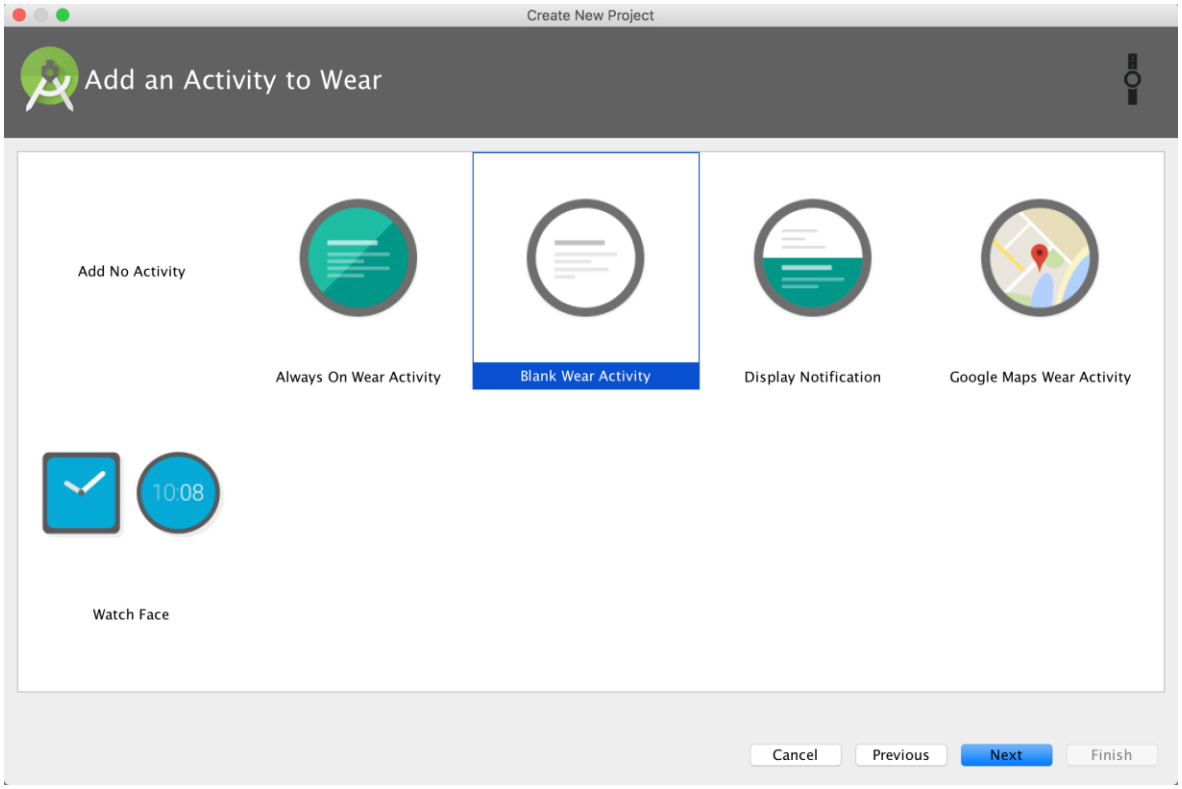

Preview
Wear Square
DeviceDefault
23
Nexus 5X (5.2", 1080 × 1920: 420dpi)
Nexus 6P (5.7", 1440 × 2560: 560dpi)
Nexus 6 (6.0", 1440 × 2560: 560dpi)
Nexus 9 (8.9", 2048 × 1536: xhdpi)
Nexus 5 (5.0", 1080 × 1920: xxhdpi)
Nexus 7 (7.0", 1200 × 1920: xhdpi)
Nexus 4 (4.7", 768 × 1280: xhdpi)
Nexus 10 (10.1", 2560 × 1600: xhdpi)
Nexus 7 (2012) (7.0", 800 × 1280: tvdpi)
Galaxy Nexus (4.7", 720 × 1280: xhdpi)
Nexus S (4.0", 480 × 800: hdpi)
Nexus One (3.7", 480 × 800: hdpi)
Android Wear Square (280 × 280: hdpi)
Android Wear Round (320 × 320: hdpi)
Android Wear Round Chin (320 × 290: tvdpi)
Android TV (720p) (1280 × 720: tvdpi)
Android TV (1080p) (1920 × 1080: xhdpi)
Generic Phones and Tablets
Add Device Definition...
Preview All Screen Sizes

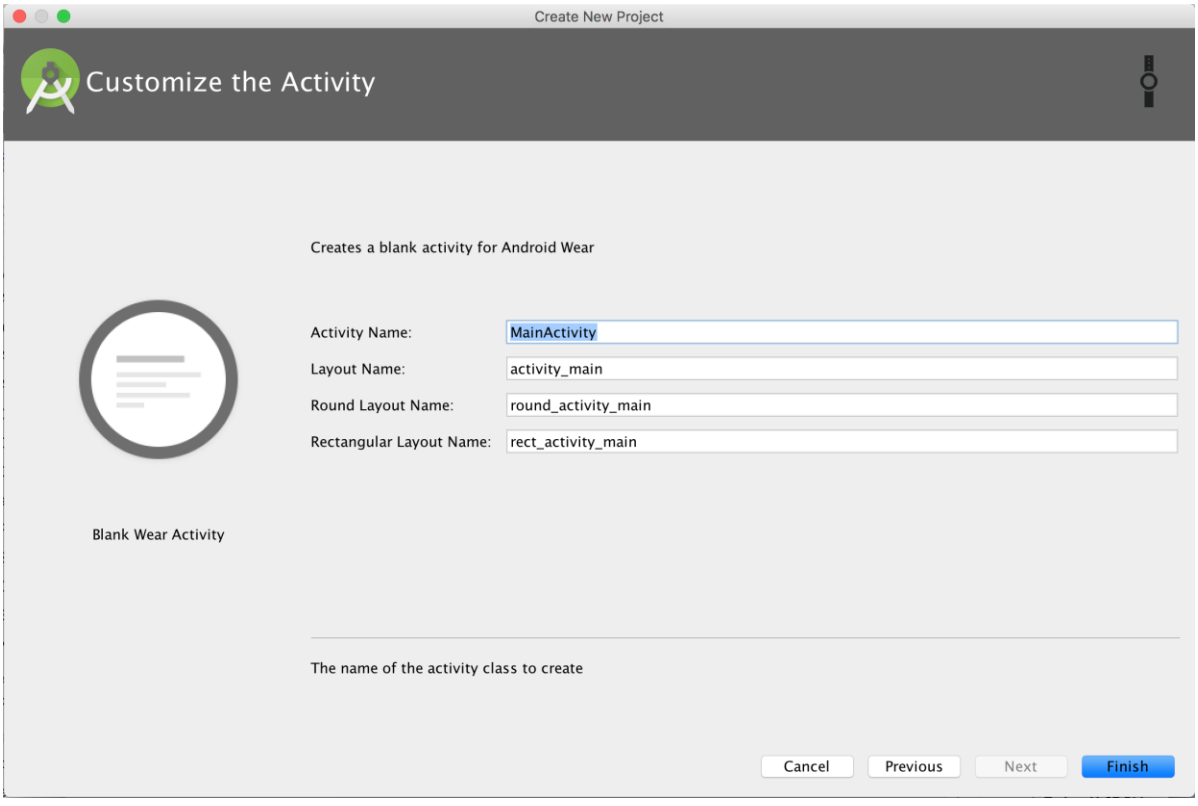

main_activity.xml - SkeletonWearableApp - [~/AndroidStudioProjects/SkeletonWearableApp] - Android Studio 2.0 Preview 9
Preview
SHOW NOTIFICATION
FINISH ACTIVITY
START TIMER (5 SEC)

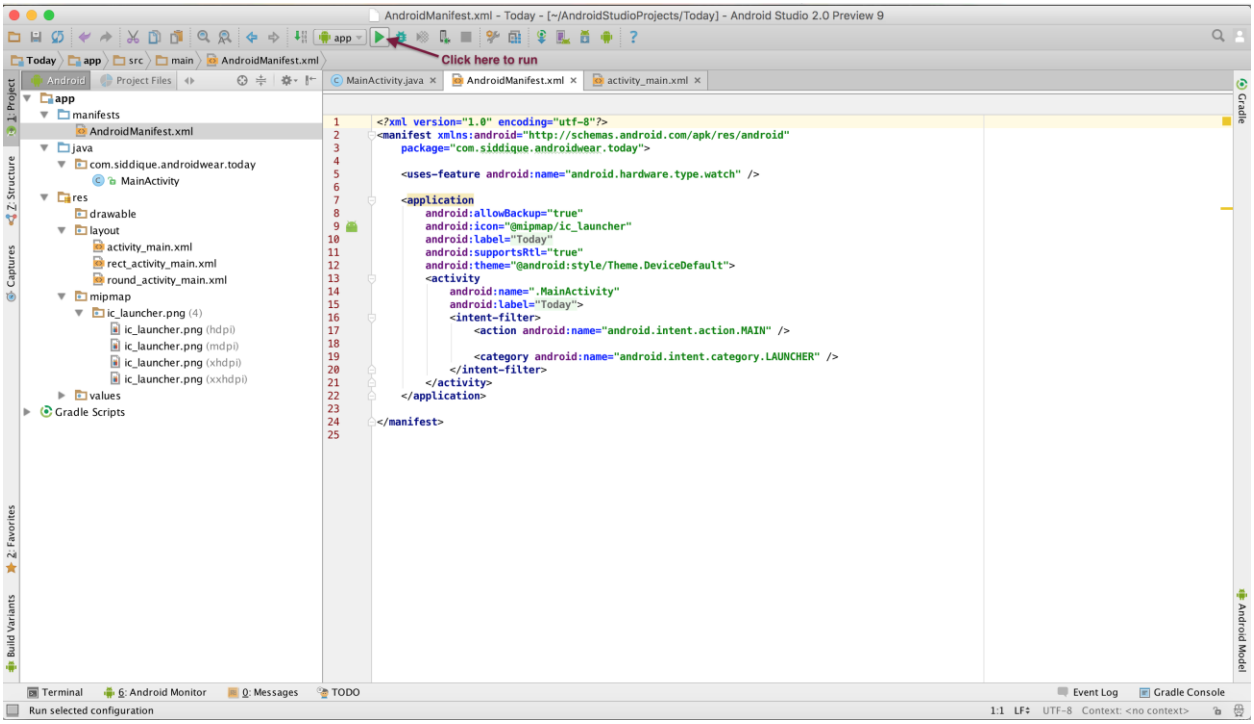

Welcome to Android Studio
Time Me
~/AndroidStudioProjects/TimeMe
My Application
~/AndroidStudioP...cts/MyApplication
SkeletonWearableApp
~/AndroidStudio...eletonWearableApp
WearableFeatures
~/AndroidStudioP.../WearableFeatures
SimpleNotification
~/AndroidStudioPr...impleNotification
LandonHotels
~/AndroidStudio..._02/LandonHotels
WatchViewStub
~/AndroidStudio...cts/WatchViewStub
Timer
~/AndroidStudioProjects/Timer
Quiz
~/AndroidStudioProjects/Quiz
My Watch Application
~/AndroidStudioP...WatchApplication
Android Studio
Version 2.0 Preview 9 (AI-143.2571730)
Start a new Android Studio project
Open an existing Android Studio project
Check out project from Version Control
Import project (Eclipse ADT, Gradle, etc.)
Import an Android code sample
Configure
Get Help


Create New Project
New Project
Android Studio
Configure your new project
Application name:
Today
Company Domain:
androidwear.siddique.com
Package name:
com.siddique.androidwear.today
Edit
Project location:
/Users/siddique/AndroidStudioProjects/Today
Cancel
Previous
Next
Finish

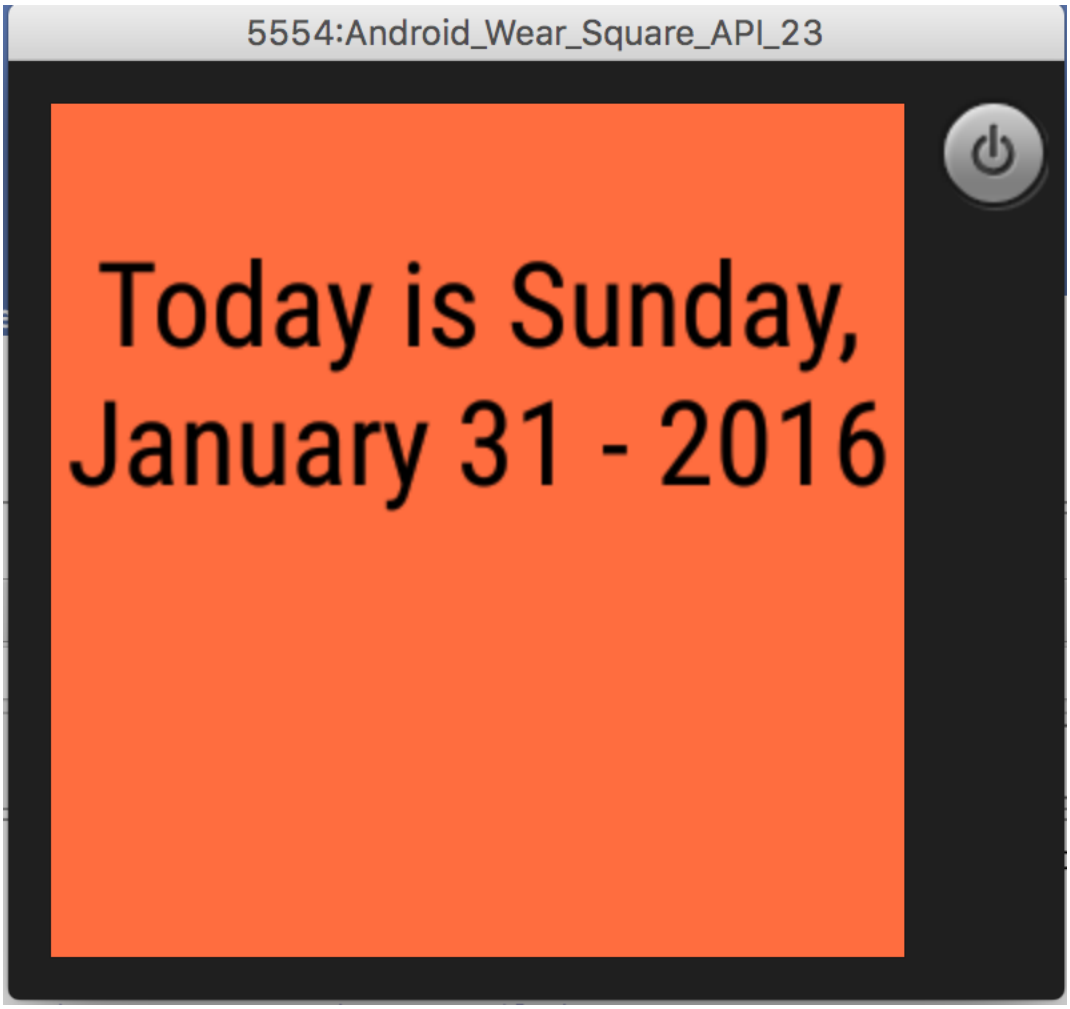

Create New Project
Target Android Devices
Select the form factors your app will run on
Different platforms may require separate SDKs
Phone and Tablet
Minimum SDK
API 15: Android 4.0.3 (IceCreamSandwich)
Lower API levels target more devices, but have fewer features available.
By targeting API 15 and later, your app will run on approximately 96.2% of the devices that are active on the Google Play Store.
Help me choose
Wear
Minimum SDK
API 21: Android 5.0 (Lollipop)
TV
Minimum SDK
API 21: Android 5.0 (Lollipop)
Android Auto
Glass
Minimum SDK
Glass Development Kit Preview
Cancel
Previous
Next
Finish


Create New Project
Add an Activity to Wear
Add No Activity
Always On Wear Activity
Blank Wear Activity
Display Notification
Google Maps Wear Activity
10:08
Watch Face
Cancel
Previous
Next
Finish

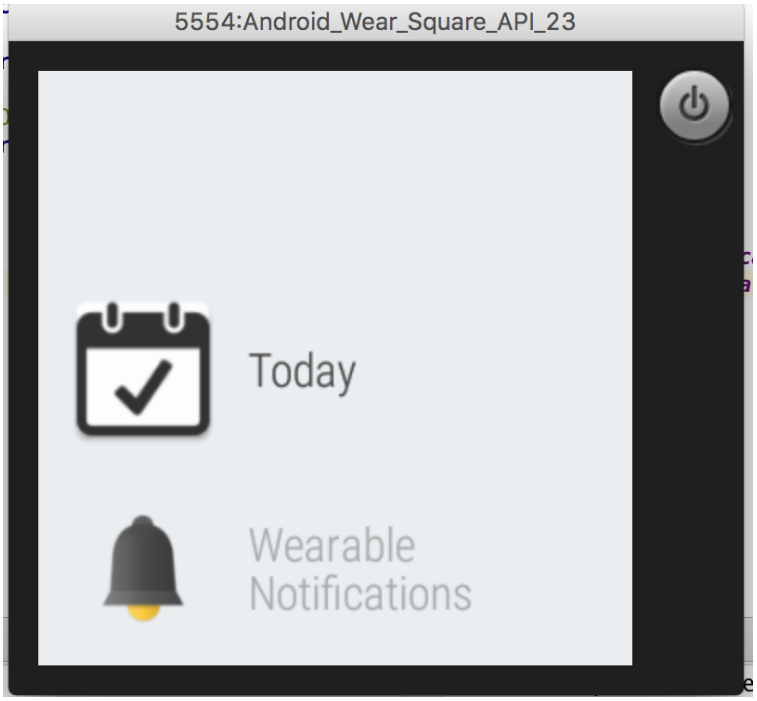

Create New Project
Customize the Activity
Creates a blank activity for Android Wear
Activity Name:
MainActivity
Layout Name:
activity_main
Round Layout Name:
round_activity_main
Rectangular Layout Name:
rect_activity_main
Blank Wear Activity
The name of the activity class to create
Cancel
Previous
Next
Finish

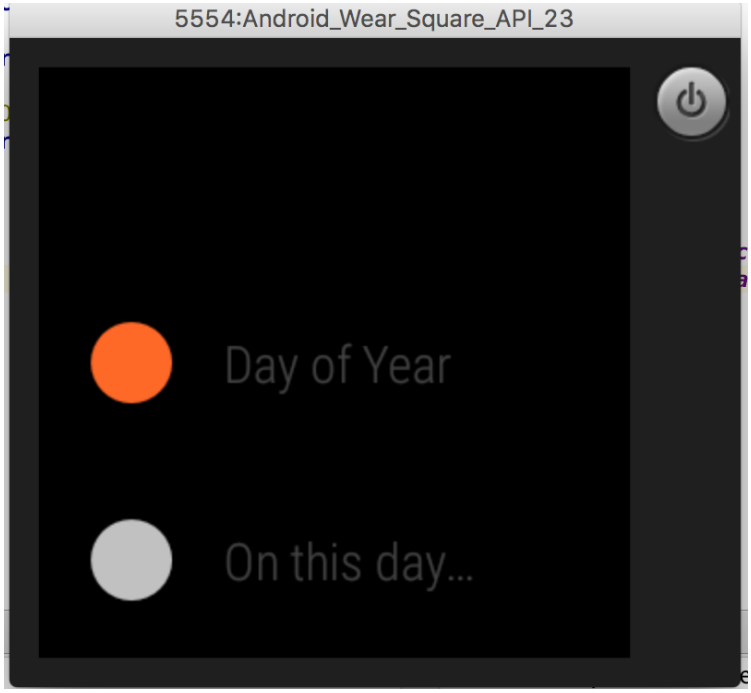

AndroidManifest.xml - Today - [~/AndroidStudioProjects/Today] - Android Studio 2.0 Preview 9
Click here to run
Today
app
src
main
AndroidManifest.xml
MainActivity.java
AndroidManifest.xml
activity_main.xml
app
manifests
AndroidManifest.xml
java
com.siddique.androidwear.today
MainActivity
res
drawable
layout
activity_main.xml
rect_activity_main.xml
round_activity_main.xml
mipmap
ic_launcher.png (4)
ic_launcher.png (hdpi)
ic_launcher.png (mdpi)
ic_launcher.png (xhdpi)
ic_launcher.png (xxhdpi)
values
Gradle Scripts
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
package="com.siddique.androidwear.today">
<uses-feature android:name="android.hardware.type.watch" />
<application
android:allowBackup="true"
android:icon="@mipmap/ic_launcher"
android:label="Today"
android:supportsRtl="true"
android:theme="@android:style/Theme.DeviceDefault">
<activity
android:name=".MainActivity"
android:label="Today">
<intent-filter>
<action android:name="android.intent.action.MAIN" />
<category android:name="android.intent.category.LAUNCHER" />
</intent-filter>
</activity>
</application>
</manifest>
Terminal
6: Android Monitor
0: Messages
TODO
Event Log
Gradle Console
Run selected configuration
1:1
LF
UTF-8
Context: <no context>

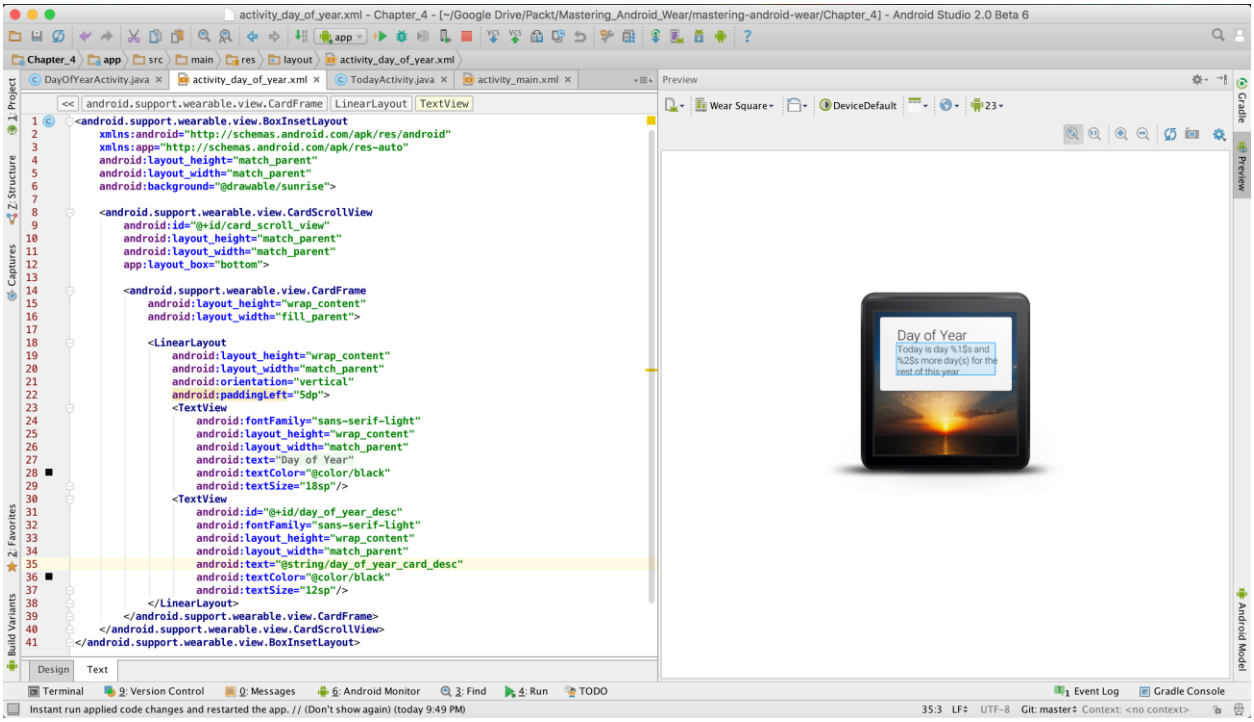
5554:Android_Wear_Square_API_23
Hello Square World!

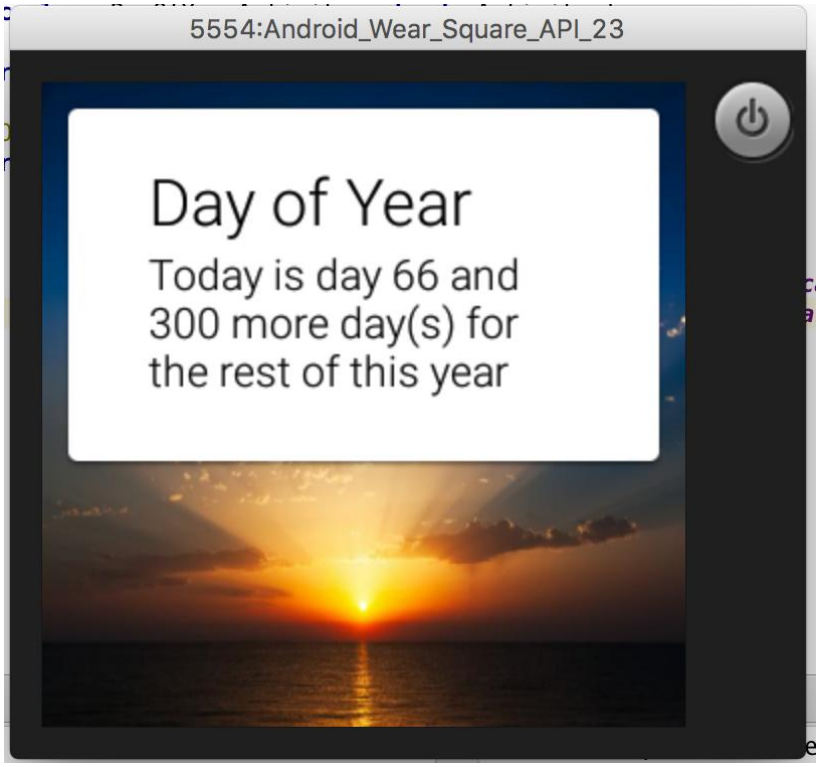

5554:Android_Wear_Square_API_23
Today is Sunday,
January 31 - 2016

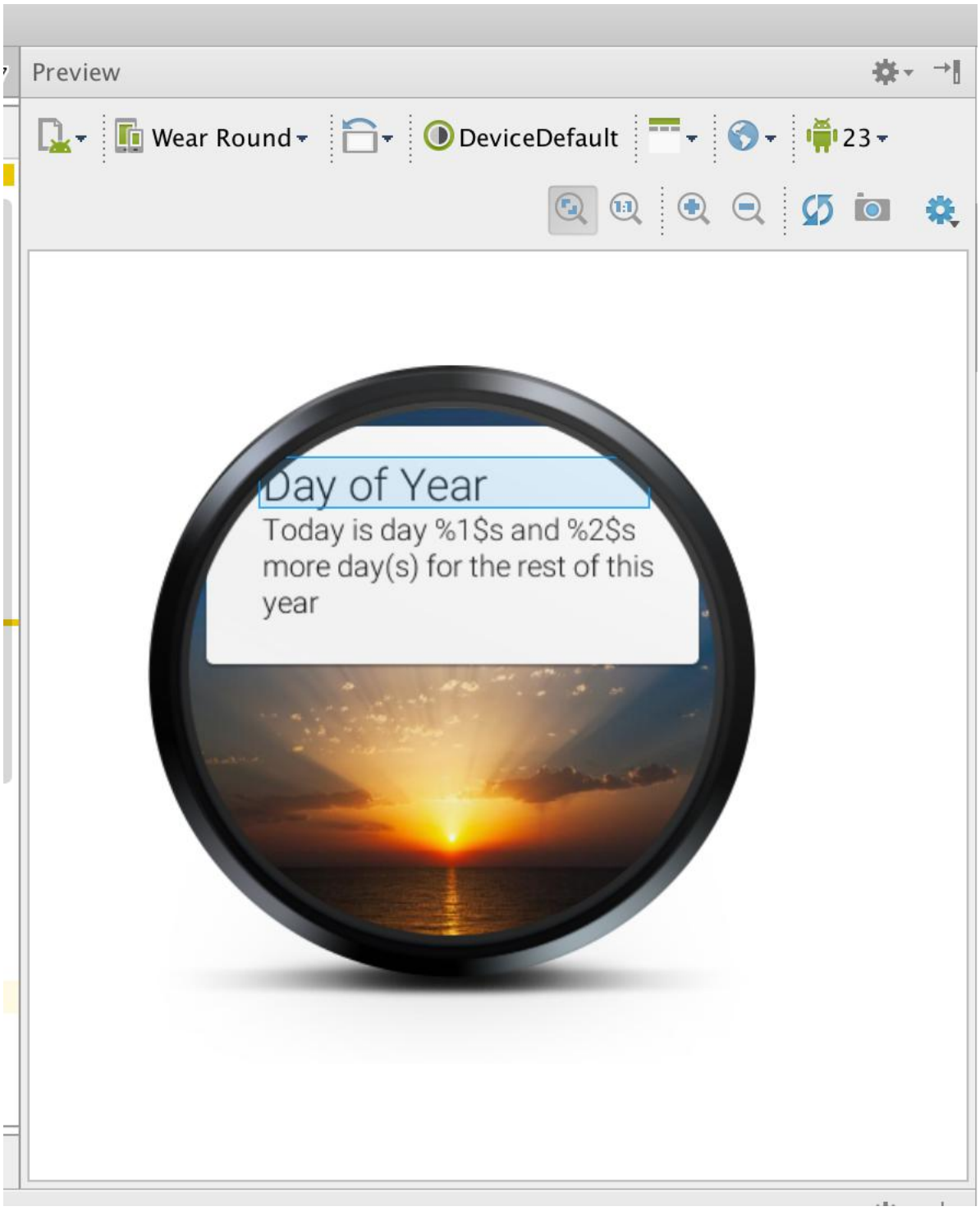
Chapter 4: Developing Watch UIs



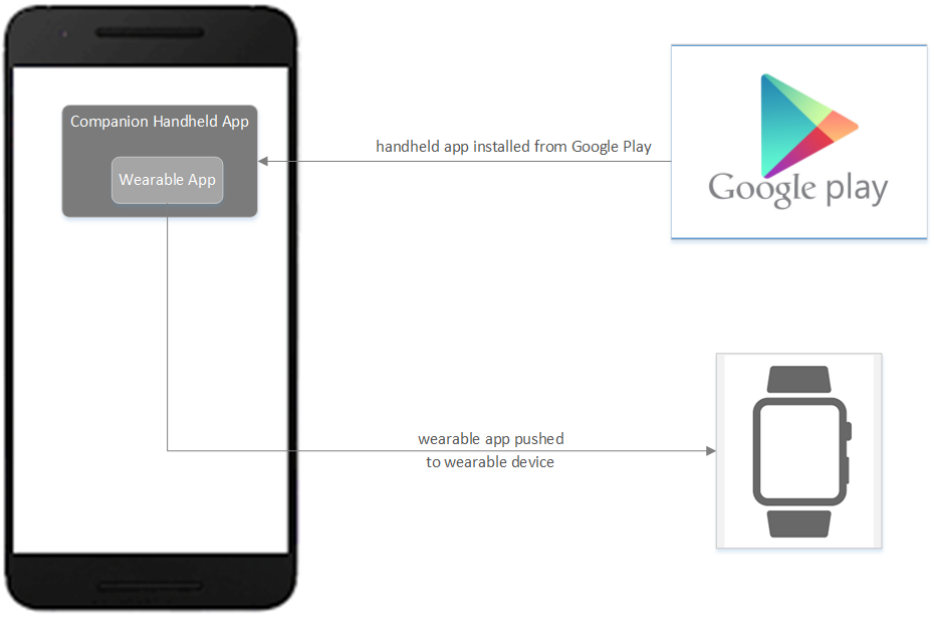


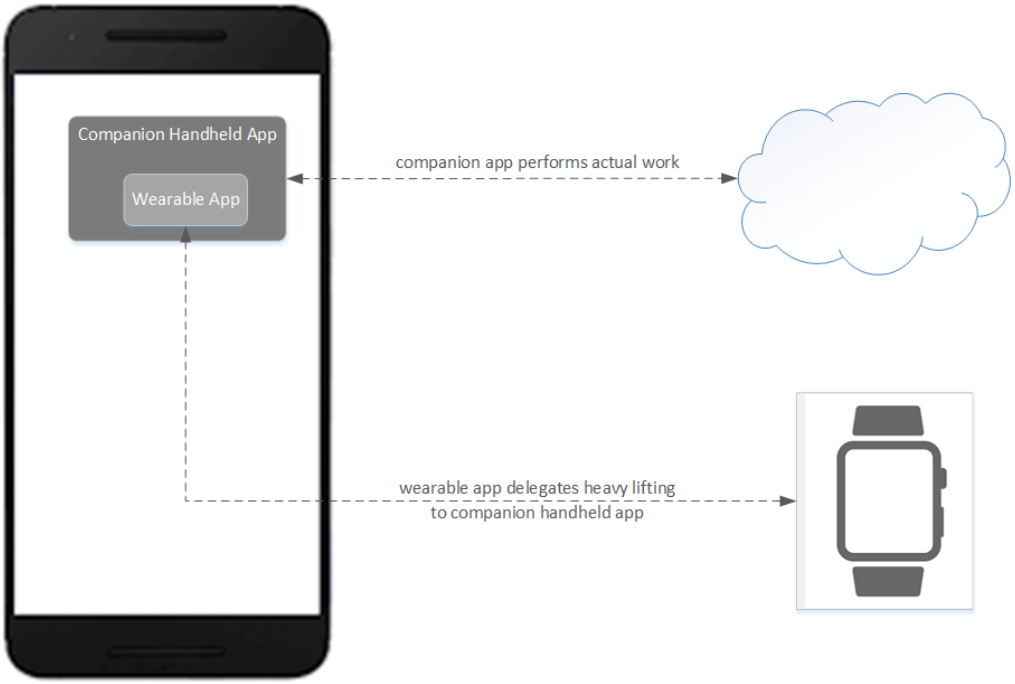

activity_day_of_year.xml - Chapter_4 - [~/Google Drive/Packt/Mastering_Android_Wear/mastering-android-wear/Chapter_4] - Android Studio 2.0 Beta 6
DayOfYearActivity.java
activity_day_of_year.xml
TodayActivity.java
activity_main.xml
android.support.wearable.view.CardFrame
LinearLayout
TextView
<android.support.wearable.view.BoxInsetLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
android:layout_height="match_parent"
android:layout_width="match_parent"
android:background="@drawable/sunrise">
<android.support.wearable.view.CardScrollView
android:id="@+id/card_scroll_view"
android:layout_height="match_parent"
android:layout_width="match_parent"
app:layout_box="bottom">
<android.support.wearable.view.CardFrame
android:layout_height="wrap_content"
android:layout_width="fill_parent">
<LinearLayout
android:layout_height="wrap_content"
android:layout_width="match_parent"
android:orientation="vertical"
android:paddingLeft="5dp">
<TextView
android:fontFamily="sans-serif-light"
android:layout_height="wrap_content"
android:layout_width="match_parent"
android:text="Day of Year"
android:textColor="@color/black"
android:textSize="18sp"/>
<TextView
android:id="@+id/day_of_year_desc"
android:fontFamily="sans-serif-light"
android:layout_height="wrap_content"
android:layout_width="match_parent"
android:text="@string/day_of_year_card_desc"
android:textColor="@color/black"
android:textSize="12sp"/>
</LinearLayout>
</android.support.wearable.view.CardFrame>
</android.support.wearable.view.CardScrollView>
</android.support.wearable.view.BoxInsetLayout>
Preview
Wear Square
DeviceDefault
Day of Year
Today is day %1$s and %2$s more day(s) for the rest of this year
Design
Text
Terminal
9: Version Control
0: Messages
6: Android Monitor
3: Find
4: Run
TODO
Event Log
Gradle Console
Instant run applied code changes and restarted the app. // (Don't show again) (today 9:49 PM)


5554:Android_Wear_Square_API_23
Day of Year
Today is day 66 and
300 more day(s) for
the rest of this year

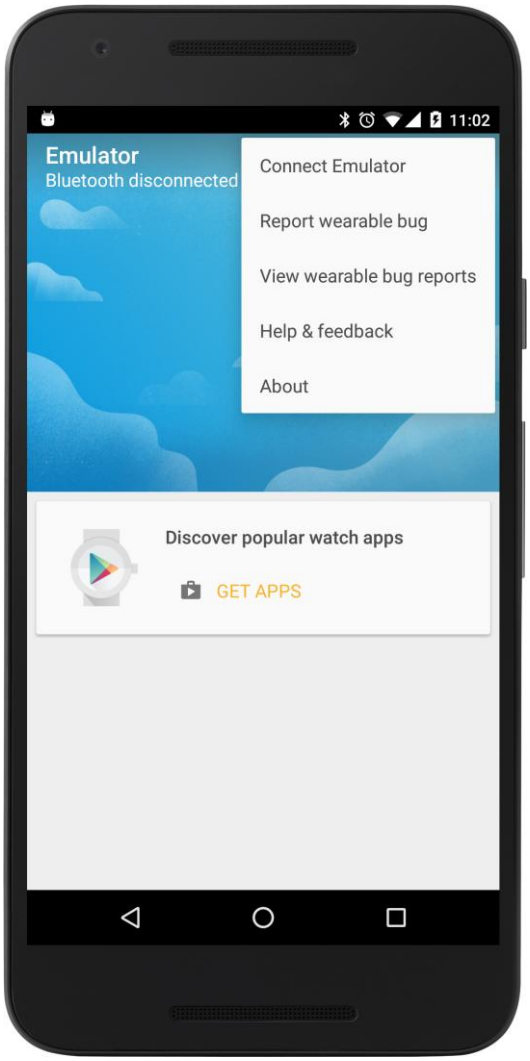

Preview
Wear Round
DeviceDefault
23
Day of Year
Today is day %1$s and %2$s more day(s) for the rest of this year

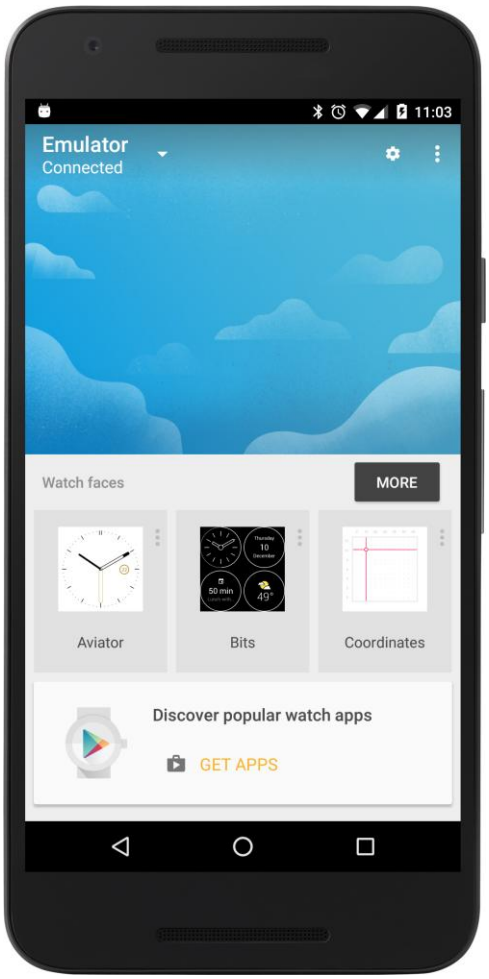
Chapter 5: Synchronizing Data

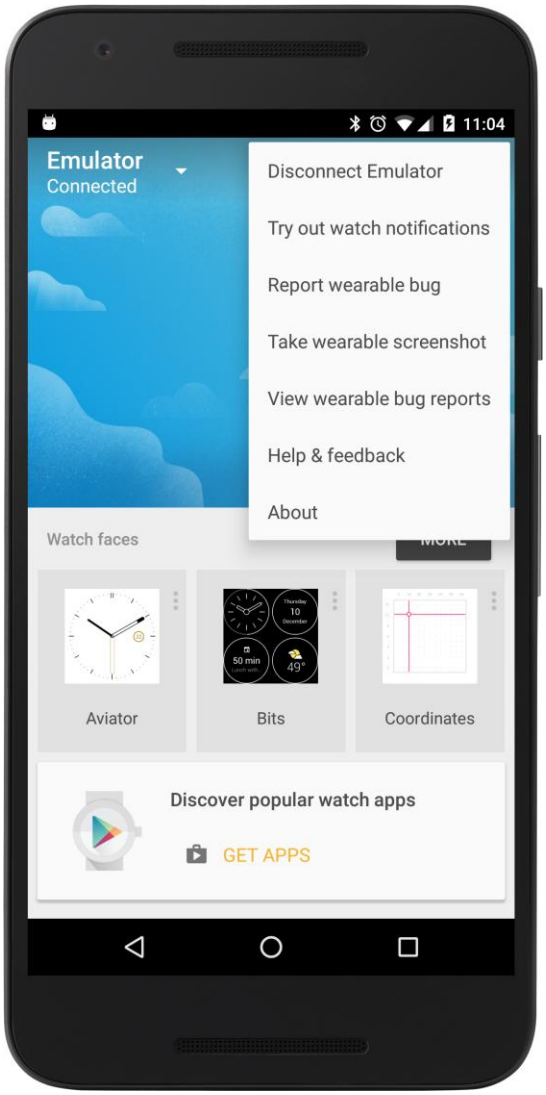


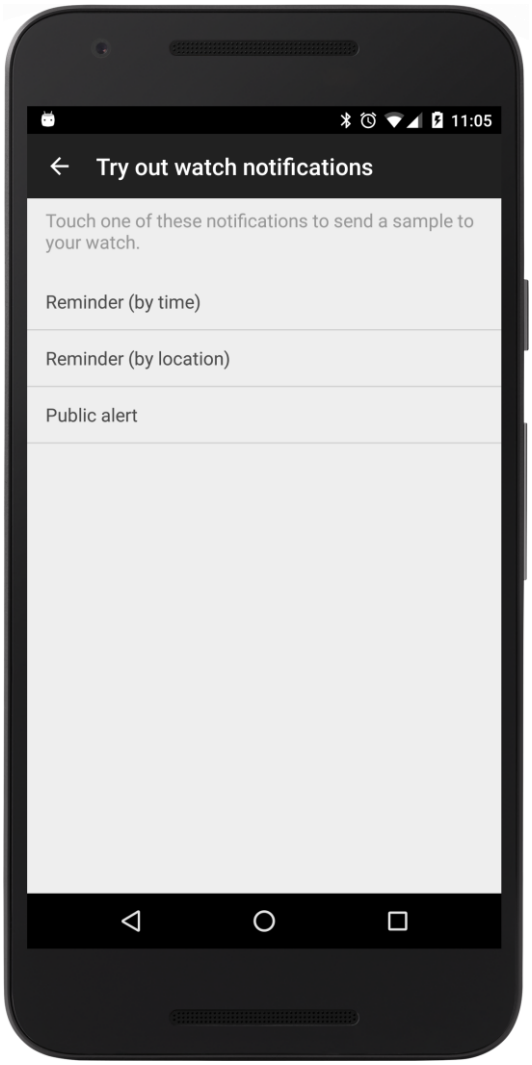


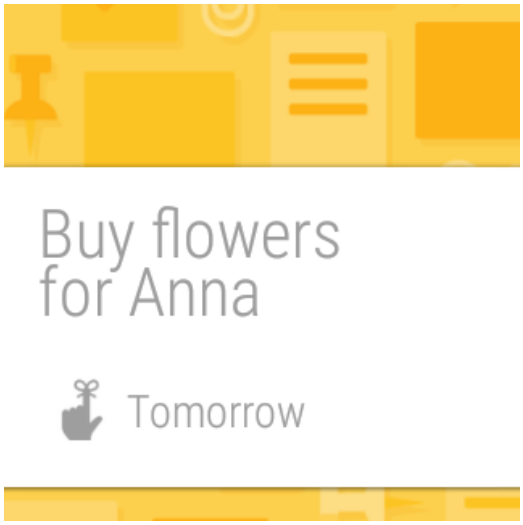
```
6. bash
SiddiquesMBP:~$ adb -d forward tcp:5601 tcp:5601
SiddiquesMBP:~$
```

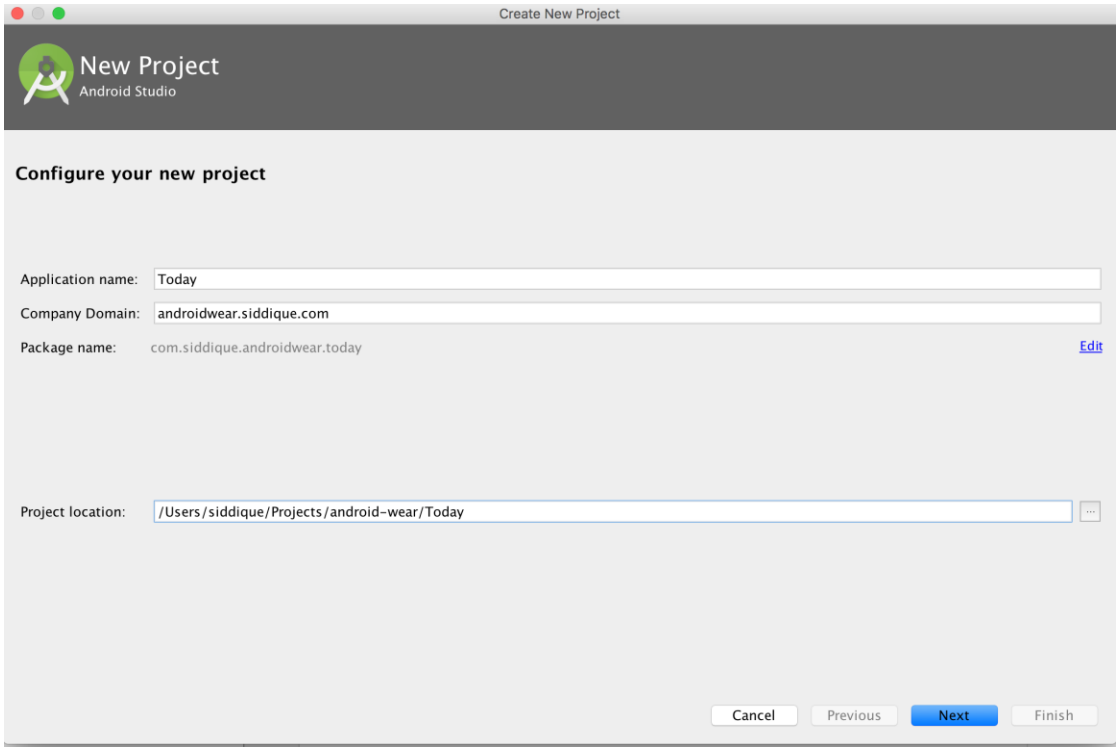


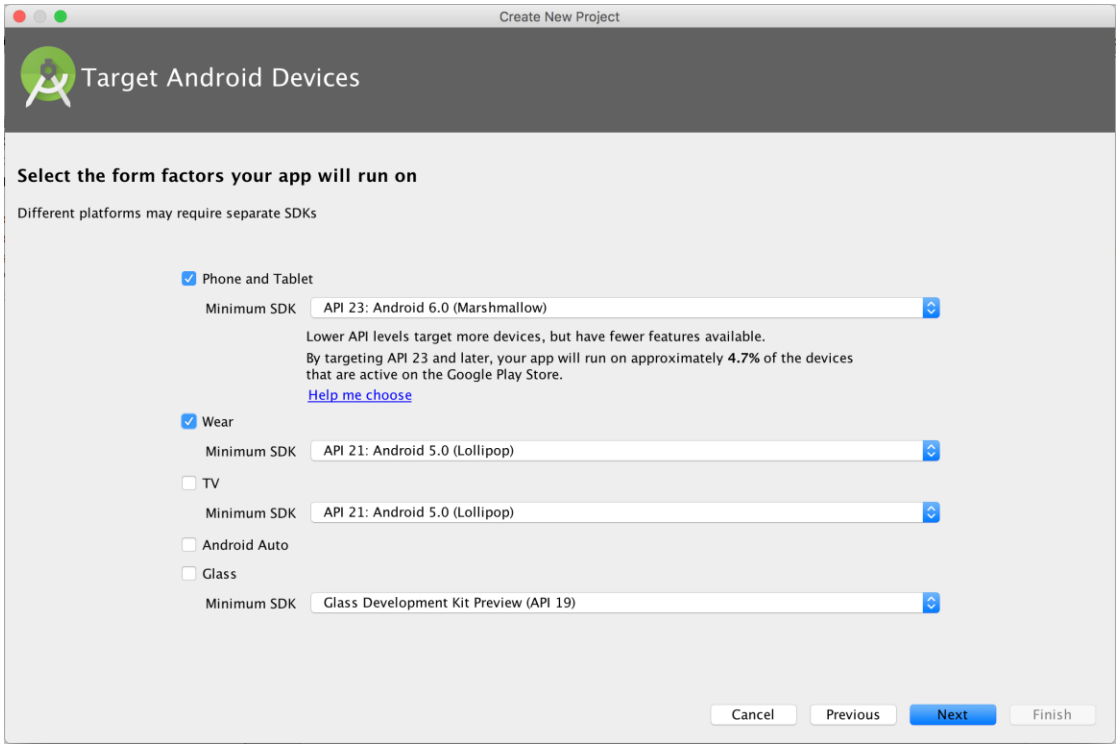

11:03
Emulator
Connected
Watch faces
MORE
Aviator
Bits
Coordinates
Discover popular watch apps
GET APPS

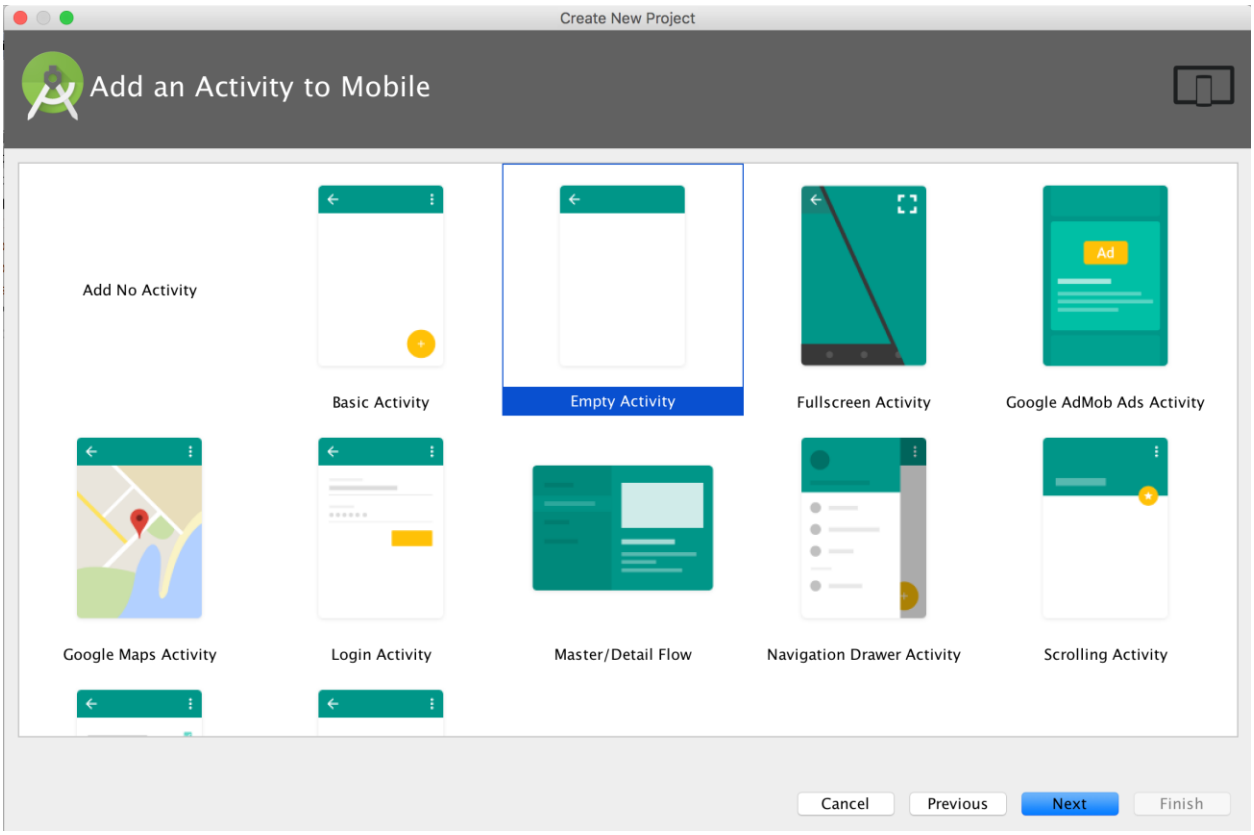

11:04
Emulator
Connected
Disconnect Emulator
Try out watch notifications
Report wearable bug
Take wearable screenshot
View wearable bug reports
Help & feedback
About
Watch faces
Aviator
Bits
Coordinates
Discover popular watch apps
GET APPS

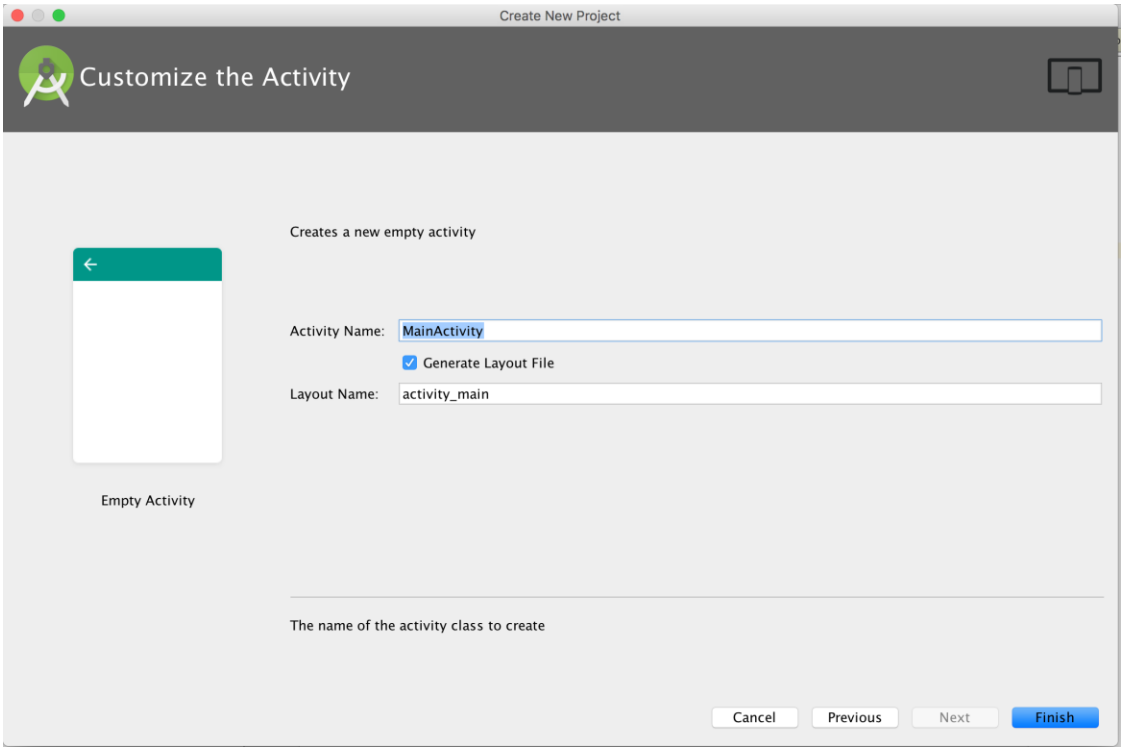

11:05
Try out watch notifications
Touch one of these notifications to send a sample to your watch.
Reminder (by time)
Reminder (by location)
Public alert

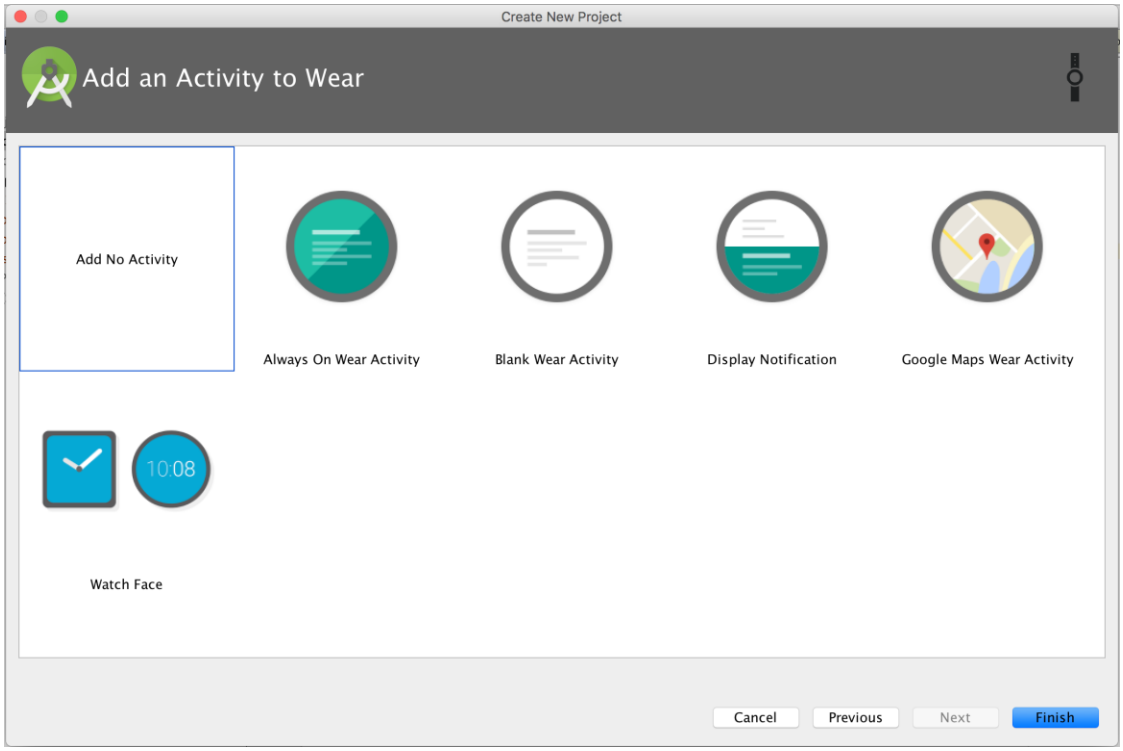

Buy flowers for Anna
Tomorrow

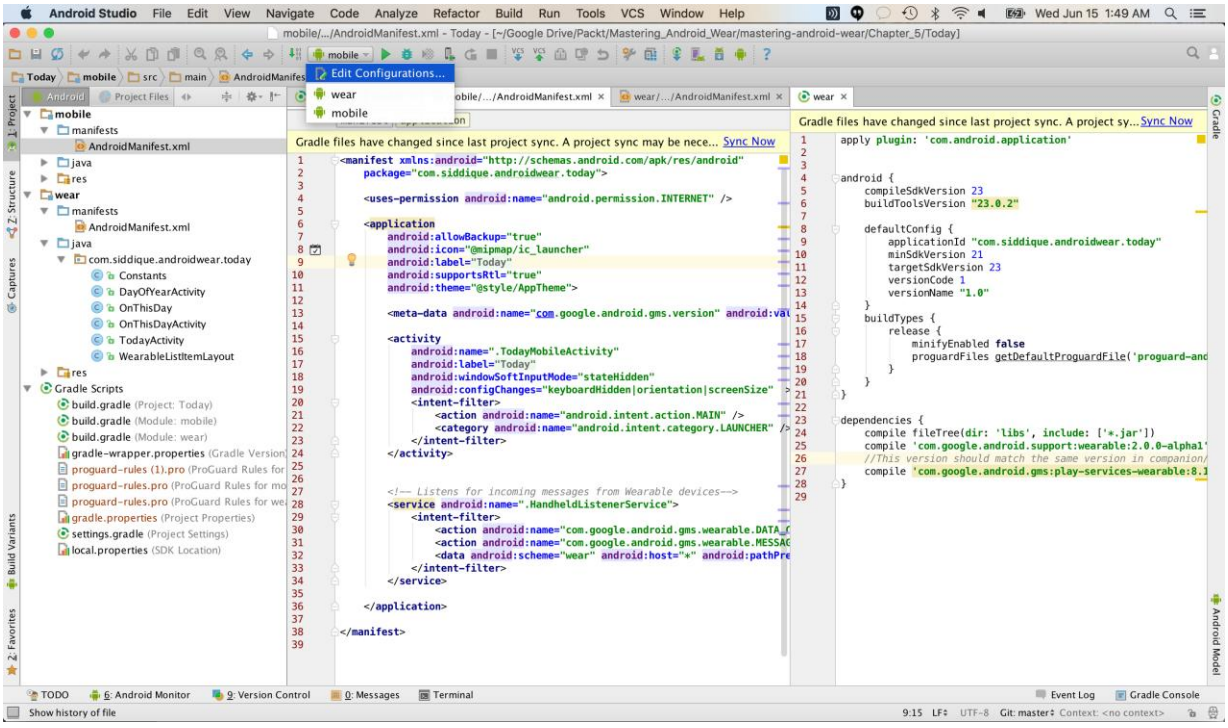

Create New Project
New Project
Android Studio
Configure your new project
Application name:
Today
Company Domain:
androidwear.siddique.com
Package name:
com.siddique.androidwear.today
Edit
Project location:
/Users/siddique/Projects/android-wear/Today
Cancel
Previous
Next
Finish

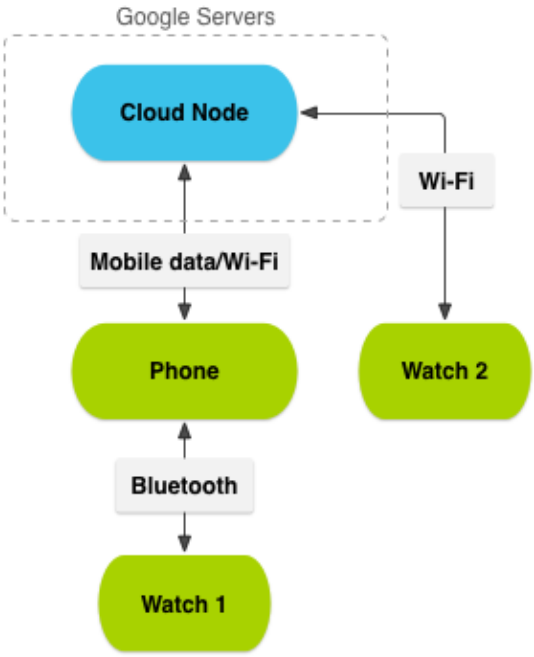

Create New Project
Target Android Devices
Select the form factors your app will run on
Different platforms may require separate SDKs
Phone and Tablet
Minimum SDK
API 23: Android 6.0 (Marshmallow)
Lower API levels target more devices, but have fewer features available.
By targeting API 23 and later, your app will run on approximately 4.7% of the devices that are active on the Google Play Store.
Help me choose
Wear
Minimum SDK
API 21: Android 5.0 (Lollipop)
TV
Minimum SDK
API 21: Android 5.0 (Lollipop)
Android Auto
Glass
Minimum SDK
Glass Development Kit Preview (API 19)
Cancel
Previous
Next
Finish


Create New Project
Add an Activity to Mobile
Add No Activity
Basic Activity
Empty Activity
Fullscreen Activity
Ad
Google AdMob Ads Activity
Google Maps Activity
Login Activity
Master/Detail Flow
Navigation Drawer Activity
Scrolling Activity
Cancel
Previous
Next
Finish

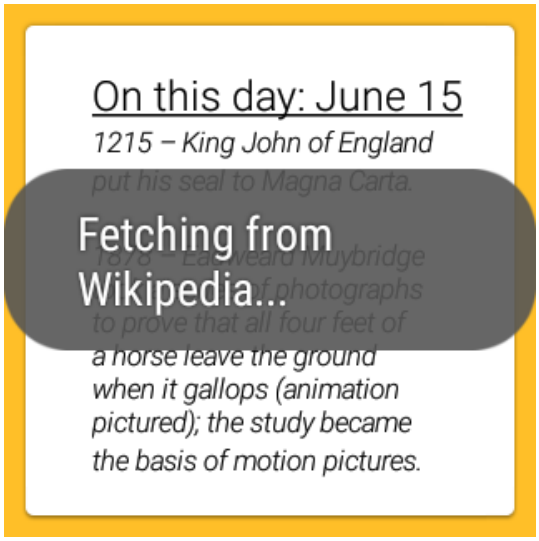

Create New Project
Customize the Activity
Creates a new empty activity
Activity Name:
MainActivity
Generate Layout File
Layout Name:
activity_main
Empty Activity
The name of the activity class to create
Cancel
Previous
Next
Finish

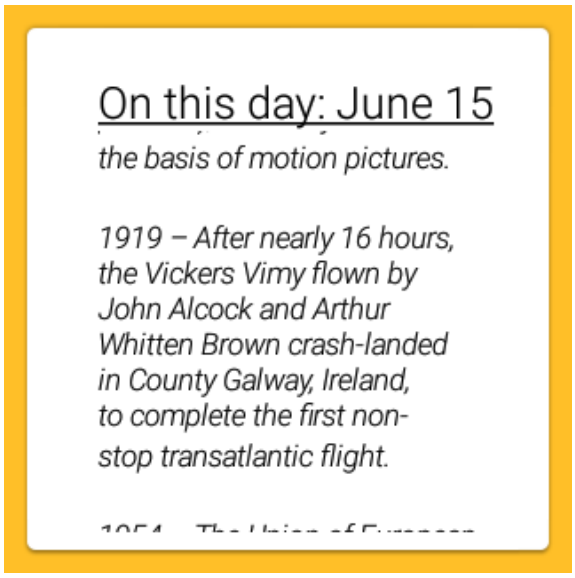

Create New Project
Add an Activity to Wear
Add No Activity
Always On Wear Activity
Blank Wear Activity
Display Notification
Google Maps Wear Activity
10:08
Watch Face
Cancel
Previous
Next
Finish

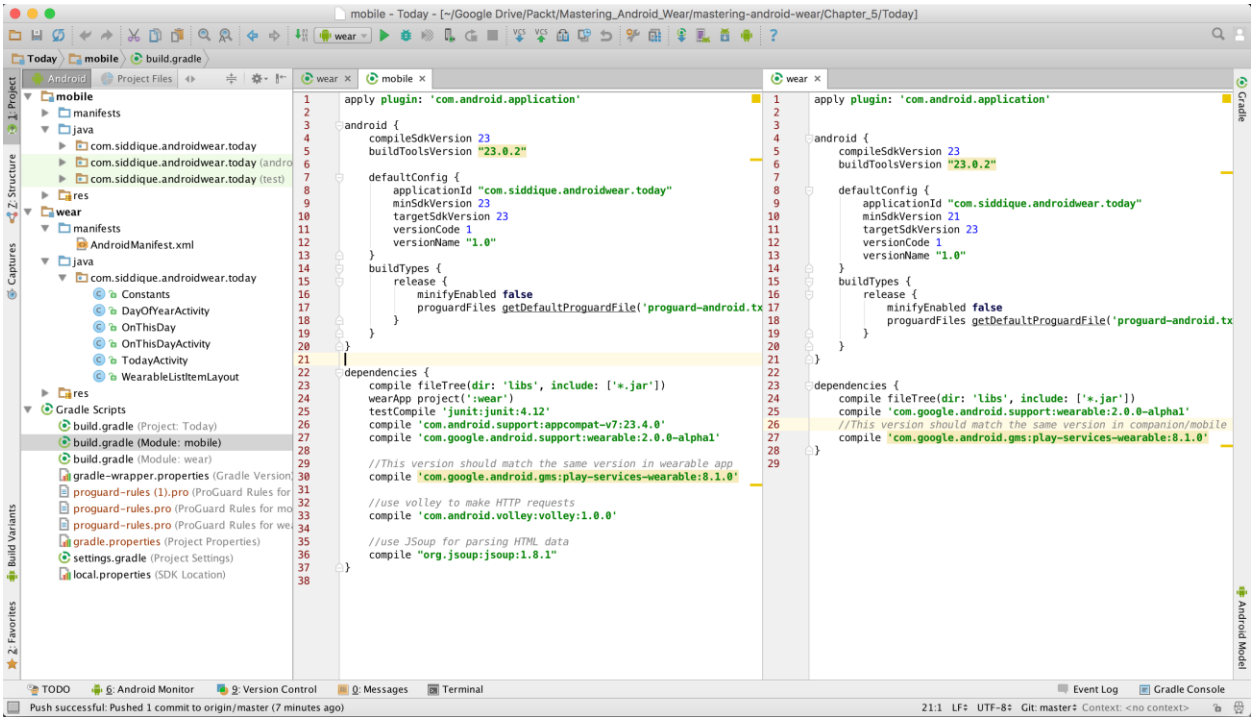

Android Studio File Edit View Navigate Code Analyze Refactor Build Run Tools VCS Window Help
Edit Configurations...
wear
mobile
Gradle files have changed since last project sync. A project sync may be nece... Sync Now
Gradle files have changed since last project sync. A project sy... Sync Now
AndroidManifest.xml
build.gradle (Project: Today)
build.gradle (Module: mobile)
build.gradle (Module: wear)
settings.gradle (Project Settings)
local.properties (SDK Location)
TODO
6: Android Monitor
9: Version Control
0: Messages
Terminal
Event Log
Gradle Console


Google Servers
Cloud Node
Wi-Fi
Mobile data/Wi-Fi
Phone
Watch 2
Bluetooth
Watch 1

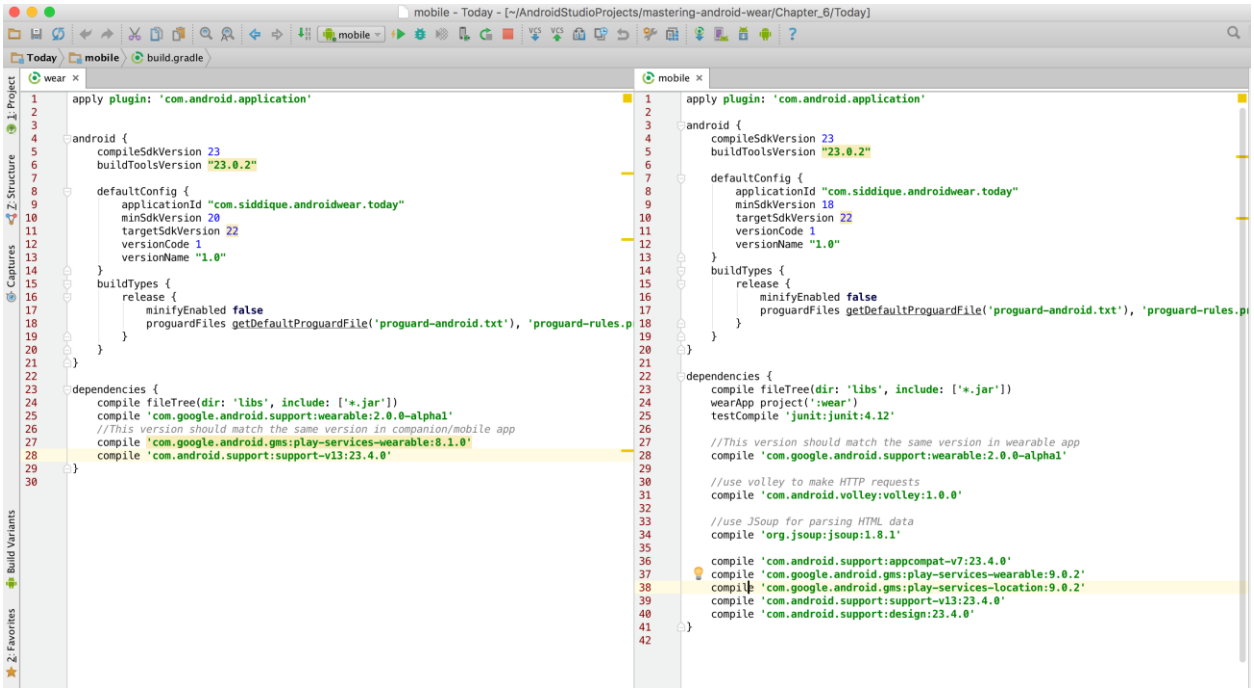
12:29
Today
Devices connected:1

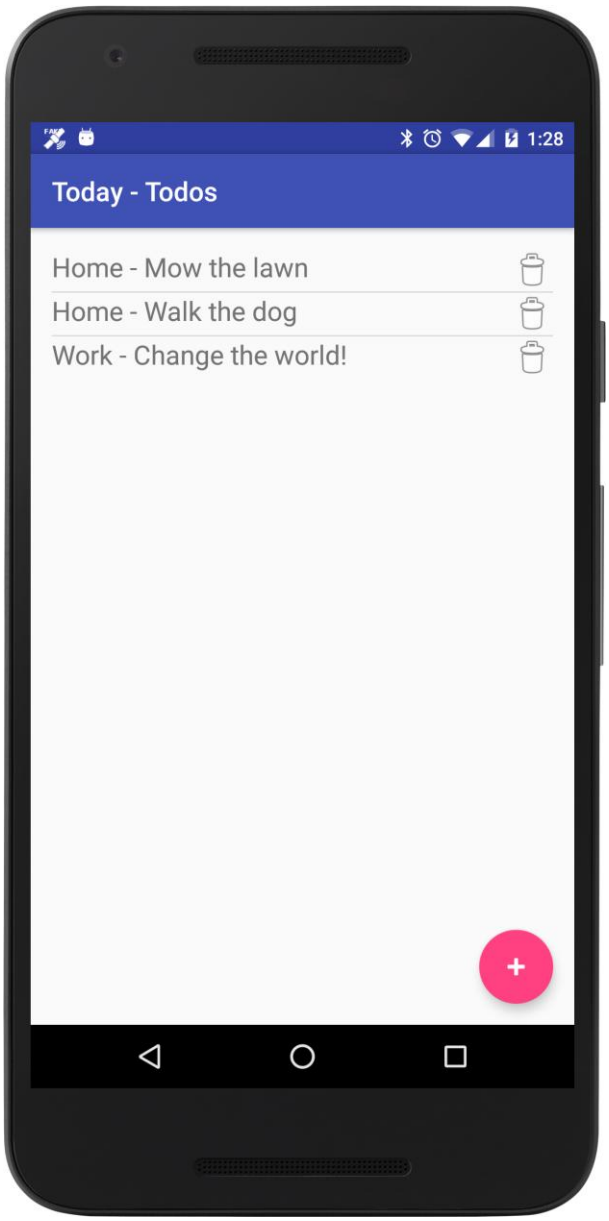

On this day: June 15
1215 – King John of England
put his seal to Magna Carta.
Fetching from Wikipedia...
to prove that all four feet of
a horse leave the ground
when it gallops (animation
pictured); the study became
the basis of motion pictures.

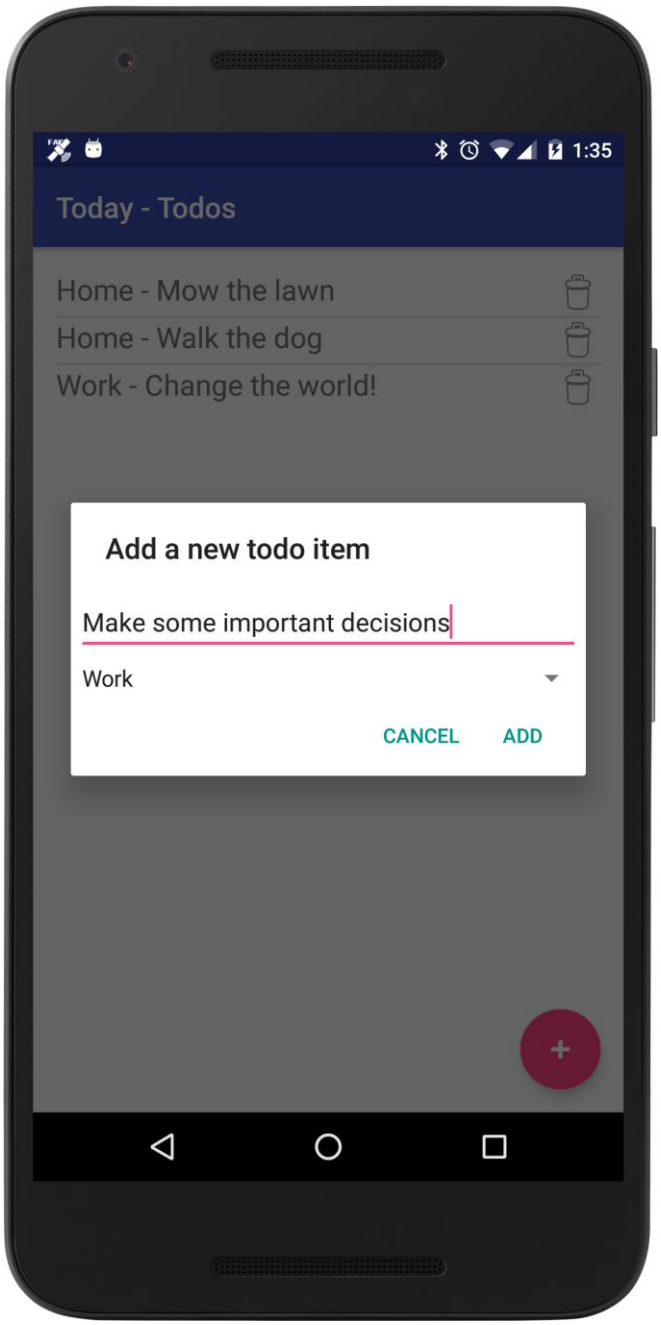

On this day: June 15
the basis of motion pictures.
1919 – After nearly 16 hours, the Vickers Vimy flown by John Alcock and Arthur Whitten Brown crash-landed in County Galway, Ireland, to complete the first non-stop transatlantic flight.

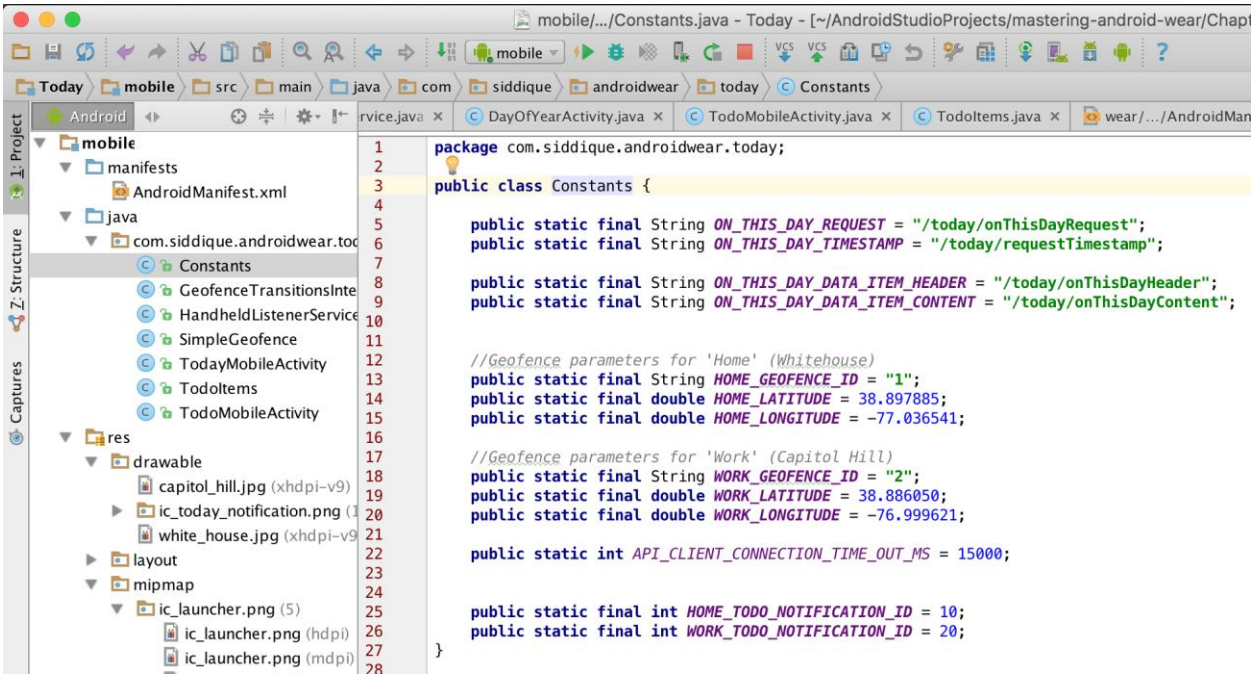

mobile - Today - [~/Google Drive/Packt/Mastering_Android_Wear/mastering-android-wear/Chapter_5/Today]
Today
mobile
build.gradle
Android
Project Files
mobile
manifests
java
com.siddique.androidwear.today
com.siddique.androidwear.today (andro
com.siddique.androidwear.today (test)
res
wear
manifests
AndroidManifest.xml
java
com.siddique.androidwear.today
Constants
DayOfYearActivity
OnThisDay
OnThisDayActivity
TodayActivity
WearableListItemLayout
res
Gradle Scripts
build.gradle (Project: Today)
build.gradle (Module: mobile)
build.gradle (Module: wear)
gradle-wrapper.properties (Gradle Version)
proguard-rules (1).pro (ProGuard Rules for
proguard-rules.pro (ProGuard Rules for mo
proguard-rules.pro (ProGuard Rules for we
gradle.properties (Project Properties)
settings.gradle (Project Settings)
local.properties (SDK Location)
wear
mobile
apply plugin: 'com.android.application'
android {
compileSdkVersion 23
buildToolsVersion "23.0.2"
defaultConfig {
applicationId "com.siddique.androidwear.today"
minSdkVersion 23
targetSdkVersion 23
versionCode 1
versionName "1.0"
}
buildTypes {
release {
minifyEnabled false
proguardFiles getDefaultProguardFile('proguard-android.tx
}
}
}
dependencies {
compile fileTree(dir: 'libs', include: ['*.jar'])
wearApp project(':wear')
testCompile 'junit:junit:4.12'
compile 'com.android.support:appcompat-v7:23.4.0'
compile 'com.google.android.support:wearable:2.0.0-alpha1'
//This version should match the same version in wearable app
compile 'com.google.android.gms:play-services-wearable:8.1.0'
//use volley to make HTTP requests
compile 'com.android.volley:volley:1.0.0'
//use JSoup for parsing HTML data
compile "org.jsoup:jsoup:1.8.1"
}
wear
apply plugin: 'com.android.application'
android {
compileSdkVersion 23
buildToolsVersion "23.0.2"
defaultConfig {
applicationId "com.siddique.androidwear.today"
minSdkVersion 21
targetSdkVersion 23
versionCode 1
versionName "1.0"
}
buildTypes {
release {
minifyEnabled false
proguardFiles getDefaultProguardFile('proguard-android.tx
}
}
}
dependencies {
compile fileTree(dir: 'libs', include: ['*.jar'])
compile 'com.google.android.support:wearable:2.0.0-alpha1'
//This version should match the same version in companion/mobile
compile 'com.google.android.gms:play-services-wearable:8.1.0'
}
Gradle
Android Model
Build Variants
2: Favorites
TODO
6: Android Monitor
9: Version Control
0: Messages
Terminal
Event Log
Gradle Console
Push successful: Pushed 1 commit to origin/master (7 minutes ago)
21:1
LF
UTF-8
Git: master
Context: <no context>

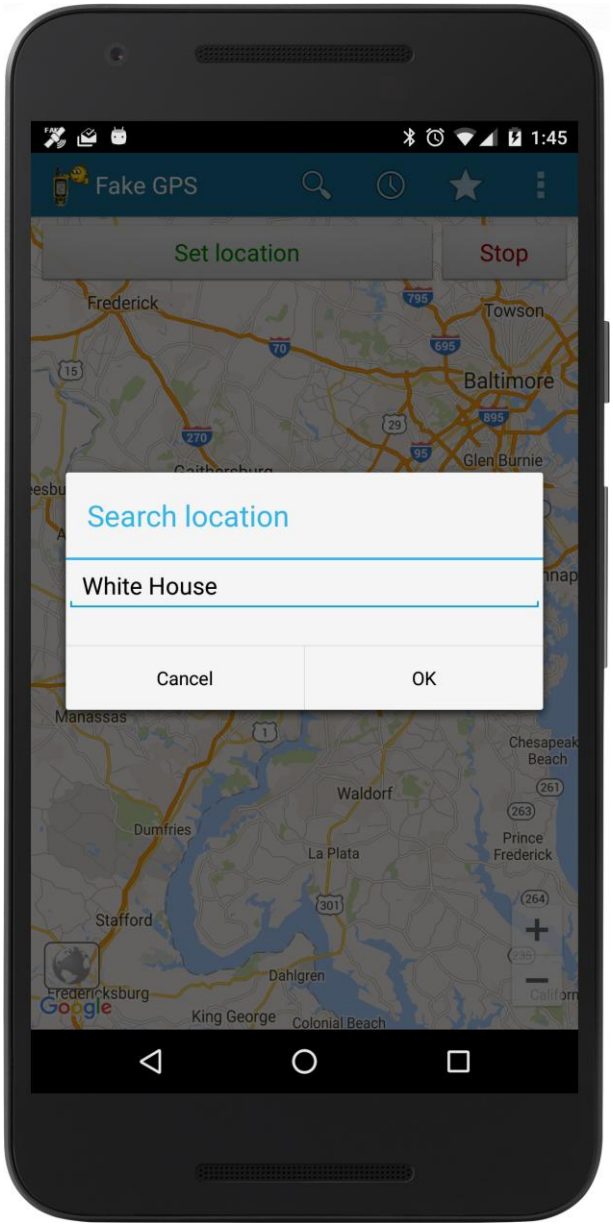
Chapter 6: Contextual Notifications

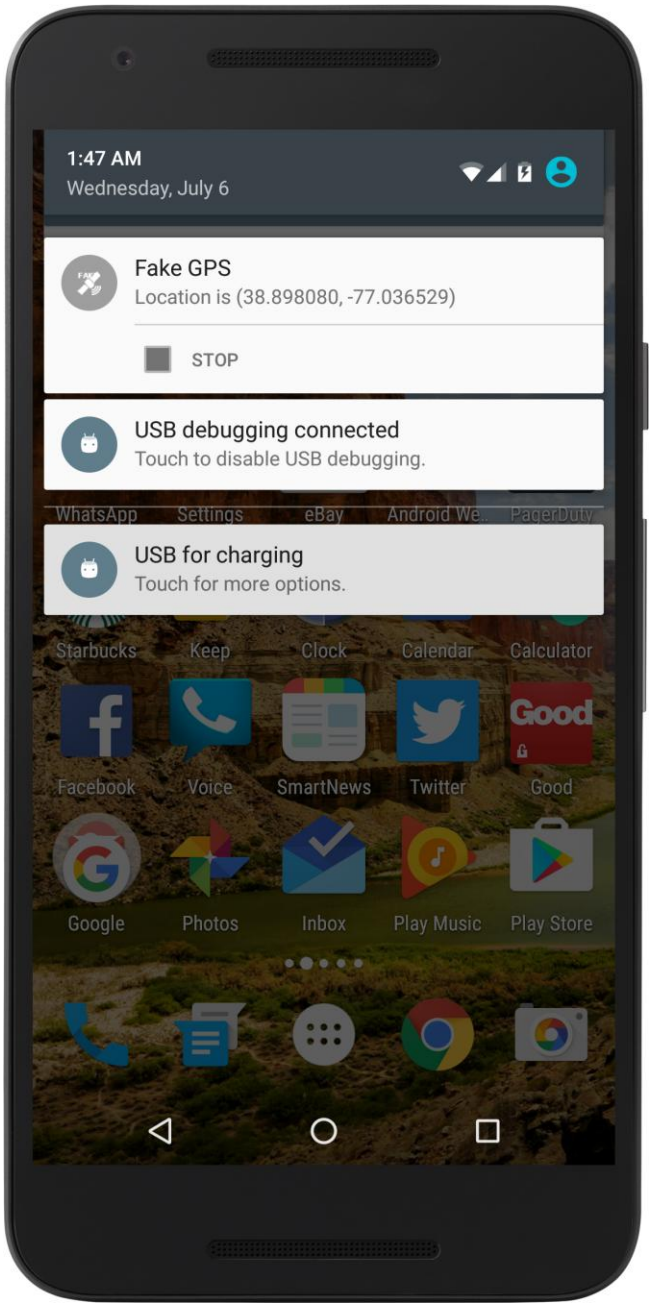


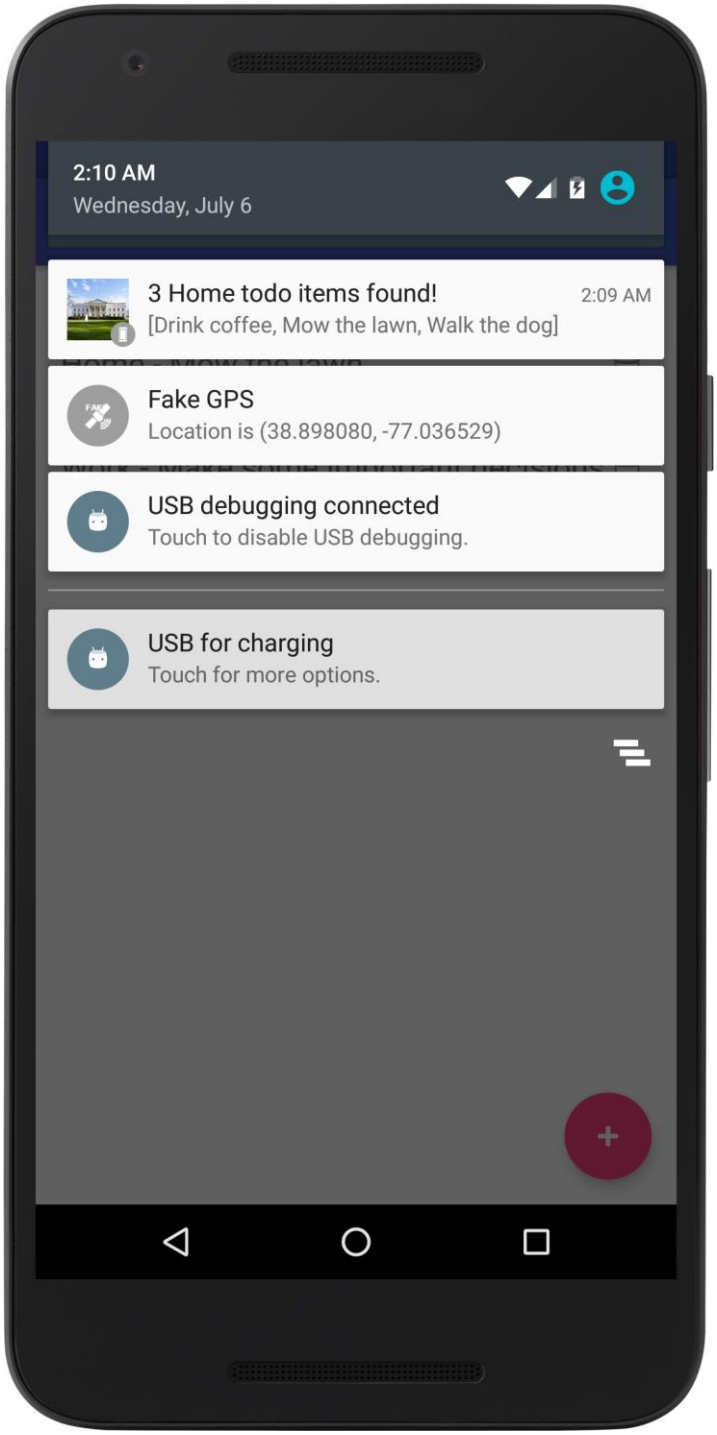

1:28
Today - Todos
Home - Mow the lawn
Home - Walk the dog
Work - Change the world!

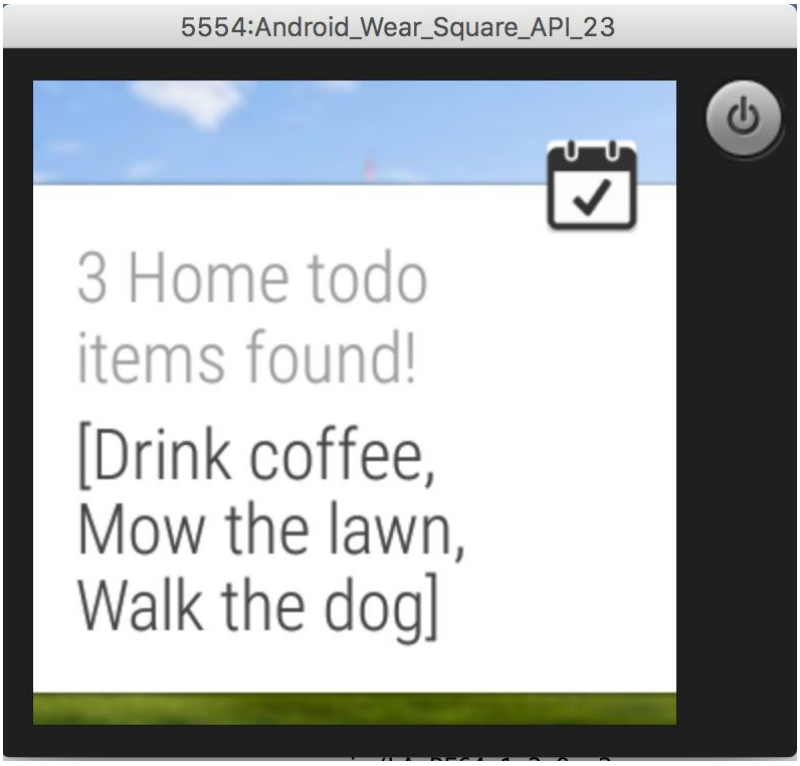

1:35
Today - Todos
Home - Mow the lawn
Home - Walk the dog
Work - Change the world!
Add a new todo item
Make some important decisions
Work
CANCEL
ADD

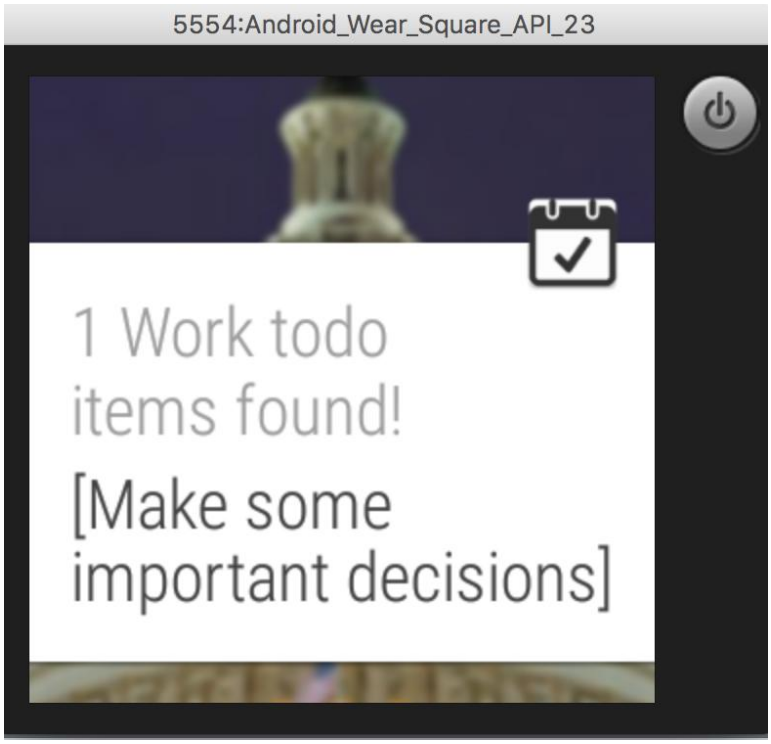

mobile/.../Constants.java - Today - [~/AndroidStudioProjects/mastering-android-wear/Chapt
Today
mobile
src
main
java
com
siddique
androidwear
today
Constants
Android
DayOfYearActivity.java
TodoMobileActivity.java
TodoItems.java
wear/.../AndroidMan
1: Project
Z: Structure
Captures
mobile
manifests
AndroidManifest.xml
java
com.siddique.androidwear.tod
Constants
GeofenceTransitionsInte
HandheldListenerServic
SimpleGeofence
TodayMobileActivity
TodoItems
TodoMobileActivity
res
drawable
capitol_hill.jpg (xhdpi-v9)
ic_today_notification.png (1
white_house.jpg (xhdpi-v9
layout
mipmap
ic_launcher.png (5)
ic_launcher.png (hdpi)
ic_launcher.png (mdpi)
1 package com.siddique.androidwear.today;
3 public class Constants {
5 public static final String ON_THIS_DAY_REQUEST = "/today/onThisDayRequest";
6 public static final String ON_THIS_DAY_TIMESTAMP = "/today/requestTimestamp";
8 public static final String ON_THIS_DAY_DATA_ITEM_HEADER = "/today/onThisDayHeader";
9 public static final String ON_THIS_DAY_DATA_ITEM_CONTENT = "/today/onThisDayContent";
12 //Geofence parameters for 'Home' (Whitehouse)
13 public static final String HOME_GEOFENCE_ID = "1";
14 public static final double HOME_LATITUDE = 38.897885;
15 public static final double HOME_LONGITUDE = -77.036541;
17 //Geofence parameters for 'Work' (Capitol Hill)
18 public static final String WORK_GEOFENCE_ID = "2";
19 public static final double WORK_LATITUDE = 38.886050;
20 public static final double WORK_LONGITUDE = -76.999621;
22 public static int API_CLIENT_CONNECTION_TIME_OUT_MS = 15000;
25 public static final int HOME_TODO_NOTIFICATION_ID = 10;
26 public static final int WORK_TODO_NOTIFICATION_ID = 20;
27 }


1:45
Fake GPS
Set location
Stop
Frederick
Towson
Baltimore
Glen Burnie
Search location
White House
Cancel
OK
Manassas
Waldorf
Dumfries
La Plata
Prince Frederick
Stafford
Fredericksburg
Dahlgren
King George
Colonial Beach
Google

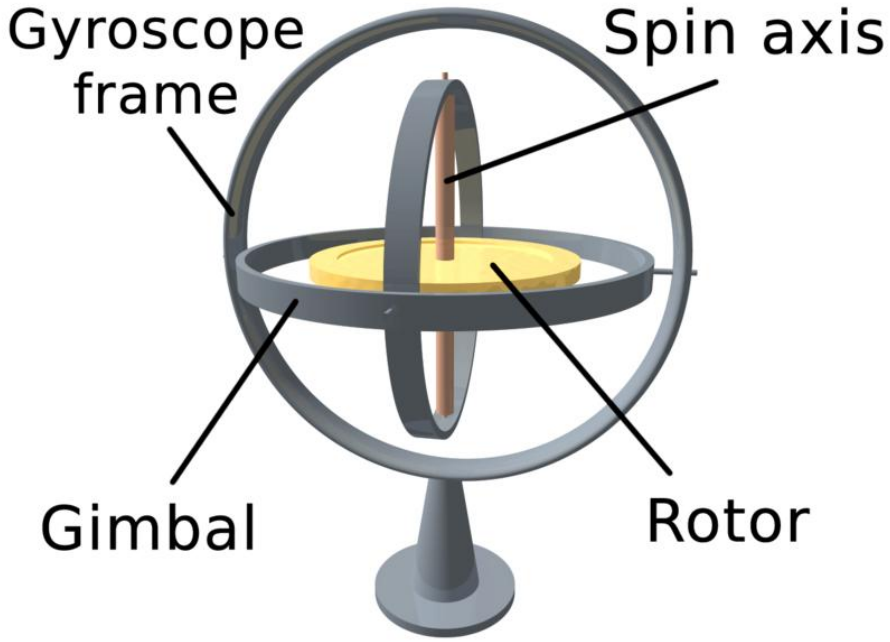

1:47 AM
Wednesday, July 6
Fake GPS
Location is (38.898080, -77.036529)
STOP
USB debugging connected
Touch to disable USB debugging.
WhatsApp
Settings
eBay
Android We...
PagerDuty
USB for charging
Touch for more options.
Starbucks
Keep
Clock
Calendar
Calculator
Facebook
Voice
SmartNews
Twitter
Good
Google
Photos
Inbox
Play Music
Play Store


2:10 AM
Wednesday, July 6
3 Home todo items found!
2:09 AM
[Drink coffee, Mow the lawn, Walk the dog]
Fake GPS
Location is (38.898080, -77.036529)
USB debugging connected
Touch to disable USB debugging.
USB for charging
Touch for more options.


5554:Android_Wear_Square_API_23
3 Home todo items found!
[Drink coffee, Mow the lawn, Walk the dog]


5554:Android_Wear_Square_API_23
1 Work todo items found!
[Make some important decisions]

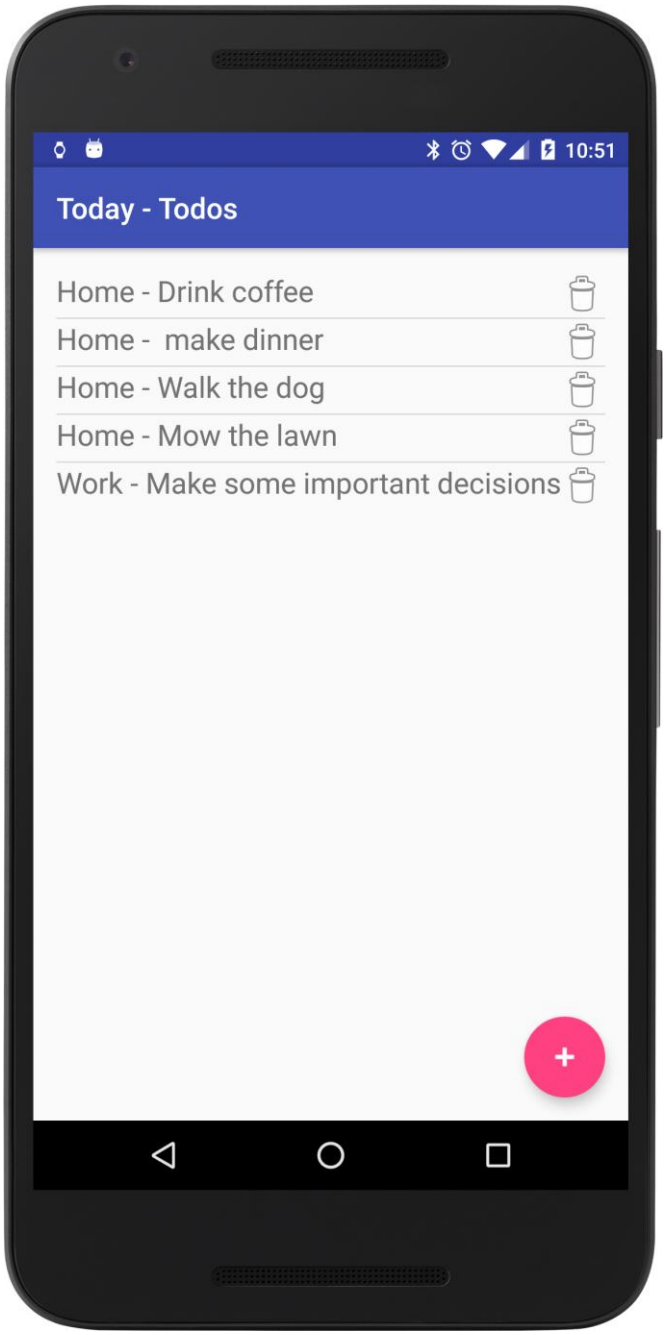
Chapter 7: Voice Interactions, Sensors, and Tracking



On this day...
Add Todo Item

Speak now

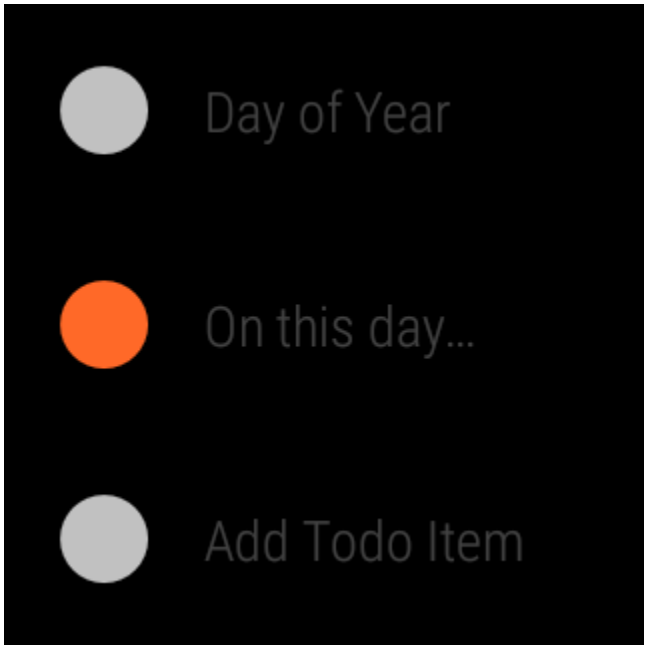
home make dinner

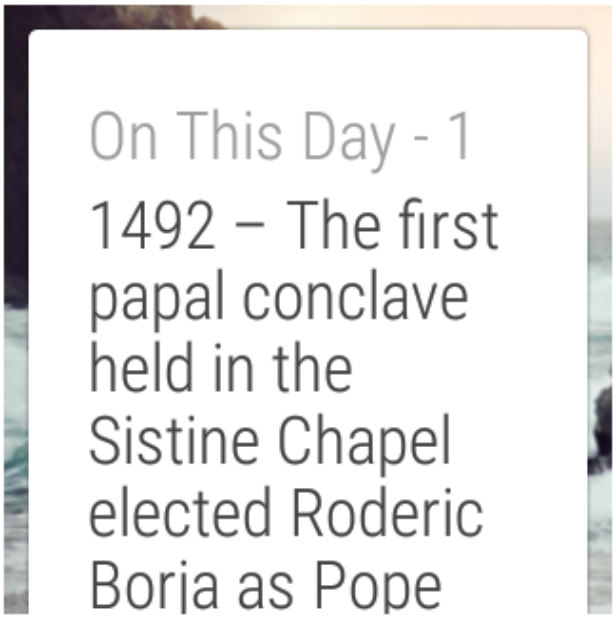

10:51
Today - Todos
Home - Drink coffee
Home - make dinner
Home - Walk the dog
Home - Mow the lawn
Work - Make some important decisions
+

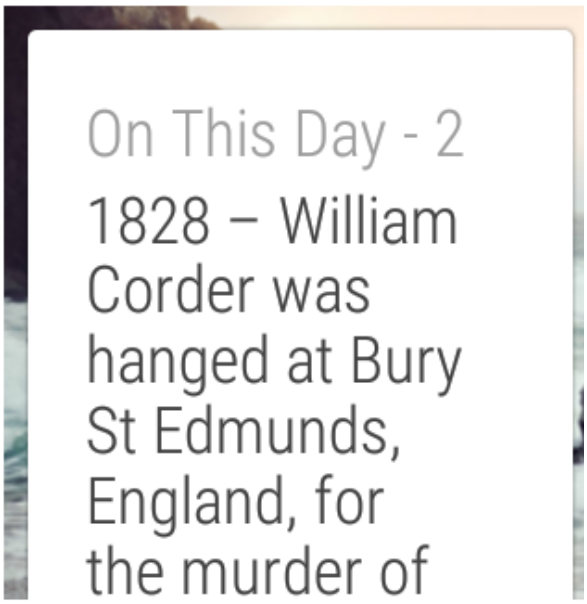
Add Todo Item
Step Count

Total Step Count
69247 Steps

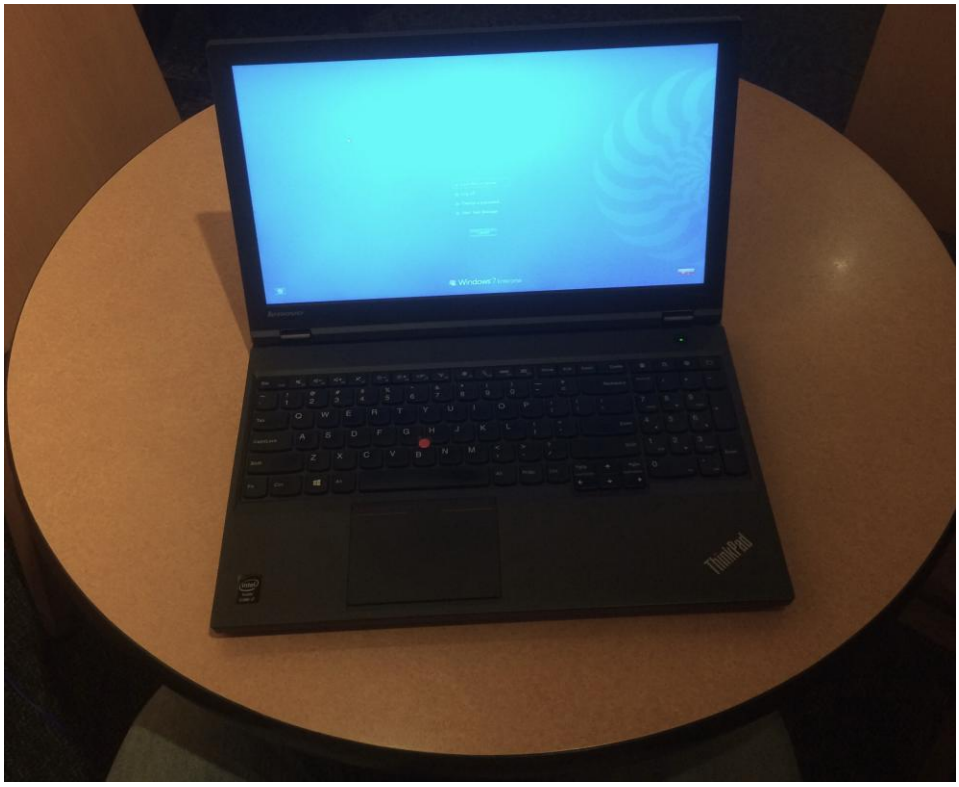
Chapter 8: Creating Custom UIs

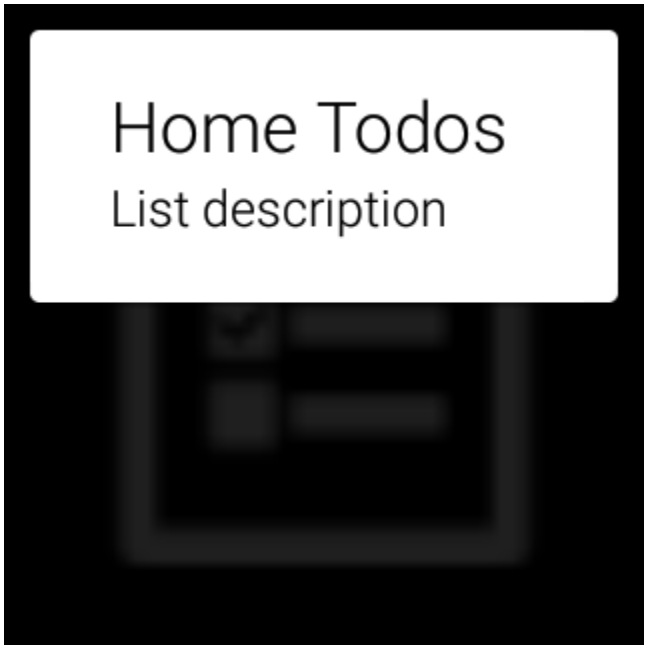





On This Day - 2
1828 – William Corder was hanged at Bury St Edmunds, England, for the murder of

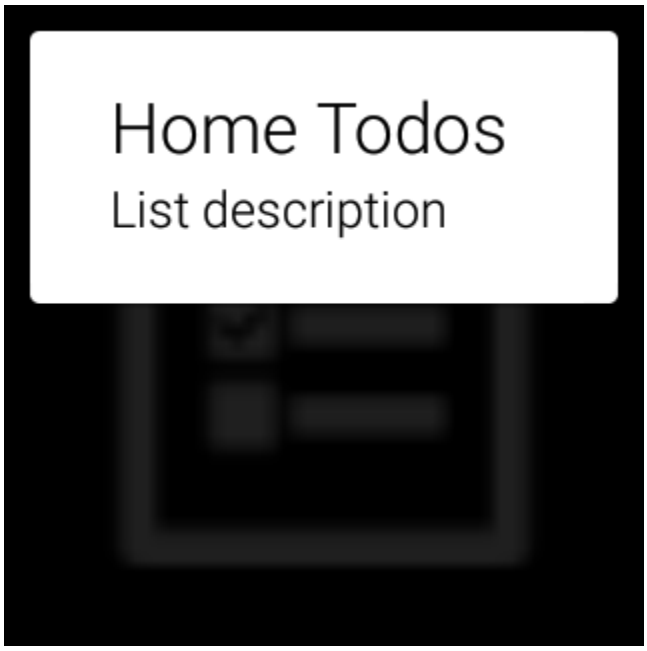
Chapter 9: Material Design



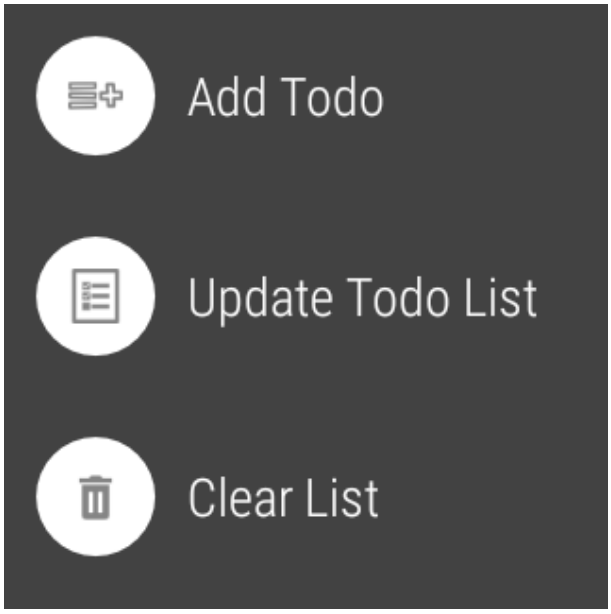

Home Todos
List description

Home

On this day...
Todos
Step Count

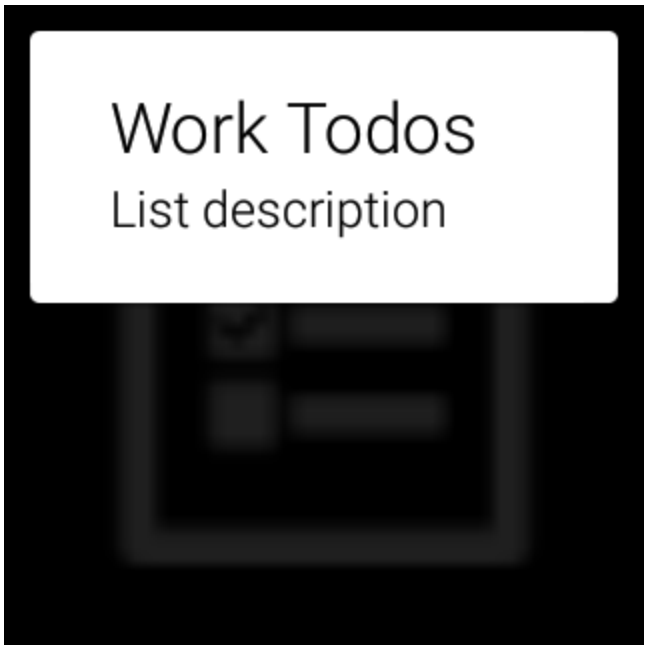

Home Todos
List description

Home


Add Todo
Update Todo List
Clear List

Home Todos
List description
Adding Work Todo

Work


Work Todos
List description

Work Todos
List description
Clearing Work Todos

Chapter 10: Watch Faces

10:32:51
DAY OF YEAR
249

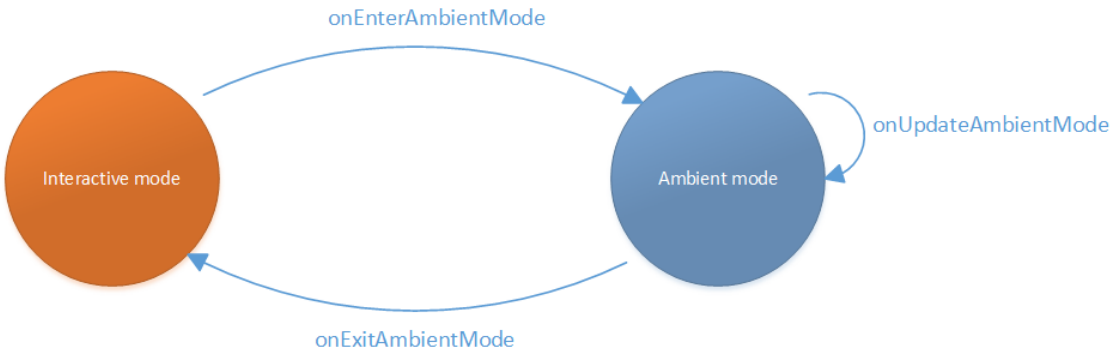
10:36:34
DAYS LEFT IN YEAR
117

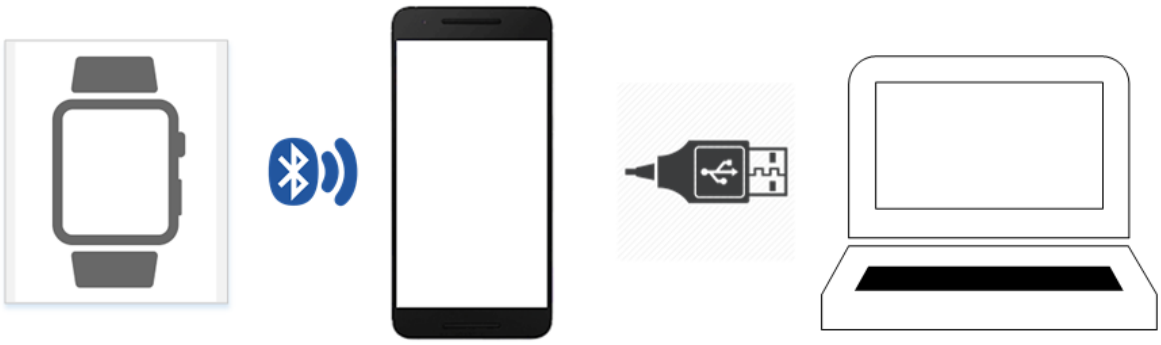
10:49 PM
MONDAY
9/5/16

Background color
Black
Blue

11:00:24
MONDAY
9/5/16

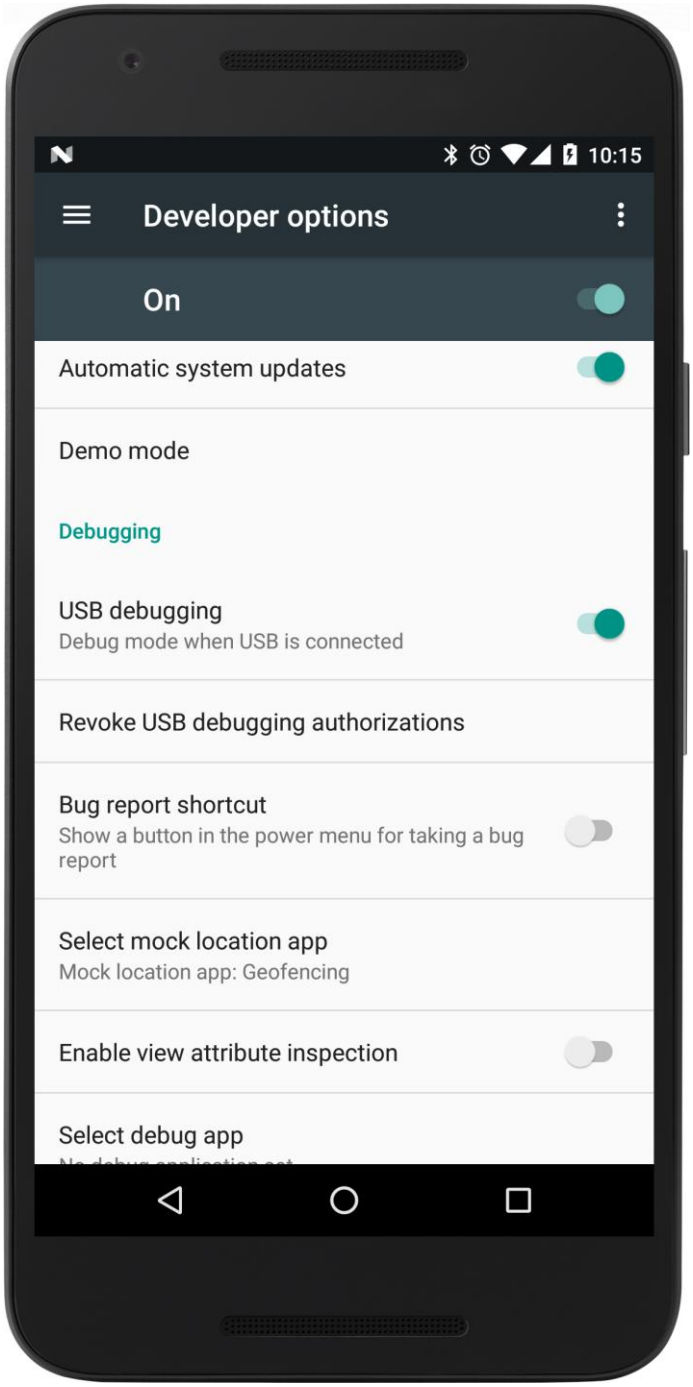
Chapter 11: Advanced Features and Concepts

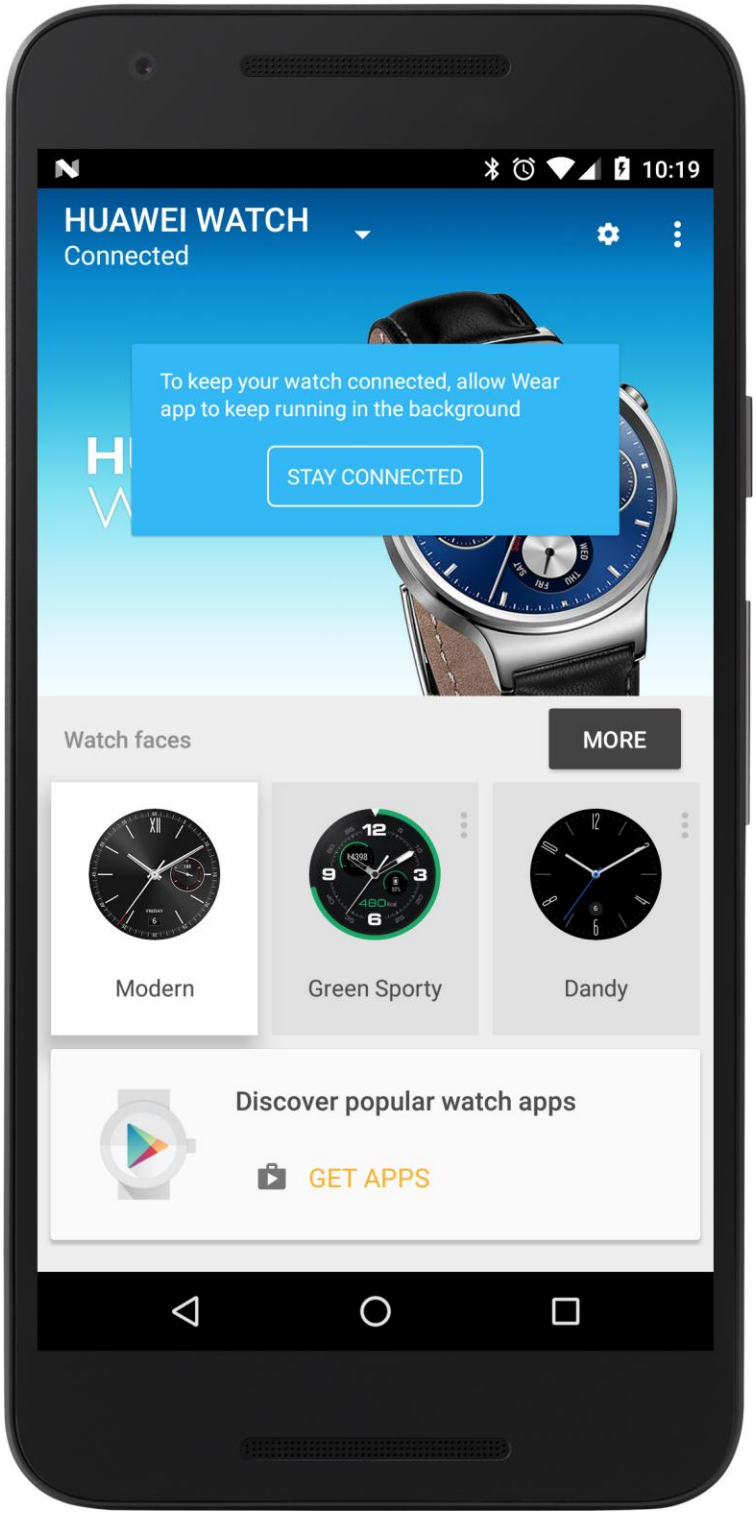


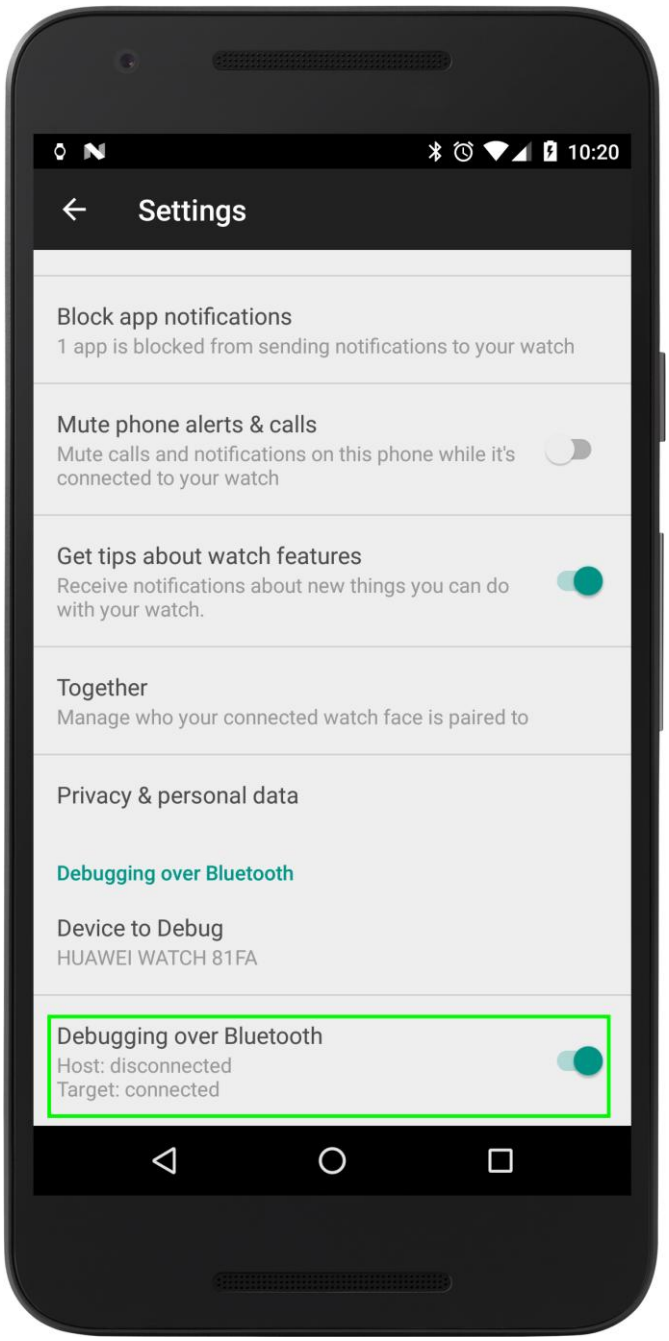


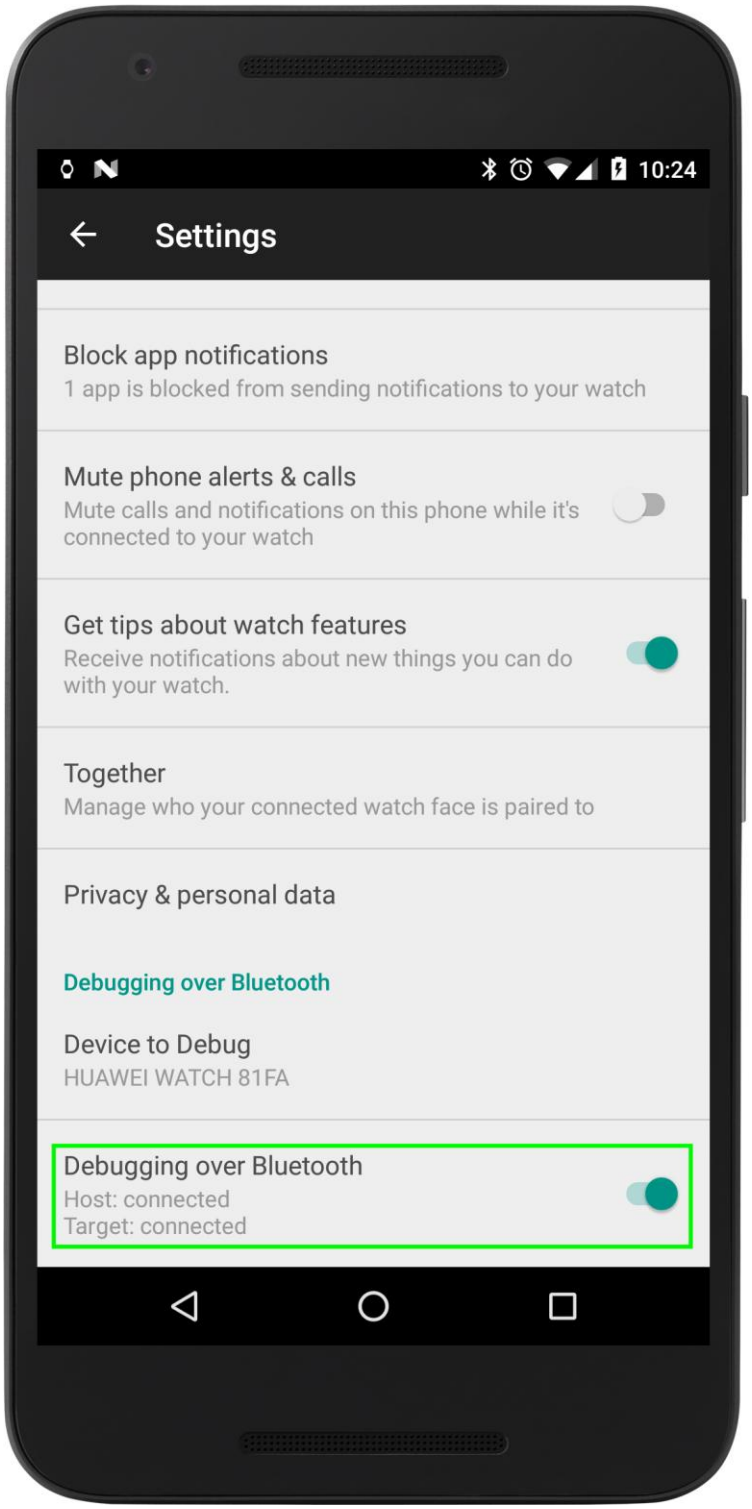
Total Step Count
72357 Steps

Total Step Count
72357 Steps


10:15
Developer options
On
Automatic system updates
Demo mode
Debugging
USB debugging
Debug mode when USB is connected
Revoke USB debugging authorizations
Bug report shortcut
Show a button in the power menu for taking a bug report
Select mock location app
Mock location app: Geofencing
Enable view attribute inspection
Select debug app

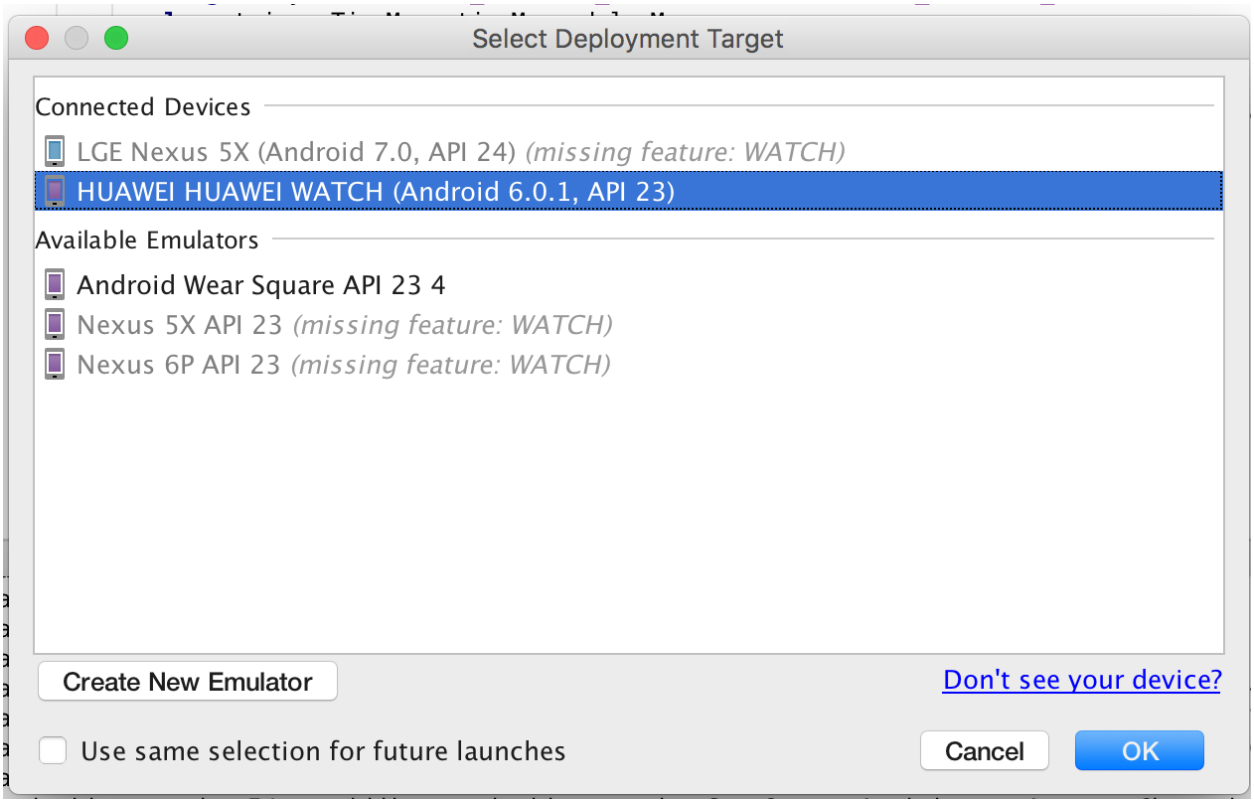

10:19
HUAWEI WATCH
Connected
To keep your watch connected, allow Wear app to keep running in the background
STAY CONNECTED
Watch faces
MORE
Modern
Green Sporty
Dandy
Discover popular watch apps
GET APPS


10:20
Settings
Block app notifications
1 app is blocked from sending notifications to your watch
Mute phone alerts & calls
Mute calls and notifications on this phone while it's connected to your watch
Get tips about watch features
Receive notifications about new things you can do with your watch.
Together
Manage who your connected watch face is paired to
Privacy & personal data
Debugging over Bluetooth
Device to Debug
HUAWEI WATCH 81FA
Debugging over Bluetooth
Host: disconnected
Target: connected

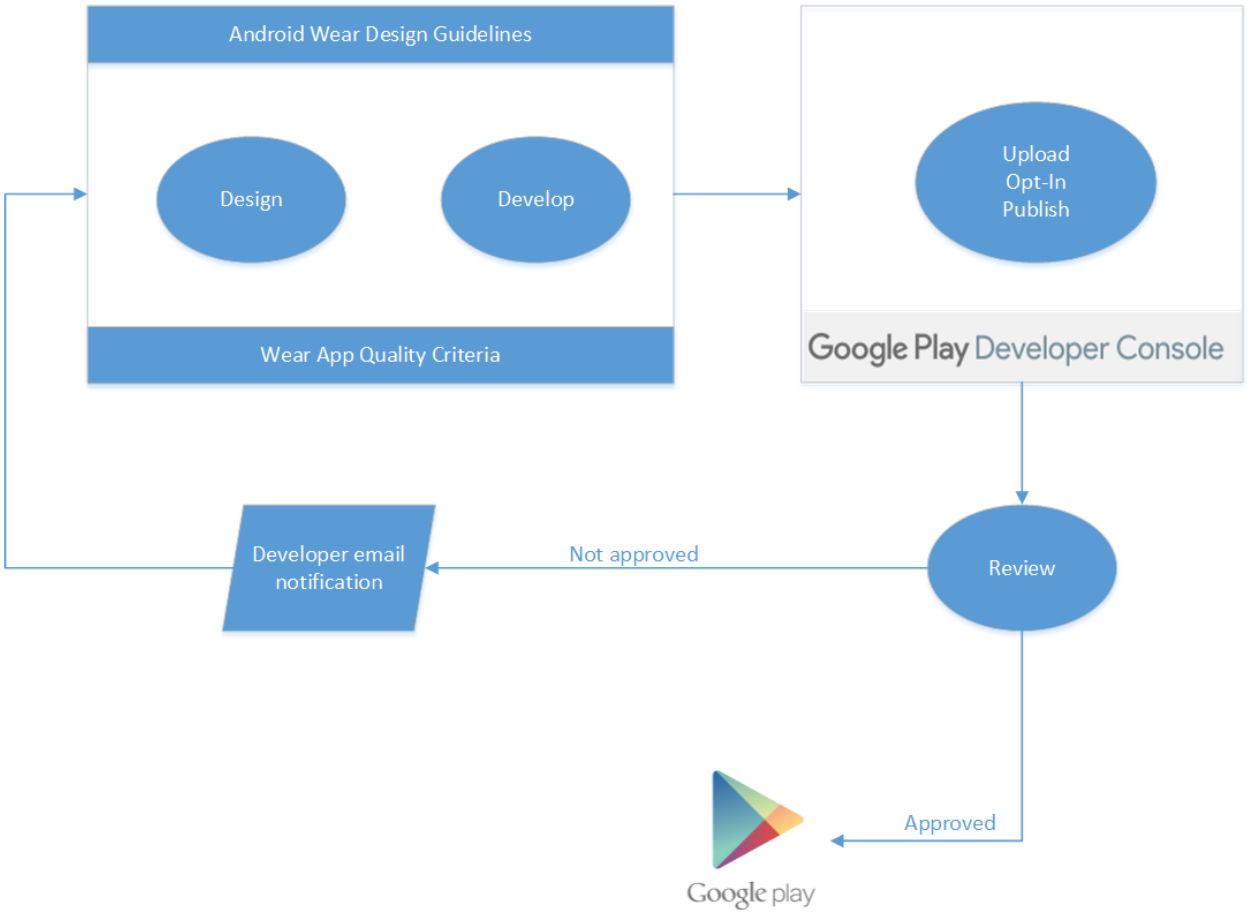

10:24
Settings
Block app notifications
1 app is blocked from sending notifications to your watch
Mute phone alerts & calls
Mute calls and notifications on this phone while it's connected to your watch
Get tips about watch features
Receive notifications about new things you can do with your watch.
Together
Manage who your connected watch face is paired to
Privacy & personal data
Debugging over Bluetooth
Device to Debug
HUAWEI WATCH 81FA
Debugging over Bluetooth
Host: connected
Target: connected

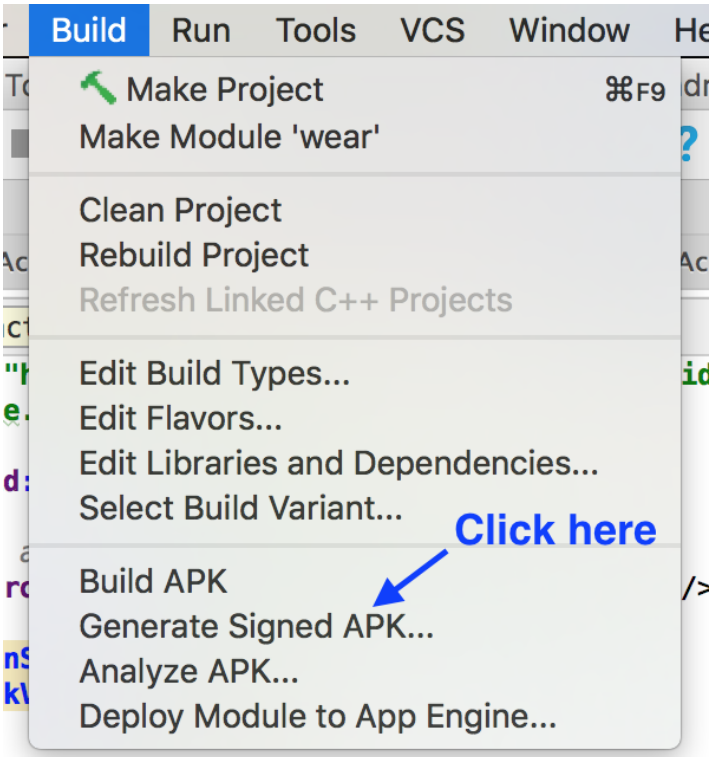
Debugging

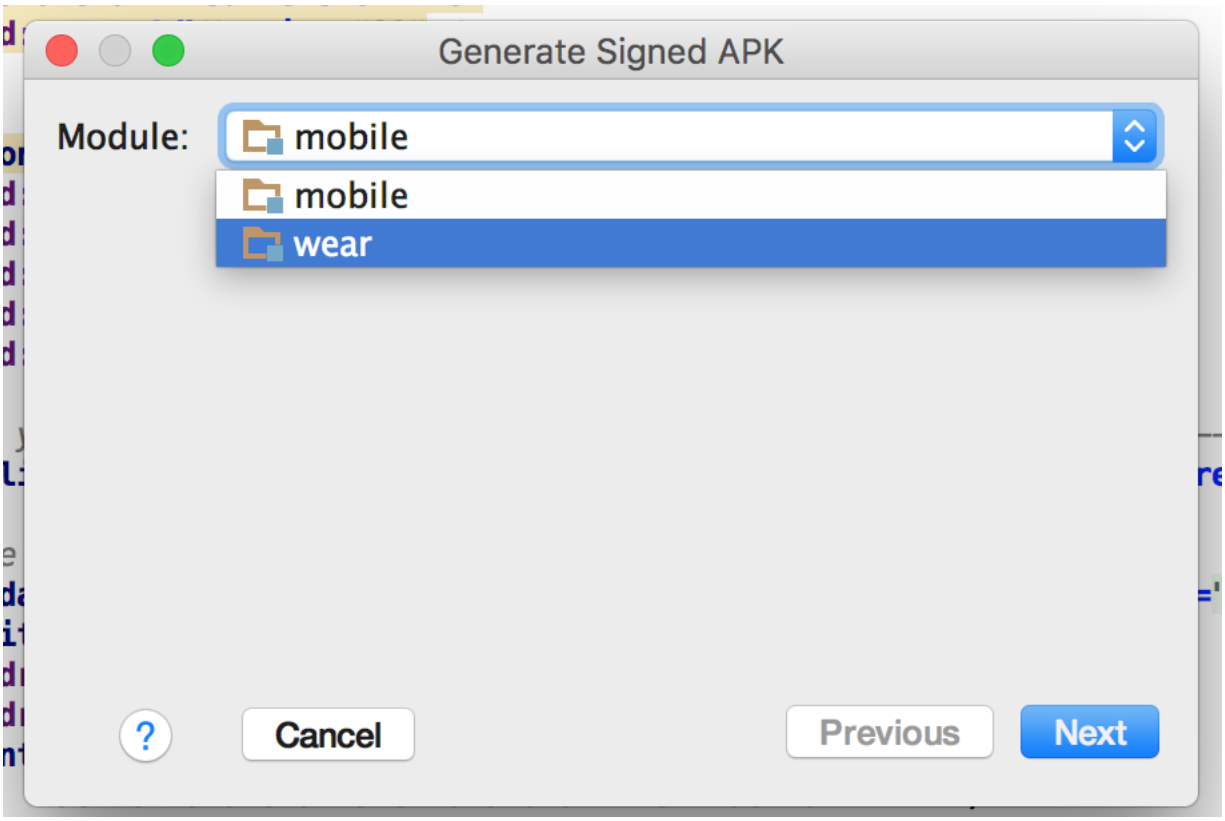
sabled
ADB debugging
Enabled
Location
OFF
Debug over Bluetooth
Enabled
Wear Developer Options

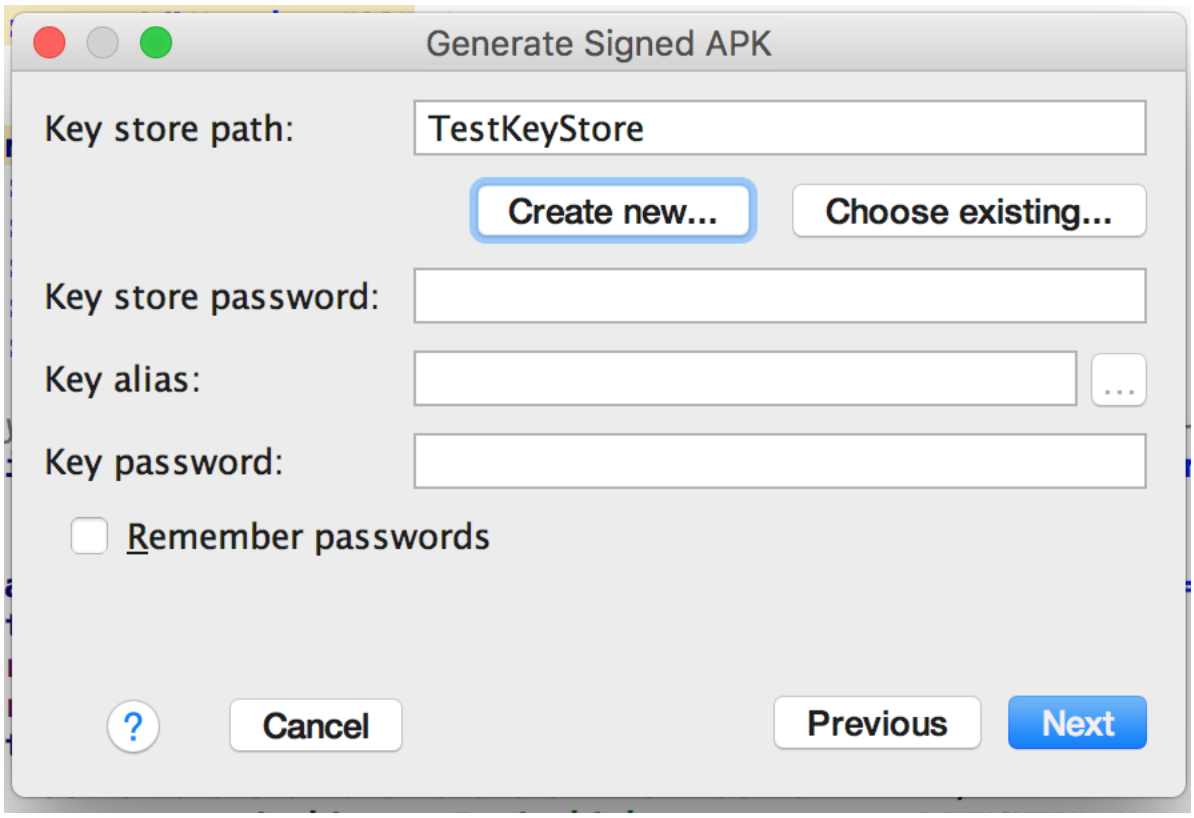

Select Deployment Target
Connected Devices
LGE Nexus 5X (Android 7.0, API 24) (missing feature: WATCH)
HUAWEI HUAWEI WATCH (Android 6.0.1, API 23)
Available Emulators
Android Wear Square API 23 4
Nexus 5X API 23 (missing feature: WATCH)
Nexus 6P API 23 (missing feature: WATCH)
Create New Emulator
Don't see your device?
Use same selection for future launches
Cancel
OK

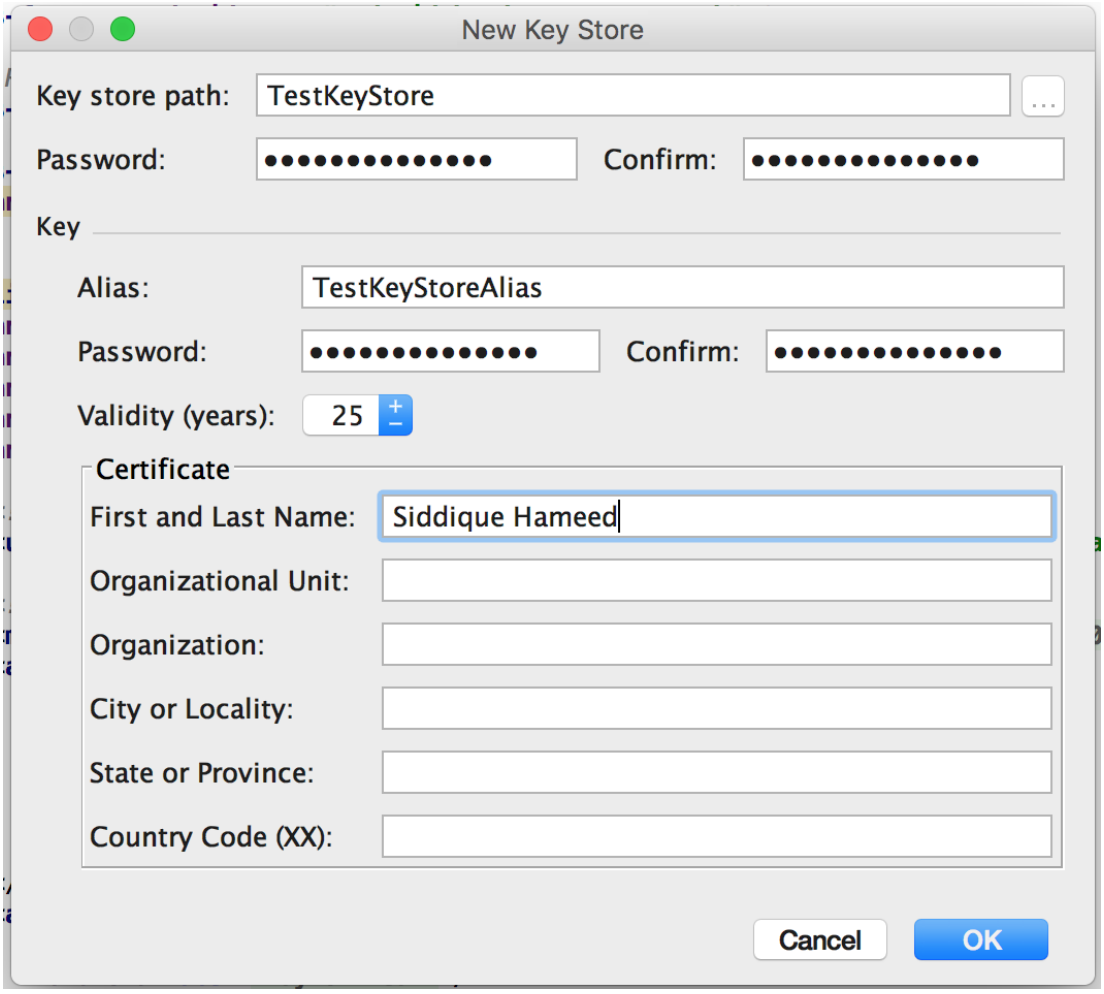
Chapter 12: Publishing Apps to Google Play

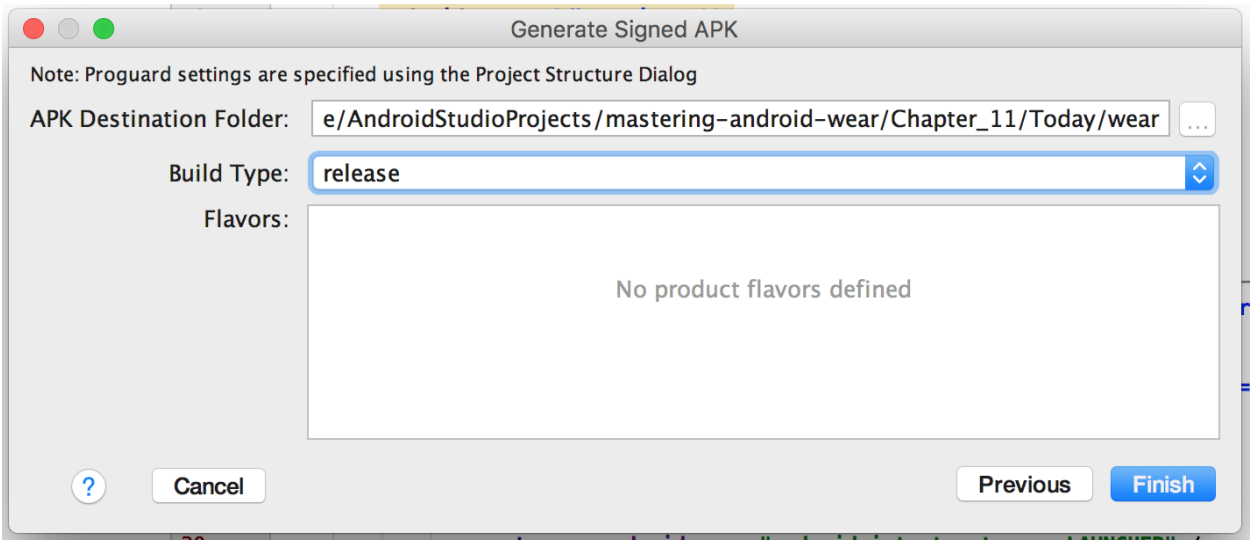


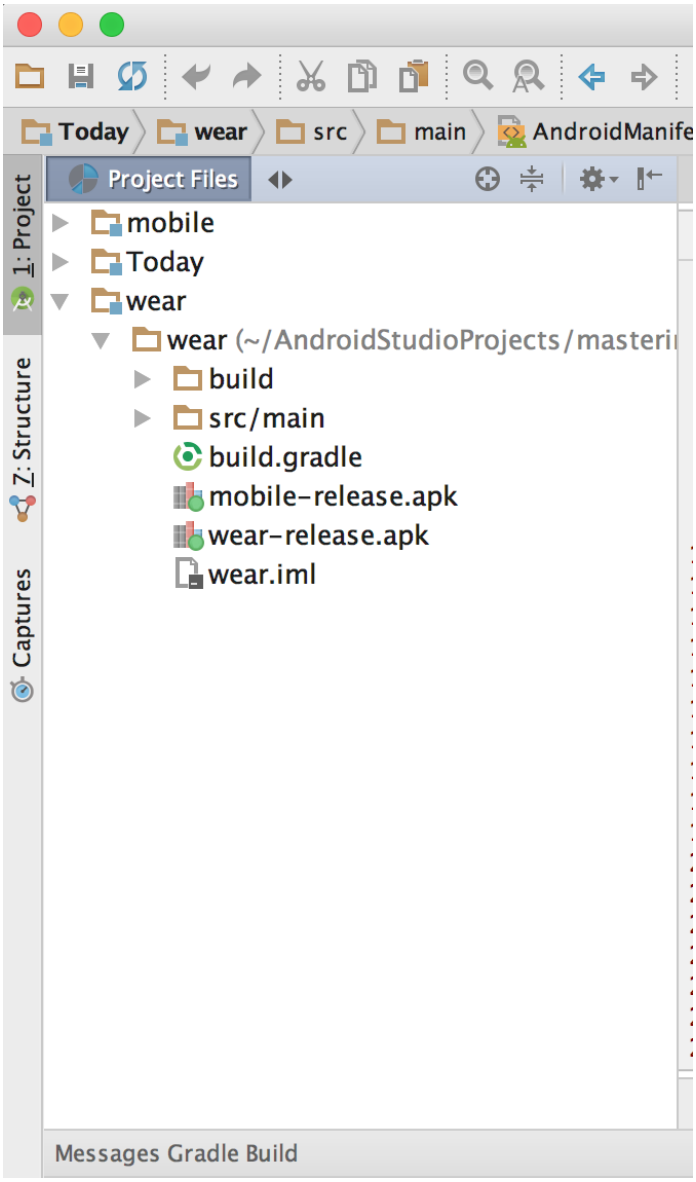

Build
Run
Tools
VCS
Window
Make Project
⌘F9
Make Module 'wear'
Clean Project
Rebuild Project
Refresh Linked C++ Projects
Edit Build Types...
Edit Flavors...
Edit Libraries and Dependencies...
Select Build Variant...
Click here
Build APK
Generate Signed APK...
Analyze APK...
Deploy Module to App Engine...

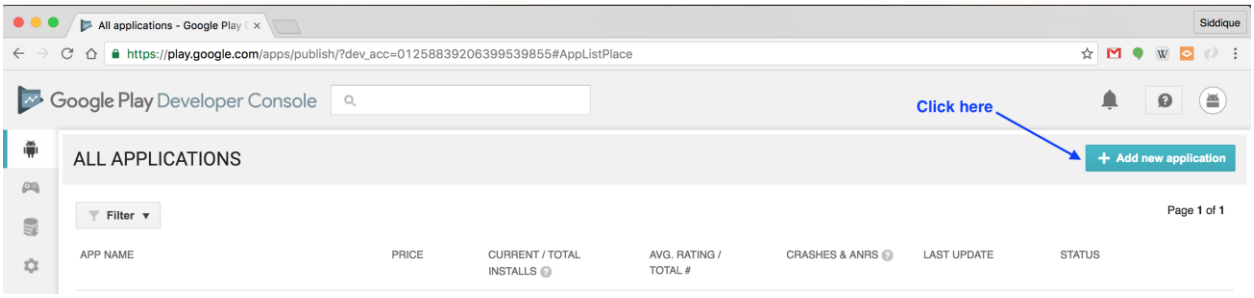

Generate Signed APK
Module:
mobile
mobile
wear
Cancel
Previous
Next


Generate Signed APK
Key store path:
TestKeyStore
Create new...
Choose existing...
Key store password:
Key alias:
Key password:
Remember passwords
?
Cancel
Previous
Next


New Key Store
Key store path:
TestKeyStore
Password:
Confirm:
Key
Alias:
TestKeyStoreAlias
Password:
Confirm:
Validity (years):
25
Certificate
First and Last Name:
Siddique Hameed
Organizational Unit:
Organization:
City or Locality:
State or Province:
Country Code (XX):
Cancel
OK


Generate Signed APK
Note: Proguard settings are specified using the Project Structure Dialog
APK Destination Folder:
e/AndroidStudioProjects/mastering-android-wear/Chapter_11/Today/wear
Build Type:
release
Flavors:
No product flavors defined
Cancel
Previous
Finish


Today
wear
src
main
AndroidManife
Project Files
1: Project
7: Structure
Captures
mobile
Today
wear
wear (~/AndroidStudioProjects/masteri
build
src/main
build.gradle
mobile-release.apk
wear-release.apk
wear.iml
Messages Gradle Build


All applications - Google Play
Siddique
https://play.google.com/apps/publish/?dev_acc=01258839206399539855#AppListPlace
Google Play Developer Console
Click here
ALL APPLICATIONS
+ Add new application
Filter
Page 1 of 1
APP NAME
PRICE
CURRENT / TOTAL INSTALLS
AVG. RATING / TOTAL #
CRASHES & ANRS
LAST UPDATE
STATUS

ADD NEW APPLICATION

Default language *

English (United States) – en-US

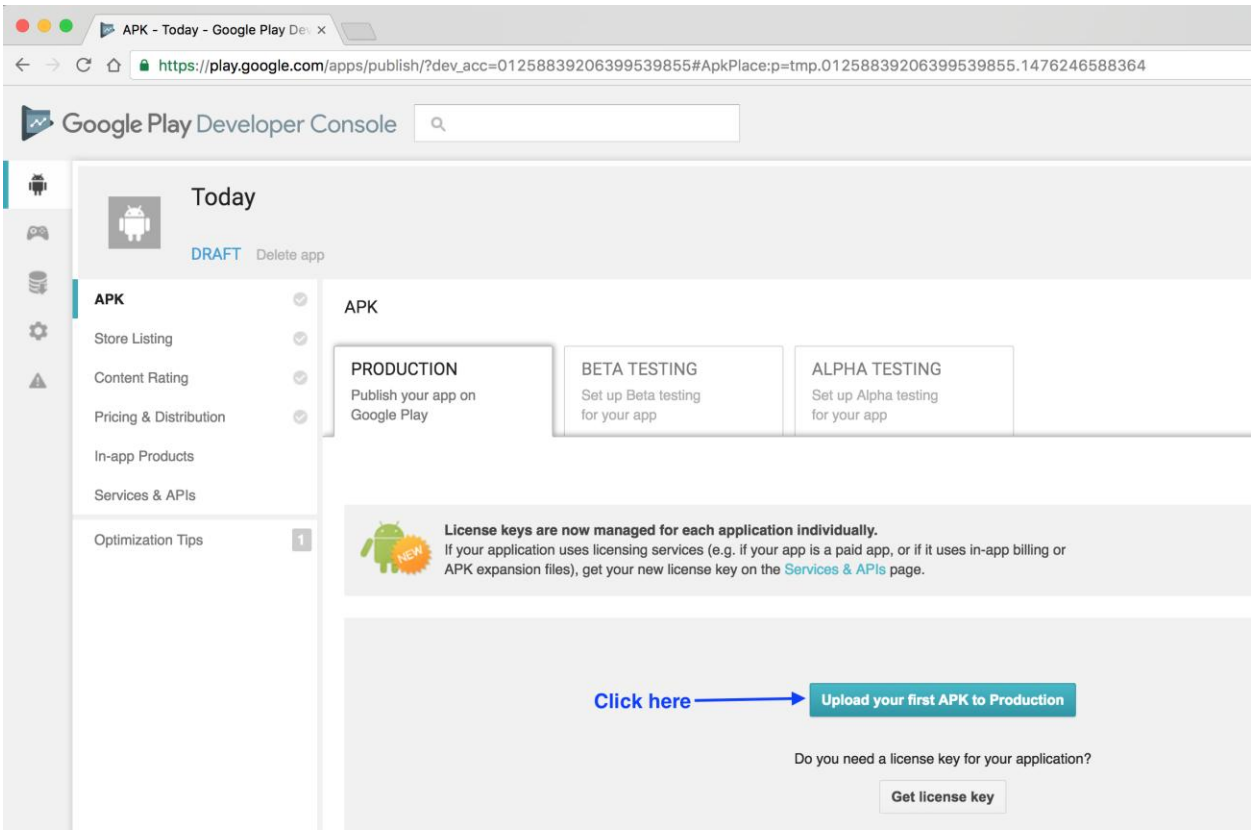
Title *

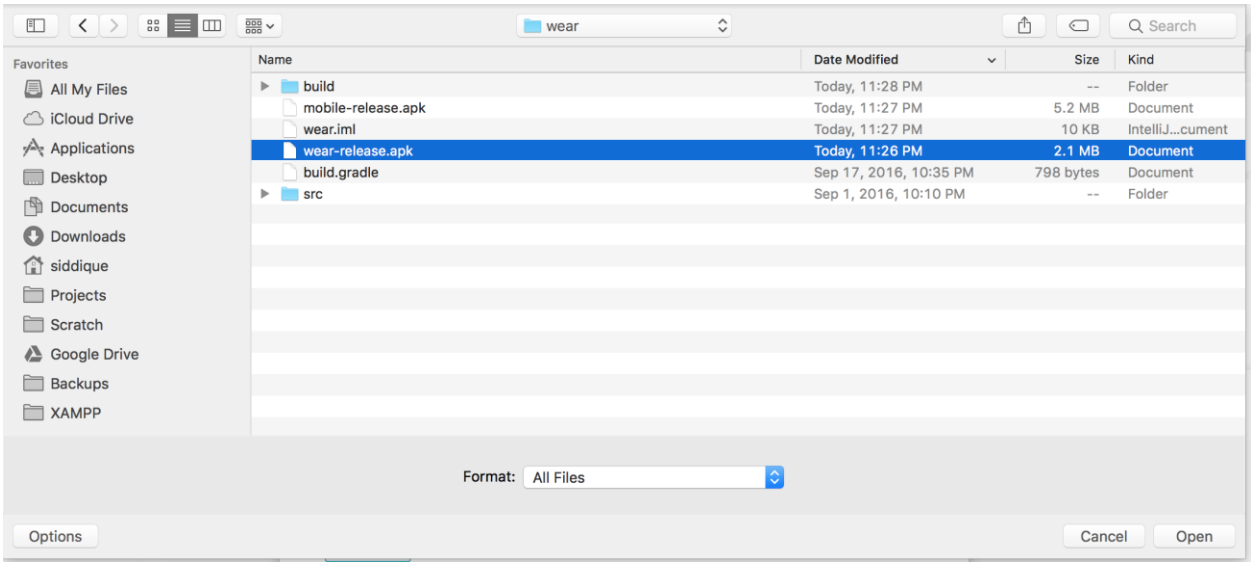
Today

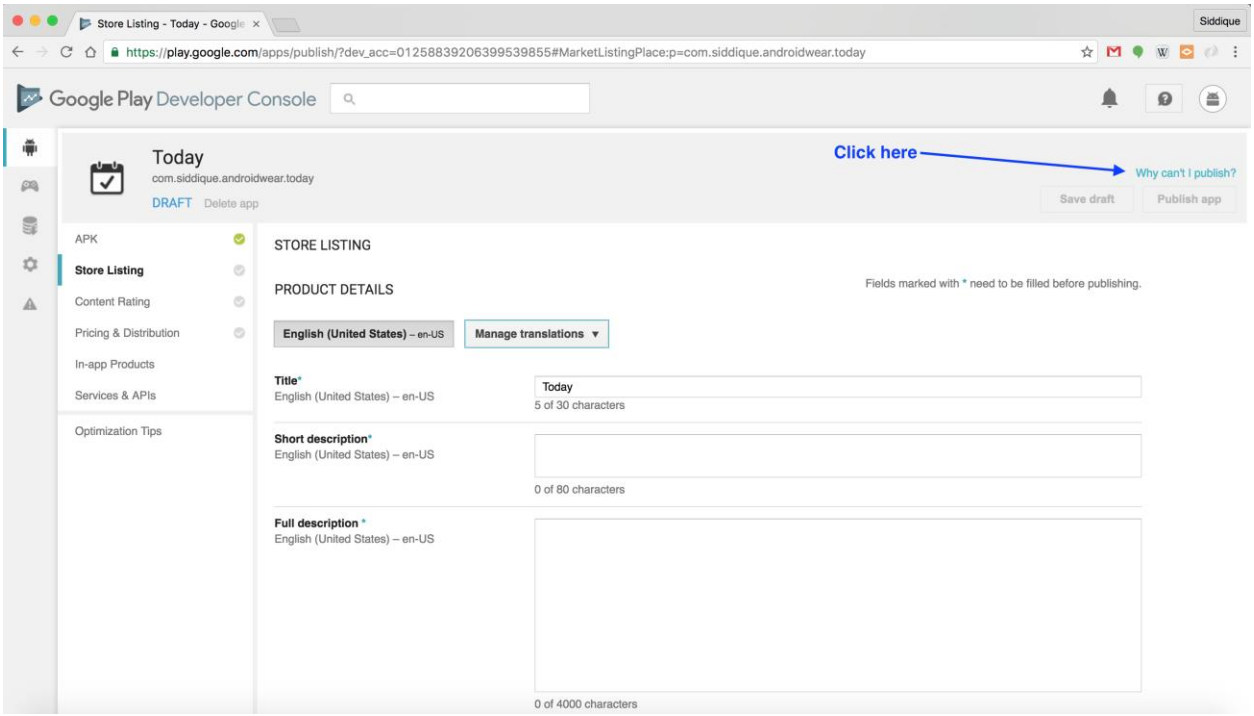
5 of 30 characters

What would you like to start with?

Upload APK **Prepare Store Listing** **Cancel**




wear
Search
Favorites
All My Files
iCloud Drive
Applications
Desktop
Documents
Downloads
siddique
Projects
Scratch
Google Drive
Backups
XAMPP
Name
Date Modified
Size
Kind
build
Today, 11:28 PM
--
Folder
mobile-release.apk
Today, 11:27 PM
5.2 MB
Document
wear.iml
Today, 11:27 PM
10 KB
IntelliJ...cument
wear-release.apk
Today, 11:26 PM
2.1 MB
Document
build.gradle
Sep 17, 2016, 10:35 PM
798 bytes
Document
src
Sep 1, 2016, 10:10 PM
--
Folder
Format:
All Files
Options
Cancel
Open


Store Listing - Today - Google
Siddique
https://play.google.com/apps/publish/?dev_acc=01258839206399539855#MarketListingPlace:p=com.siddique.androidwear.today
Google Play Developer Console
Today
com.siddique.androidwear.today
DRAFT
Delete app
Click here
Why can't I publish?
Save draft
Publish app
APK
Store Listing
Content Rating
Pricing & Distribution
In-app Products
Services & APIs
Optimization Tips
STORE LISTING
PRODUCT DETAILS
Fields marked with * need to be filled before publishing.
English (United States) – en-US
Manage translations
Title*
English (United States) – en-US
Today
5 of 30 characters
Short description*
English (United States) – en-US
0 of 80 characters
Full description *
English (United States) – en-US
0 of 4000 characters

WHY CAN'T I PUBLISH?

You need to complete the points below before you can publish your application.

You need to add a high-res icon. [English (United States) – en-US]
You need to add a feature graphic. [English (United States) – en-US]
You need to add at least 2 non-Android TV screenshots. [English (United States) – en-US]
You need to select a category.
You need to select a content rating.
You need to add a short description. [English (United States) – en-US]
You need to add a full description. [English (United States) – en-US]
You need to acknowledge that this application meets the Content Guidelines.
You need to acknowledge that this application complies with US export laws.
You need to target at least one country.
You need to enter a privacy policy URL.
You need to make your application free or set a price for it.
You need to declare whether or not your application contains ads.
Your app is missing a required content rating. Go to your app's Content Rating page and complete a rating questionnaire.

Close