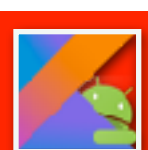




# Building a View and MVC

@somkiat



# Topics

Building a View  
Model-View-Controller (MVC)  
Workshop  
Homework



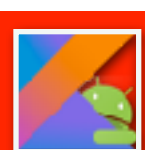
# GUI Architecture of Android

Single thread (Main Thread)

Event-driven

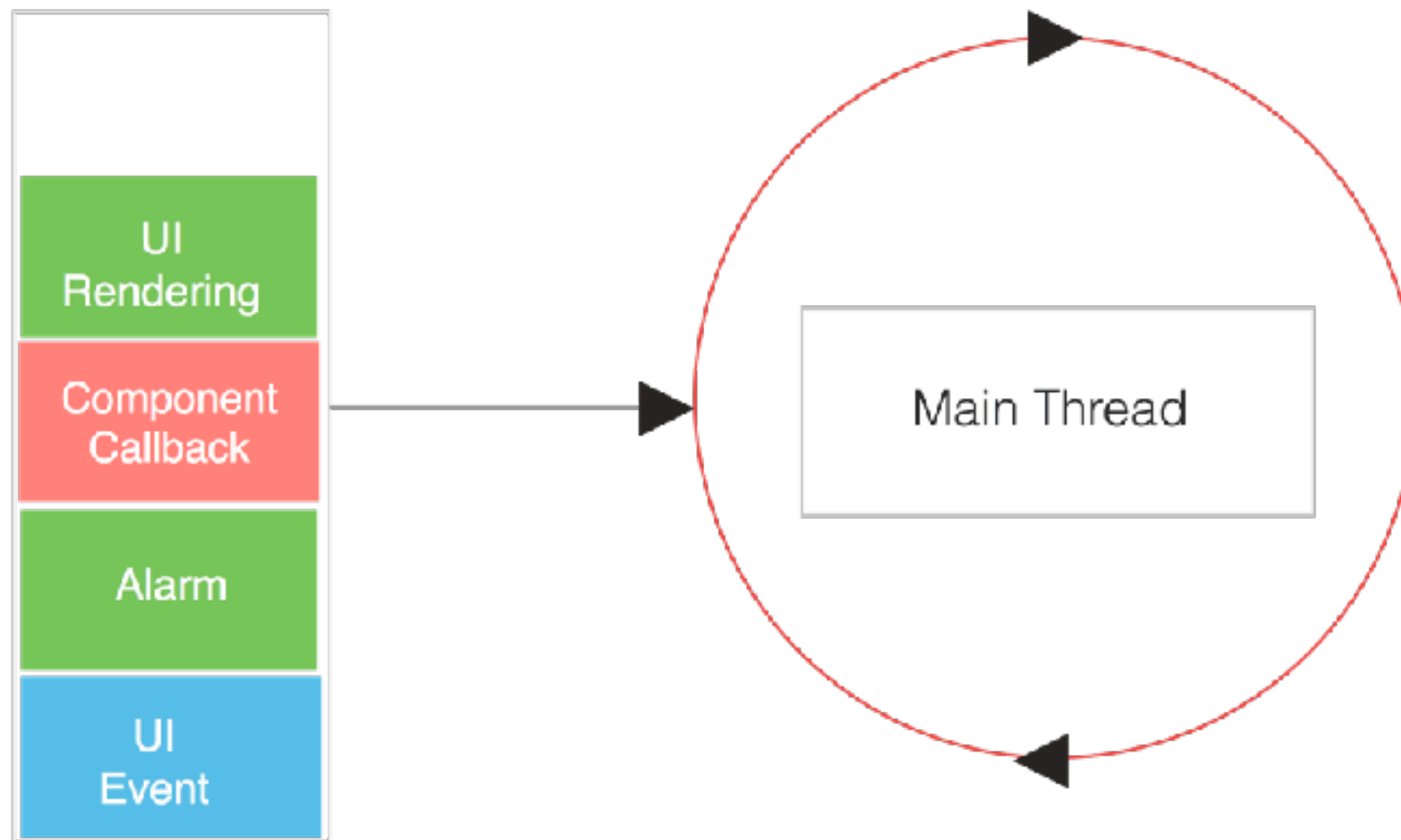
Nestable components

Model-View-Controller pattern



# Main Thread Queue

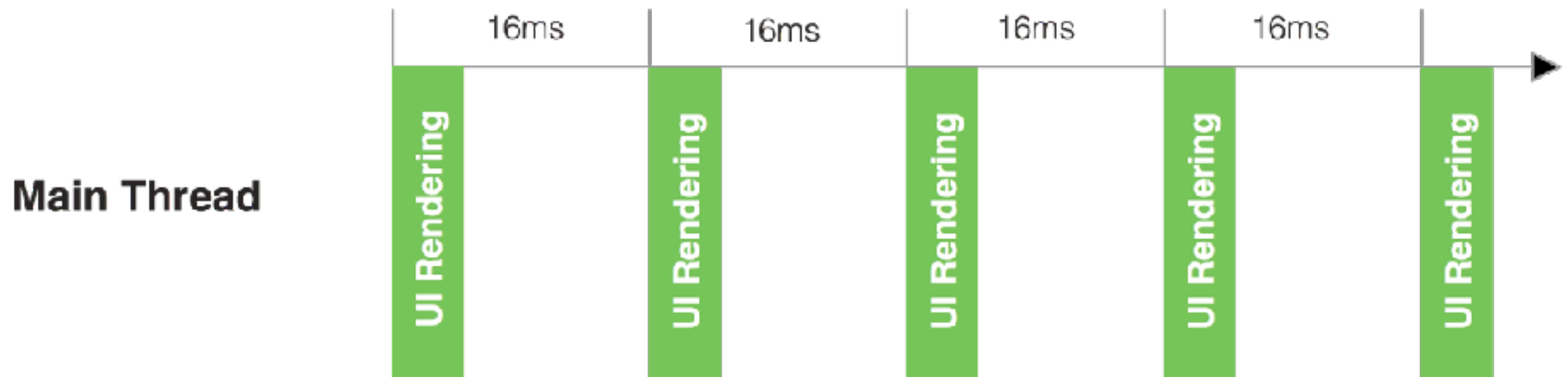
Message Queue



<http://hvasconcelos.github.io/articles/Offloading-work-from-the-UI-Thread>



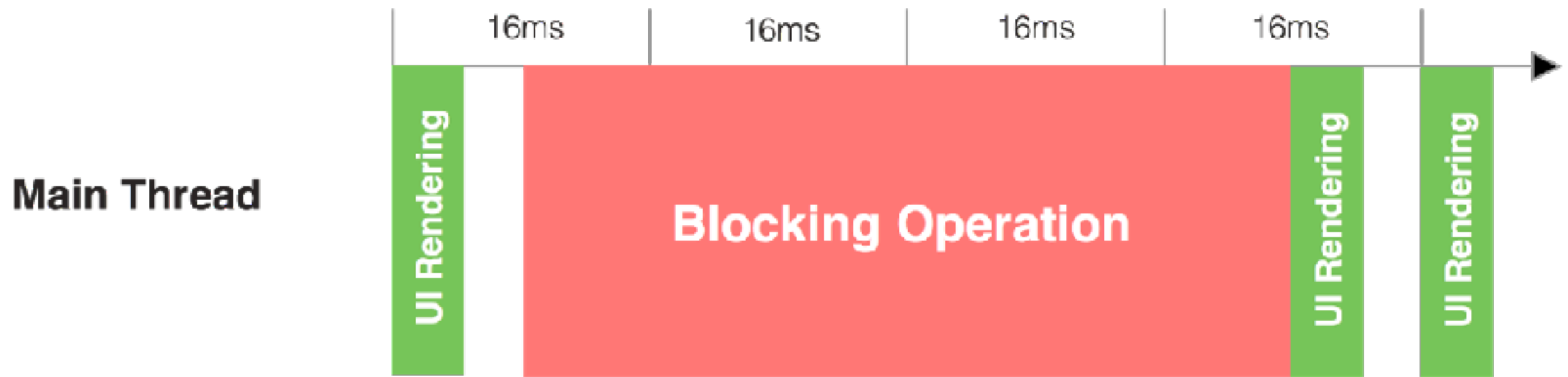
# Main Thread Rendering



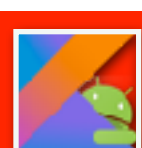
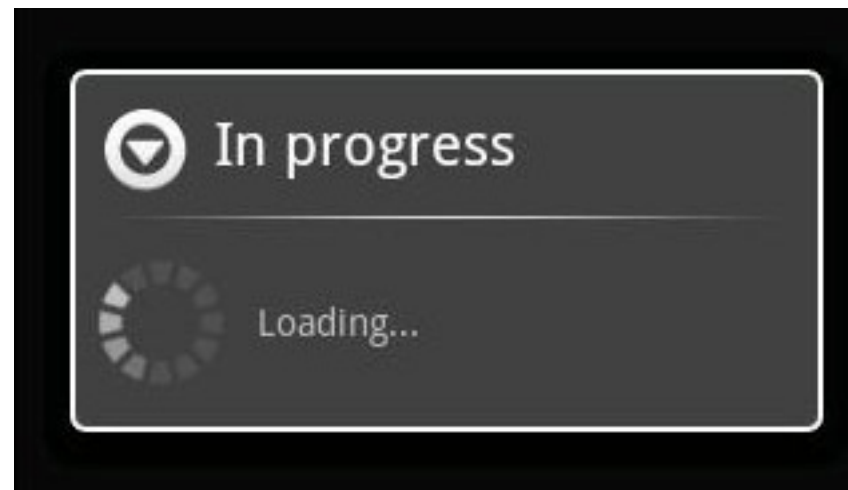
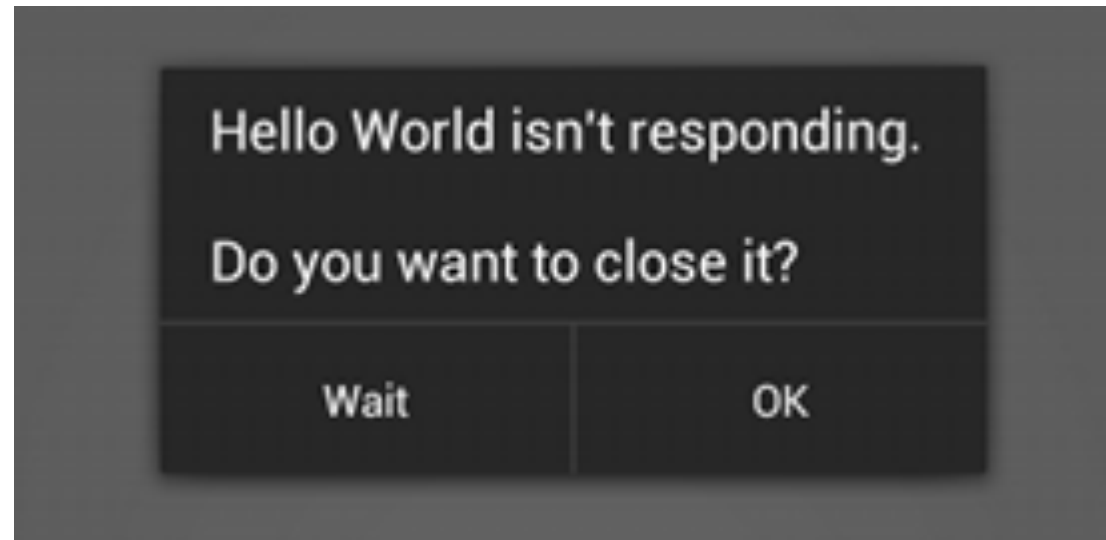
Most android devices refresh the screen 60 times/second, every 16 ms



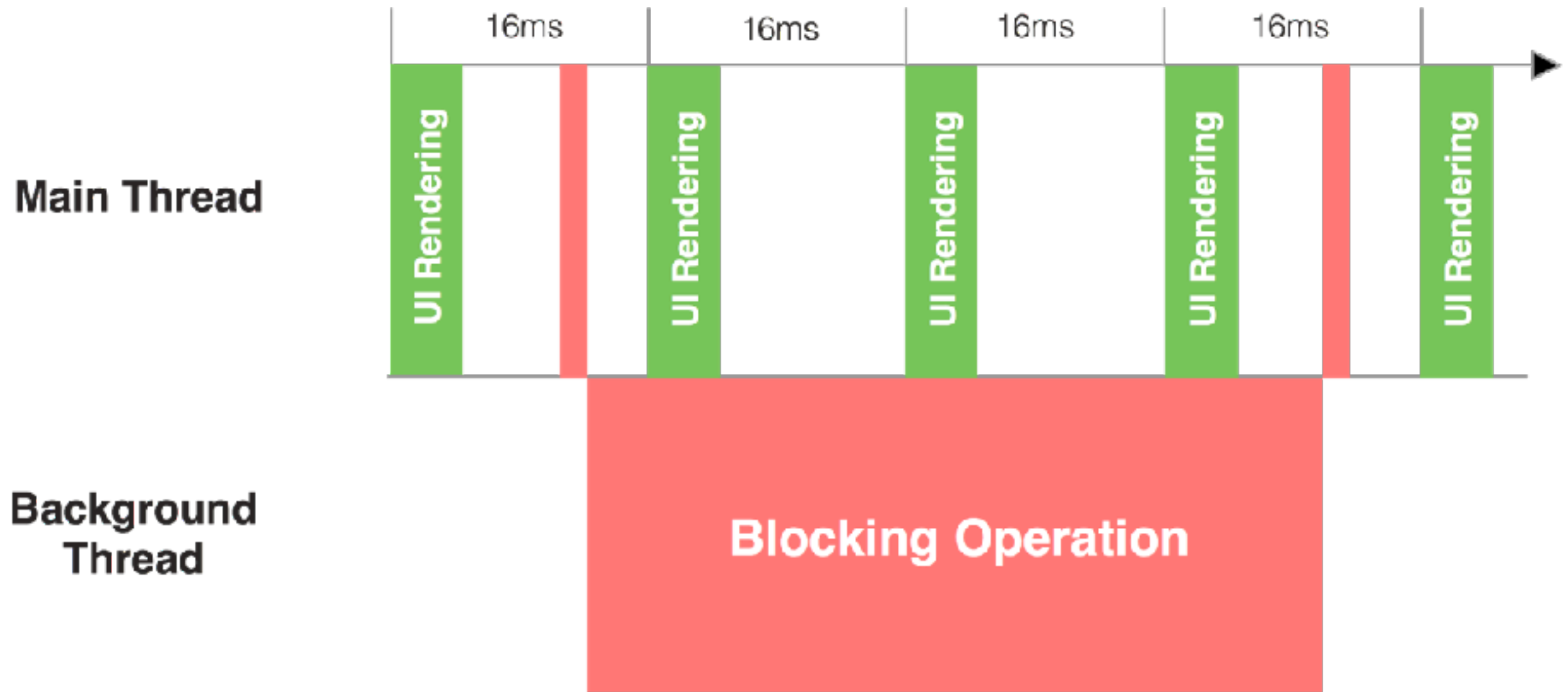
# Blocking Operation !!



# Blocking Operation !!



# Background Thread





# Asynchronous Techniques

Thread  
AsyncTask  
Loader  
IntentService  
JobScheduler  
RxJava



# MVC

**Model View Controller**



# Model

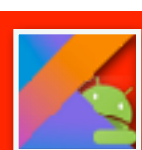
Represent the **data** or data container  
e.g. data store or database



# View

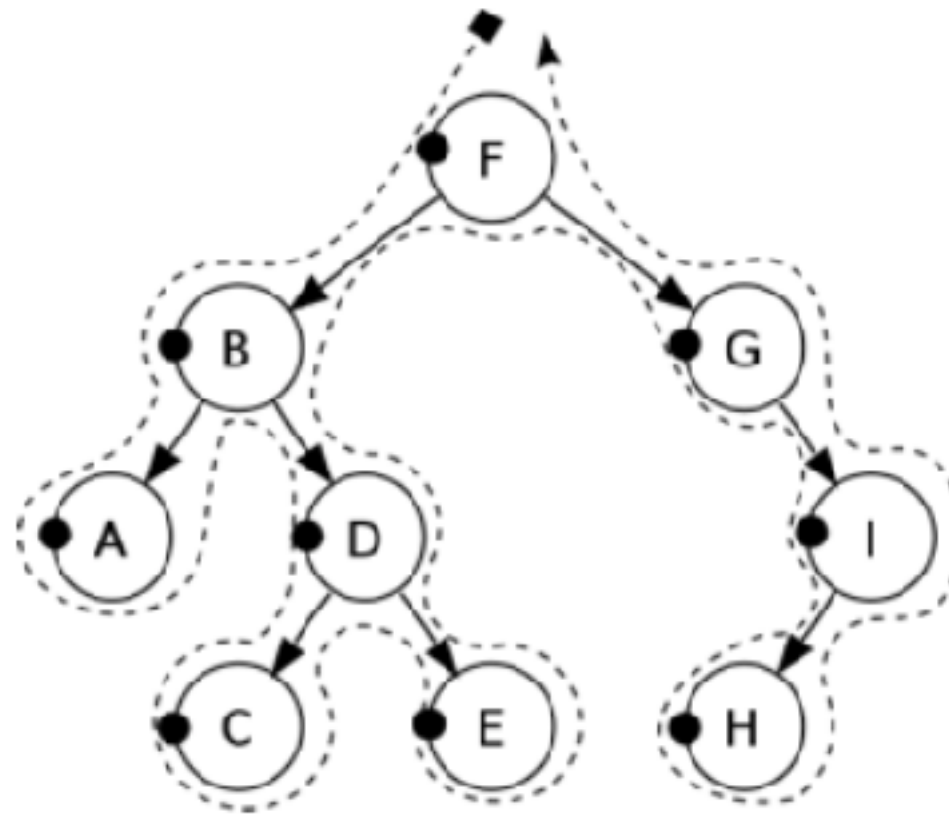
Responsible for rendering the display  
Sending audio to speakers

In android, it's extend from **View class**

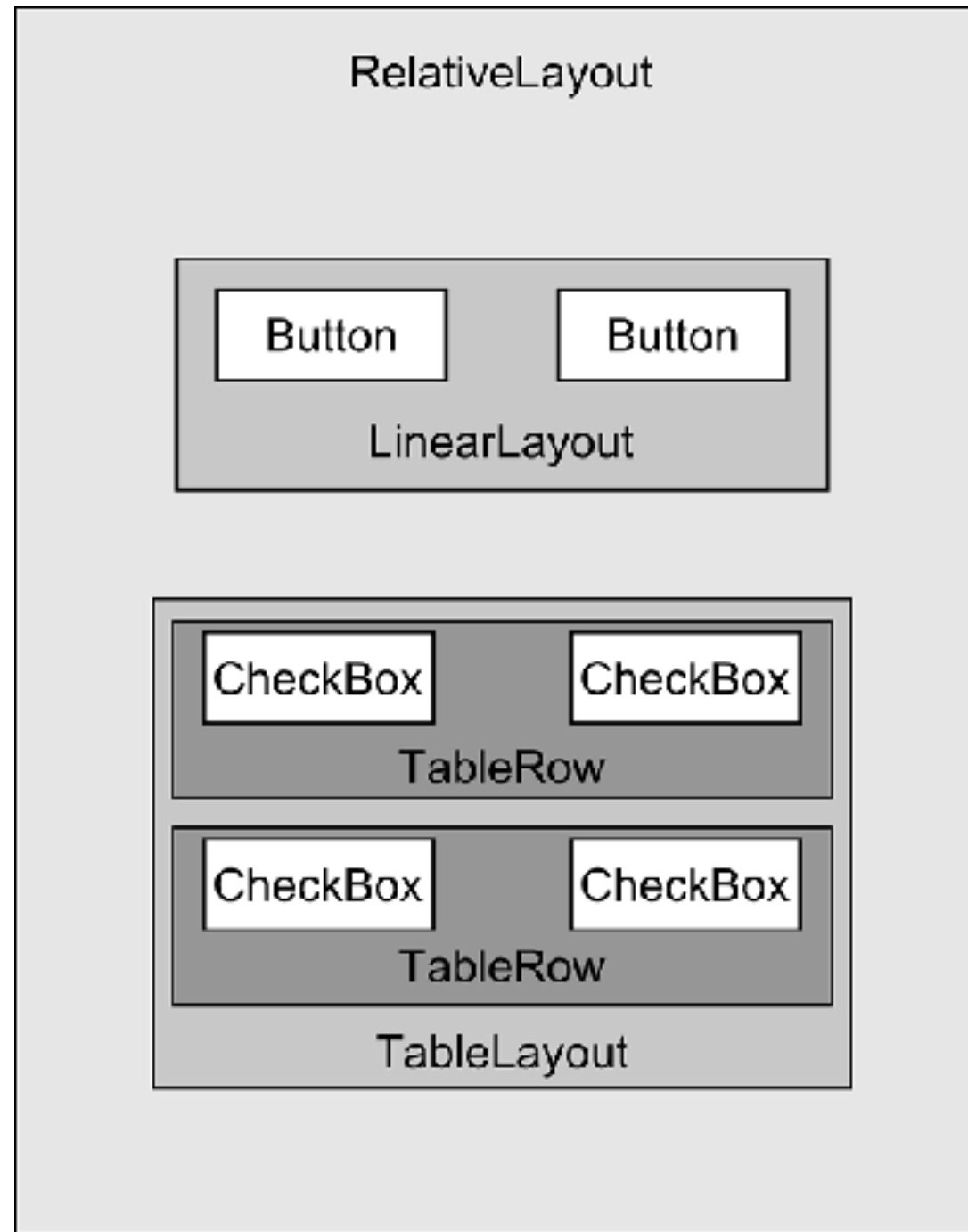


# View

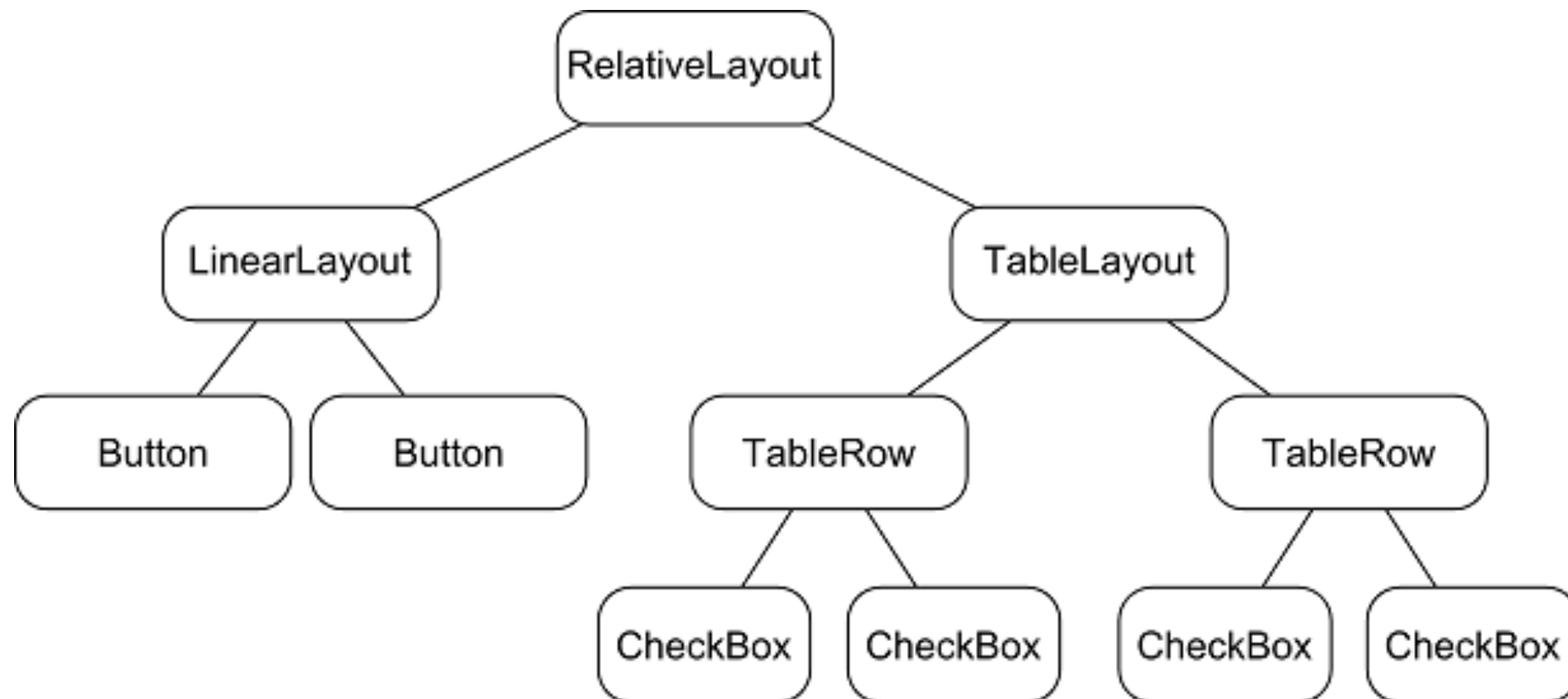
In Android, it's extend from **View** class



# View Hierarchy



# View Hierarchy



# Improving your layout

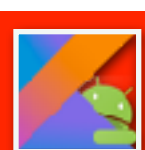
Inspect your layout

Revise your layout

Use Lint

Loading view on demand  
more ...

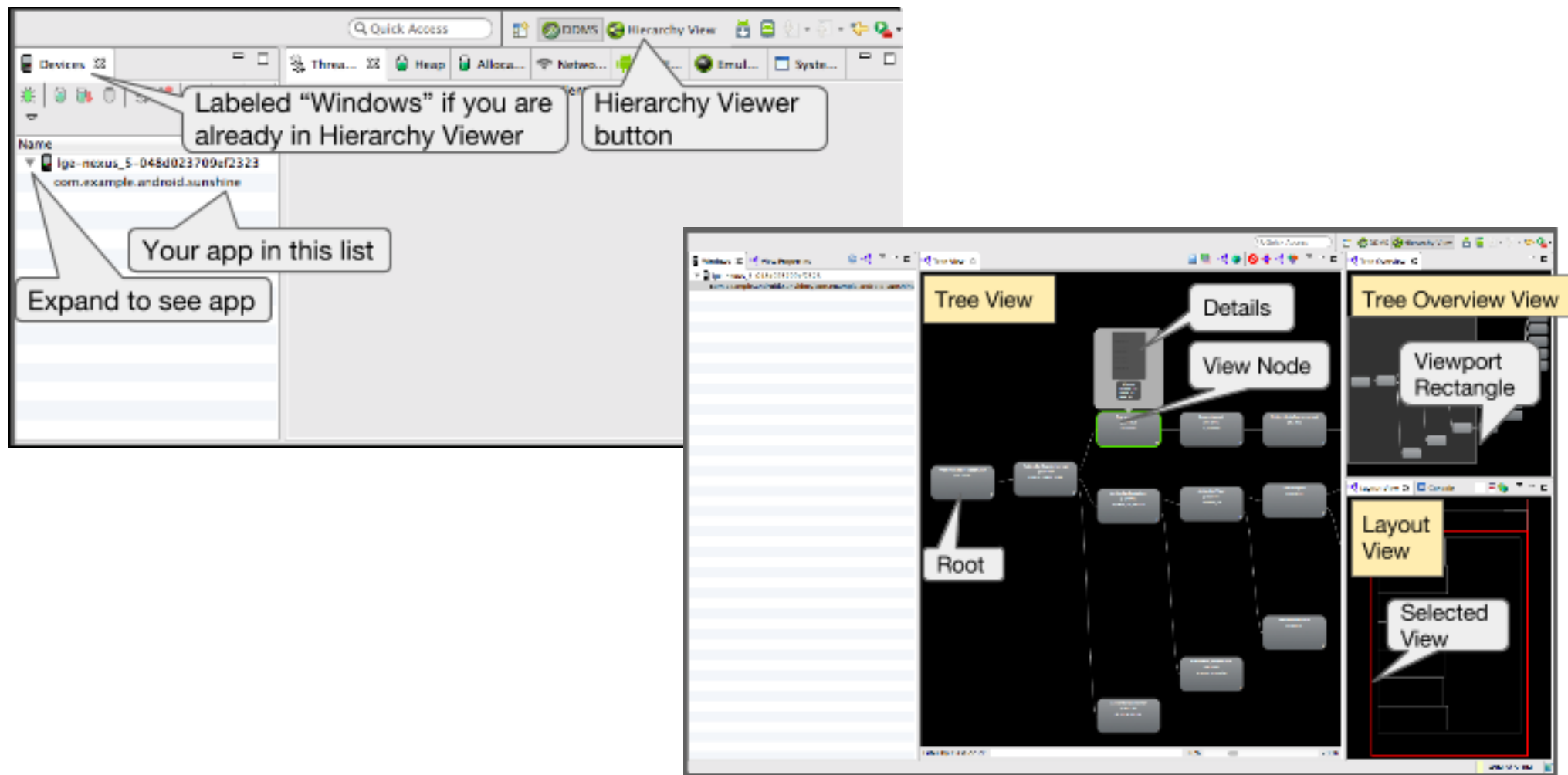
<https://developer.android.com/training/improving-layouts/index.html>





# Profiling your layout

## Hierarchy Viewer



<https://developer.android.com/studio/profile/hierarchy-viewer.html>

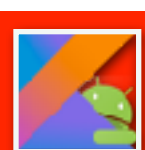
# Controller

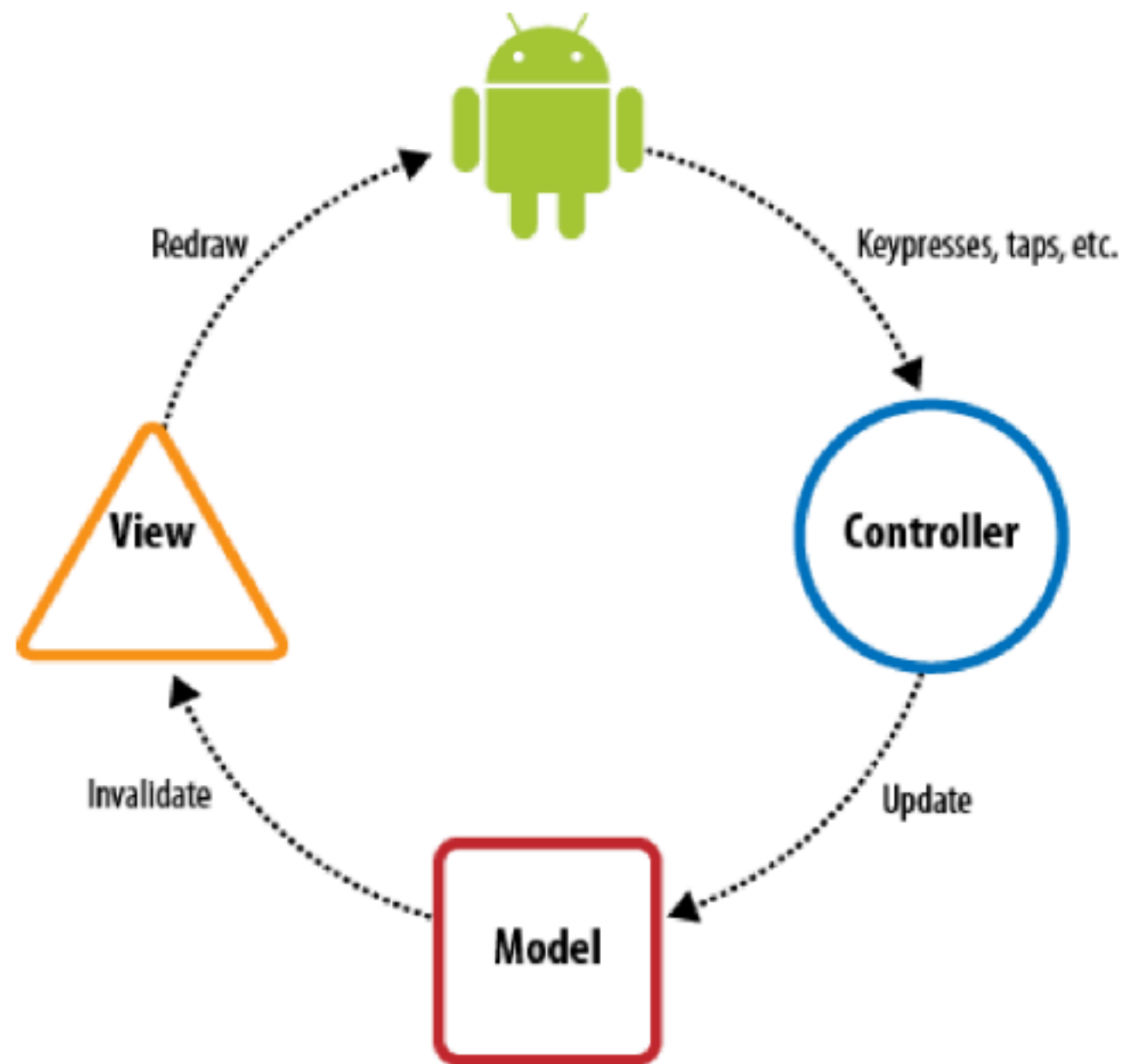
Responds to external actions

e.g. keystone, swipe, tab, incoming call

Implemented as a **event queue**

Update model from actions/events





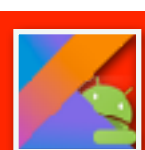
# More !!!

Model View Presenter

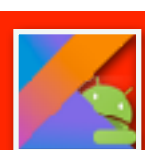
Model View ViewModel

View Interactor Presenter Entity Router

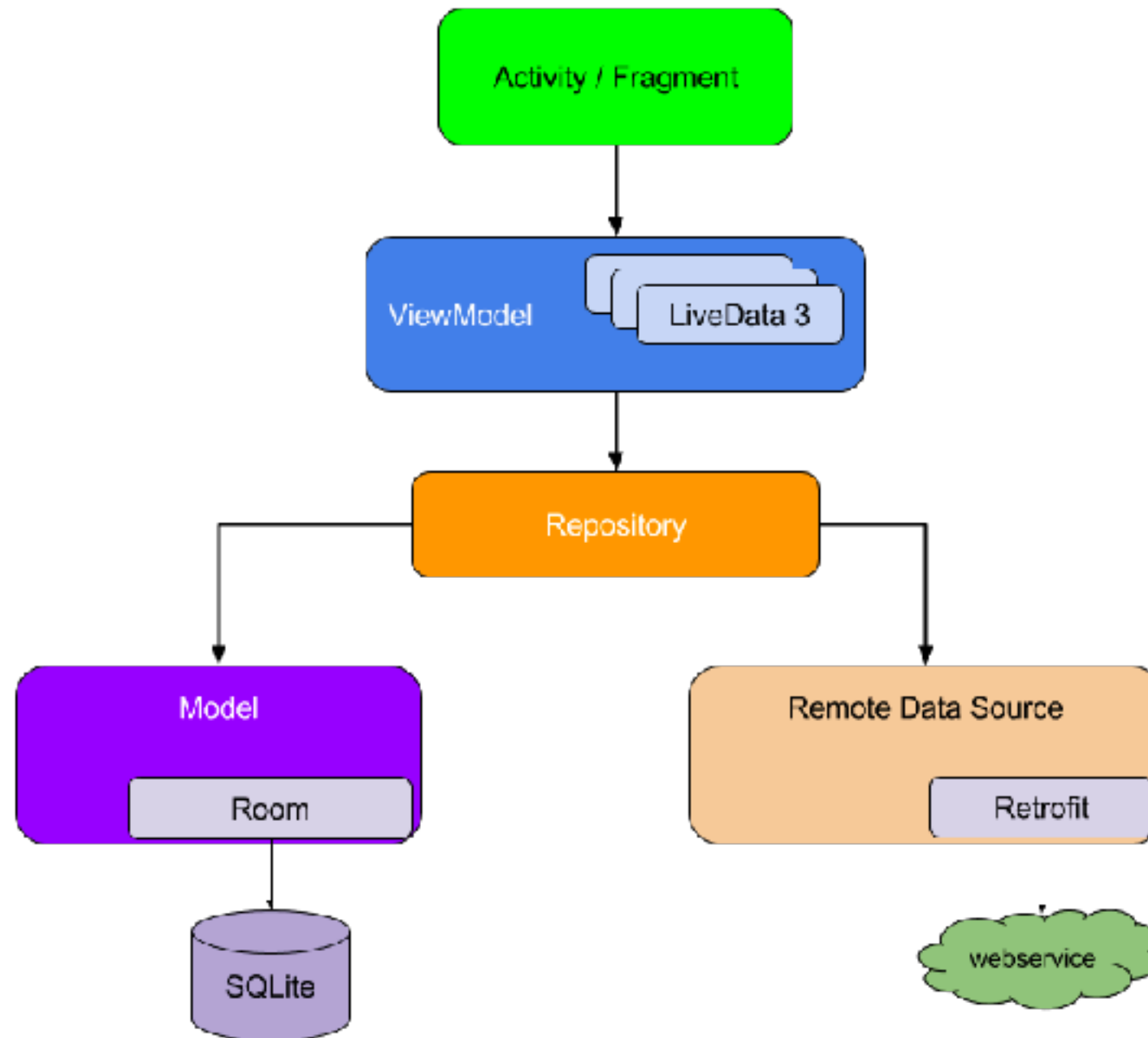
Clean Architecture



more ^\_^



# Architecture Components



<https://developer.android.com/topic/libraries/architecture/guide.html>

# Start workshop



# Let's coding

