Getting started with Android Part 2

1/12/18

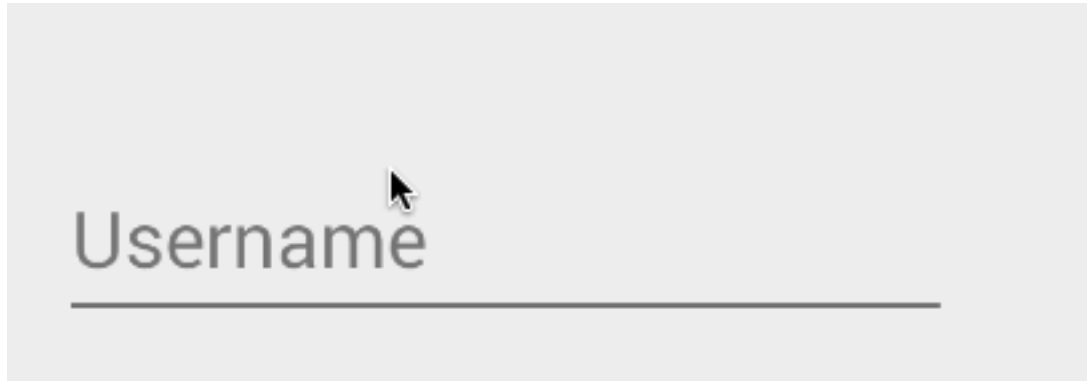Presented by: Cassiano Monteiro

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Contents

- Managing library dependencies

- More UI components

- Screen transitions

- Internet requests

- Permissions
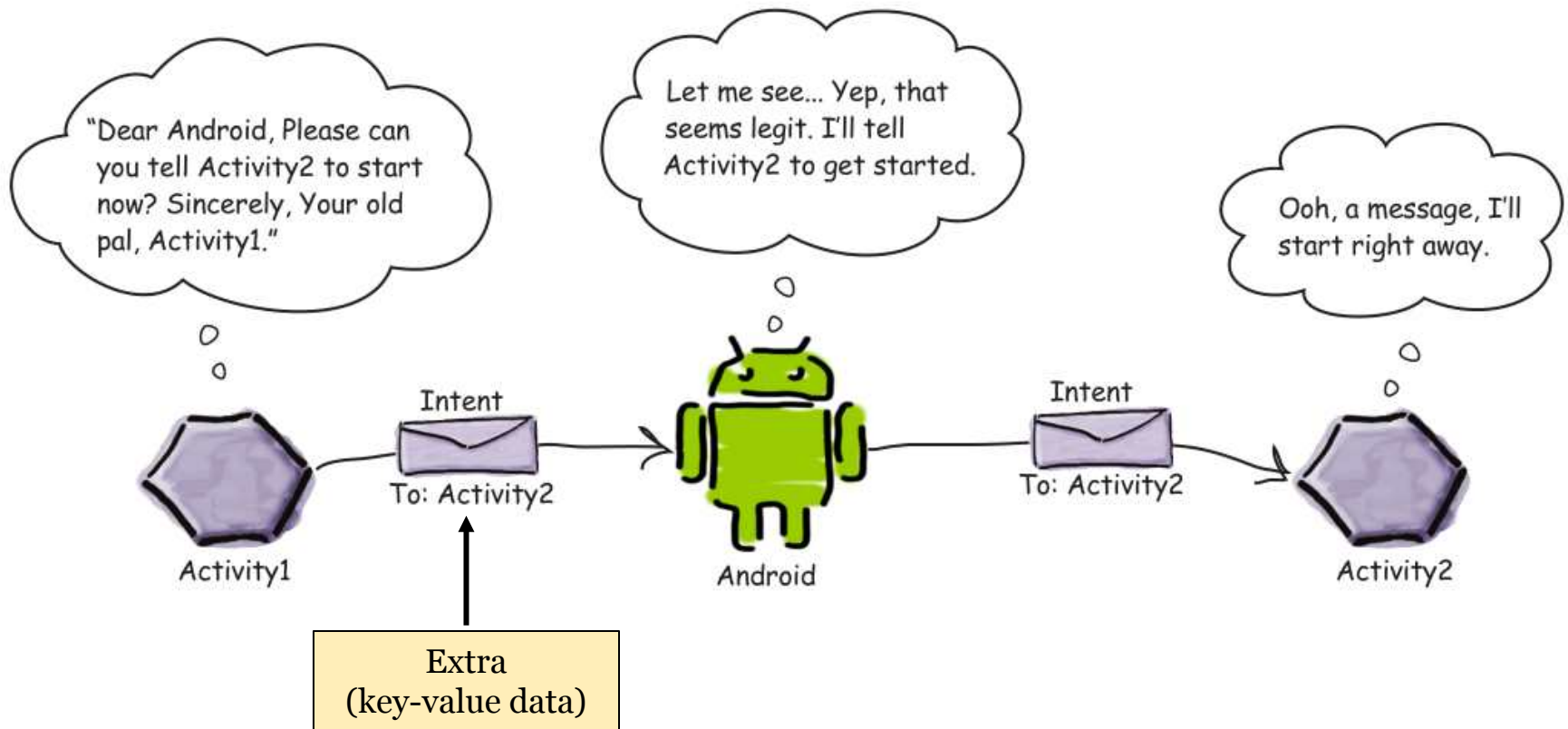
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TextInputLayout

Add to gradle:
```
dependencies {
        implementation 'com.android.support:design:26.1.0'
}
```

* https://developer.android.com/reference/android/support/design/widget/TextInputLayout.html

* https://developer.android.com/studio/build/gradle-tips.html

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Screen transition

Extra
(key-value data)

* https://developer.android.com/reference/android/content/Intent.html

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GitHub Reader app

- Get user repositories from GitHub's REST API

  - `GET /users/:username/repos`

    ```
    {

      "id": 1296269,

      "name": "Hello-World",

      "description": "This your first repo!",

      "language": null

    }
    ```

* https://developer.github.com/v3/repos/#list-user-repositories

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Dealing with REST server

- HTTP Client Library: Retrofit

  - Request URLs

  - Header/query parameters

  - Request responses

- JSON <-> POJO Library: GSON

  - Map JSON ids to object properties

* http://square.github.io/retrofit/

* https://github.com/google/gson

* https://github.com/codepath/android_guides/wiki/Consuming-APIs-with-Retrofit

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Permissions

```xml
<manifest xmlns:android="http://schemas.android.com/apk/res/android">

    <uses-permission android:name="android.permission.INTERNET"/>

</manifest>
```
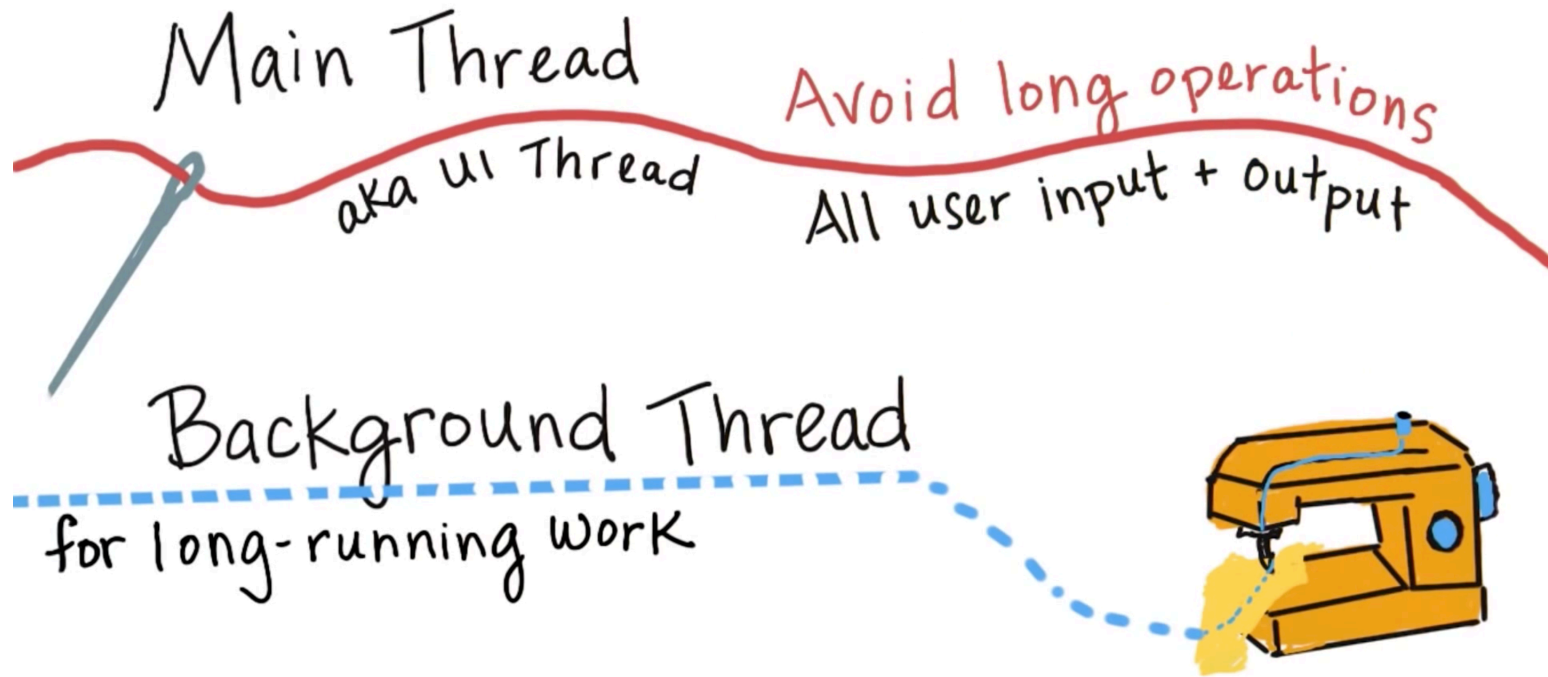
* https://developer.android.com/guide/topics/permissions/index.html

* https://developer.android.com/guide/topics/permissions/normal-permissions.html

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Main/UI Thread

THREADS

Main Thread
aka UI Thread
Avoid long operations
All user input + output

Background Thread
for long-running work

* https://youtu.be/FWwMA-sdOgk

* https://developer.android.com/guide/components/processes-and-threads.html

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ANR: Application not responding

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RecyclerView

VIEW RECYCLING

Linear Layout

RecyclerView

* https://youtu.be/2lcoB5-PCCw

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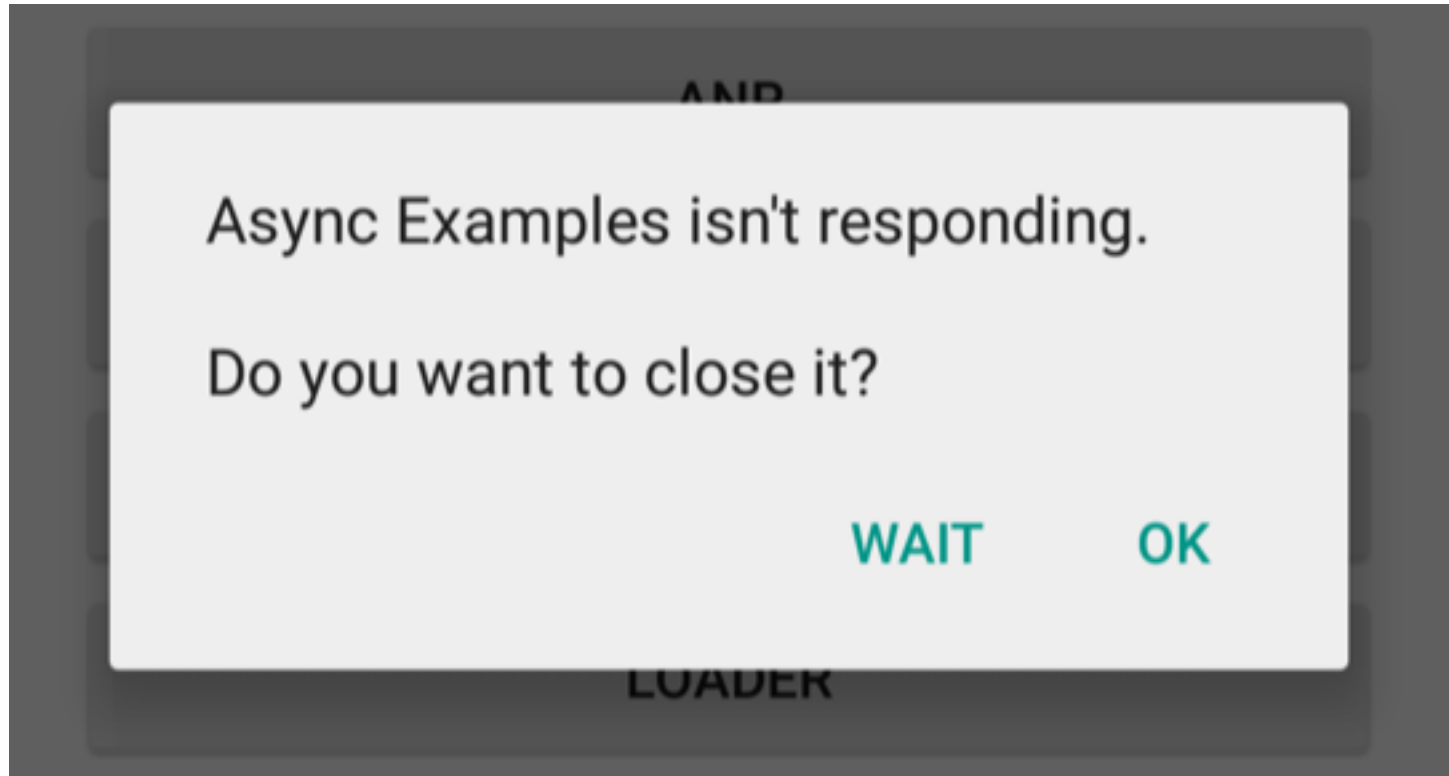
RecyclerView

RecyclerView

Create more
rows on-demand
by reusing
views in the
scrap pile

Scroll to
see more
at the top
of the List

Scrap
Views
(ViewHolders)

* https://developer.android.com/training/material/lists-cards.html

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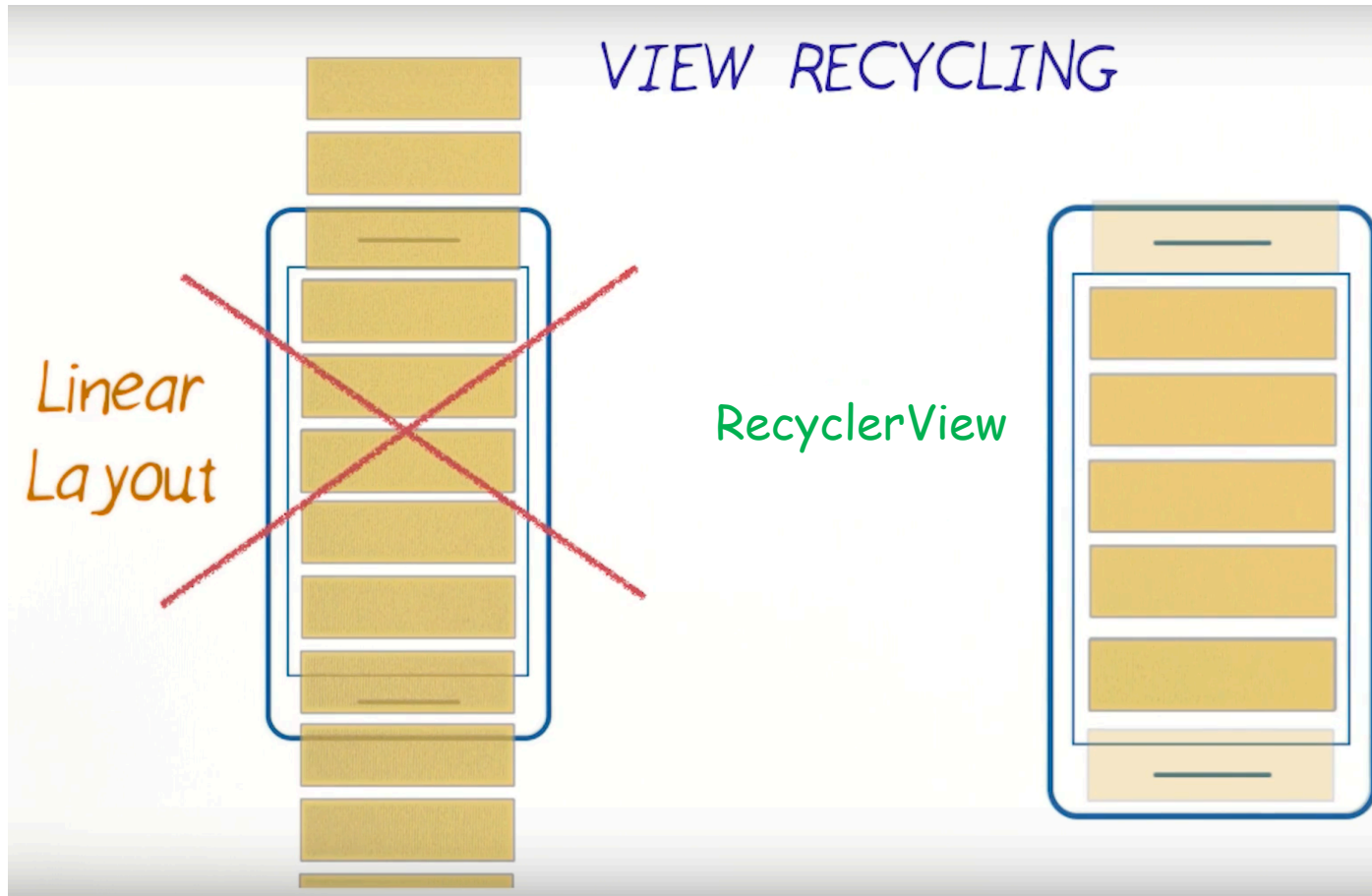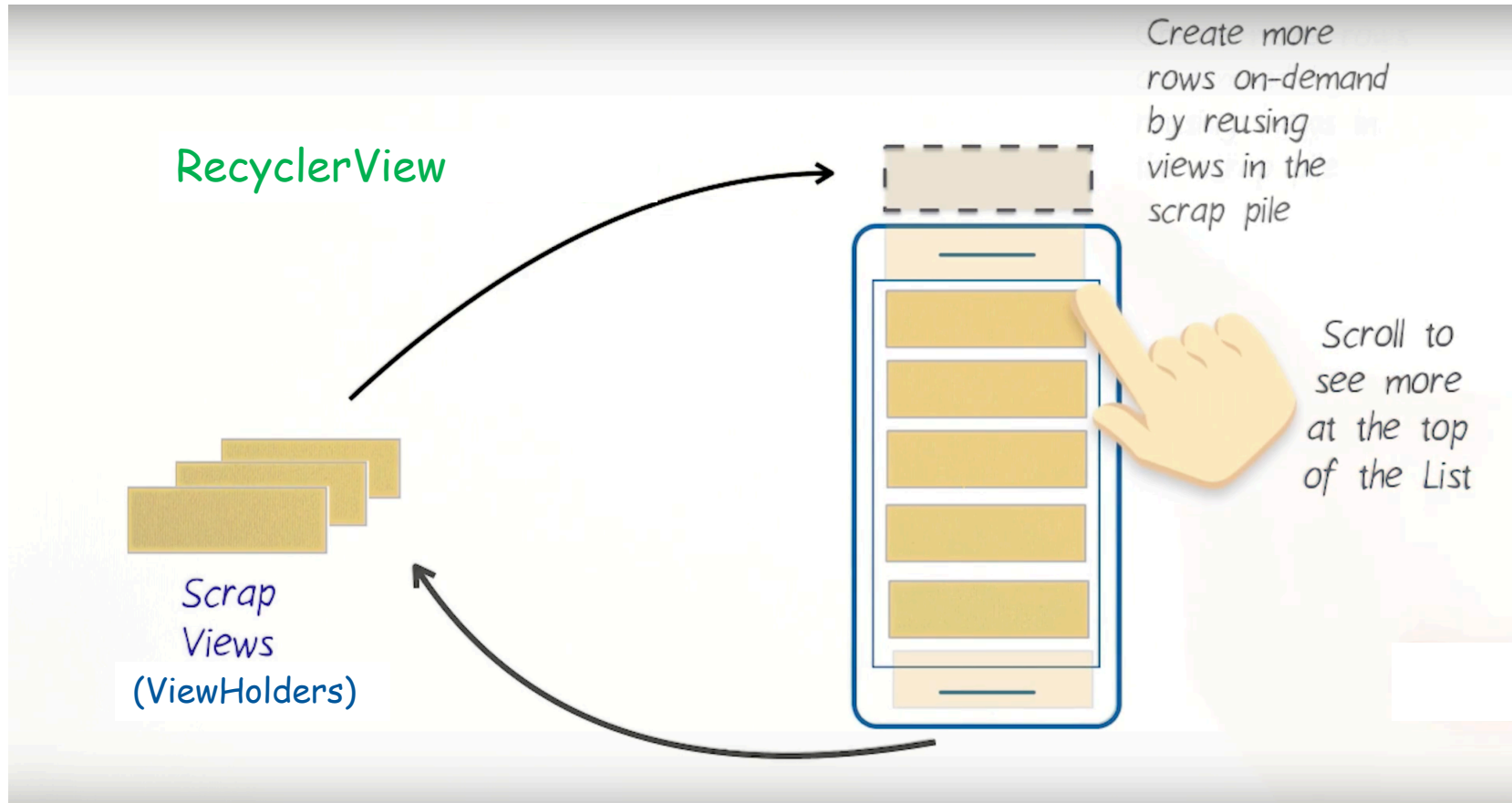
Useful links

- Libraries

  - https://github.com/codepath/android_guides/wiki/Must-Have-Libraries

  - https://developer.android.com/topic/libraries/index.html

  - https://github.com/codepath/android_guides/wiki/Home/6c236e883cc70912ccdd859173050fc147d409f1

- Automated testing

  - Training: https://developer.android.com/training/testing/index.html

  - Mock library: http://site.mockito.org

- RxJava (functional programming, good for async and concurrency)

  - https://github.com/ReactiveX/RxAndroid

- Firebase (database, cloud storage, backend functions, authentication, crash reports)

  - https://firebase.google.com

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