Working as a Mobile Developer

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Different IT companies

1. **Product-based Companies**
   - Working on their own products.
   - Products in a similar field.
   - Chance to fully invest into one product.
   - Small product growing into a large product.
   
   *Example: Bolt, Pipedrive*

2. **Service-based Companies**
   - Products for other companies.
   - Products for very different fields.
   - Projects usually around 6–12 months long.
   - Helping companies to launch their product (MVPs).
   
   *Example: Mooncascade, Proekspert*
The Project Lifecycle from Mobile Developer’s point of view

1. **Initiation - Sales**
   - Developer helping with their expertise

2. **Planning - Starting the project**
   - Setting the project up, dividing the roles

3. **Execution - the Heavy Work**
   - Quite few meetings and lots of coding

4. **Closing - Release**
   - Putting the app to store

5. **Initiation - Support?**
Initiation

Sales
Sales

- Participating in some meetings
  - Helping out with the mobile expertise - what can be done and how
  - Asking the crucial questions
Sales

- **Participating in some meetings**
  - Helping out with the mobile expertise - what can be done and how
  - Asking the crucial questions

- **Ballparks**
  - Estimating how much time it takes to develop
  - Thinking through the features and breaking them up in smaller pieces
  - *How to give estimates when you haven't done that feature before?*
Planning

Starting the project
Starting the project

- Minimum Android version?
  o https://twitter.com/minsdkversion

- Deciding on different tools
  o Where the code is being hosted?
  o CI/CD
  o Crashlytics & Analytics
  o Language Tools
Fatal Exception: java.lang.NullPointerException
Attempt to invoke interface method 'int java.util.List.size()' on a null object reference
Starting the project

- Deciding on architecture
  - MVVM? Single-activity?
  - One module or multiple
  - How the code is structured
Starting the project

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  - One module or multiple
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- **Deciding on dependencies**
  - RxJava or Coroutines?
  - Dagger or Hilt or Koin
Starting the project

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- **Documentation**
Documentation - the boring stuff but useful for future

- **Architecture Design Document**
  - Goals
  - Decided architecture
  - Project structure
  - Agreed code style
  - Specific feature design

- **Git project documentation**
  - README
  - Contribution Guide

- **How it is useful?**
  - Solving discussions
  - When other developer joins the team
  - Giving the project to some other team
Starting the project

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- **Documentation**

- **Implementing it all**
Execution
Meetings & Coding
Daily project life - Meetings

- **SCRUM**
  - **Grooming**
    - Specific estimations
  - **Planning**
    - Who does what
  - **Standup**
    - PPP
  - **Demo**
    - Showing what has been done
  - **Retro**
    - What went well, what can be improved
### Starting with a task - Jira flow

<table>
<thead>
<tr>
<th>To-Do</th>
<th>In Progress</th>
<th>Code Review</th>
<th>QA</th>
<th>Done</th>
</tr>
</thead>
<tbody>
<tr>
<td>XYZ-26 Implement Fingerprint login</td>
<td>XYZ-15 Sign up flow page 1</td>
<td>XYZ-5 Welcome Screen</td>
<td>XYZ-4 Launch Screen</td>
<td>XYZ-1 Setup initial project</td>
</tr>
<tr>
<td>XYZ-78 Bug - clicking on two links at the same time makes app crash</td>
<td>XYZ-45 Bug - Button wrong color when in disabled state</td>
<td>XYZ-2 Integrate Firebase</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**Starting with a task**

1. **To-Do**
   - Implement Fingerprint login (XYZ-26)
   - Sign up flow page 1 (XYZ-15)
   - Welcome Screen (XYZ-5)
   - Launch Screen (XYZ-4)
   - Setup initial project (XYZ-1)
   - Integrate Firebase (XYZ-2)

2. **In Progress**
   - Bugs:
     - XYZ-78: Bug - clicking on two links at the same time makes app crash
     - XYZ-45: Bug - Button wrong color when in disabled state
Jira tasks - not enough description?

- **Thinking of all the edge cases**
  - Permissions
  - State handling
    - Putting app to background and returning to the app
    - Rotating the app
    - Closing the app in the middle of sign up flow
  - No network
  - Activity Stack
  - Clicking on the physical back button
Designs

How we implement them?
Welcome!

Sign in to your account to get started.

Email address

Password

Forgot password?

Login

Don't have an account yet? Sign Up
Welcome!
Sign in to your account to get started.

Email address
Password
Forgot password?

Login

Don't have an account yet? Sign Up
Welcome!
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Email address
Password
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Designer does not know about mobile design?

- **Material Guidelines** - [https://material.io/design](https://material.io/design)
  - Used to be very strict
  - Now more centered to have the same UX/UI principles but incorporate your design
  - Easy way to have intuitive app

- **Guidelines for accessibility**
  - Dark theme and color contrast
  - Alt text for images

### Dialog theming example

API and source code:

- `MaterialAlertDialogBuilder`
  - `Class description`
  - `Class source`

The following example shows a dialog with Material Theming.

![Dialog example](image)

### Implementing dialog theming

Setting the theme attribute `materialAlertDialogTheme` to your custom `ThemeOverlay` will apply theming to all `AlertDialogs`.

In `res/values/themes.xml`:
me, graduating with a CS degree: finally, I have mastered machine learning, system design, various defunct functional programming languages, and know how to do abstract algebra

me, at my daily job: *spends 2 hours trying to center a button*
The struggles of Android

- **Changing default native components**
  - With the introduction of Material Design Components has gone better, but still a lot of “what the hell” moments.
  - When out of ideas then look at source code - [https://github.com/material-components/material-components-android](https://github.com/material-components/material-components-android)

- **Examples of when things have gone wrong**
  - Dropdowns
  - Alert Dialog title
The struggles of Android

- **Wide variety of Google devices**
  - Small and large screens
    - Different languages
  - Modified Androids causing problems
  - [https://dontkillmyapp.com/](https://dontkillmyapp.com/)

- **Supporting old Android versions**
  - A longer support than iOS
  - Need to still use deprecated methods for older versions
  - Cannot do fun new stuff because of older versions
Closing

Release
Release time

- **Google Play**
  - What about China?

- **China Release**
  - VPN?
  - Downloadable APK from website
  - Releasing in few most popular app stores
    - Tencent My App Store
    - Huawei App Market Store
    - Oppo Software Store
    - MIUI App Store

- **Push notifications in China?**
  - Pushy.me
  - Baidu
Set up your app

Set up your app
Provide some information about your app and set up your store listing

Set up tasks

- Let us know about the content of your app
  - App access
  - Ads
  - Content rating
  - Target audience

Manage how your app is organized and presented
- Select an app category and provide contact details
- Set up your store listing

Release your app
### Releases overview

See an overview of all of your releases across different tracks. Show more

#### Summary of all tracks

**Production**
- Active: 765,281,012 active devices
- 142 countries / regions

Show test tracks

#### Filter by

- Add filter

#### Latest releases

<table>
<thead>
<tr>
<th>Release</th>
<th>Track</th>
<th>Release status</th>
<th>Last updated</th>
<th>Countries / regions</th>
</tr>
</thead>
<tbody>
<tr>
<td>v2.29</td>
<td>Open testing</td>
<td>Ready to publish, Full rollout</td>
<td>May 20, 2020 10:22 AM</td>
<td>142</td>
</tr>
<tr>
<td>v2.28</td>
<td>Alpha</td>
<td>Available to testers on Google Play</td>
<td>May 18, 2020 10:12 AM</td>
<td>142</td>
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<tr>
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<td>Dev</td>
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<td>142</td>
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<tr>
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<td>Beta</td>
<td>Available to testers on Google Play</td>
<td>May 11, 2020 1:47 PM</td>
<td>142</td>
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</tbody>
</table>
Release time

- **Creating new release**
  - New Live APK
  - What’s new texts
  - Pressing the scary “Release” button

- **When rolling out new release to everyone seems scary**
  - Partial Rollout

- **After release**
  - Keeping eye on Crashlytics
  - Ratings & Comments

- **How to get a good rating?**
  - Ask for rating
Initiation

Support?
Questions?