Basics of the Mobile Market

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Finding your footing - from Prototyping and Design to Delivery

Luke Klinker

- Website: http://luke.klinker.xyz
- GitHub: https://github.com/klinker24
- Klinker Apps: http://klinkerapps.com
- Source Allies, Inc: https://www.sourceallies.com

- Graduated from the University of Iowa in May 2016
- 6 million downloads worldwide, between free and paid apps

A Crowded Market

Android: 86% of the global market share in 2016 [1]

Google paid out $3.3 billion last year, to Apple's $5.4 billion [2]

A Crowded Market

- How can we take advantage of that?
- Can we avoid getting lost in the "noise"?
  - Apple is removing old and unmaintained apps [3]

The Idea

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How do you sort the good from the questionable?

Design and Prototyping

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How UI/UX should play a role in your process

Why design early?

Simple: users are more likely to download your app if it looks nice.

Why design early?

- Planning should play a <u>major</u> role in the development of your app
  - Envision features
  - Shape the feel and flow (UX) of your app
  - Prototype and iterate quickly with customers, friends, or trusted users
- If you are making a mobile app, **you** are a designer as well as a coder

Prepare for change

Iterate on your designs.

UI/UX patterns will change over time.
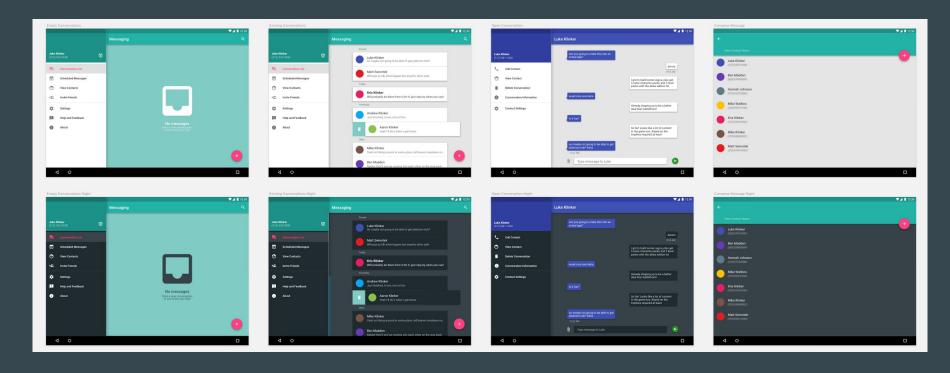
What goes into that initial design?

- Wireframes and mockups
- Feature ideas
- UX design with a focus on simple interactions
  - How your app fits together and how easy it will be for a new user to pick up
  - Guiding users through the setup
  - Ensuring they can easily find important parts of your app
- Considerations for mobile vs web/desktop applications
- **Bonus:** developer documentation
  - Backend planning (APIs or database structure)
  - Architectural diagrams
  - Hosting decisions
  - Frameworks and tools
- Android "fragmentation"

Material Design

- Guidelines: https://material.io/guidelines/
- Platforms
  - Material Design Lite
  - Android's Design Support Library
  - Tons of iOS libraries as well
- Make sure your design fits the platform you are integrating with!

Make it unique.

Sketch + Mockups

Usage List Screen
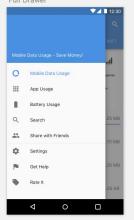
Full Drawer

Current Drawer

App Usage Screen (Light)
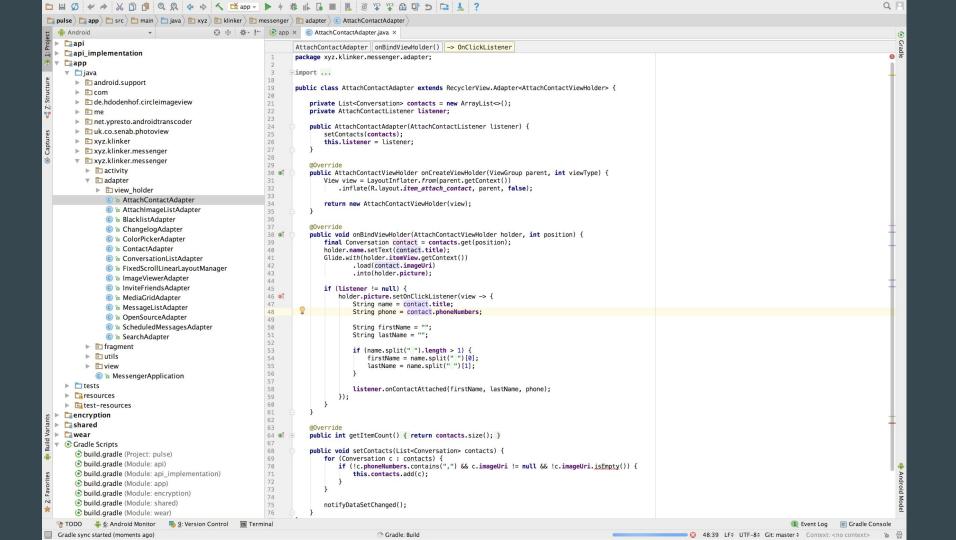
Usage List Screen

Full Drawer
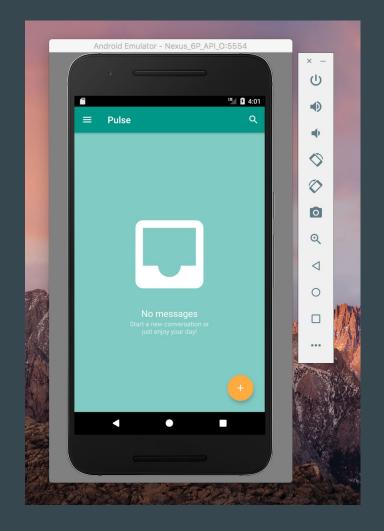
Current Drawer

App Usage Screen (Light)

Creating the App
...

```java
package xyz.klinker.messenger.adapter;

import ...

public class AttachContactAdapter extends RecyclerView.Adapter<AttachContactViewHolder> {

    private List<Conversation> contacts = new ArrayList<>();
    private AttachContactListener listener;

    public AttachContactAdapter(AttachContactListener listener) {
        setContacts(contacts);
        this.listener = listener;
    }

    @Override
    public AttachContactViewHolder onCreateViewHolder(ViewGroup parent, int viewType) {
        View view = LayoutInflater.from(parent.getContext())
                .inflate(R.layout.item_attach_contact, parent, false);

        return new AttachContactViewHolder(view);
    }

    @Override
    public void onBindViewHolder(AttachContactViewHolder holder, int position) {
        final Conversation contact = contacts.get(position);
        holder.name.setText(contact.title);
        Glide.with(holder.itemView.getContext())
                .load(contact.imageUri)
                .into(holder.picture);

        if (listener != null) {
            holder.picture.setOnClickListener(view -> {
                String name = contact.title;
                String phone = contact.phoneNumbers;

                String firstName = "";
                String lastName = "";

                if (name.split(" ").length > 1) {
                    firstName = name.split(" ")[0];
                    lastName = name.split(" ")[1];
                }

                listener.onContactAttached(firstName, lastName, phone);
            });
        }
    }

    @Override
    public int getItemCount() { return contacts.size(); }

    public void setContacts(List<Conversation> contacts) {
        for (Conversation c : contacts) {
            if (!c.phoneNumbers.contains(",") && c.imageUri != null && !c.imageUri.isEmpty()) {
                this.contacts.add(c);
            }
        }

        notifyDataSetChanged();
    }
}
```

Android Emulator

```java
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

```xml
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <TextView
        android:id="@+id/text_view"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="Hello World!" />

</FrameLayout>

            <TextView
                android:layout_width="200dp"
                android:layout_height="100dp" />
```

```java
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

    TextView helloTv = (TextView) findViewById(R.id.text_view);
    helloTv.setOnClickListener(view -> Toast.makeText(
            context: this,
            text: "Hello World!",
        Toast.LENGTH_SHORT).show());

    helloTv.setText("Hello again!");
}
```

```java
public class TestIntentService extends IntentService {

    public TestIntentService(String name) {
        super(name);
    }


    @Override
    protected void onHandleIntent(Intent intent) {
        doMyWork();
    }


    private void doMyWork() {
        // do my work here!
    }
}
```

```java
public class BootReceiver extends BroadcastReceiver {

    @Override
    public void onReceive(Context context, Intent intent) {
        // Do any work here
    }

}


IntentFilter filter = new IntentFilter( action: "com.klinker.android.MY_ACTION");
registerReceiver(new MyReceiver(), filter);

sendBroadcast(new Intent( action: "com.klinker.android.MY_ACTION"));
```

```xml
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="xyz.klinker.luke.android_o" >

    <application
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:theme="@style/AppTheme" >

        <activity android:name=".MainActivity">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>

        <service android:name=".TestIntentService" />

        <service android:name=".TestJobService"
            android:permission="android.permission.BIND_JOB_SERVICE" />

        <receiver android:name=".BootReceiver">
            <intent-filter>
                <action android:name="android.intent.action.BOOT_COMPLETED" />
            </intent-filter>
        </receiver>

    </application>

</manifest>
```
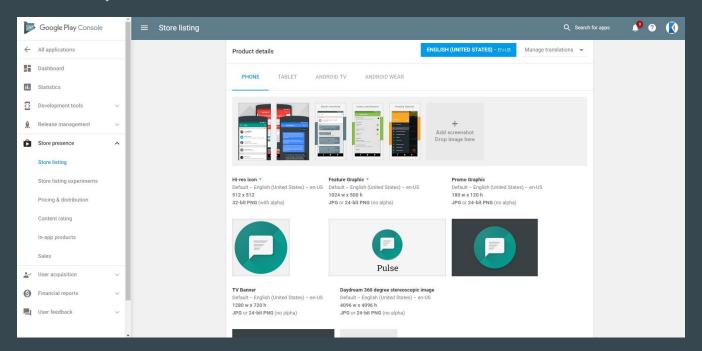
Getting the Most Out of your Release

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Taking full advantage of the Developer Console
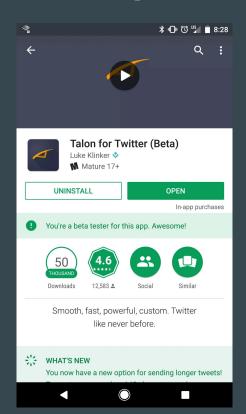
Play Store Developer Console

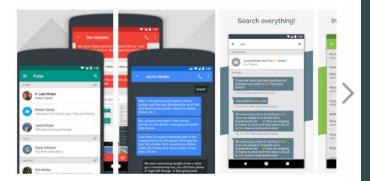- Android: $25.00 registration fee
- iOS: $100.00 / year license fee

Optimizing your Store Listing

- Icon
- Screenshots
- Ratings
- Download counts
- Description
- Video
- Promo graphics
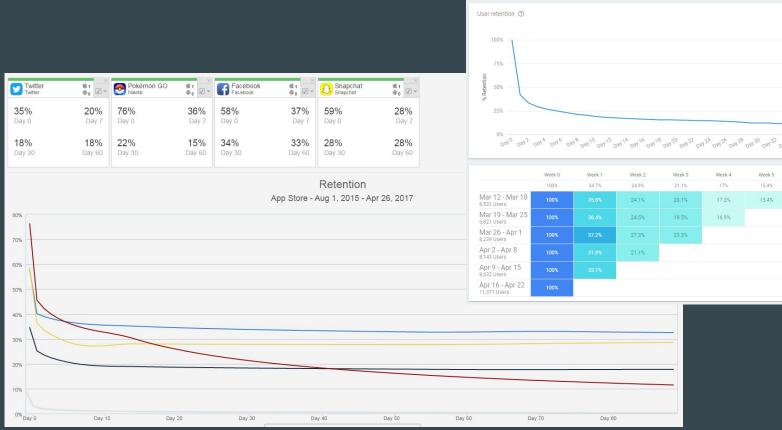
Search Engine Optimization

Factors in SEO

Other Tools

- A/B Testing
- Beta Testing
- Sales
- App Analytics
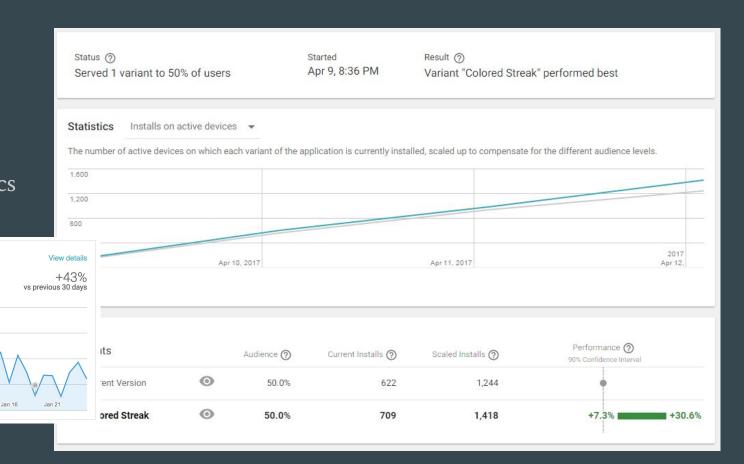
INSTALLS BY USER ⓘ

49,914
Last 30 days

+43%
vs previous 30 days

View details

2,400

2,100

1,800

1,500

Jan 1 · · · 21

Analyze Data Use
Visualize when, and why, you use data to find out how to stop it!

2.00 GB Left

MOBILE · WIFI · MOBILE+WIFI

Per Day

57.22 MB
47.68 MB
38.15 MB
28.61 MB
19.07 MB
9.54 MB
0.00 KB

Jan 9 · Jan 16 · Jan 23 · Jan 30

January 2 - February 1

Source · 40.24 MB

Google Play Books · 30.57 MB

Google Play Movies & TV · 25.52 MB

Talon · 23.39 MB

Save Money

See who is buring through your data to shut them down!

3G 2:17

⋮

2.00 GB Left

MOBILE · WIFI · MOBILE+WIFI

📅

Breakdown

■ Communication
■ News And Magazines
■ Tools
■ Social
■ Productivity
■ Other

January 2 - February 1

Source · 40.24 MB

Google Play Books · 30.57 MB

Google Play Movies & TV · 25.52 MB

Mobile Data Usage
by Wellingtom Designs

Growing your Userbase

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https://blog.klinkerapps.com/grow-your-userbase

Where can you start?

Social media - it's FREE feedback

Reddit, Twitter, Google+, developer forums

- Blogs
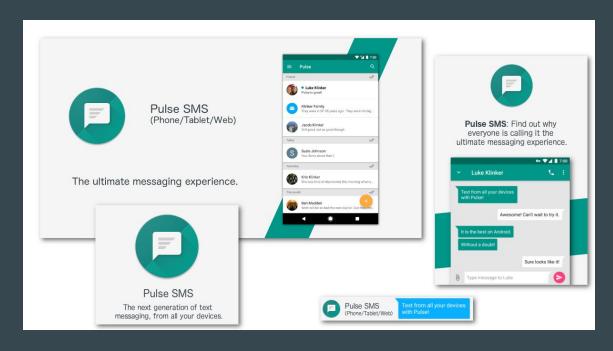- Drive the organic traffic, through the Play Store

Reaching the other 95%

- Not everyone looks at social media, blogs, or goes searching for new apps
- **Advertising** - I held out for too long

Tips for Advertising

- The type of users you are looking for will drive your ad platform
  - Target the right users
  - Location
  - Age
  - Gender
  - Interests
- Use short buzzwords
- Colorful images
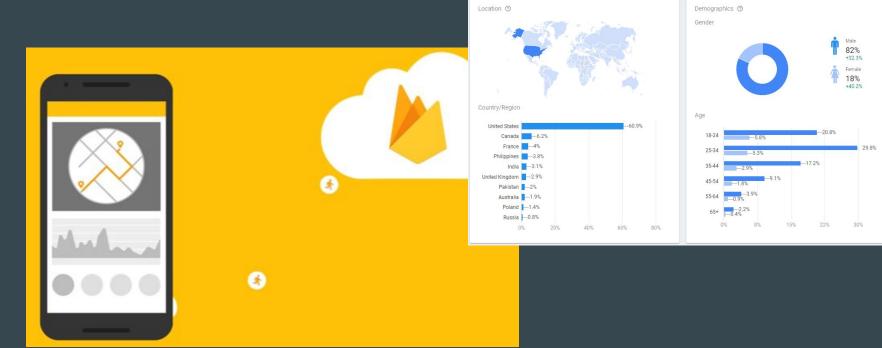
Understanding factors influencing success

- *Location*: where your ads run
- *Impressions*: how many times have your ads been shown
- *Click through ratio*: how many times people interact with your ad
- *Average position*: not necessarily a ranking, but where the app shows on the page
- *Conversion rate*: how many people actually install the apps, after viewing the ad

- *Cost per click*: normal way ads are paid for. You get charged by number of clicks
- *Cost per acquisition*: you define how much you want to pay for each user that installs your app

Maintaining Growth

Analytics and Event Tracking

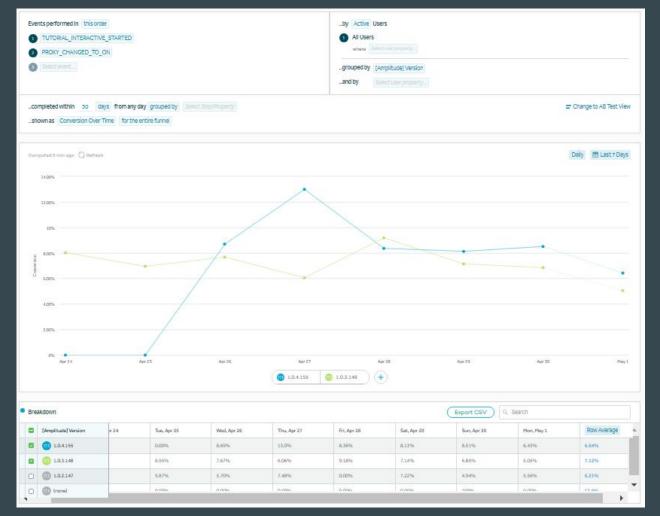- Firebase, Amplitude, Facebook, etc

Funnel Analysis

- Series of events, leading to a defined goal
- Are users making it through your app?
- Are they getting stuck at a complex setup step?

Other things to think about

- How often should you update the app?
- Filtering your feature requests
- Localization
- Make yourself available
  - Questions, requests, feedback, etc.
  - You should be easy to contact

Where do I go next?

...

Learning Material

- Android Developer Tutorials:
  https://developer.android.com/training/index.html
- Udacity Android Nanodegree:
  https://www.udacity.com/courses/android
- Castor IO: https://caster.io/
- Fragmented Podcast: http://www.fragmentedpodcast.com/

Questions?

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