



CS194A



Android Programming Workshop

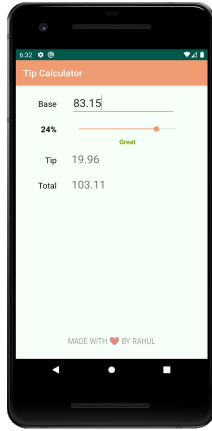
Lecture 5: October 14, 2020
Rahul Pandey

Outline

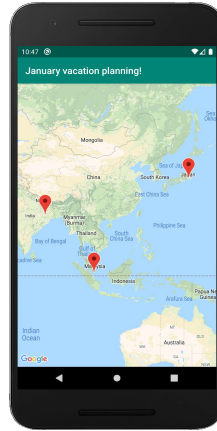
- Logistics
- RecyclerView review
- Intents

Outline

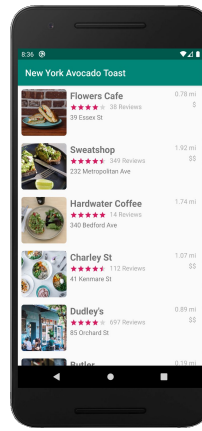
- **Logistics**
- RecyclerView review
- Intents



Assn 1: Tip
Calculator



Assn 2:
Google Maps



Assn 3: Yelp
Clone

Industry panel
discussion

1

2

3

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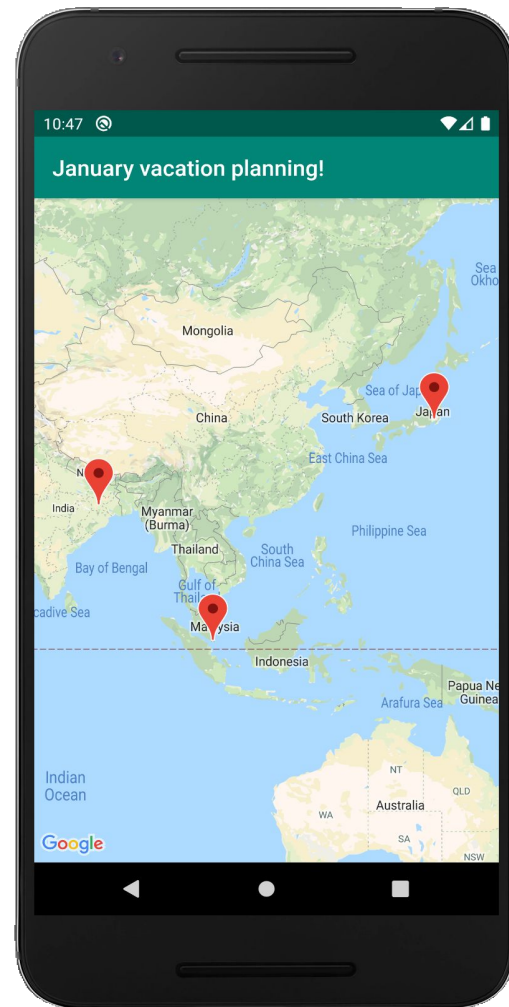
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Week #

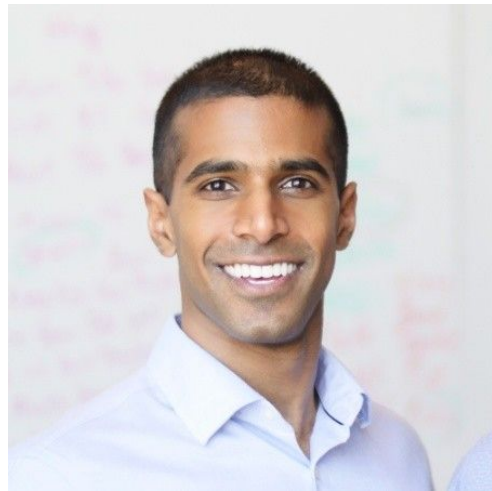
Assignment 2- My Maps

- RecyclerView
- Google Maps integration
- Activities and intents



Guest speaker **next week:** [Nikil Viswanathan](#)

- Built [Down to Lunch](#) (iOS and Android app):
 - #1 Social App in 2018
 - iOS and Android app
- Co-founder & CEO at [Alchemy](#)
 - Blockchain development platform powering millions of users



Tip Calculator **highlights**

Ying Hang Seah

Tip Calculator **highlights**

Dean Stratakos

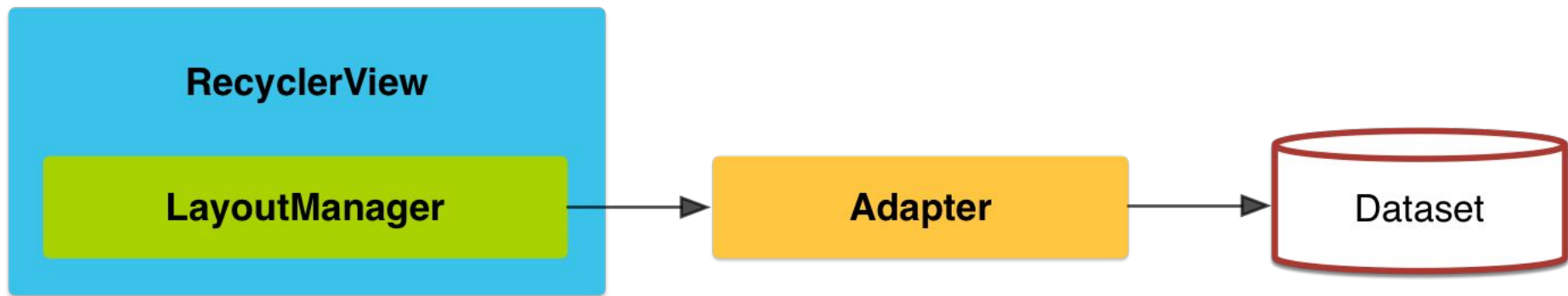
My Maps app

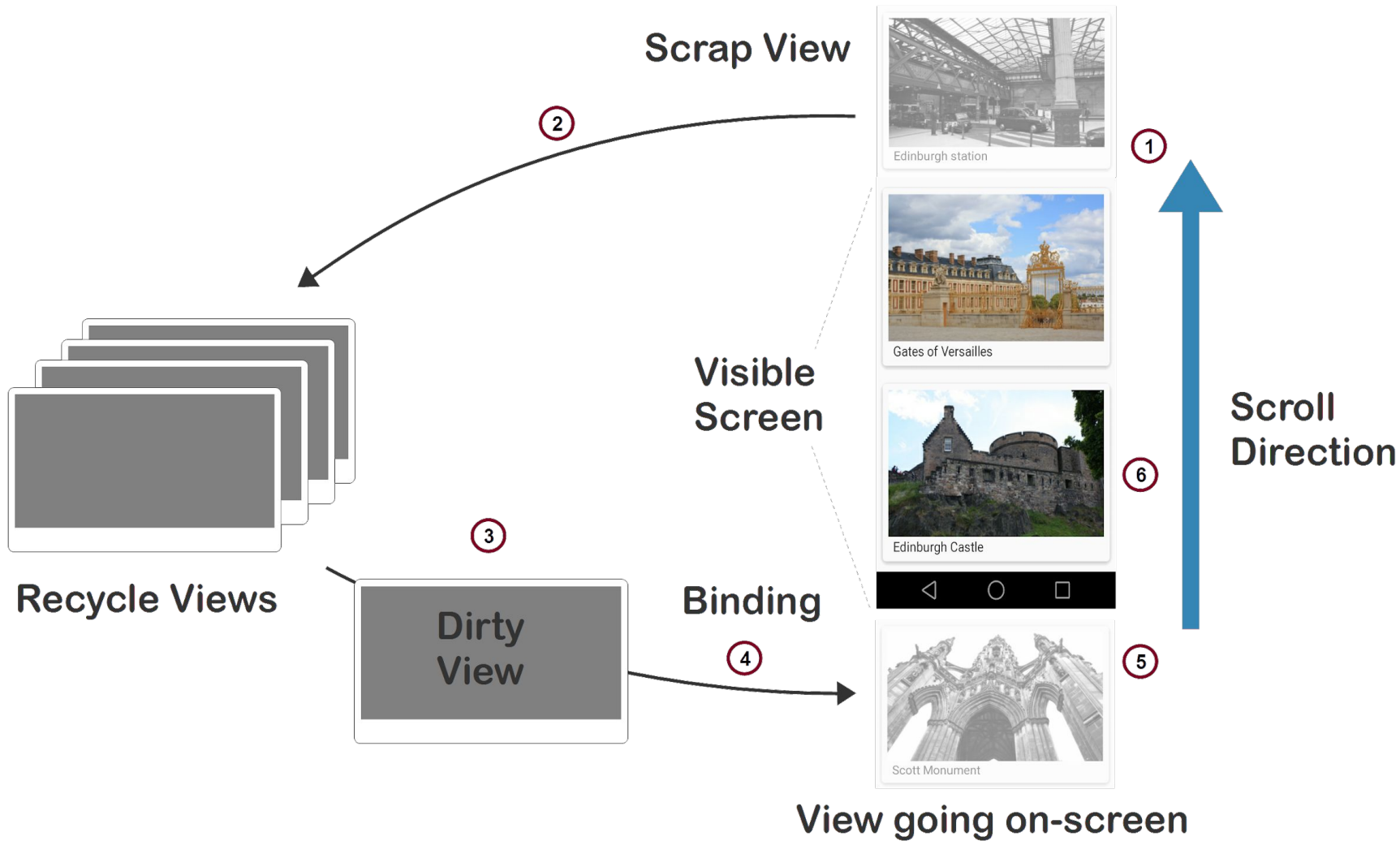
- Project due Sunday, **October 25, 11:59pm**
- Partner feedback due Wednesday, **October 28, 4:30pm**
- Submission through Canvas!

Outline

- Logistics
- **RecyclerView review**
- Intents

RecyclerView Components







Sample interview question

- What are the main benefits of RecyclerView compared to ListView?
- Why not display a TextView and display all the data formatted inside it?

RecyclerView vs ListView

- (+) More efficient by default (use the ViewHolder pattern)
- (+) More flexible for styling + animations
- (+) Separation of concerns
- (-) More complicated

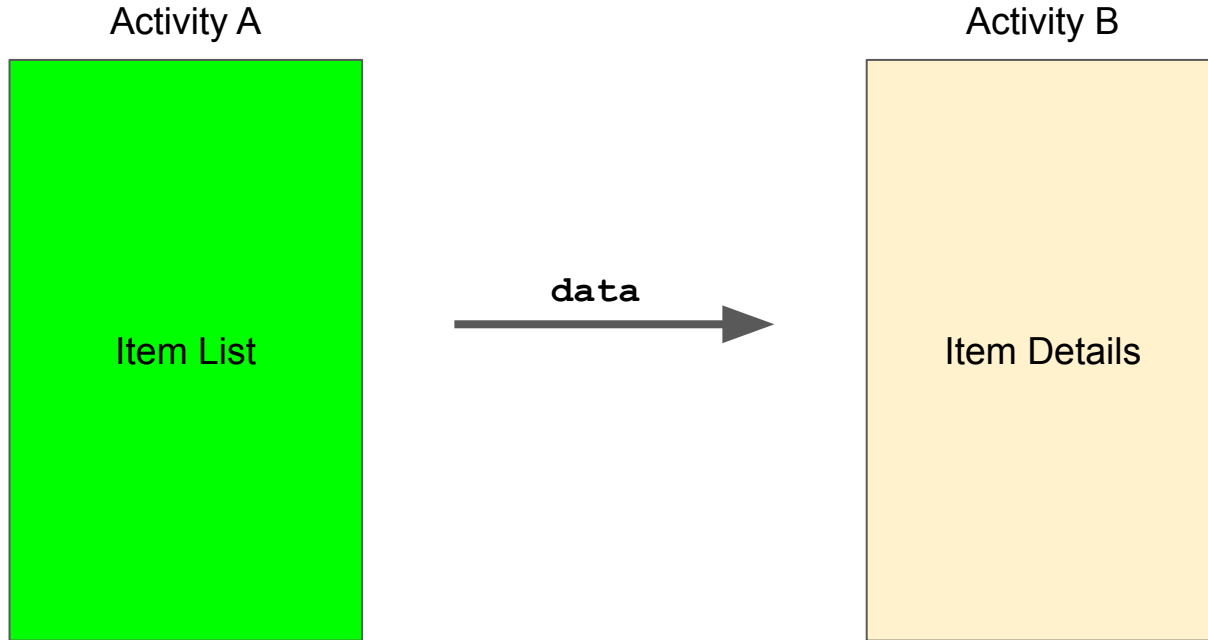
Outline

- Logistics
- RecyclerView review
- **Intents**

Intents

- Android system for communicating between different components
- A request given to:
 - Your own application
 - An external application
 - A built-in Android service

Multiple activities (or screens)



Use cases

- Email list → detail view
- Tweet list → single tweet
- Data params can be passed to the child activity
- Data can also be returned to the parent activity

Use Android Studio to create new activities

- Creates a new XML layout file for the UI
- Creates a Kotlin file for the business logic
- Adds the activity to the AndroidManifest.xml file so your app is aware of it:

```
<application>
```

```
....
```

```
<activity android:name=".AddContactActivity"></activity>
```

```
</application>
```

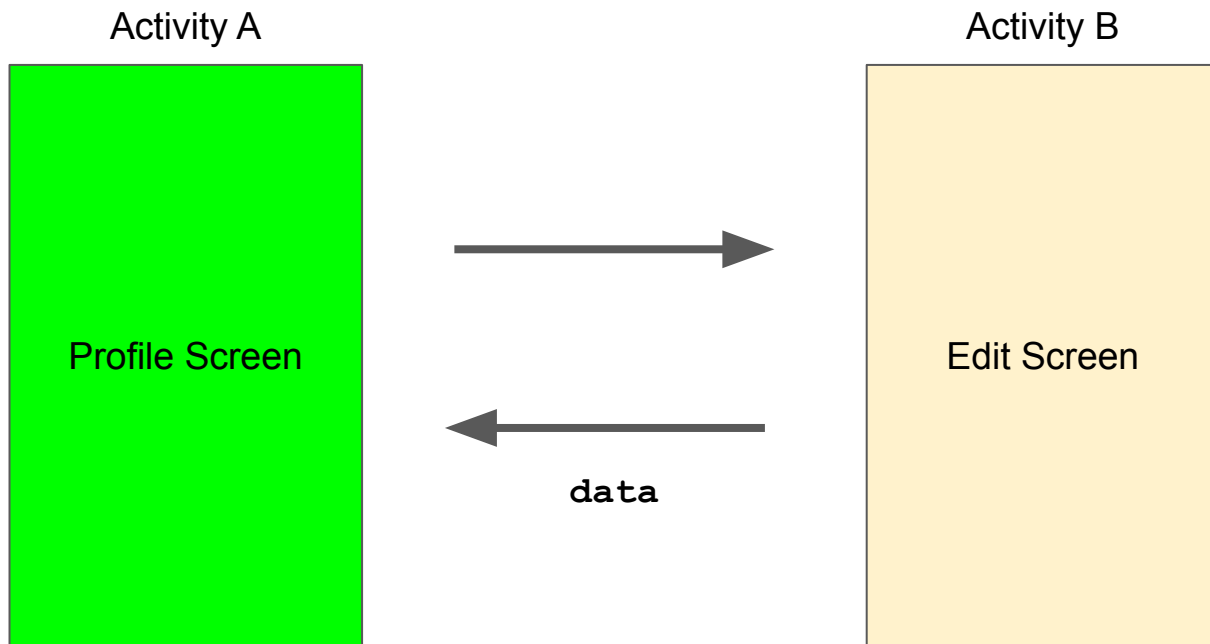
Create an intent

- Navigate to the newly created Activity (usually in response to an event)
 - `val myIntent = Intent(this, ActivityName::class.java)`
 - `startActivity(myIntent)`
- If you want to pass data into the 2nd activity, call `putExtra` on the intent. Think of it like a map.
 - `val myIntent = Intent(this, ActivityName::class.java)`
 - `myIntent.putExtra("tweet_id", 1234)`
 - `myIntent.putExtra("username", "rpandey1234")`
 - `startActivity(myIntent)`

Types of Intents

- Explicit intent: launch other activities in your app
 - `val myIntent = Intent(this, ActivityName::class.java)`
 - `startActivity(myIntent)`
- Implicit intent: request to perform an action based on a desired action
 - `val browserIntent = Intent(Intent.ACTION_VIEW, Uri.parse("url.com"))`
 - `startActivity(browserIntent)`
 - [Common implicit intents](#): start a phone call, take a picture, open the browser/maps

Returning data to the parent



Getting a result back from a launched activity

- Sometimes you'll want to get data from the launched activity
 - `ProfileActivity` launched `EditActivity`: user edited their profile
 - Intent to take a picture
- Call `startActivityForResult` rather than `startActivity`.
 - Pass a request code along with the intent
 - Returns immediately, but the Android system will call another method...
- `onActivityResult` is called when the second activity is done
 - Second activity should call `setResult` and `finish` to communicate back

Prep for next week

- Start working on **My Maps**
- Optional: integrating the camera in your app ([video](#))