

Build X: Android

Lecture Eight:
Notifications and Wrap-up

Notes: <http://android.kcl.tech/>



Before We Begin...

- Go to <http://android.kcl.tech> and download the **notification-example.zip** file under Lecture Eight.
- Check that you can open it in Android Studio without errors.

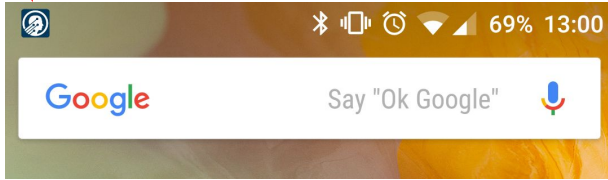
Notifications and Wrap-up

- Creating Notifications
- Adding Actions to Notifications
- Receiving Push Notifications (**demo**)
- KCL Tech To-do: Any Questions?
- Wrap-up

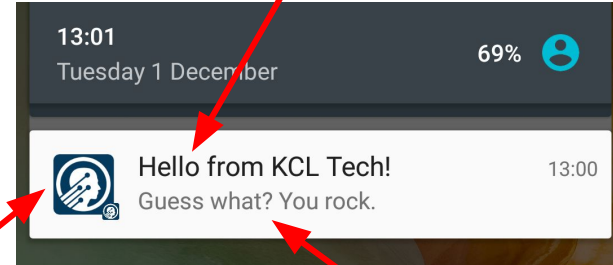
Creating Notifications

Creating Notifications: What's in a Notification?

Small Icon



Content
Title



Large Icon

Content
Text

Creating Notifications: Builder Pattern

- The method for creating a notification uses the **builder pattern**.
 - You specify parameters one at a time, and then the desired object (our notification) is assembled by the builder system.
- We will be using this class:

```
NotificationCompat.Builder
```



Coding time!

Creating Notifications: Builder Pattern

- We can now specify our notification parameters one at a time.
 - Content title
 - Content text
 - Small icon
 - Large icon
 - Vibration
 - Lights
 - etc.



Coding time!

Adding Actions to Notifications

Recap: Intents

- An **intent** tells Android “I intend to do something”
 - I intend to go to another activity
 - I intend to share a photo
 - I intend to send a message
 - ...
 - I intend to do some **custom action** defined by my application

Recap: Intents

I'm making a new variable called `intent`, and it's going to hold a `Intent` object.

`Intent intent =`

`new Intent(CurrentActivity.this,`
`MyActivity.class);`

Make a new
intent...

...with a context of the
current activity...

...and a target of an activity in the
class called `MyActivity`.

Recap: Intents

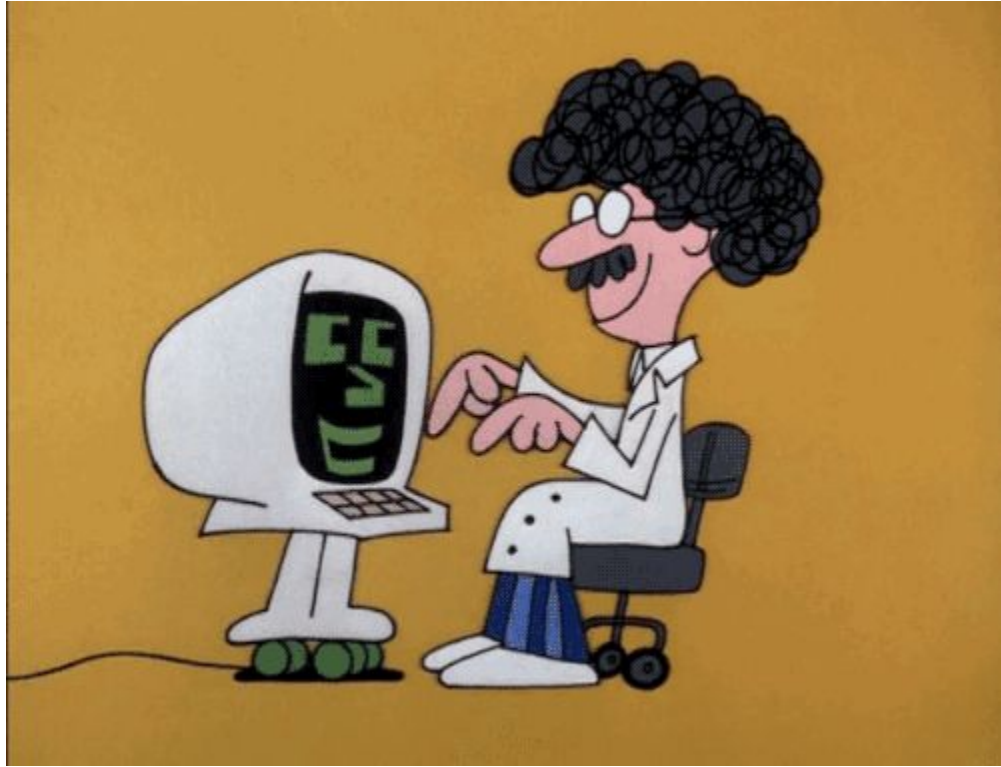
```
Intent intent =  
    new Intent(CurrentActivity.this,  
                MyActivity.class) ;  
  
startActivity(intent) ;
```

PendingIntents

- Intents are designed to be **executed immediately**.
- That **isn't going to work for notifications**: the user could click it at any point after it is created, which may be **minutes or hours later**.
- By wrapping the `Intent` in a `PendingIntent`, we allow it to be executed later.







Coding time!



Break!

Receiving Push Notifications

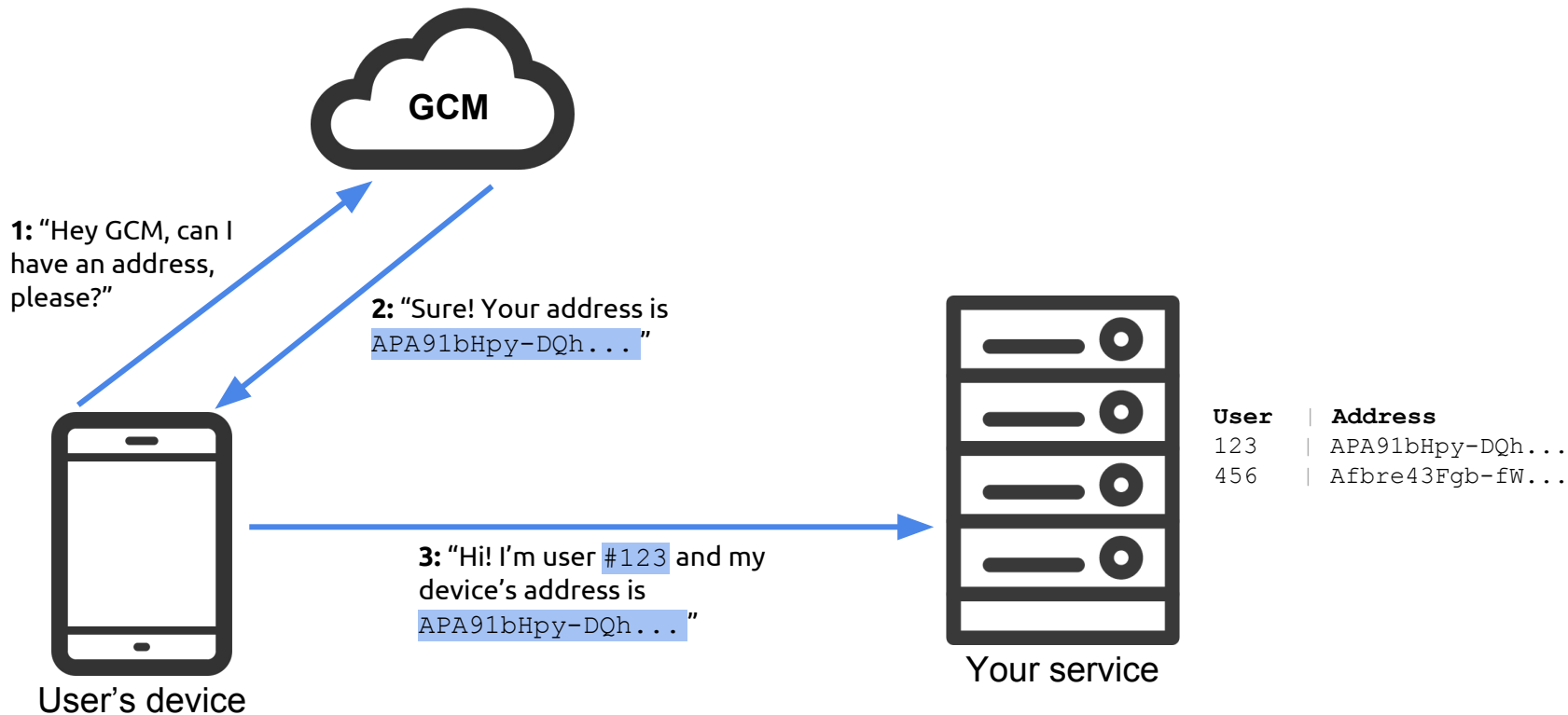
Push Notifications

- A push notification allows data to be **sent directly to any device**, almost **instantly**.
- New Facebook post? Got an email? Someone liked your tweet? Got a Snapchat? New feedback on your course hub? **Push notifications**.

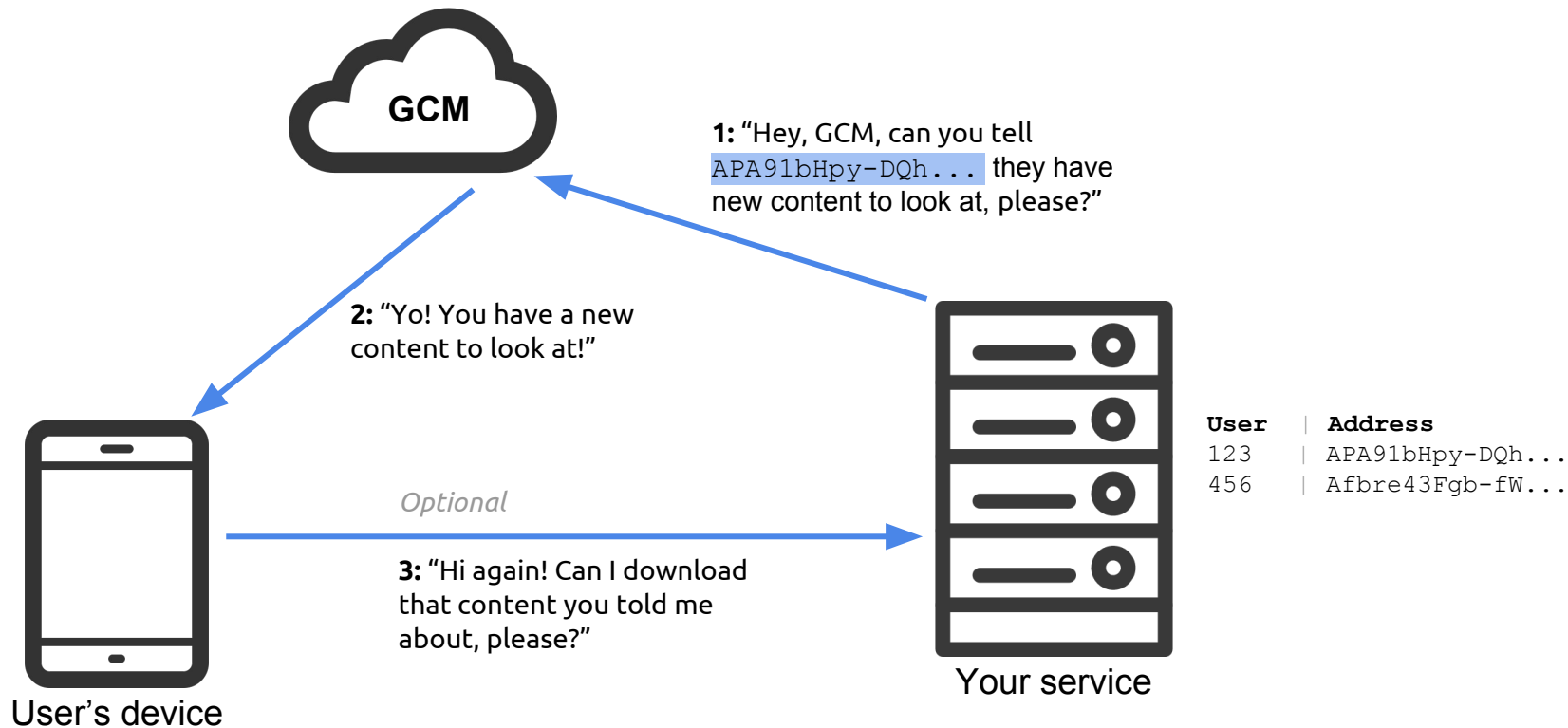
Google Cloud Messaging (GCM)

- GCM is an industry-standard platform for push notifications.
- It's easy to use, and it's free!

Google Cloud Messaging (GCM): Part 1



Google Cloud Messaging (GCM): Part 2







Receiving Push Notifications

- This used to be a complex procedure, but Google have done a lot of work recently!
- We just need to extend `GcmListenerService` and override `onMessageReceived(...)`.



Coding time!

KCL Tech To-do:
Any Questions?

Wrap-up





**Do you expect me to
read all this shit?**











(Multumesc!)



That's all!

I lied.

There's one more thing.

Please fill out our survey:

`tiny.cc/3fbby6x`