Praktikum Entwicklung von Mediensystemen (Android)

Sommersemester 2014

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Today

- Recap
- Android 102
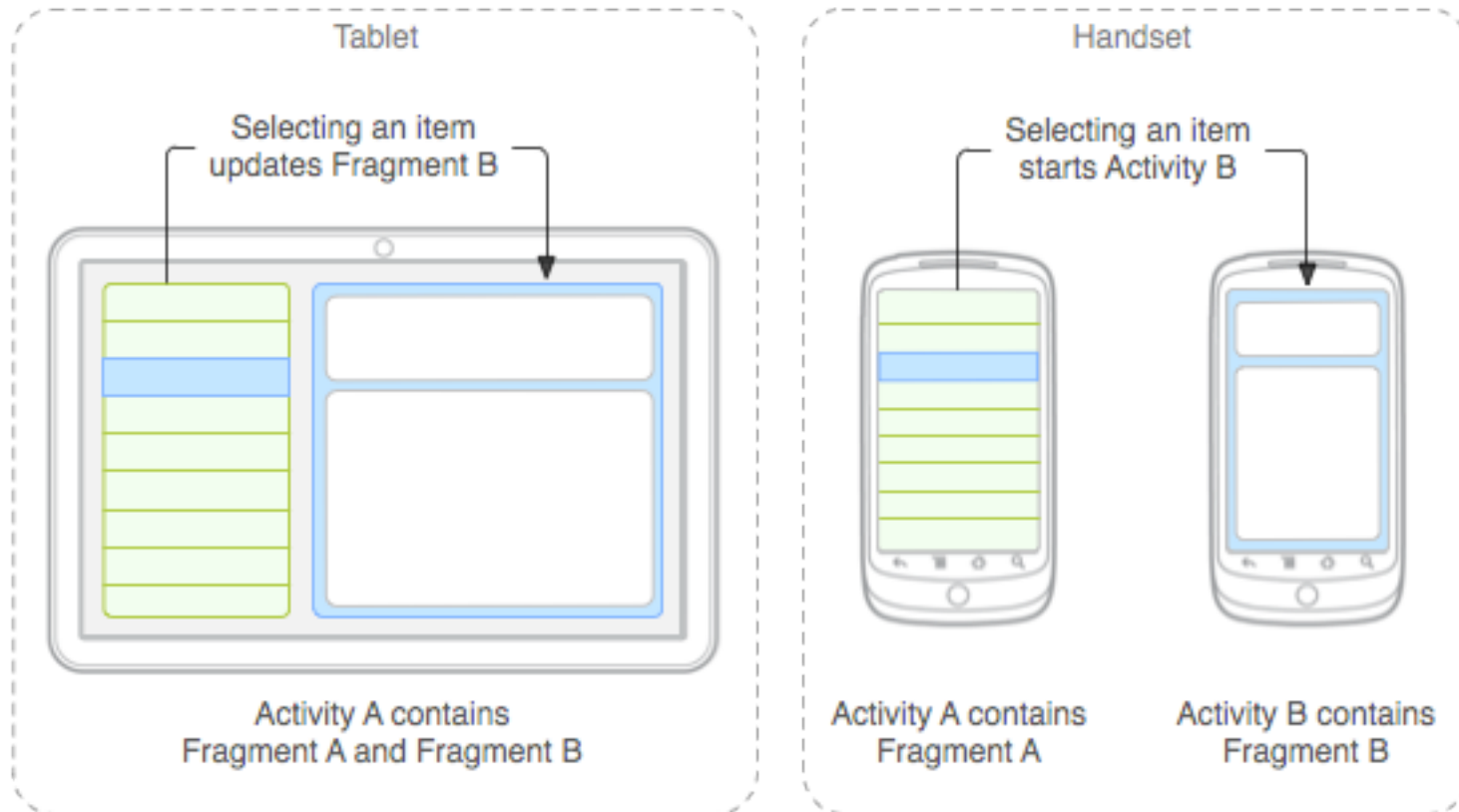- Hands-On
- Assignment 02

RECAP

ANDROID 102

Fragments

- Similar lifecycle compared to an Activity

- Used to reduce overhead and adapt to different layouts more quickly

- Encapsulate responsibility

- Make sure to use interfaces for communication between Fragments/Activities

Fragments

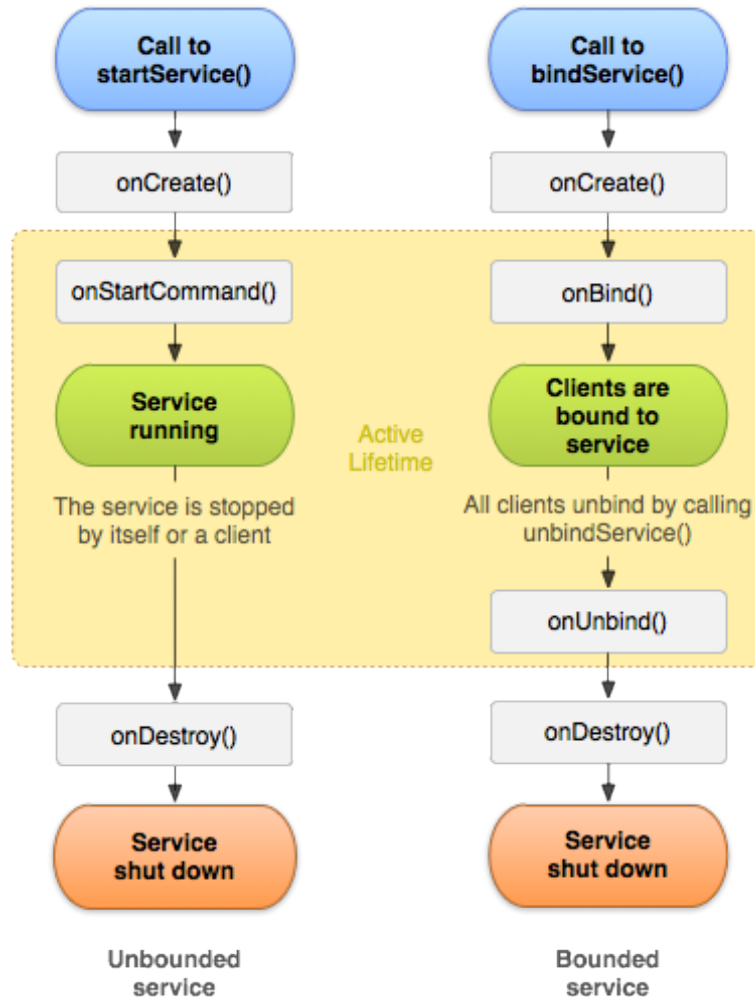*http://developer.android.com/guide/components/fragments.html*

Services

- Perform long running tasks

- Have no UI and initially do not run in own thread

- Multiple clients can bind to them and exchange data

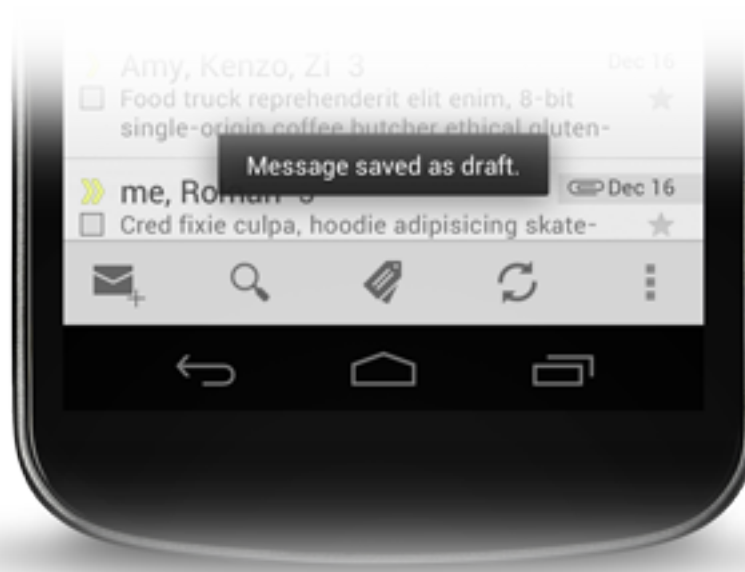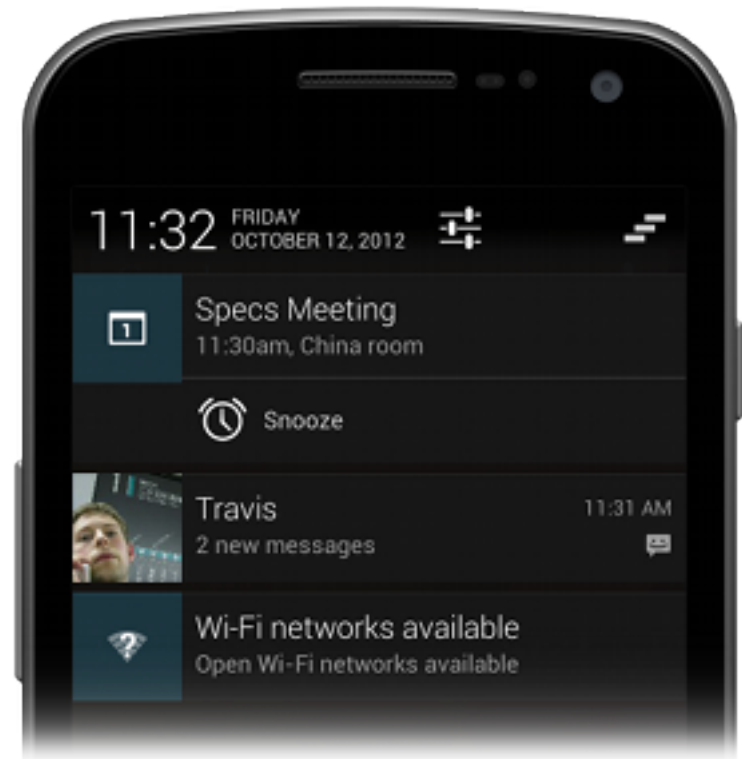- Can be use to share information between multiple applications (IPC)

Services

http://developer.android.com/guide/components/services.html

Toasts

- Toast.makeText(context, text, duration).show();

http://developer.android.com/guide/topics/ui/notifiers/toasts.html

Notifications

- Global notifications

- Link to Activity and display first information

- Can be modified/ dismissed after posting and made sticky

- Keep the design guidelines in mind

http://developer.android.com/guide/topics/ui/notifiers/notifications.html

Animations & Graphics

- Property animation
  - Animate properties of any object

- View animation
  - Stack multiple animations together and animate a View

- Drawable animation
  - Create an "animated gif" out of stacked images

- Canvas drawing
  - Manual control, explicit draw commands

- OpenGL

http://developer.android.com/guide/topics/graphics/index.html

Android 102

Sensors

- Around 15 different sensors currently supported

- Differentiation between three main classes

  – Motion, Position, Environment

- Unified interface for access

  – getSystemService(SENSOR_SERVICE);

  – getDefaultSensor(Sensor.*TYPE_ACCELEROMETER*);

- Register listener for updates (including frequency)

  – SensorEventListener, SensorEvent

  – Make sure to unregister (e.g. on onPause)

Broadcasts & BroadcastReceivers

- Sends messages within your application or system wide
    - Intent.ACTION_DIAL
    - Intent.ACTION_SENDTO
- React to events triggered by the system
    - Intent.ACTION_BOOT_COMPLETED
    - Intent.ACTION_POWER_CONNECTED
- Build you own, either exposing data or reacting to events
- Use Intent to share information

HANDS-ON

ADDITIONAL INFORMATION

Assignment 02

- Individual assignment
- Build up on your previous work
- Fragments, Notifications and screen layouts

- Due in 2 weeks (08.05.)
- Submission via Uniworx

Next Lecture

- Next lecture in 2 weeks (08.05.), 14.00h

- Semester project introduction
- Teaming up

Questions

- Open Q&A

Resources

- Android Developers
  - http://developer.android.com/design
  - http://developer.android.com/training
  - http://developer.android.com/guide
- Google IO Session Recordings
  - https://developers.google.com/events/io/2012
  - https://developers.google.com/events/io/2013
- Google IO Schedule App
  - https://code.google.com/p/iosched