Android App Programming

Lecture 3: Using web services
November 7, 2017

Thomas Nowak
Université Paris-Sud
Last lecture recap
Intents

- Mechanism to launch activities from other activities

- To change activity: need to create object of type `Intent`, then call the method `startActivity` with that object

- ex:
  ```java
  Intent i = new Intent(this,
  OtherActivity.class);
  startActivity(i);
  ```
Bundles

• Mechanism to pass data to activities: **Bundles**

• Can put data in and retrieve it

• ex:

```java
bundle.putFloat("pi", 3.14);
bundle.getFloat("pi");
```
Using web services
Web services

- web service = set of responses from a web server that aren’t HTML

- return formats: typically JSON or XML

- query formats: often HTTP GET request w/ query strings
  - ex: https://www.google.com/search?q=hi

- find web APIs: www.programmableweb.com
JSON example

```json
{
  "type": "success",
  "value": [
    {
      "id": 166,
      "joke": "Chuck Norris doesn't play god.
              Playing is for children.",
      "categories": []
    },
    {
      "id": 557,
      "joke": "Chuck Norris can read from an input stream."
    }
  ]
}
```
Parsing JSON

- Two main libraries in Java:
  - org.json
  - GSON
- both have more or less the same functionality
- ex:
  ```java
  json.getAsJsonObject("a").get("b").getAsInt()
  ```
- `{"a": {"b": 42}, "c": {"d": 22}}`
Coding demo
Lab 3

1. Use the ICNDB (Internet Chuck Norris Database)

2. Mix in some images from memegen.link
Advance reading

• Next week’s topic:

• Services

• Read Ch. 47
Questions