Application Development

for mobile and ubiquitous devices

-2nd presentation-

Scenario

- Motivation:
  - Connectedness between people through technology nowadays supports the idea of an Application that focuses on spontaneousness
- Concept of an ‚auction of events‘
  - Presenting ideas in a local scope for others to take part in

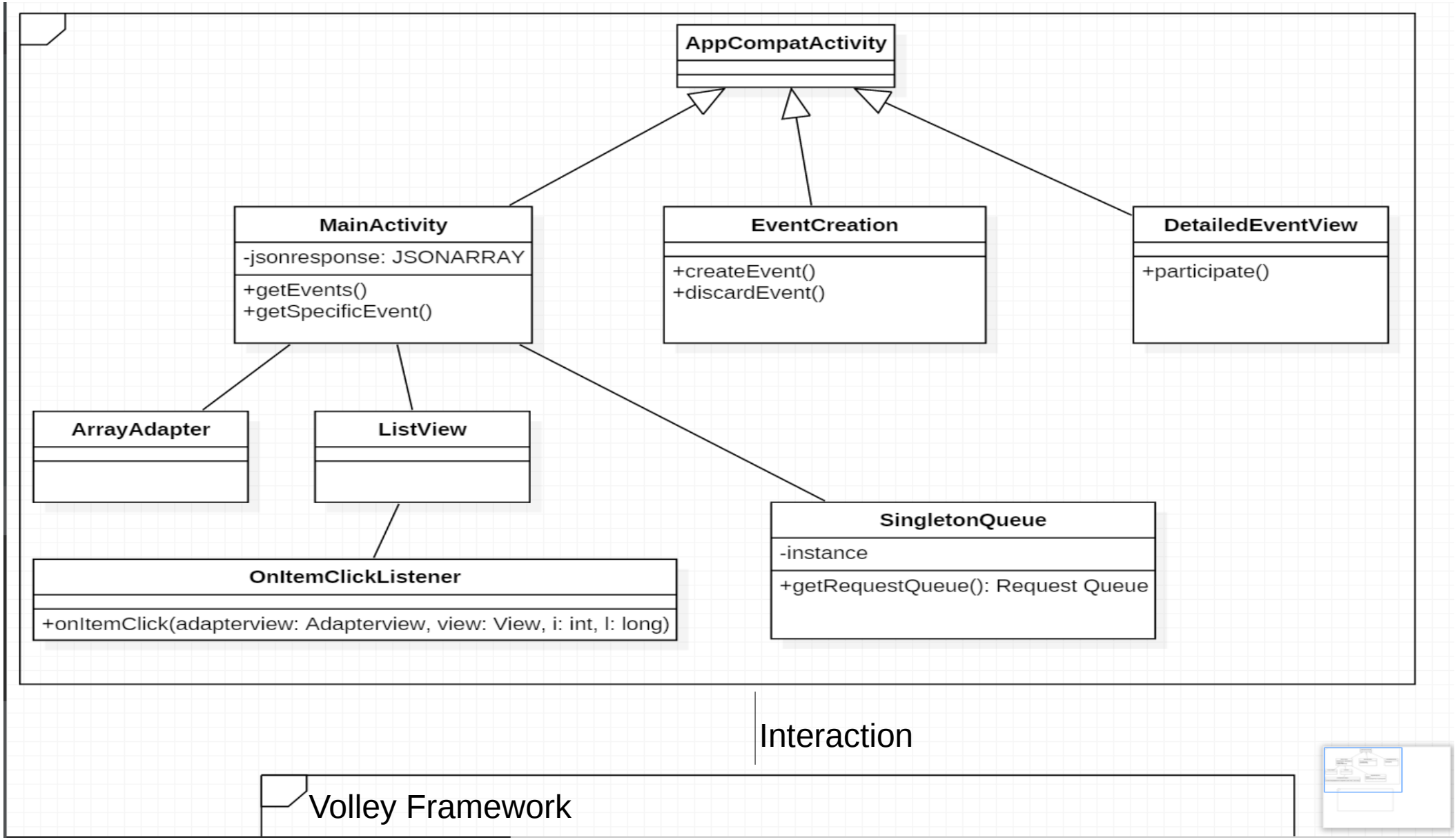
Context feature set

- Location awareness:
  - Showing content based on the users position (GPS)
- Energy monitoring:
  - Keeping track of general battery data
- Connectivity:
  - Monitor bandwidth
  - But: Energy-Saving mode has influence on the amount of datatraffic as well

Context feature mapping

- Location:
  - Use of Google‘s location API: com.google.android.gms.location
  - Latitude, longitude
- Energy:
  - Use of the sticky Intent: Intent.ACTION_BATTERY_CHANGED
  - Accessing all necessary parameters from there (e.g. EXTRA_LEVEL, EXTRA_SCALE)
  - Threshold value to activate the Energy-saving mode (e.g. 15%)
- Connectivity:
  - Use of Android‘s ConnectivityManager to get the Networktype

App-Overview



Context adaptation mechanisms

- Location:
  - Providing a slider that determines a radius, in which events will be shown

```
public void getEvents(final double lo, final double la, final int r){
    String url = "http://eventoday.de/evenToday/getEvents";

    StringRequest postRequest = new StringRequest(Request.Method.POST, url,
            new Response.Listener<String>() {
                @Override
                public void onResponse(String response) {
                    try {
                        JSONArray jsonResponse = new JSONArray(response);
                    } catch (JSONException e) {
                        e.printStackTrace();
                    }
                }
            },
            new Response.ErrorListener() {
                @Override
                public void onErrorResponse(VolleyError error) {
                    error.printStackTrace();
                }
            }
    ) {
        @Override
        protected Map<String, String> getParams()
        {
            Map<String, String>  params = new HashMap<>();
            // the POST parameters:
            params.put("radius", String.valueOf(r));
            params.put("longitude", String.valueOf(lo));
            params.put("latitude", String.valueOf(la));
            return params;
        }
    };
    SingeltonQueue.getInstance(this).addToRequestQueue(postRequest);
}
```

Context adaptation mechanisms

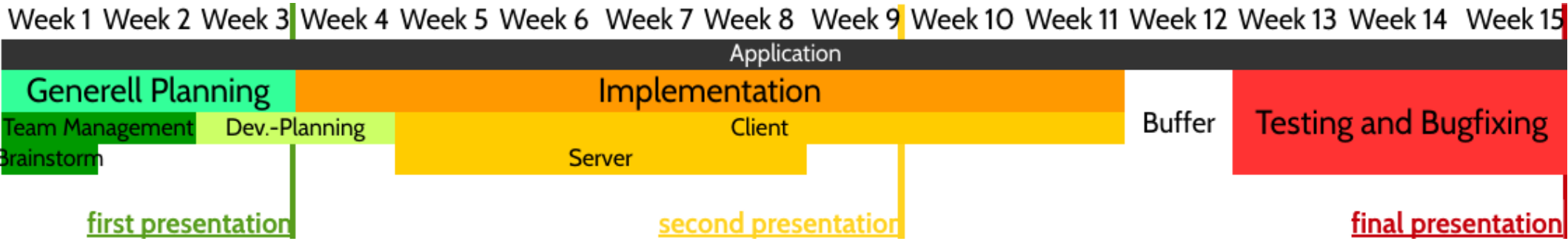
- Energy & Connectivity:
  - Energy-saving mode alters the event update process:
    - Only events that the user takes part in get updated automatically
    - Possibility to update the rest manually

```
public void getSpecificEvent(final String id){

    String url = "http://eventoday.de/evenToday/getSpecificEvent";

    StringRequest postRequest = new StringRequest(Request.Method.POST, url,
            new Response.Listener<String>() {
                @Override
                public void onResponse(String response) {
                    try {
                        JSONObject jsonResponse = new JSONObject(response);
                        } catch (JSONException e) {
                        e.printStackTrace();
                    }
                }
            },
            new Response.ErrorListener() {
                @Override
                public void onErrorResponse(VolleyError error) {
                    error.printStackTrace();
                }
            }
    ) {
        @Override
        protected Map<String, String> getParams()
        {
            Map<String, String>  params = new HashMap<>();
            // the POST parameters:
            params.put("id", id);
            return params;
        }
    };
    SingeltonQueue.getInstance(this).addToRequestQueue(postRequest);
```

Work Plan


Week 1 Week 2 Week 3 Week 4 Week 5 Week 6 Week 7 Week 8 Week 9 Week 10 Week 11 Week 12 Week 13 Week 14 Week 15
Application
Generell Planning
Implementation
Team Management
Dev.-Planning
Client
Buffer
Testing and Bugfixing
Brainstorm
Server
first presentation
second presentation
final presentation