

Geonetzwerk münsterland app



WWU Münster
Institute for Geoinformatics
Studyproject: Educational MapApps
Presenter: André Roß and Arthur Rohrbach
WS 2011/12

Agenda

Motivation
Objectives/Features
Data acquisition
Data preparation
Technologies
Implementation
DEMO
Outlook

Motivation

- „Focused App“ that uses spatial data
- Topic: sports grounds + playgrounds in Münster
- Target audience: children and teenager

=> We wanted to build a new application for children, that deals with playgrounds and sports grounds in Münster.

Objectives/Features

Mobile Application (Android)

-> Possibility to provide it to further platforms

Map showing the points of interests (play- and sportsgrounds)

Augmented Reality View of the POIs

Facebook Integration

 Communicate to your friends

 Share a point of interest with your friends

 Inform your friends about the app

Data acquisition

- Contact to Albert Remke, Mr. Michels (Geonetzwerk Münsterland) and Norbert Dephoff (Vermessungsamt Münster)
 - Result: Stadt Münster agreed to provide data on playgrounds and sports grounds in Münster (Open Data)
- => excel-tables with the required information

Data preparation

- Import to ArcGIS
- Creation of Shapefiles
- Working on data, extracting required information
- Publishing data as WFS and Map Service with help of ArcGIS Server
- Server provided by IfGI

Technologies

Mobile App

Native Android application (Android 2.2)

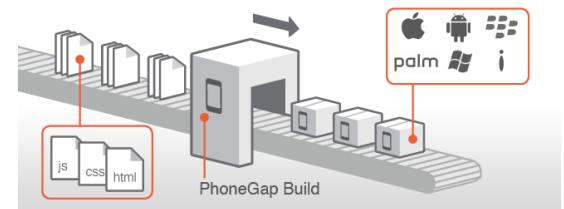
Includes mapApps as a Webview (PhoneGap)

-> reusable for other mobile platforms (iOS,..)

Replace a few mapApps components by native components (activities, dialogs)

Better Performance

High Usability



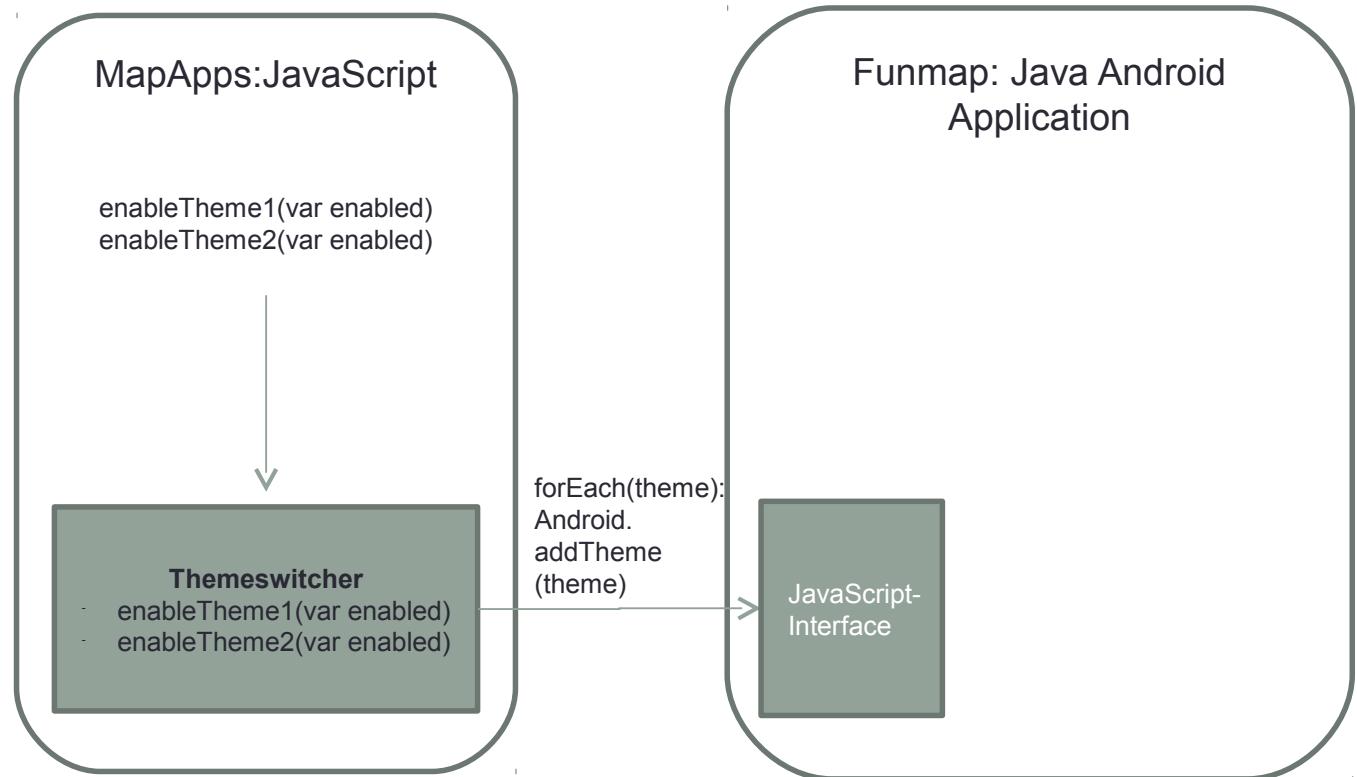
AR-View: Wikitude (details later)

Facebook Android SDK (<http://developers.facebook.com/docs/reference/androidsdk/>)

Implementation

JavaScript <-> Java Communication using the example of the themeswitcher

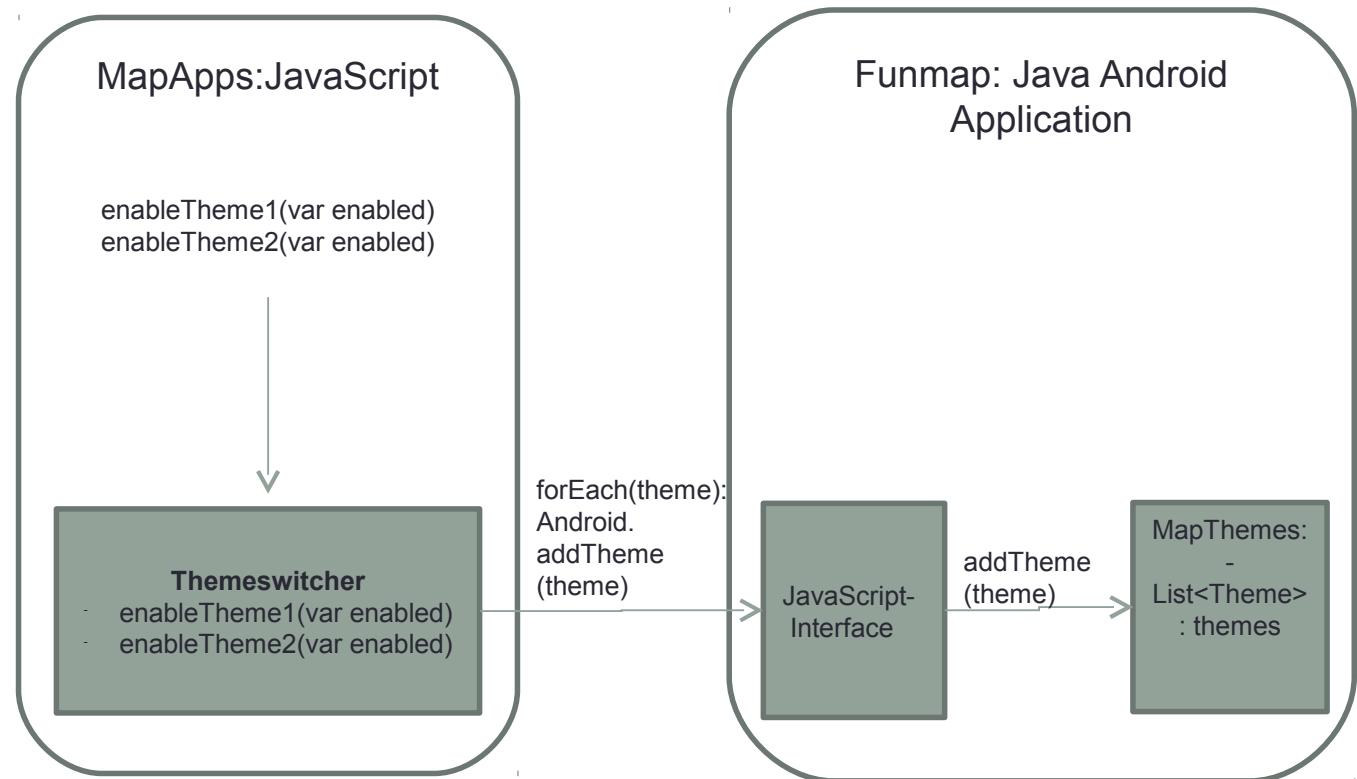
- Bundle Themeswitcher in mapApps created
 - Connects local instance methods to global methods (dojo.connect)
 - Call for each Theme addTheme(..) in the JavaScriptInterface



Implementation

JavaScript <-> Java Communication using the example of the themeswitcher

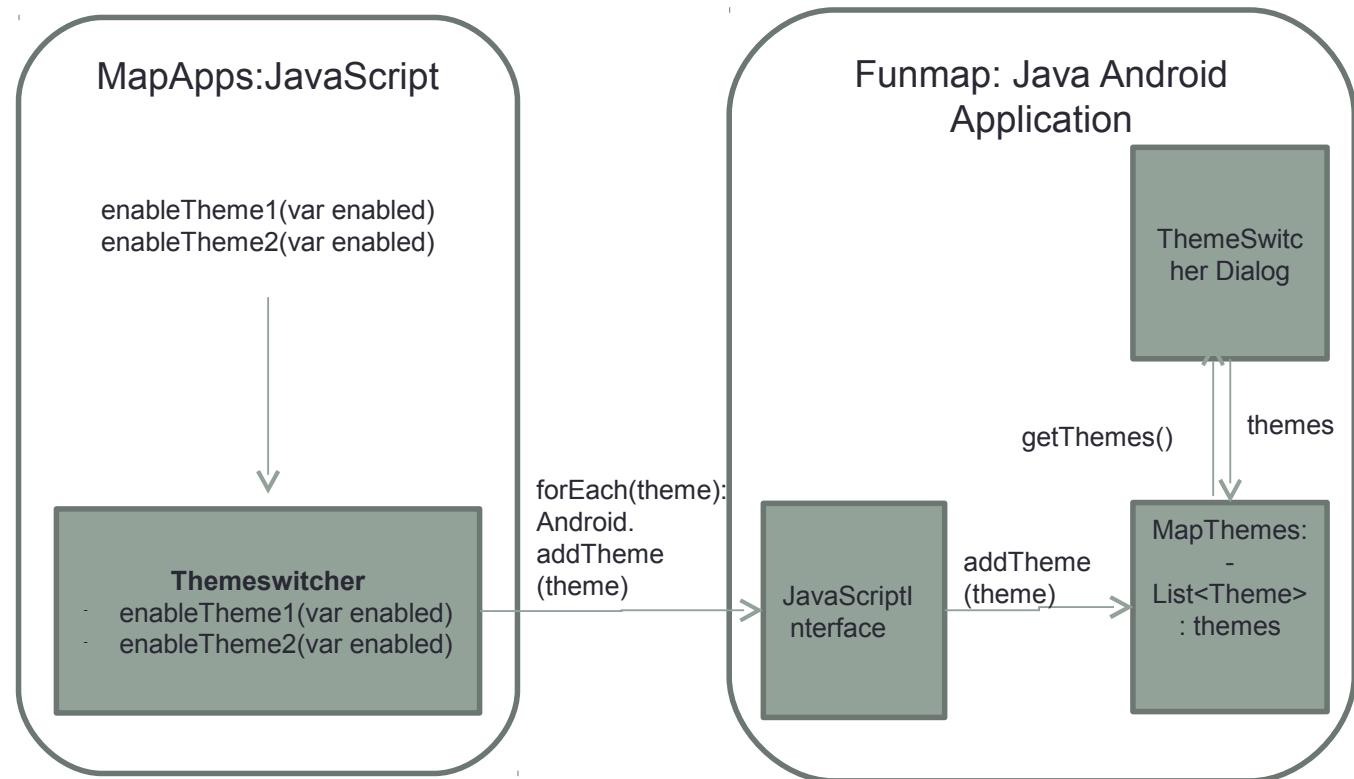
- JavaScript Interface
add the themes to
MapThemes
- Theme: id,status



Implementation

JavaScript <-> Java Communication using the example of the themeswitcher

- Open native ThemeSwitcher
- Get Themes of MapThemes



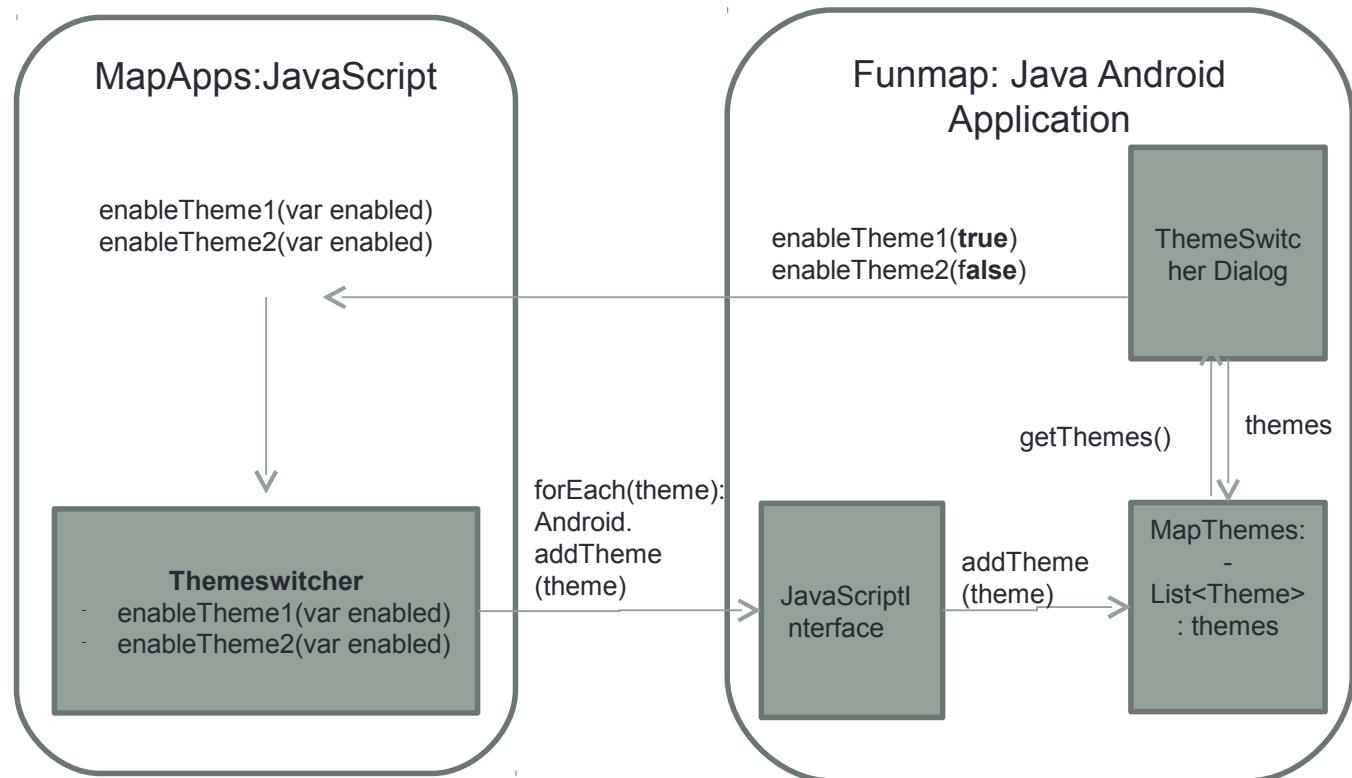
Implementation

JavaScript <-> Java Communication using the example of the themeswitcher

- onClose:
 - Calls global javascript functions:

```
myWebView.loadUrl(„javascript  
:enableTheme1(true”);
```

-> local object methods called



Implementation

Augmented Reality View

Use of Wikitude SDK

Workflow:

- Create a **WikitudeARIntent** object

- Parse our WFS and create a list of features

- Create **WikitudePOIs** for this features and add them to the intent

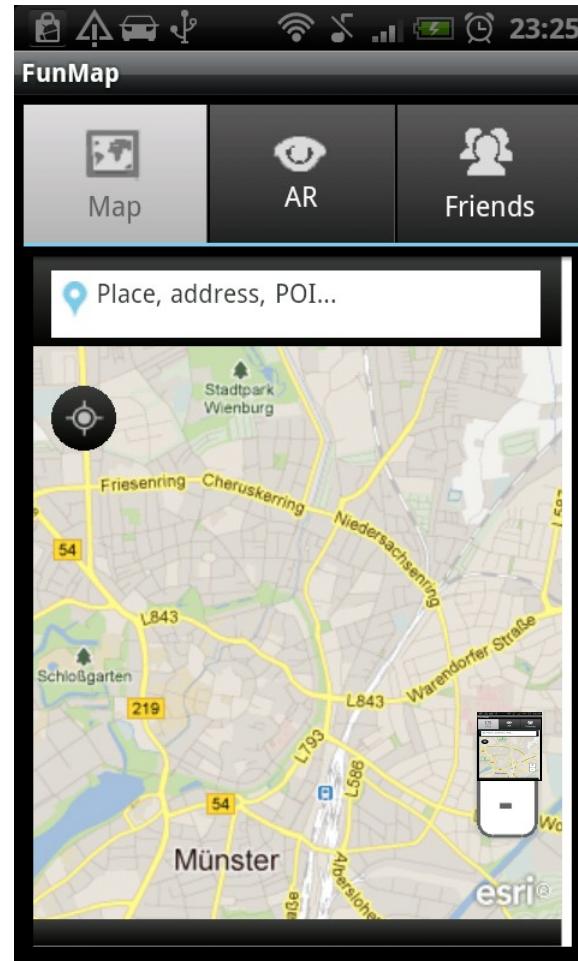
- Start the intent

```
WikitudeARIntent intent = new WikitudeARIntent(this.getApplication(),...)  
  
ArrayList<Feature> features=... // parse wfs  
  
for (Feature feature : features) {  
  
    WikitudePOI poi = new WikitudePOI(feature.getLatitude(),feature.getLongitude(), 0, feature.getName(), feature.toString());  
  
    intent.addPOI(poi);  
  
}  
  
...  
  
intent.startIntent(this);
```

demo

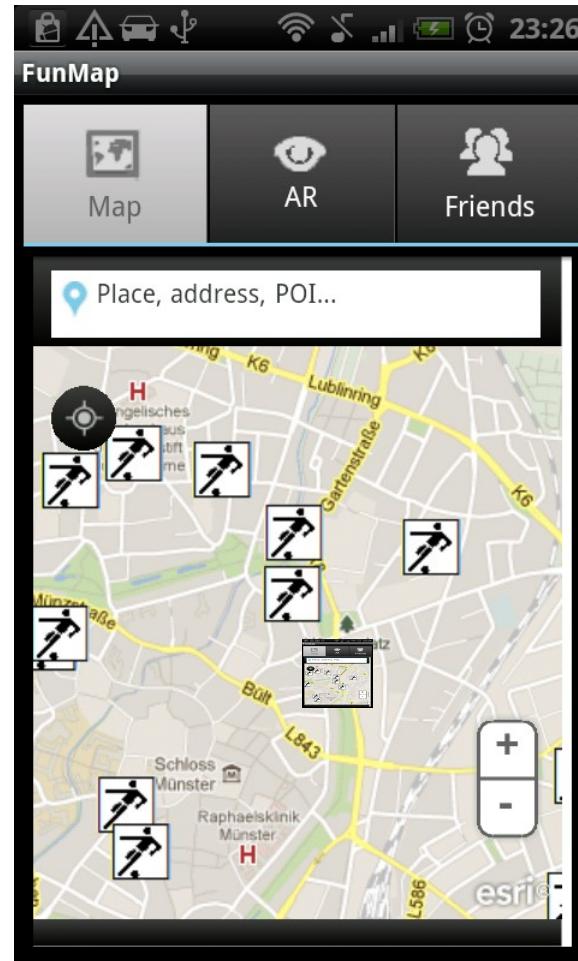
MapView

mapApps as WebView



MapView

mapApps as WebView



MapView

Native InfoViewer

Activity in DialogTheme

ListView for Attributes (adaptable to different mapserver)

ShareButton: Share this location on Facebook



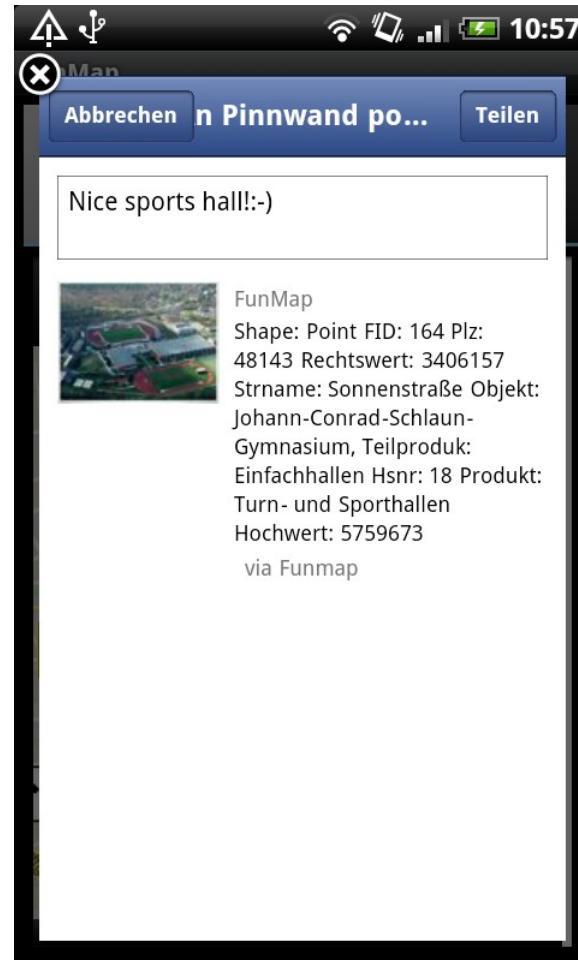
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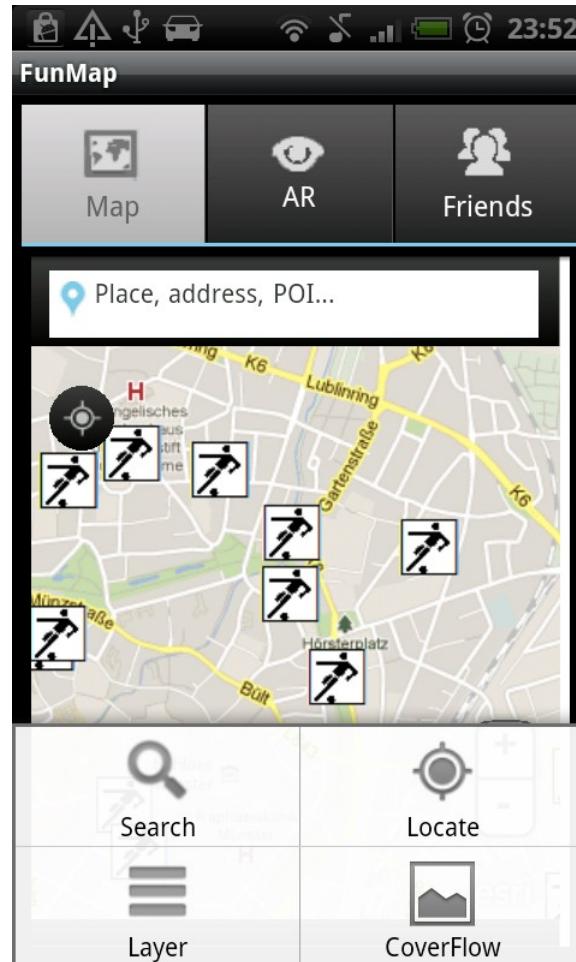


MapView

The screenshot shows a Facebook profile page for a user named Andre Müller. The profile picture is a placeholder silhouette. On the left sidebar, there are links for uploading a photo, viewing the pinboard, and finding friends. The main content area displays Andre's profile information, including his birthday (18. September 1982), edit buttons for work, school, and profile, and a status update field containing "Was machst du gerade?". Below this is a pinboard section with a message encouraging users to update their status and share photos, videos, and links. A large red circle highlights a status update from Andre Müller: "Nice sports hall!:-)" followed by a link to "I am FunMap for Android". This update includes coordinates and details about the Johann-Conrad-Schlaun-Gymnasium. Below the status updates, there's a "NEUERSTE AKTIVITÄT" section showing Andre's recent activity on Funmap and a friend request from André Roß. At the bottom, it shows Andre was at a playground on December 2, 2011, at 13:19 via mobile phone.

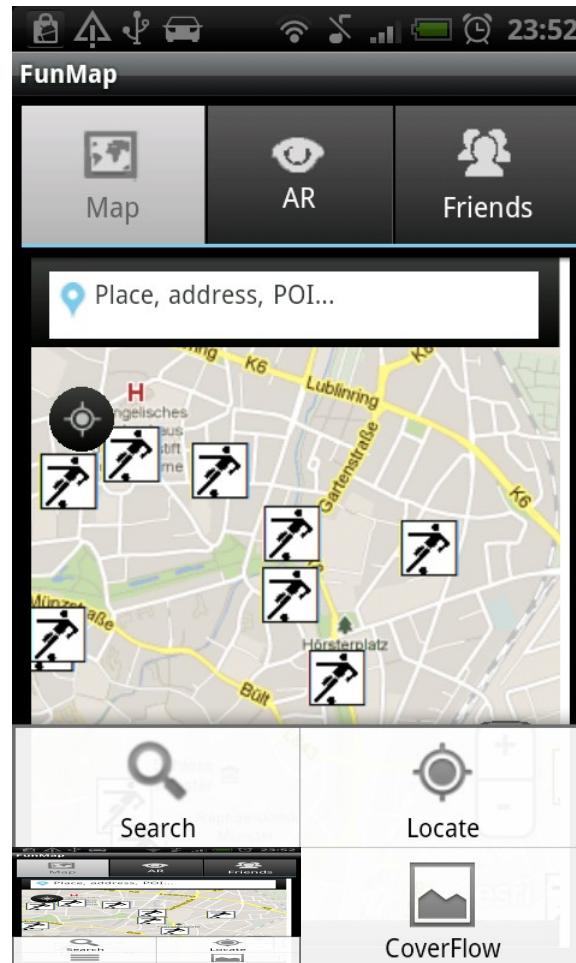
MapView

Android Options Menu
Opened by clicking the menu button
Used to hide functionality
More space for mapview



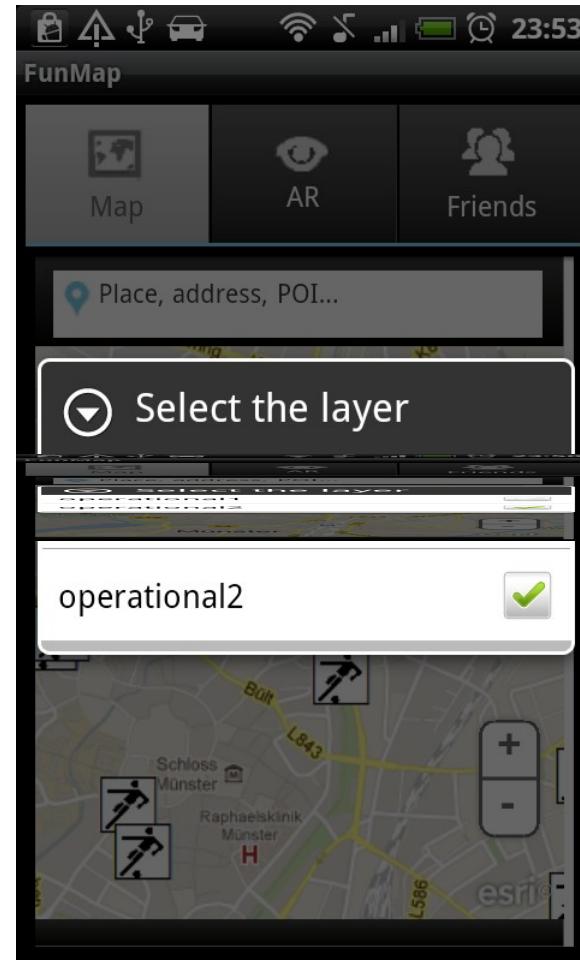
MapView

Layer-/theme switcher
mapApps Bundle
Native Dialogbox



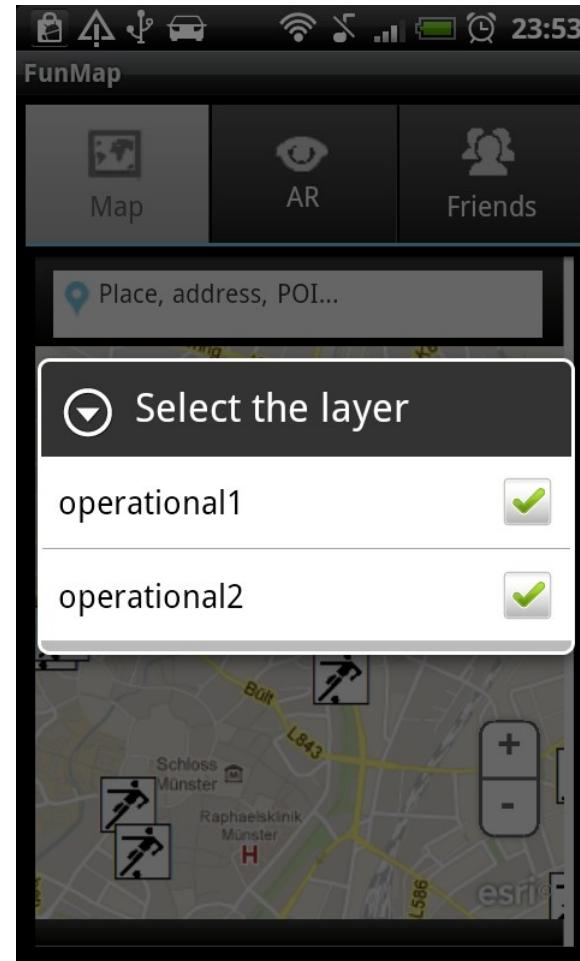
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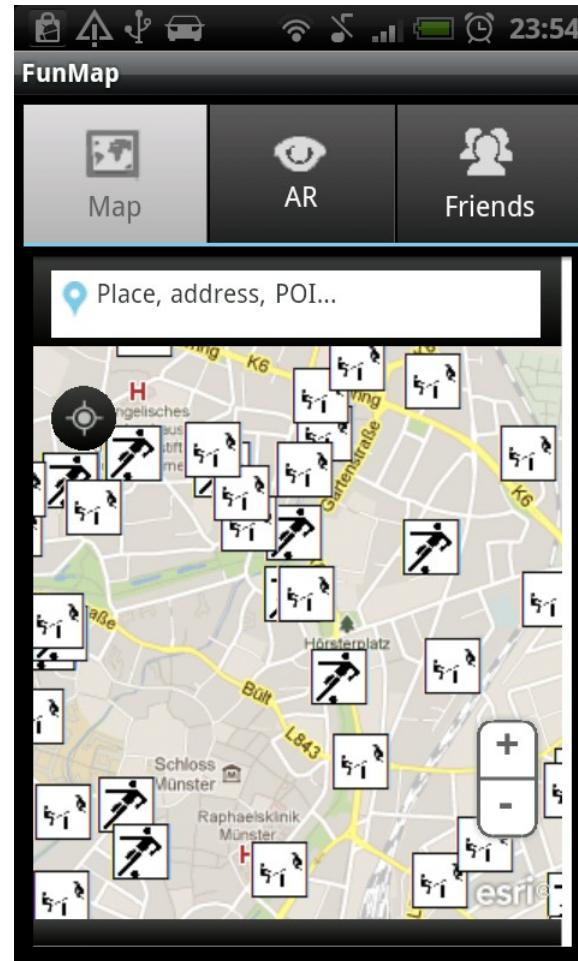
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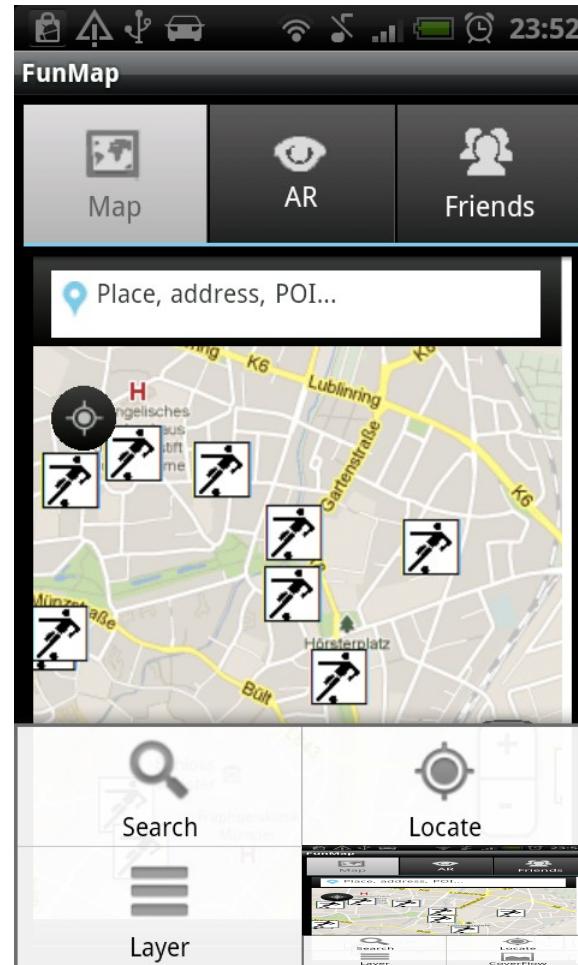
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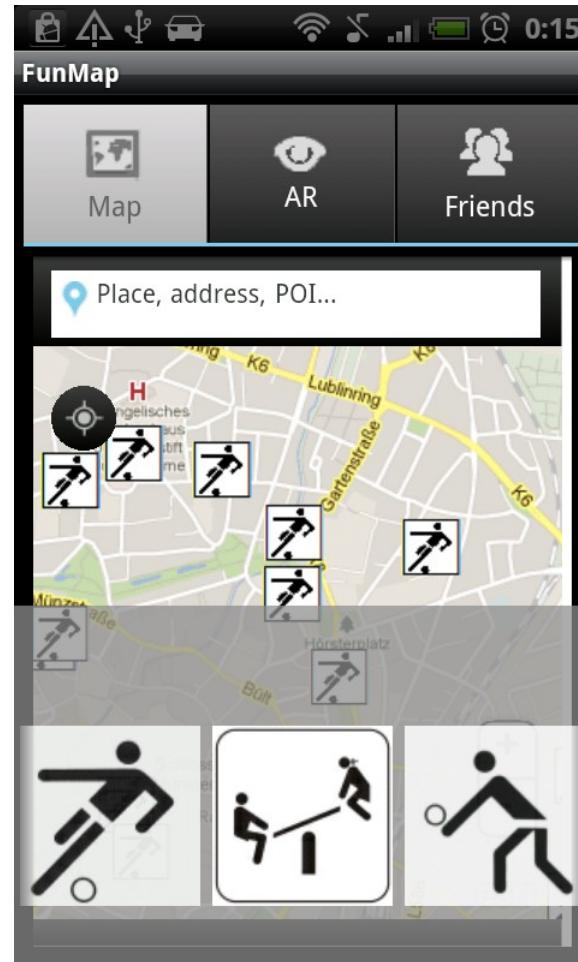
MapView

(native) Coverflow UI



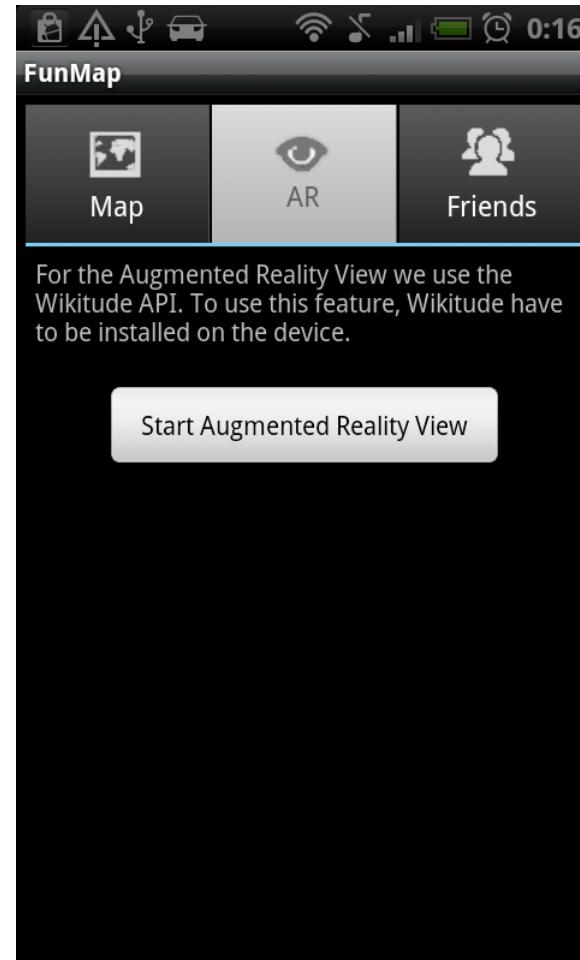
MapView

(native) Coverflow UI



AR-View

Wikititude AR-View



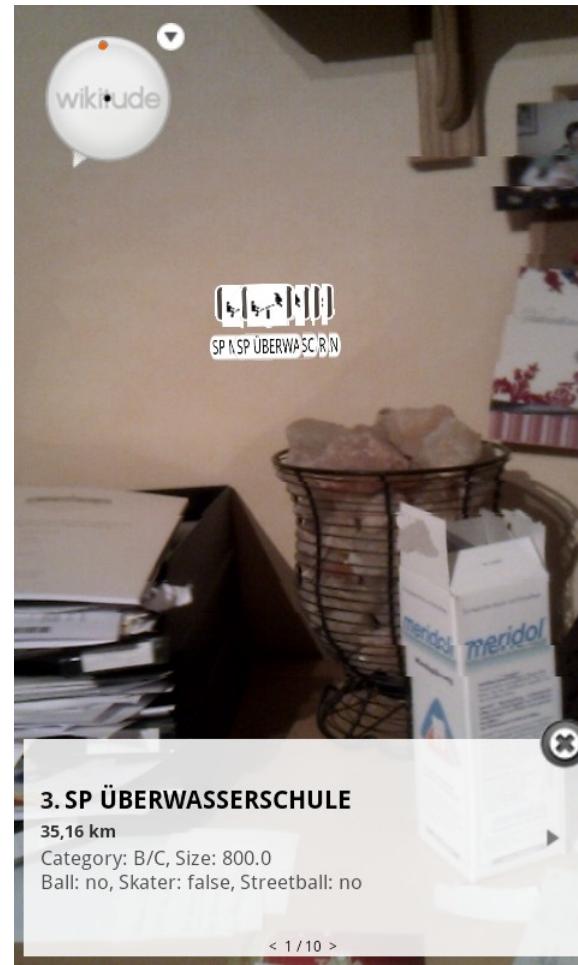
AR-View

Wikitudo AR-View



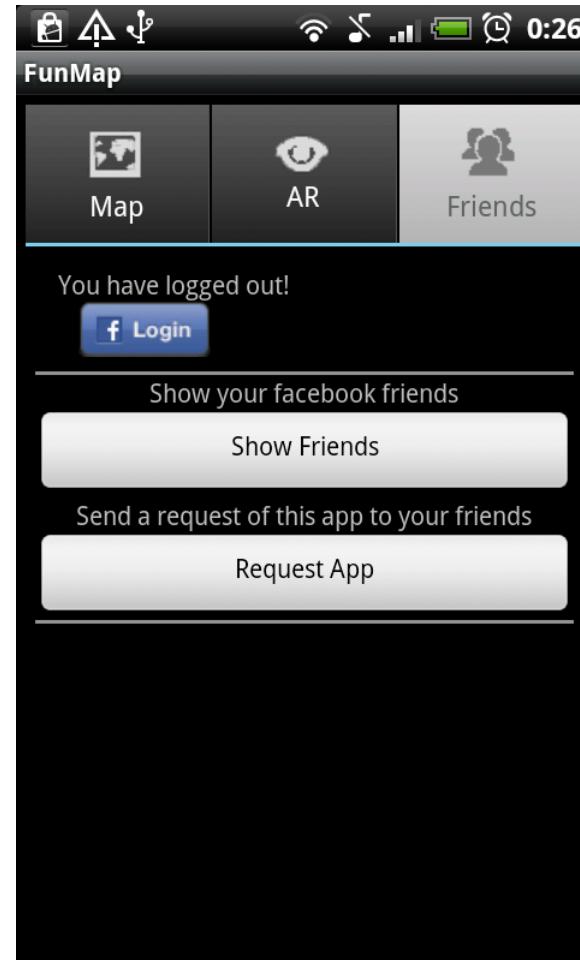
AR-View

Wikitudo AR-View



Facebook Integration

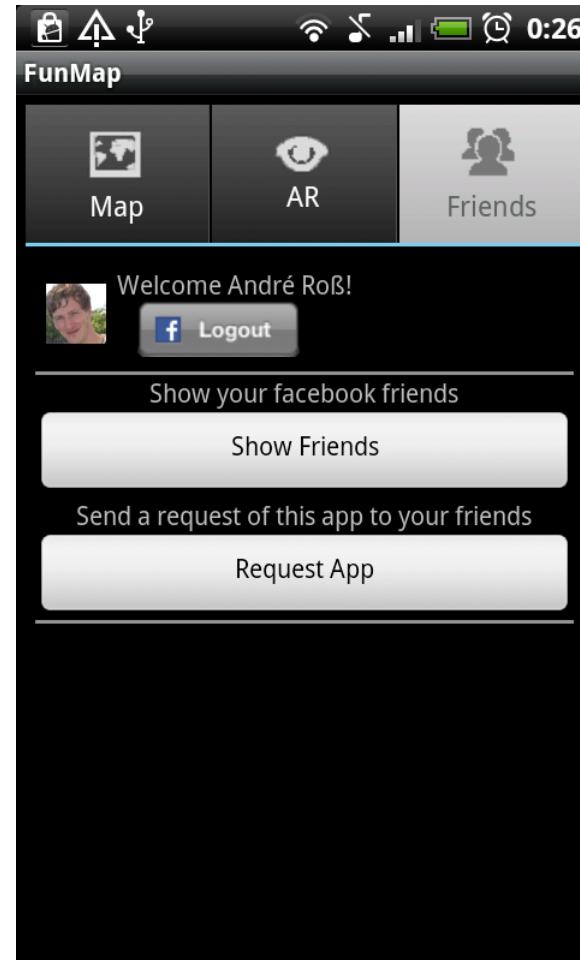
Login
FriendList
App Request



Facebook Integration

Login
Single-Sign-On

FriendList
App Request



Facebook Integration

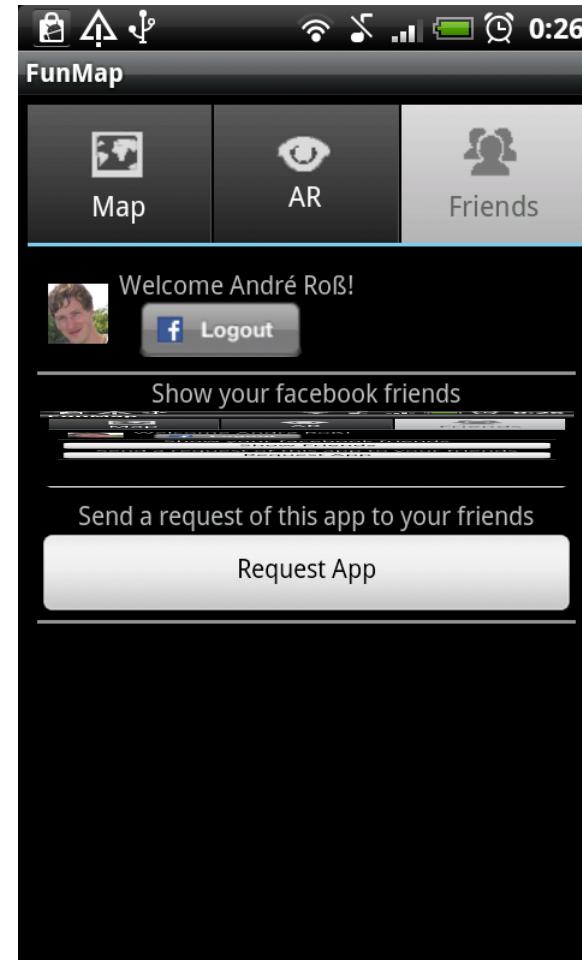
Login

FriendList

All Friends or app users

Post on wall

App Request



Facebook Integration

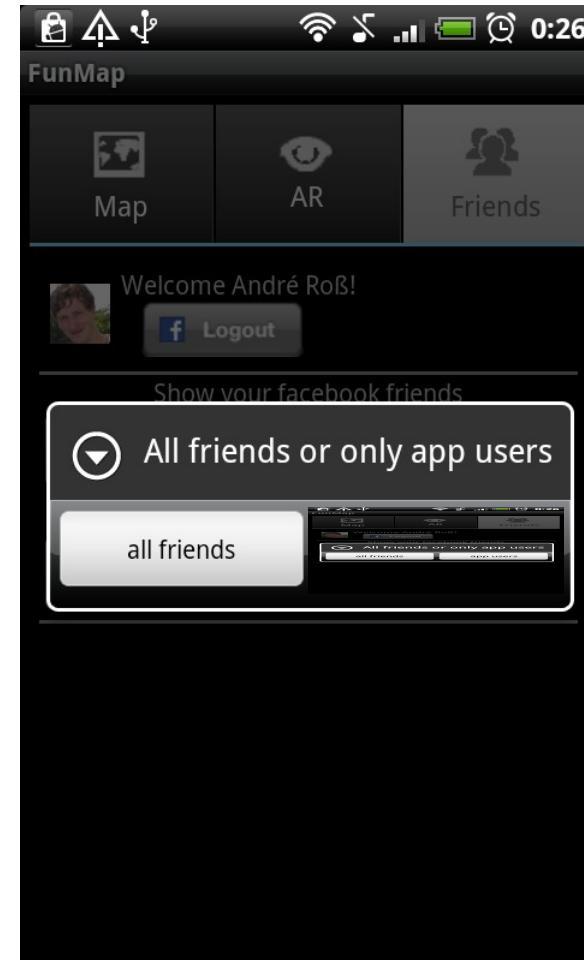
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Facebook Integration

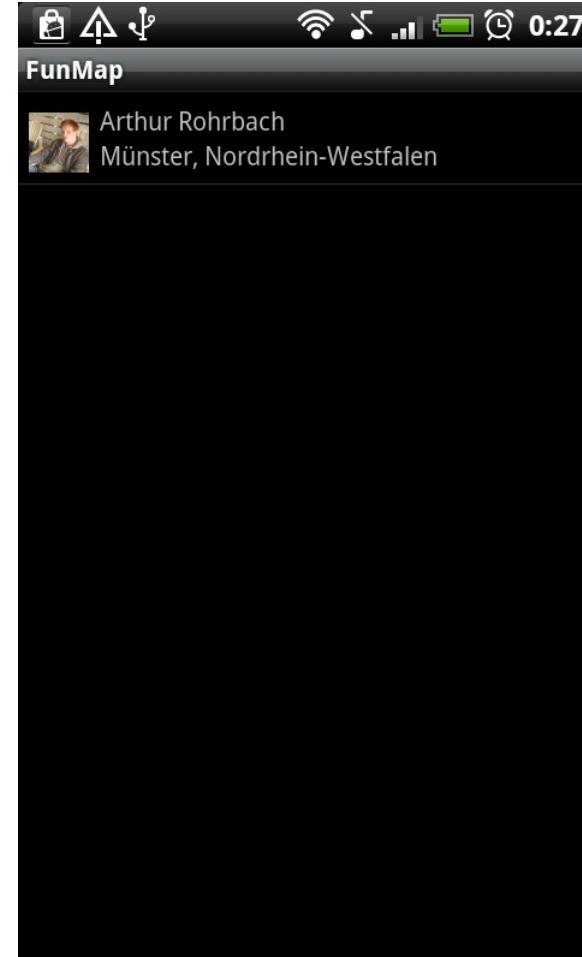
Login

FriendList

All Friends or app users

Post on wall

App Request



Facebook Integration

Login

FriendList

All Friends or app users

Post on wall

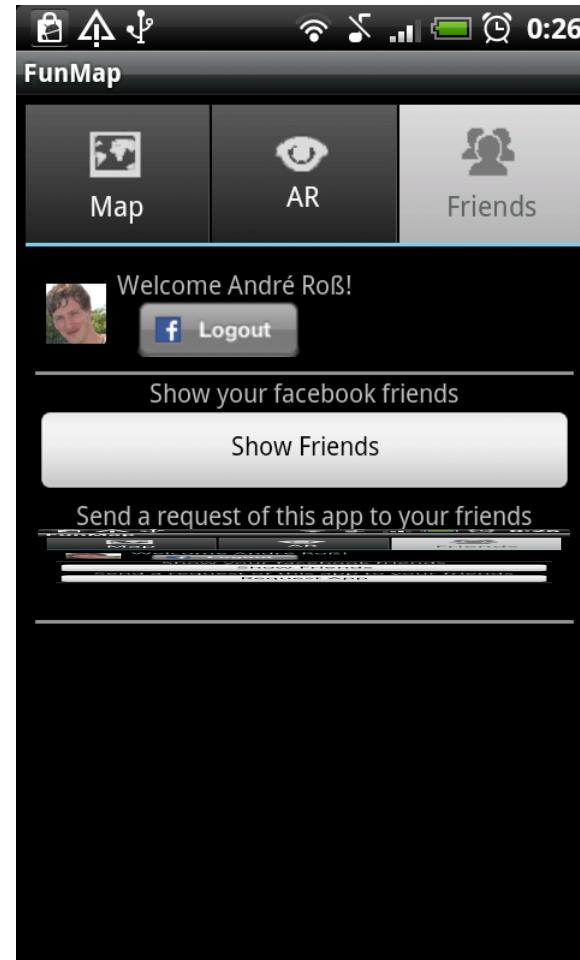
App Request



Facebook Integration

Login
FriendList
App Request
Share the app

Receive notification



Facebook Integration

Login

FriendList

App Request

Share the app

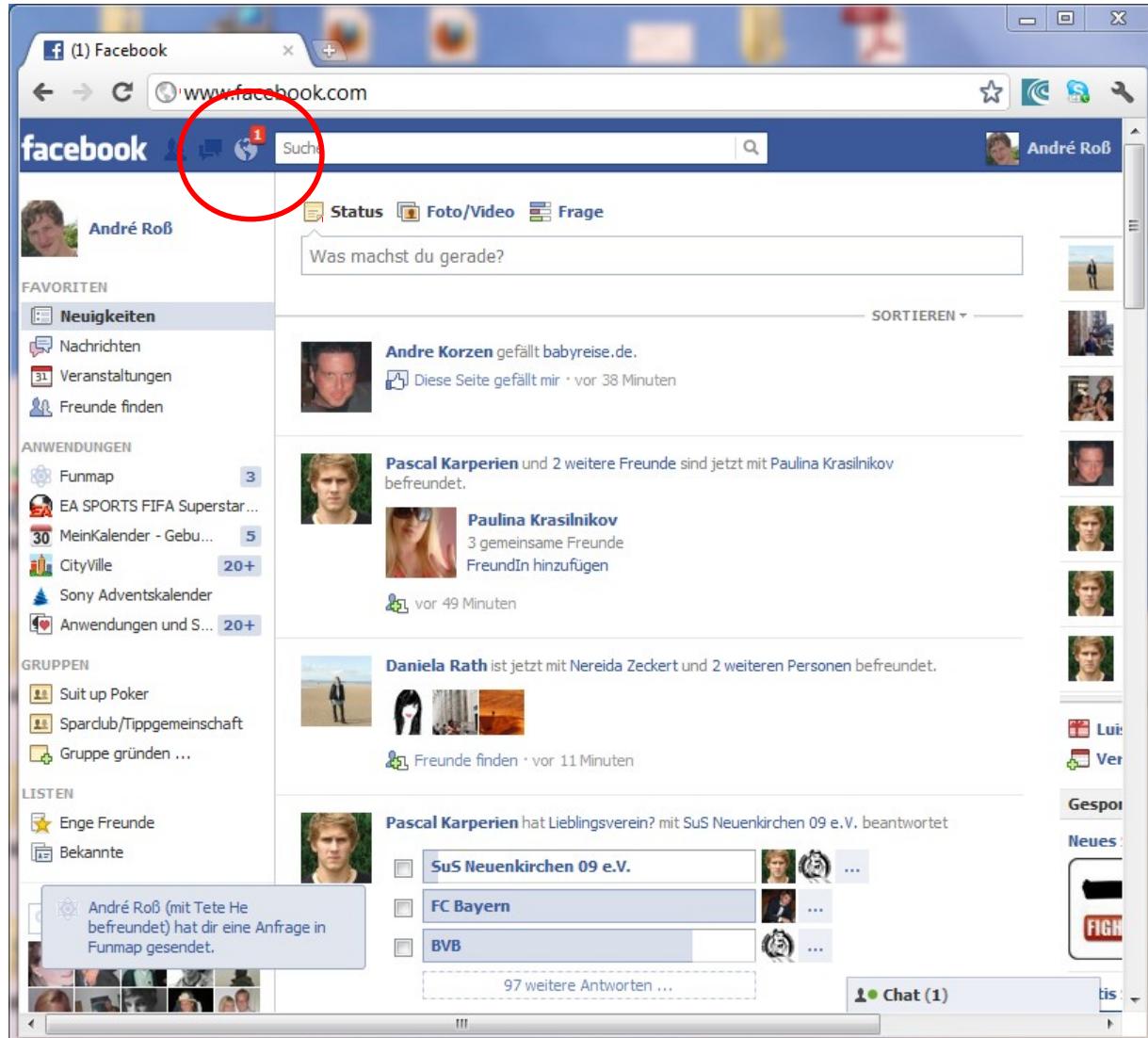
Receive notification



Facebook Integration

Login
FriendList
App Request
Share the app

Receive notification



The screenshot shows a Facebook page in a web browser. A red circle highlights the top status bar, which displays a notification icon with the number '1'. The main feed shows several friend requests and notifications:

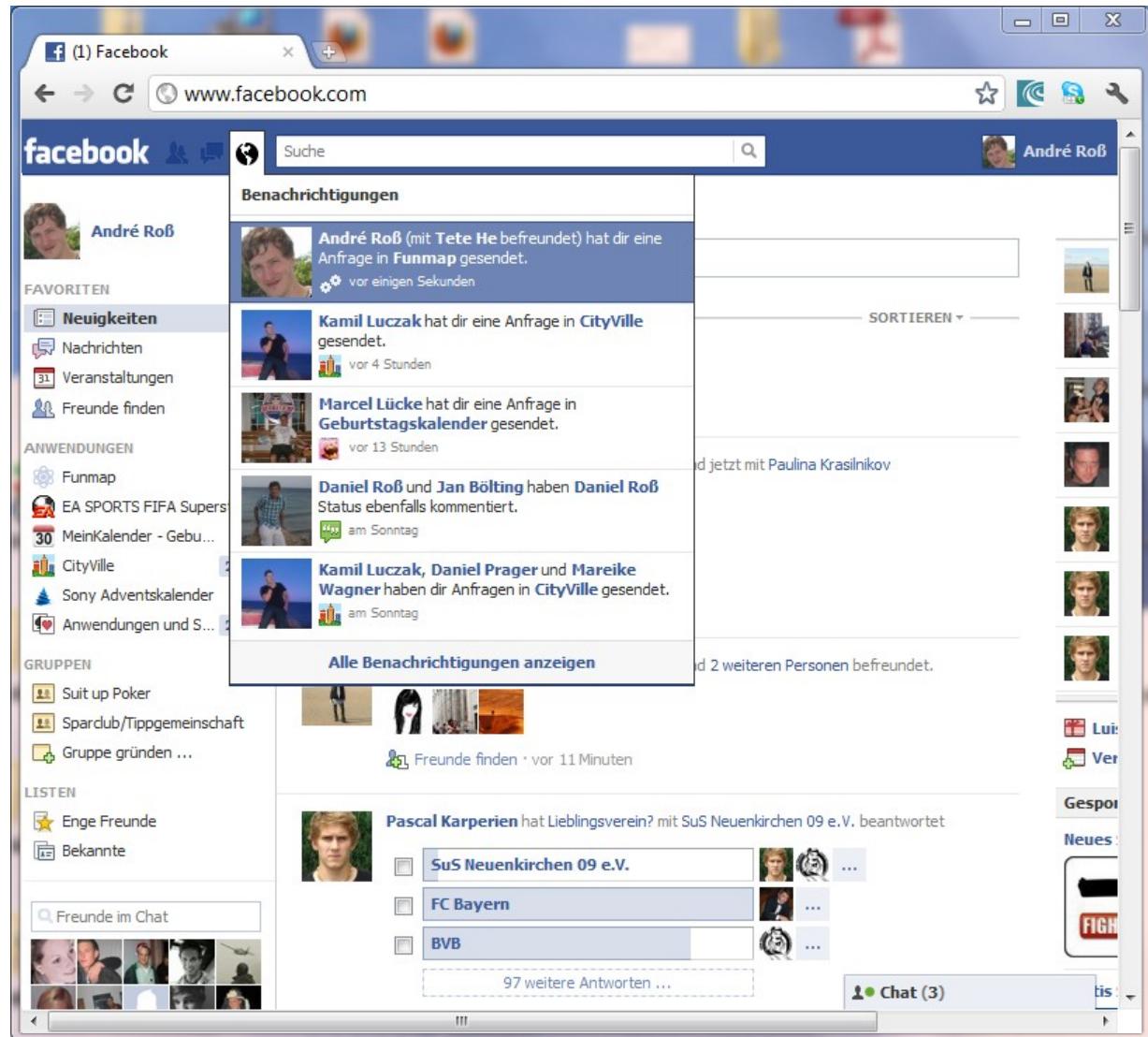
- Andre Korzen** gefällt babyreise.de. (38 minutes ago)
- Pascal Karperien** und 2 weitere Freunde sind jetzt mit Paulina Krasilnikov befreundet.
- Paulina Krasilnikov** 3 gemeinsame Freunde FreundIn hinzufügen (49 minutes ago)
- Daniela Rath** ist jetzt mit Nereida Zeckert und 2 weiteren Personen befreundet.
- Pascal Karperien** hat Lieblingsverein? mit SuS Neuenkirchen 09 e.V. beantwortet
- Answers to the question:
 - SuS Neuenkirchen 09 e.V.**
 - FC Bayern**
 - BVB**97 weitere Antworten ...

At the bottom right, there is a 'Chat (1)' button.

Facebook Integration

Login
FriendList
App Request
Share the app

Receive notification



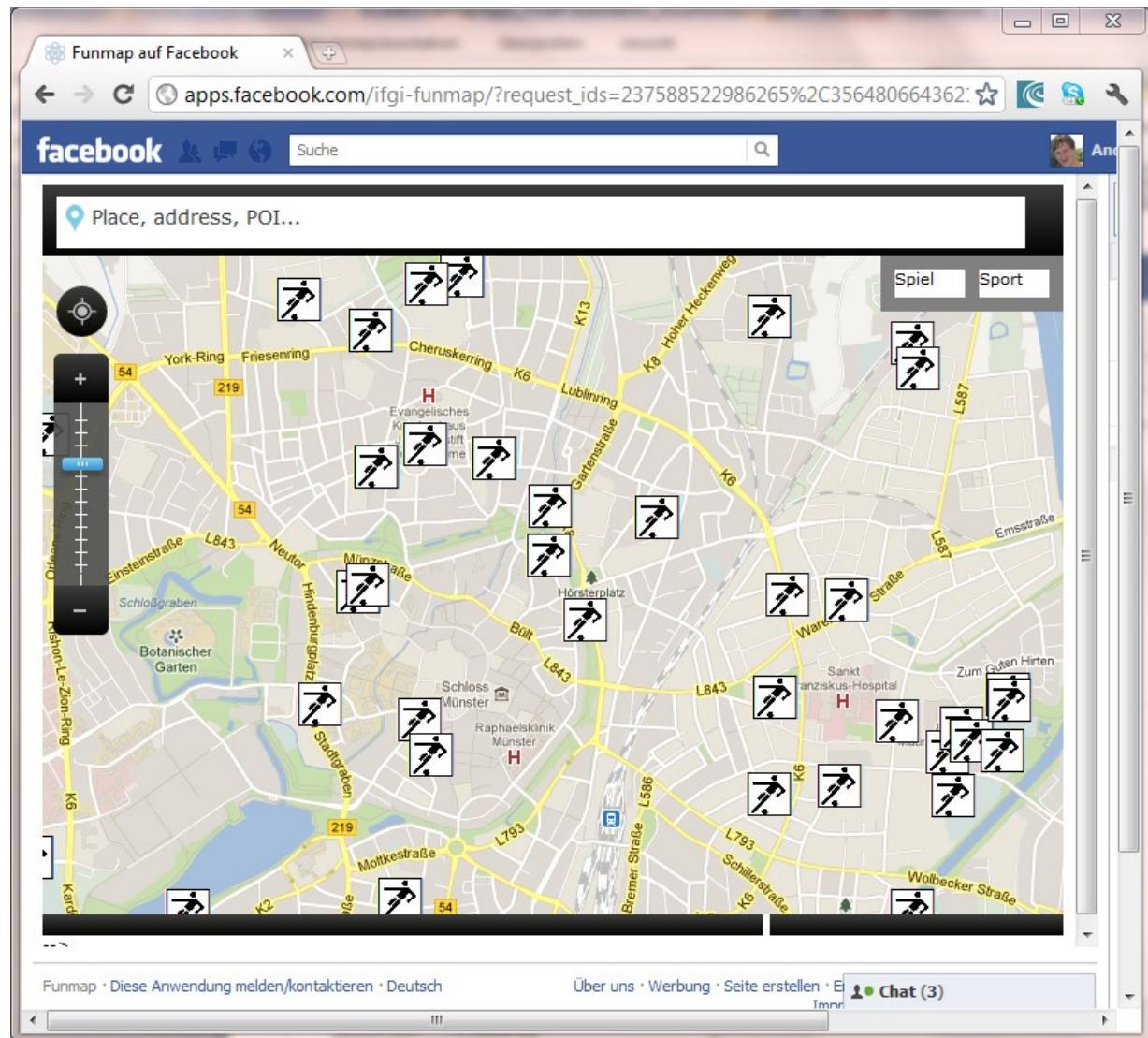
The screenshot shows a web browser window with the URL www.facebook.com. The main content area displays the 'Benachrichtigungen' (Notifications) section. The notifications listed are:

- André Roß (mit Tete He befreundet) hat dir eine Anfrage in Funmap gesendet. vor einigen Sekunden
- Kamil Luczak hat dir eine Anfrage in CityVille gesendet. vor 4 Stunden
- Marcel Lücke hat dir eine Anfrage in Geburtstagskalender gesendet. vor 13 Stunden
- Daniel Roß und Jan Böltung haben Daniel Roß Status ebenfalls kommentiert. am Sonntag
- Kamil Luczak, Daniel Prager und Mareike Wagner haben dir Anfragen in CityVille gesendet. am Sonntag

Below the notifications, there is a link to 'Alle Benachrichtigungen anzeigen' (Show all notifications). The left sidebar of the Facebook interface includes sections for 'FAVORITEN' (Favorites), 'Neuigkeiten' (News), 'ANWENDUNGEN' (Applications), 'GRUPPEN' (Groups), 'LISTEN' (Lists), and 'Freunde im Chat' (Friends in Chat). The right sidebar shows a list of friends and their recent activity.

Facebook Integration

- Login
- FriendList
- App Request
- Share the app
- Receive notification



Outlook

Further Preparation of Data

Subdivide the two layers (e.g. playgrounds: skaterparcs, basketball fields,...)

Final Implementation

Facebook Integration -> some design optimizations

mapApps

Some bugfixing

Loading time

Native coverFlow

Furthermore

(Iphone App)

Any Questions?
