TECHNISCHE UNIVERSITÄT DRESDEN

Department of Computer Science Institute for System Architecture, Chair for Computer Networks

Application Development for Mobile and Ubiquitous Computing

Seminar Task : Global Weather

Final Presentation

GroupNo.13
Team:Kai Li, Jiaxuan Li

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Description

Global Weather provides detailed weather for all worldwide, it searches for cities and locates them quickly, and provides the current temperature, current weather condition, humidity and wind status, two days weather forecast. in addition, you could share the weather information by short message, email, twitter or weibo.

Feature:

1.Praovides current weather condition and two days weather forecast.

2.Searches for all cities in the world by country and city or famous cities.

3.Provides several ways to search the weather condition

4.Shares the weather information by several ways

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Implementation

Three ways to search weather condition :

- Manual Input
- Positioning Searching
- Google Map Searching

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Manual Input

Just input the name of city which you want to get the weather condition

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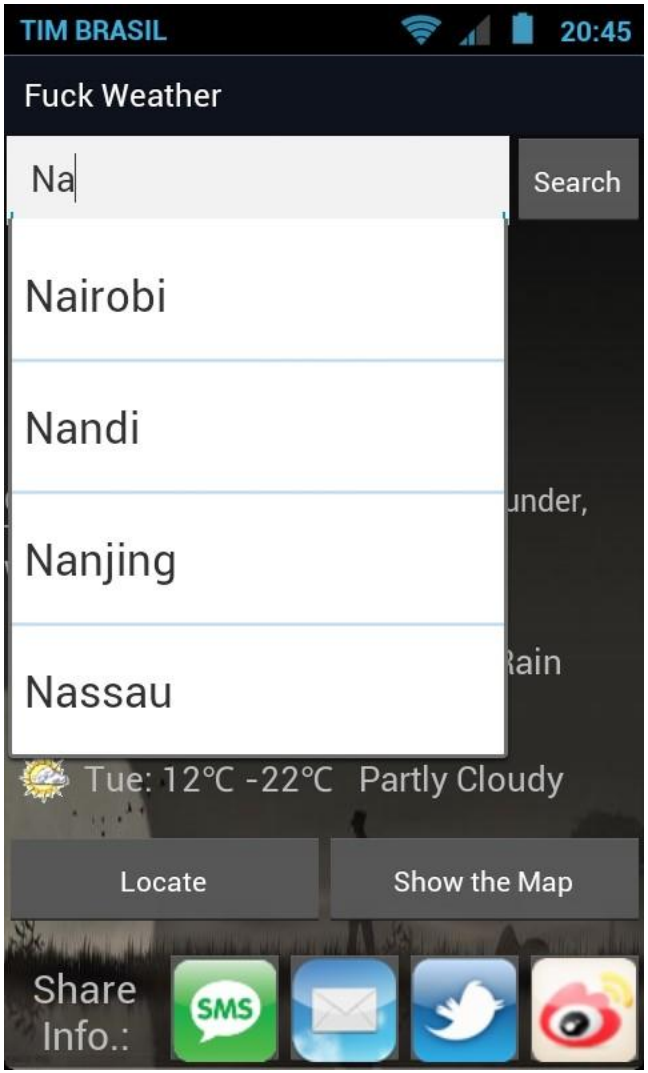
Manual Input



Our application supports smart matching.

For example, when you input Na, the drop-down box will automatically appears similar match.

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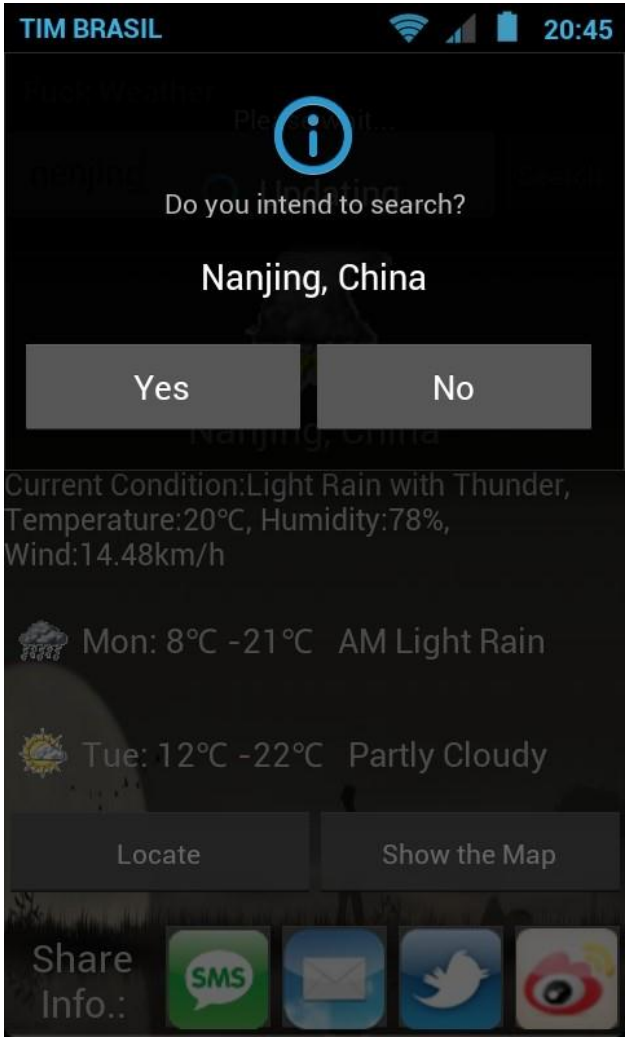
Manual Input



Our application supports smart correction.

If you input the wrong name of the city, the application will notice you the correct spelling of the city name.

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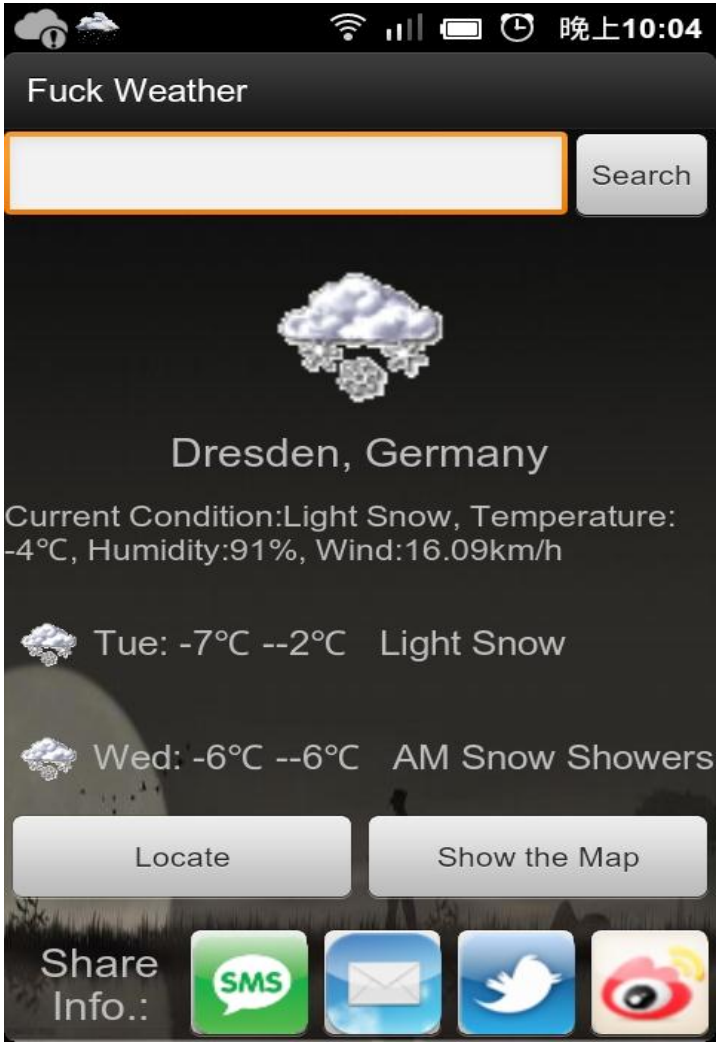
Positioning Searching



Just click the “locate” button, the application will automatically get your location and download the weather condition from the Internet.

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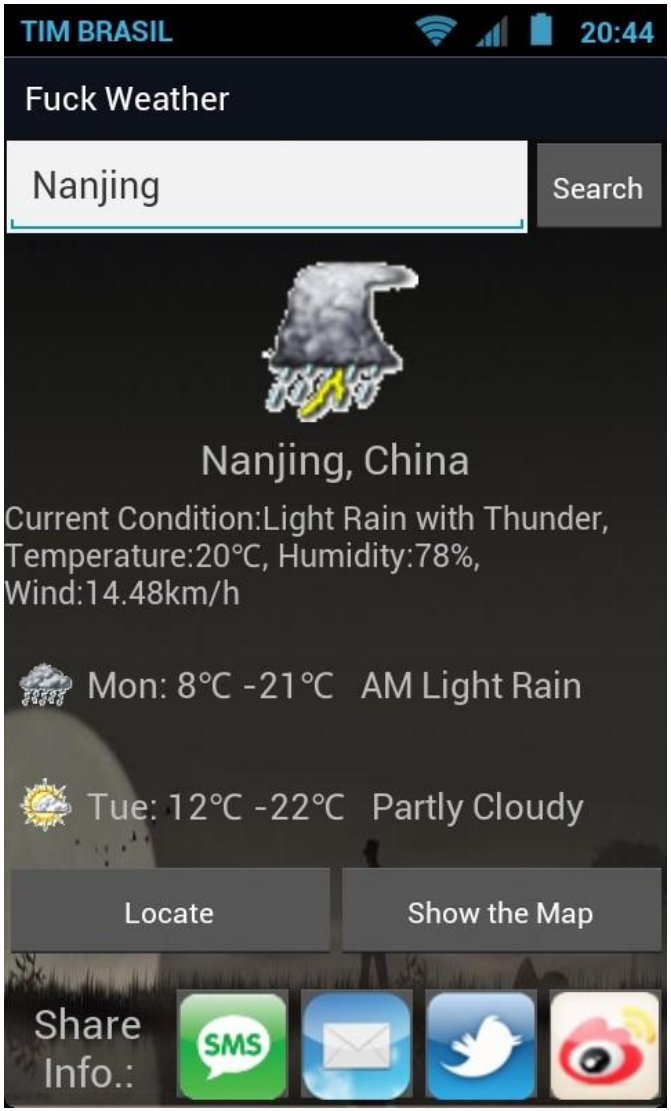
Google Map



Click the “map” button, the Google map will appear.

Click any place you want, the weather condition will show in the screen!

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Share Information

You would send or share your searching weather information

by short message, Email, Twitter, weibo!

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Implementation

Video Show

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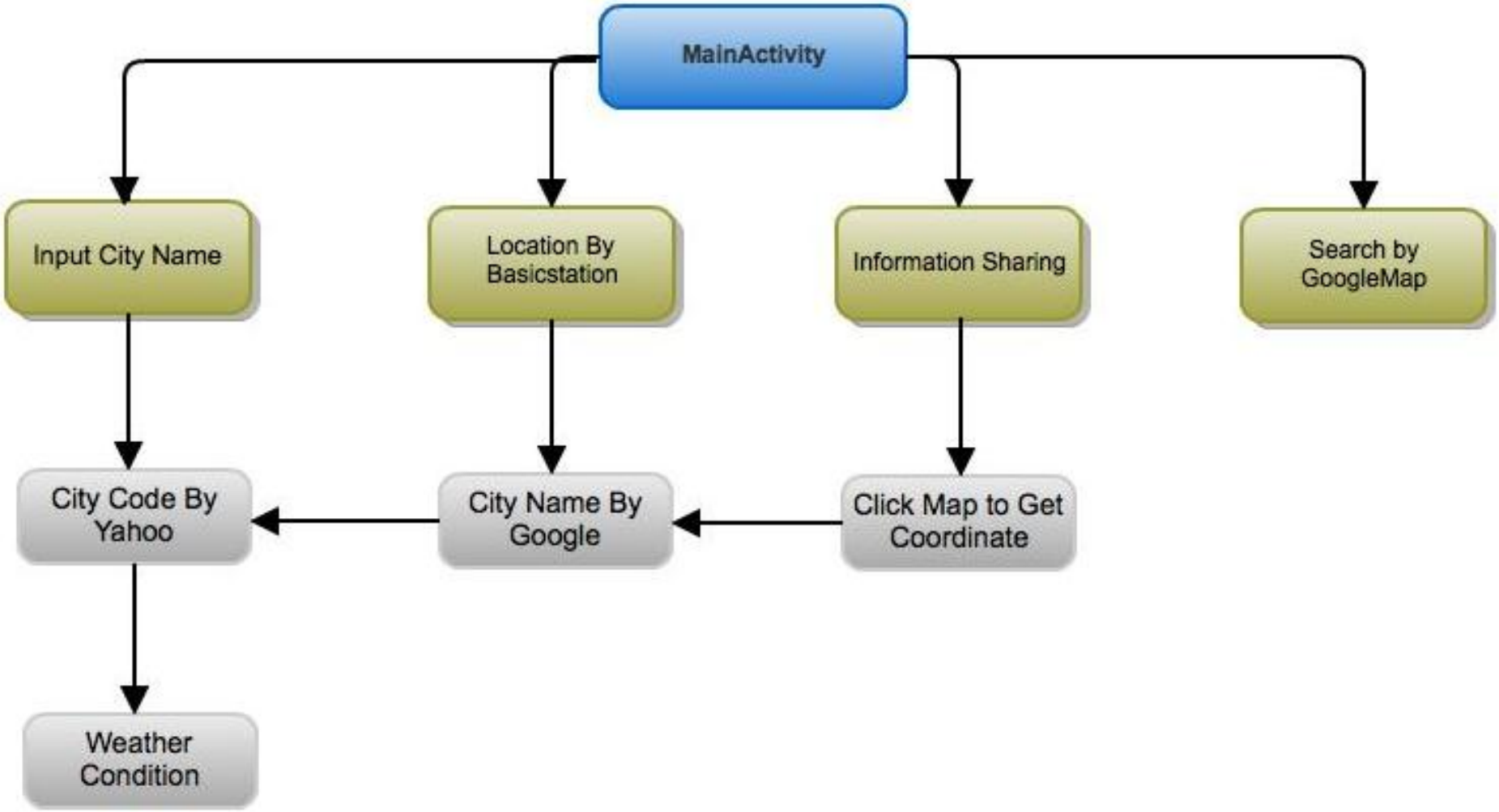
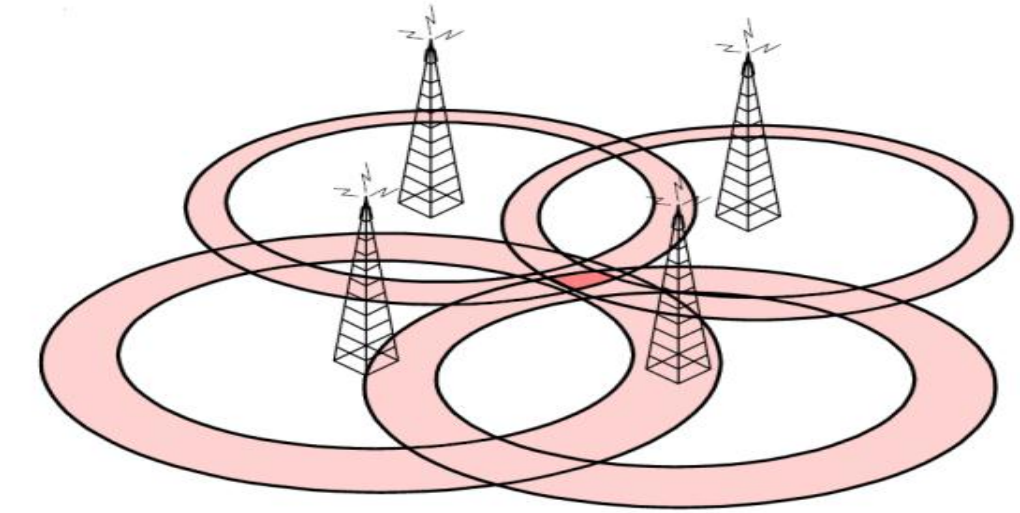
Structure of Software



Technology

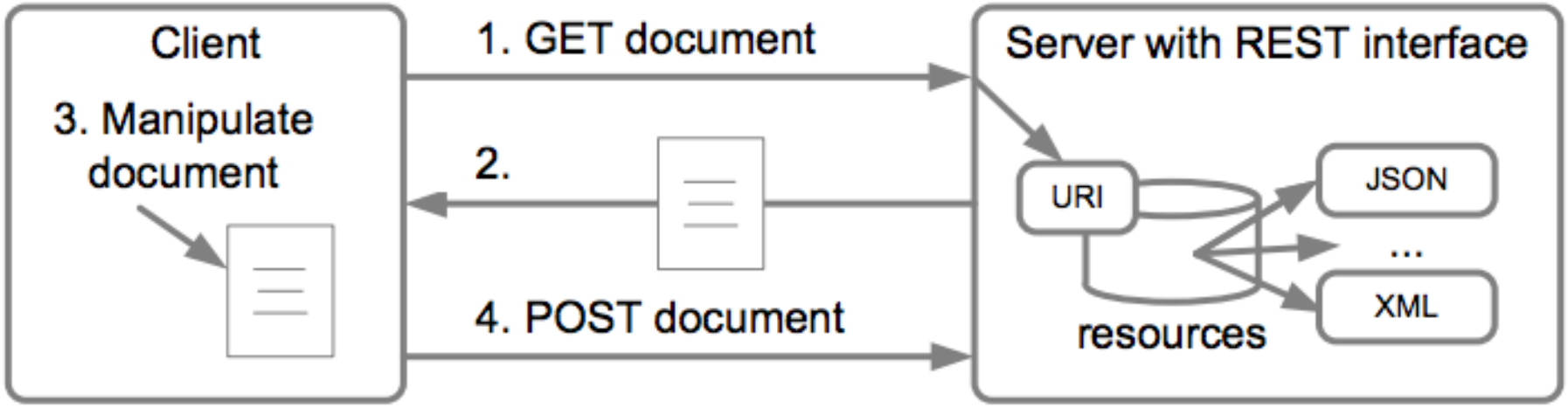
Location Based Service

Cellular Systems GSM



Technology

Representational StateTransfer – REST



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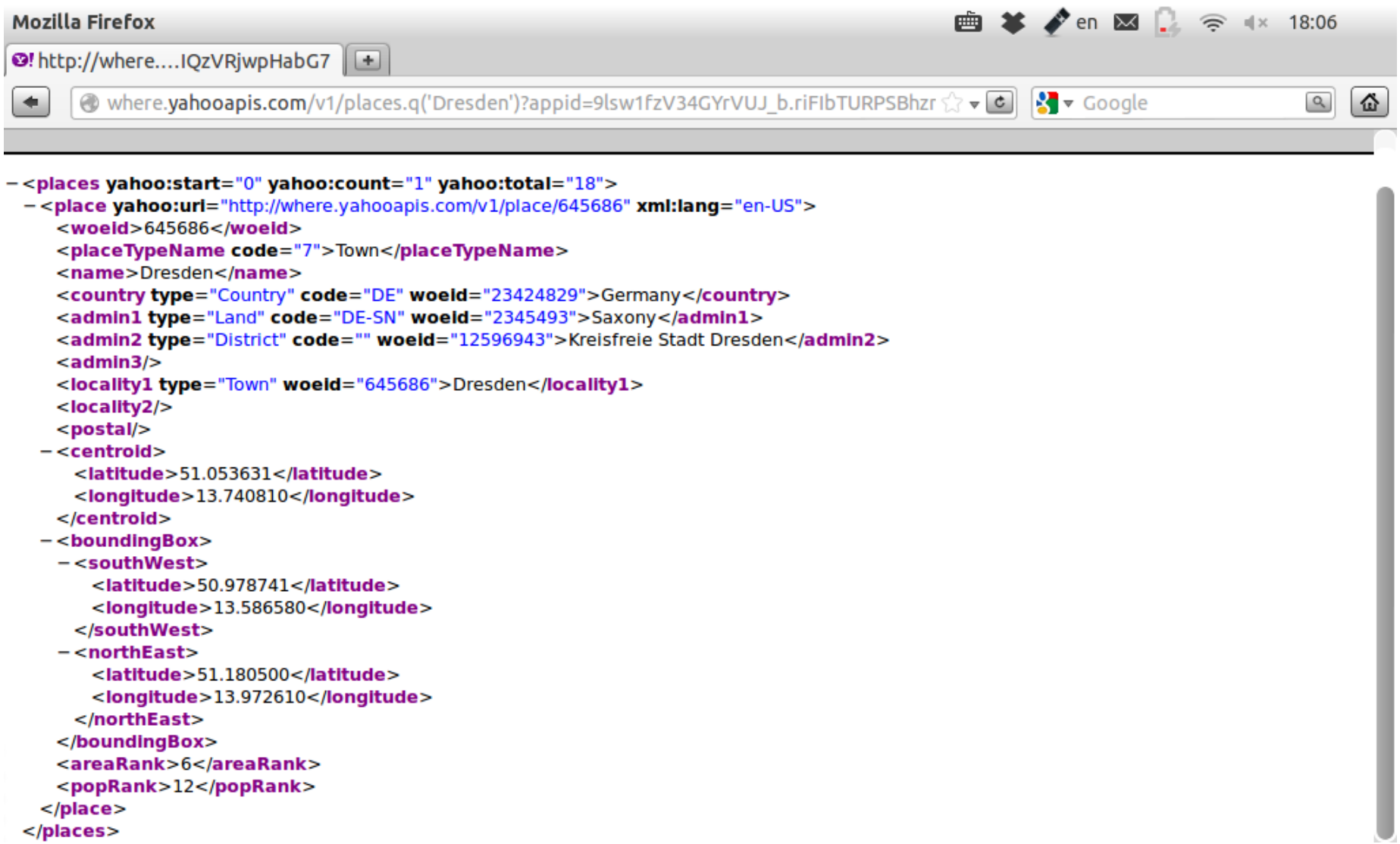
Name Mapping

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    <name>Dresden</name>
    <country type="Country" code="DE" woeId="23424829">Germany</country>
    <admin1 type="Land" code="DE-SN" woeId="2345493">Saxony</admin1>
    <admin2 type="District" code="" woeId="12596943">Kreisfreie Stadt Dresden</admin2>
    <admin3/>
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    <locality2/>
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        <longitude>13.586580</longitude>
      </southWest>
      <northEast>
        <latitude>51.180500</latitude>
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    <popRank>12</popRank>
  </place>
</places>
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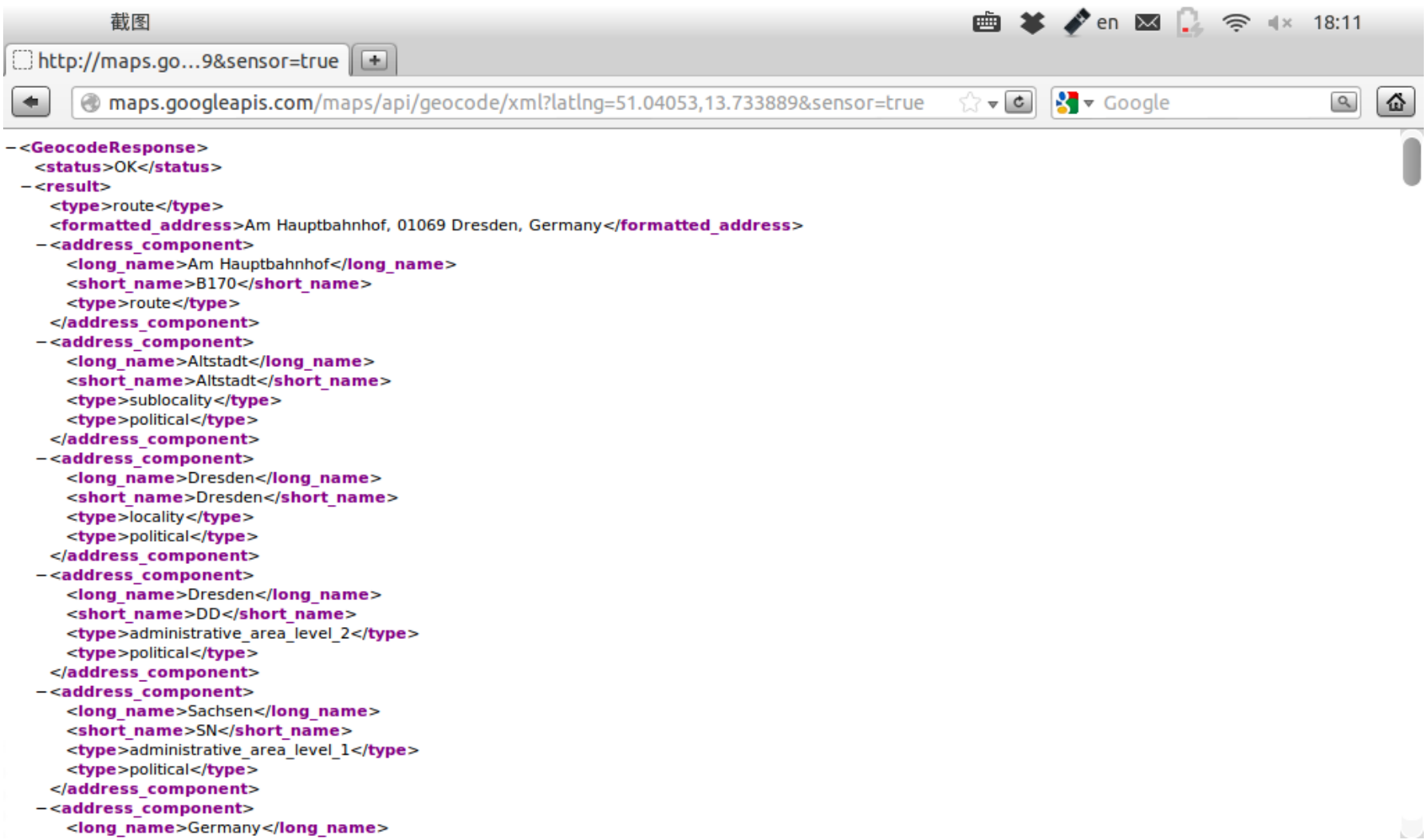
Location Mapping

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−<GeocodeResponse>
  <status>OK</status>
 −<result>
    <type>route</type>
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      <short_name>B170</short_name>
      <type>route</type>
    </address_component>
   −<address_component>
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      <short_name>Altstadt</short_name>
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   −<address_component>
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      <short_name>DD</short_name>
      <type>administrative_area_level_2</type>
      <type>political</type>
    </address_component>
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      <short_name>SN</short_name>
      <type>administrative_area_level_1</type>
      <type>political</type>
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   −<address_component>
      <long_name>Germany</long_name>
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Weather Information

截图

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            <channel>

<title>Yahoo! Weather - Dresden, DE</title>
<link>http://us.rd.yahoo.com/dailynews/rss/weather/Dresden__DE/*http://weather.yahoo.com/forecast/GMXX0025_c.html</link>
<description>Yahoo! Weather for Dresden, DE</description>
<language>en-us</language>
<lastBuildDate>Tue, 11 Dec 2012 5:19 pm CET</lastBuildDate>
<ttl>60</ttl>
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<yweather:units temperature="C" distance="km" pressure="mb" speed="km/h"/>
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<title>Yahoo! Weather</title>
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<link>http://weather.yahoo.com</link>
<url>http://l.yimg.com/a/i/brand/purplelogo//uh/us/news-wea.gif</url>
</image>
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<geo:lat>51.05</geo:lat>
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<link>http://us.rd.yahoo.com/dailynews/rss/weather/Dresden__DE/*http://weather.yahoo.com/forecast/GMXX0025_c.html</link>
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<yweather:condition  text="Light Snow"  code="14"  temp="-3"  date="Tue, 11 Dec 2012 5:19 pm CET" />
<description><![CDATA[
<img src="http://l.yimg.com/a/i/us/we/52/14.gif"/><br />
<b>Current Conditions:</b><br />
Light Snow, -3 C<BR />
<BR /><b>Forecast:</b><BR />
Tue - Light Snow. High: -2 Low: -7<br />
Wed - AM Snow Showers. High: -6 Low: -6<br />
<br />
<a href="http://us.rd.yahoo.com/dailynews/rss/weather/Dresden__DE/*http://weather.yahoo.com/forecast/GMXX0025_c.html">Full Forecast at Yahoo! Weather</a><BR/><BR/:
(provided by <a href="http://www.weather.com" >The Weather Channel</a>)<br/>
]]></description>
<yweather:forecast day="Tue" date="11 Dec 2012" low="-7" high="-2" text="Light Snow" code="14" />
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</item>
```

Experience

Experience

1. Knowing the basic knowledge of Android development
2. Learning Http communication protocol and transform the web content to XML formate by Get XML Document
3. Using Jdom library of SAXBuilder to parse and extract the contents of XML
4. Learning to use the Google Map API interface
5. Teamwork.

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Improvements

1. Single interface UI,only adapt to 240 * 400 resolution screen
2. Non-English characters will be garbled, such as ä ö
3. Do more test and find bugs.