

Application Development for Mobile and Ubiquitous Computing

Seminar Task Second Presentation

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▪ Objective

- Using Bing, the new web search engine by Windows, we will give the user the opportunity to search, in a very simple way, for internet images. This application will be made with Android.



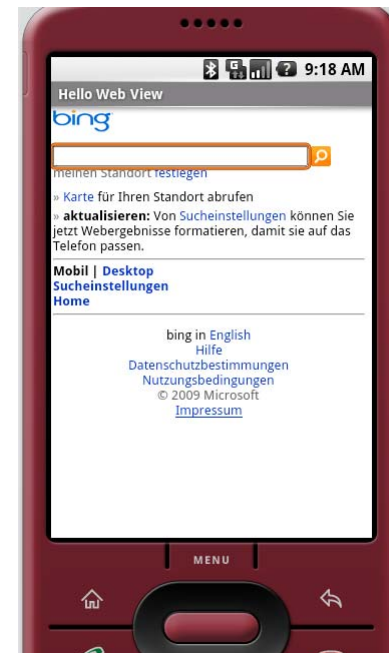
▪ Why Bing?

- Bing counts with an API that allows developers to experiment with this new search engine.
- Use Bing's Search Categories to narrow down searches.
- Compare Bing's capabilities against other search engines.

- **Why Android?**
- Android gives the developer the opportunity to enhance his applications.
- Has a promising future in the mobile application development.



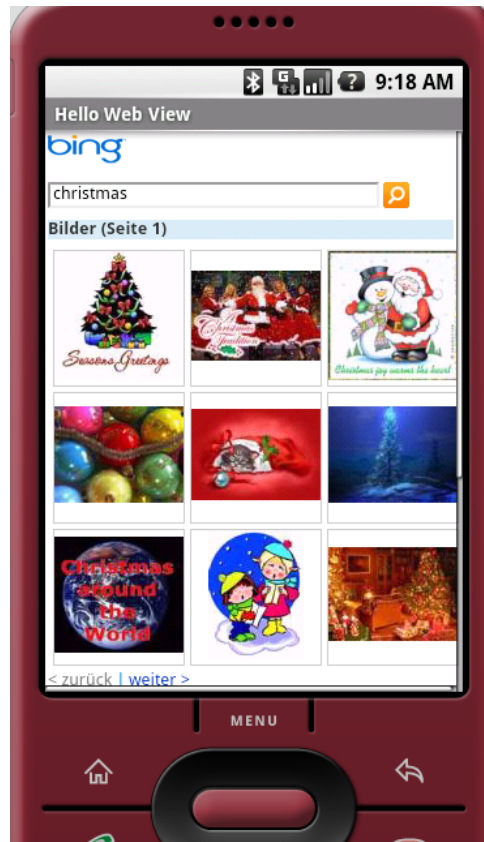
- We decided to do this application, because of the NOT user friendly GI of the mobile page of the search engine BING.
- Here is the use case of the search in the actual page:



- When we start a search, this are the results:



- Click on IMAGE Search



- To do it we had to use XML and simple java code:

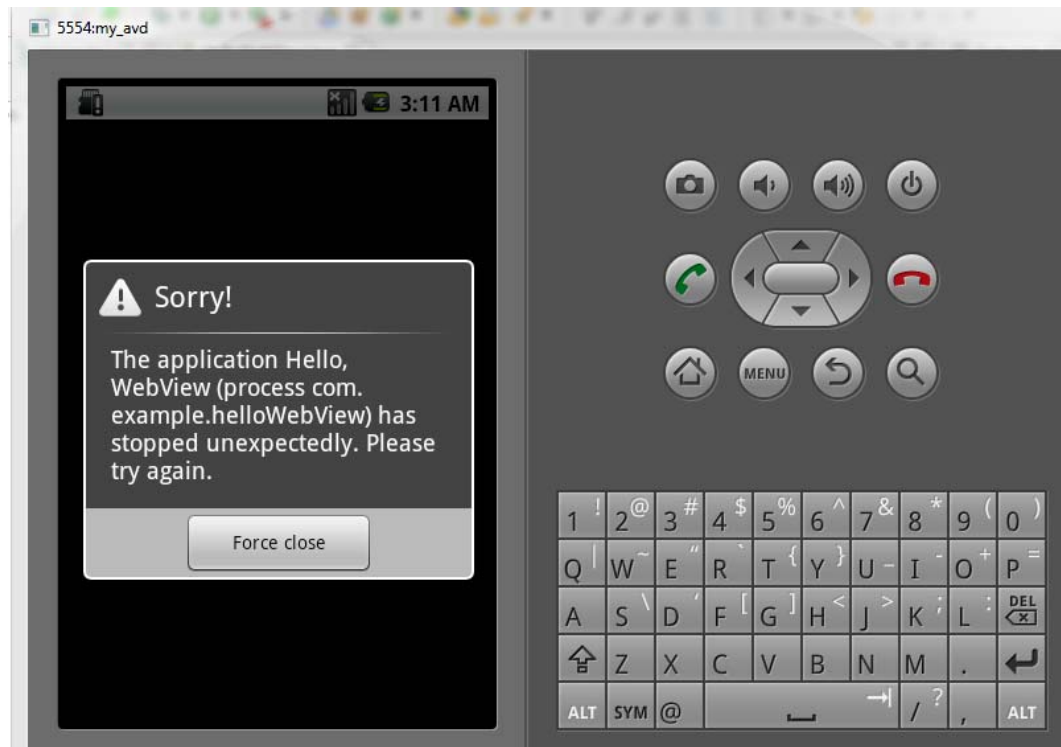
```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    >
<WebView
    android:id="@+id/webview"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    />

</LinearLayout>
```

```
public class HelloWebView extends Activity {
    /** Called when the activity is first created. */
    WebView webview;
    @Override
    public boolean onKeyDown(int keyCode, KeyEvent event) {
        if ((keyCode == KeyEvent.KEYCODE_BACK) &&
webview.canGoBack()) {
            webview.goBack();
            return true;
        }
        return super.onKeyDown(keyCode, event);
    }
}
```

```
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.main);
    webview = (WebView) this.findViewById(R.id.webview);
    webview.getSettings().setJavaScriptEnabled(true);
    webview.loadUrl("http://m.bing.com/");
    webview.setWebViewClient(new HelloWebViewClient());
}
private class HelloWebViewClient extends WebViewClient {
    @Override
    public boolean shouldOverrideUrlLoading(WebView view,
String url) {
        view.loadUrl(url);
        return true;
    }
}
}
```


- Even though this application seems quite simply, we had some problems when we tried to do this application using the Android SDK 5.



- As we could see BING's mobile page is really functional, but the GUI is quite plain.
- We can see that the best result was the IMAGE Search. Using this conclusion we are just going to work on the GUI for the start page and for the search of web pages and news.

▪ Use Cases

- The user will have the possibility to choose between Web Content Search or Image search, and how many results he would like to get from the application.
 - o This will be done thanks to the functionality of Bing's API which can narrow searches, as well as returning just pages that can be viewed on a mobile device.
 - A certain number of images will be displayed as chosen by the user with the possibility to enlarge a desired image within the cellphone capabilities.

Table 1: Bing API Version 2.0 SourceTypes

SourceType	Description	Sample Query parameter
Web	Searches for web content	Sushi
Image	Searches for images on the web	Sushi
News	Searches news stories	Sushi

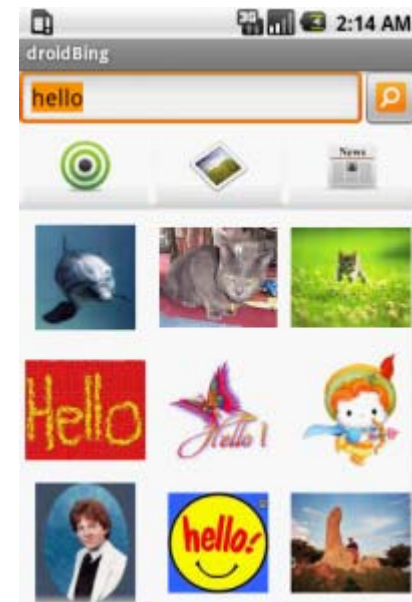
Our Sending Request to the HTTP endpoint will consist of an HTTP GET to the URI for XML results:

<http://api.search.live.net/xml.aspx>

Ex.

<http://api.search.live.net/xml.aspx?Appid=<BingsAppID>&query=sushi&sources=web>.

- Technologies:
 - Android
 - Bing API version 2.0
 - Access via SOAP



- This is a rough image of how our GUI would look like after doing the SOAP connection with the server.



- Explore Bing's API and **Android's libraries**.
- Fit the images into the Mobile Display in a clear fashion.
- Develop a friendly GUI and overall interaction with user.
- Proper control of image size and color for both image and text.
- Proper control of Web Content displayed in the Mobile Device.
- Proper connections between Parties.

- 30.10.09 First Presentation
- 31.10.09 through 19.11.09 : Explore Bing's API, develop first GUIs, SOAP connection between devices. Also explore Android's media libraries.
- 20.11.09 through 18.12.09: Develop screen flow in mobile device. Rough and finer image view in cellphone (Thumbnails). Preliminary view of image.
- 18.12.09 Second Presentation
- 19.12.09 through 29.01.10: Use Bing Search Categories to narrow down results. Explore Android's SQLite capabilities and adjust them to our application.

-Questions?

-THANKS!