



Hanze University Groningen
APPLIED SCIENCES
School of Computer Science

Groningen City Guide

on

Wireless Groningen network

Prototype Description

Version 1.0 - December 2010



EUROPEAN UNION
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1 Executive summary

As part of the assignments to develop mobile services on the Draadloos Groningen Wi-Fi network, student company WiMultitask developed an interactive City Guide. The application is intended for smartphones and will provide this Location Based Service to the mobile user.

2 Problem statement

To accommodate tourists and other visitors of the city of Groningen in the Netherlands a number of applications had to be developed. The assignment was not only to design and build these applications, but also to build a business model in order to earn money with them.

This document presents the design and prototype of a mobile City Guide for the City of Groningen in the Netherlands. The application is developed in relation to the launch of the citywide Wi-Fi network "Draadloos Groningen". If the mobile device supports it, the application will use location based services based on GPS.

3 Alternatives

In order to provide a service to mobile users there are basically two technical options:

1. Develop an application that runs on a mobile device, such as a Windows or Android smartphone or an iPhone.
2. Develop a website that is scaled to the screen of a smartphone and uses as little data transfer as possible.

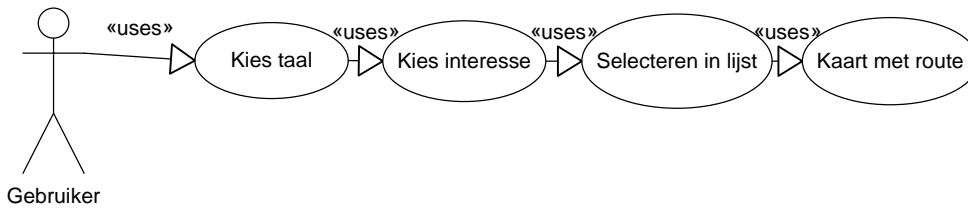
In this case the choice was made for a mobile website, mostly because of the possibility to use it on a wide variety of mobile devices.

4 Implementation

4.1 Functional design

The functionality of the guide is very straightforward. As shown in the use case diagram below there are 4 levels of menus:

1. Choose language,
2. Choose area of interest,
3. From a given list of possibilities, choose an item
4. Plot a map from the current location to the selected activity



4.2 Technical design

4.2.1 Platform

The choice was made to focus the city guide on mobile devices. This means that the design of the screen layout is made for smartphones and not for laptops or desktops. This choice was made because the City Guide focuses on providing location- and time-based data, on any location. By using a combination 3G and Wireless Groningen can this both be done optimally.

4.2.2 Technology

The choice was made to develop the City Guide to with a combination of PHP, CSS and JavaScript. This was because the City guide as a website instead of an app can make it run on the wireless network in Groningen or on the internet. By using this combination and not, for example, to develop a specific application, the target audience is increased to a large number of smartphone users.

4.2.3 Screen lay-out design

The screen lay-out is very much in line of look and feel of the user interface van de iPhone. Everything has to be presented in a clear and user friendly manner. Instead of dropdown menu's and links, large buttons are used with short texts as descriptions.



4.2.4 Sequence Diagrams

In the sequence diagrams a number of functions are specified:

- Select a activity based on area of interest,
The user is asked in what subject he is interested. By the unique combination that the user indicates here, a kind of user is profile created. The system looks which activities in the database are best suited to this user profile. These activities are then fed back to the user.



4.2.5 Further details

Further details of the design can be obtained from the Hanze University.

5 Participants

Hanze University of Applied Sciences, School of Computer Science
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- Hugo Velthuisen, professor New Business and ICT
- Piet Franssen, lecturer Technical Computer Science and Entrepreneurship
- WiMultitask (student company):
 - Willard Baan, marketing-student
 - Jorik Berkepas, it-student
 - Freerk Duursma, it-student
 - Tim van den Heuvel, marketing-student
 - Jan Kadijk, it-student