

UNIVERSITY OF OSLO
Institute of informatics

INF4260 Midterm report

Trafikanten and Opera Software

A widget to show real-time public transport is
Oslo and Akershus

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1. Introduction:

This project is done as an assignment for the course INF4260 – Human computer interaction (HCI) at department of Informatics, University of Oslo. I have chosen to write an assignment related to HCI, Trafikanten and Opera software. Human-computer interface or human-computer interaction is actually about the basics about perception, ergonomics, information processing, cognitive theories, interaction theory, metaphors for interface design and communication. In order to put these subjects together, I have chosen to write about a collaboration product of Trafikanten and Opera software “Real time public traffic viewer”. The program (widget)¹ provides real-time information about public transport like busses and trams for desktop users.

Aim of the project

The aim of this project is to write about the infrastructure, evaluate the system, analyzes the usability and focused on user interaction in the Opera software widget. Oslo and Akershus town council passed a law in 2001 about Oslo Package 2 (O2). According to this package, the infrastructure will be developed for the next 25 years in Oslo and Akershus. Statens vegvesen, Oslo Sporveien, Stor-Oslo Lokaltrafikk, Jernbaneverket and Oslo and Akershus town council are working collaboratively. During the development of O2 have Trafikanten and Opera Software have developed a widget to give facility of these advantage using mobile devices like mobile phone, PDA, computers etc. In Oslo and Akershus, there will be around 275 buss stops equipped with real time system.

Challenges

- This real-time widget is not very advanced for neither advanced or novice users, so the project would not cover a huge area to evaluate using the techniques written above. But the project will also cover the infrastructure and the usability.
- The communication regarding this project with Trafikanten and Opera Software can arise an information gap.
- The gap of infrastructure and technical background where these two companies works on different users separate

¹ A widget also called GUI widget which is a component of a graphical user interface that the user interacts with and a web widget is a third party item that can be embedded in a web page to show information/data.

2. Structure of real time system:

About SIS:

Real-time system called *SIS (sanntids information system)* which means real time information system in Norwegian. These projects cover the whole Oslo and Akershus collective traffic system. The definition of SIS is defined as a prognostic enquiry about when the buss and train will arrive at its stop and where the vehicle is moving according to its destination. The will be useful before and during journey. On the other hand it will improve the collective traffic system. It happens by giving priority to collective traffic on the green lights on traffic cross. The vehicle doesn't need to stop on the red light. At the same time system provide same information to passenger if there is any delay in traffic.

The system accelerate the infrastructure of collective traffic and secure the improvements and development of the whole system within 10 years, which might take more the 25 year else. This project is a co operation between Statens vegvesen, AS Oslo Sporveier, Stor-Oslo Lokaltrafikk as (SL), Jernbaneverket, Oslo kommune and Akershus fylkeskommune. The project calls OsloPakke 2 and will cost around 16, 6 milliard Norwegian Krone(NOK). Trafikanten is defined to be responsible for this project and an information provider for to users.

The main focus in the project SIS will be following:

- To give passenger information before and during travel at collective traffic
- Bring the collective traffic at light cross
- Provide demanded and necessary information to the collective traffic central
- Emergence and support information to driver if it necessary
- Provide the statistic, give the priority to collective traffic and make good plans for structuring the future collective traffic.

About Trafikanten:

Trafikanten is an information provider for collective traffic in Oslo, Akershus and Østlandet. Beside of this, it also sells the ticks to passenger. Using advanced technology, it provides passenger updated information. There many services to choose between as a passenger.

Some services by trafikanten are following:

- Advanced journey planer at SMS, wap and www.trafikanten.no
- Provide Oslo map with all buss, train and tram stops
- Show time schedule and prices
- Real time information

According to trafikanten, the use of these services is increasing gradual by the time. There are around 5546932 users who visited the web site in 2004.

SIS infrastructure:

SIS at buss stops:

To passengers who are waiting at the buss stop will get information about when the vehicle is arriving at the stop. This information is based on real time system. Some picture of the stop tells who the information is shown to passenger while they are waiting at the stop.



Picture 1: Show how passengers are up to date about traffic at the stop.



Picture 2: Picture show how the time of a vehicle is shown at the buss stop.



Picture 3: A typical buss stop

SIS at Internet:

As written above that the use of trafikanten is increasing gradually every year. By giving useful information free and easy accessible, it is being more popular than all other services provide by trafikanten. By typing the place a passenger traveling from and the destination, it tells all possible valuable information which attract user to use the same service again and again. The picture show how the website of trafikanten is.



The screenshot shows the Trafikanten website interface. At the top, there is a navigation bar with icons for a shopping bag, exclamation mark, Kr symbol, checkmark, clock, RSS, mobile phone, magnifying glass, and email. Below this is a menu with buttons for BUTIKK, MELDINGER, TAKST, NYTTIG, TABELLER, SANNTID, MOBIL, KART, and KONTAKT. The main content area is divided into several sections:

- REISEPLANLEGGEREN**: A search form with fields for 'From:', 'To:', and a date dropdown set to 'Monday 05.11.2007'. It includes radio buttons for 'Departure after' (selected) and 'Arrival before', and time dropdowns for '19' and '30'. There are 'Search' and 'Delete' buttons, and links for 'Advanced search', 'My favourites', 'Real time info', and 'Help'.
- Reiseplanleggeren**: A section with a map of Norway and text: 'Reiseplanleggeren dekker kollektivtrafikken i Akershus, Buskerud, Oslo, Vestfold, Telemark og Østfold samt NSB på Østlandet.' with a link 'Detaljer og unntak'.
- Dagens trafikk - ikke planlagte avvik**: A section for daily traffic updates.
- Ny fase i anleggsarbeidet på Jernbanetorget**: A section with a photo of a train station and text: 'Fra 1. november får linje 18 og 19 brudd ved Byporten og stoppestedet for buss ved Byporten flyttes nærmere Bussterminalen. Les mer her'.
- Trygt hjem for en femtilapp**: A section with text: 'Fra den andre helgen i august kjører SL deg mellom 16 og 24 år trygt hjem for en femtilapp når du skal hjem sent på natten. -et tilbud for deg mellom 16 og 24'.
- Nyhetsoppslag om kollektivtrafikk fra andre nettsted**: A section with a list of news items: '02.11: Dovrebanen uaktuell for høyhastighetstog', '01.11: Klarsignal for lyntog i Norge', '01.11: Lønnsomme tog', and '29.10: Bringer miljøfremtiden'.

Picture 4: www.trafikanten.no on the internet

The system on the internet also provides the real time system. It is very useful for passengers who are planning their journey and what to know how much time they need.

SIS on wap:

As mention earlier, trafikanten also provide real time system on wap. It is easy and quick system to give user information where they are.



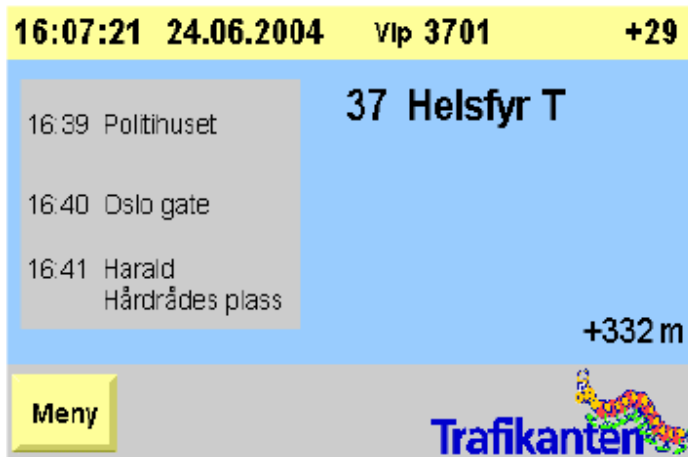
Picture 5: Show how to access trafikanten using wap.

SIS in vehicle:

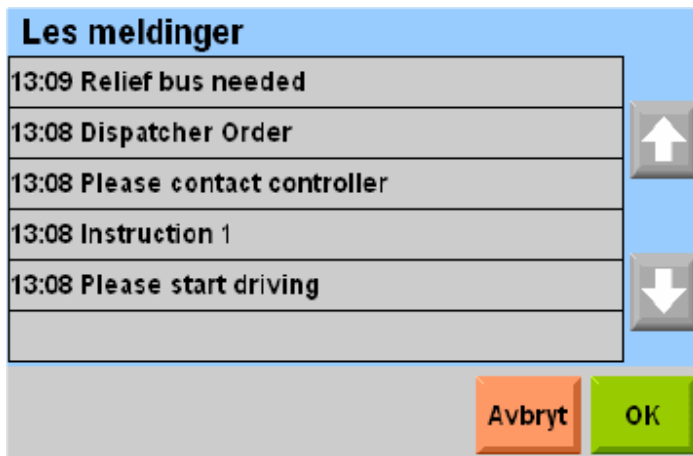
SIS also provides the driver and passenger on board the required information like next stop to the passenger. To driver it also gives good additional information such as how much delay there the vehicle is to the next stop. By using this driver can improve driving and cover the distance by driving effectively.



Picture 6: Information to passenger.



Picture 7: Information to driver.



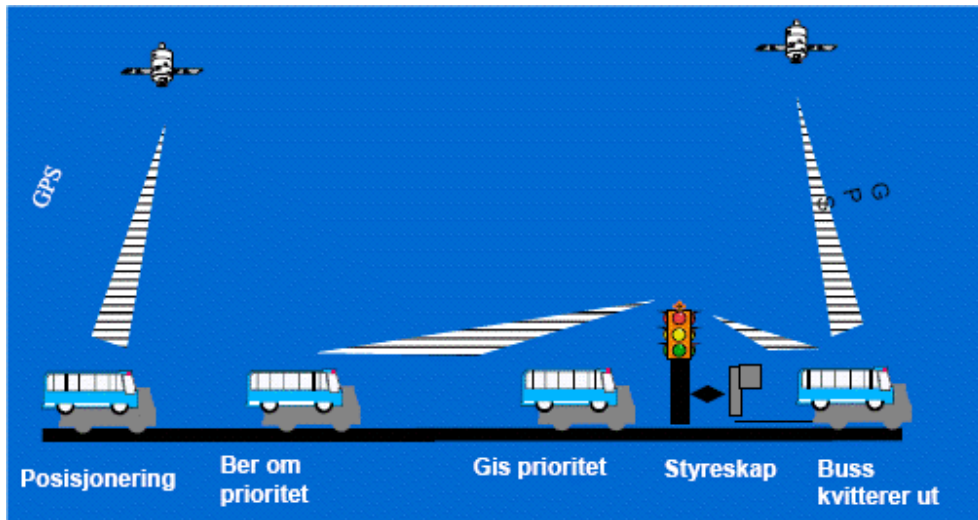
Picture 8: Information about next stop.

Every vehicle is assembled with a computer, GPS/GPRS/W-LAN aerial and other required equipments. These tools make the communication between the vehicle and the external devices. These equipments provide the necessary infrastructure to real time collective traffic system.

Real time system:

Real time system is also based on the same structure where a vehicle communicate with its central by using some devices and tell show its position and time. By using these advanced devices and given information, trafikanten have developed their travel schedule

and the distance between the buss stops. This system also gives priority to collective vehicle which is show in the picture 9.



Picture 9: How a buss communicate with the GPS system to get priority.

Real time widget:

Using these tools trafikanten and opera software have developed their gadgets which provide passenger relevant information. This gadget is very simple and easy to understand. It just tell information about the nearest buss or tram station and when these vehicle will be/supposed to be.



Picture 10: how to use gadget.

3. Problem description:

Problem area

The main focus in this project will be to tell about the infrastructure of real time and evaluate the Widget from Opera Software and trafikanten. To tell about the use and its users will also be a relevant topic. The evaluation of the widget will be based on following techniques:

- Analyzing the user group for real time public transport widget.
- Evaluating the current solution using following evaluation techniques.
 - Human interaction methods
 - Usability testing
- Presenting proposals for improvements of the current solution.

Use of Widget:

To use this widget from Opera Software user must use Opera browser. This widget doesn't work without this browser. There is a limitation done by Opera software do give this access free to user. There are around 1000 widget to use which is provided free from Opera Software. The only limitation is that you have to install Opera browser in you computer. It is because the win the user and give some additionally services to users. That is what big companies giving free services to users to get let the users. Search engine, email services and net-communities are some of these common services we get in our daily life. These big companies, who provide free services mention above, are doing a war with each other to win the user by developing advanced and unique services.

4. Methodology:

Method:

- Reason why the different methods are being used for this project is to get a quality research to improve the study the subject properly.
- Good techniques form the course book and lecture will also be used to focus on right users. These users will be one part of the evaluations written above.
- The plan will be to come up with some improvements, if these exist.
- Some experience from old project “OperaMini” will also be used as the subject skills. Some previous article and projects will also be used to find more information about the HCI.

Scenarios:

Personas:

5. Analysis:

User and use:

Prototype and design:

Use case:

6. Further work:

Improvements:

Conclusion:

7. References:

www.trafikanten.no

www.opera.com

www.goolge.com

www.wikipedia.com / no

