

PROJECT PROPOSAL ONLINE TAXI SERVICE

Team Members: Matt Anstey, Tim Mathas, Joseph Curtis

Introduction

Client and user groups:

The service is offered to any one who currently uses the taxi services or any other form of public transport. Basically, the system involves the process of the user booking a taxi either by phone, WAP or Internet (but targeted at the web based bookings). In the next stage this information will be sent to our computer data base system selecting taxi. The service will run at real time (taxis arrive as soon as possible) or at a time designated by the client. These points will be elaborated on more within this proposal.

Uncommon terms:

GPS - (Global Positioning System)

Tracking system which gives very exact coordinate positioning for anywhere on earth.

WAP - (Wireless Application Protocol)

Allows Internet connections from mobile phones.

CoJoMDS - (Computerised job management and distribution system)

The name of the database used to work out the best possible answer for the relationship between the taxi service's cars and clients.

Taxi types	Maximum seating
❖ Regular	4
❖ Station Wagon	5
❖ Maxi Taxi	13

Real time bookings –

Near immediate pick up time. Generally means 5 to 10 minute allowance.

Objectives

Purpose of Design:

- ❖ Make taxi service more available for the everyday person
- ❖ Make the Internet site! WAP easier and more efficient than phone booking
- ❖ Make a user-friendly site — many may be thrown off by the computers and the concept of the Internet
- ❖ Increase taxi driver's efficiency through the computer job management and distribution system
- ❖ Users will benefit from a wider array of options to book taxis
- ❖ Make the Taxi service more profitable through increased bookings
- ❖ Users will be able to enjoy fast and accurate service due to CoJoMDS

Problems and Issues:

- ❖ Real time bookings- May be an issue if traffic conditions change. There could be an absence of free drivers. In other words, in this world there are many outside variables which can effect driving conditions.
- ❖ Linking taxi service together- there are a lot of individual connections to make from user to system to driver and back again.
- ❖ Error free web site- Try to keep out ‘prank’ taxi bookings and past date bookings. (ie. can’t book a taxi for 12/3/02 after the 12/3/02). Continuous maintenance will, like all other sites be required.
- ❖ Over booking of taxis- A limit needs to be placed online so that the maximum number of drivers at a particular point is not exceeded.
- ❖ Disability options- Make sure taxis are fitted with the correct specifications.
- ❖ Estimated times of arrival/departure- as detailed in the Real time bookings section of Problems and Issues.
- ❖ People may not trust computers- This is just a part of life we will have to try and get around. Developing the most user-friendly site is our best way of getting around this problem. The telephone booking system is still an option.
- ❖ Driver’s health- With the increased efficiency that the system will produce it is important that drivers are rested so that they can cope with the requirements of the job.
- ❖ Take into account crashes drivers may have (on shift)— This will decrease the total number of taxis available, and this must be taken into account.
- ❖ What if the System computer fails?— Keeping back-ups of the system may not help as the system will probably be current day booking. Other methods must be considered.
- ❖ Is the Internet site secure?
- ❖ Linking the telephone, WAP and Internet bookings to the one system- Will a sorting capability for the system. This must be kept in mind.

Generation of Design Proposals

There are three main design concepts/proposals:

- ❖ **Internet**
- ❖ **The connections between the Internet and drivers**
- ❖ **The database/job management system which will organise drivers.**

1. INTERNET

The key component to this project is the Internet site. Without it the Internet link to the computer is impossible. This is a very simple concept but it must be remembered throughout the development cycle.

- 1.1. The website must be fast, simple and efficient. Therefore users will prefer to use the site.
- 1.2. The site will be available to connection from mobile phones ie. WAP. This will make the site more available.
- 1.3. Have online registration ie. you must be registered to book a taxi online
- 1.4. Give users the choice of booking a taxi in real time ie. get a taxi as soon as possible with an estimated time of arrival
- 1.5. Make the site visually appealing through fancy graphics and other state of the art multimedia.
- 1.6. After bookings have been made, perhaps the booking needs to be confirmed by

phone to assure the user.

2. CONNECTIONS- Linking the user to the taxis

(See **Figure 1** for a description of these connections)

This is a very difficult procedure, first linking the client via either the telephone, Internet connection or WAP to the server where their taxi details are then stored. Next their information is sent to the pre-decided best-fit taxi driver.

2.1 Ensure telephone bookings are still possible with all this influence being placed on the Internet connection, the people relying on telephone are still taken care of.

2.2 Link home computers to taxi service without Internet. This many be impossible at this stage in the world of technology by why set goals if you aren't going to aim for them?

2.3 The Internet must link to the CoJoMDS, which in turn links to the taxi driver's computer, telling the driver where to go next. The taxi driver's computer will send back information on its current position via GPS.

3. THE DATABASE and CoJoMDS

Many entities will be held in this database each containing lots of information. The database holds almost as much priority on this project as the connection between Internet and the taxis. Factors influencing the database are =Total taxis out (now and in future), clients expecting taxis(now and in future), traffic conditions, location of taxis and clients and destination of clients.

3.1 Make the taxi booking process easier and faster. Through the database increasing taxi driver's efficiency taxi booking has never been easier.

3.2 Fit taxis with GPS system.

3.3 Give the user an estimated time of arrival. Lets system know where drivers are, so they can be told of next pick-ups, and estimated time of arrival.

3.4 The CoJoMDS needs to be able to sort through the current taxis and requests of taxis to provide the most efficient service to the driver.

Design Criteria

Clients are looking for speed and reliability in a taxi service. The service must provide instant bookings in a fashion which will ensure the user their taxi will arrive at the specified time. The Internet site and WAP site need to be simple and easy to understand so the option is open to all users of taxis. To achieve these goals we need to further investigate and develop the following:

- ❖ WAP use and connections
- ❖ GPS
- ❖ Computer tracking
- ❖ Distribution and management of taxi's through a computer

Project Details

Our main source of research will be over the Internet. We will look into other sites that use an online booking system eg. Qantas. Research into WAP sites is also required and actual experimentation of WAP so we can get an idea of what the clients will use. To research the clients needs we can survey users of taxis and look into taxi companies' annual

reports/mission statements. The most important avenue of research will be finding out how current taxi companies work, in particular their method of bookings and how they then instruct taxis on where to go. How taxi's will be sorted and given jobs is vital to the project ie. computerised job management and distribution system.

Project Management

There will be a main meeting every week on Thursday where main ideas and the progression of the project will be discussed. Other meetings within the week will also be organised so research and finer details can be dealt with. Over week 6 and week 7 most of our research will take place to assist us in design ideas. Towards end of week 7 final decisions on the design will need to be made. From this point on major changes in the design will be hard and will need a great deal of justification.

Conclusions

At this point a great deal of research into the various technologies proposed above is required. Once an understanding of these technologies is achieved we can see how this relates to the client needs and begin making final design plans for the report and seminar.

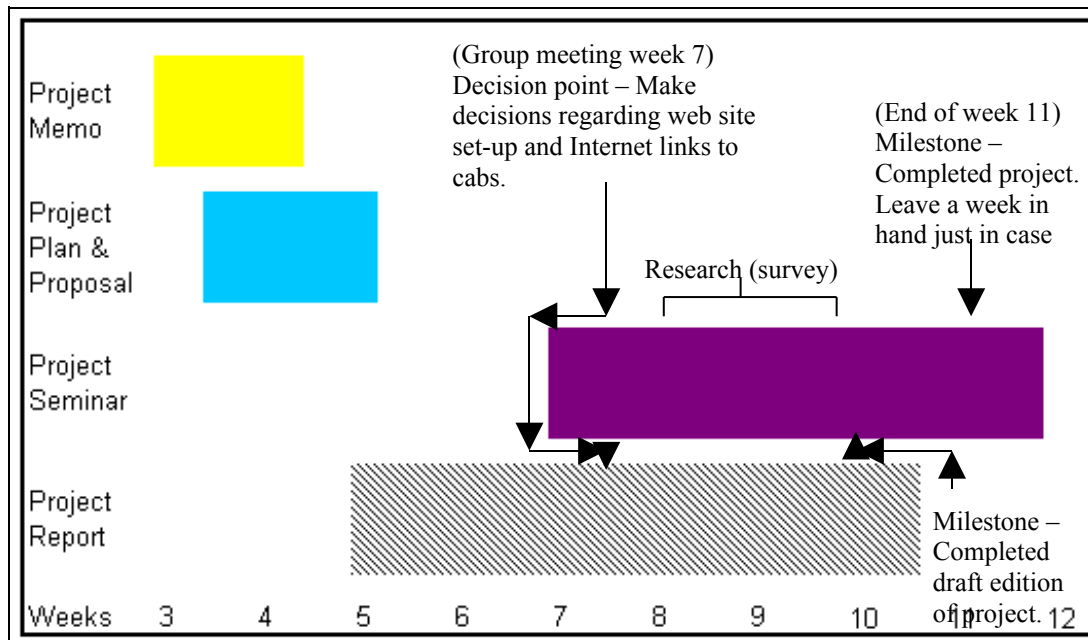
SIGNATURES

Matt Anstey
3950654

Tim Mathas
3955453

Joseph Curtis
3952239

GANTT CHART



Objectives of each task:

- ❖ Project Memo
 - Brief outline of project idea.
- ❖ Project Plan and Proposal
 - Collection of ideas.
 - Define scope of project
 - Users defined
 - Issues and problems with model
- ❖ Project Seminar
 - Collection of whole project's work to be displayed.
- ❖ Project Report
 - Collection and analysis of data
 - Surveys and research
 - Continual progression towards completion.

Together, the Project Report and Seminar run simultaneously. The report deals more with the convergence of ideas and planning through the early stages.

Decision points and milestones have been added to help keep the project organised and on target.

Critical path:

Topic selection → Research → Divergence of Research → Decisions of project → Results of research taken into account of project model → Display model.

Connection from users to taxi. (Figure 1)

