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Poster applied innovative commercial NACCO

First off the rank

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The TaxiDispatch system is a software package designed specifically for City Taxis for use in their booking and job dispatch office. It has many aspects to it including a booking system, dispatch system as well as management facilities.

The client required a computer based booking and dispatch system to replace a previous impractical solution which was proving costly. The new system needed to be customised to fulfil the clients' requirements as a means to comply with new legislation requiring the recording of all Taxi job data.

The client required a system that responds to a busy environment, being able to run across a network of 3 or 4 machines and display current job information live.

The system was developed using the Agile Development Framework. This encourages realistic schedules and resource allocation, allows for changing requirements and technical complexity of projects. It also takes into account technical shortfalls of group members and access to appropriate technology.

The phased life-cycle approach helped the group realize what activities are to be undertaken, what deliverables for each stage may be, enable different types of communication between activities and different stages, and determine whether deliverables of each stage are satisfactory prior to proceeding to the next stage.

The relative quickness of each cycle means that the team and client are revisiting the stages of the project a number of times, and therefore there is a higher probability of completing a project that satisfies the client. This also allows the flexibility to adjust to the changing client/ project needs. Regular use of "Scrum" meetings (15 minute regular meetings between team members, and client) facilitates a high standard of communication between team members and the client, and keeps the focus on what is happening next and who is doing what.

The use of prototypes allows the client to kinaesthetically experience the development of the project at regular intervals. This promotes constructive feedback from the client, and increases the probability of the project moving in a direction that meets the stakeholders requirements.

There were six main stages of our development process.

• Database Backend: The database design went through about four stages of simplicity and complexity before a practical and useful structure was settled upon.

• Booking Input Form: Initially we looked at using a conventional Access form with fields bound to three different tables, but it soon became clear this would not work. We then developed a form using unbound fields where all the database interaction is managed by Visual Basic code.

• Job Dispatch and Historical Data Forms: Various options were investigated for job screens including datasheets and forms with fields bound to database tables. The solution was to use a limited number of entries all of them unbound and populated by Visual Basic code.

• Upsize to SQL Server and Windows Application: We started down the track of migrating our system to a SQL server platform for the data and a Windows

• Screen Popping with Phone Numbers: This part of development was delayed for a while due to us not knowing which phone system the client was going to go with. Authenticating to this system and retrieving caller IDs was done with an adaptation of open source C# code (YACID) which interacts with our system.

• Miscellaneous Management Components: The last stage of development involved creating simple Access Forms, some with Visual Basic code to carry out tasks such as Staff and Shift Management (including login), Vehicle Management and Dunedin Street Database Management.

The project group is continuing to develop and support the Taxi Dispatch system.

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To whom it may concern:

Hamish and Shane have provided us with a system that is customized to meet our needs. They have put a lot of time into understanding the nature of our business and building a system that accommodates our booking and dispatching practices.

Throughout the project they consistently made contact with us on a weekly basis, and always conducted themselves in a professional manner. They would take note of the system requirements, as we identified them, and could be relied upon to continuously develop the project.

They would often come in on the evening shift and spend time testing their latest release. During this time they would get feedback from the operators/dispatcher on ways of improving the system. They always respected our working environment and rose to each challenge that was presented to them. Their ability to approach each new problem in a clam and logical manner, while still considering other possibilities, is highly recommendable.
We have ended up with a product that takes into consideration the various aspects of the taxi dispatching process, and records data in a form that meets our historical data requirements. We have gone from being in a situation of having a highly priced system that we were locked into using, to now having an implemented system that meets our needs our needs and can be adapted to meet any further changes in our business.

We look forward to the possibility of continuing our relationship with both Shane and Hamish, and to have them developing/supporting the system in the future, if possible.

We at City Taxis Society Ltd will with much pleasure be recommending to other taxi companies the outstanding results that these two young men have achieved in taking on this assignment.

Yours faithfully.

Frank Wilks
Manager
City Taxis Society Ltd.