Final Year Project (2002-2003)

Road Map Client KBL2-02

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With recent technology advances, there has been an explosion of cellular and wireless personal communication systems whose ultimate goal is to provide universal and ubiquitous personal services without regard to mobility or location. This rapid growth in wireless information technology has created possibilities for new applications. Personal Digital Assistants (PDA’s) such as Palm or Pocket PC are becoming popular since the late 90’s and are being used for a wide variety of tasks such as helping to store, organize and manage daily schedules, contact lists and even the latest market stocks when connected to the Internet. Furthermore, the combination of PDA’s and wireless technology offers the potential to open up a large number of exciting ranges of applications in the future.

Mobility is one of the major merits of wireless communications. Cellular mobile networks can provide information on location because a new cellular system (GPS) can improve the accuracy of locating a mobile user. Location information is also a major advantage for mobile and wireless communications. Therefore, a road map for users on PDA’s is of great interest and can be considered as one of the application services to be provided.

The project aims to develop a Road Map Direction application for private car users or taxi drivers. The application is to be installed on Pocket PC. The application contains a user-friendly interface and algorithm to calculate the shortest path for a user to go to a given destination. Upon the path calculation, traffic status on the road will also be taken into consideration by periodic received update data from the server.
**Application**

![Image of mobile device]

SQL Server CE Client Agent

SQL Server CE Database Engine

SQL Server CE Database

**Client**

IIS

SQL Server CE Server Agent

SQL Server Reconciler

SQL Server Replication Provider

SQL Server CE Replication Provider

SQL Server Database

**Server**
After choosing the required function, it will be moved to a map interface. There is some red picture boxes on the map which are used for users to input their source and destination location.

The dialogue on the left is the interface of the application. It has the following functions:
1. Shows the map with difference zoom level
2. Displays the map with path calculation function

Once the users input the source and destination nodes, the application will provide the shortest path by using the red line represented.