

Slide 12.6: Location-based services (cont.)

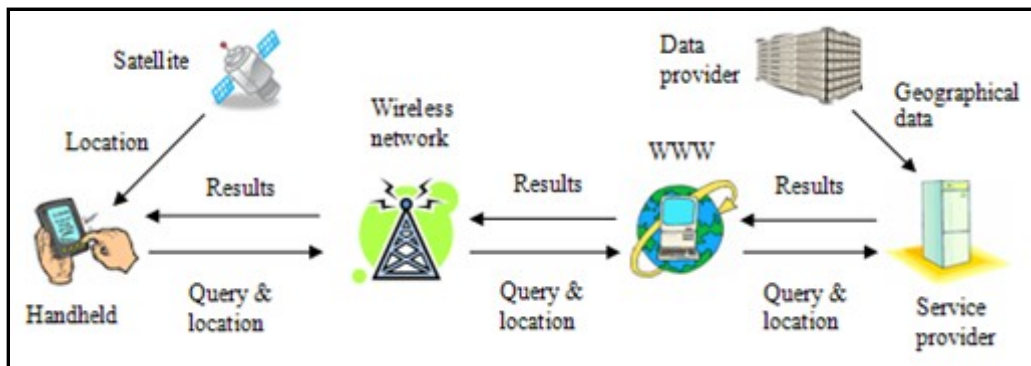
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Location-Based Services (Cont.)

An example of location-based services is to find the traveling route anomalies, a common problem of daily life. For example, an alert should be generated when a pupil does not take the daily route to school or a deliveryman does not follow the scheduled route to make the delivery. One method for finding route anomalies is to use the technique of incremental search, which checks the possible routes location by location. Route information is collected before the methods are used. If no routes are available for checking, an alert is generated. The method is given step by step as follows:



1. The smartphone (a) includes an application of finding route anomalies.
2. A mobile user submits a query of finding route anomalies along with the location information from a positioning system (b) to the application program, which runs in background.
3. The application program calls the server-side programs (d) located at the Aerospace School of the University of North Dakota along with the location information via mobile or wireless networks (c).

4. The programs at the servers perform the route anomaly detection using an Oracle database (e) which stores route data. Appropriate actions such as sending an alert are taken when an anomaly occurs.
5. The results such as an acknowledgment of sending an alert are sent back to the smartphone.

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