THE INTELLIGENT TRANSPORTATION SYSTEMS VIP TEAM

TEAM TITLE: Intelligent Transportation Systems VIP Team
GOALS: Improve the transportation systems to, within, and from Georgia Tech.

TECHNOLOGIES: Client-server architectures, wireless networks, GPS and other location technologies, statistical analysis and forecasting, database, Android programming.

RESEARCH ISSUES: GT buses circulate on fixed routes with small headways. Such systems are subject to bus “bunching” – large headways tend to grow even larger and small headways tend to shrink still more. As a result, some riders wait a long time for service, and then see one full bus followed by another that is nearly empty. Bunching is the largest single complaint in most metropolitan bus systems.

To date: The team has built a forecasting, computation, and communication system that coordinates the buses to reduce bunching and so provide better service. Tablet computers on the buses report GPS data in real time to a central server, which processes it and then communicates instructions to drivers via the tablets. Current focus: fine-tune the system and extend it to other GT routes and off-campus. For more info: http://www.NextBUZZ.gatech.edu

TEAM ADVISORS: Professors John Bartholdi (ISyE) and Russ Clark (CS)

PROJECT PARTNER: David Williamson, GT Department of Parking and Transportation

DESIRED SKILLS & DISCIPLINES: CS, CmpE, CM, ECE, ISyE, MGMT
- Java + Android SDK: Tablets will be on each trolley and there are many other things we can do (e.g. use wifi beacons to determine location of bus; count passengers boarding/deboarding at each stop)
- Web-programming: PHP+Yii, Ruby+Rails, user interface design (HTML, CSS) and data management (mySQL and PHP)
- Data analysis: Evaluate scheme to forecast time until next bus
- Human resources: Extend a training program for drivers. Survey drivers to understand their experience of the system.

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