AtLongLat

Computer and Information Science Department

Authors
Steve Pike
Jeff Weinstein

Advisor
Zack Ives

Project Overview
AtLongLat lets users share their location, from many devices, with web services via a developer platform focused on privacy and security.

Location aware services are gaining in popularity and ubiquity with consumers. Web services can pinpoint location from many sources including phones, GPS devices, and calendar appointments. Users want flexible control of their location information. Developers limit their potential user base because an application must be developed for each location source. Devices like Tablet PCs, which may not always provide a location, cannot run these services. Also, developers must handle often confusing and inconsistent privacy policies.

AtLongLat solves these problems by brokering between sources of user location and location aware services. The system consists of 4 layers: Source, Aggregation, Privacy, and Application. The Source Layer accepts location information through a secure protocol. This data is fed into the Aggregation Layer to estimate a single location. This location is protected by the Privacy Layer. A third party can request a user’s location by querying the Application Layer.

This architecture offers benefits to consumers and developers. Users control which applications have access, what location granularity is available, and when privacy filters are active. Developers query a user’s location without knowledge of its source. Privacy settings are abstracted since location is filtered before being returned. By increasing consumer trust in location services and simplifying development requirements, AtLongLat improves location sharing over the Internet.