



Contribution ID: 47

Type: **not specified**

Pre-Mapping a GSM Network Environment for a Pervasive Game using Python for Series 60 Phones

Monday, July 3, 2006 4:00 PM (30 minutes)

Pervasive Games are a new type of game that takes place outside in the wild and makes sense of the user's context, often based on her position. Mobile phones are the perfect ubiquitous device for this type of game but usually come without a GPS device which could be used for positioning. Operator based positioning can deliver a GPS-compatible coordinate in latitude and longitude (WGS84), but this involves a fee for every position look-up and is only available on a few networks. Client based positioning based on the GSM network's cell IDs is an alternative solution, where the phone's current serving cell is utilized to infer the user's location either in an abstract graph space or in WGS84 coordinates by using look-up tables of previously seen and geocoded cell IDs.

This talk covers how Python for Nokia Series 60 phones has helped us to collect the data for the client based positioning approach and how we use it to prepare for a location-based multiplayer game across the 3 cities of Nottingham, Derby and Leicester which will go online on Valentines Day 2007. The game is going to run on a number of mobile phones. We are using Python for rapid prototyping of required tools and potentially also the gaming interface.

Parts of the software could potentially be made available to the community. Parts of the software have been developed within a 6th Framework EU funded integrated project on pervasive gaming (IPerG) in which the author and his affiliation participate.

Links:

<http://www.pervasive-gaming.org/>

<http://makinglovecity.blogspot.com/>

<http://www.lovecity.tv/>

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Session Classification: Games

Track Classification: Games and Entertainment