
STSM Scientific Report

Grantee: Chiara Renso, ISTI-CNR, Italy
Host: Prof. Yannis Theodoridis, University of Piraeus, Greece
Duration: May 3, 2011 – May 11, 2011

Scientific Report

1. Purpose of the STSM

- Exchange the previous works of semantic trajectory, trajectory behaviour, semantic data mining
- Establish new challenges and approaches for semantic trajectory analysis

2. Description of the work carried out during the STSM

In the following we report the activities that has been carried on by Chiara Renso during the visit:

- She hold a one-hour seminar of her current activities which include:
 - Using ontologies for inferring movement behaviour
 - Inferring the stops and interesting activities in trajectories
 - Privacy issues on semantic trajectories
 - Complex networks and mobility data
- She hold a two hours lesson on Semantic Data Mining
- She discussed with Nikos Giatrakos and with Zhixian Han (via Skype) the paper “SeTraStream: Semantic-aware Trajectory Construction over Streaming Movement data” accepted at SSTD conference. The idea is to extend the approach to the extraction of trajectory behaviour from stream data. We discussed a plan of activities and some literature to review.
- She discussed with Nikos Pelekis and Yannis Theodoris the paper “Survey on Semantic Trajectories” that is in preparation to be submitted to ACM Survey Journal. The discussion was about the structure of the paper and the definition of trajectory collective and individual behaviour.
- She discussed with Prof. Theodoridis and Dr. Pelekis the European project DataSim which is going to start in October 2011. She discussed with Nikos Pelekis possible activities about socio-semantic trajectories as part of the DataSim research activities. They established a research plan starting from a review of the papers found in the literature related to the social aspect of the movement.

3. Description of the main results obtained

- Understanding the problem of inferring behaviour from trajectory data coming from stream and propose a solution
- Agree in a common understanding of trajectory reconstruction proves, semantic enrichment and trajectory mining concepts and associated literature approaches to be integrated in the Survey paper for ACM Computing surveys.

4. Future collaboration with host institution (if applicable)

- Further develop the work of online/distributed semantic trajectory computation and behaviour inference, and target at a joint research publication.
- Start a new collaboration on socio-semantic trajectories producing a document of “annotated bibliography” on the topic. This topic will be further developed during the DataSIM project

5. Foreseen publications/articles resulting or to result from the STSM (if applicable)

- Reorganization of the survey paper on “semantic trajectory” to be submitted to ACM computing surveys,
- Extended version of the SeTraStream approach to be published to a Journal.

6. Confirmation by the host institution of the successful execution of the STSM

This STSM was undoubtedly successful. The collaboration was excellent and as it is obvious from the above report that it can be characterized more constructive than it was initially planned to be. The explanation of this was on the one hand the common research interests,

7. Other comments (if any)