In this paper, we present a novel density based trajectory clustering technique for clustering and visualizing Spatio-temporal data to analyze the navigational behavior of moving entities, such as users, virtual characters or vehicles. For testing our proposal, we developed DenTrac (Density based Trajectory Clustering and visualization tool for Spatio-Temporal data), a tool designed to analyze the moving entities navigating in real as well as virtual environments. Such analysis allows the analyst to derive the information at a level of abstraction suitable to support (i) the evaluation of user spaces and (ii) the identification of the predominant navigation behavior of users. We demonstrate the effectiveness of our solution by testing the tool on data acquired by recording the movements of users navigating through a virtual environment.
DenTrac: A Density based Trajectory Clustering Tool

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Index Terms

Computer Science
Information Sciences

Keywords

Data Mining  Density Based Trajectory Clustering  Trajectory Visualization  Virtual Environment