PKU VIS Visual Analytics Suites: Solution for VAST Challenge 2014 Mini Challenge 1, 2, 3
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Text and Social Network
We propose StoryExplorer to support news overview and interesting events/people identifying. News Time-line helps users to extract timeline of a certain event by performing operations on news articles, and Res-ume Reader supports suspects identifying through highlighting conflicts. Together they enable user to have an overview of the data and continue analyzing details using extracted interested events and people.

Spatial Temporal Visual Analysis
We propose MovementFinder, a multi-filter system to support data investigations from various aspects: location, time, people and event. Our system first combines related information from different datasets, including map, GPS tracks and transactions records. Then it visualizes above information with various views. Each view acts both as a visualization and a filter. Together they are able to support complex exploratory tasks.

Streaming Tweet Analysis
We proposed a collaborative tool for analyzing streaming messages in real time. We enabled emergency responsiveness through a keyword monitor, and built flexible filters to categorize the messages. We tagged the messages on a map automatically or manually if possible. We also had message inspectors for our team-mates to cooperate simultaneously where we could focus on different tasks and share findings.

MC1: Story Explorer: A Visual Analysis Tool for Heterogeneous Text Data

Exploration Pipeline

News Reader

Resume Reader

Resume Reader: Identify suspects using conflicts
- Conflicts exposable: Display time conflicts directly.
- Auto-highlighting: Automatically highlight the relevant people sharing with attributes
- Ranking based analysis: Multiple criterias can be applied for the ranking

System Overview

General Pattern Detection

Outlier Detection

We support multiple filtering exploration, including the spatial filtering, temporal filtering, event filtering for ex-ploration. Event correlation and comparison is supported in the event timeline view and detail circular view.

MC2: MovementFinder: Multiple filters for spatial temporal visual analytics

(a) Spatial view: shows the positions of POIs and GPS tracks. Spatial filters are supported.
(b) Timeline view: support time and periodical selection.
(c) Entity view: shows employee records for selection.
(d) Detail event view: shows the event sequence.
(e) Event timeline: shows the event of multiple employees.

MC3: A Platform For Collaborative Visual Analysis on Streaming Messages

Keyword Monitor-Responsiveness

Streaming Filter - Flexibility

Collaboration

Keywords are extracted from message texts, counted and updated in real-time in a monitor page. Latest words with high occurrences are shown in red to notify users. Users can drill down to one word for its occurrence trending, where the start and end time of anevent are easily seen. Co-occur words are also listed.

We created filters to organize all messages. We used javascript to specify a filter: incoming messages are evaluated by each rule, and if pass, they enter the corresponding substream. There is a rule panel for managing rules and map panel inspecting locations.

We enabled collocated, synchronized collaboration within our team. Each member was in charge of different tasks: one for managing rules and designating sub tasks to others; one for monitoring keywords and reporting emergencies; one for scanning filtered messages; one for locating messages, etc.

The important operations made by one user were broadcasted to others immediately to support findings awareness, while others kept privately to avoid interference.

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