Mentor
Yu (Cathy) Jiao, Ph.D.
Oak Ridge National Laboratory
Computational Sciences and Engineering Division

Whitney St.Charles
Carnegie Mellon University
Research Alliance in Math and Science

TEAMS

## Text-based Event Analysis and Mapping System

Introduction

Imagine a coastal state has experienced a natural disaster and FEMA is trying to allocate resources to the locations that need them most. The consequences of this disaster may manifest in multiple incidents across the area, including fire, flood, power outages, burglary, etc. It becomes very difficult quickly to assess, prioritize, and respond to all of these emergencies. In an effort to assist agencies such as FEMA in dealing with complex situations, the Text-based Event Analysis and Mapping System (TEAMS) was developed.

System description

Event mapping gives the user an overall vision of the events that occur in a certain area. Events such as fires or bombings are indicated by waypoints on a geographical map.

These events are added to the system in one of two ways

- by human users through mobile devices
- by an automated system which uses RSS feeds
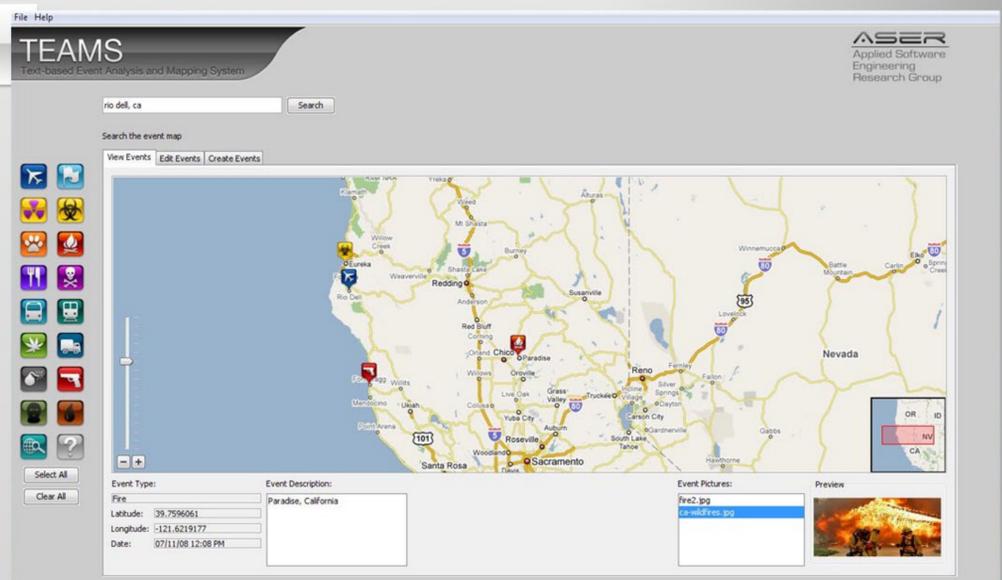
Activities

- Researched current event mapping techniques and software
- Determined probable user needs and developed system requirements
- Designed effective user interface and generated all graphical components
- Utilized Java desktop API to interface with the Google Map server create the event visualization platform
- Developed converter tool which allows users to view event data in the 3D Google Earth environment
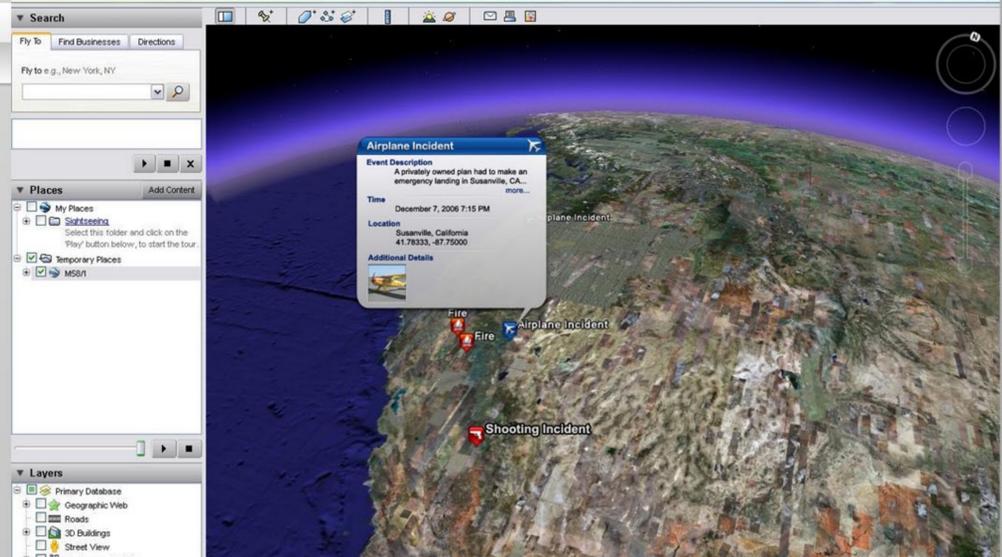
Usage scenario

1. Formulate mission plan
   I. Take all event reports into account
   II. Attempt to map safest/most effective route
2. Load devices with local mission map
3. Carry mobile devices in field
   I. Observe an event
   II. Record event
4. Sync devices to the primary application when internet access is regained

By using the TEAMS system in this way, users can effectively map event occurrences both on and offline.

4. Sync with primary application
1. Formulate new mission plan
2. Load local maps on mobile devices
3. Observe and Record events

Office of Science
U.S. DEPARTMENT OF ENERGY

OAK RIDGE NATIONAL LABORATORY
U.S. DEPARTMENT OF ENERGY

UT-BATTELLE