

VAST Challenge 2016: Mini-Challenge 1

Reviewer Guide

This document provides information to support peer review of submissions to VAST Challenge 2016 Mini-Challenge 1. It covers background about the challenge problem, tasks and questions presented to participants, the structure of the submission, and important considerations when reviewing. For a full description of the challenge problems and to access the data provided to the participants, please visit <http://vacommunity.org/VAST+Challenge+2016>.

Mini-Challenge 1 Summary: Situation Awareness in the Euybia Island Casino

Please note: All organizations, locations, and events are fictitious.

The Euybia Island Resort and Conference Center is a casino and hotel, located just off the coast of Kronos, is on its way to becoming a renowned high-end vacation spot. The Euybia Island Resort runs an operations center to monitor activities in both the casino and hotel and conference center. Reviewers are encouraged to read <http://vacommunity.org/2016+VAST+Challenge%3A+MC1> for a detailed description of the specific scenario and the questions posed to participants.

Data Requirements

Participants did not receive data to analyze for this challenge. Instead, they are asked to develop innovative designs that could support the following types of data, as described in the mini-challenge directions:

- Reports from uniformed and plain-clothes security officers moving throughout the hotel and casino
- News reports about current and planned events
- Up-to-the-minute weather conditions and forecasts
- Current police reports of crime in the area
- Closed-circuit security camera feeds from the hotel, casino, and conference center
- Financial and game information from the casino to watch for fraud
- Automated analytics of many types
- Reports of crowd control issues, overcrowding, fights, and suspicious behavior identified by operators who monitor the closed-circuit cameras.

Facility Constraints

Designs should take in consideration the setting for the analysts, as described in the mini-challenge directions:

“The investigators share a 12’x20’ room. The investigators have individual desks, each outfitted with three high-resolution displays. Euybia Island tells you that the resort is willing to use the current setup or

consider alternatives, including other desktop configurations, wall displays, tablets, and augmented or virtual reality interfaces.”

Additional descriptions of the hotel and casino are available at <http://vacommunity.org/Euybia+Island+Resort+and+Conference+Center>. This information is in the form of “excerpts from the (resort) website”, and should be viewed as needed considerations for the design of the operations center software. The excerpts also include general information about the Kronos Poker Championships and the Thrasos Cyber Conference that are co-located at the resort, to provide context for the challenges the operations center faces.

Structure of the Submissions

Participants are required to submit their entries on a standard answer form, along with a video explaining their submission and an optional storyboard. Please consider the entire submission in your review. If you have difficulty reading the answer form or playing the video, please contact vast-challenge@ieee.org for assistance.

The submission should include the following components.

1. A description of the design using up to 1000 words and 10 images. This description will appear in the standard answer form. This description should reinforce the demonstrated ability of the design to enable investigators to quickly understand new situations, think deeply to develop and test their theories as part of their investigation, and rapidly reorient their investigation when data or assumptions change.
2. A four-minute descriptive video with narration. The video should include the following:
 - a. The motivation and inspiration for the design.
 - b. An explanation of the important design decisions made.
 - c. The important visual features and interactions included in the design.
 - d. An explanation of how interacting with the display will provide investigators with the ability to understand current situations as they evolve, look at past data that puts current data in context, and investigators anticipate what might happen next, and reconsider recent data in light of new events.
 - e. Any important assumptions made in developing the design.
3. Optional storyboard. The storyboard should illustrate the expected interactions with the investigators’ analytic displays.

What to Look For

Key to this challenge is the portion of the instructions that state:

“The client tells you that the investigators need an environment that will allow them to analyze streaming data and conduct their investigations as situations unfold. They need an environment that will allow them to ‘quickly understand new situations, think deeply to develop and test their theories, and rapidly reorient their investigation when data or assumptions change.’”

Successful entries present designs that show will illustrate the ability to quickly understand the current situation. Imagine, for example, that a new investigator is starting her shift and needs to get caught up on what is currently happening and what issues may arise that day.

Successful entries need to show their designs allow user to maintain situation awareness in the face of rapid change. Designs should also support users' needs to re-align their thinking about situations as events occur and previous assumptions are invalidated.

Reviewers should refer to the example included in the challenge description (see <http://vacommunity.org/2016+VAST+Challenge%3A+MC1>) and consider how the design would support the investigator in making sense of a rapidly changing situation.