Alias-i ThreatTrackers™

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ABSTRACT

Alias-i ThreatTrackers are an advanced information access application designed around the needs of analysts working through a large daily data feed. ThreatTrackers help analysts decompose an information gathering topic like the unfolding political situation in Iraq into specifications including people, places, organizations and relationships. These specifications are then used to collect and browse information on a daily basis. The nearest related technologies are information retrieval (search engines), document categorization, information extraction and named entity detection.ThreatTrackers are currently being used in the Total Information Awareness program.

Keywords
Search, coreference, anaphora, information access.

1. Description of Demo

Alias-i ThreatTrackers are an advanced information access application designed around the needs of analysts working through a large daily data feed. ThreatTrackers help analysts decompose an information gathering topic like the unfolding political situation in Iraq into specifications including people, places, organizations and relationships. These specifications are then used to collect and browse information on a daily basis. The nearest related technologies are information retrieval (search engines), document categorization, information extraction and named entity detection.ThreatTrackers are currently being used in the Total Information Awareness program.

ThreatTrackers have two major components, first is a mentally natural organization of a data feed we call Cognitive Indexing(tm), and second, a user interface which combines data triage, browsing and ThreatTracker authoring.

2. Cognitive Indexing™

Cognitive Indexing organizes text data feeds into mentally natural units like people, events, things, organizations and relationships. For example, the Cognitive Indexing representation for an Entity like Osama bin Laden contains pointers to all sentences in the data feed that mention him Fig 4, including spelling variation (i.e. Usama) and pronouns which refer to him. In future versions of the system, the Cognitive Indexing representation of Osama will include audio mentions of him as well as database entries for him. In addition to coreference, Cognitive Indexing supports standard key word lookup, relationship detection between entities and analyst authored classes of Entities.

3. ThreatTracker Interface

The ThreatTracker interface provides complete analyst control over what is in a ThreatTracker, and provides multiple views into the collected data. Included are sentence excerpt summaries, tables of relationships between Entities and easy access to original source documents. There is also a redundant information filter on documents or sentences. ThreatTrackers allow analysts to create new categories of Entities like "Chemical Weapons Precursors " for use inside ThreatTrackers. Once created, ThreatTrackers serve as a form of information triage against the data feed.
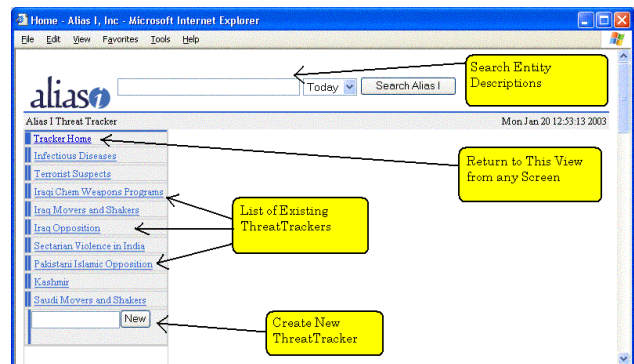
4. Acknowledgements

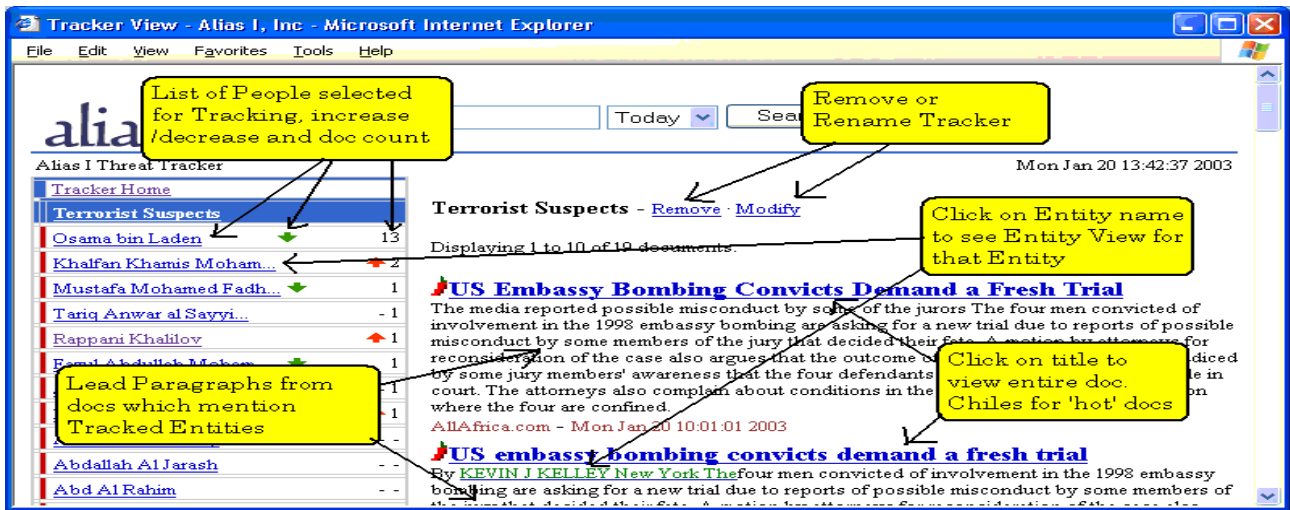Fig. 1 ThreatTracker Top Level Interface

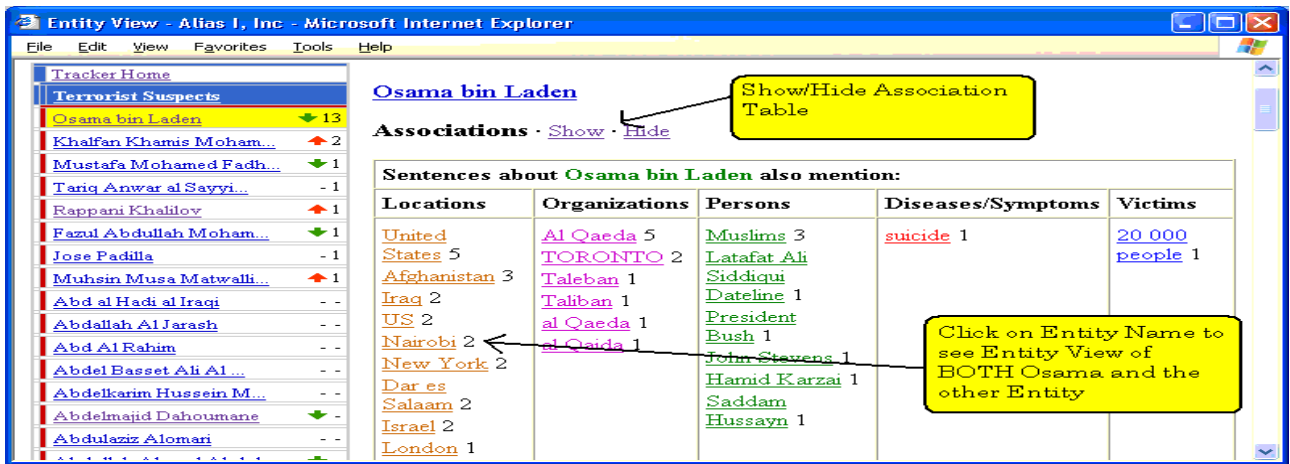Fig.2 View of Individual ThreatTracker on Terrorist Suspects
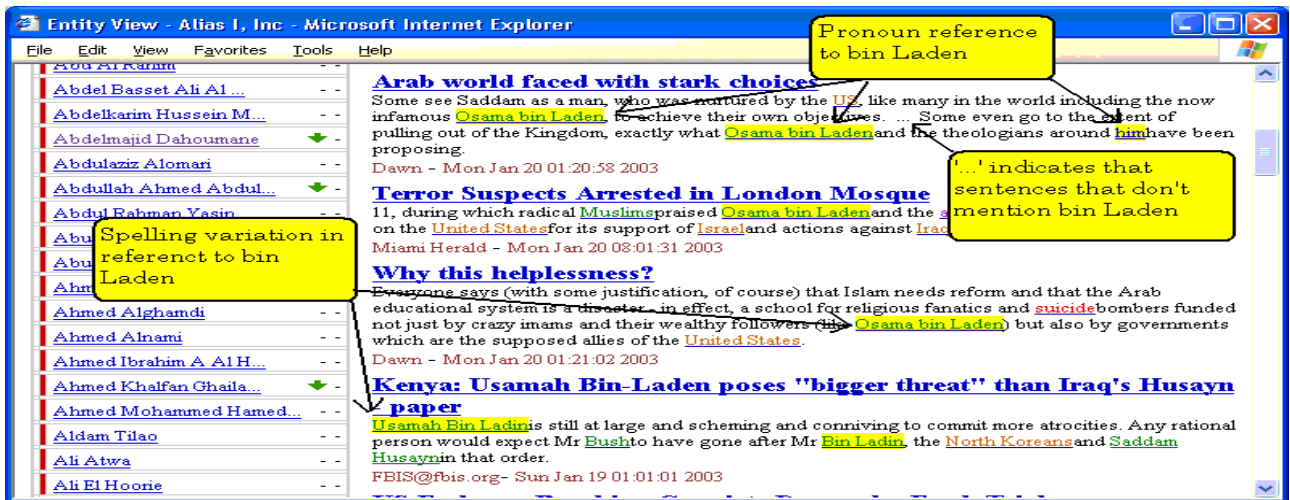
Fig. 3 Association Table view of Entities in the same sentence as Osama bin Laden.

Fig. 4 Excerpt Summary for Osama Bin Laden