Stance in Lorelei: Scenarios to Show End Users

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1 Aims

We wish to discover

1. whether stance-based functionality is likely to be useful to end users,
2. which stance aspects to focus on,
3. how they might operate with other Lorelei functionality, and
4. how they might be presented in an interface.

To support discussion with users, to discover their needs and thoughts, we have developed the following scenarios.

2 Scenarios

- Scenario A (based on old Scenario 2). During a flood, the Lorelei heatmap shows relevant talk across Valleys C and D, with satellite imagery also showing both hard-hit. The mission planner applies various stance-related filters, and finds that D mostly disappears from view after culling out talk with a "typical" stance. He asks his assistant to first start planning an intervention for Valley C. Later he discovers that in Valley D had a long history of flooding, and there the well-drilled population was calmly evacuating, but C was unprepared.
- Scenario B. In a famine situation, the analyst is looking for information on where the need is. Lorelei's heatmap shows blobs in the northern hills and and also in one southern valley. Knowing that people will talk about a famine even if it is not affecting them

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directly, he varies the "locally relevant" slider, expecting to see an effect on the blob shapes and densities. However the blobs don't change. He suspects that the intial heatmap is untrustworthy, so he switches off the "famine-related" topic filter and turns on the stance-related filters "bad situation," "immediate action needed," "factual," and "locally relevant". This time the display shows that the need is only in the northern hills. Later he discovers that in the dialect spoken in the southern valley, the word for "rice" is also slang for money, explaining the spurious result.

- Scenario C. After a flooding affecting a wide area, the analyst looks at a Lorelei heat map, trying to get an overview of the effects on the population and the human geography. While experimenting with various stance-aspect filters, he discovers that the distribution of feelings mostly matches what he'd expect from the location of the flooding, plus the general tendency of the population in that part of Africa to create conspiracy theories to explain any bad luck. But he also notes that from one city, just outside the affected area, the mood is different: high on stance "immediate action" and low on stances "deplorable" and "controversial." He pulls out his shoebox of news clippings on that city, and finds an article about a mega-mosque with an active charity arm and youth league. He then shifts to a social-organization view, and choses for display only material by and about the mega-mosque and its iman. Selecting as the comparison group recent tweets from the rest of the province, and looking at the stance distributions side by side, the difference in tone is even clearer on stances "praiseworthy action," and "factual." Hoping that this means that the mega-mosque community has a "can do" attitude and good organizational skills, he googles it. He finds no web presence except a blog with one English post, a crudely-worded plea for the international community to "let us help you help our brothers." In his report he recommends that the local commander attempt to work with the iman. Later he finds that agreement was reached and the mosque's youth league traveled in with the convoy to help distribute supplies in the flooded area.

- Scenario D. After a major wildfire, ethnic group A petitions the government to protect them from attacks by ethnic group B. To determine how this might complicate aid operations, the analyst examines material originating from group A on the topic of group B. From past experience, he expects to see stances high in "controversy," low in "subjectivity," and high in "immediate action needed, " but finds these mostly lacking in this case. He then opens the timeline view an examines the stance profiles of material originating from group A over the past year. Detecting an increase in volume, but no big changes in tone before or after the wildfire, he decides that this is not a high-priority concern. Later he learns that Group A had exploited the attention about the wildfire to try to enlist public opinion against Group B.

- Scenario E (based on old Scenario 3). After a storm hits power lines around cities E and F, there is lots of messaging from both relating to electricity. Attempting to determine where the situation is most severe, the analyst applies the "relevant to a large group" stance filter. Finding that F almost disappears from the heatmap, he gives priority to translating messages from E. Later he finds that most of the messaging from city F was about a bizarre but heartwarming event involving a little girl, a downed power line, and the family pet.

- Scenario F (based on old Scenario 4). Trying to assess the scale of a marketplace bombing in City G, the analyst also finds a lot of messaging on the topic of violence in nearby

City H. Applying the "immediate action needed" and "factual information" filters, he decides that the talk in H is less relevant and decides to focus on G. Later he finds that the messaging in H was about a bombing they had experienced years ago, and opinions about the way that the authorities, including some politicians now up for re-election, had handled it.

- Scenario G (based on old Scenario 1) After an earthquake, the Lorelei heatmap shows two dense clusters of talk about the topic, one in Province A and one in Suburb B. The analyst applies the "locally relevant" filter to cull out talk that has a second-hand/non-local stance, and infers that Province A is the actual location with need. Later he finds out that the suburb was populated by an ethnic group originally from Province A, and the talk there was mostly about concern for relatives in the province.

3 Assumptions

This section documents some working assumptions. If mistaken, some scenarios will need tweaking.

1. Analysts have a firehose of information, and need tools to help.
2. Analysts are rushed and may need to make decisions based on aggregate data. While searching for individual documents, or drilling down to find specific facts can be important, those activities are mostly outside the scope of Lorelei.
3. The data and the processing will be noisy and errorful. Uncertainty will always be present, so the data presentation must provide the analyst with ways to estimate how much he can trust any thing the interface shows him.
4. The user is a skilled professional, and has access to information that will never be in the system. Accordingly the system must support his workflow, be under his control, and enable him to leverage his knowledge, rather than operating as a black box that he can't understand or modify.
5. The user will primarily use the system to estimate the truth of various "hypotheses," such as that "this rainfall is affecting many people," "the famine is worse in Province X than in Province Y," and "attitudes towards the peacekeepers have improved since the change in patrol schedules."
6. The user will also use the system for exploration, for example to see whether different regions or populations are viewing or handling some situation differently.
7. The primary "unit of thought" will be a collection of documents relevant to some information need.
   (a) Users need to try out and apply multiple filters and conditions to obtain the most relevant collection of documents.
   (b) Users will also need multiple ways to view the information present in such a collection. These will include geographical views ("heat maps"), timeline views, and population views. Within each view, users will need to control what information is visible and how it is displayed.

8. Users will also sometimes need to compare or juxtapose "units of thought," to see, for example, differences between regions, between populations, or between times.

9. Users may use the results to make recommendations, and in such cases they must be able assemble the evidence found so as to present it clearly and convincingly.

10. Users may also use the results to identify new information needs, to be addressed by other methods (translation of documents, human intelligence, signal intelligence, imagery, etc.), and the system must support him in pinpointing exactly what more he needs to know.

11. Lorelei-system output may be in some cases fed as input to other systems, but designing for such uses is out of scope for this project.

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