Description of MITRE Dialogue Workshop Homework Assignment

Thank you again for agreeing to participate in MITRE’s hands-on “tire-kicking” workshop on dialogue managers (DMs).

To facilitate discussion of differing dialogue managers, we are asking each researcher to do a pre-workshop “homework assignment”, which includes adapting their DM to a common domain.

The goal is not to spend a lot of time adapting DMs. We merely hope to use a common domain as a springboard for discussion of the features of each DM. Therefore, we have tried to make the adaptation process as simple as possible.

Domain

The common domain is medical diagnosis. We chose this partly because to our knowledge none of the participating DMs has been adapted to it yet. More importantly, medical diagnosis is a real-world application, although for the workshop, we will only expect a simple demo system.

We have restricted the domain further to three specific diseases: malaria, schistosomiasis, and coccidioidomycosis (more information on these attached). We chose these diseases because they contain both similar and differing symptoms/geographic regions, thus hopefully promoting somewhat interesting but fairly straightforward diagnostic dialogues.

Task

While the domain is medical diagnosis, the actual task is more open-ended, to accommodate the differing strengths of different DMs. Feel free to have your DM diagnose a patient (with one of the three diseases), or teach someone to diagnose a patient, or answer questions about a disease, or carry out some other suitable task related to the domain.

Front-end

To facilitate comparisons between DMs, and factor out other modules in full-fledged dialogue systems, we would like to have a common front-end. For the common front-end, please use a text interface for user input and system output (thereby bypassing speech recognition, speech synthesis, or any other user interface modes).

You may of course use other modalities if they are important to your DM. For example, a DM might be aware of actions in the world (such as medical tests and results). Your system could simulate these actions.

Back-end

Our ideal was to also have a single, common back-end of domain information. However, after much discussion, we decided that imposing a specific back-end would make it difficult for differing DMs to do their jobs. For example, some DMs might prefer a structured “diagnosis tree”, while others a plan or script for diagnostic methods.

Therefore, we will leave the back-end open-ended, much as we are leaving the task open-ended. To assist participants, however, we will be providing a small Java program that can
be used as a back-end if appropriate, as well as a document (backend.doc) with different samples of back-end information. A description of the forthcoming Java back-end is included in backend.doc. Feel free to use one of the samples we have provided, or use your own sources of information. Please document your sources, so that they can be shared if desired.

Other modules

Feel free to use any other modules that you require or desire. Again, the only commonality we request is the domain: medical diagnosis with three diseases. We hope to strike a balance between a common framework for discussion, and ease of adaptation.

Discussion materials

Finally, please prepare a few slides (described below) to bring to the workshop. These are merely intended to facilitate discussion, please don’t spend excessive time on them. We anticipate that each researcher will have approximately an hour at the workshop to demonstrate and discuss their DM.

Homework

Having given the above background info, the “homework assignment” therefore consists of the following three steps.

1) Adapt your dialogue manager to the common domain, as described above, using any task and back-end information suited for your dialogue manager.

2) Be prepared to demonstrate your adapted dialogue manager at the workshop (or provide transcripts of interactions)

3) Prepare five slides to present at the workshop, as follows:
   - A slide describing your dialogue task and source of back-end information
   - A slide describing the modules you needed to change for this exercise (perhaps in the context of your system flow)
   - Two slides about task and/or domain and/or discourse models, as appropriate
   - A slide with highlights/lowlights – things your system does well or poorly in this exercise

We hope this homework assignment will not impose too much of a burden, but rather will facilitate informed discussion and a hands-on approach to understanding each others’ DMs. With that goal in mind, please do not spend excessive time on making modifications.

Please let us know if you have any questions about the exercise. We’re looking forward to seeing everyone’s dialogue manager!