Linguistics 384
Homework 5

Dialogue Systems

DUE: Wednesday, March 1, 2006

Problem Solving (to prepare for the quiz on March 1, 2006)

1. Use the following tagset to annotate the dialogue below.

Tag	Description
h	Hold before answer/agreement
qo	Open-question
sv	Statement-opinion
b	Acknowledge
+	Segment (multi-utterance)

_____	1.	A:	So what is your house like?
_____	2.	B:	Well, let me see –
_____	3.	B:	It's a two bedroom, two baths duplex.
_____	4.	A:	Oh , well that's neat,
_____	5.	B:	Brick –
_____	6.	A:	Uh-huh –
_____	7.	B:	– and, uh,
_____	8.	A:	– is it one you're renting or buying?

   (a) Identify two backchannels in the above conversation by giving the line numbers (1-9) and writing which part of that line is the backchannel.

   (b) List two adjacency pairs in the dialogue above. For each pair, identify the line numbers that correspond to the pair and tell me what kind of pair it is (Ex: request-grant, question-answer, greeting-greeting).

2. Read the following conversations and explain the Gricean maxim(s) that Janet is using/flouting (note that more than one may apply for each situation):

   (a) Janet does not like Gretchen, but Jack may or may not know this:
   - JACK: Do you think Gretchen is right for me?
   - JANET: Well, she has a lovely smile, a great record collection, and I've never heard her sing off-key.

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(b) While unloading groceries from the car, Janet accidentally drops a bag containing a dozen eggs and breaks them all. Jack hears the bag drop and starts the following exchange:

- JACK: How are the eggs?
- JANET: Well, the cookies seem to be okay.

3. For each of the following sentences, 1) identify the form of the sentence (declarative, interrogative, imperative)[1], 2) identify the communicative function of the sentence (statement, question, command, request)—i.e. what is the speaker trying to accomplish?, and 3) say whether it is a direct or indirect speech act and provide enough of a context so that your reasoning is clear.

(a) Give Mario the gold coin!

(b) Can you give Mario the gold coin?

(c) I would like to know how to get to the Mushroom Kingdom.

(d) I'd like 2 pounds of mushrooms.

(e) Do you know where Luigi is?

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[1]A declarative normally corresponds to a statement (*John is happy.*); an interrogative normally corresponds to a question (*Is John happy?*), and an imperative normally corresponds to a command (*Be happy!*).

Essay (to hand in on March 1, 2006)

1. There's a transcript from the Callhome corpus I want you to look at.

   `http://ling.osu.edu/~adriane/384/files/en_4248.txt`

   The Callhome corpus is a collection of transcripts of telephone conversations. You don't have to read the whole thing, but you'll probably want to read everything up to the point mentioned in order to understand the context.

   On the left, you'll see the starting time of each speaker (A and B are the speakers) followed by the ending point for that line. e.g. the first line says that B begins speaking at time point 89.22 and ends at 92.90.

   (a) At point 171.25, who/what do you think *we* refers to?

   (b) Make a list of all the nouns from the previous (contentful) utterance – at point 166.35 – and any other nouns which are somehow still "prominent" from earlier in the dialogue. (Ignore content-less items like *uh so*.)

   (c) We talked in class about syntactic/semantic constraints on pronoun reference. When trying to figure out what *we* refers to, what constraints rule out the other noun(s) from this list?

2. The CMU Communicator system (http://www.speech.cs.cmu.edu/Communicator) is an airline information system. Take a look at the quick guide to get an idea of how the system works. (The phone number no longer connects you to this system. It connects you to a newer room reservation system instead.) Also skim the manuals page to get an idea of what the components of the system are. You probably won't understand most of the details, but you can get an idea of how the system is built.

   For (a-c) below, read a conversation that a user had with the CMU Communicator system:

   `http://fife.speech.cs.cmu.edu/Communicator/Corpus/001/comm-20011130-001-gloss.html`

   The line labelled "speech" is what the system recognized and the "U:" line underneath is what the user actually said.

   You can also listen to a different conversation here if you'd like to hear what the system sounds like:

   `http://www.speech.cs.cmu.edu/Communicator/sample2.wav`

   (a) What do you think the system is doing well?

   (b) What does it have trouble with?

   (c) Is the user talking to the system in the same way he'd talk to a human?

   (d) Looking at the manuals page (http://www.speech.cs.cmu.edu/Communicator/manuals.html), find out:
       i. what their feelings are on the *variability* of human language within such a specific domain.
       ii. how they get airline information.
       iii. what Rosetta and Festival are and how they interact.