Comparison of characteristics of on-line communication systems:

Brainstorming about system distinctions among different communication media, from the system point of view:

Structure	Non-structured
Real-time (immediate)	Batch (can it wait?)
Queued	Not queued
Dialog	Broadcast
Stream (it comes to you)	Database (you go to it)
Time: present	Time: past
Predicted (future)	Actual (past or present)
Individual	Group
Alone	Collaboration
Private	Public
Sender control	Receiver control
Expert/novice	Equals
User initiated	System initiated
Local	Remote
Uniform	Individualized
Prioritized	Not prioritized
User control	External control
Time critical	Not time critical
Message-based	Continuous

Brainstorming about system distinctions among different communication media, from the users point of view. (Draw this from the interviews at PARC and at Athena.)

Keep in mind that "email" supports a wide range of written forms of communication from quick "want to have lunch in 10 minutes" to formal memos. Usually, cues are available to indicate which is which (e.g. the latter usually has a corporate logo and follows a certain format.)

Keep a rcord	Don’t keep a record
Interrupt	Don’t interrrupt
Quick items	Indepth items
Start something	Agree to something
Prioritize	Adapt
See person’s face	Not necessary
Hear person’s voice	Not necessary
Formal	Informal

Issues of on-line communication:

Lower the cost of sending messages: what are the consequences? Amount of time to process messages does not increase, so something has to change.

Change the cultural context of sending messages: more informal. Easier to contact someone you don’t know. (Would you rather send an email messasge or call someone you don’t know?)

What percent of communication is supported on-line?

What’s the balance between people who use one form vs. another? (I have easy email, hard to get to fax. You have easy fax, hard to get to email. We both have phone and answering machine. Which do we use?)

Issue of "the phone is always on, so is the fax". A workstation is always on (ie always able to receive messages) but not a pc.

If phones were "down the hall" they wouldn’t be used in the same way as if they’re on your desk.

How important are you? Do you get to solicit almost all your communications or are you the recipient.

Interpreting semi-structured messages and applying natural language to a limited domain are both attempts to reduce the difficulty of handling general natural language. (One can also argue that there are advantages to each in that the context that is available provides clues that would help in general natural language parsing as well.) The 80/20 rule...

Combine the dialog, help, Q&A, people and a database of information, that is empirically derived.

Given a database of questions and answers, as in OLC, identify the logical forms. goal is to take new requests and match them to answers, not "understand". (Note: this will only help if the user basically understands the problem and just doesn’t know the facts of the answer. If the problem is not stated in the right way, it won’t be possible to match up. however, common misconceptions could be identified...ie if user asks for x, they might need y.)

If match, then go to answer database and send answer. If no match, then go to a person.

Or if partial match, send a semi-structured message template for user to fill in and add new natural language if necessary. (Help to structure the conversation though.) Start dialog to clarify the points of confusion. User should be able to request a person if the clarification dialog goes on too long.