

Argument for a Conversation Architecture

I. Introduction

What is the nature of human conversation such that it can inform the nature of human-computer interface design?

What axioms about beliefs and conversations might lead to design requirements?

How might these requirements be fulfilled?

2. Axioms

I. What is more important about your current beliefs?

A1. That you already know something, so you have a place to begin new conversations

A2. That what you already know is an impediment to learning what you don't know

Response: A2.

II. Which question is more important?

A1. The question you start with

A2. The question that arises after the answer to the first question you start with, that opens up un-thought-of possibilities

Response: A2.

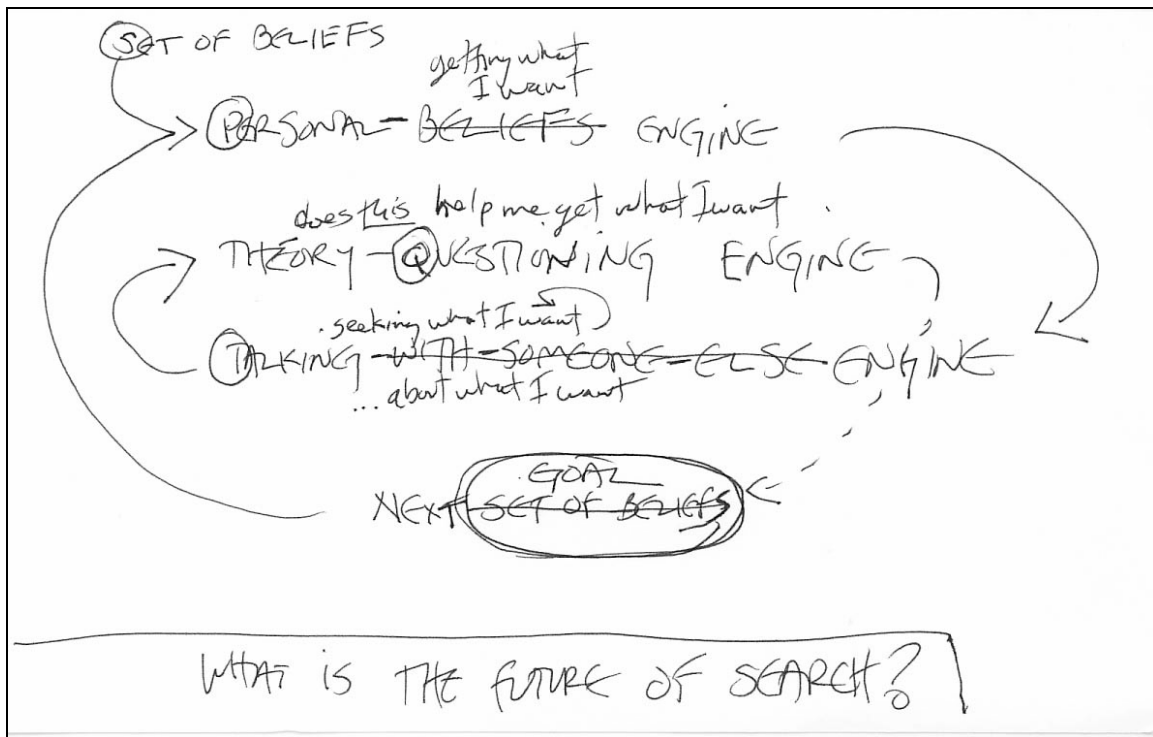
III. Which is better?

A1. Talking to yourself

A2. Talking with someone else

Response: A2.

3. Proposal for Conversation Architecture



Annotation

Step 1. (S)tart = (S)et of existing Beliefs currently held by participant

Beliefs = All consistent cognitive functioning, whether low-level facts [current minimum price of a 40" flat-panel LCD display], known ways to achieve goals, or convictions ['I believe that Mac is better than PC']

Step 2. Module (P) = (P)ersonal-Beliefs Engine

Alt title = Getting-what-I-want engine

Function = Aids participant in the exteriorization and clarification of current beliefs

Step 3. Module (T) = (T)alking-with-Someone-Else Engine

Alt titles = Seeking-what-I-want Engine | Talking-with-Someone-Else-about-what-I-want Engine

Function = Creates dialectic in which participant can compare and contrast existing beliefs with alternatives that might conflict or enhance or divert current beliefs or focus

Step 4. Module (Q) = Theory-(Q)uestioning Engine

Alt title = Does-this-help-me-get-what-I-want Engine

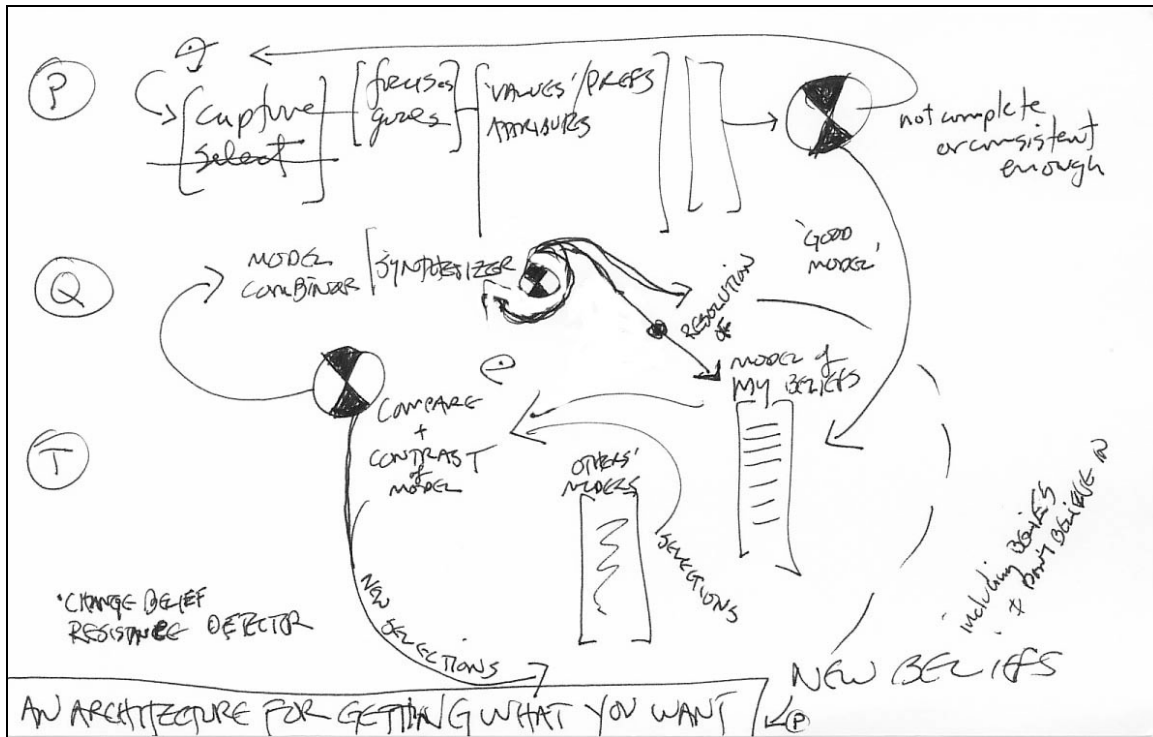
Function = Aids participant in questioning the validity/utility of current beliefs in comparison to available alternatives, whether found or self-constructed

Next = Next Set of Beliefs

Alt Title = Next Goal

Continue at Module (P)

4. One Implementation of Conversation Architecture



Annotation

Level (P) = Participant [represented as reversed 'e' as if a face, to the right of the (P) in upper left corner] uses an interface to capture [or sometimes to select] current beliefs, to focus on goals, to consider 'values'/preferences or attributes of current worldview. Partially-shaded circle represents 'comparator' function that imposes a check for completeness or consistency in capture of participant's belief system. If 'not complete or consistent enough', system loops back to participant along top of diagram for further clarification.

Else, if comparator check passes [see arrow emerging from bottom of comparator], system displays current Model of My Belief and moves to next phase in Conversation Architecture.

Level (T) = Model of My Beliefs is compared to Other Models via Selections made by participant or system. Shown as converging arrow with 2 sources, process enables participant to compare and contrast current beliefs to new possible beliefs (comparator function again represented by the shaded comparator circle). New selections can be made from others' models, shown as arrow down from bottom of comparator. Else, if satisfied, the system moves to the next phase via hooked arrow up to phase (Q).

Level (Q) = Model Combiner/Synthesizer engine proposes ways to combine belief systems. Some lead to contradiction, some do not (not shown). Comparator process used as shown in center of (Q) line, with 3 possible continuations:

- i. return to Model Combiner/Synthesizer process for further integration, exploration, shown as tight clockwise arrow
- ii. stable formulation of new beliefs, which modifies Model of My Beliefs but does not bring closure to goals, so participant continues in (Q) loop, shown as arrow down and to right
- iii. stable formulation of new beliefs and closure on goals, so system returns New Beliefs, shown as right-most arrow that becomes dotted and connects at bottom to New Beliefs. Eventually participant begins new cycle at (P).

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