Wanted: Conversational UX Designers

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Wanted: Conversational UX Designers

We need a UX designer who knows how to design for conversational interfaces, in which the user experience is primarily in the sequencing of utterances, whether voice or text, rather than in visual UI elements.

Responsibilities
- Own the design of the conversation flow
- Collaborate with system architects, visual UX designers, subject matter experts and more
- **Practice a design process, from mock-up transcripts to pseudocode to working conversation flows**
- Develop a system for conversation management and navigation

Qualifications
- Experience authoring conversation flows
- **Formal knowledge of natural conversation**
- Experience in creative writing, script writing, copywriting are a bonus!
Everything you need to build anything you want
The only cloud platform that brings together infrastructure, software, services and Watson

🔗 Start creating with Bluemix

This week at IBM

Watson will learn the language of tax

Make data science more productive

Governments build trust with blockchain
Formal knowledge of visual design
Conversational UX Designer

Carrie

UX Design + Social Science + Creative Writing
### Anatomy of a CONVERSATION

<table>
<thead>
<tr>
<th>TURNS</th>
<th>SEQUENCES</th>
<th>ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A:</strong> Hello</td>
<td>Greeting</td>
<td>Opening</td>
</tr>
<tr>
<td><strong>B:</strong> Hi!</td>
<td>Greeting</td>
<td></td>
</tr>
<tr>
<td><strong>A:</strong> How’s it going?</td>
<td>Welfare Check</td>
<td></td>
</tr>
<tr>
<td><strong>B:</strong> Good</td>
<td>Welfare Report</td>
<td></td>
</tr>
<tr>
<td><strong>A:</strong> Hey, are ya going tonight?</td>
<td>Pre-request</td>
<td>Requesting a ride</td>
</tr>
<tr>
<td><strong>B:</strong> Yes</td>
<td>Answer</td>
<td></td>
</tr>
<tr>
<td><strong>A:</strong> Can I get a ride?</td>
<td>Request</td>
<td></td>
</tr>
<tr>
<td><strong>B:</strong> Sure!</td>
<td>Grant</td>
<td></td>
</tr>
<tr>
<td><strong>A:</strong> What time?</td>
<td>Inquiry</td>
<td></td>
</tr>
<tr>
<td><strong>B:</strong> Seven o'clock</td>
<td>Answer</td>
<td></td>
</tr>
<tr>
<td><strong>A:</strong> Okay.</td>
<td>Acknowledgment</td>
<td></td>
</tr>
<tr>
<td><strong>A:</strong> Thank you so much!</td>
<td>Appreciation</td>
<td></td>
</tr>
<tr>
<td><strong>B:</strong> No problem</td>
<td>Appreciation Receipt</td>
<td></td>
</tr>
<tr>
<td><strong>A:</strong> Okay, see you tonight</td>
<td>Pre-closing</td>
<td>Closing</td>
</tr>
<tr>
<td><strong>B:</strong> Okay</td>
<td>Pre-closing</td>
<td></td>
</tr>
<tr>
<td><strong>A:</strong> Bye</td>
<td>Closing</td>
<td></td>
</tr>
<tr>
<td><strong>B:</strong> Buh bye</td>
<td>Closing</td>
<td></td>
</tr>
</tbody>
</table>
Missing piece:
Natural Conversation
Meet Almaden

Natural Conversation Framework
1. Interaction Model
2. Navigation Method
3. Reusable Activity Modules
4. Sequence Metrics

Hi, I'm Alma! What's your name?
Dave

Hi, Dave. How are you?
I'm terrible

I'm sorry to hear that. Would you like to hear a joke?
sure

Why can't you trust atoms?
Interaction Model: Expandable Sequences

request

sequence

I need someplace within walking distance

Mañana’s is located at Fourth and Winchester.

granting
do you know about restaurants?
I know a few places.
a few what?
repeating
places.
request
I need someplace within walking distance
What kind of food do you want?
what are my choices?
elicitng
Around here, Mexican, Japanese or Indian.
Mexican
granting
Mañana's is located at Fourth and Winchester.
what do you mean?
paraphrasing
Mañana's is a Mexican restaurant just a couple blocks south on Winchester Street.
what do you mean?
closing
You're welcome.
oh ok, thanks!
Expandable Sequences
A: Can you give me a ride?
B: I always do
A: never mind
Conversational UX Design Process
1. Mock-up

Create simple transcripts of the desired conversational experience. They strip away distracting visuals and can be used for text or voice.
Transcripts

1. HAPPY PATH
01 A:  Hello. I'm Alma. How are you?
02 U:  good
03 A:  That's good. Can I please get your name, job title and company or institution?
04 U:  Dave Bowman, astronaut at NASA
05 A:  So Dave Bowman, Astronaut at NASA. Is that correct?
06 U:  yes
07 A:  Okay. You're all set!
08 U:  thanks
09 A:  You're welcome! Anything else today?
10 U:  nope
11 A:  Thank you very much!
12 U:  bye
13 A:  Goodbye.

2. LONGER PATH
01 A:  Hello. I'm Alma. How's it going?
02 U:  fine
03 A:  That's good. Can I please get your name, job title and company or institution?
04 U:  well, I've worked at NASA for 25 years
05 A:  What's your name?
06 U:  Dave Bowman
07 A:  What's your job title?
08 U:  astronaut
09 A:  So Dave Bowman, Astronaut at NASA. Is that correct?
10 U:  yep
11 A:  Okay. You're all set!
12 U:  thanks
13 A:  You're welcome! Is there anything
2. Design

Create the logic required to build the experience using pseudocode
Conversational Pseudocode

1. **Create condition (if)** – matching user input
   a. **Class**, or "intent" (#) – matching similar phrases in user inputs
   b. **Keyword**, or "entity" (@) – matching exact words or phrases in user inputs
   c. **Variable**, or "context" ($) – matching values outside user inputs
   d. **Pattern** (^) – analyzing user input text strings or variable values

2. **Assign default (else)** – assigning action if no more conditions are met

3. **Set variable (set)** – capturing the context of current or prior inputs

4. **Route to another node (goto)** – routing to another dialog node

5. **Respond to user (say)** – output to the user
U: who invented the hard disk?
A: It was invented by IBM in 1956.
U: what do you mean?
A: The hard disk drive was invented in 1956 by engineers at IBM's laboratory in San Jose, California.

Elaboration Request
Function: Paraphrasing

if #ELABORATION_REQUEST

    if $elaboration has value
    say $elaboration

    else say "Well, I don't know how else to say it."

Create an #ELABORATION_REQUEST intent. In every response node in your conversation, set $elaboration to an elaboration of the response. Build the parent node and 2 child nodes.
U: who invented the hard disk?

A: It was invented by IBM in 1956.

U: can you give an example?

A: The IBM 305 RAMAC was the first computer to use a hard disk drive.

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Chili con Carne

A QUICK-AND-EASY RECIPE BY ANNE MARSHALL

2 tablespoons shortening, melted
1 medium onion, finely chopped
1 pound ground beef
½ teaspoon salt
¼ teaspoon black pepper

2 teaspoons chili powder
¼ teaspoon cayenne pepper
2 cans (2 1/2 cups) Campbell's Tomato Soup
1 No. 2 can (2 1/2 cups) kidney beans

3. Build

Create the conversation flow on a particular platform
Building Exercise

Opening Module-Agent Greeting
conversation_start
1 Response / 0 Context set

Opening Module-Welfare Check Negative
#WELFARE_CHECK_NEGATIVE
1 Response / 0 Context set / Jump to

Quiz Module-Joke Offer
false
1 Response / 1 Context set

Quiz Module-Affirm Joke Offer
#A ... $previous_node=='Joke Offer'
1 Response / 0 Context set

Default
anything else
1 Response / 0 Context set

```
1 {
  "context": {
    "previous_node": "Joke Offer"
  },
  "output": {
    "text": {
      "values": [
        "Would you like to hear a joke?"
      ],
      "selection_policy": "sequential"
    }
  }
}
```
1. Mock-up
2. Design
3. Build
A case for Conversational UX Design

With the proliferation of chatbot and conversational agent platforms, from IBM, Apple, Amazon, Google, Microsoft, Facebook and more, a new design discipline is emerging: Conversational UX Design. While it is easy to create natural language interfaces with these platforms, creating an effective and engaging user experience is still a major challenge. Creating an interaction that works like a human conversation in particular is an even harder problem. While natural language processing techniques have given us powerful tools in analyzing bits of language, they do not tell us how to string together those bits of natural language into a natural conversation.

To appreciate the need for a new kind of design, consider web design for a moment. In 2016, the IBM homepage looked like this...
Thank you

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https://ibm.co/2nElvKA