
Designing Conversations for Service

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Abstract

As more and more service channels migrate from “live” human providers to automated “bot” systems, there is a need to understand the interactional machinery behind human-human service encounters upon which to best design semi-automated interactions. Findings from the field of Conversation Analysis show that service encounters, a form of institutional talk, are an adaptation of mundane talk-in-interaction. This paper discusses how service encounter practices can be applied to conversational system design at two levels: the turn level to enable appropriate next responses, and the activity level to understand the interactional trajectory.

Author Keywords

Conversation analysis; service encounters; conversational systems; virtual agents; chat bots; UX design; interaction design.

ACM Classification Keywords

H.5.2. Information interfaces and presentation (e.g., HCI): User Interfaces.

Introduction

The mediated service interaction is becoming the primary way by which customers and providers manage the activities of their business relationship. Modern business practices offer multiple channels, including telephone, email, chat, and twitter, through which customers can contact their provider. As more and more these channels migrate from “live” human providers to automated “bot” systems, there is a need to understand the interactional machinery behind human-human service encounters upon which to best design these semi-automated interactions. Conversation Analysis, a field of Sociology founded in the 1960s, focuses on the close examination of talk-in-interaction to describe the organizing practices that support all human interaction [1, 7]. From this literature, we learn that mundane face-to-face interaction is the fundamental type of talk-in-interaction and that service encounters, a form of institutional talk, are an adaptation of this organization [3]. What distinguishes the service encounter from mundane interaction are the organizational constraints that shape how service interactions are produced [2, 4, 5, 8].

The structure of a canonical service call

In the opening phase of a canonical service interaction over the phone (see Figure 1), the service provider is mandated to ask a series of

questions to identify the customer (e.g. basic account information like name and number) and authenticate or verify his or her identity (e.g. security questions like what is your mother’s maiden name? or what is your favorite color?) so that he can properly gain access to the customer database. With the opening complete, the service provider hands over the conversational floor to the customer through the offer of service: how can I help you?. The customer’s reason for the call creates the trajectory for the rest of the call as it delineates the request and enables the service provider to estimate what it will take to satisfy this request. When the customer’s reason for the

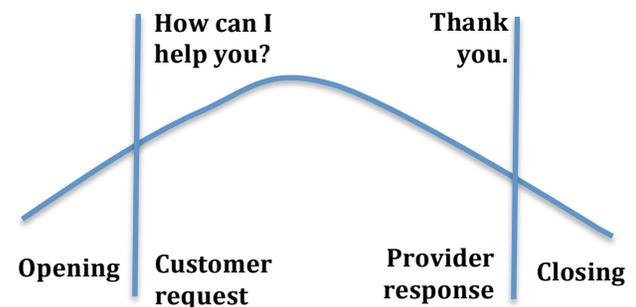


Figure 1. Canonical interactional structure of a service call

call has been adequately responded to, the caller typically expresses receipt of the provider’s help with “thank you”. With the service request satisfied, the close to the interaction is expected, yet either the customer or the service provider may “open up the closing” by initiating a range of

activities including issuing another service request or launching into a survey about the service just provided [6]. When no other business is initiated, the customer and provider coordinate to end the call.

Opening Trajectories

Even though the opening is highly structured by the service organization, customers do not necessarily adhere to this structure which is why conversational design must anticipate variation at every turn-at-talk. Consider Excerpt 1, where the caller responds to the service provider's request by agreeing to give her phone number, but she does not provide it until she declares her inexperience and provides the reason for the call.

Excerpt 1: T1891637

A:	hello there you're through to Steven Telecom Mobile can I start by taking your mobile telephone number please	Greeting	ID
C:	you can indeed , but can I just warn you you're talking to an idiot you're gonna have [to speak	Request for Info	Agree to answer
A:	[oh: no you're n:ot	Self-deprecation	Denial
C:	uhm well I don't stand it(h) all(h) ((laughs))	Account	Assessment
A:	that's alright	Reason for call	
C:	well my mobile now I've just picked it up today ., I put fifteen pounds on it (.) when I bought the phone uhm and now I can't do anything with it ((laughs))		
A:	[my mobile number is ()	Answer	
A:	[alright	Receipt	

The customer and service provider in Excerpt 1 recover from their departure from the canonical opening to put the call back on track, partly because the service provider aligns with the customer by denying her self-deprecation and reassuring her "that's alright".

The caller in Excerpt 1 agrees to provide her mobile number before departing which alerts the service provider to a trajectory where the requested response will be forthcoming. In Excerpt 2, the caller aligns to the provider's opening by returning his greeting then she pivots to launch into her own request to be transferred.

Excerpt 2: AP 071013 1939094

A:	good afternoon you're through to aaron at Telecom mobile technical support	Greeting	ID
C:	can I start by taking your mobile number please	Request for Info	
A:	oh hi there um yeah	Greeting	
C:	could you put me through to the concerns team please	Request for Action	
A:	um I can't transfer you directly through...		

In service call conversations, customer greetings are extremely rare, so by producing a return greeting, the caller in Excerpt 2 alerts the service provider to a non-canonical trajectory.

In Excerpt 3, the caller produces interactional asynchrony [4] by immediately launching his reason for the call in response to the provider's request for his mobile phone number.

Excerpt 3: TM041013 1917245

A:	good morning you're though to Tom at Telecom Mobile technical support	Greeting	ID
C:	can I start by taking the mobile phone number please	Request for Info	
A:	running out of time to speak to someone on the uhh handset support team about an unlocking code	Reason for call	
A:	all right okay	Receipt	
A:	have you called us before regarding that issue	Request for Info	

The provider in Expert 3 expertly realigns the customer to the institutional requirements for the call by receiving the problem request and then asking the most relevant, institutionally

prescribed opening question in response to the caller's request for service: has he called before about this issue.

Concluding Thoughts

For service conversations to be successful, both provider and the customer must coordinate, turn-by-turn, to manage a joint trajectory. The institutional scripts that guide the provider's turns-at-talk do not always elicit the desired responses; even the very first turn of the conversation can be met with unanticipated responses.

The flexibility and re-alignment capabilities that human agents use to handle their customers provide insights for the design of automated chat bots for service. Conversational UX designers cannot rely on fixed sequences of actions that allow only a single trajectory. They must anticipate multiple possible trajectories through the same set of activities. Studies in Conversation Analysis provide empirical examples of those trajectories and can help guide or inspire UX designers to create conversation flows that work more like a natural conversation.

References

1. Goodwin, C. and Heritage, J. 1990. Conversation Analysis, *Annual Review of Anthropology* 19(1): 283-307.
2. Hepburn, A., Wilkinson, S., & Butler, C. W. 2014. Intervening with conversation analysis in telephone

helpline services: Strategies to improve effectiveness, *Research on Language and Social Interaction*, 47(3): 239-254.

3. Heritage, J. 2005. Conversation analysis and institutional talk, in K. L. Fitch and R. E. Sanders (eds), *Handbook of language and social interaction*, 103-147.
4. Jefferson, G. and Lee, J. R. E. 1981. The rejection of advice: Managing the problematic convergence of a 'troubles-telling' and a 'service encounter', *Journal of Pragmatics*, 5(5): 399-422. [Reprinted in Paul Drew and John Heritage (Eds.) *Talk at Work*. Cambridge. Cambridge University Press (1992) (pp. 521-548).]
5. Lamoureux, E. L. 1988. Rhetoric and conversation in service encounters, *Research on Language and Social Interaction*, 22(1-4):93-114.
6. Schegloff, E. A. and Sacks, H. 1973. Opening up Closings. *Semiotica* 8(4): 289-327
7. Seedhouse, P. 2005. Conversation analysis as research methodology. In *Applying conversation analysis*. Palgrave Macmillan UK, 251-266.
8. Vinkhuyzen, E., & Szymanski, M. H. 2005. Would you like to do it yourself? Service requests and their non-granting responses, in K. Richards and P. Seedhouse (eds), *Applying conversation analysis*. Palgrave Macmillan UK, 91-106.