

# Sense-Making Methodology: Learn What Users Understand is Important

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## ABSTRACT

This paper describes how the Sense-Making Methodology makes it possible quickly to identify the most serious problems experienced by users of an interface. The paper is based on use of Sense-Making in four different projects and a total of more than thirty interviews.

## Author Keywords

Requirements, interview methods, Sense-Making.

## ACM Classification Keywords

H5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

## INTRODUCTION

Interviewing users is an essential part of learning about their needs. This paper presents a new methodology and how it can be used for interviewing computer users.

I have used the Sense-Making Methodology as inspiration when organizing the paper.

## IS SENSE-MAKING TESTED?

Sense-Making has been developed by Brenda Dervin and others since 1972, and it has been used in design of information systems, public information campaigns and marketing [2, 3, 4]. I have used Sense-Making in three industrial software projects and to investigate problems experienced by computers users in Philippines. I have in total conducted more than thirty interviews using Sense-Making.

## WHEN IS SENSE-MAKING SUITABLE?

*Sense-Making is in particular suitable when the goal is to make a successful improvement of an existing interface or work situation.* It can give a reliable description of the

biggest problems experienced by users of an interface, and it is faster than contextual enquiry [1] and usability tests. During my own interviews it often took less than twenty minutes before I understood the two or three most serious problems experienced by a user, and experiences from the industrial software projects indicate that if a new interface can solve these problems, the user will consider it a success.

*Sense-Making gives a good contact to users and encourage them to talk.* The users I interviewed were eager to tell about problems they had experienced. In Philippines I even found that users after the Sense-Making interview felt more free to discuss other aspects of their work.

*Sense-Making makes it possible to identify problems that at first appear to have nothing to do with the interface.* In one of the industrial projects some users complained about situations where their colleagues had forgotten to note down what they had done. When I later investigated that problem it turned out that the note field in the interface was not designed in an optimal manner.

*Sense-Making give a more valid description of possible problems and how they may be solved, than if users are asked to suggest improvements to an existing interface.* In one of the industrial projects a group of users had spend a substantial amount of time collecting proposed changes to the system before I did my interviews, and it turned out that only one or two of their proposed changes had anything to do with the situations described in the Sense-Making interviews. However, after the meeting with the users and the leading software designer, it was decided that the upgrade to the system should be based solely on the results of the interviews, not on the list produced by the users.

*Sense-Making is not suitable if the goal is to document all steps in a work process, and because it is an interview method, it cannot be used to identify problems that users are unaware of.* It is necessary to use Contextual Enquiry [1] or a similar method to identify all steps in a process, and to do a usability test to identify problems that users are unaware of.

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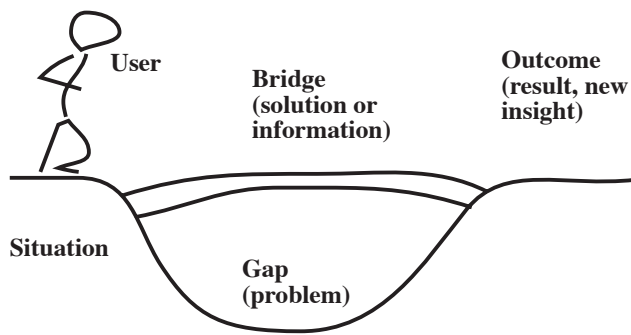


Fig 1: Making sense of a gap and crossing it (based on [2])

### HOW IS SENSE-MAKING DONE?

The following is based on my own experiences when using the methodology in user studies.

#### How to prepare for an interview

*It is an advantage to learn as much as possible about the user's domain in advance so the interview can focus on the situations experienced by the user.* That was the case in two of the industrial software projects. In contrast, in the third industrial project and in the Philippine study it was not possible for me to learn about the domain in advance, so the users sometimes had to interrupt their stories to explain their terminology and work to me.

*It is not necessary to prepare a detailed questionnaire in advance.* I found that it was sufficient with a few keywords to remind me of job titles and other basic information that I needed and a small piece of paper listing the steps in my Sense-Making interview.

#### How to conduct an interview

*It is highly advantageous to conduct the interviews at the user's workplace.* That is similar to contextual enquiry [1]. In most of my interviews the user had to demonstrate a problem by using his or her daily work tools before I understood it.

*In a Sense-Making interview it shall be possible for the respondent to circle and repeatedly engage with the same phenomena [4].* I therefore did what in Sense-Making is called Micro-Moment Time-Line interviews [3]. I first asked the user to describe situations where he or she had faced a problem in the work. When the user had told me about the situations, I asked about each situation in more details: What the user had wanted to accomplish in each situation, what information he or she found useful to solve the problem, and what he or she afterwards believe might have helped to solve the problem.

*In some cases it is necessary to adjust the interview method.* Users in one of the industrial project and in Philippines started to describe the information and functions they wanted in an interface, even when I asked about situations they had experienced. However, I could then ask about the

situations where they had needed the information, and why they had needed it.

#### Follow-up on the interview

*It is important to have a dialogue about the results.* In one of the industrial projects I had a meeting with users and the leading software designer. We discussed the problems based on the users' experiences and agreed that three of the apparent interface problems had occurred because of insufficient training, and that the best solution to a fourth problem was to change the work routine and not the interface.

### WHAT IS THE BASIS OF SENSE-MAKING?

Sense-Making is a methodology that includes an explicit view of human beings and how they interact.

Each individual is seen as someone who tries to make sense of his or her experiences, and different sense-makings or understandings of the same phenomena are regarded as something that makes it possible to create a more comprehensive understanding. [4]. Therefore Sense-Making stresses the importance of dialogue between different understandings of a situation, and that the user's understanding of a situation of use shall be considered at least as important as the researchers.

Sense-Making focuses on the discontinuities experienced when the individual meets a gap and has to stop and find out what to do next. See figure 1. It tries to determine how an individual experiences that moment, how he or she sees the gap and try to overcome it, and on how he or she progresses after having crossed the gap. [2]. That is why Sense-Making in user studies focuses on situations where the user experiences problems, and on how he or she sees the problems and tries to overcome or circumvent them.

### CONCLUSION

Sense-Making has been successfully used, and this paper provides enough information for the reader to start using it.

### LITERATURE

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