Let's chat about sex, baby!

Leveraging chatbots for sexual health promotion

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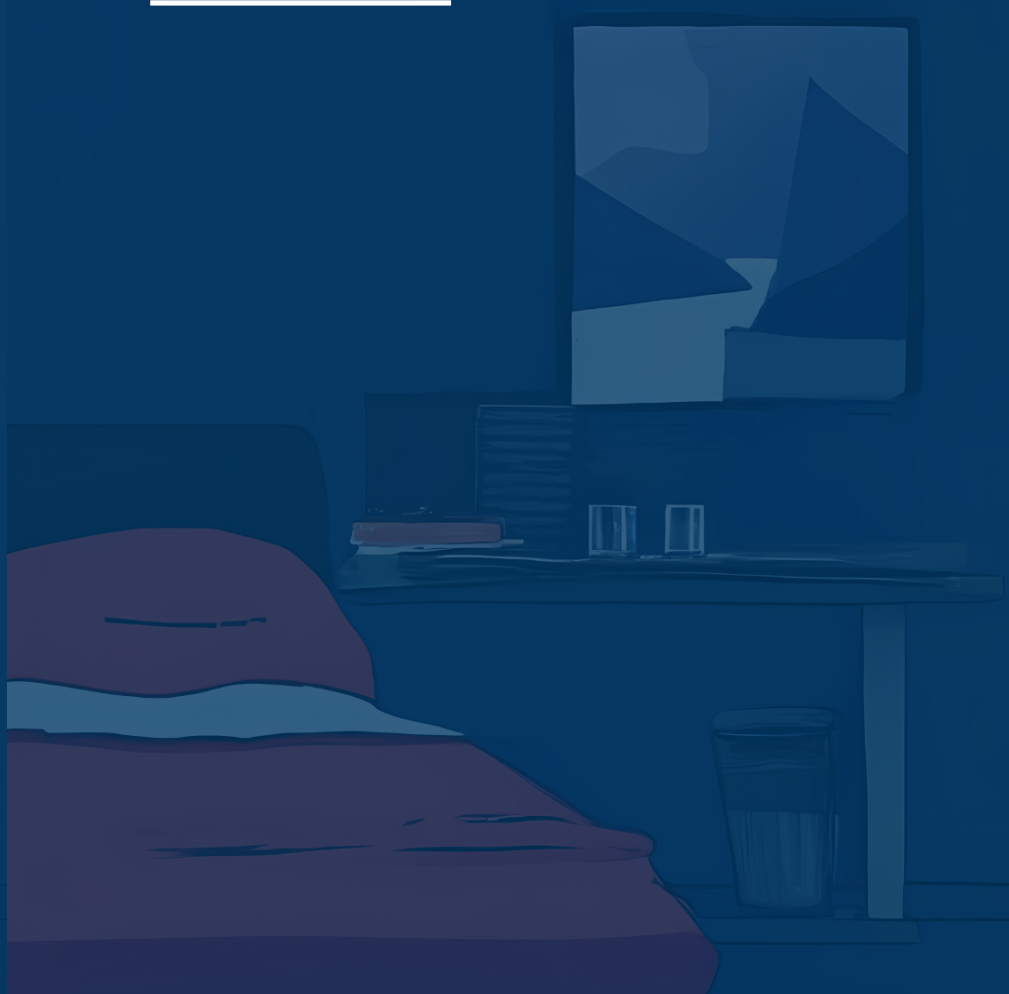
INTERLUDE



Learnings from Chapter 2

The systematic review described in Chapter 2 revealed several avenues to further research on conversational agents for sexual health that particularly sparked the next steps in this dissertation:

1. Technologically, many conversational agents (CAs) were delivered via short-messaging service (SMS), and only permitted single-turn interactions (i.e. the user responds once to an automated message). Furthermore, users were often limited to preset options as input, and were unable to use natural language to communicate.
2. Regarding the intervention itself, CAs tended to focus on the treatment rather than prevention of sexually-transmitted infections. The most used theoretical frameworks used to guide intervention content were the social cognitive theory (Bandura, 1999), information-motivation-behavior model (Fisher et al., 2009), and motivational interviewing (Miller & Rollnick, 2012). The interventions placed an emphasis on relatively simple behaviors that focused on presenting information and increasing awareness (e.g. educational modules, Q&A), and providing motivational messages and reminders. Importantly, none of the interventions addressed couples as users.
3. It was found that evaluations were conducted largely through the use of surveys, and less so through qualitative means such as interviews. While lacking in number, the qualitative findings were able to shed some light on users' perceptions and preferences for how sexual health chatbots are designed. Given the infancy of CA technology, particularly in the domain of sexual health, the depth that qualitative research offers can be invaluable in shedding light on users' motivations, needs, and preferences, which can inform better-designed interventions.
4. Synthesis of findings regarding user acceptance through the lens of the DeLone and McLean Model of Information Systems Success allowed us to arrive at a proposed user acceptance framework (see Figure 1) that may be specifically applicable to sexual health (as well as other similar sensitive healthcare domains such as mental health). In addition to the factors of the original model, which were still found to be very much relevant in this context, five additional factors were identified: privacy, trust, social presence, comfort, and emotional support.

Outlook for Chapter 3 and beyond

In our research, we attempt to address the above points.

1. The chatbot should permit multi-turn interactions as well as allowing users to provide input using open, natural language.
2. The chatbot was envisioned to go beyond functions such as presenting information and providing reminders, instead engaging users in a fully-automated counseling session to increase their motivation to change their behavior. We adopted motivational interviewing as the guiding framework for Mish to complement this goal, which called for a top-down design approach centered on the work conducted by Miller and Rollnick (2012).
3. The chatbot, hereby appropriately named Mish, (read: Motivational Interviewing for Sexual Health), focuses on the promotion of a preventive sexual health behavior i.e. condom use in the selected target group i.e. new, young couples. Importantly, we dedicate separate designs to both individual- (Mish) and couple-use (MishSync); we aim to build on existing chatbots for sexual health by first focusing on individual users through Mish, and use the findings to inform MishSync, the couples-focused chatbot.
4. To evaluate the design, we elected to conduct a thorough qualitative evaluation of Mish leveraging the user acceptance framework from Figure 1 to fully understand the extent to which users accepted the chatbot and their reasons for doing so.

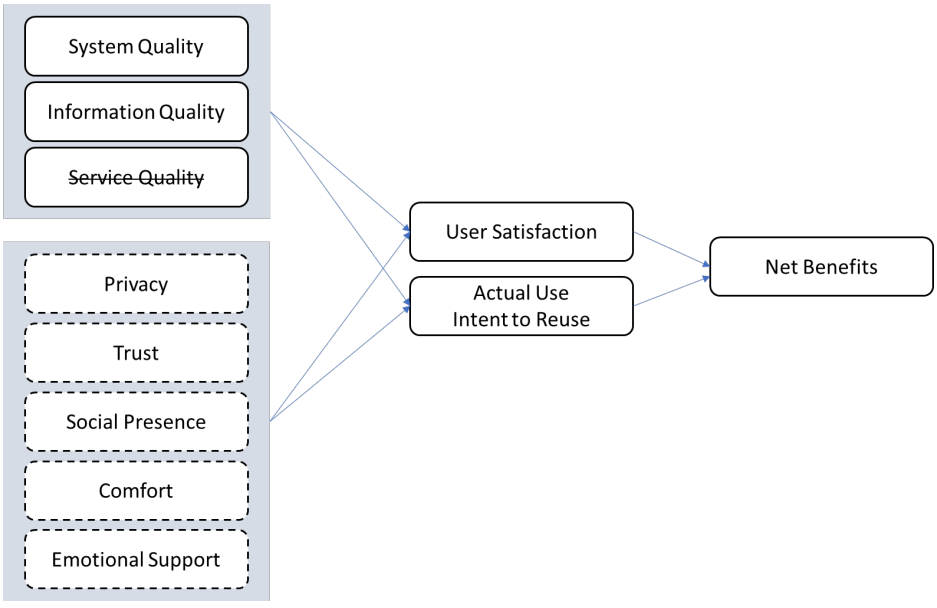


Figure 1. Guiding user acceptance framework based on the findings of Chapter 2

References

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