**Project Retrospective**

***In your (individual) project report, review your project’s design and development, specifying your own role in that work, and describe and explain how your team attempted to assess and demonstrate the ‘usability’ of your tool.***

***Here, you reflect on your design process, what worked, what didn’t work, what did you learn, what would you do differently?  And connect your process to the course readings where possible! 500 words.***

With all the media attention on AI as of late, our group decided to create a chatbot that would provide student-centred assistance with math homework. It would generate data for teachers to analyze and gauge whether student learning occurred and to adjust lessons accordingly. Our design process began with a Teams meeting to discuss possible ideas. Once we agreed on an AI chatbot, we talked about employing math-based assistance since it would likely be simpler to program and luckily David had some experience with Microsoft Power Virtual Agents (PVA). We randomly picked some basic algebra (order of operations of expressions BEDMAS) for a middle school audience. Then, we split up the workload: I created the questions used in the chatbot and also tested the chatbot a few times as it was quite buggy even up until I recorded my piece for the presentation. I recorded a simulation of a student using the chatbot and after a few iterations, the chatbot “configured me” (Woolgar, 1990) as I knew how to change my answers in order to get the correct answer without true understanding. We met a handful of times within a couple of weeks to create the chatbot and had a couple of dry runs to practice our presentation paying particular attention to timing and transitions.

To assess the usability of our chatbot, where possible, we tested it out as outlined by Issas & Isaias (2015) in terms of learnability, flexibility, robustness, efficiency, memorability, errors and satisfaction. We all tested out the different published versions of the chatbot provided by David. I supplied direct feedback to David with the intention of perfecting the chatbot down to the last detail including the math language used (to create easier accessibility to students), flow of the questions (for simplicity) and prompts that did not accept input. Once changes were implemented, David published a newer version of the chatbot which was then tested again, using all possible pathways that students may take when using it. Also at the end of the chatbot use, there is a survey for students to fill out that asks for their feedback on the tool that would allow for further design improvements.

In order to improve upon the design of our chatbot tool, perhaps it would be prudent to include students in the “usability evaluation stage” (Issa & Isaias, 2015) to test this chatbot since they are the true intended target audience. Also, to mitigate students from randomly guessing answers I would add a “none of the above” option to each question or have students enter answers in a more open format. However, this would present a few challenges with regards to streamlining their responses. Since there was limited access to the programming side of this chatbot, I could not go in and modify but had to refer that to our IT department (David). I would have loved to experiment with the programming of the chatbot. Instead, this will be reserved for a future conversation with my administration. (498 words)

**References:**

Issa, T., & Isaias, P. (2015) [Usability and human computer interaction (HCI).](https://doi-org.ezproxy.library.ubc.ca/10.1007/978-1-4471-6753-2_2) In Sustainable

Design (pp. 19-35). Springer.

Woolgar, S. (1990). [Configuring the user: The case of usability trials](https://courses.library.ubc.ca/i.CN9L5N). *The Sociological*

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