**NIP2 TASK 1: CHATBOT**

**C951**

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**A. Explain the functionalities of the chatbot and how they will meet the needs described in the scenario.**

The chatbot greets the user after hi, hello, or hey has been said by the user. The chatbot will ask the name of the user and remember the name. After the name has been saved, the bot will ask if the user is looking for a job that is related to computing. If yes, the user will be prompted to input a response to pull up different interests. If no, the chatbot responds that it cannot help the user. Once a list of interests come up, the user will select one that is most relevant to them. The bot will respond with a short description of the job and a link to an outside website for more information. The user will be prompted to either end the conversation or continue to look at interests/jobs until they find what they are looking for. This will meet the needs because it automates my job to give career guidance based on the user. A large amount of users can use this at once and quickly find what they are looking for. It erases the need of one-on-one conversation with myself and will save a lot of time for everyone.

**B. Identify five computing job types that your chatbot can recommend based on student interaction with the chatbot.**

Database administrator

Web developer

Computer hardware engineer

Computer software engineer

Network Administrator

**C. Provide the generated chatbot code files to support the five identified job types from part B.**

Chatbot code files are included in a zip file called computingcareerchatbot

**D. Explain how the chatbot training cases were selected and how you used artificial intelligence markup language (AIML) to enhance the functionality of the chatbot. Provide examples of the chatbot’s functionality that represent the selected cases at the end of the training process in support of your explanation.**

Training cases were selected based on interests and accessibility for users. Some test cases are shown below.

Student A is nearing graduation and is looking for a career to go into. Student A knows that they are interested in web development and network administration. Student A goes into the chatbot, types “hi” and goes through the steps until interests are popped up. Student A types “2” and is presented with a short description of the job “Web Developer” and is given a link to view more details about the career. After that, Student A is not satisfied with that job, so they bring up the fields again and this time types “5.” A short job description is given to Student A and they decide they want to pursue that career.

Student B is a new student who is not technically savvy. Their major is Psychology. They find themselves at this chatbot and say, “hey.” The chatbot asks their name and remembers it. The chatbot asks if they are looking for jobs in computer science. Student B says no and is told that the chatbot is for those looking for career opportunities in computer science. Student B leaves the chatbot to find one better suited for their needs.

Student C has used the chatbot before and wants to skip the introduction and go straight to the interests list. Students C types “jobs” and begins going through all the options repeatedly until they find the career they want.

Student D knows exactly what they want to do for a career. They want to design software for big companies. They go through the chatbot and find the “Computer software engineer” job. Student D clicks the link and saves it. They refer to the link to know what they need to do to be ready for their career.

Key functionalities that were added to the chatbot were links, lists, name variables to make it feel more personal, chatbots intended usage, and an easy way to bring the list of interests back up to look for other jobs. The links provide a lot more information on a separate webpage to give students more information. Lists were used for interests, so a bunch of questions were not needed to be asked, reducing the bulk of the code. The name of the user was saved and repeated to make the bot feel more personable. If a user was not looking for a career in computer science, the chatbot lets them know that the intended usage of the bot is to find computing careers. When given a job description, additional dialogue is presented to end the conversation or bring up the interests list again. This saves the user a lot of time by going back to the list and not having to start from the beginning.

**E. Create an installation manual for the chatbot that includes the web link to access the live chatbot in the Pandorabot platform.**

1. Download the zip file provided named computingcareerchatbot.zip
2. Go to www.pandorabots.com and sign up for an account
3. Create a new bot by clicking the + sign next to “MY BOTS”
4. Go into code editor
5. Click File then Upload

Alternatively, you can go to www.pandorabots.com and sign up for an account. Go into the directory and search “computing career chatbot.” A list of bots will appear. Search for the bot with the description “Chatbot that helps students find a career.” Select the bot, then click the yellow symbol in the bottom right and begin to chat.

**F. Assess the strengths and weaknesses of the chatbot development environment and explain how they supported or impeded the construction of the chatbot.**

Strengths of the chatbot development environment include easy navigation, simple language deployment, instant interaction, and it was free. Pandorabots is easy to navigate, so a brand-new user is able to find their way through the environment. It allows new users to seamlessly create a bot. The language used was AIML, which was very simple to use. The tutorial page on the website goes into great detail on how to use the language. This made it easy to learn quickly and get started on the bot. Once the code was written and saved, you could instantly test the chatbot without leaving the screen. This made it super easy to test out different parts of the bot and edit them on the fly. Pandorabots is also free, which makes it accessible to all users who sign up for an account and have internet access.

Weaknesses of the environment include paying for more features, limits of AIML language, and the need for internet access. Pandorabots has many great free features but there is a limit to what can be free. It is still a business so you might need to upgrade your account to have more features. AIML language is very easy to learn and deploy but it still has its limitations compared to other languages. This made it a bit difficult to code exactly what I wanted to do, but I found a way to solve the problem in a simple manner. Pandorabots also needs internet access. My internet connection went down twice over the past few days and I did not have any way to access my bot. I could have downloaded the code but I had not done that because I assumed I would have a connection.

**G. Explain how the chatbot will be monitored and maintained to improve the final user experience.**

The chatbot will be monitored by using the dashboard of the pandorabots website. There is a section to view interactions, clients, sessions, and interactions/sections. This will give useful information on how many students are using the bot and if they are getting what they need from the bot. We will also send a survey to students to ensure that the deployment of the bot is working as intended. As of now, we only have 5 jobs. We will add more questions, interests, and jobs once the testing phase is complete. We want to be able to cover as many careers as possible so our students will find the right one. As time goes on, more jobs will be created. There will be a section on the survey about if they found the job they think they want and if the user interface is easy to navigate. We will use the information from pandorabots and surveys from students to continually maintain and improve the bot.

**H. Provide a Panopto video recording that includes a verbal summary of the capabilities of your chatbot and an example of human interaction with the chatbot in which it provides meaningful career advice.**

https://wgu.hosted.panopto.com/Panopto/Pages/Viewer.aspx?id=1c03076c-89f7-4381-821f-af2501372fa9

**Note: For instructions on how to access and use Panopto, use the "Panopto How-To Videos" web link provided below. To access Panopto's website, navigate to the web link titled "Panopto Access", and then choose to log in using the “WGU” option. If prompted, log in using your WGU student portal credentials, and then it will forward you to Panopto’s website.**

**To submit your recording, upload it to the Panopto drop box titled “INTRODUCTION TO ARTIFICIAL INTELLIGENCE – NIP2 Task 2 | C951.” Once the recording has been uploaded and processed in Panopto's system, retrieve the URL of the recording from Panopto and copy and paste it into the Links option. Upload the remaining task requirements using the Attachments option.**

**I. Acknowledge sources, using in-text citations and references, for content that is quoted, paraphrased, or summarized.**

Links that are used in the chatbot to external websites:

Flavin, Patrick. “What Is a Database Administrator? Exploring This Data-Driven Career.” *What Is a Database Administrator? The Data-Driven Problem Solvers Nearly Every Business Needs | Rasmussen University*, 21 Mar. 2022, https://www.rasmussen.edu/degrees/technology/blog/what-is-database-administrator/.

Malvik, Callie. “Everything You Need to Know about Becoming a Web Developer.” *Rasmussen University*, 16 Sept. 2019, https://www.rasmussen.edu/degrees/technology/blog/everything-about-becoming-web-developer/.

“Computer Hardware Engineers : Occupational Outlook Handbook.” *U.S. Bureau of Labor Statistics*, U.S. Bureau of Labor Statistics, 8 Sept. 2022, https://www.bls.gov/ooh/architecture-and-engineering/computer-hardware-engineers.htm.

Kourmentza, Eleni. “Software Engineer Job Description.” *Recruiting Resources: How to Recruit and Hire Better*, 1 Feb. 2022, <https://resources.workable.com/software-engineer-job-description>.

“Network Administrator Job Description.” *Betterteam*, https://www.betterteam.com/network-administrator-job-description.

**J. Demonstrate professional communication in the content and presentation of your submission.**