Conference Paper Title*

*Note: Sub-titles are not captured for https://ieeexplore.ieee.org and should not be used

1st Danyal Mirza
dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID

2nd Given Name Surname
dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID

3rd Given Name Surname
dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID

4th Given Name Surname
dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID

5th Given Name Surname
dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID

6th Given Name Surname
dept. name of organization (of Aff.)
name of organization (of Aff.)
City, Country
email address or ORCID

***Abstract*—Linnea + Danyal**

***Index Terms*—component, formatting, style, styling, insert.**

I. Introduction

Linnea + Danyal

II. Methodology

Linnea + Danyal

A. Overall system design

Linnea + Danyal

B. User perception sub-system

Linnea + Danyal

C. Interaction sub-system

This section discusses the second subsystem of Bart the bartender. It goes over the high-level design and its implementation. Afterwards it evaluates the obtained results

1) Design: The interaction sub-system in this project consists of the virtual furhat, Gemini and a connection to the video server. Furhat is used as the interface between the system and the user and Gemini is used to generate a response to the input of the user. The response is based on what the user says and what emotion is detected in the face of the user. This response is then send to Furhat so that it can give a reply to the user. This process gets repeated until the right drink is found for the user.

2) Implementation: The interaction sub-system mostly resides in a file called *client_receive.py*. This file first sets up the connection to the video server and after that it constantly listens for messages from the server. In our case, messages from the server contain information about the faces in the frame. This includes emotion and postion of the face. While *client_receive.py* listens to messages from the server, it also listening for input of the user. If the user is done with talking, their message is combined with emotion from the latest message from the video server. This prompt is then given to Gemini, which creates a fitting response. We chose Gemini for this project because it is free to use with a Google account and it has a rate limit that we will most likely not reach. To make sure Gemini generates a fitting response, it is given a system instruction that precisely describes its role as a bartender. The response that is generated by Gemini is then forwarded to furhat so it can reply to the input of the user. After this is done, furhat starts listening to the user again and this process is repeated. Once Bart finds a fitting cocktail it says 'Here you go' and afterwards listens to input from a new user.

3) Result: In the project proposal, we described several objectives that we expect our bartender to fullfill. We can test our product by confirming it adheres to the set objectives.

One of the objectives is that our product gives recommendations to the user, based on the user's emotional state. We add the mood of the user to the prompt that we send to Gemini. Because of this, Gemini will take both the emotion of the user as well as the user's speech into account when generating a response.

Another objective is that Bart should take the user's preferences into account. We achieve this by letting Gemini generate questions that explores the needs and preferences of the user. Gemini incorporates current and previous answers of this user into the recommendation.

The last objective is that the conversation with the system should be pleasant. This is a more subjective goal, but we try to make the conversation as pleasant as possible by continuously adjusting the prompts given to Gemini. By doing this, we hope to make the conversation as pleasant as possible.

III. General Discussion

Adria

A. Overall Pipeline

Adria

B. Challenges

Adria

C. Use of ChatGPT and other tools

Adria

D. Ethical Issues

Adria

Conclusion

Adria

References

[1] G. Eason, B. Noble, and I. N. Sneddon, "On certain integrals of Lipschitz-Hankel type involving products of Bessel functions," Phil. Trans. Roy. Soc. London, vol. A247, pp. 529–551, April 1955.