AI Chatbot for Fashion Assistance Using Gradio

Project 2 Part 1
SEG3125

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Group 18
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Chosen Assistance Criteria of AI Chatbots

I designed the chatbot to assist with fashion for various occasions. It aims to help people with limited knowledge about clothing choose appropriate attire for specific events.

Inspirational AI Chatbots/Tools for Your Design

I, for one, am not particularly knowledgeable about clothing or dressing myself; therefore, I took it upon myself to create a chatbot that could help my unfashionable self dress better for any occasion.

**Chatbot Persona and User Need**

Name: Ben
Age: 30
Occupation: Data Scientist

Ben is a 30-year-old French Canadian data scientist with a passion for uncovering patterns in complex datasets. He enjoys solving real-world problems using machine learning and automation. Outside of work, he stays active through running and strength training, always looking for ways to optimize both his fitness and his code.

User Need:
The user wants assistance choosing an outfit from their closet to wear to their upcoming middle school reunion.

Storyboard
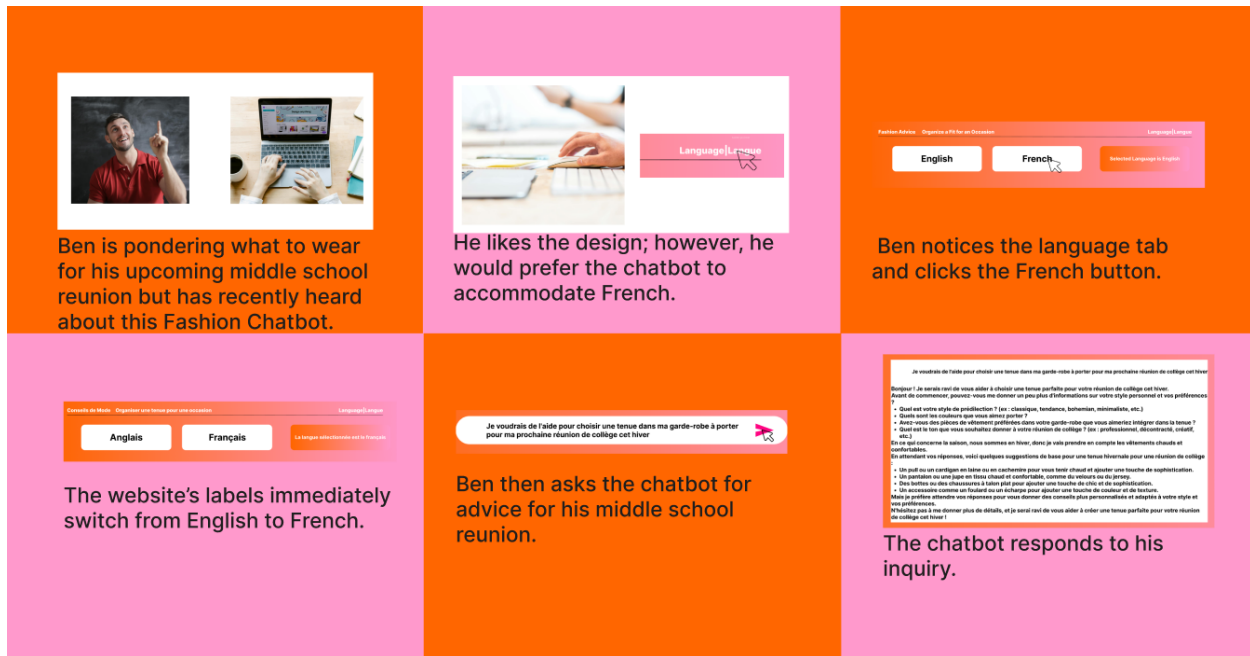
Gradio Framework and Chatbot Development Background

I had zero knowledge in Gradio and Chatbot development.

High-Fidelity Prototype Link

Link to Prototype: https://huggingface.co/spaces/MCTnyaaa/FashionAssistant

Prototype Features: English and French language support, and a more organizable section when seeking fashion advice.

Heuristic Evaluation
To Group 19:
- Engagement and Personalization
  Issues: No issues.
  Recommendation: An expandable or bigger chat output for better user experience. The

chatbot lists down its answer but it is difficult to scroll up and down all the time to see its answers. Also, enlarge everything if possible. It is somewhat difficult to read if someone has poor vision.

- Clarity and Understanding
  Issues: None, it is easy to navigate and the title says it all. In addition, there are recommended examples below to start with.
  Recommendation: None, simplicity is the key. Adding more could disrupt the clarity of this chatbot.
- Efficiency and Task Completion
  Issues: None, the chatbot answers my questions properly.
  Recommendation: None.
- Error Handling and Recovery
  Issues: No issues. I tried typing gibberish and in different language, but there were no errors.
  Recommendation: None.
- User Control and Flexibility
  Issues: No issues. I like the refresh chat button.
  Recommendation: A setting or button to accommodate other languages would be great. Furthermore, add a warning before refreshing. Some may accidentally click the refresh button and delete the whole chat conversation.

To Group 20:
- Engagement and Personalization
  Issues: It is not engaging and a mess.
  Recommendation: Do not put everything in one page or section and create another section. Moreover, make you UI more engaging.
- Clarity and Understanding
  Issues: It is hard to navigate on this chatbot. The six input text below, the clear button, and missing submit button are problems.
  Recommendation: Label the elements properly and help the user navigate on your chatbot by introducing it. I like the the "quick topics" part.
- Efficiency and Task Completion
  Issues: It is not yet functionable.
  Recommendation: Fix the chatbot to respond to the user's question.
- Error Handling and Recovery
  Issues: The errors are not handled properly.
  Recommendation: Respond to the user when an error occurs. Specify the error and make it readable, not just put an error.
- User Control and Flexibility
  Issues: You mentioned that there is a French and English option but I do not see it.
  Recommendation: Implement your French and English settings.

From Group 16:

- Engagement and Personalization
  Issues: We like how most of the text on the screen changes to French or English when the language is clicked. Some of the text, including the titles of each section, don't change language when the rest of the text does.
  Recommendation: Incorporate what you did for other text for these titles to make them change on language toggle
- Clarity and Understanding
  Issues: For the most part, the chat bot is pretty clear. However, reading the text of the chatbot is hard to follow as the text is centred. Because the text is shown from the left side of the screen, having the text in the middle causes confusion off first glance as it breaks from traditional chatbot positioning with is left aligned (also whenever the bot uses bullet points, that's left aligned which makes the layout even messier). The 'Organize a Fit for an Occasion' is quite confusing. From a design perspective, the title and the section that generates the outfit have no visual difference from the titles asking for user input. There also isn't any placeholder text or subtitles to indicate what the feature is meant to do. It takes clothing inputed and makes combinations, but also suggests additional clothing not mentioned to add on.
  Recommendation: Left align text for chat bot. Make general title distinct from input titles. Add clarification for what users should input and what the feature does
- Efficiency and Task Completion
  Issues: It might just be us when we tested the bot but messages take a bit to generate responses. Starting questions and follow ups take 16s - 20s per response, even for simple questions. It also sometimes doesn't generate a response and creates an error with too many end-point requests. For the language toggle, that is well done. But we would've liked it on the same screen as the chatbot and not needing to check a new screen for it.
  Recommendation: Delete previous conversations from the bot's memory and add a dropdown or toggle for language on the chatbot screen instead.
- Error Handling and Recovery
  Issues: When using the chatbot in French, the prompt "Renseignez-vous sur la mode, les tendances ou les idées de tenues..." is set as a sendable message, and the chatbot hits a message limit after several prompts.
  Recommendation: clear/manage the prompt memory
- User Control and Flexibility
  Issues: Follow-ups cannot be made when generating an outfit, and it's unclear how each component is used in the process, as some fields are occasionally ignored without explanation.
  Recommendation: Give a short description of each field and add a follow up question bar

From Group 17:
- Engagement and Personalization
  Issues: The chatbot's tab navigation lacks clarity, making it difficult for users to identify

which page they are on. The first page feels unengaging, which may negatively impact user interest. Additionally, the chatbot's initial prompts feel robotic, making interactions seem impersonal and one-sided.

Recommendation: To improve engagement, the orange font for the selected tab should be removed, and a clearer visual indicator, such as an underline or subtle background highlight, should be used instead. Personalization can be enhanced by introducing a sidebar or onboarding sequence that asks users about their style preferences, gender identity, and fashion needs before they interact with the chatbot. This would create a more tailored experience and reduce the need for users to provide the same information repeatedly. Lastly, the chatbot's tonality and response style should be adjusted to feel more natural and conversational, encouraging a more dynamic and engaging interaction rather than a static AI response.

- Clarity and Understanding
Issues: When loading the chatbot, users must first enter a greeting such as "hello" or "hi" to trigger the initial prompt, which then asks about the type of function they need an outfit for. However, this approach lacks clarity and may confuse new users who enter a different type of prompt, leading the chatbot to respond in an unintended direction.

Recommendation: To improve clarity and user understanding, we suggest implementing a sidebar or onboarding form that gathers initial details—such as the type of function they are dressing for—before they interact with the chatbot. This would ensure that the chatbot starts the conversation with relevant context, reducing miscommunication and making the user experience smoother and more intuitive. Additionally, pre-loading this information would streamline the interaction, allowing users to engage more effectively without unnecessary back-and-forth clarifications.

- Efficiency and Task Completion
Issues: The chatbot is designed to provide fashion advice and outfit recommendations, but users must answer a long series of questions in detail before receiving accurate suggestions. This process can feel time-consuming and inefficient, potentially discouraging engagement.

Recommendation: To improve efficiency, implement quick actions that allow users to input key details about themselves upfront, enabling the chatbot to generate more personalized outfit recommendations without requiring extensive back-and-forth conversation. Additionally, integrating clickable example questions or predefined response options would streamline the interaction, making it easier and faster for users to receive tailored fashion advice. These enhancements would elevate the chatbot's functionality, creating a more seamless and enjoyable user experience.

- Error Handling and Recovery
Issues: The chatbot accurately responds to fashion-related questions, but users can easily steer it off-topic by asking unrelated queries. This can detract from its primary purpose and lead to irrelevant interactions.

Recommendation: To maintain focus, adjust the system prompt to enforce stricter topic boundaries, ensuring the chatbot remains centered on fashion-related discussions. Implement gentle redirection mechanisms, where the chatbot acknowledges off-topic queries but steers users back to relevant fashion topics (e.g., "I'm here to help with

fashion advice! What outfit are you looking for today?"). Additionally, incorporating predefined fashion categories or quick-access buttons can encourage structured interactions while minimizing off-topic diversions.

- User Control and Flexibility
  Issues: The chatbot provides helpful fashion advice but lacks predefined options for users to specify key factors like age, preferred style, occasion, or budget outside of the chat input. Currently, users must type out all their preferences manually, which can feel repetitive and inefficient. Additionally, there is no option to adjust recommendations mid-conversation, forcing users to restart if they want to explore different outfit choices. This lack of flexibility limits personalization and can make the chatbot experience frustrating. Recommendation: To improve user control and flexibility, add a sidebar or input fields on the main page where users can select their age, preferred style, occasion, and budget before interacting with the chatbot. This would allow for more tailored recommendations without requiring users to re-enter the same information repeatedly. Additionally, implementing a "Back" or "Edit" button would enable users to modify their choices without restarting the conversation. These improvements would make the chatbot more intuitive, efficient, and user-friendly.

Final Refinement and Changes

I put the language selection on the main page as suggested. I also enhanced the chatbot's effectiveness and made the "Organize a Fit For an Occasion" only suggest styles strictly based on what inputs were given. The chatbot is properly working with no errors now.

There were suggestions on adding more functionalities, but I focused on a functioning chatbot and making it simple. Simplicity is better for navigation and to avoid confusion. Furthermore, I could not dynamically change the tab labels. I was searching for a solution for it, but I could not find an answer.

Design Justification

I used two bright gradient colors for creativity and positivity.
I added a French and English language selection to accommodate two languages for accessibility.
The design is bright, but I kept the overall placement as simple and centered for easy navigation.

Conclusion

I was able to gain practical experience creating a chatbot using Gradio, hosted on Hugging Face Spaces in the entirety of the project. There were many challenges, mainly using Gradio,

but I was able to produce a functioning chatbot. The heuristic evaluation helped me enhance my final project and understand the hindsight from a lone developer's perspective. Overall, it was a great experience to learn how to create a simple chatbot.

References

1. Gradio Quick Start Guide: https://www.gradio.app/docs
2. Hugging Face Spaces Documentation: https://huggingface.co/docs/spaces
3. Figma Design Prototyping Tool: https://www.figma.com