

Beyond Conversation: Graphical Interfaces for Conversational Web Browsing

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As conversational interfaces are increasingly used for web browsing, the graphical interface of LLM chatbots becomes more than a representation of a conversation. Other than traditional chatbots, they provide several menus and interaction elements for managing, exploring and verifying the generated content. In this position paper, we argue that conversational web browsing must be supported by a well-designed graphical interface.

CCS Concepts: • **Human-centered computing** → **User interface design**; **Natural language interfaces**; **Graphical user interfaces**.

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1 Introduction

Conversational user interfaces (CUIs) can take many forms. While some CUIs rely on voice interactions, others include animated characters or use written text as the interaction mode like chatbots [4]. Based on Moore and Arar, a chatbot is a CUI with a focus on visual interactions with a graphical interface [5]. While the use of chatbots was already rising since 2016 [1], their use skyrocketed when Large Language Models (LLMs) were introduced. A survey in 2025 shows that 50 % of consumers use AI-powered search [3], either via LLM chatbots or directly in the search results from Google. Instead of the traditional browsing of the web, conversational web browsing [7] will become more established. In future, internet users will not interact with different websites, but rather use one interface for most of their tasks. LLM chatbot interfaces have already evolved and became more advanced. This is visible in the higher use of graphical elements than in traditional chatbots. It is necessary to see the graphical interface of LLM chatbots not only as a representation for the conversation itself, but as an integral part of both navigating and representing web browsing.

2 LLM Chatbot Interfaces

As a basis for this claim, we need to discuss the LLM chatbot interface itself. We are currently analyzing desktop web interfaces LLM chatbots on their use of interface elements and present some preliminary results for this discussion. While some of the found elements can be found in

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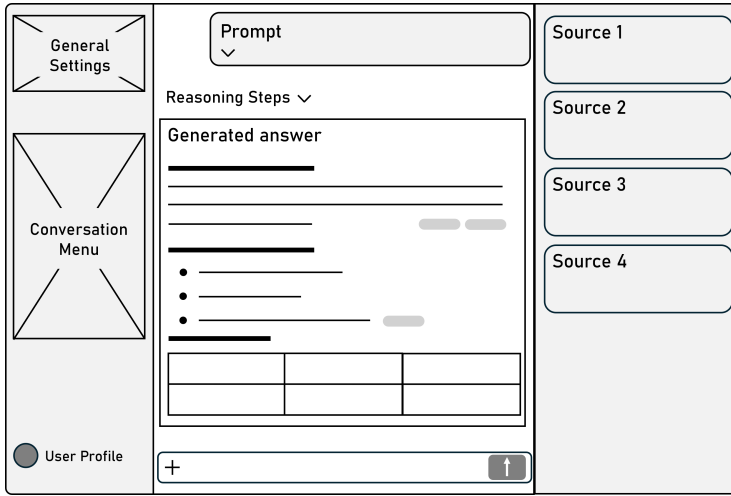


Fig. 1. A wireframe design of typical interface elements in an LLM chatbot.

traditional chatbots [9, 10], other interface elements are rather connected with GUIs [6, 8]. The LLM chatbot interface uses a Split View [8], where it is divided into different areas as can be seen in Fig. 1. The *Drawer Menu* [6] on the left side provides access to some general settings, and the organization of conversations. Here, the user can access, share, delete or continue previous conversations and manage their user profile. The *Content Area* is a scroll-able area which takes center stage in the interface (see [8]) and is the conversational interface of the LLM chatbot. The area includes prompts and answers, as well as several interaction menus for controlling the generation of answers, copying or editing answers and prompts, sharing them, or providing insights into sources. The content includes text in titled sections [8], but also tables, ordered or unordered lists, cards and carousels [8, 9], code, generated files or multi-media content. The *Side Sheet* [6] is an optional area, where a panel appears on the right side to provide for example an overview of sources.

3 Discussion of Emerging Trends

Although the analysis is still preliminary, some trends are already emerging. It is for example possible to edit the initial prompts, and sometimes even the answers of the LLM chatbots. This leads to a divergence from traditional chatbot interfaces, where the conversation is linear. Some chatbots only offer to reload the complete conversation in case of a conversational breakdown [10]. While GUIs can have several different menus at the same time [6, 8], chatbots either have a persistent menu in the header or footer or a call-on menu which the bot sends as a message or quick replies on request by the user [9]. LLM chatbots on the other hand have menus for organizing and interacting with the history of conversations, the prompts, the generated answers, the current conversation, the model settings, and the user profile. These menus are usually situated beneath or beside the element they are aimed at and sometimes only appear on hovering or clicking. Some additional interface elements are caused by the need for Explainability. As users need to be able to double-check the generated answers, LLM chatbots include information on their reasoning steps and their sources. After generating the answer, the reasoning steps are hidden in a collapsible menu between prompt and answer. The sources are provided at the end of a text section as clickable inline citations, which can be enhanced to cards and can be shown as an overview in the Side Sheet.

4 Conclusion

Chatbots evolved from textual input and output to including more graphical interfaces [4], which were over time influenced by chat messengers and user expectations of their functions. The first LLMs were again similar to early chatbots, but the more advanced the models became, the more graphical elements were added to their interfaces. Instead of providing an interface only for the exchange of messages, LLM chatbots nowadays also need to offer options for interacting, organizing, and verifying whole conversations and newly generated content. Interacting with an LLM can feel rather similar to interacting with a GUI - with the difference that the interaction takes mostly place via text or audio commands instead of clicking. LLM chatbots are currently one of the main source to browse in the web [3] and will play a major role in conversational web browsing. Despite the use of graphical interface elements, this interaction is still conversational, but Google recently published their vision for the future where AI agents create whole graphical interfaces as search results [2]. To keep up with these developments, it is necessary to develop the graphical interface of LLM chatbots accordingly to their tasks, especially in browsing the web and presenting the gathered information. Instead of looking at it as a purely conversational interface, it should be seen as a hybrid version between CUI and GUI. When the information space of the web is no longer distributed on different websites, the LLM chatbot interface has to represent this complexity.

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