

Supplementary Material S3: Custom LLM-Based Chatbot Documentation Template

For documenting the final configuration of chatbots used in psychological research

Associated tutorial:

Hu, M., Lau, G. R., Goh, A. Y. H., Cox, S. R., Tay, L., & Hartanto, A. (2026). *Using Customisable GPT Chatbots in Psychology Research: A Practical Tutorial*. PsyArXiv. https://doi.org/10.31234/osf.io/kf96p_v1

Purpose. This documentation template aims to support transparent and reproducible reporting of the final chatbot configuration deployed in a research study. Complete a separate copy for each chatbot configuration used in the study.

How to use the Documentation Template. Each field includes a short explanation. Complete all applicable fields. If a field does not apply or information is unavailable, enter “Not applicable,” “Not used,” “Provider-controlled/not accessible,” or “Unknown.” Where relevant, link supporting materials. Do not include credentials, participant identifiers, or confidential information.

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1. Study Overview

Section	Field	Researcher Documentation
Study Overview	Study title	<i>Provide the full title of the study</i>
	Study aim	<i>Briefly describe the research question or hypothesis</i>
Chatbot Information	Chatbot name	<i>Provide the name of the chatbot used in the study, if applicable</i>
	Chatbot role	<i>Describe the chatbot's role in the research procedure, such as confederate, interviewer, survey administrator, or assessment tool.</i>
	Function of chatbot	<i>Explain what the chatbot was designed to do in the study, such as the tasks it performed and the type of interaction it had with participants.</i>
	Chatbot development	<i>Specify how the chatbot was created, such as the platform used, model provider, and the customisation method adopted.</i>
	Repository materials	<i>Provide a link or reference to the chatbot materials, prompts, scripts, code, conversation flows, or other documentation needed to reproduce the chatbot.</i>
Study Design	Study design	<i>Describe the overall research design, such as between-subjects experiment, within-subjects experiment, mixed design, or correlational study.</i> <i>Report the period and duration of data collection involving the chatbot (e.g., Jan 2026 – Aug 2026).</i>
	Experimental condition(s) using the chatbot	<i>If the study is experimental, list and describe all conditions in which participants interacted with the chatbot.</i>
	Comparison/control condition(s)	<i>Describe any non-chatbot, human, placebo, baseline, or alternative chatbot conditions used for comparison.</i>
Participants	Participant population	<i>Describe the target sample, inclusion criteria, and exclusion criteria</i>
	Participant assignment	<i>If applicable, explain how participants were assigned to conditions, such as random assignment or self-selection.</i>

Transparency and Ethics	Disclosure status	<i>State whether participants were informed that they were interacting with an AI chatbot. If disclosure was delayed or withheld, explain why and describe the debriefing procedure.</i>
	Ethics approval	<i>Provide the name of the ethics board or institutional review board, approval number, and any relevant ethical considerations, if applicable.</i>
	Data and privacy	<i>Describe what data were collected through the chatbot, how they were stored, who had access, and whether conversations contained identifiable or sensitive information.</i>

Note. The italicised text in the ‘Researcher Documentation’ column provides guidance and should be replaced with study-specific information when completing the template.

2. Chatbot Overview

2.1 Complete System Prompt

Researchers should provide the complete system prompt used to configure the chatbot. If multiple chatbots were used in the study, researchers should provide the full system prompt for each chatbot and clearly indicate which system prompt corresponds to which chatbot.

2.2 System Prompt Annotations

Researchers should annotate the system prompt by breaking it into meaningful components and explaining the purpose of each part. This may help readers understand how the chatbot was instructed to behave and supports transparency and reproducibility.

Prompt Component	Purpose	Researcher Documentation
Role of chatbot	To clarify what the chatbot was meant to do within the study design, such as administering a task, delivering an intervention, conducting an interview, or acting as an experimental confederate.	<i>Include the exact wording used to define the chatbot's role in the interaction.</i>
Persona, if applicable	To note the interpersonal characteristics the chatbot was instructed to convey and how these characteristics may have shaped participants' perceptions and responses.	<i>Include the exact wording used to describe the chatbot's personality or character.</i>
Interaction style	To document how the chatbot was instructed to communicate, including features such as formality, empathy, directness, or neutrality.	<i>Include the exact wording used to guide the chatbot's communication style (i.e., how the chatbot communicates)</i>
Positive instructions	To clarify the behaviours, conversational strategies, and actions the chatbot was explicitly instructed to perform.	<i>Include the exact wording describing what the chatbot should do.</i>
Negative instructions	To identify prohibited behaviours and clarify the boundaries placed on the chatbot's responses.	<i>Include the exact wording describing what the chatbot should not do.</i>

Conversation structure or task stages	To show how the interaction was intended to progress and the conversational structure that the chatbot is meant to adhere to.	<i>Include the exact wording specifying the sequence of conversational stages, questions, tasks, or decision rules the chatbot should follow.</i>
Safeguards	To document the safeguards used to reduce participant risk, such as referral to human support.	<i>Include the exact wording used to guide the chatbot's response to sensitive, risky, or distress-related participant input.</i>
Response constraints	To clarify how the chatbot's outputs were standardised or restricted across participants and interactions.	<i>Include the exact wording used to limit the chatbot's response format, length, structure, or content (i.e., specify formal limits on what outputs it can produce)</i>
Study purpose concealment instructions, if applicable	To note any instructions related to the preservation of an experimental manipulation.	<i>Include the exact wording related to whether the chatbot should disclose, withhold, or avoid revealing the study's purpose, hypotheses, experimental manipulation, or condition assignment.</i>
Exit strategy	To document how the chatbot was instructed to bring the interaction to an appropriate and safe conclusion.	<i>Include the exact wording used to end the chatbot interaction or redirect participants when needed.</i>

Note. This list is illustrative. Researchers should also include any additional components of the system prompt that are important for understanding, evaluating, or reproducing the chatbot's behaviour. The italicised text in the 'Researcher Documentation' column provides guidance and should be replaced with study-specific information when completing the template.

2.3 Technical Implementation Details

Researchers should report the technical configuration used to implement and deploy the chatbot. This information is crucial as the same system prompt may produce different outputs under different technical configurations. Where a setting was not applicable, unavailable, or managed automatically by the provider, researchers should state this explicitly.

Component	Researcher Documentation
Model provider	<i>State the organisation or provider responsible for the language model used to power the chatbot, such as OpenAI, Anthropic, Google, Meta, or Mistral AI. For locally hosted models, also state where the model was obtained.</i>
Model name	<i>State the name and, where available, the version of the language model used to power the chatbot.</i>
API endpoint	<i>State the API endpoint used to communicate with the model. For example, indicate whether the implementation used a Responses API, Chat Completions API, provider-specific endpoint, or a locally hosted inference server.</i>
Temperature	<i>State the temperature value used to control response variability.</i>
Top-p	<i>State the top-p value used to control the range of possible responses generated by the chatbot.</i>
Random seed	<i>State the random seed used, where supported. If no seed was specified or the provider did not support seed control, report this explicitly.</i>
Maximum output tokens	<i>State the maximum number of tokens the chatbot was permitted to generate in a single response.</i>
Context window	<i>State the maximum amount of text the model could process in one request, including the system prompt and conversation history.</i>
Conversation-history handling	<i>Describe which previous messages or other contextual information were included in each model request, including any limits, truncation, or summarisation procedures.</i>
Conversation logging	<i>Describe what interaction data were recorded, such as participant messages and chatbot responses. Note how participant privacy is protected, such as de-identification, restricted access, or secure storage.</i>
Deployment platform	<i>State the platform or infrastructure through which the chatbot was made available, such as a commercial chatbot builder, survey platform, messaging application, or institutional server.</i>

Backend environment	<i>Describe the server-side or local environment used to run the chatbot. Include relevant programming languages, software frameworks, libraries, package versions, hosting services, operating systems, or local-model interfaces where applicable.</i>
Date of deployment	<i>State the date or data-collection period during which the chatbot was deployed. This is particularly important when the model or platform may have been updated during or after the study.</i>
Code and configuration availability	<i>Provide a link to the source code and deployment instructions needed to reproduce the implementation. Before sharing, remove confidential or sensitive information, such as API keys, access credentials, private server details, participant data.</i>

Note. This list is illustrative. Researchers should also report any additional technical configurations that were important to the chatbot’s development, behaviour, or deployment. The italicised text in the ‘Researcher Documentation’ column provides guidance and should be replaced with study-specific information when completing the template.

2.4 Knowledge Sources, Tools, and Memory

Researchers may report any external information, capabilities, or retained conversation data that could affect chatbot outputs. State explicitly when a feature was not used.

Field	Researcher Documentation
Knowledge sources	<i>List uploaded files, databases, webpages, and other sources, including their dates, versions, and availability.</i>
Retrieval configuration	<i>If the chatbot retrieved information from external sources, describe how relevant information was selected and provided to the model, including any available retrieval settings.</i>
Tools and external integrations	<i>List enabled tools or services, such as web access, code execution, databases, or external functions, and describe permitted actions.</i>
Conversation history and memory	<i>Describe what information was retained within a session and whether any information persisted across sessions.</i>

Note. The italicised text in the ‘Researcher Documentation’ column provides guidance and should be replaced with study-specific information when completing the template.

3. Conversational Flow

3.1 Planned Conversational Flow

Researchers should provide an overview of how the chatbot interaction was intended to progress from beginning to end. This may include key stages of the conversation, what the chatbot should do at each stage, and how it should move between each stage. If the chatbot followed different flows across experimental conditions, each flow should be documented separately.

Conversational Flow Documentation Template

Conversational stage	Purpose	Intended chatbot behaviour	Progression or branching rule
<i>State the stage of the conversation</i>	<i>State the purpose of the conversational stage</i>	<i>State the intended behaviour</i>	<i>Include rule, if applicable</i>

Illustrative Example of a Planned Conversational Flow

Conversational stage	Purpose	Intended chatbot behaviour	Progression or branching rule
Opening	<i>Introduce the chatbot and establish readiness</i>	<i>Introduce its role and ask whether the participant is comfortable proceeding</i>	<i>Continue if the participant agrees</i>
Task introduction	<i>Explain the activity</i>	<i>Describe the task, expected duration, and initial question</i>	<i>Proceed once an initial topic is provided</i>
...	...	...	...
Conclusion	<i>Bring the interaction to a close</i>	<i>Summarise the participant's responses, thank them, and provide any final instructions</i>	<i>End the interaction once the task is complete or the participant indicates that they are ready to finish</i>

3.2 Representative Participant-Chatbot Exchange

Researchers may include one or more representative end-to-end conversations to demonstrate how the chatbot interaction was intended to unfold in practice. These examples may be drawn from interactions generated during chatbot development or testing, thereby allowing researchers to demonstrate the chatbot's behaviour without relying on participant-derived conversations that may raise privacy or confidentiality concerns. Each example should identify the chatbot and its role in the study's design. If there is more than one chatbot being used in the study, separate examples should be provided and clearly labelled.

End-to-End Interaction Documentation Template

Turn	Speaker	Conversational stage	Illustrative message
1	Chatbot	Opening	<i>Insert representative chatbot opening message</i>
2	Participant	Opening	<i>Include representative participant response</i>
3	Chatbot	Task introduction	<i>Include representative task explanation and opening question</i>
4	Participant	Task engagement	<i>Include representative participant response</i>
...	...	...	...
Final	Chatbot	Conclusion	<i>Include representative closing response</i>