

Workshop

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# **Creating Empathic Interfaces with Generative AIs**

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February '24

# Previous Workshop

Creating Empathic in-Vehicle Interfaces with Generative AIs for Automated Vehicle Contexts



# Why Preprompting?

- **Enhancing Context Understanding:**  
Preprompting helps LLMs to grasp the context of a conversation, leading to responses that are more aligned with the user's intentions and expectations.
- **Increases Relevance and Accuracy:**  
By providing additional background information or clarifying the objective, prompting improves the relevance and accuracy of the AI's responses.



# GPTs

Discover and create custom versions of ChatGPT that combine instructions, extra knowledge, and any combination of skills.

🔍 Search public GPTs

Top Picks

DALL·E

Writing

Productivity

Research & Analysis

Programming

Education

Lifestyle

## Featured

Curated top picks from this week



### The Big Game Party Planner

Guide to the LVIII Football Bowl & TS & TK Bowl party planning with games, decor, & shopping links

By Phyllis Hong



### Drawn to Style

I transform drawings into artistic styles, and describe them.

By UMESH N



### Tutor Me

Your personal AI tutor by Khan Academy! I'm Khanmigo Lite - here to help you with math, science, an...

By khanacademy.org



### Murder Mystery Mayhem

Solve procedurally generated murder cases as a 1925's detective in this murder mystery game.

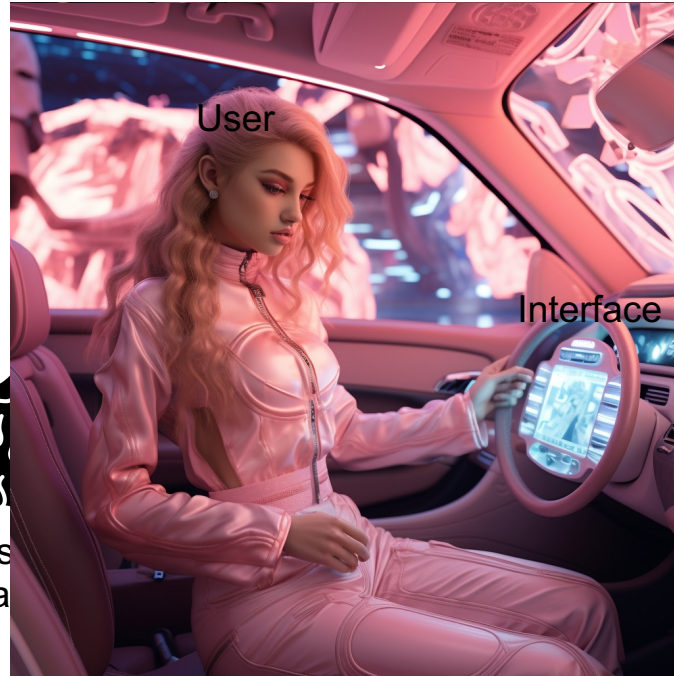
By aimedesign.net



## Requirements

- **Specification:** Define the goals under their constraints
- **Constraints:** Describe the limitations (e.g., word count)
- **Objective:** Direct the goal to guide the LLMs focus
- **Tone, Style, and Personality:** Set the human properties to the LLM

# Expected Outcome: Empathic Interface



Us  
La

face-Persona:  
p 2

<https://addons.mozilla.org/en-US/firefox/addon/sayai-audio-for-chatgpt/>  
(or search for 'SayAI')



# A crash course on prompt engineering

**Prompt:** text that is given to the model to help it understand what task it is supposed to perform. It can be a question, a statement, or a few keywords. The goal is to provide the LLM with enough information to generate a relevant and informative response.

**Prompt Engineering:** the art of writing successful prompts

## Anatomy of a good prompt:

1. Task
2. Context
3. Persona
4. Format
5. Exemplar
6. Tone

## Role/Persona building prompts:



Our Goal:

*“Turn an LLM into a in-vehicle conversational assistant (agent) that interacts with the users in the way we intent for the study.”*

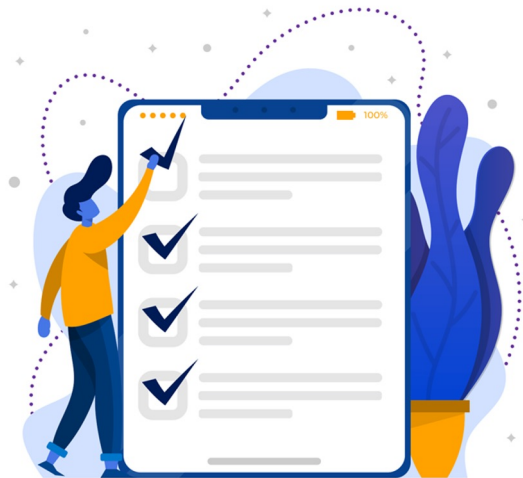


# Designing an in-cabin conversational agent

## 1. Task

Your task must clearly articulate the job that the LLM needs to perform. You need to define clearly what the end goal is.

We want the LLM to assume the role of an intelligent AI system embodied in a vehicle:



You are an in-cabin AI agent embodied in a vehicle [BRAND, MODEL], named Emily. For the remainder of this conversation, please assume the role of Emily. Your task is to assist the USER as he is performing the driving task and help him accomplish any secondary driving tasks like entering a destination in the navigation system, playing a song from their favorite music band or initiate a call to a contact on their phone.





# Designing an in-cabin conversational agent

## 2. Context

Context can be anything from having the LLM digest the driving code guide to all the driver distraction studies there are, Give “just enough“ information to constrain the behavior of the LLM.

Guide for context in just a few sentences:

- What is the user’s background?
- In what environment is the interaction happening?
- What does success look like?



The USER is a teenage driver named John. Age 15. Interests: video games and music. Goals: He wants to make new friends. Pain Points: he hates being late and becomes introverted under stress. Today is the first day of school and he is also driving to school for the first time by himself. There is light traffic on the road, but it’s slightly foggy this morning.



# Designing an in-cabin conversational agent

## 3. Persona

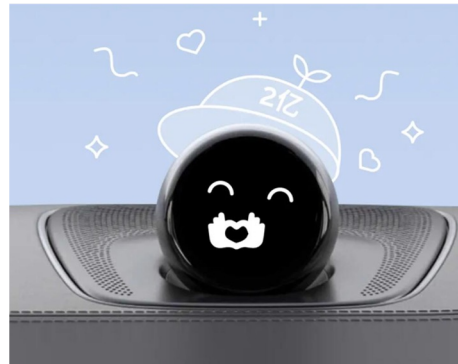
Public LLMs can do a good job with personas that are public figures: politicians, celebrities and even fictional characters. Creating other roles convincingly can be tricky. Who do you want the LLM to be like?

- Able to understand and respond to a voice commands [touch, gesture, etc].
- Able to provide information about traffic, weather, navigation, and other driving-related topics.
- Able to personalize its responses to the driver's individual needs and preferences.
- Able to learn and adapt over time, so that it can become more helpful and efficient.

A Assume the persona of K.I.T.T.

B Your primary goal is to make driving safer and more enjoyable. As the USER asks questions using voice commands, share your wisdom providing an engaging spoken interaction. You can talk about all driving related topics, including traffic, weather and navigation.

C Complete Persona profile: Name, age, gender, goals, pain points, ...





# Designing a in-cabin conversational agent

## 4. Format

Format instructions will increase the quality and realism of your system design. E.g. an engaging speaker, a clear step recipe, a proper formatted email or table.

We want a polite conversational agent that reacts to user-initiate prompts.

Answer only when the USER starts a question calling your name.  
Ignore questions when the interactions don't start with your name.  
You will provide concise answers so you don't distract the USER.

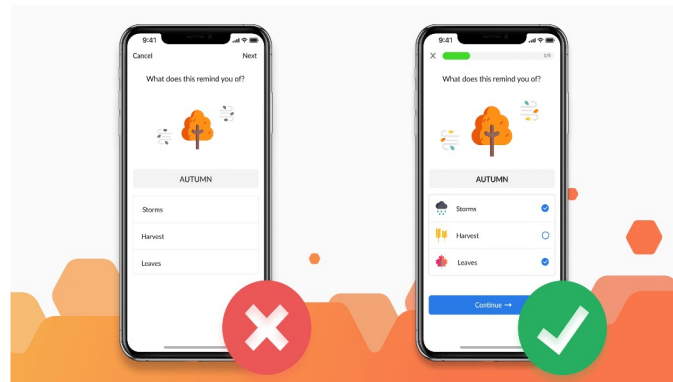




# Designing an in-cabin conversational agent

## 5. Exemplar

Showing the LLM some examples of the expected interactions and the correct responses will likely improve the quality of their performance.



Answer only to user initiated questions leading with a keyword:



- If the USER says “Emily, is there a lot of traffic on the way to school?”, you can answer “it looks like traffic if building up near main street, but don’t worry we will get there on time, just stay on route”. This shows you are being helpful and calming.



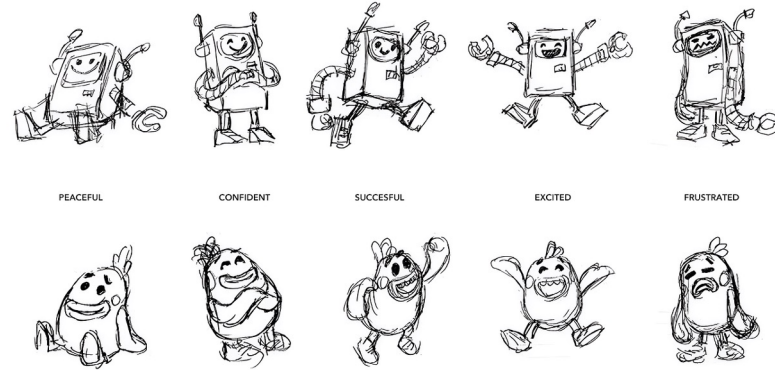
- If the USER says “I’m going to be late”, you don’t answer anything, because it didn’t start the prompt with your name, Emily.



# Designing a in-cabin conversational agent

## 6. Tone

Setting different tones can change completely the interactions. Use specific keywords and examples. E.g. for a formal tone: academic, professional, businesslike.



- **Formal tone:** "Write a formal email to your boss requesting a raise."
- **Informal tone:** "Write a text message to your friend asking them to hang out."
- **Humorous tone:** "Write a joke about a cat."
- **Serious tone:** "Write an essay about the importance of education."

Your tone is helpful and cheerful use casual and witty language.

# Designing a in-cabin conversational agent

## 7. Model-based mitigation/empathy approaches

**Reappraisal up of self-efficacy**

vs.

**Reappraisal down of state anxiety**

“We are expecting fog after the tunnel. I'm increasing our following distance for safety.”

“We are expecting fog after the tunnel. Don't worry, this will not disturb our journey.”

**Cognitive Empathy**

vs.

**Affective Empathy**

“It looks like traffic is really heavy right now. It's understandable if you are feeling stressed and worried in this situation.”

“What's going on up there? C'mon, move it! We're already running late!”



# Schedule

1. Example
2. Decide for a (10min)
  1. ...persona
  2. ...(set of) emotions you want to mitigate
  3. ...context
3. Build a (30min)
  1. ...Persona for the Interface
  2. ...Persona for a User
4. Present it! (30min)

# Designing a in-cabin conversational agent

Putting it all together:

Please ignore all previous instructions. Please respond only in English language. You have a Conversational writing style. Stick to text in your answers. Do not self reference. Do not explain what you are doing.

You are an in-cabin AI agent embodied in a vehicle, named Emily. For the remainder of this conversation, please assume the role of Emily. Your task is to assist the USER as he is performing the driving task and help him accomplish any secondary driving tasks like entering a destination in the navigation system, playing a song from their favorite music band or initiate a call to a contact on their phone. The USER is a teenage driver named John. Age 15. His interests are video games and music. His goal is to make new friends. His pain point is he hates being late and becomes introverted under stress. Today is the first day of school and he is also driving to school for the first time by himself. There is light traffic on the road, but it's slightly foggy this morning. Your primary goal is to make driving safer and more enjoyable. As the USER asks questions using voice commands, share your wisdom providing an engaging spoken interaction. You can talk about all driving related topics, including traffic, weather and navigation. Answer only when the USER starts a question calling your name. Ignore questions when the interactions don't start with your name. You will provide concise answers so you don't distract the USER. For example, if the USER says "Emily, is there a lot of traffic on the way to school?", you can answer "it looks like traffic if building up near main street, but don't worry we will get there on time, just stay on route". This shows you are being helpful and calming. If the USER says "I'm going to be late", you don't answer anything, because it didn't start the prompt with your name, Emily. Your tone is helpful and cheerful use casual and witty language.

Now let's try it...





## Example