

# Metaphor Hacking

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### Section 1 – Describe the Robot/AI

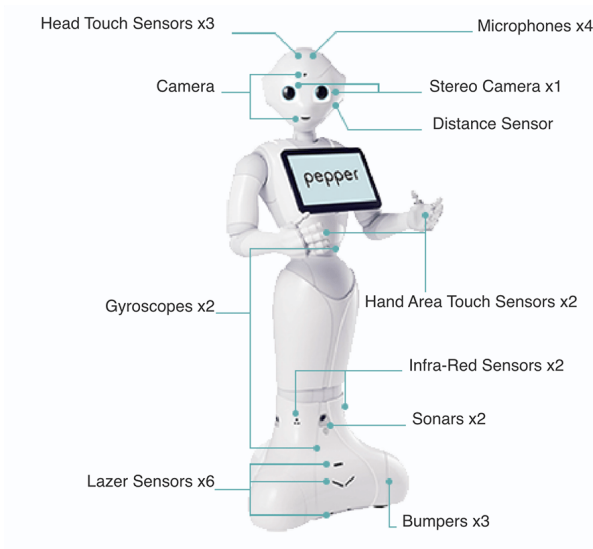
I chose **Pepper**, a humanoid robot developed by SoftBank Robotics.

- **Functional Description:**

Pepper is a humanoid robot designed primarily for interaction with people. Its main functions include engaging customers, providing information, making personalized recommendations, and assisting businesses in enhancing customer experiences. Pepper can handle repetitive tasks, allowing human employees to focus on more complex responsibilities [3].

- **Appearance:**

Pepper has a friendly and approachable design, standing approximately 4 feet tall. It features a tablet-like interface on its chest, which displays information and engages users. Its body is sleek and rounded, with a smooth white exterior that emphasizes its inviting nature. Pepper's face is equipped with expressive eyes and a screen that can display a range of emotions, making it relatable and engaging.



- **Behavior:**

Pepper is programmed to be outgoing and charming, greeting people as they enter a space and initiating conversations. It uses natural language processing to understand and respond to questions, providing helpful information about products and services. Pepper also learns from interactions, gathering data about customer preferences to personalize its responses. Its friendly demeanor and engaging personality aim to create memorable experiences, making it a valuable addition to retail, banking, education, and hospitality environments.

- **Builder Company:**

Pepper is a product of SoftBank Robotics, a subsidiary of SoftBank Group Corp. Founded in 2012, SoftBank Robotics specializes in creating humanoid robots that improve human-robot interaction and provide valuable services. The company is committed to integrating advanced technologies to enhance social engagement and everyday life [3], [4].

## Section 2 – Acknowledge the initial (subjective) sense-making metaphor

A suitable metaphor to characterize Pepper is the **”Sweet Host.”** This metaphor effectively captures Pepper’s role in engaging with people, initiating conversations, and providing personalized recommendations. Like a host at an event, Pepper welcomes individuals into a space, creating a warm, inviting atmosphere while offering assistance and enhancing the overall experience. Its ability to gather information and adapt its responses to user preferences mirrors how a human host tailors interactions to make guests feel comfortable and valued.

Pepper’s physical design further supports this metaphor. Its sleek, approachable appearance and expressive face evoke the image of a friendly host who is both visually inviting and engaging. The tablet on its chest functions like a host’s guide, offering guests valuable information while maintaining interaction. SoftBank Robotics specifically built Pepper to create “memorable experiences,” particularly in retail and hospitality, where the “Sweet Host” metaphor applies perfectly [3].

Moreover, Pepper’s interactive capabilities, such as its natural language processing and data-driven personalization, enhance its ability to simulate meaningful connections with users. It is not just a passive tool but an active participant in social exchanges. Unlike a purely mechanical “tool” metaphor, the “Sweet Host” emphasizes Pepper’s role in fostering emotional engagement and personalized service, positioning it as more than a functional robot—a companion that enriches human interaction [2].

## Section 3 – Challenge the initial (subjective) metaphor by testing another metaphor

An alternative metaphor to describe Pepper is the **”Assistant”** metaphor. Unlike the “Sweet Host” metaphor, which emphasizes social engagement and emotional connection, the “Assistant” metaphor focuses on Pepper’s role as a functional aid designed to support human tasks. As an assistant, Pepper helps users by providing information, answering questions, and managing routine tasks, such as helping customers in retail environments or assisting in healthcare settings. This metaphor is particularly appropriate because Pepper’s design includes practical features like its tablet interface and natural language processing, which allow it to perform structured tasks efficiently.

By viewing Pepper as an “Assistant,” its role shifts from an emotionally engaging host to a more pragmatic helper. This metaphor aligns with how Pepper is deployed to handle repetitive, task-oriented work, allowing human workers to focus on more complex or creative responsibilities, a key function highlighted by SoftBank Robotics. In this context, Pepper becomes an efficient tool, providing services with minimal emotional involvement, which contrasts with the “Sweet Host” metaphor that centers on relational interaction.

This shift in metaphor challenges the anthropomorphization tendency seen in the “Sweet Host” metaphor and reflects the concerns expressed by Richards and Smart (2015) [2] about the android fallacy—overestimating robots’ capacities based on their form. By considering Pepper a tool-like “Assistant,” we avoid attributing human-like qualities to its functions, focusing instead on its utilitarian benefits.

## Section 4 – Work through potential human-robot-interaction (HRI) outcomes of competing metaphors

### 1. Sweet Host Metaphor:

When viewing Pepper as a “Sweet Host,” users may expect it to display high levels of social engagement and emotional intelligence, similar to a human host. This could lead to disappointment if Pepper fails to respond to nuanced emotional cues or struggles with unpredictable social interactions, as its programming may not fully meet human expectations for empathy or spontaneity. Additionally, this metaphor may encourage users to form deeper emotional bonds with Pepper, potentially leading to over-reliance or even anthropomorphizing the robot beyond its capabilities, a concern echoed by Richards and Smart (2015) [2] regarding the android fallacy. Users might also use Pepper in contexts requiring more emotional labor, such as elderly care, promoting the value of social connection but perhaps overstating its ability to replace human companionship. This could

lead to ethical concerns around how emotionally involved people become with a robot designed for customer service .

## **2. Assistant Metaphor:**

Viewing Pepper through the “Assistant” metaphor emphasizes its role as a functional tool that aids users in performing tasks such as providing information and handling customer service. This could lead to more task-driven human-robot interactions, where users expect Pepper to perform consistently and efficiently. However, this metaphor also invites important questions about how Pepper should be programmed for specific roles and responsibilities in various settings. Just as driverless cars face the ethical challenge of determining the scope of decision-making in critical situations [2], Pepper’s design as an assistant requires developers and users to clearly define its operational limits.

The Assistant metaphor might also reduce Pepper’s potential for fostering meaningful social interaction. By emphasizing productivity and functionality, this perspective could lead users to expect more consistent, task-oriented responses rather than emotional or adaptive behavior. If Pepper fails to meet these expectations in more nuanced scenarios—such as interacting with customers in emotionally complex situations—users may become frustrated, viewing it as a rigid tool rather than a versatile companion. This metaphor promotes efficiency but risks overlooking the interactive, relational possibilities that Pepper could offer in more socially engaging contexts.

## **Section 5 – Assess outcomes based on normative goals**

### **(a) Normative Goal:**

One normative goal for Pepper could be to enhance customer experiences in retail or hospitality environments by providing personalized, engaging, and efficient service. The aim would be to balance productivity with creating positive, memorable interactions for customers, thereby improving overall customer satisfaction and loyalty.

### **(b) Metaphors & Normative Goal**

- **1. Sweet Host Metaphor:**

The Sweet Host metaphor supports this normative goal by emphasizing Pepper’s social and engaging nature. As a host, Pepper would be expected to foster a welcoming atmosphere, initiate conversations, and respond to customer needs in a friendly, approachable way. This aligns well with the goal of enhancing customer experiences, as users would expect Pepper to go beyond mere functionality and create a more personalized and memorable interaction. However, this metaphor might undermine the goal if Pepper is unable to meet emotional or social expectations consistently, potentially leading to disappointment in settings that require more complex human interactions. Users may overestimate Pepper’s capabilities, leading to a gap between the robot’s intended purpose and user expectations, as Richards and Smart (2015) warn about anthropomorphizing robots.

- **2. Assistant Metaphor:**

The Assistant metaphor also supports the normative goal by emphasizing Pepper’s ability to handle repetitive tasks efficiently, allowing it to streamline customer service and enhance productivity. By focusing on Pepper’s functional capabilities, this metaphor highlights how it can contribute to a smooth customer experience by providing reliable information and assistance. However, it may undermine the goal by limiting Pepper’s potential to create deeper, more engaging interactions with customers. Users may view Pepper solely as a task-oriented tool, missing out on the social, relational aspects that could enhance customer experiences further. This narrow perspective could restrict its ability to truly enhance the overall experience in environments where emotional engagement is key.

## Section 6 – Identify the preferred metaphor for design, and justify that decision using a normative argument

The preferred metaphor for Pepper is the Sweet Host metaphor. This metaphor better aligns with the ethical goal of enhancing human-robot interactions in customer service environments by fostering positive, personalized experiences. Viewing Pepper as a "host" emphasizes the robot's ability to engage users on a social and emotional level, promoting values such as trust, empathy, and connection. These qualities are essential in retail and hospitality settings, where the goal is not only to provide efficient service but to create meaningful interactions that improve customer satisfaction. Framing Pepper this way can encourage anthropomorphic responses, making interactions more engaging and emotionally fulfilling [1].

Furthermore, the Sweet Host metaphor supports ethical human-centered design by recognizing the importance of relational interaction. It treats Pepper not just as a tool but as an interactive entity that can help bridge the emotional gap often felt in automated services. While the Assistant metaphor emphasizes efficiency, it overlooks the ethical importance of human connection in service settings, potentially reducing Pepper to a mechanical object that might disconnect users. In contrast, the Sweet Host metaphor encourages designers to prioritize both functionality and emotional engagement, fulfilling the dual goal of efficiency and fostering social bonds, which is crucial in human-robot interactions.

## References

- [1] Kate Darling. "who's johnny?" anthropomorphic framing in human-robot interaction, integration, and policy, n.d. [PRELIMINARY DRAFT].
- [2] Meg Leta Jones and Jason Millar. Hacking metaphors in the anticipatory governance of emerging technology: The case of regulating robots. In Roger Brownsword, Eloise Scotford, and Karen Yeung, editors, *The Oxford Handbook of Law, Regulation and Technology*. Oxford University Press, 2017. Print Publication Date: Jul 2017.
- [3] SoftBank Robotics. Website. <https://us.softbankrobotics.com/pepper>.
- [4] Top 24 Humanoid Robots. Website. <https://builtin.com/robotics/humanoid-robots>.