

Human-Robot Interaction Worksheet

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In this activity, we will analyze video recordings of people interacting with robotic trash cans. Use the three parts below to guide your thinking. This is an individual activity.

Part 1. Setting up the scene

Describe the context for the human-robot interaction so we understand who, what, when, where, and why.

What is the robot supposed to do (its role, purpose, or function)?

What kind of experience is the robot meant to create for people?

Where does the robot operate?

When do people encounter the robot?

Who is the intended audience?

Why might someone engage with the robot?

What social expectations shape the interaction?

What challenges or constraints does the context introduce?

Bonus: Who are the stakeholders beyond the direct users?

Part 2. Robot and human behaviors

Write down interaction sequences. Each sequence can start with either the human or the robot, and can continue for as many steps. Use arrows (→) to show the order.

Example: Human waves trash → Robot rolls closer → Human hesitates → Robot pauses and wiggles → Human drops trash → Robot drives away

Clip 1

Interaction sequence (Observed)

Interaction sequence (Alternative — positive)

Interaction sequence (Alternative — negative)

Clip 2

Interaction sequence (Observed)

Interaction sequence (Alternative — positive)

Interaction sequence (Alternative — negative)

Part 3. Reflection

The robot is meant to make people feel/think/do:

The robot will create this effect through behaviors such as:

To support these behaviors, the robot needs to be able to:

Now, with your project group, repeat this activity using your own design idea. Use the three parts below to guide your thinking.

Part 1. Setting up the scene

In this step, we are exploring the design space. We do not want to lock in too soon on one idea. Instead, we will generate a few different possibilities. For each question, try to come up with 2–4 possibilities. *Aim for variety*: at least two that feel very different from each other. The best approach is to write down things that seem interesting to you, even playful or wild ones. This part is about exploration, not perfection.

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What kind of experience is the robot meant to create for people?

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Who is the intended audience?

Why might someone engage with the robot?

What social expectations shape the interaction?

What challenges or constraints does the context introduce?

Bonus: Who are the stakeholders beyond the direct users?

Part 2. Robot and human behaviors

Write down interaction sequences. Each sequence can start with either the human or the robot, and can continue for as many steps. Use arrows (→) to show the order.

To help with ideation, try *bodystorming*. Physically act out how the robot might move, sound, or respond, and how a person might react in turn. This will help you notice details that are difficult to imagine only in your head.

Instructions:

- Choose one person in your group to “be the robot” and another to “be the human.”
- Choose a context from Part 1 and bring it to life. Be specific, imagine the world in detail, and use helpful props.
- Act out a short interaction. Move your body, get up, and use props around you.
- Talk aloud about what is happening. Check with your partner if any actions are violating the constraints of the scene.
- Write down the interaction sequence.
- Create at least one positive alternative and one negative alternative to this sequence.

Interaction sequence A

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Interaction sequence (Alternative — positive)

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Interaction sequence (Alternative — negative)

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Interaction sequence B

Interaction sequence (Alternative — positive)

Interaction sequence (Alternative — negative)

Interaction sequence C

Interaction sequence (Alternative — positive)

Interaction sequence (Alternative — negative)

Part 3. Reflection

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The robot will create this effect through behaviors such as:

To support these behaviors, the robot needs to be able to: