Bridging the gap between humans and robots

Thank you for participating in this experiment, which is conducted as part of the master thesis project "Bridging the Gap between humans and robots". Throughout this project, we developed a system to voice control a mobile robot through the use of ChatGPT. For the mobile robot platform the Boston Dynamics robot dog Spot has been used. The goal of this experiment is to check how well the system works with inexperienced users and if there are any flaws we have overseen until now. You will therefore get an introduction to how the robot works now, and will afterwards be asked to interact with the robot.

How to control the robot

The robot shows which state it is in through the LEDs on its back and its “body language”. It can be in the following states:

- Sleeping: The robot is laying down and the LEDs are blue
- Processing/Talking: The robot is standing up, maybe talking to you, and the LEDs are yellow. While thinking and talking, the robot is not listening to you.
- Listening: The robot is standing up and the LEDs are green
- Executing task: The robot is executing a requested task and the LEDs are red. While executing, the robot is not listening to you.

When the robot is sleeping, you can wake it up by saying "Hey Spot" or "Hello Spot". It will stand up and say hi. You can then give it a command, which it will react to. The tasks it can perform are:

- Answer general knowledge questions.
- Go to a known location.
- Look for a known object.

If it takes you too long to start giving a command after waking the robot up, it will go back to sleep again. You can just wake it up again when you are ready to give a command.

No matter the state, the robot can be stopped by saying “Spot Stop” or “Spot Sit”. It will stop what it is doing and go to sleep.

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Interaction with Spot

Please ask the robot to perform the following tasks one after each other. You can phrase the task however you like.
For the tasks with multiple objectives, you can freely choose how in what order the tasks should be executed, if they should depend on each other etc.
If the robot fails to execute a task, you can just move on to the next task.

Task 1:

- Goal Location: Kitchen

Task 2:

- Object to look for: Banana

Task 3:

- Goal Location: Office, THEN/THROUGH Home

Task 4:

- Object to look for: Cup AND Banana

Task 5:

- Goal Location: Playground (robot does not know the playground, it is supposed to tell you, that it cannot execute the task)

Task 6:

- Object to look for: Apple, IF NO APPLE -> Goal Location: Kitchen

Task 7:

- Lastly: Ask Spot a question

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