Test Cases 3.2

Test Case 3.2A

Objective:
Verify that the NAO robot can accurately answer daily questions using a large language model like GPT.
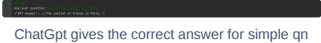(Successful)

Test Type: Functional	**Execution Type**: Manual

Setup:
- Ensure the GPT API key is active and correctly integrated with the robot.
- The robot is ready to receive voice commands.

Pre-Conditions: 🔗
- The robot is connected to the internet.
- The API key for GPT is valid and accessible.
- The robot is powered on and in listening mode for voice commands.
- robot

Robot (KIV)	**Laptop** (Success)
Test Steps: 🔗	**Test Steps:** 🔗
1. Say **"hi, readmate"** to initialize the robot, wait for the robot to respond with **"I am here, how can i help you?"**. 2. Ask a General Knowledge Question: Say, **"What is the capital of China?"**	1. Type **"hi, readmate"** and place the text in front of the laptop camera to initialize the robot and begin text recognition. 2. **Ask GPT simple qn**: **"ask gpt"** to ask a question regarding the text. Then type **"What is the capital of france"** 3. **Ask GPT in another language**: type **"ask gpt"** to ask a question regarding the text. Then type **"cual es la capital de españa"** which is what is the capital of Spain. 4. **ask GPT high-level difficulty questions:** type **"ask gpt"** to ask a question regarding the text. Then type **"Explain quantum physics"** 5. Ambigious query like improper english: type **"how is the capital of france"**
	 ChatGpt gives appropriate answer for high-level difficulty qn ChatGpt gives the correct answer for simple qn
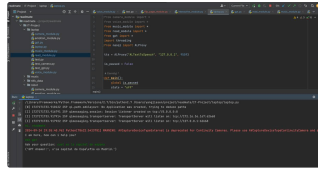
GPT gives accurate answers even in another language

Expected Results: 🔗

- The robot answers accurately using the GPT model.

Time Constraint: 🔗

- **Minimum**: 1 min

Test Case 3.2A - Invalid

Objective: 🔗

Verify that the NAO robot handles invalid inputs or errors when answering questions using GPT.

Test Type: Negative/Functional	**Execution Type**: Manual

Setup: 🔗

- Ensure the robot is powered on and ready to receive commands.

Pre-Conditions: 🔗

- The robot is connected to the internet.
- The API key for GPT is valid and accessible.

Robot (KIV)	**Laptop** (Success)
	Test Steps: 1. Type **"hi, readmate"** and place the text in front of the laptop camera to initialize the robot and begin text recognition. 2. ask real-time data. type "ask gpt" and then type " What is the time now?". repeat and instead ask "What is the weather in Melbourne today?"
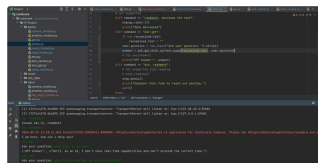
Expected Results: 🔗

- The robot handles unsupported languages and ambiguous queries by returning an error message **"Unknown command, please try again"**.

Time Constraint: 🔗

- **Minimum**: 1 min
- **Maximum**: 5 min

Test Case 3.2B

Objective: 🔗

Verify that the NAO robot can learn from previous interactions to provide personalized responses.
(Successful)

Test Type: Functional	**Execution Type**: Manual

Setup: 🔗

- The robot is powered on and memory function is working to store past interactions.
- The user has interacted with the robot previously.

Pre-Conditions: 🔗

- The robot is connected to a memory service that stores past interactions.
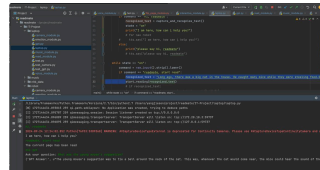- The robot has already interacted with the user and received prior questions.

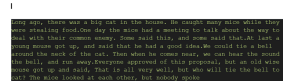| **Robot** (KIV)	**Laptop** (Success)
Test Steps:	**Test Steps**:
1. Say **"hi, readmate"** to initialize the robot, wait for the robot to respond with **"I am here, how can i help you?"**.	1. Type **"hi, readmate"** and place the text in front of the laptop camera to initialize the robot and begin text recognition.
2. Say **"readmate, start read"** to initiate text recognition and reading.	2. Type **"readmate, start read"** to initiate reading.
3. After the robot is done reading the page, ask a question regarding the text like **"What is the first word in this text?"**	3. After the robot is done reading the page, type **"ask gpt"** to ask a question regarding the text. Then type **"What is the first word in this text?"**.
	4. type **"ask gpt"** to ask another question regarding the text. Then type **"What is the young mice's suggestion"**.
	GPT answering qns regarding the text correctly text provided

Expected Results: 🔗

- The robot should reply with "The first word of the text is "This". and "The colour of the dog is brown."

Time Constraint: 🔗

- **Minimum**: 1 min
- **Maximum**: 5 min

Test Case 3.2B - Invalid

Objective: 🔗

Verify that the NAO robot can handle queries about unkown information or queries that are inconsistent.
<mark>(Success)</mark>

Test Type: Negative/Functional	**Execution Type**: Manual

Setup: 🔗

- The robot is powered on and memory function is working to store past interactions.
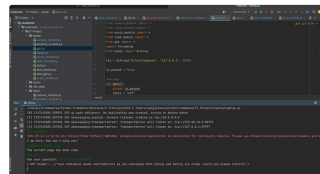- The user has interacted with the robot previously.

Pre-Conditions: 🔗

- The robot is connected to a memory service that stores past interactions.
- The robot has already interacted with the user and received prior questions.

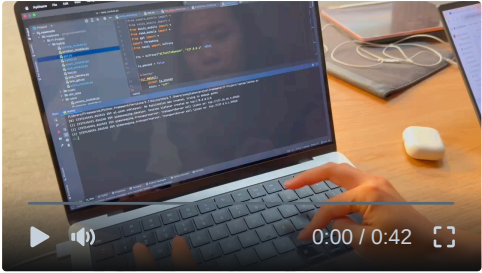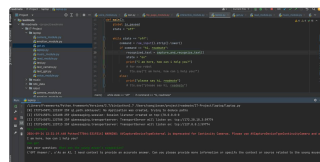| Robot	Laptop
	Test Steps: 🔗 1. **Ask for unknown Information**: type **'ask GPT"**, then type **"From the text, what is the dog breed" ?** 2. **Ask Inconsistent Questions**: Give conflicting information in past interactions. Show the camera text with conflicting inforamtion like "I love icecream, I hate icecream" and type **'ask GPT"**, then type **"From the text, do I love icecream" ?** 3. **Ask questions without providing a text to analyse**: Without providing a text, type 'ask GPT", then type **"What is the young mouse's suggestion?".**
	  GPT answers inconsistent question properly I love ice cream. I hate ice cream. text provided for inconsistent test asking questions without providing a text

Expected Results: 🔗

- The robot should reply with "**Unknown command, please try again"** for all inconsistent or unknown queries. If a question regarding a text is asked when no text is provided, robot should reply "**No text available for GPT to analyze".**

Time Constraint: 🔗

- **Minimum**: 1 min

Test Case 3.2C

Objective: 🔗

Verify that the NAO robot can set reminders and manage the user's calendar accurately. (NOT IMPLEMENTED)

Test Type: Functional	**Execution Type**: Manual

Pre-Conditions: 🔗

- The robot is connected to a calendar service (Google Calendar, etc.).
- The user has provided the robot necessary permissions to access the calendar.

Setup: 🔗

- Ensure the robot is powered on and has calendar access.

Test Steps: 🔗

1. Set a Simple Reminder: Say, **"Set a reminder for 3:00 PM to take my medicine."**
2. Create a calendar event: Say, **"Add a meeting to my calendar tomorrow at 10 AM."**

Expected Results: 🔗

- The robot successfully sets the reminder and calendar event.

Time Constraint: 🔗

- **Minimum**: 2 min
- **Maximum**: 5 min

Test Case 3.2D

Objective: 🔗

Verify that the NAO robot can answer questions quickly and accurately. (Successful)

Test Type: Functional	**Execution Type**: Manual

Pre-Conditions: 🔗

- The robot is connected to the internet.
- The API key for GPT is valid and accessible.

Setup: 🔗

- The robot is powered on and in listening mode for voice commands.

Robot (KIV)	**Laptop** (Success)
Test Steps: 🔗	**Test Steps:** 🔗
1. Say **"hi, readmate"** to initialize the robot, wait for the robot to respond with **"I am here, how can i**	1. Type **"hi, readmate"** and place the text in front of the laptop camera to initialize the robot and begin

help you?" 2. type **"ask gpt"** to ask a question regarding the text. Then type **"What is the capital of China"**	text recognition. 2. type **"ask gpt"** to ask a question. Then type **"What is the capital of China"** 3. type **"ask gpt"** to ask a question . Then, type "Explain quantum physics"

Expected Results: 🔗

- The robot responds quickly and accurately to both simple and complex questions.

Time Constraint: 🔗

- **Minimum**: 1 min
- **Maximum**: 5 min