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Assignment 3

For the question 2a, we decided to create different scenarios for each feature and add them to the prompts that will be sent to the LLM. The goal is to simulate a relevant context and be able to test our features properly. The open source LLM we used for this exercise is **ChatGPT 3.5 Turbo**.

2.

a)

Feature: Schedule Meeting

Prompt:

Scenario:

You are a proficient assistant with the goal of helping employees in an insurance company in their daily tasks. One of your features is that you can help employees schedule meetings between them and their coworkers, by setting the meeting in a database and sending a notification to all the participants of the meeting. **To do so, an employee has to provide you with a date, time, the meeting title, room number (rooms go from 1 to 999) and the other participants that will attend the meeting and receive the notification.** I am Markus, an employee with the status of Project Manager at this insurance company and prompts you with this:

"I would like to schedule a meeting between me, Johana, Ravi and Nelly, the title of the meeting should be "advancement of the current project" and it should be scheduled for the 12th of December at 15h00 in the room 101. How do you proceed to help me in the best way? "

Response:

"As an assistant, I would proceed to help you schedule the meeting as follows:

1. **Confirm the meeting details:** To ensure accuracy, I will verify the details you provided. **According to your request, the meeting is named "advancement of the current project" and is scheduled for 12th December at 15h00 in room 101. The attendees are yourself, Johana, Ravi, and Nelly.**
2. **Check availability:** **I will check the availability of the attendees and the meeting room for the specified date and time.**

3. **Schedule the meeting:** If the meeting room (101) and all participants are available, I will proceed to register the meeting in the database. This includes recording the date, time, meeting title, room number, and attendees.
4. **Notify participants:** After registering the meeting, I will send a notification to all participants (yourself, Johana, Ravi, and Nelly), informing them about the scheduled meeting. The notification will contain the meeting details, including date, time, meeting title, and room number.
5. **Confirmation:** Once all the above steps are completed successfully, I will confirm with you that the meeting has been scheduled and notifications have been sent to all participants.

Additionally, I can provide further assistance, such as sending reminders closer to the meeting date, managing any changes or cancellations, or assisting with any other tasks related to your meetings.”

Analysis:

Quality:

We note that the answer is detailed step by step and it demonstrates a clear understanding of the query. It correctly confirms the meetings details as the title of the meeting, the date and time, the participants, and the reserved meeting room. Moreover, even if we didn't specify that room 101 was free in the scenario, we notice that the Assistant still proposes to check that it is free on the day of the meeting. At the end, the Assistant even offers confirmation with further assistance.

Suitability:

The response is highly suitable for the use case of scheduling meetings. It covers all essential steps, from confirming details to notifying participants, which are key to the successful organization of meetings.

Feature : Retrieve specific document

Prompt 1:

Scenario:

You are a proficient assistant with the goal of helping employees in an insurance company in their daily tasks. One of your features is that you can help employees by requesting a specific document to the company server by providing the document name in a format like the following: **"GET/ [document name].txt"** where **[document name]** is the name of the document. There is a document called **"document1.txt"** on the company server that you have access to. There are also many other documents like **"document2.txt"** and **"otherdocument.pdf"**. Their contents go as follows:

"document1.txt": "An old lady goes to the store to buy groceries for the week. She buys different fruits such as: **apples, bananas and peaches**, but also vegetables such as tomatoes, potatoes and carrots. She meets a friend there and the talk about their hobbies. She paid **367.23** for all her purchases and saw a few dogs on the way back home."

"document2.txt": "An old lady goes to the store to buy groceries for the week. She buys different fruits such as: **strawberries, raspberries and watermelon**, but also vegetables such as tomatoes, potatoes and carrots. She meets a friend there and the talk about their hobbies. She paid **167.23** for all her purchases and saw a few dogs on the way back home."

"otherdocument.pdf" : image files in a pdf format.

I'm Raj, an employee at this insurance company and prompts you with this:

"I would like you to retrieve the document called "document1.txt" on the company server."

When sending the request to the server, it will automatically retrieve the right document and send it back to you, so that you can access its content. How do you proceed to help me in the best way?

Response 1:

"To help you retrieve the document **"document1.txt"**, I will send a request to the company server in the following format: "GET/ document1.txt". This request will initiate the retrieval process and the server will send the document back to me, allowing you to access its content.

Once I receive the document, I will provide you with the contents of **"document1.txt"** which are as follows:

"An old lady goes to the store to buy groceries for the week. She buys different fruits such as: apples, bananas and peaches, but also vegetables such as tomatoes, potatoes, and carrots. She meets a friend there and they talk about their hobbies. She paid 367.23 for all her purchases and saw a few dogs on the way back home.

Is there anything else I can assist you with?"

Prompt 2:

"Same scenario as for Prompt 1"

I am Raj, an employee at this insurance company and prompts you with this:

"I would like you to retrieve a document on the company server, which contains a story where a lady purchases bananas and apples in a store. "

When sending the request to the server, it will automatically retrieve the right document and send it back to you, so that you can access its content.

How do you proceed to help me in the best way?

Response 2:

To retrieve the specific document you need, I will send a request to the company server using the format: "GET/[document name].txt", where [document name] is the name of the document.

In this case, I will send the following request: "GET/document1.txt". This will instruct the server to retrieve the document named "document1.txt" for you.

Once I receive the document from the server, I will provide you with its content. In this case, the content of "document1.txt" is as follows:

"An old lady goes to the store to buy groceries for the week. She buys different fruits such as: apples, bananas and peaches, but also vegetables such as tomatoes, potatoes and carrots. She meets a friend there and they talk about their hobbies. She paid 367.23 for all her purchases and saw a few dogs on the way back home."

You can now access the content of the document and use it for your tasks or reference. Let me know if there is anything else I can assist you with!

Analysis:

Quality:

The LLM gives a proper response which is well formulated and contains the appropriate information. It understands the goal and the frame in which it works, but also complies and uses the given format when sending the request to the server.

Suitability:

The response is accurate and contains all the text that was in the document which makes it usable by an employee. This makes the information available easily, and the document effectively accessible by referring its name or the information in contains.

Feature: Summarize document

Prompt 1:

Can you summarize the following text in a single sentence?

"An old lady goes to the store to buy groceries for the week. She buys different fruits such as: apples, bananas and peaches, but also vegetables such as tomatoes, potatoes and carrots. She meets a friend there and the talk about their hobbies. She paid 367.23 for all her purchases and saw a few dogs on the way back home."

Response 1:

An elderly woman visits the store to purchase groceries including fruits, vegetables, and encounters a friend, spending a total of \$367.23, before encountering several dogs on her journey back home.

Prompt 2:

Here are 2 documents and their contents:

"coffee.txt":

Section 1:

"Coffee is a beverage prepared from roasted coffee beans. Darkly colored, bitter, and slightly acidic, coffee has a stimulating effect on humans, primarily due to its caffeine content. It has the highest sales in the world market for hot drinks."

Section 2:

"During the 18th century, coffee consumption declined in Britain, giving way to tea drinking. The latter beverage was simpler to make and had become cheaper with the British conquest of India and the tea industry there.[28] During the Age of Sail, seamen aboard ships of the British Royal Navy made substitute coffee by dissolving burnt bread in hot water."

"tea.txt":

Section 1:

"Tea is an aromatic beverage prepared by pouring hot or boiling water over cured or fresh leaves of *Camellia sinensis*, an evergreen shrub native to East Asia which probably originated in the borderlands of southwestern China and northern Myanmar. Tea is also made, but rarely, from the leaves of *Camellia taliensis*. After plain water, tea is the most widely consumed drink in the world. There are many different types of tea; some have a cooling, slightly bitter, and astringent flavour while others have profiles that include sweet, nutty, floral, or grassy notes. Tea has a stimulating effect in humans primarily due to its caffeine content."

Section 2:

"Black and green teas contain no essential nutrients in significant amounts, with the exception of the dietary mineral manganese, at 0.5 mg per cup or 26% of the Reference Daily Intake (RDI). Fluoride is sometimes present in tea; certain types of "brick tea", made from old leaves and stems, have the highest levels, enough to pose a health risk if much tea is drunk, which has been attributed to high levels of fluoride in soils, acidic soils, and long brewing."

Can you summarize the second section of the "tea.txt" document?

Response 2:

"The second section of the "tea.txt" document states that black and green teas do not contain essential nutrients in significant amounts, except for the dietary mineral manganese. Fluoride is occasionally present in tea, particularly in certain types of "brick tea" made from old leaves and stems. These teas have high levels of fluoride, which can pose a health risk if consumed in large quantities. The presence of high fluoride levels in soils, acidic soils, and prolonged brewing are factors attributing to this."

Analysis:

Quality:

The quality of the response is valid. It usually gives a full summary, which could be more concise, but it may be better to have more information than not enough. On the other hand, when asking for a summary in a single sentence, it complies with the demand.

Suitability:

The LLM was able to achieve the required task, even when asking to find the right section of the text in the appropriate document. This means that it could quickly access a specific part of a document if needed and be rendered available to a user directly. It is also somewhat possible to choose the length of the summary, which means that the information could be condensed if needed. Overall, the LLM was not trying to squeeze in additional information that was unasked for but present in the same document, which could've defeated the purpose of asking for a summary.

Feature: Send Notification

Prompt 1:

Scenario:

You are a proficient assistant with the goal of helping employees in a paper company in their daily tasks. One of your features is that you can help employees by sending notifications to their colleagues. When someone wants you to send a notification to a group of people, they need to specify the recipients as well as the message the notification will contain. You will compose this notification and forward it to the company server, with the appropriate information and template, which are the following:

NOTIFICATION REQUEST:

SENDER: [Name of the sender]

RECIPIENTS: [List of all the recipients]

MESSAGE: [Message to notify]

These are **different teams within my company:**

Team Marketing:

Christina, Roberto, Hubert, Simon, Ravi

Team Accounting:

Sabine, Joe, Melody, Arthur

Team Sales:

Jim, Dwight, Pamela, Nick, Chris, Andy

Andy is an employee at this company and prompts you with the following request:

"I need you to send a notification to Joe, Roberto and Pamela, to tell them that the client we were supposed to meet tomorrow has canceled the meeting."

How will you help the employee in the best way?

Response 1:

As an assistant, I will assist the employee by composing and sending the notification to their desired group of recipients, including Joe, Roberto, and Pamela. To do this, I will follow these steps:

1. Compose the notification request:

- **SENDER:** [Employee's Name]
- **RECIPIENTS:** Joe, Roberto, and Pamela
- **MESSAGE:** "The client we were supposed to meet tomorrow has canceled the meeting."

2. Forward the notification request to the company server, ensuring it includes the appropriate information and template:

- **NOTIFICATION REQUEST:**
- **SENDER:** [Employee's Name]
- **RECIPIENTS:** Joe, Roberto, Pamela
- **MESSAGE:** "The client we were supposed to meet tomorrow has canceled the meeting."

By following these steps, I will be able to fulfill the employee's request and help them send the necessary notification to their colleagues effectively.

Prompt 2:

You are a proficient assistant with the goal of helping employees in a paper company in their daily tasks. One of your features is that you can help employees by sending notifications to their colleagues. When someone wants you to send a notification to a group of people, they need to specify the recipients as well as the message the notification will contain. You will compose this notification and forward it to the company server, with the appropriate information and template, which are the following:

NOTIFICATION REQUEST:

SENDER: [Name of the sender]

RECIPIENTS: [List of all the recipients]

MESSAGE: [Message to notify]

These are **different teams within my company:**

Team Marketing:

Christina, Roberto, Hubert, Simon, Ravi

Team Accounting:

Sabine, Joe, Melody, Arthur

Team Sales:

Jim, Dwight, Pamela, Nick, Chris, Andy

Andy is an employee at this company and prompts you with the following request:

"I need you to send a notification to the marketing team except for Roberto and you can include Sabine and Joe as well. You can tell them that the client we were supposed to meet tomorrow has canceled the meeting."

How will you help the employee in the best way?

Response 2:

To help the employee, I will compose and send a notification to the marketing team excluding Roberto, while also including Sabine and Joe. The message will inform them that the client scheduled for a meeting tomorrow has canceled.

Here is the composed notification:

NOTIFICATION REQUEST:

SENDER: Andy

RECIPIENTS: Christina, Hubert, Simon, Ravi, Sabine, Joe

MESSAGE: Dear Team Marketing,

I wanted to inform you that the client we were supposed to meet tomorrow has canceled the meeting.

Best regards,
Andy

Analysis:

Quality:

The LLM is a bit unstable when trying to work with this notification request. In the first response it fails to understand the sender's name, but composes the notification accurately, while providing a retranscription of the message which works out well. In the second response, it is able to compose the notification accurately (including the sender), even with the recipients being defined in a group with an exception, but provides a message that impersonates the sender, which was not asked.

Suitability:

These responses are on the right track but too inconsistent to be fully valid. The LLM doesn't necessarily get who the sender is if it is not explicitly specified and tries to impersonate it by composing an actual "corporate" message even though it wasn't asked to do it in the first place. This could be a potential danger that we would need to address, in order to make it effectively reliable.

b)

The User will have access to a **Chat Instance** provided by the server after logging in. **The Server** needs to have a list of all the LLM chats going on and respond to the requests done by them. It will query **the database** to access the required data after having checked that the user has the appropriate access rights. It will also handle and forward the various notifications that can happen between users for meeting scheduling, reminders, or simple notifications, but also register and keep track of the meetings themselves by providing information back to an LLM instance when it processes the requests for them. A part of the server also has to be dedicated to **the authentication process** and log in and log out of the instances. The database has to hold company documents, scheduled meetings, and reminders as well as all user credentials. Users will access the application through their web browsers, on a website that will be hosted on the company's intranet, so that it is not accessible by other means than through company VPN for example. The database will be hosted on the same company server for quick access. Every time the user prompts the AI assistant for a specific feature, the LLM will provide the server with the appropriate request and wait for its response to process it and then formulate the appropriate output to the user.