AUTOMATED DAILY TASK TRACKER WITH TIME MANAGEMENT ALERTS

A PROJECT REPORT

Submitted by

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CHENNAI – 602105

BONAFIDE CERTIFICATE

Certified that this project report **"AUTOMATED DAILY TASK TRACKER WITH TIME MANAGEMENT ALERTS"** is the Bonafide work of **"KAMALI K A (220701118)"** who carried out the project work for the subject OAI1903 – Introduction to Robotic Process Automation under my supervision.

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ABSTRACT

This project automates task management using UiPath by integrating three key features: task reminders, task rescheduling, and overdue task alerts. Task details are read from an Excel file, including start times, end times, and statuses. The system sends email reminders for tasks scheduled to start soon, ensuring timely attention. Users can reschedule task timings, with updates automatically reflected in the Excel sheet. Additionally, overdue tasks are identified, and email alerts are sent to prompt immediate action. This project streamlines task tracking, enhances productivity, and minimizes delays by leveraging automation to manage daily workflows effectively.

ACKNOWLEDGEMENT

Initially we thank the Almighty for being with us through every walk ofour life and showering his blessings through the endeavour to put forth this report. Our sincere thanks to our Chairman **Thiru. S.Meganathan**, **B.E., F.I.E.,** our Vice Chairman **Mr. M.Abhay Shankar, B.E., M.S.,** and our respected Chairperson **Dr. (Mrs.) Thangam Meganathan, M.A., M.Phil., Ph.D.,** for providing us with the requisite infrastructure and sincere endeavouring in educating us in their premier institution.

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KAMALI K A (220701118)

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CHAPTER 1

INTRODUCTION

1.1 GENERAL

Efficient task management is essential for individuals and organizations to achieve their goals and maintain productivity. However, manual methods of tracking tasks often lead to inefficiencies, missed deadlines, and unnecessary stress. Automating task management processes can address these challenges by reducing manual effort, minimizing errors, and providing timely notifications for better decision-making.

This project focuses on developing an automated task management system using UiPath, a leading tool in Robotic Process Automation (RPA). The system reads task details, such as start times, end times, and statuses, from an Excel file. It sends automated email reminders for upcoming tasks to ensure users stay informed and prepared. Additionally, the system identifies overdue tasks and notifies users via email, reducing the likelihood of missed deadlines.

One of the key features of the system is the ability to reschedule task timings dynamically. Users can update task schedules, and the system reflects the changes in real-time, ensuring accurate tracking and reminders. This flexibility enhances adaptability and improves overall workflow management.

The integration of email notifications makes the system user-friendly and proactive. Instead of manually tracking tasks, users receive timely alerts, allowing them to focus on high-priority activities. The use of UiPath streamlines the process, offering a reliable, efficient, and automated solution to daily task management challenges.

This project is particularly beneficial for professionals, teams, and organizations that manage multiple tasks or deadlines. By automating task tracking and notifications, the system ensures that all tasks are handled on time, improving productivity and reducing the risk of delays. With its user-friendly design and robust features, the project demonstrates the power of RPA in simplifying routine processes and enhancing efficiency.

1.2 EXISTING SYSTEM

The existing systems for task management are predominantly manual or dependent on basic tools such as spreadsheets and standalone applications. Users manually enter and update task details, which is time-consuming and prone to human error. Task reminders, if present, require manual configuration, often leading to missed deadlines.

In manual systems, users have to actively track task deadlines without real-time notifications, making it easy to overlook important tasks. Rescheduling tasks is tedious, as it requires updating multiple entries, increasing the risk of inconsistencies. Moreover, there is no automated mechanism to alert users about overdue tasks or send reminders for approaching deadlines.

While some task management tools exist, they often lack automation and integration capabilities, such as sending email reminders or dynamically updating task schedules. These limitations make the existing systems less efficient and unsuitable for managing multiple tasks or adapting to changing priorities effectively.

1.3 PROPOSED SYSTEM

The proposed system automates task management using UiPath, addressing the inefficiencies of manual methods. It integrates key features such as automated task reminders, dynamic rescheduling, and overdue task alerts, making task tracking more efficient and reliable.

Task details, including start time, end time, and status, are stored in an Excel file. The system reads this data and sends email reminders for tasks that are about to start, ensuring users stay informed and prepared. Overdue tasks are identified, and alerts are sent automatically, promoting timely completion and accountability.

The system allows users to reschedule task timings dynamically. Any changes made to the task schedule are reflected in real-time, ensuring accurate and up-to-date tracking. Integration with email ensures proactive communication, enabling users to focus on their tasks without manually checking schedules.

CHAPTER 2

LITERATURE REVIEW

2.1 GENERAL

Task management is an essential aspect of productivity, both for individuals and organizations. Traditionally, task management has been done manually using physical calendars, to-do lists, or spreadsheets. While these methods are simple, they are prone to errors and inefficiencies, especially as the volume of tasks increases. As businesses and individuals strive to optimize productivity, there has been a shift towards using digital tools and automation to handle task tracking and notifications.

Several studies and real-world applications have highlighted the advantages of using RPA for task management. Automation not only saves time but also enhances accuracy, allowing for better tracking of tasks and deadlines. Moreover, dynamic rescheduling is possible with automation, where updates are made instantly, ensuring real-time task tracking.

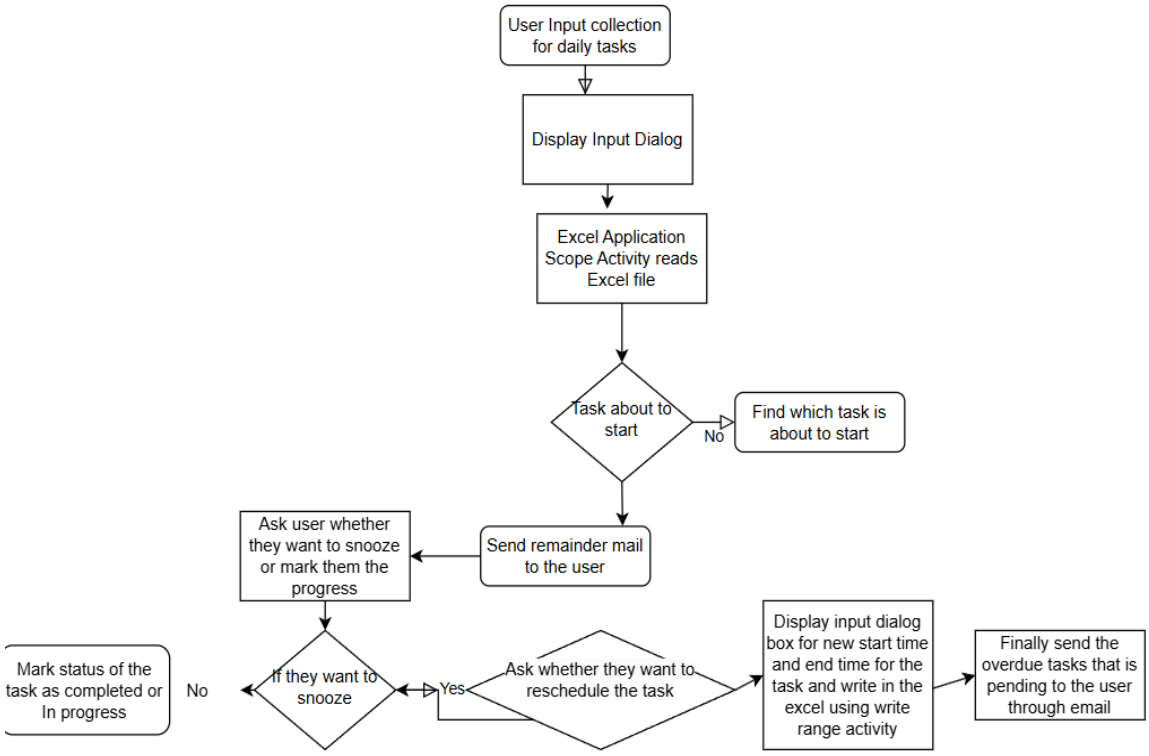
Various existing systems for task management have emerged over time, including project management software like Trello, Asana, and Microsoft Project. These tools provide features such as task assignments, scheduling, and reminders. However, many of these tools still require manual updates and lack integration with other communication channels, such as email, for real-time notifications. Additionally, they often do not offer automated rescheduling capabilities, which is crucial when tasks need to be shifted dynamically.

CHAPTER 3

SYSTEM DESIGN

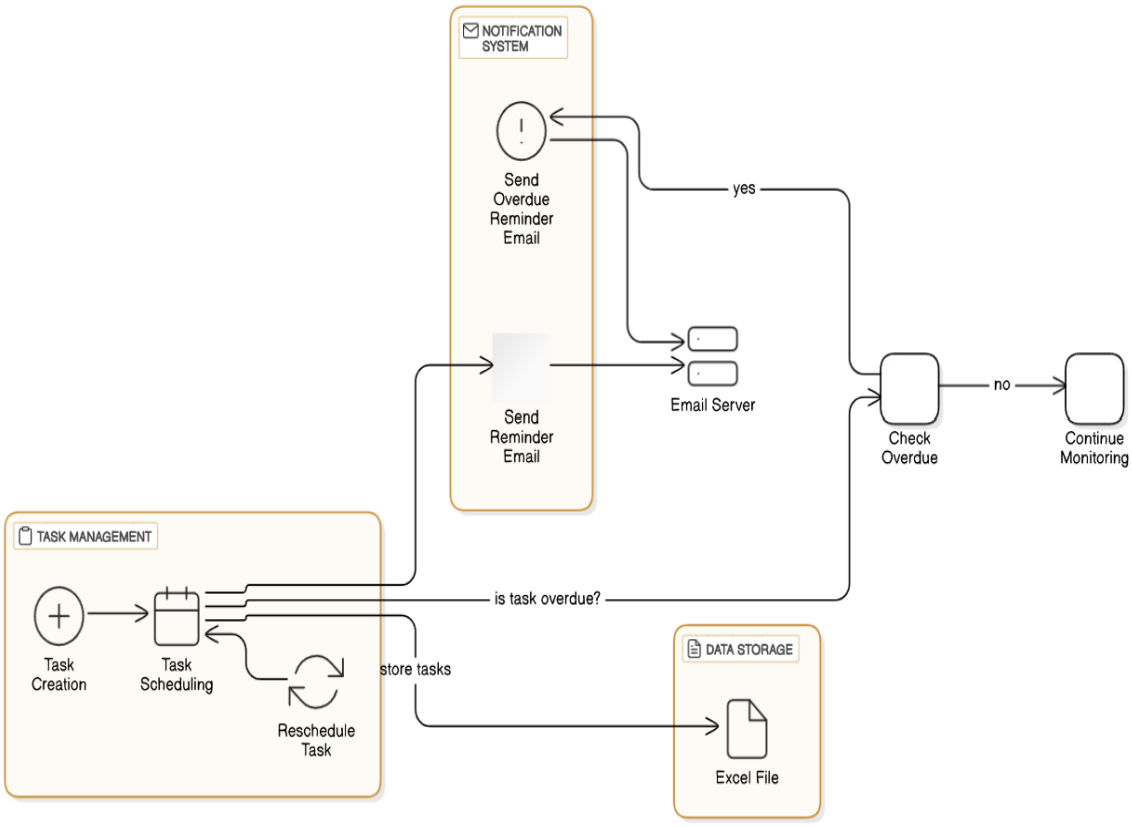
3.1 SYSTEM FLOW DESIGN

The system flow design represents the step-by-step process by which tasks are managed, reminders are sent, and notifications are generated. Below is a high-level overview of the system flow for this project:



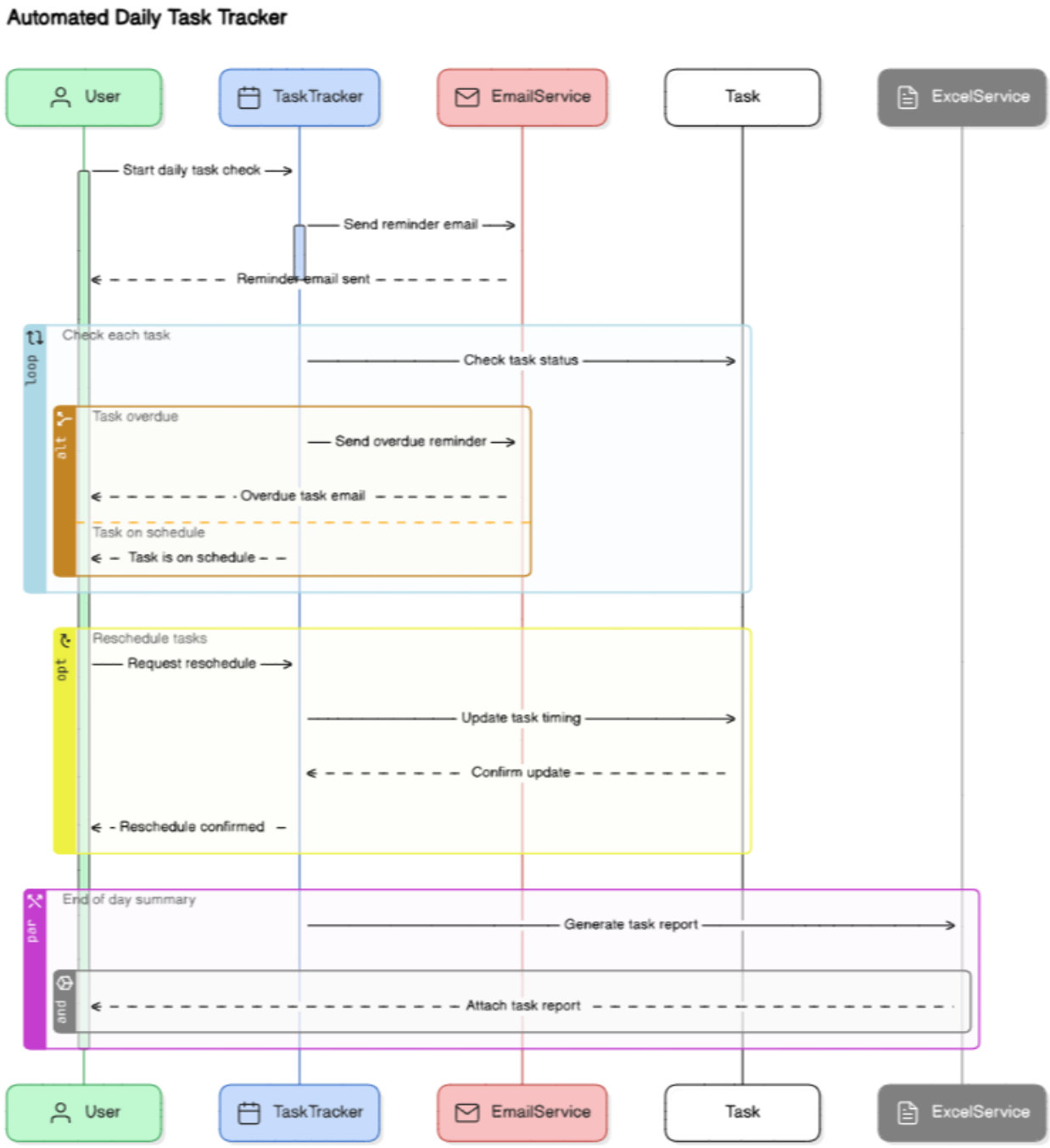
3.2 ARCHITECTURE DIAGRAM

An **architecture diagram** is a visual representation of the structure and flow of a system. It illustrates the components of a system, how they interact with each other, and how data flows through the system. In the context of software or automation projects, it provides a high-level overview that helps stakeholders understand the design, functionality, and interconnections within the system.



3.3 SEQUENCE DIAGRAM

A **sequence diagram** is a type of **UML (Unified Modelling Language) diagram** that illustrates the sequence of interactions between different entities (actors, systems, components) in a process over time. It helps visualize how and in what order tasks are performed.



CHAPTER 4

PROJECT DESCRIPTION

4.1 CREATING PROJECT

Open UiPath Studio and check for the version of the application. While it's not compulsory to work with the latest version, it is recommended as some features might have been added or few changes might have been made to the already existing Packages/Activities/Properties etc. Once the application is opened, create a new process, name the file and choose the directory where the UiPath files must be stored. Once you are done with the following steps, you will be good to continue with the next steps of actually Creating the Project.

4.2 REQUIRED PACKAGES

For the successful completion of DAILY TASK TRACKER BOT, it's necessary to download the following packages to enable the required activities:
UiPath.Excel.Activities: For reading, writing, and updating data in the Excel file.
UiPath.Mail.Activities: For sending email reminders and overdue alerts.
UiPath.System.Activities: For basic system functions like time handling, dialog prompts, and conditionals.
UiPath.UIAutomation.Activities: For interacting with user inputs and application interfaces.
UiPath.PDF.Activities: If you plan to send task reports as PDFs attached to emails.

4.3 PROJECT WORKFLOW

Now, as we know the objective of the project it is time to create the workflow that actually makes up the project. The workflow for this project is simple.

4.3.1 ACTIVITIES USED

To create the project following activities are used:

1. Excel Application Scope
2. Read range
3. Write range
4. Send SMTP Mail messages
5. Attach files
6. Assign
7. If
8. Input Dialog
9. For each row
10. Message box

4.3.2 EXPLAINING SEQUENCE

Here's the sequence of this Daily task tracker bot project, explaining each step in detail:

1.User input collection:

Daily task is stored in an Excel file with Task name, Start time, End time, Status of the task (In progress, Completed, Pending) and priority of the task (High, Medium, Low). Each task entry can be updated daily, or a new row can be added for a fresh set of tasks every day.

Excel Application Scope activity is used to access the excel file. Inside Excel Application Scope activity, drag and drop Read range activity to read all task data into a Data Table variable (e.g.taskData).

2. Task tracking and Time management:

Use For each row activity to iterate through each task in the sheet. Check the start time of each task to trigger alerts at appropriate intervals. If the current time is close to the starting time say before 15 minutes, an email will be sent to the user.

If the task is past the end time and marked 'Pending', mark it as overdue and send reminder of overdue tasks to the user.

3. Time management alerts:

Use the Send SMTP Mail message activity to send an email notification for upcoming tasks. Use Message box activity to remind the tasks.

4.Updating task Status:

After an alert, prompt the user to update the task status (In progress, Completed, Snooze, etc.). Use write range activity to update in the Excel file. If the user wants to snooze the task, UiPath asks user whether they want to reschedule the task and prompt the user to enter the new start time and end time. And write range activity is used to enter the new task timings. At the end of the day, overdue task reminder will be sent to the user through email.

5.Exception handling:

Enclose the main sequence in a Try-catch block to handle errors like empty cells or incorrect time formats. Log errors using Log message activity for debugging.

CHAPTER 5

OUTPUT SCREENSHOTS

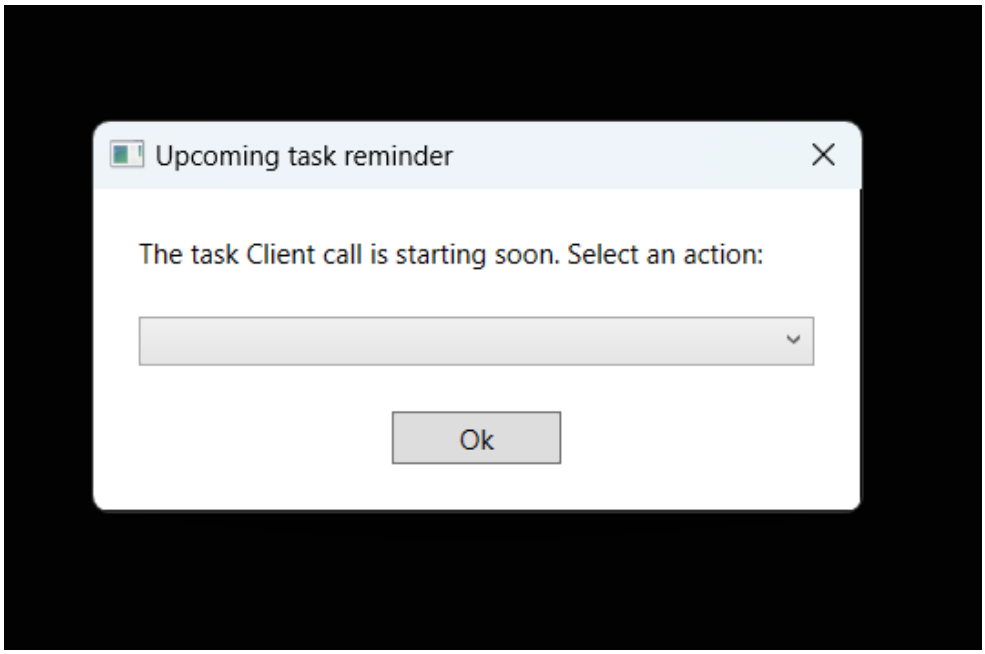


Fig 1. Task reminder

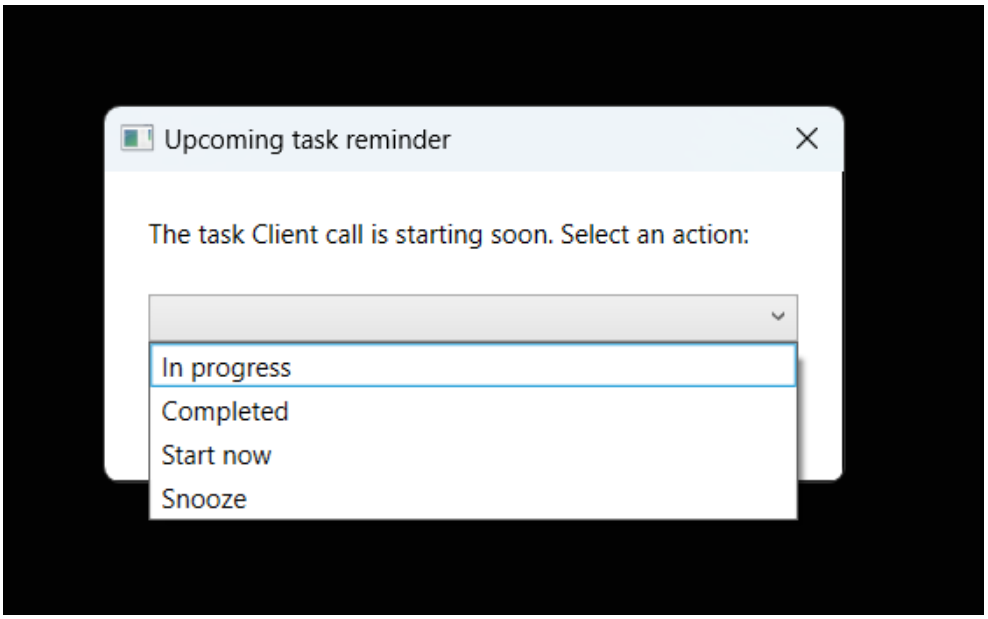


Fig 2. Status update

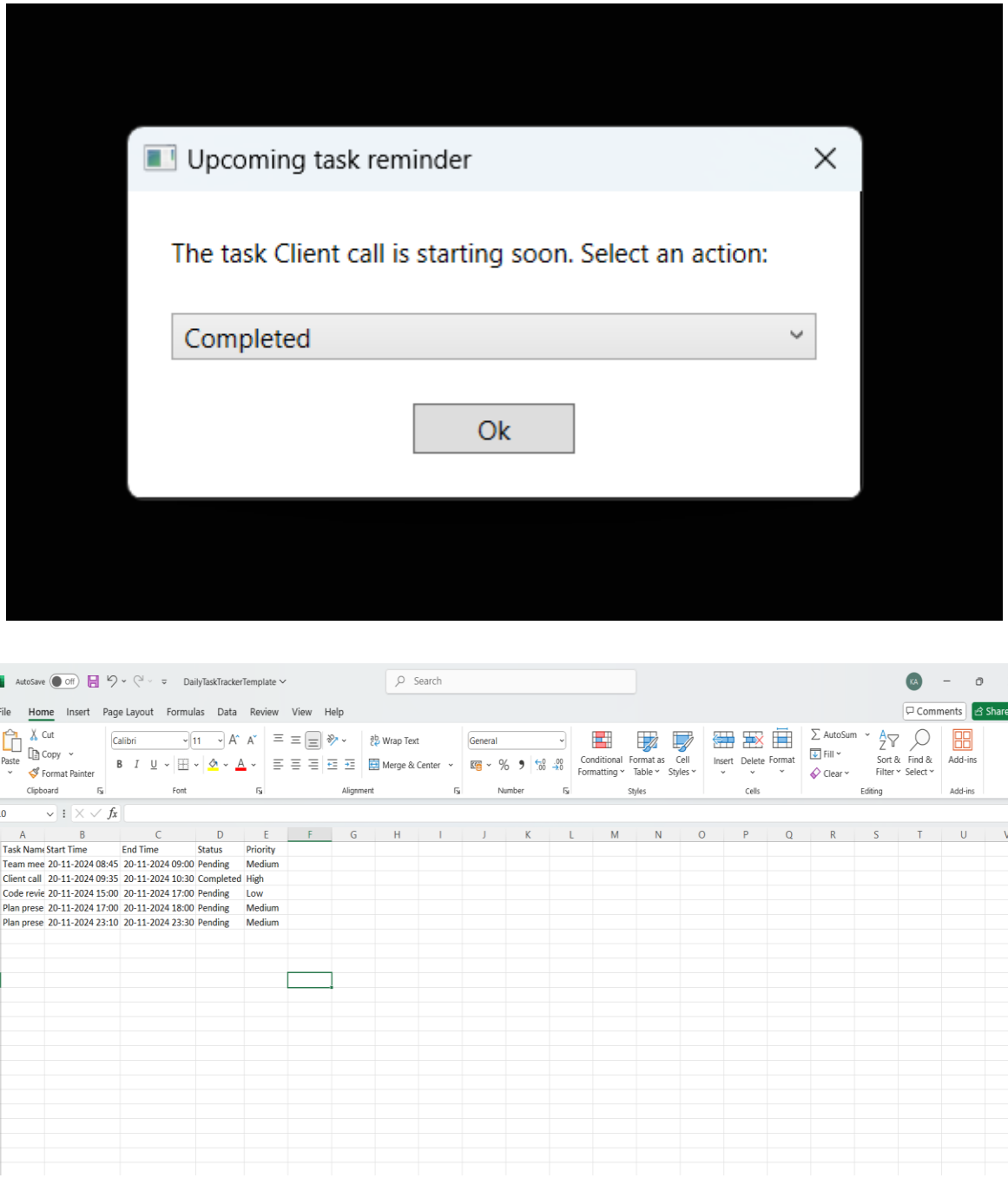


Fig 3 and 4. Status update in excel

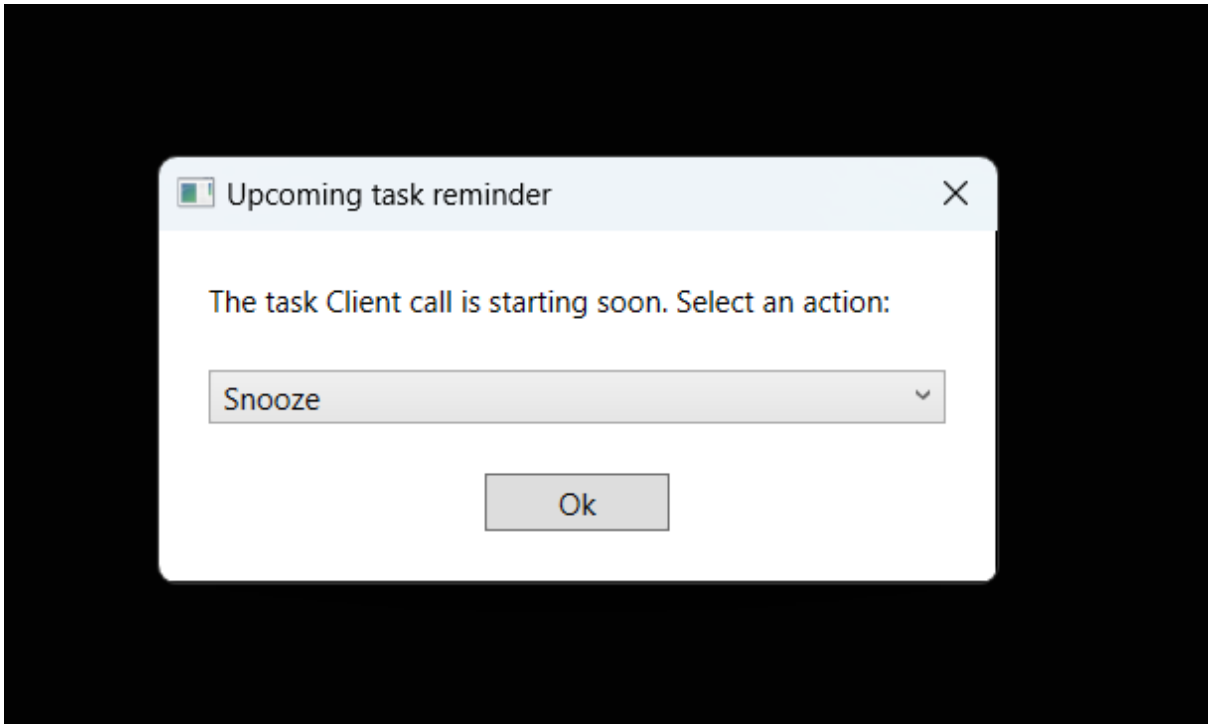


Fig 4. Task status as Snooze

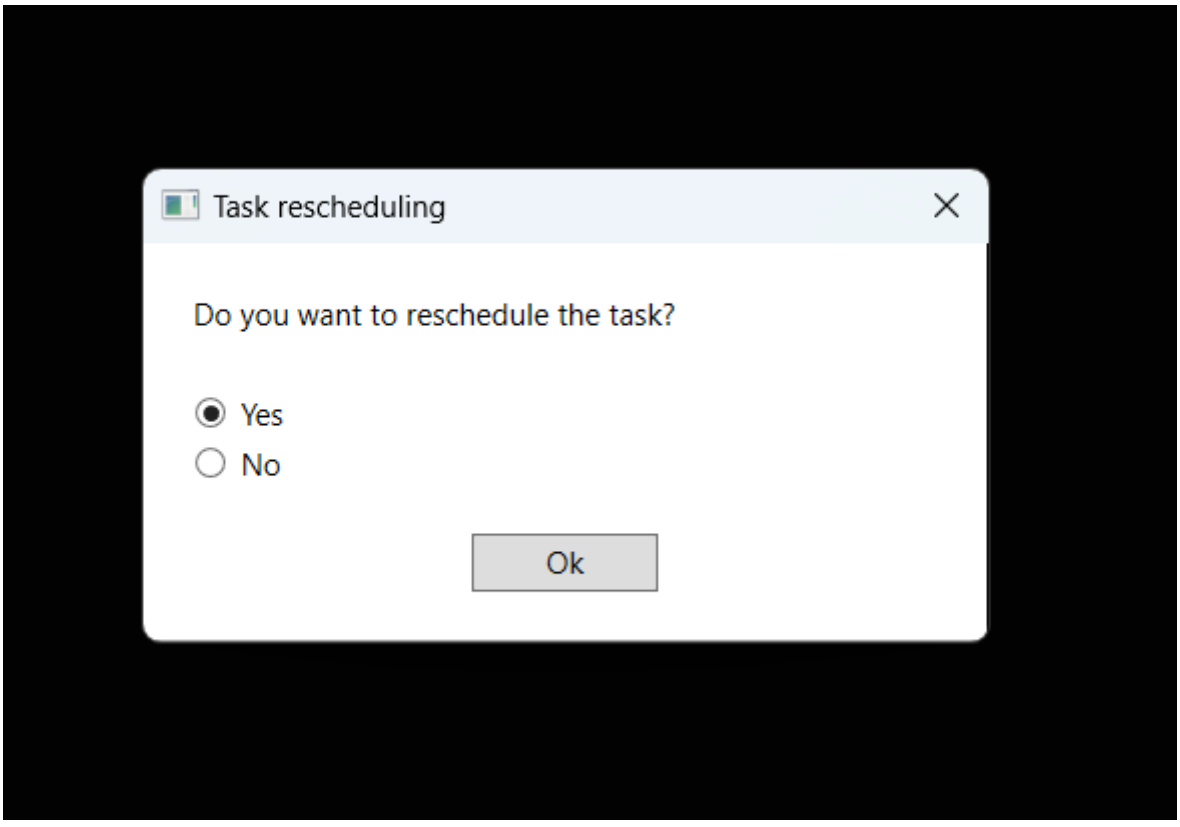
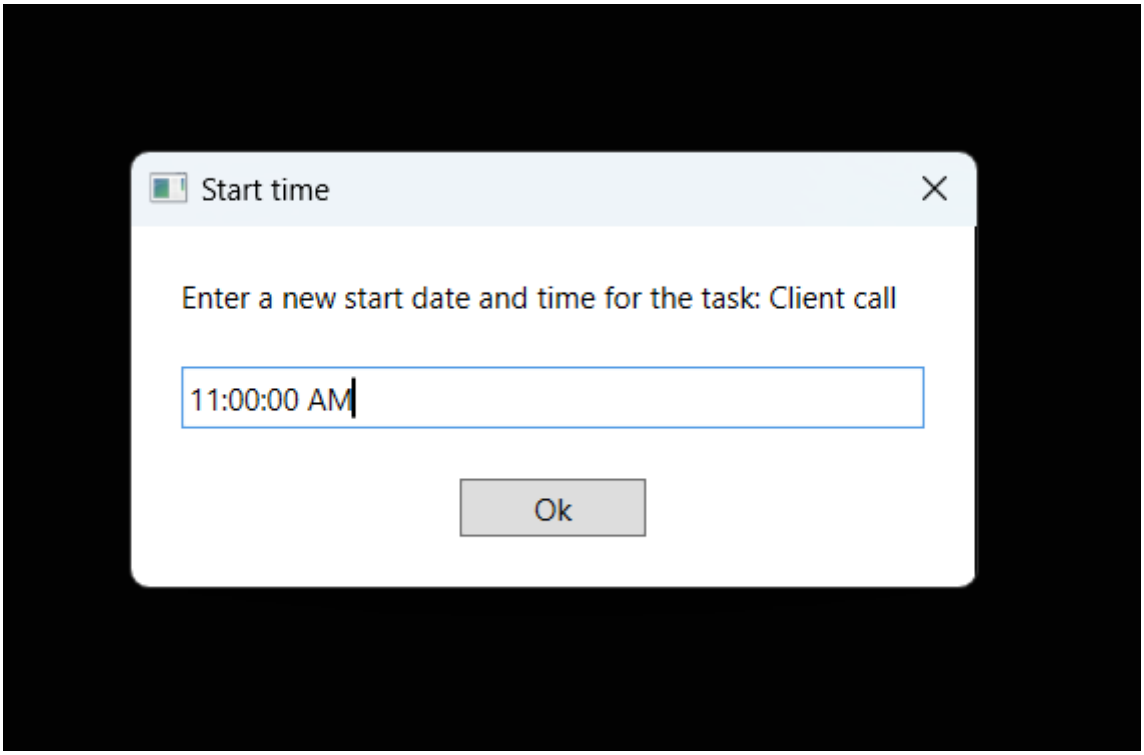


Fig 5. Rescheduling task



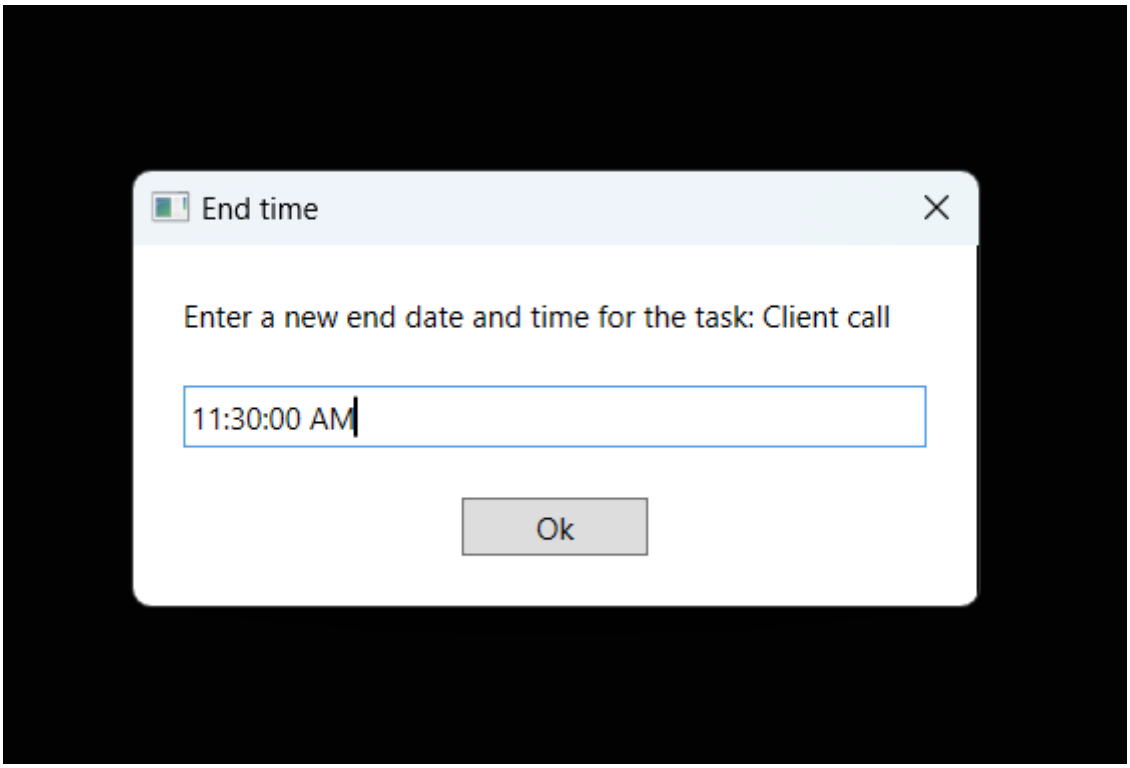
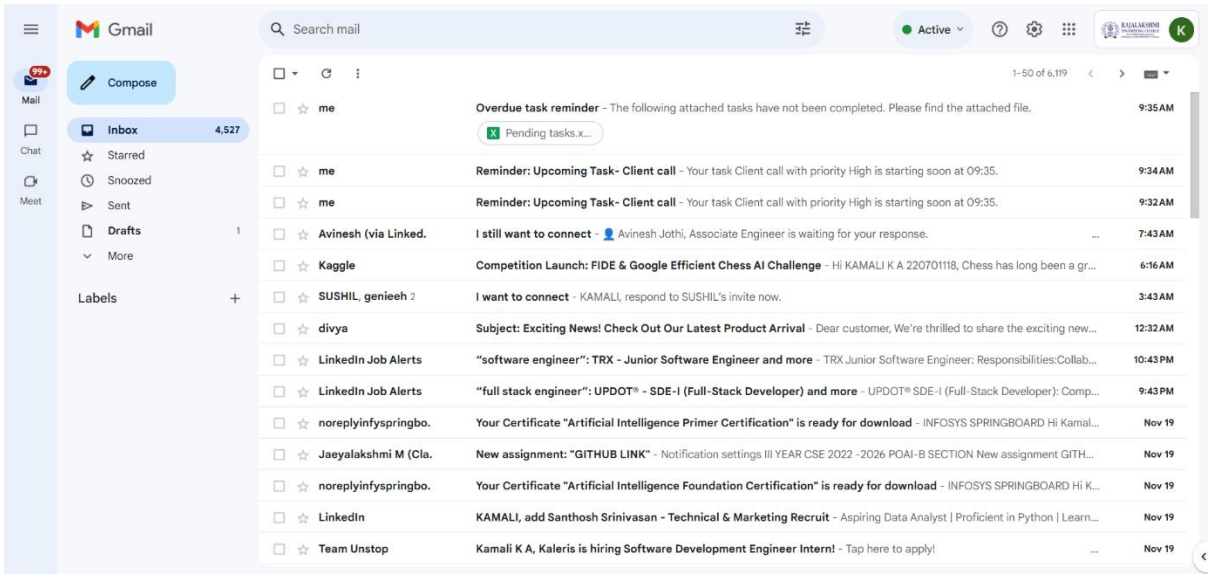


Fig 6 and 7. New task timings



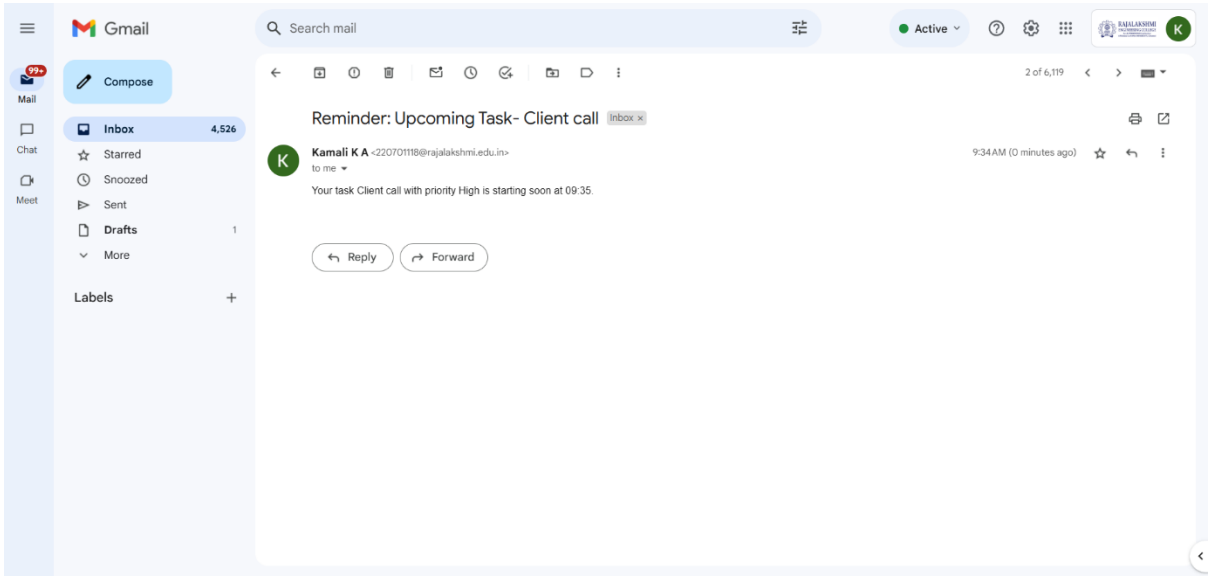
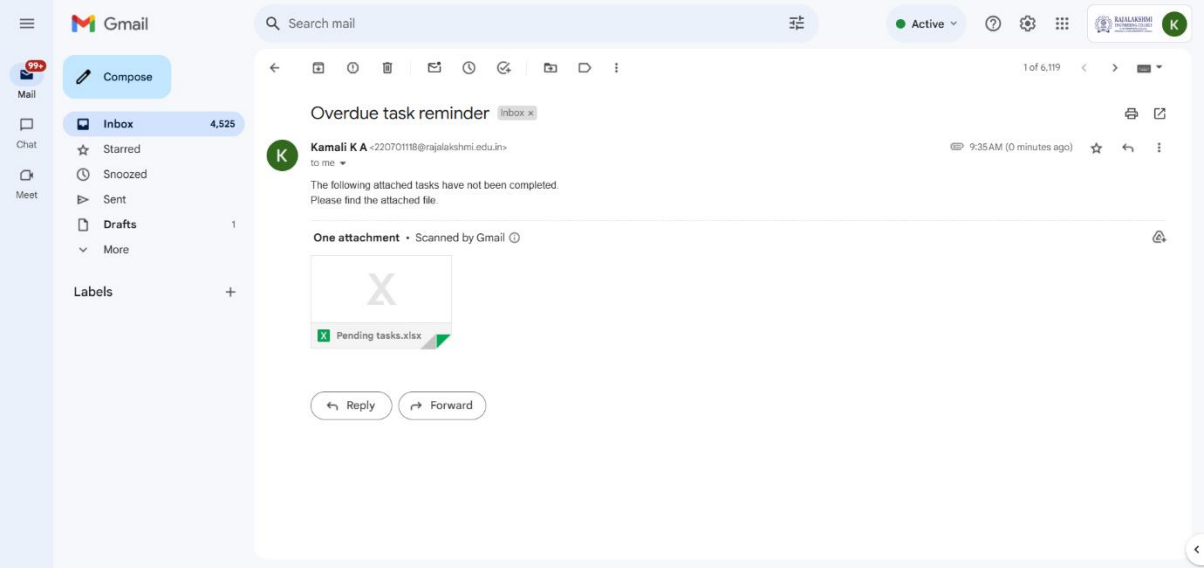


Fig 8 and 9. Task reminders through mail



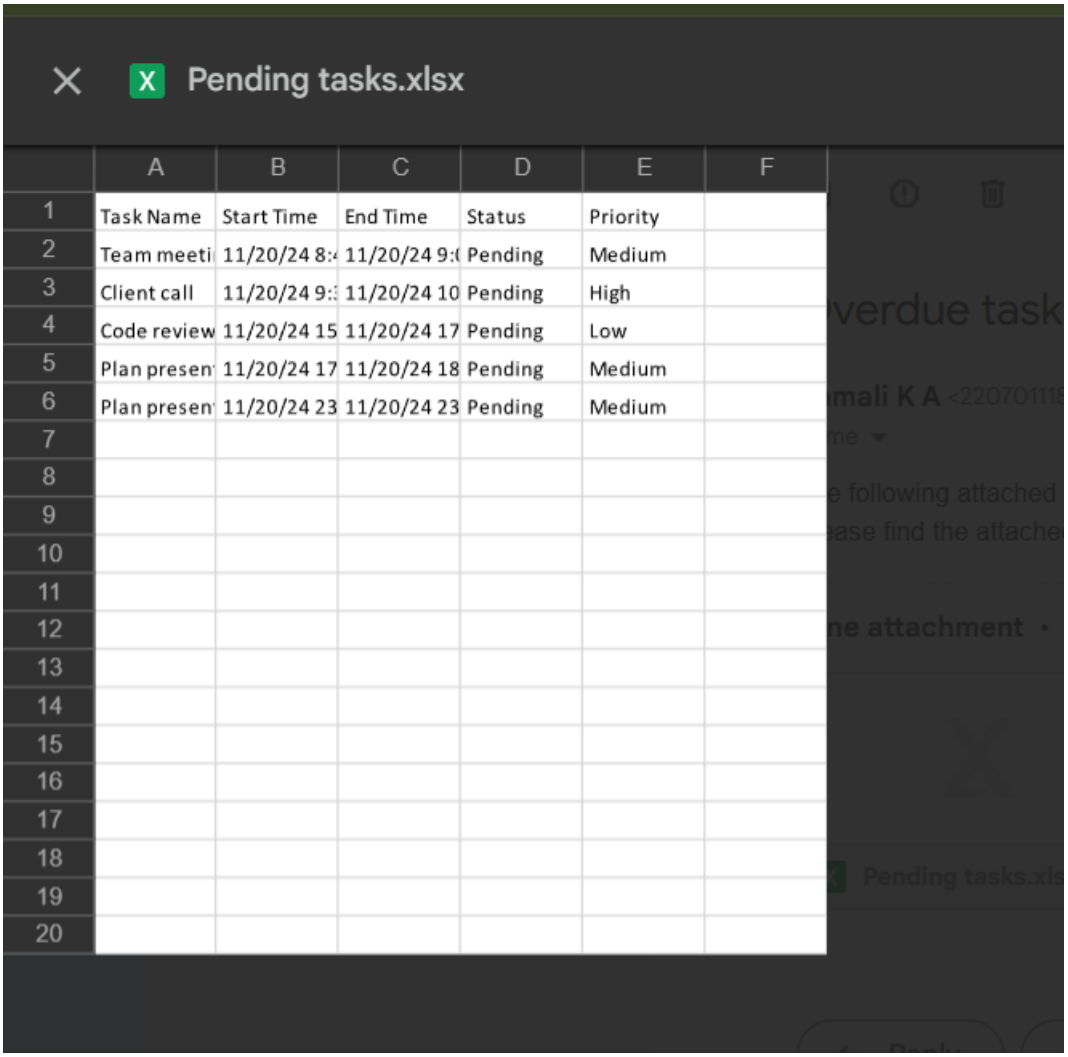


Fig 10 and 11. Pending task reminder

CHAPTER 6

CONCLUSION

The **Automated Task Management System** developed using UiPath successfully streamlines task scheduling and notification processes, providing a user-friendly and efficient solution for task management. By leveraging RPA (Robotic Process Automation), the system automates repetitive and time-sensitive operations, such as sending task reminders, overdue alerts, and managing task rescheduling.

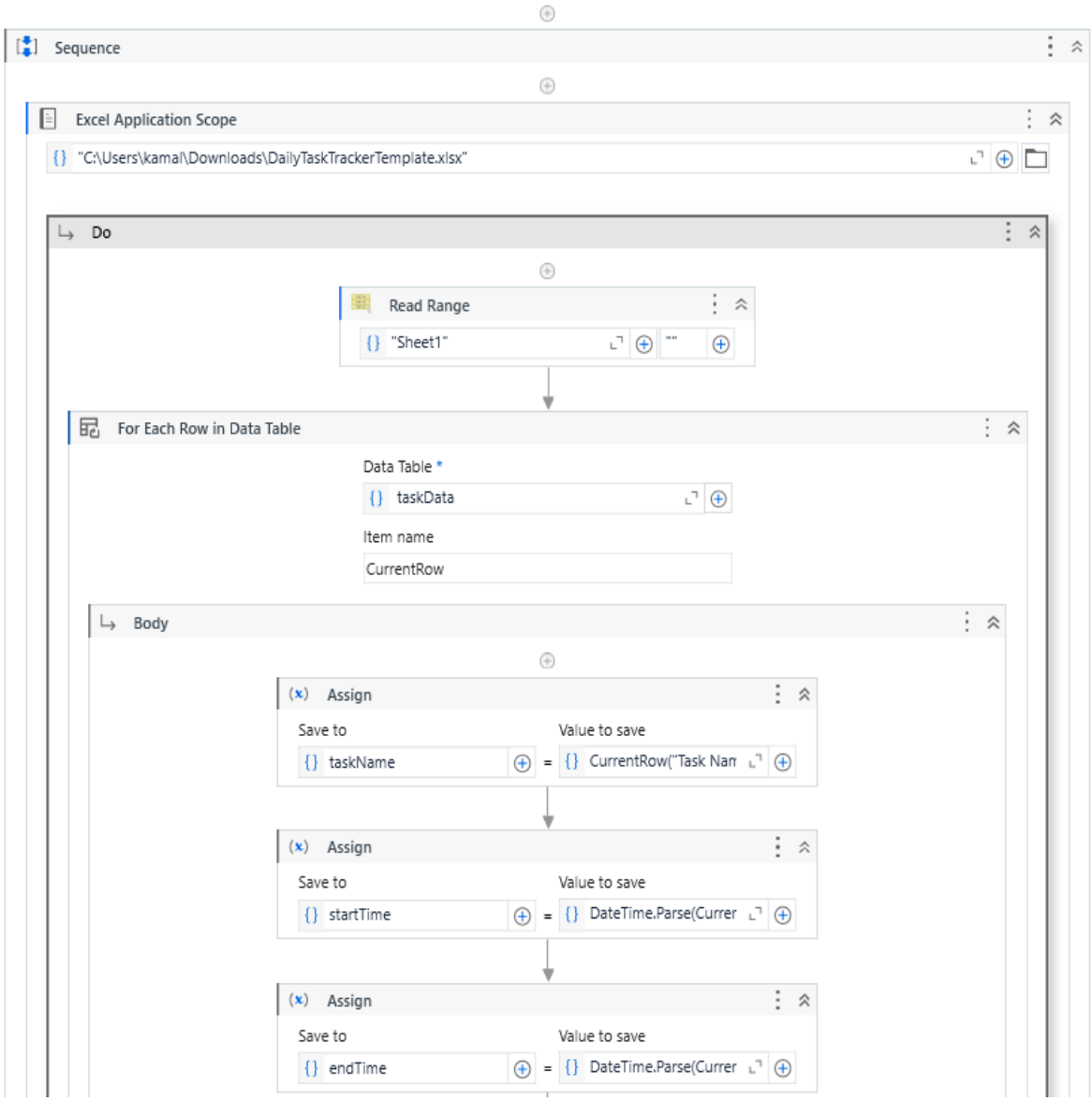
One of the significant advantages of this project is its adaptability to user needs. The integration of email automation ensures that users are promptly notified about upcoming and overdue tasks, reducing the chances of missing deadlines. The inclusion of user interaction through input dialogs allows real-time updates, such as marking tasks as completed or modifying their schedule, ensuring the system remains dynamic and responsive.

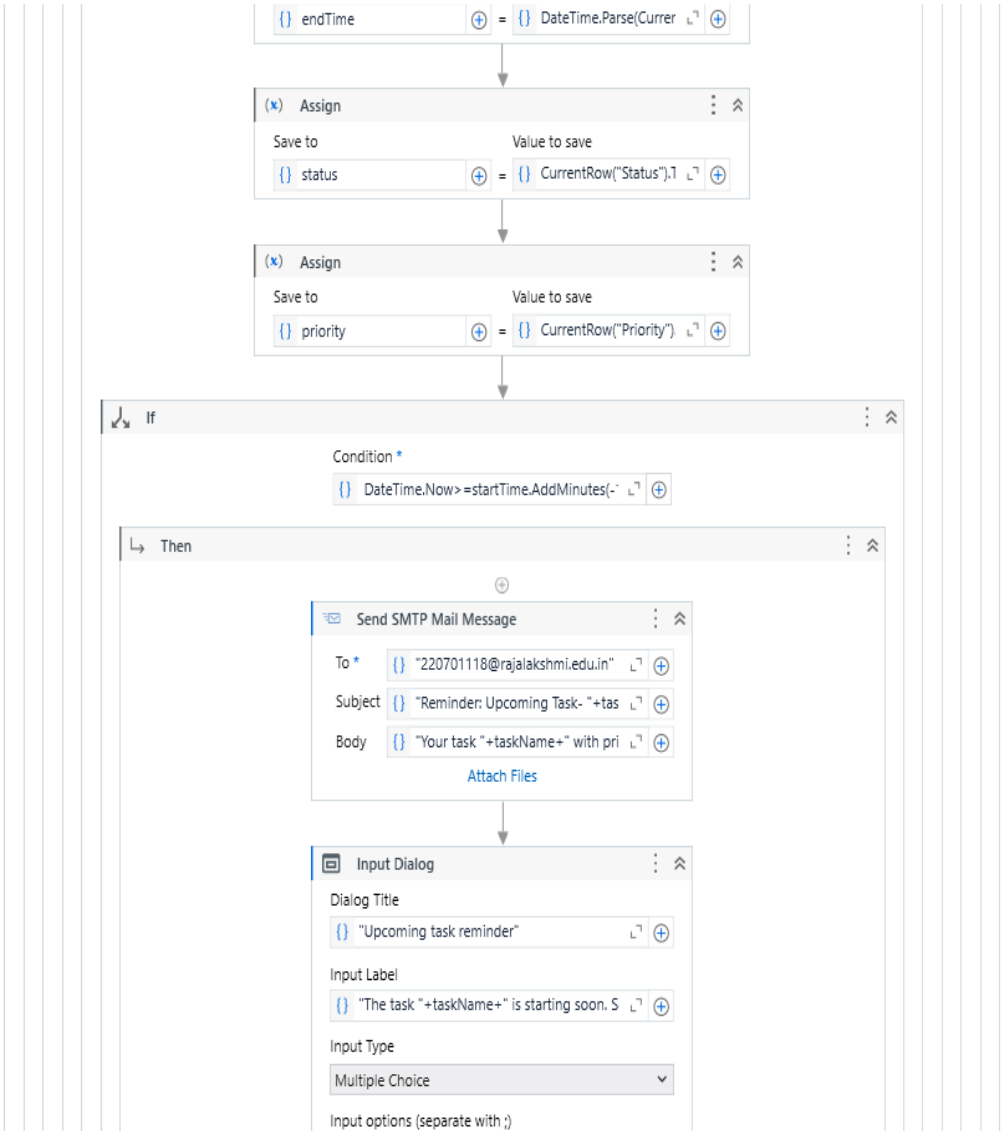
Furthermore, the use of an Excel file as a task database simplifies data handling and makes the system accessible for users without requiring complex configurations. The workflow incorporates robust features such as error handling, task data validation, and dynamic updates, enhancing the overall reliability and efficiency of the solution.

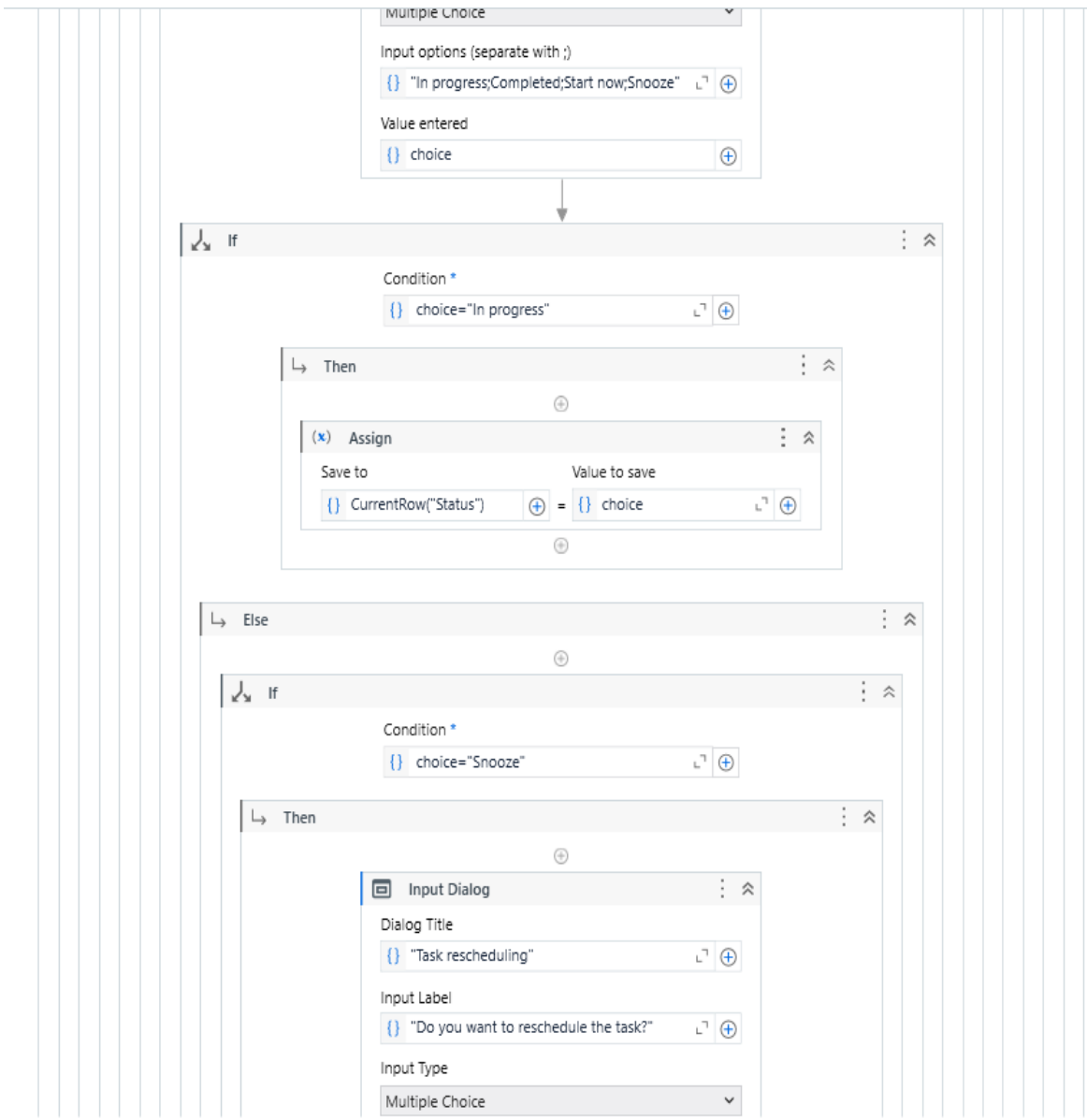
This project demonstrates the practical application of RPA tools like UiPath to automate everyday processes, reducing manual effort and improving productivity. It can serve as a foundation for more complex automation projects in personal or professional task management scenarios. Future enhancements, such as advanced analytics or multi-platform integration, could further expand its capabilities, making it an even more powerful tool for task management.

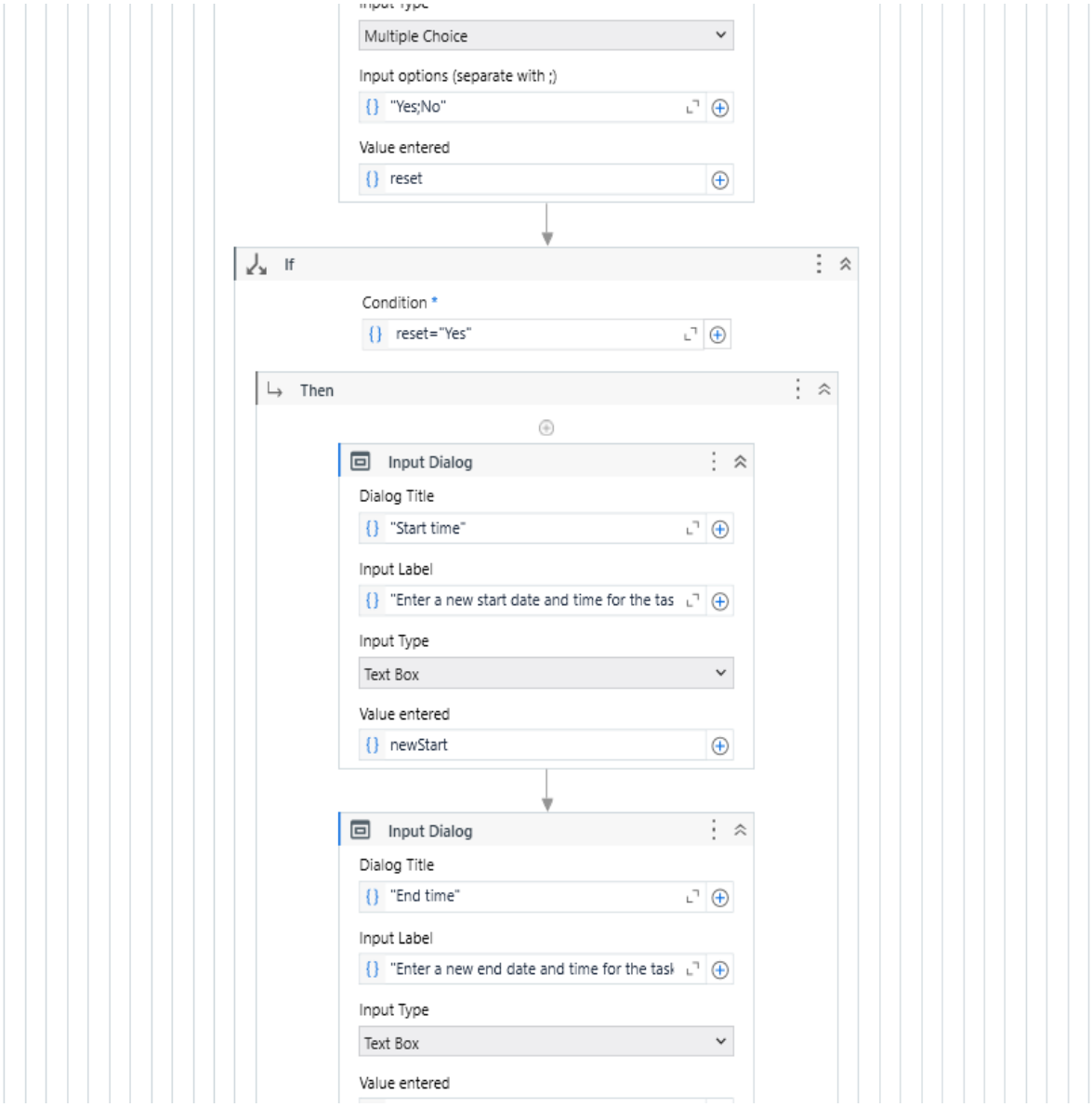
APPENDIX

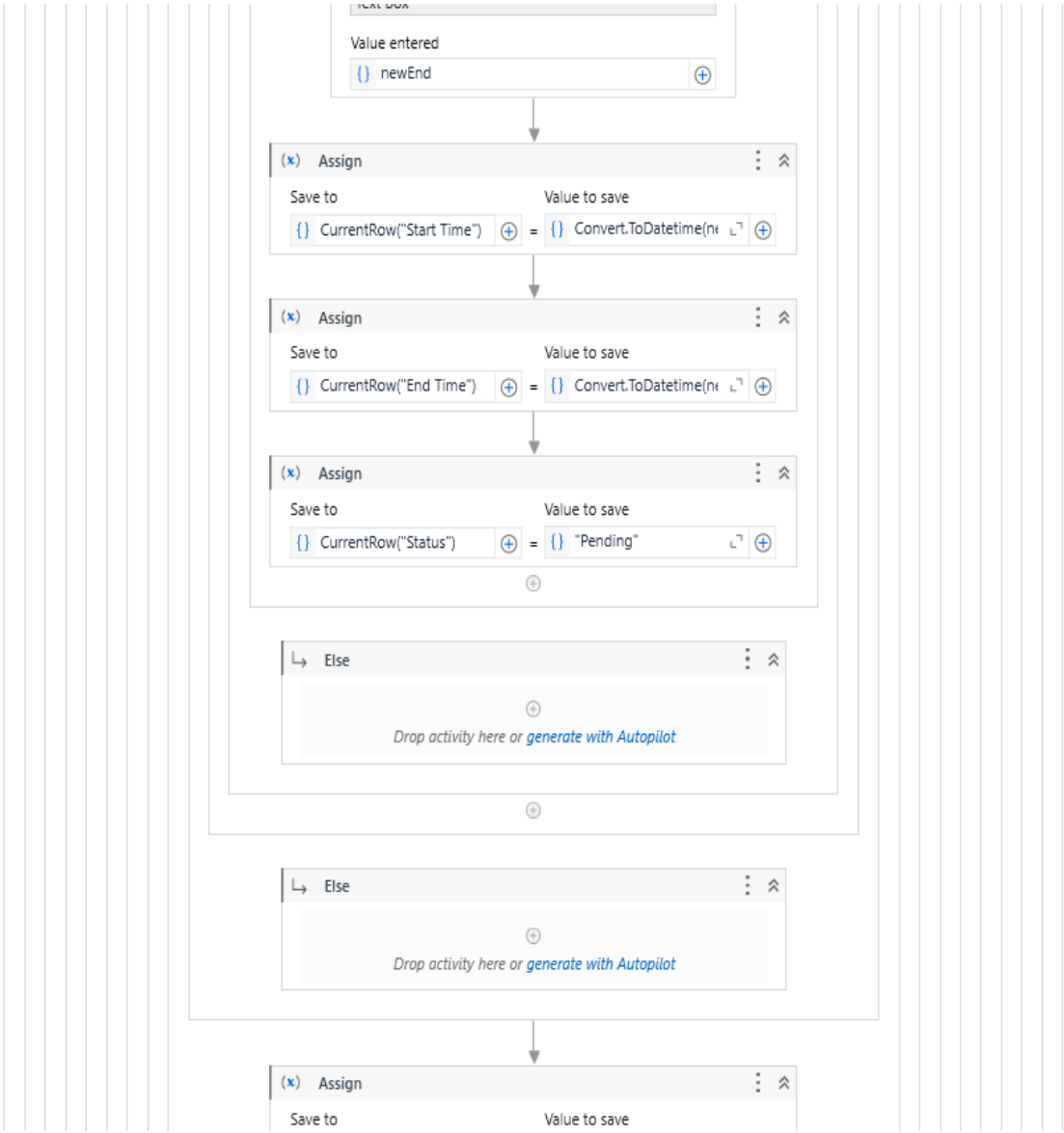
SAMPLE PROCESS

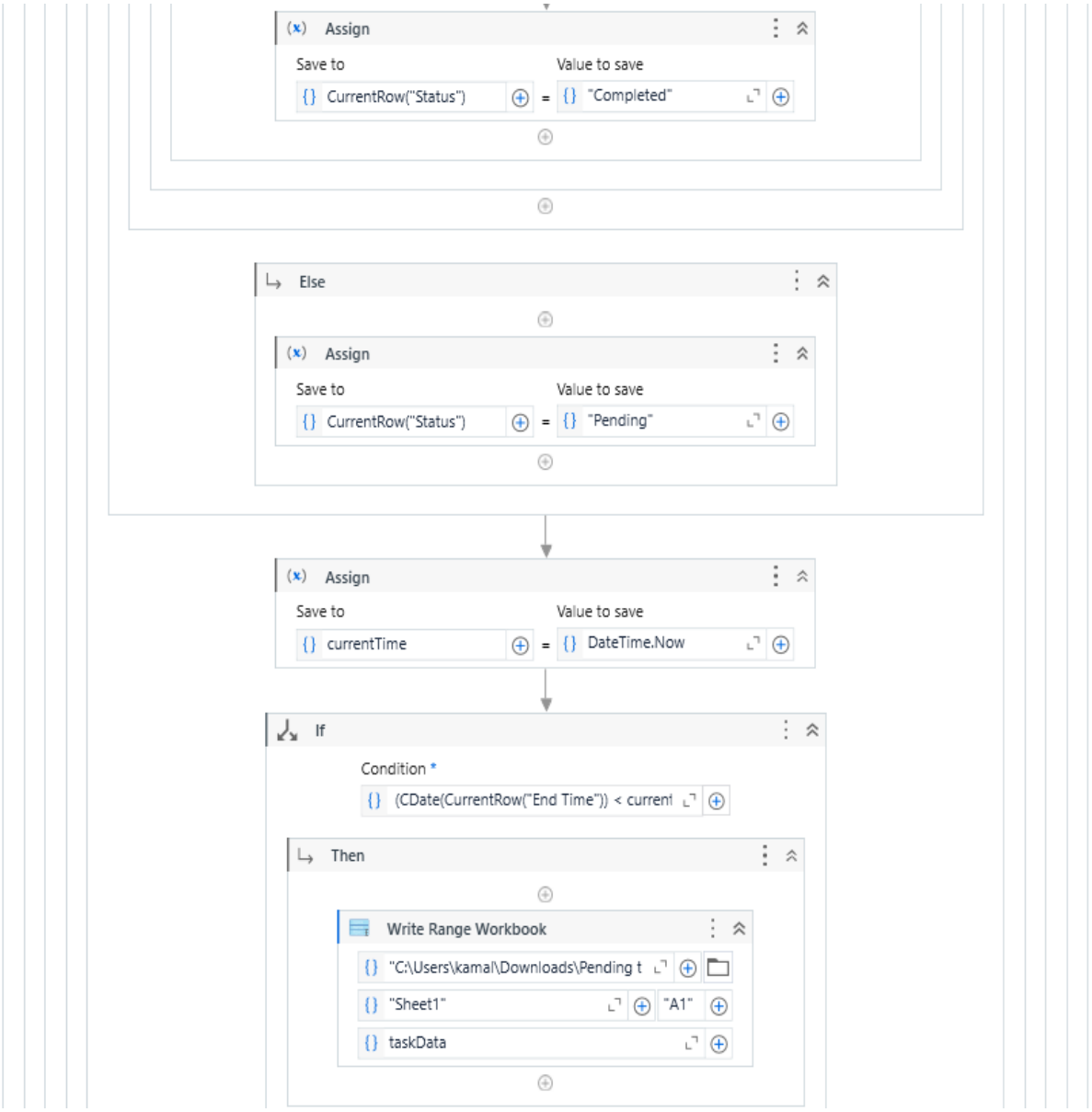


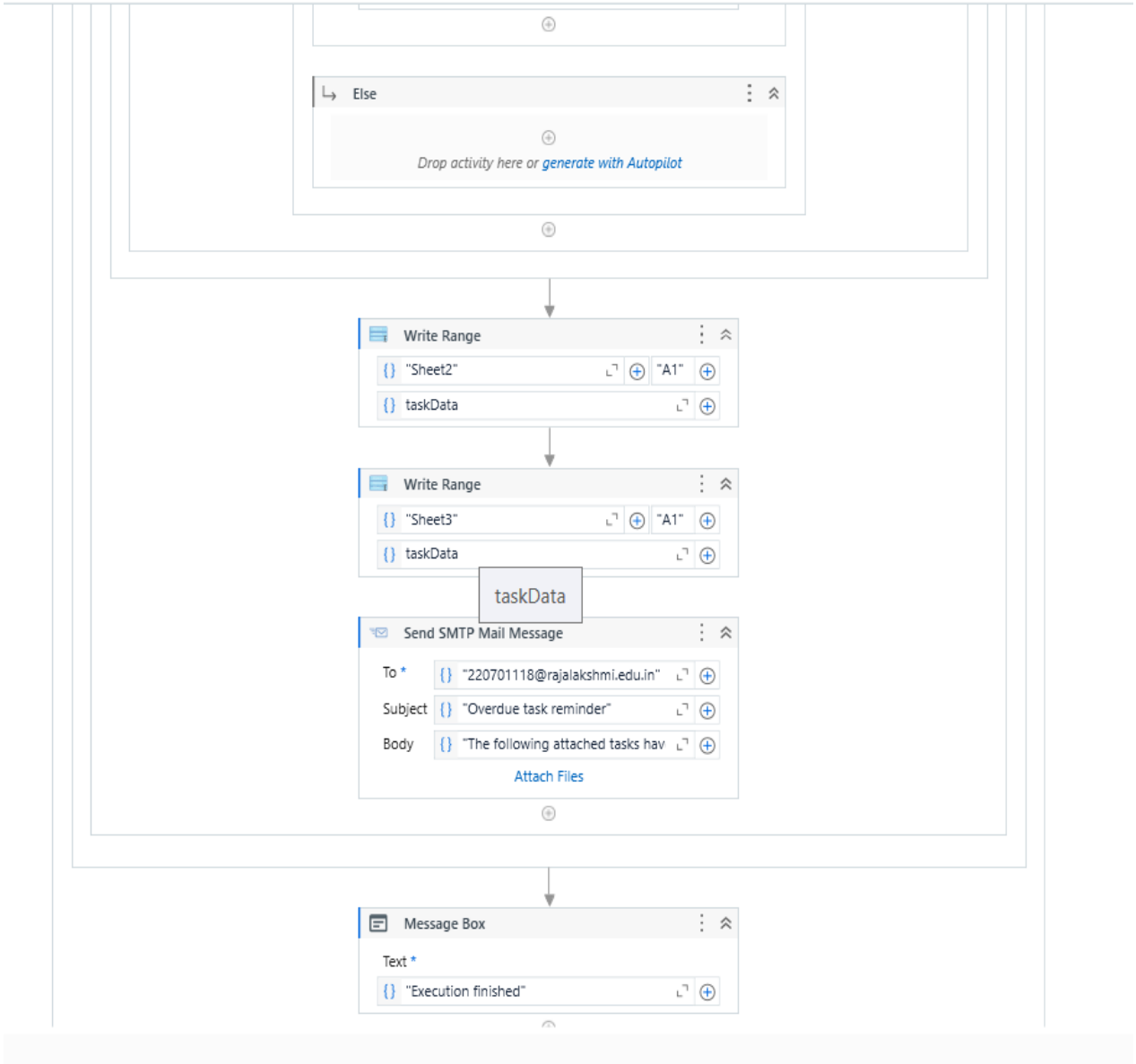

endTime
DateTime.Parse(Currer
Assign
Save to
Value to save
status
CurrentRow("Status").T
Assign
Save to
Value to save
priority
CurrentRow("Priority")
If
Condition *
DateTime.Now>=startTime.AddMinutes(-
Then
Send SMTP Mail Message
To *
"220701118@rajalakshmi.edu.in"
Subject
"Reminder: Upcoming Task- "+tas
Body
"Your task "+taskName+" with pri
Attach Files
Input Dialog
Dialog Title
"Upcoming task reminder"
Input Label
"The task "+taskName+" is starting soon. S
Input Type
Multiple Choice
Input options (separate with ;)


Multiple Choice
Input options (separate with ;)
"In progress;Completed;Start now;Snooze"
Value entered
choice
If
Condition *
choice="In progress"
Then
Assign
Save to
Value to save
CurrentRow("Status")
=
choice
Else
If
Condition *
choice="Snooze"
Then
Input Dialog
Dialog Title
"Task rescheduling"
Input Label
"Do you want to reschedule the task?"
Input Type
Multiple Choice


Multiple Choice
Input options (separate with ;)
"Yes;No"
Value entered
reset
If
Condition *
reset="Yes"
Then
Input Dialog
Dialog Title
"Start time"
Input Label
"Enter a new start date and time for the tas
Input Type
Text Box
Value entered
newStart
Input Dialog
Dialog Title
"End time"
Input Label
"Enter a new end date and time for the task
Input Type
Text Box
Value entered


Value entered
newEnd
Assign
Save to
Value to save
CurrentRow("Start Time")
Convert.ToDatetime(n
Assign
Save to
Value to save
CurrentRow("End Time")
Convert.ToDatetime(n
Assign
Save to
Value to save
CurrentRow("Status")
"Pending"
Else
Drop activity here or generate with Autopilot
Else
Drop activity here or generate with Autopilot
Assign
Save to
Value to save


Assign
Save to
Value to save
CurrentRow("Status")
=
"Completed"
Else
Assign
Save to
Value to save
CurrentRow("Status")
=
"Pending"
Assign
Save to
Value to save
currentTime
=
DateTime.Now
If
Condition *
(CDate(CurrentRow("End Time")) < current
Then
Write Range Workbook
"C:\Users\kamal\Downloads\Pending t
"Sheet1"
"A1"
taskData


Else
Drop activity here or generate with Autopilot
Write Range
"Sheet2"
"A1"
taskData
Write Range
"Sheet3"
"A1"
taskData
taskData
Send SMTP Mail Message
To *
"220701118@rajalakshmi.edu.in"
Subject
"Overdue task reminder"
Body
"The following attached tasks hav
Attach Files
Message Box
Text *
"Execution finished"

REFERENCES

1.UiPath forum: The UiPath Forum community where users share their experiences and solutions. https://forum.uipath.com/

2. UiPath documentation: The official documentation of UiPath features and functionalities https://docs.uipath.com/