QUETELET INDEX ESTIMATION BOT

A PROJECT REPORT

Submitted by

LITHAN(220701143)

in partial fulfillment for the course

OAI1903 - INTRODUCTION TO ROBOTIC PROCESS

AUTOMATION *for the degree of*

BACHELOR OF ENGINEERING

in

COMPUTER SCIENCE AND DESIGN

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RAJALAKSHMI NAGAR

THANDALAM

CHENNAI – 602 105

NOVEMBER 2024

RAJALAKSHMI ENGINEERING COLLEGE

CHENNAI - 602105

BONAFIDE CERTIFICATE

Certified that this project report **"The Quetelet index estimation Bot"** is the bonafide work of **"LITHAN(220701143)"** who carried out the project work for the subject OAI1903 - Introduction to Robotic Process Automation under my supervision.

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SIGNATURE
Mrs. G. M. Sasikala, M.E.,
SUPERVISOR,
Assistant Professor, Department of
Computer Science and Engineering,
Rajalakshmi Engineering College,
Rajalakshmi Nagar,
Thandalam,
Chennai- 602105.

Submitted to Project and Viva Voce Examination for the subject OAI1903 - Introduction to Robotic Process Automation held on _____.

Internal Examiner **External Examiner**

ABSTRACT

The project focuses on automating the process of calculating the Quetelet Index, commonly known as the Body Mass Index (BMI), and delivering the results via email using UiPath Studio. The Quetelet Index is a widely recognized metric for assessing an individual's body mass relative to height, providing insights into health and fitness levels. This robotic process automation (RPA) project aims to demonstrate how routine and repetitive health-related calculations can be efficiently managed using RPA tools.

The system integrates multiple stages of automation. First, the required input data, such as height and weight, is either manually entered or extracted from a predefined database. Next, the BMI is calculated using the standard formula:

Once the calculation is complete, the result is analyzed to classify the individual's health status (e.g., underweight, normal weight, overweight, or obese) based on WHO guidelines. The final step involves generating a well-structured email, including the BMI value and health status, and sending it to the intended recipient.

This project highlights the application of UiPath's robust automation capabilities in simplifying and accelerating health data processing tasks. By reducing manual effort and minimizing errors, the system offers significant potential for scalability in health and wellness management, such as corporate health assessments or fitness program monitoring. The implementation underscores the role of RPA in enhancing productivity and precision in everyday tasks.

ACKNOWLEDGEMENT

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LITHAN G (220701143)

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LIST OF ABBREVIATIONS

ABBREVIATION	ACCRONYM
RPA	Robotic Process Automation
AI	Artificial Intelligence
API	Application Programming Interface
CV	Computer Vision
OCR	Optical Character Recognition

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

In today's digital era, automation has become a crucial tool for streamlining repetitive tasks and enhancing efficiency. Robotic Process Automation (RPA) offers a robust platform to achieve these objectives by enabling the automation of workflows involving data processing and communication. This report explores the development and implementation of an automated system for estimating the Quetelet Index, commonly known as the Body Mass Index (BMI), using UiPath Studio.

The BMI is a widely used metric to assess an individual's body weight relative to their height, providing an indicator of potential health risks. This project focuses on automating the calculation of BMI from input data and sending the results via email. By leveraging UiPath's capabilities, the system ensures accuracy, consistency, and prompt communication of the calculated results, demonstrating the potential of RPA in healthcare-related applications.

The report provides an overview of the project's objectives, design, and implementation, highlighting how automation can simplify complex processes while maintaining precision and reliability.

1.2 OBJECTIVE

The objective of this project is to design and implement an automated system for calculating the Quetelet Index, commonly known as the Body Mass Index (BMI), and delivering the results via email using UiPath Studio. The project aims to streamline the process by automating data collection, performing accurate BMI calculations, generating a personalized report with the calculated results, and sending it to designated recipients. By leveraging Robotic Process Automation (RPA), this system demonstrates how automation can enhance efficiency, accuracy, and communication in data-driven processes, particularly in health-related applications.

1.3 EXISTING SYSTEM

The existing system for calculating BMI is largely manual, requiring users to collect data, perform calculations, and communicate results individually. This process is time-consuming, error-prone, and inefficient, especially when dealing with multiple calculations. Additionally, the manual effort involved in formatting and sharing results can lead to delays and inconsistencies. These limitations highlight the need for an automated solution to streamline the process, reduce errors, and ensure timely and accurate communication.

1.4 PROPOSED SYSTEM

The proposed system leverages UiPath Studio to automate the process of BMI calculation and result dissemination. It collects input data, such as weight and height, from predefined sources, calculates the BMI using a standard formula, and categorizes the result into appropriate health classifications. The system then generates a personalized report and automatically sends it to recipients via email. This approach eliminates manual effort, reduces errors, and ensures consistent, timely communication, making the process more efficient and scalable for multiple users or datasets.

CHAPTER 2

LITERATURE REVIEW

2.1 Survey on Robotic Process Automation (RPA) in Education:

Robotic Process Automation (RPA) is revolutionizing education by automating repetitive tasks such as admissions processing, student record management, grading, and notifications. This survey explores the adoption and impact of RPA in educational institutions, focusing on its ability to enhance efficiency, reduce administrative burdens, and improve resource allocation. It examines adoption trends, benefits, challenges, and the potential for innovative applications like personalized learning. The survey aims to provide insights into how RPA can transform education and guide institutions in leveraging automation effectively.

2.2 Survey on AI-Generated Content Detection:

As AI-generated content becomes more prevalent, detecting such material has become increasingly important. This survey explores the tools and techniques used to identify AI-produced text, images, and multimedia across various sectors, including education, media, and cybersecurity. It examines the challenges of distinguishing AI content from human-created material, the effectiveness of detection systems, and the ethical implications involved. The survey aims to provide insights into current detection methods and highlight emerging trends and strategies for addressing concerns about content authenticity and misuse.

2.3 Survey on Plagiarism Detection:

Plagiarism detection is a vital concern in education, research, and publishing, as it ensures the integrity and originality of academic and professional work. This survey investigates the various tools, techniques, and challenges associated with identifying

plagiarism in text, code, and other types of content. It examines the effectiveness of different plagiarism detection systems, their ability to detect both direct copying and more subtle forms of plagiarism, such as paraphrasing.

The survey also explores the role of AI and machine learning in enhancing detection accuracy and efficiency, as well as the ethical issues surrounding plagiarism, such as privacy and fairness in the detection process. The findings aim to offer insights into current detection practices, emerging trends, and strategies for improving plagiarism prevention and detection in various fields.

2.4 Summary of the intersection of RPA, AI Detection, and Plagiarism Checks:

The intersection of Robotic Process Automation (RPA), AI detection, and plagiarism checks lies in automating and enhancing the accuracy of content verification across various domains. RPA streamlines repetitive tasks such as data collection and processing, while AI detection technologies help identify AI-generated content by analyzing patterns in text and multimedia. Plagiarism detection systems, often powered by AI, ensure the originality of content by detecting both direct copying and subtle forms of plagiarism. Together, these technologies create an efficient, automated framework for ensuring content integrity, authenticity, and compliance in education, research, and professional environments.

CHAPTER 3

SYSTEM DESIGN

3.1 SYSTEM FLOW DIAGRAM

A flowchart is a type of diagram that represents an algorithm, workflow or process. The flowchart shows the steps as boxes of various kinds, and their order by connecting the boxes with arrows. This diagrammatic representation illustrates a solution model to a given problem.

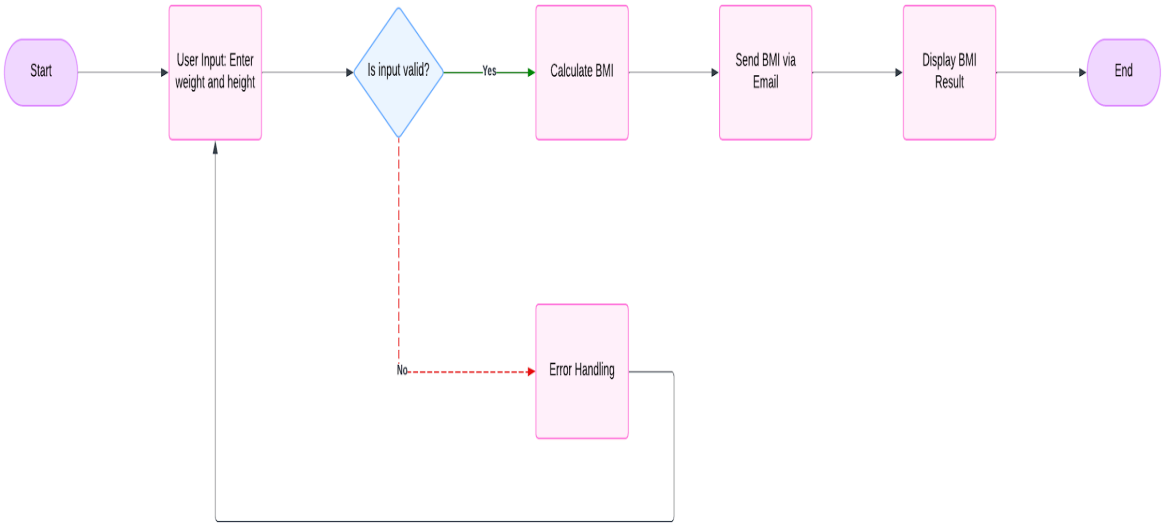


Fig 3.1 System Flow Diagram

3.2 ARCHITECTURE DIAGRAM

An architecture diagram is a graphical representation of a set of concepts, that are part of an architecture, including their principles, elements and components. The architecture diagram for this project is in Fig. 3.2.

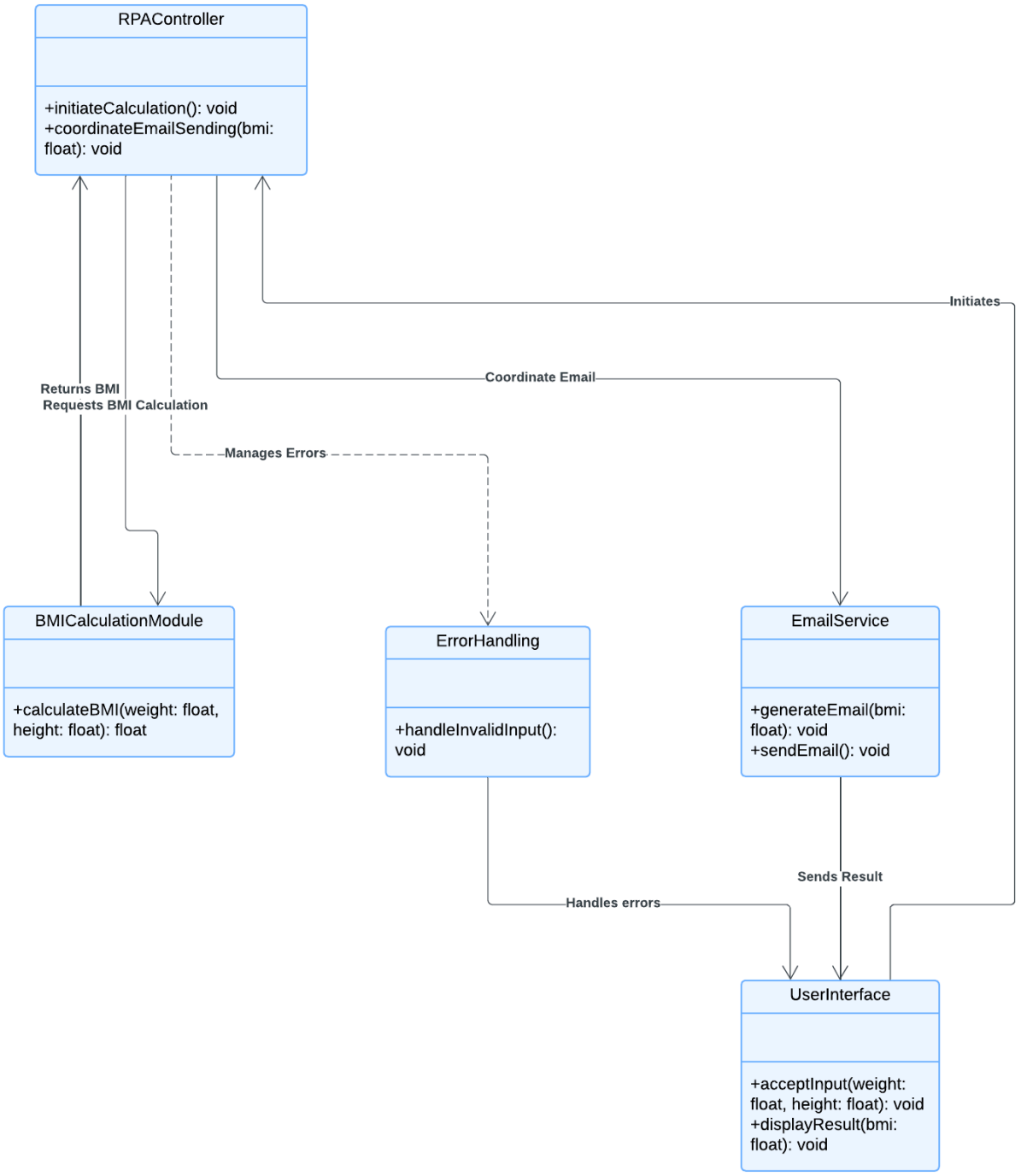


Fig 3.2 Architecture Diagram

3.3 SEQUENCE DIAGRAM

A sequence diagram is a type of interaction diagram because it describe and s how in what order a group of objects works together. The sequence diagram for this project is in Fig. 3.3.

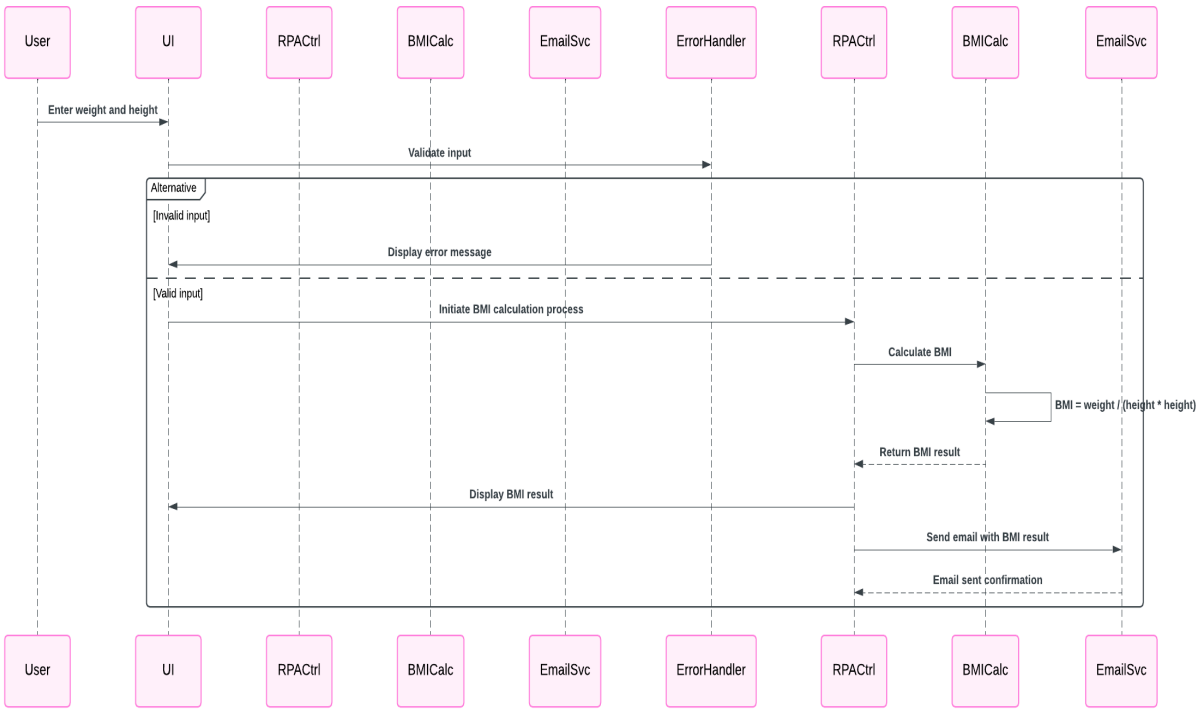


Fig 3.3 Sequence Diagram

CHAPTER 4

PROJECT DESCRIPTION

This project involves developing an automated system using Robotic Process Automation (RPA) in UiPath Studio to calculate the Body Mass Index (BMI) and send the results via email. The system will collect weight and height inputs, calculate BMI, categorize the result, and automatically send an email with the findings. It aims to streamline the process, reduce manual effort, and ensure accuracy in BMI calculations and communication.

4.1. MODULES:

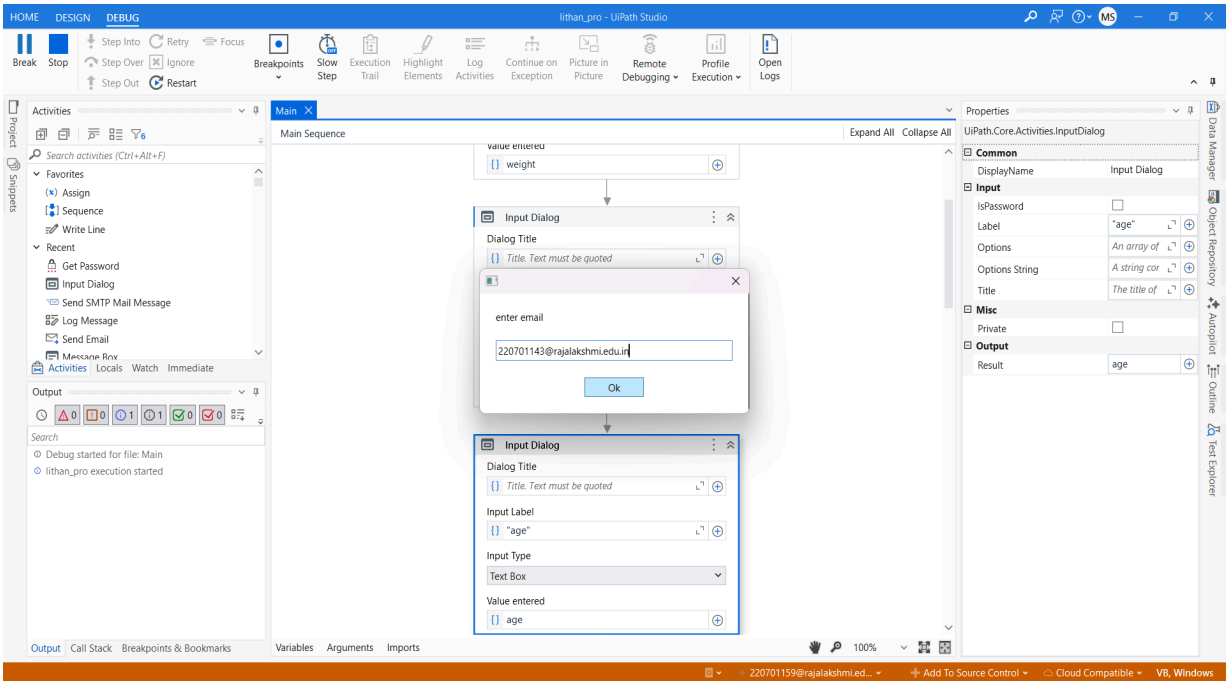
The project consists of the following key modules:

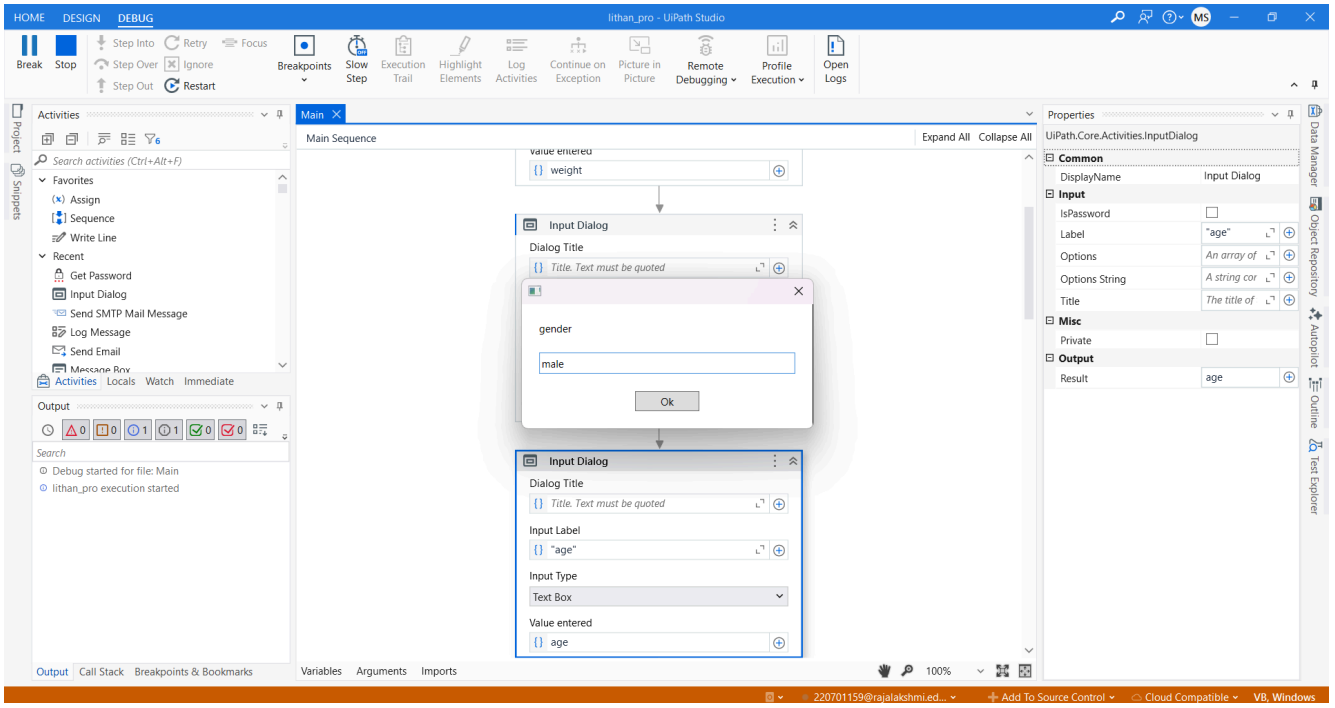
1. **User Input Module**: Collects weight and height from the user, either through a form or an input dialog.
2. **BMI Calculation Module**: Performs the BMI calculation using the formula BMI=weightheight2\text{BMI} = \frac{\text{weight}}{\text{height}^2}BMI=height2weight and categorizes the result (underweight, normal, overweight, or obese).
3. **Error Handling Module**: Validates user input, ensuring that only valid numeric values are entered for weight and height.
4. **Email Notification Module**: Generates an email with the calculated BMI result and sends it to the designated recipient.
5. **Report Generation Module**: Creates a detailed report of the BMI calculation and health category, ready for email delivery.

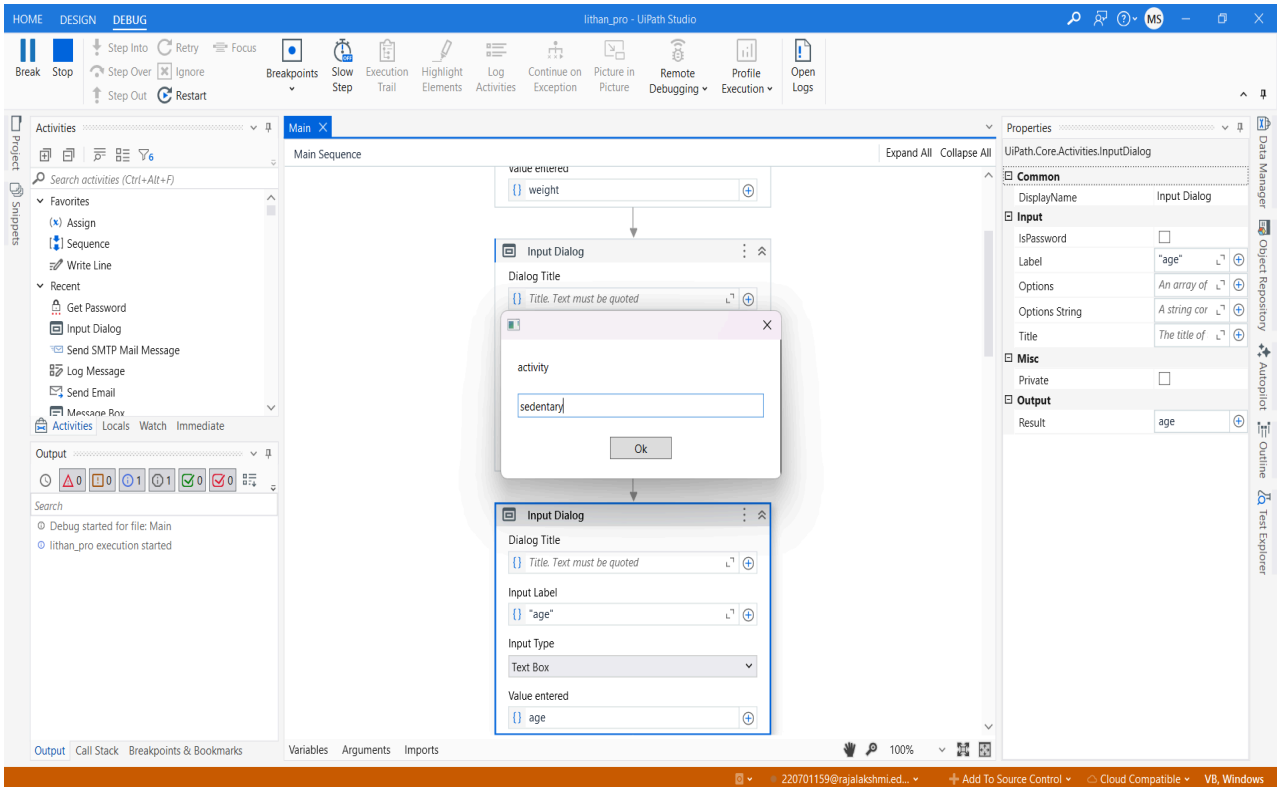
These modules work together to automate the entire process, ensuring efficient and accurate BMI calculation and communication.

CHAPTER 5

OUTPUT SCREENSHOTS



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lithan_pro - UiPath Studio
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Breakpoints
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Highlight Elements
Log Activities
Continue on Exception
Picture in Picture
Remote Debugging
Profile Execution
Open Logs
Activities
Search activities (Ctrl+Alt+F)
Favorites
Assign
Sequence
Write Line
Recent
Get Password
Input Dialog
Send SMTP Mail Message
Log Message
Send Email
Activities
Locals
Watch
Immediate
Output
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Breakpoints & Bookmarks
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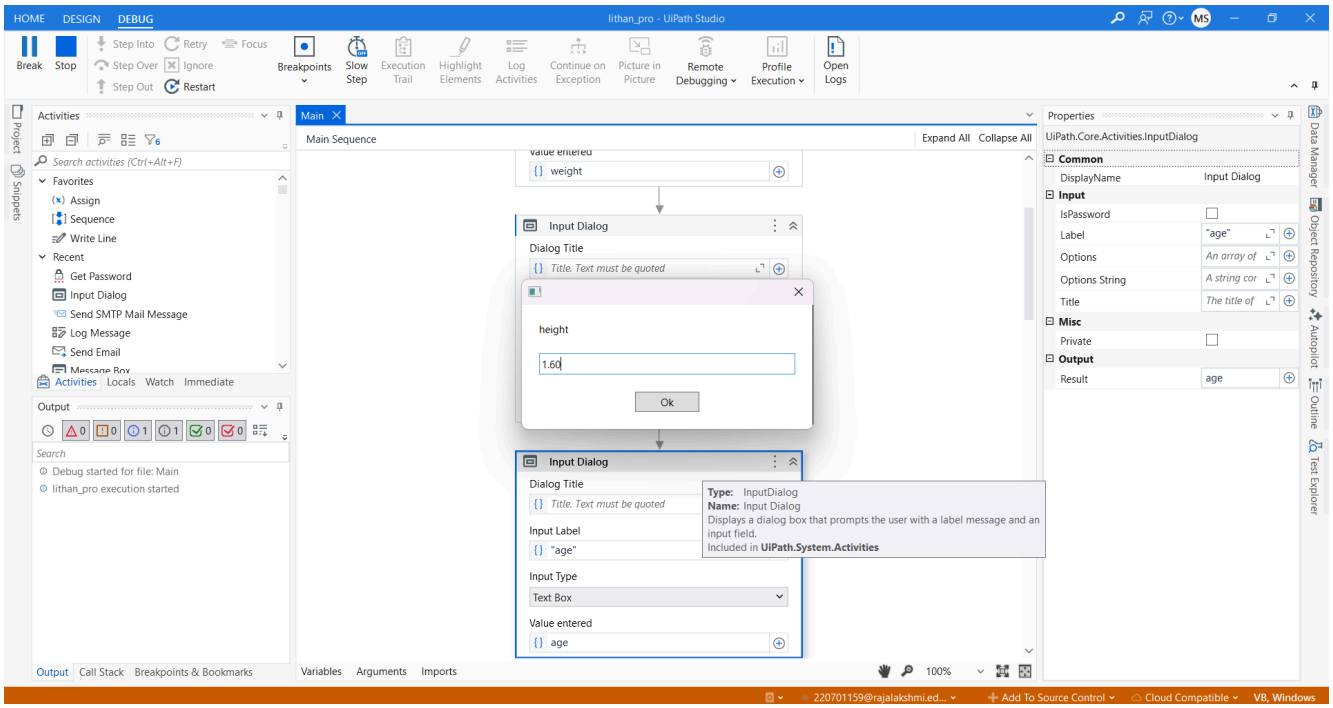
Add To Source Control
Cloud Compatible
VB, Windows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Picture in Picture
Remote Debugging
Profile Execution
Open Logs
Activities
Search activities (Ctrl+Alt+F)
Favorites
Assign
Sequence
Write Line
Recent
Get Password
Input Dialog
Send SMTP Mail Message
Log Message
Send Email
Activities
Locals
Watch
Immediate
Output
Debug started for file: Main
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Main
Main Sequence
Expand All
Collapse All
weight
Input Dialog
Dialog Title
Title. Text must be quoted
height
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Ok
Input Dialog
Dialog Title
Title. Text must be quoted
Input Label
"age"
Input Type
Text Box
Value entered
age
Type: InputDialog
Name: Input Dialog
Displays a dialog box that prompts the user with a label message and an input field.
Included in UiPath.System.Activities
Output
Call Stack
Breakpoints & Bookmarks
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UiPath.Core.Activities.InputDialog
Common
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Outline
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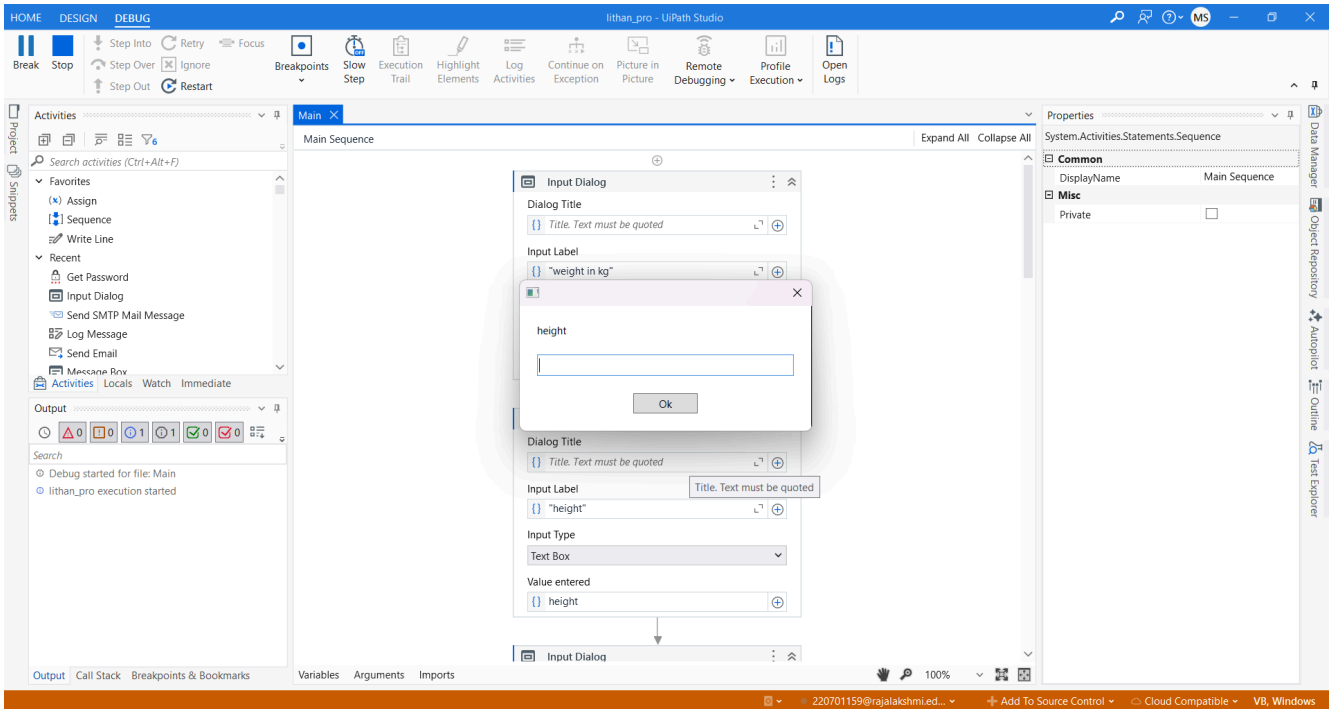
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Breakpoints & Bookmarks
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Collapse All
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height
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Dialog Title
Title. Text must be quoted
Input Label
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Input Type
Text Box
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Main Sequence
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Snippets
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Cloud Compatible
VB, Windows

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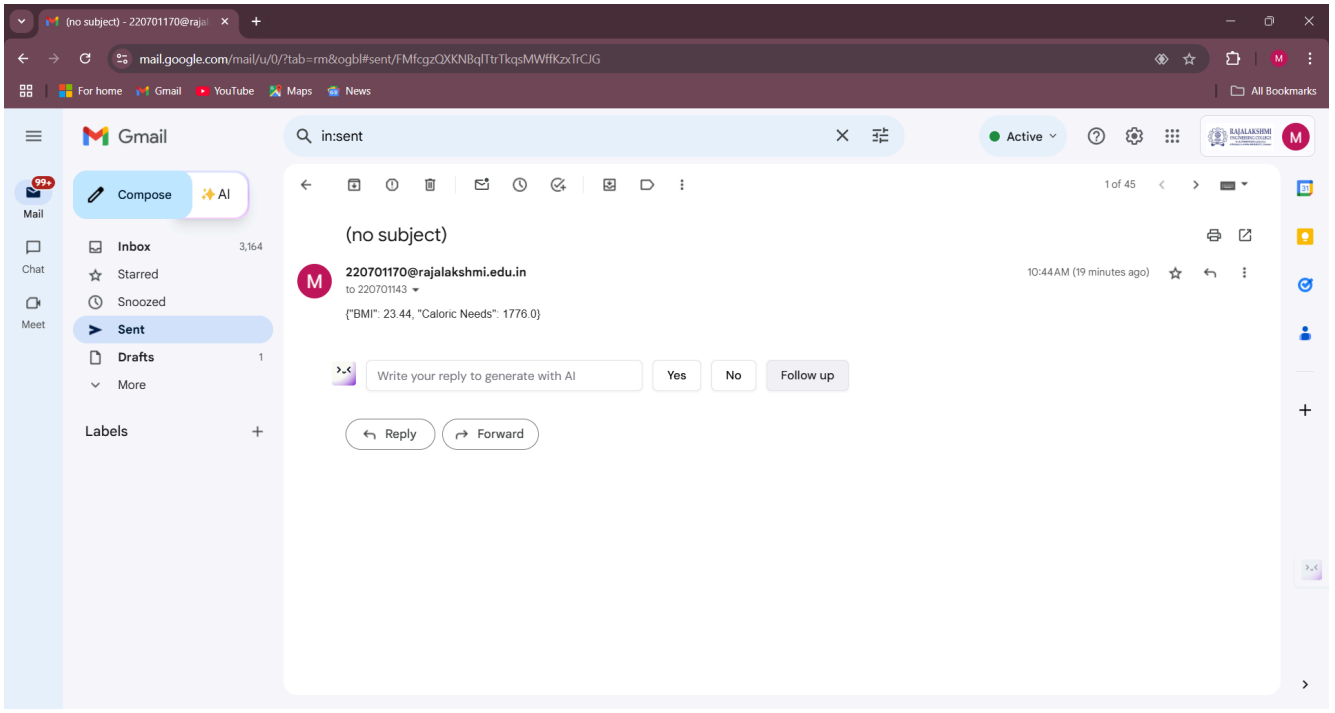
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For home
Gmail
YouTube
Maps
News
All Bookmarks
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Compose
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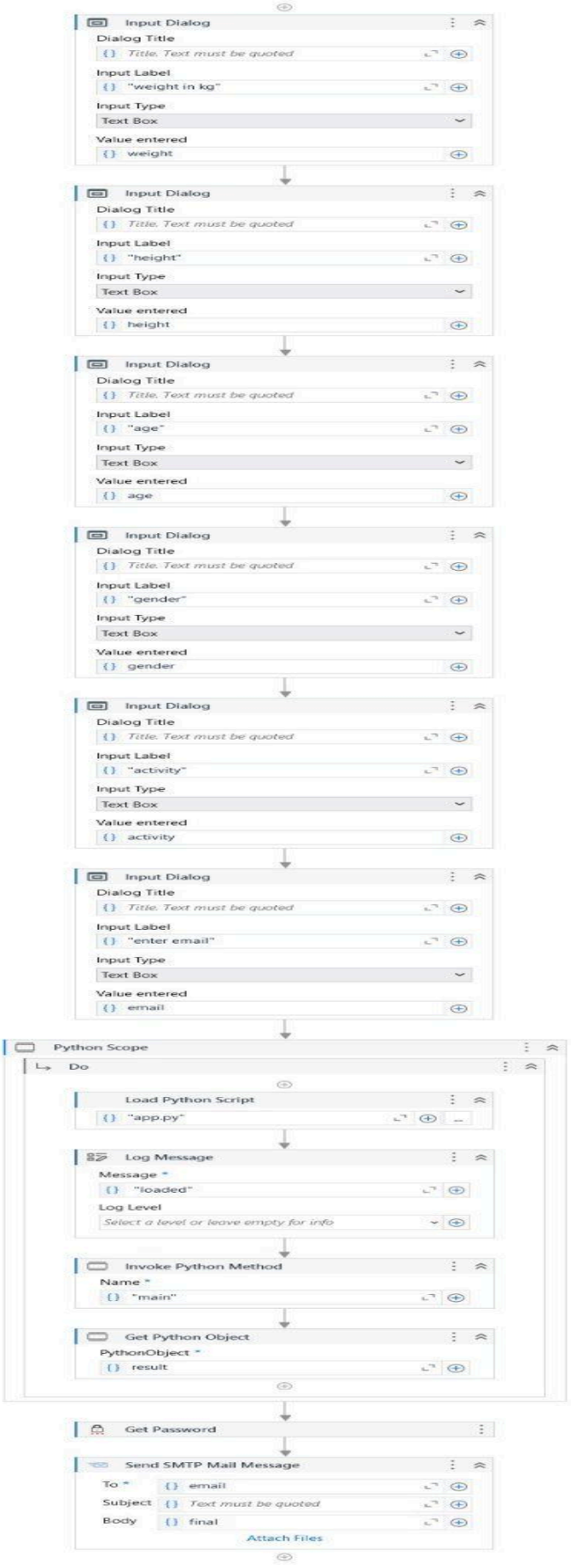
Mail
Chat
Meet
Inbox
3,164
Starred
Snoozed
Sent
Drafts
1
More
Labels
1 of 45
(no subject)
220701170@rajalakshmi.edu.in
to 220701143
10:44 AM (19 minutes ago)
{"BMI": 23.44, "Caloric Needs": 1776.0}
Write your reply to generate with AI
Yes
No
Follow up
Reply
Forward

CHAPTER 6

CONCLUSION

"This project successfully demonstrates the use of Robotic Process Automation (RPA) in automating the calculation of Body Mass Index (BMI) and delivering results via email. By leveraging UiPath Studio, the system streamlines data collection, computation, and communication processes, significantly reducing manual effort and errors. The project highlights the efficiency and accuracy RPA brings to repetitive tasks, making it a valuable tool for health management and similar applications. This automation framework can be further extended and customized for broader use cases, showcasing the potential of RPA in simplifying complex workflows and enhancing productivity.

APPENDIX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gender
Input Dialog
Dialog Title
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Input Label
"activity"
Input Type
Text Box
Value entered
activity
Input Dialog
Dialog Title
Title. Text must be quoted
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"enter email"
Input Type
Text Box
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email
Python Scope
Do
Load Python Script
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Log Message
Message *
"loaded"
Log Level
Select a level or leave empty for info
Invoke Python Method
Name *
"main"
Get Python Object
PythonObject *
result
Get Password
Send SMTP Mail Message
To *
email
Subject
Text must be quoted
Body
final
Attach Files

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