Configuration Manual

MSc Research Project

MSc Cyber Security

Anudeep Kommareddy

Student ID: x22183850

Supervisor: Apruva Vangujar

National College of Ireland
Project Submission Sheet
School of Computing

Student Name:	Anudeep Kommareddy
Student ID:	x22183850
Programme:	MSc in Cybersecurity
Year:	2022-23
Module:	MSc Research Project
Supervisor:	Apurva Vangujar
Submission Due Date:	14/12/2023
Project Title:	Configuration Manual
Word Count:	530
Page Count:	5

I hereby certify that the information contained in this (my submission) is information pertaining to research I conducted for this project. All information other than my own contribution will be fully referenced and listed in the relevant bibliography section at the rear of the project.

ALL internet material must be referenced in the bibliography section. Students are required to use the Referencing Standard specified in the report template. To use other author's written or electronic work is illegal (plagiarism) and may result in disciplinary action.

Signature:	Anudeep Kommareddy
Date:	14th December 2023

PLEASE READ THE FOLLOWING INSTRUCTIONS AND CHECKLIST:

Attach a completed copy of this sheet to each project (including multiple copies).	□
Attach a Moodle submission receipt of the online project submission, to each project (including multiple copies).	□
You must ensure that you retain a HARD COPY of the project, both for your own reference and in case a project is lost or mislaid. It is not sufficient to keep a copy on computer.	□

Assignments that are submitted to the Programme Coordinator office must be placed into the assignment box located outside the office.

Office Use Only	
Signature:	
Date:	
Penalty Applied (if applicable):	

Configuration Manual

Anudeep Kommareddy x22183850

1.Welcome:

The Two-Factor Authentication System is a Python-based implementation that provides secure user authentication with two factors: password and Time-based One-Time Password (TOTP). This configuration manual guides users through the setup, usage, and analysis of the system.

2. Prerequisites

Before using the Two-Factor Authentication System, ensure the following prerequisites are met:

- Python: Version 3.x installed
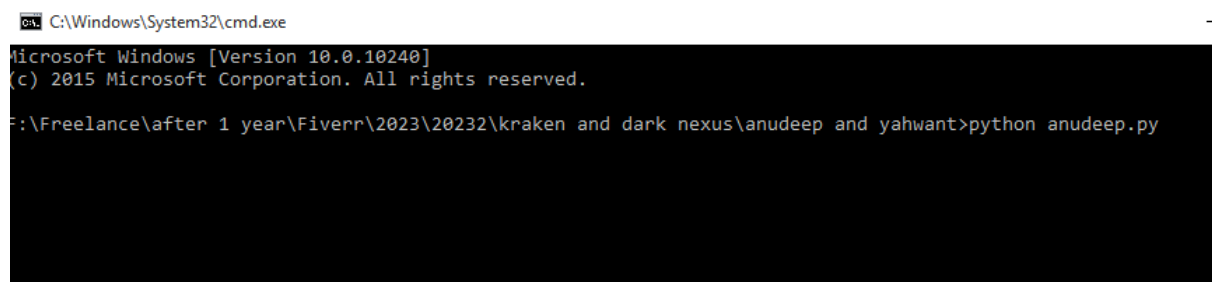- Required Libraries: Install necessary libraries using pip install -r requirements.txt

3. Installation

- Navigate to Project Directory: Open a terminal and navigate to the project directory.
- Install Dependencies: Run the following command to install required dependencies.
- pip install -r requirements.txt

4. Usage

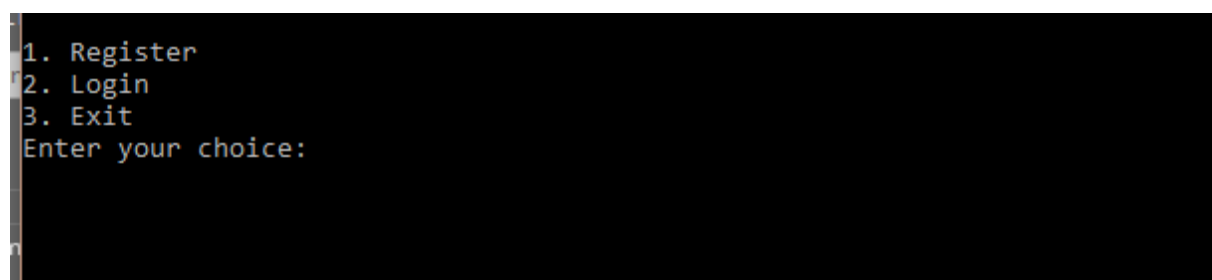4.1. Running the Two-Factor Authentication System

- Open the terminal and navigate to the project directory.
- Execute the main script:
- python authentication_system.py

The system will prompt you with options to register a user, login, or exit.

4.2Use options:

Register:

```
Enter your choice: 1
Enter username: an
Enter password: ddd
User 'an' registered successfully. 2FA code: 142161
```
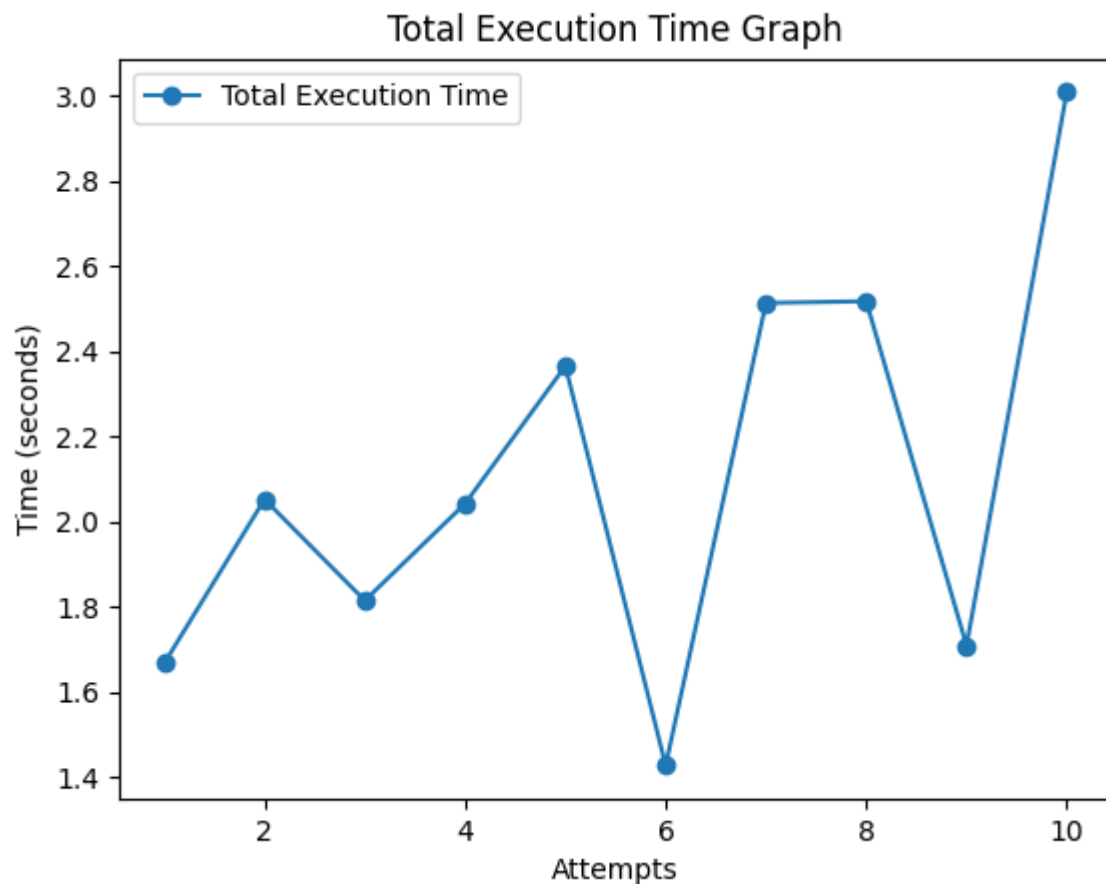
Login:

```
Enter your choice: 2
Enter username: an
Enter password: ddd
Enter 2FA code: 142161
```

The system generates random registration and authentication times for illustration purposes. After interacting with the system, line graphs illustrating registration time, authentication time, and total execution time will be displayed.

5. Results and Analysis:

The line graphs provide insights into the execution times of the Two-Factor Authentication System for registration, authentication, and total execution.

6. Interpretation:

Registration Time: Time taken for user registration.

Authentication Time: Time taken for user authentication.

Total Execution Time: Sum of registration and authentication times.

7. Conclusion:

This configuration manual offers a comprehensive guide for users to set up and utilize the Two-Factor Authentication System. The tool enhances security by combining password and two-factor authentication.

8.References:

Matplotlib Documentation (n.d.). https://matplotlib.org/stable/contents.html

[Online; accessed 2023-08-13]

Python Documentation (n.d.). https://docs.python.org/3/

[Online; accessed 2023-08-13]

The Hitchhiker's Guide to Python (n.d.). https://docs.python-guide.org/

[Online; accessed 2023-08-13]