

***COMPUTER NETWORKS PROJECT***

***SIMPLE MAIL TRANSFER PROTOCOL(SMTP)***

**Members: *Presented to:***

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**Project Report: Email Sender Application with SMTP**

1. **Introduction**

The Email Sender Application is a graphical user interface (GUI) program built using PyQt5, designed to facilitate the sending of emails through the Simple Mail Transfer Protocol (SMTP). SMTP is a widely used protocol for sending emails over the Internet.

1. **Project Overview**
   1. **Purpose**

The purpose of this application is to provide users with a simple and intuitive interface to send emails. The application supports sending plain text emails, including attachments.

**2.2 Features**

**1)User Authentication:** Users are required to log in using their email credentials to send emails.

* **2)Email Composition**: Users can compose emails by providing the recipient's email address, subject, body, and optional attachments.
* **3)Attachment Support:** The application allows users to attach files to their emails.
* **4)SMTP Configuration:** Users can specify the SMTP server, port, and other necessary details for sending emails.
* **5)Styling:** The application features a styled GUI for improved aesthetics and user experience.

1. **Technical Details:**
   1. **Technologies Used**
2. **PyQt5:** A set of Python bindings for Qt libraries used to create the GUI.
3. **smtplib:** The standard Python library for sending emails using the SMTP protocol.
4. **email.mime:** A library for creating and parsing MIME (Multipurpose Internet Mail Extensions) messages.

**3.2. Workflow**

* **1) Login Dialog:**
  + Users must log in with their email address and password.
* **2) Main Application:**
  + Users can compose emails by providing recipient details, subject, and body.
  + Attachment functionality allows users to attach files to emails.
  + SMTP server details such as server address, port, etc., are configurable.
* **3) Sending Email:**
  + The application connects to the specified SMTP server.
  + A MIME message is constructed with the user's input.
  + If attachments are included, they are encoded and attached to the email.
  + The email is sent using the smtplib. SMTP class.

1. **User Guide**

**4.1. Installation**

* Ensure Python is installed.
* Install required dependencies: PyQt5.
* Run the application using python <filename>.py.

**4.2. Usage:**

1. **Login:** Enter your email address and password.

* **2) Compose Email:** Enter recipient email, subject, and body. Optionally, attach files using the "Attach File" button.
* **3) SMTP Configuration:** Specify the SMTP server, port, and other details.
* **4) Send Email:** Click the "Send Email" button to send the composed email.

1. **Conclusion**

The Email Sender Application with SMTP provides a user-friendly solution for sending emails. With its intuitive interface and attachment support, it simplifies the process of composing and sending emails.

1. **Future Enhancements**

* **1) Improved Error Handling:** Enhance the application to provide more detailed error messages to users.
* **2) Security Measures:** Implement additional security measures, such as encryption, to ensure the safe transmission of sensitive information.
* **3) User Preferences:** Allow users to save and load their SMTP configurations for convenience.
* **4) Multiple Recipients:** Extend the application to support sending emails to multiple recipients.

1. **References**

* PyQt5 documentation: [https://www.riverbankcomputing.com/static/Docs/PyQt5/](https://www.riverbankcomputing.com/static/Docs/PyQt5/)
* Python `smtplib` documentation: [https://docs.python.org/3/library/smtplib.html](https://docs.python.org/3/library/smtplib.html)
* Email module documentation: [https://docs.python.org/3/library/email.html](https://docs.python.org/3/library/email.html)