**Minor Project**

**Synopsis**

**On**

**E-Mail Server Customization and Configuration**

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**Project Proposal Approval Form (2019)**

**Project Title:**

**E-Mail Server Customization and Configuration**

**Abstract:**

Emails have become greater part of our lives. The Email, one organized well, is the most effective means of communication for business. A lot of companies nowadays have their own privacy factors, in which they prefer to keep their delicate data inside their organizations. Thus, data can be shared with trust and under supervision by the organization. More versatile than anything it can be used to communicate people in different parts of the world, but for different organization different types of configurations are required. The customization done in the project are on the requirements that are generally required by the company to establish a smooth and reliable medium of communication with restriction of messages like maintaining the buffer log, automating the mail server to generate automatic backups, providing special restriction to unaccepted contents and to make the data searchable and easily accessible.

**Keywords**: Logs, Buffer, Backups, Algorithms (Searching and Sorting), Security and SSL Certifications.

**Introduction:**

The use of the latest e-mail (electronic mail) as a means of communication in the virtual world is increasing rapidly. Basis on statistics report on e-mail account in 2014, totalled 4.1 billion email accounts were actively used. And this number kept increasing and till 2018, the number increased to 5.2 billion and still counting as of 2019.

An **email server** or a **mail server** is a computer that serves the functionality of a mail transfer agent (MTA). In Laymen language, email servers are nothing but an alternative computerized equivalent of neighbourhood mailman. Mail that is sent passes through various mail servers which are running special software. These mail servers are built over a list of standardized protocols for handling messaged and the multimedia content in it.

Most of the internet system uses **SMTP (Simple Mail Transfer Protocol) for** transfer of mail from one user to another. It is a push protocol i.e. it is used to send the mail. It is an application layer protocol w.r.t TCP/IP Model of networking. The default port used by SMTP is port (25). It is always on listening mode so that it actively initiates a connection process as soon as it listens for a TCP connection from a client.

After the successful establishment of the TCP connection, the client sends the mail instantly.

SMTP is of two types:

1. End-to-end method: It is the model which defines communication between different organizations.
2. Store-and-forward method: It is the model which defines communication within the organization.

In **SMTP**, there is a direct link between the sender's client SMTP (who wants to send the mail) and the destinations host SMTP. The client SMTP is the one which initiates the session, and the receiver-SMTP is the one which responds to the session.

The SMTP server keeps the mail until and unless it is successfully copied to the receiver's SMTP.

**POSTFIX:** It is a free and open mail transfer agent (MTA) that relays mail between different mail servers and the internet. It routes and delivers the email. It is released under the IBM Public License 1.0 which is a free software license.

It is a fast, easy to administer and secure way.

Estimation says that around 25% of public mail servers use postfix on the internet.

**POP3:**  It stands for Post Office Protocol 3. It is the most recent version of a standard protocol used for receiving an email. It is a client-server protocol which helps in handling of received email that is held by your internet server.

Also built into the Netscape and Microsoft Internet Explorer browsers.

The mail on the server is deleted by POP3 as soon as the user downloads it. The users or the administrator have the ability to save the mail for a while.

POP can be thought of as a "store-and-forward” service.

**Problem Statement:**

A lot of companies nowadays have their own privacy factors, in which they prefer to keep their delicate data inside their organizations. The Proposed work attempts to provide an improvement over basic email servers to add functionalities like log maintenance (Back up/ Deletion), algorithm to inspect incoming traffic and provide ease of access to the flagged mails.

**Literature Review:**

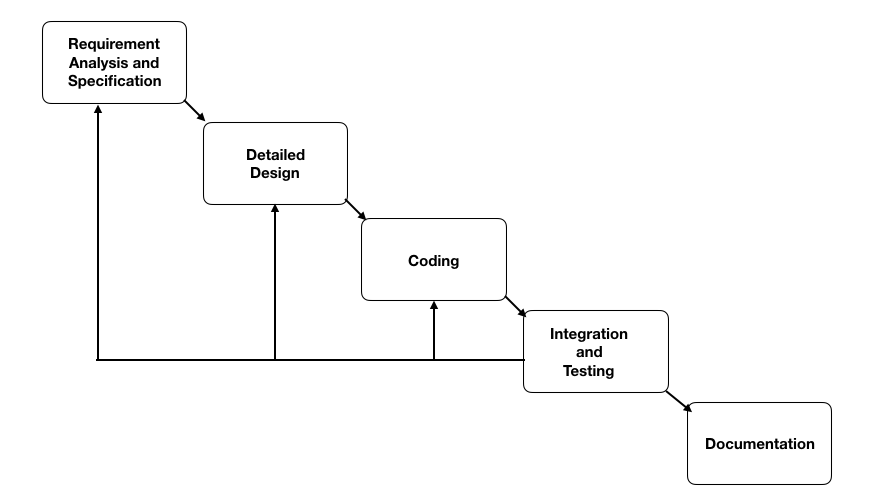
C language has been in existence since 1969. It is a low level language still finding its application across many modern platforms. C, being an older language has its own drawbacks like manual memory management and complex syntaxes. An integrated development environment (IDE) is a software suite that consolidates basic tools required to write and test software. Without an IDE, a developer must select, deploy, integrate and manage all of these tools separately. An IDE brings many of those development-related tools together as a single framework, application or service. The integrated toolset is designed to simplify software development and can identify and minimize coding mistakes and typos. IDEs increase programmer productivity by combining common activities of writing software into a single application: editing source code, building executables.

**Objective:**

* The Perform Customization of an email server to serve as per the constraints identified for an organization
* Maintain a log of all mails (sent/ received) from the server.
* To automate the process of Backup and deletion of logs.
* To inspect sensitive content in the mail and add constraints respective to it.
* Applying searching and sorting algorithm to buffer list for easy access.
* Filtering the content and providing the security to the process by signing SSL, TSL Certifications.

**Methodology:**

The project follows **Iterative waterfall model.**



* **Study Period and Requirement Gathering**

Studying and gathering information for a basic E-Mail server configuration and specifications

required by an organization.

* **Designing Algorithm**

Designing and implementing the algorithm in C language (searching and sorting) and to filtering the content.

* **Coding and Implementation**

Using the existing E-Mail server (POSTFIX) source code and to configure the code as per the requirements gathered.

* **Testing and Debugging**

Examining and testing the result by applying algorithms.

Making suitable changes if required.

Collecting the result after applying complete algorithms.

* **Review Phase**

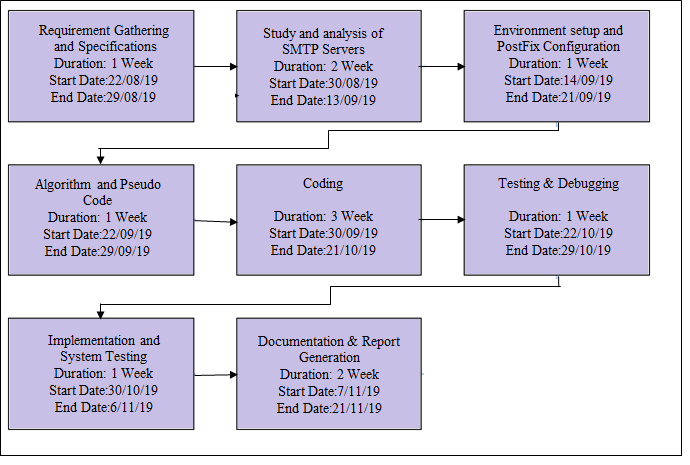
Documentation of the implemented code.

Completion of project.

**System Requirement:**

* Hardware Requirements
* Computer system
* Minimum 1GB Ram
* Minimum 1GB Hard disk
* Software Requirements
* Linux OS (Ubuntu Distribution)
* GCC
* PHP
* PostFix
* SSL

**Schedule (Pert Chart):**



**References:**

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**Project Guide Program Head**