**Minor Project**

**Synopsis**

**On**

**E-Mail Server Customization and Configuration**

**Submitted by:**

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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:**

C or any other language can be executed in many ways, one is writing the code on any generic text editor and executing it using the standard compiler collection like GCC, GCC+ etc. the other way is using an Integrated Development Environment, in which, the user is provided with a text editor, an inbuilt compiler or interpreter, error detection and up to some extent, error correction is also provided.

An Integrated Development Environment is defined as a software utility that comprises of tools and features which make the work of the software programmer faster. Coders may require hundreds of tools while creating a project. Managing each of these tools and keeping up to date with the code is a difficult task. An IDE brings all of these tools under one umbrella. IDEs are designed to make the work of the software programmers easy by providing many features under a single framework, unlike text editors.

Few of the features of any IDE are error detection, text suggestion, invoking the compiler and showing the compiled results. Error detection is the feature in which syntax error are checked after every line has been finished. Text suggestion is the feature in which the bracket closure, loop structure etc. are suggested by the IDE itself. Invoking the compiler to compile the code and running the code can be done using some specific keys.

For error detection, we will use the basic C syntaxes as string and compare the keywords in the C code provided by user line by line, word after word. If any error is encountered, we will try to provide suggestion based on pre-existing syntaxes, thereby, providing minimal error correction.

**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:**

* **POSTFIX SERVER**
* **SAITO, Y., BERSHAD, B. N., ANDLEVY, H. M. Man-ageability, availability, and performance in PostFix**

Behrend et al. described a working-in-progress project called PostFix, a high-performance clustered, distributed e-mail system [20]. It used a collection of clusters distributed through a wide area to provide users with highly available and scalable services. Saito et al. described the motivation, design and performance of PostFix, a scalable mail server [15]. The goal of PostFix was to provide a highly available and scalable electronic mail service using a large cluster of commodity PCs. Their focus was on dynamic load balancing, automatic-configuration, and graceful degradation in the presence of failures.

* **DEVELOPMENT OF SERVER [3]**

**- O. De Vel, A. Anderson, M. Corney, and G. Mohay**

In its development, email standardization in communicating the message exchange, the shipping documents (text, images, files, audio, video), which was validated by the service either by companies, individuals and government [3]. Legality email can check from the header, the sender mail domain with a mail relay must match. Moreover, the validity of the email account must register in the system Mail Server.

* **Email Archiving Standards [4]**
* **J., CZERWINSKI, S., JOSEPH, A. D., BREWER**

It would be useful to refer to standards as approved practices especially at the initial stage of developing an email archiving program. General guidelines for establishing email archiving standards and procedures can be found in the following standards:

* ANSI/ARMA 9-2004[4], Requirements for Managing Electronic Messages as Records
* ANSI/ARMA TR2-2007[4], Procedures and Issues for Managing Electronic Messages as Records
* ANSI/AIIM/ARMA TR48-2006[4], Revised Framework for the Integration of Electronic Document Management Systems and Electronic Records Management Systems

**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: (ITERATION 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**

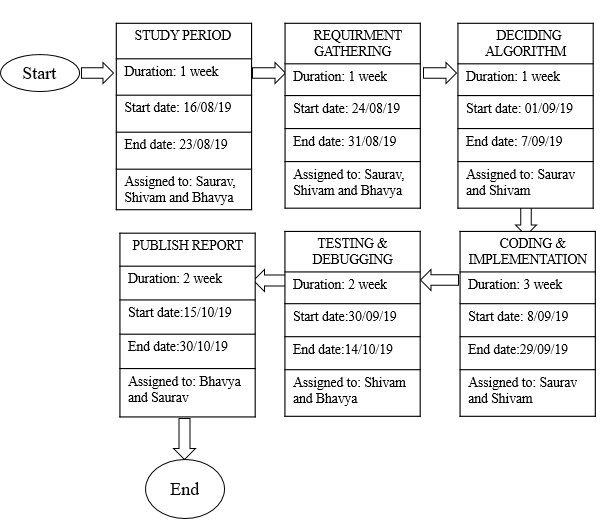
Documentation of the implemented code.

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):**



**Citation**

* [15] SAITO, Y., BERSHAD, B. N., ANDLEVY, H. M. Man-ageability, availability, and performance in PostFix: a highly scalable, cluster-based mail service. ACM transactions on Computer Systems 18, 3 (2000),298–298.
* [20] VONBEHREN, J., CZERWINSKI, S., JOSEPH, A. D., BREWER, E. A., AND KUBIATOWICZ, J.
* NinjaMail: The design of a high-performance clustered, distributed e-mail system. In Proceedings of” International Workshops on Parallel Processing 2000(Toronto, Canada, August21-242000), P. Sadayappan, Ed., vol. pp151-158.
* [3] O. De Vel, A. Anderson, M. Corney, and G. Mohay, “Mining E-mail Content for Author Identification Forensics.”
* [4] <https://blogs.ntu.edu.sg/lib-scholarlycomm/?page_id=18004>
* ARMA - International’s ‘Best practices for managing electronic messages’, it describes the universe of electronic messages as a wide range of information types and usually a subset of those messages is determined to comprise records. When managing emails as records, authentication would be an important aspect of consideration.

**Approved By:**

(Name & Signature)(Name & Signature)

**Project Guide Program Head**