**Backup Automation Daemon**

High Level Design & Low Level Design

**Document Control :**

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| Backup Automation Daemon | | | | |
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| **Date** | **Version** | **Author** | **Brief Description of Changes** | **Approver Signature** |
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# 1. Introduction

**1.1 Intended Audience:**

This document is intended to be read by Client.

**1.2 Project Purpose:**

The purpose of this document is to show the requirements for the Backup Automation Daemon, which creates a backup of all the files and directories in the targeted remote location to a particular at the suitable time without losing them.

**1.3 Key Project Objectives:**

1. Development Team

2. Maintenance Team

3. Servers and networking devices

4. Clients

**1.4 Project Scope:**

This project aims to create the development of Backup Automation Daemon using C and Linux. This system consists of an application which will serve as a platform for users to back up their files and directories automatically at the desired time. The scope of the backup policy will typically set forth what, when, and how of the backup process.

This system aims at backing-up all the data for the user to a desired location at a particular time and notifying the user of the success/failure of the back-up process. It will also display the user about the volume management like remaining disk space.

**2.Functional Overview:**

**2.1 CAPG89FR01->** **Daemon implementation:** A daemon is a service process that runs in the background and supervises the system or provides functionality to other processes. Two daemon processes to run on two machines or a single machine.

**2.2 CAPG89FR02-> User-defined back-up time:** The user will define the time for the backup process to be implemented automatically every day when she/he logs into the system.

**2.3 CAPG89FR03->** **Success/failure**: After the completion of backup process, the system will write a message to logged in user about the success/failure of the process.

**2.4 CAPG89FR04-> Notification:** The system willreport use of files and volume on remote(self) systems, i.e., the remaining disk space left after the back-up.

**3. Design Overview:**

Instant Chatters comprises of the following modules:

|  |  |
| --- | --- |
| Name of the Module | Daemon Process |
| Handled by | Amit Kumar and Lakshmi |
| Description | A daemon is a program that runs continuously as a background process and wakes up to handle periodic service requests, which often come from remote processes. |

|  |  |
| --- | --- |
| Name of the Module | Backup Process |
| Handled by | Daksh and Jitendra |
| Description | Backup is a process of creating a copy of the data on your system that you use for recovery in case your original data is lost or corrupted. Here the files and directories of user can be backed up to the remote location. |

|  |  |
| --- | --- |
| Name of the Module | Success/Failure |
| Handled by | Meena |
| Description | When the whole backup process is done, if the files has backed up to the remote location within the specific time it will considered as Success if the process fails it will consider as Failure. |

|  |  |
| --- | --- |
| Name of the Module | Notification |
| Handled by |  |
| Description | After the backup process has done the user will get a notification of the status of that process whether it is Success or Failure and also the user will receive the notification with the remaining disk space of hard disk after all files has backed up. |

**3.1 Design Objectives:**

Backup Automation Daemon communicates among Development team, Maintenance team and Clients for the backup of files and directories automatically at a particular time.

This system consists of an application which will serve as a platform for users to back up their files and directories automatically at the desired time. The scope of the backup policy will typically set forth what, when, and how of the backup process.

This also aims at backing-up all the data for the user to a desired location at a particular time and notifying the user of the success/failure of the back-up process. It will also display the user about the volume management like remaining disk space.

**3.2 Error Detection / Exceptional Handling:**

If the file is backed-up once and the source location did not change the other day, it will again get backed-up by the system in the target location, which will cause data redundancy.

**3.3 Performance:**

The system will work on the user terminal. The performance depends on the hardware and software components of the user’s system.

**3.4 Maintenance:**

Very little maintenance should be required for this setup. An initial configuration will be the only system required interaction after system is put together. Single user mode (sometimes known as maintenance mode) is a mode in Unix-like operating systems such as Linux operate, where a handful of services are started at system boot for basic functionality. Physical maintenance on the system’s parts may be required and would result in temporary loss of data or Internet. Upgrades of hardware and software should have little effect on this project but may result in downtime.

**4.Environment Description:**

**4.1 Time Zone Support:** IST- Kolkata

**4.2 Language Support:** English

**4.3 User Desktop Requirements:**

a. 64-bit processor, 1 GHz or faster

b. At least 10 GB free hard drive space

c. At least 6 GB RAM

**4.4 Server-Side Requirements:**

a. 64-bit processor, 1 GHz or faster

b. At least 1 GB free hard drive space

c. At least 1GB RAM

**4.5 Deployment Considerations:**

a. Easy setup – use session storage daemon to process the backup

automatically in the background at a specific time.

b. Local storage is used.

c. No network latency to consider.

d. To scale buys a bigger CPU, more memory, larger hard drive, additional

hardware.

**5.Tools Report**

* **Make file:**

It is a way of automating software building procedure and other

complex tasks with dependencies.

It is a set of commands with variable names and targets to create object file

and to remove them

**Graphical user interface, text, application, email

Description automatically generated**

* **Valgrind:** To detect memory leeks

**Graphical user interface, text, application

Description automatically generated**

**6.Disk Space**

**6.1 Application Server Disk Space:**

Disk space is required as the program for copying files and directories to the remote location. The Local Operating System is required and one text file to store the records of processes.

**6.2 Database Server Disk Space:**

Disk space is required as the program for copying files and directories to the remote location. The Local Operating System is required and one text file to store the records of processes.

**7.Requirements**

**7.1 Integration Requirements:**

1. Language: C

2. Tools: Valgrind , Makefile , gdb ,

, Dirent, C file handling

3. Complier: gcc

4. Linux Environment

**7.2 Jobs:**

We can establish connections between maintenance team and clients who are connected to the server. And we can automate backup of the users.

**7.3 Network:** End to User.

**7.4 Operating System**: Linux environment.