**MINOR PROJECT 1**

**SYNOPSIS**

**ON**

**Sort-it-out:A Linux File Sorter**

**Submitted By**

|  |  |  |
| --- | --- | --- |
| **Name** | **Roll No** | **Branch** |
| **Nilesh** | **R100217044** | **CSE-OSOS** |
| **Rahul Kumar** | **R100217056** | **CSE-OSOS** |
| **Abhay Nand** | **R100217001** | **CSE-OSOS** |
| **Kabeer Gupta** | **R100217036** | **CSE-OSOS** |

***Under the guidance of***

Kalpana Rangara

Assistant Professor

Department of Systemic,

School of Computer Science

upes-new-logo

**Department of Cybernetics,**

**School of Computer Science**

**UNIVERSITY OF PETROLEUM AND ENERGY STUDIES**

**Dehradun-248007**

**Month- 2018**

**Project Title: Sort-it-out:A Linux File Sorter**

**ABSTRACT:-**

Sorting is among the first algorithm any computer science student counters during college and it is considered a simple and well studied problem.

Sorting is a basic task in many types of computer applications. Especially when large amounts of data are to be sorted, efficiency becomes a major issue. There are many different sorting algorithms and even more ways in which they can be implemented.. Though the real challenge lies in the implementation and the theoretical concept is of mere importance. In this Project we propose to use one of the sorting algorithm in our file sorter whose advantages and disadvantages have been discussed. Linux booting is time taking task which involves several stages .The Main aim is to sort the file on Linux Booting into their Defined Locations.To make the List more Informative it is Important to show the files in Alphabetical order so that they can be accessed easily.One of the major Parameters is to provide clean and cluster free System .

Keywords:- Linux Booting,Sorting ,Cluster.

**Introduction:**

Linux booting process has several stages and makes use of various commands for sorting of files. Sorting of files is important for the system to be more informative . When we navigate through Linux file system we must be sure about the file types, then according to the type of extensions the file should be automatically stored at its specific location . Linux booting process involves several stages and components. By the means of a boot loader the kernel starts and then the hardware is initialized by the BIOS. After this stage the boot process is handles by the operating system itself. Once the system is turned on the BIOS initializes the screen and the keyboard and also performs the testing for the main memory. The boot loader resides in the main memory and determines how much part of the boot process is left. In computing, a file system, controls how data is stored and retrieved. Without a file system, information placed in a storage medium would be one large body of data with no way to tell where one piece of information stops and the next begins. By separating the data into pieces and giving each piece a name, the information is easily isolated and identified. Taking its name from the way paper-based information systems are named, each group of data is called a "file". The structure and logic rules used to manage the groups of information and their names is called a "file system".

The proposed work aims at providing a solution for Linux File Systems. After completion of the project, the work will provide for sufficient sorting of files. There can be various was to sort the files: like, sorting by type, sorting by name, sorting by size and sorting by date .

**Literature Review:**

This project may incorporate existing hypothesis about the theme, investigate done , challenges being confronted and progressing work. Writing study likewise gives light on different instruments, stages and working framework for advancement and research. Review is important to as it helps in following the accepted procedures and methodologies.

Over the past few decades sorting of files on a system becomes tedious and time taking task for users. It is important to develop algorithm that provides users ease to sort their files . Linux booting itself is a long process, on system booting we need sort file clusters into their specific locations in accordance with their extensions and also in an alphabetical order. So making a sorting algorithm will pave the way for the system to be more informative. Sorting can be improvised by applying constraints of the traditional sorting algorithms. Technology changes rapidly and the success of a given technology solely dedicated to the market which it seeks to improve.

**Problem Statement:**

File System involves n number of files, some of those files are visible to us while mostly hidden. Whenever we boot our Linux system all the files are present in a cluster so it is difficult to find a particular file so for saving time and energy of user we have proposed a Linux file sorting algorithm to sort this cluster of files into their defined location.However, if the number of files and folders in file system is high, there are problems when we try to fetch the exact file from the system. It is also not an efficient task and involves huge amount of wastage of computer resources. In this proposed work, we try to eliminate this problem of file systems by creating a Linux File Sorter.

**Objectives:**

1. To create a file sorter which would sort files according to their extension type and will place them in their defined location also sort them alphabetically.

2. To make system more informative and provide easy access of data by providing cluster free file system.

**Methodology:**

Level 0 DFD:-

System

Files Sorted files

Level 1 DFD:-

Sorting of files on the basis of their type of extension.

Scripting and commands and changes in boot file

If condition applied.

Files dropped in the defines directory

Files sorted alphabetically using Selection Sort

Boot

Script

Sorting

Script contains sorting algorithm which is loaded to boot file

**System Requirements: (Software/Hardware)**

Software Interface:

* Operating System: Linux OS
* Grub loader
* Text Editor
* Gcc Compiler
* Terminal
* Vim Editor

Hardware Interface:

* 1.3 GHz or faster core speed.
* 2 GB RAM minimum/ 4 GB RAM recommended.
* 1 GB minimum available hard disk space for guest operating systems.

**Schedule: (PERT Chart):-**

Structural Design and pseudo code

Duration:1 week

Start date: 17.09.2019

End date: 24.09.2019

System Requirement Analysis and Review

Duration: 2 week

Start date: 02.09.2019

End date: 16.09.2019

Study of Linux booting process and file sorting

Duration:1 week

Start date: 25.08.2019

End date: 1.09.2019

Coding

Duration:1 week

Start date: 03.10.2019

End date: 10.10.2019

Algorithm Analysis

Duration: 1 week

Start date: 25.09.2019

End date: 02.10.2019

Testing (Accuracy)

Duration: 2 weeks

Start date: 11.10.2019

End date: 25.10.2019

Final Report Generation

Duration:1 week

Start date: 10.11.2019

End date: 17.11.2019

Comparative Study

Duration: 1 week

Start date: 26.10.2019

End date: 01.11.2019

Implementation and System Testing

Duration: 2 weeks

Start date: 02.11.2019

End date: 09.11.2019

**References:**

i.)https://pdfs.semanticscholar.org/d010/950f6b3c9521eb437334fa69c0b2b9353010.pdf

**\*** Whole Documents should not be more than 7 pages excluding Front Page

\* The Front should contain Project Name, Partial Submission for Minor, Students name, Enrollment No, SAP Id no, Mentor Name

\* References should have indexing and refer them in your synopsis wherever necessary.

\* Delete the lines under each section and put your related project’s information related to that section in place of them, also delete these 4 lines starting with “\*”.

**Approved By**

**Signature Signature**

**mentor\_name Dr. Monit Kapoor**

**Mentor Head of Department**