Customised Virtual File System

- This project is used to emulate all functionalities provided by File systems.

Platform required

Windows NT platform OR Linux Distributions

Architectural requirement

Intel 32 bit processor

User Interface

Command User Interface

SDK used

None

Technology used

System Programming using C

About Virtual File System

- In this project we emulate all data structures which are used by operating system to manage File system oriented tasks.
- As the name suggest its virtual because we maintain all records in Primary storage.
- In this project we create all data structures which required for File Subsystems as Inode Inode Table, File Table, UAREA, User File Descriptor Table, Super block, Disk Inode List Block, Data Block, Boot Block etc.
- We provide all implementations of necessary system calls and commands of File subsystem as Open, Close, Read, Write, Lseek, Create, RM, LS, Stat, Fstat etc.
- While providing the implementations of all above functionality we use our own data structures by referring Algorithms of UNNIX operating system.
- By using this project we can get overview of UFS (UNIX File System) on any platform.

Expected interview Questions on Virtual File System

1. What is mean by file system?
2. Which file systems are used by Linux and Windows operating systems?
3. What are the parts of file system?
4. Explain UAREA and its contents.
5. Explain use of File Table and its contents.
6. Explain use of InCore inode Table and its use.
7. What is mean by inode?
8. What are the contents of Super block?
9. What are the types of files?
10. What are the contents of inode?
11. What is use of directory file?
12. How operating system maintains security for files?
13. What happens when user wants to open the file?
14. What happens when user calls lseek system call?
15. What is difference between library function and system call?
16. What is the use of this project?
17. What are difficulties that you faced in this project ?
18. Is there any improvement needed in this project?
19. What are the types of File Systems?
20. What is the use of File Table?
21. Which things you refer to develop this project?
22. On which platform we can execute this project?

Explain internal working of below system calls

1. open
2. close
3. read
4. write
5. lseek
6. stat
7. chmod
8. unlink

Explain use of below commands

1. ls
2. ls - l
3. ls - a
4. rm
5. cat
6. cd
7. chmod
8. cp
9. df
10. find
11. grep
12. ln
13. mkdir
14. pwd
15. touch
16. uname
17. stat
18. man
19. mkfs