**Work Breakdown Structure (WBS)**

**Phone Directory**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr No.** | **Name** | **Roll Number** | **Gr No.** |
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**HIERARCHICAL VIEW OF WBS:-**

**Phone Directory**

1

Analysis

1.1

Data Structures

1.2

File Handling

1.3

OOP

1.4

Trie Data Structure

1.2.1

Hashing

1.5

Definition of Phone Directory

1.1.1

Important features

1.1.2

Trees

1.2.2

Pointers

1.2.3

Storing Data

1.3.1

Retrieving Data

1.3.2

Updating Data

1.3.3

Encapsulation

1.4.1

Re-Usability

1.4.2

Log In page

1.5.1

Hash Function

Implementation

1.5.2

Time Complexity Analysis

1.1.3

# WBS Dictionary:-

| Level | WBS Code | Element Name | Definition |
| --- | --- | --- | --- |
| 1 | 1 | Phone Directory | Implement a Phone Directory. |
| 2 | 1.1 | Analysis | The analysis of the project. |
| 3 | 1.1.1 | Definition of Phone Directory | Phone Directory definition. |
| 3 | 1.1.2 | Important features | Deciding the features of the project. |
| 3 | 1.1.3 | Time complexity Analysis | Making the searching efficient. |
| 2 | 1.2 | Data Structures | Use of Various data structure to implement the project. |
| 3 | 1.2.1 | Trie Data Structure | Implementing Trie to store names and contacts. |
| 3 | 1.2.2 | Trees | Trie is a general tree. |
| 3 | 1.2.3 | Pointer | Use of array of pointers in node structure of trie. |
| 2 | 1.3 | File Handling | Use of binary files to store and retrieve. |
| 3 | 1.3.1 | Storing Data | Used to store data in binary format. |
| 3 | 1.3.2 | Retrieving Data | Retrieving commands from external files stored on device. |
| 3 | 1.3.3 | Updating Data | To provide functionality to add new contacts to the existing file. |
| 2 | 1.4 | OOP | Concepts of OOP used to manage the commands and objects. |
| 3 | 1.4.1 | Encapsulation | Encapsulating data to show only necessary attributes. |
| 3 | 1.4.2 | Re - Usability | Re using functions to perform the operations efficiently. |
| 2 | 1.5 | Hashing | Storing of data through hashing for faster access. |
| 3 | 1.5.1 | Log In Page | Hashing and storing the passwords in binary format to provide high level of security. |
| 3 | 1.5.2 | Hash Function Implementation | Hash function to get the key value to store passwords. |

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