**SOFTWARE REQUIREMENT SPECIFICATION**

Telephone Directory System

**1. Introduction:**

1.1 **Purpose** -

Telephone directories serve a vital purpose in the organization of basic information of people such as name, contact details and their home addresses. Accumulation of this information in an orderly and accessible manner is necessary to make it useful to the everyday user. The document encompasses the requirements involved in a Telephone directory systems and identifies their functional and non-functional nature.

Conventionally, telephone directories are in the printed form and involves wastage of paper. The Telephone Directory System software helps by avoiding manual labour and paper work and presents itself in a compact form for the user's convenience.

1.2 **Scope –**

The proposed software is the Telephone Directory System (TDS) software.

* The scope of this software extends to any person to get contact details or address information of other people living in the region and store the records in an efficient manner.
* It allows a user to maintain privacy, retrieve desired information quickly and enables them to save the contacts they would like to refer for future purposes.
* The motive of the software caters to maximizing the number of unique person records in the directory and minimizing the resource costs, ensuring reachability.

1.3 **Overview** -

On the whole, the TDS software deals with person identification details with the use of modules dedicated for specific purposes. They serve to achieve the following:

* Allowing the user to register their entry with the administration.
* Provide service of making search queries to the users (general users and admins).
* Make provisions to the users to delete/take down their information to uphold their privacy.
* Ensuring that the addition of person records and their modification by the user takes place through the admin to prevent addition of incorrect/invalid information records.

This document describes the software product, user characteristics, specific requirements (functional and non-functional) and interfaces required.

1.4 **Definitions -**

a. Telephone Directory – A telephone directory, also known as a telephone book, telephone address book, phone book, or the white/yellow pages, is a listing of telephone [subscriber](https://en.wikipedia.org/wiki/Subscriber)s in a geographical area or subscribers to services provided by the organization that publishes the directory.

b. GUI or Graphical User Interface – A visual way of interacting with a computer using windows, icons, menus, OS, etc.

c. File Handling – It refers to the operation carried out on files such as naming, opening, reading, writing and closing of files.

2. **General Description -**

2.1 **Product Perspective -**

* A cross-platform self-contained and independent software product.
* Integrated modules to share and exchange information in real-time.
* Inclusion of facilities of registration, login, addition, modification, deletion of telephone records.
* Modular concept and flexible in choice of modules per application.
* Allowing access only to specific modules for user-specific applications.

2.2 **Product Description**

* Login - To enable authorized access to the software.
* Checks to see if the user is already registered upon entry of their details, otherwise they are directed towards registration.
* The system generates search results for queries and incorporates the feature of saving contacts.
* Users can access the records from any location due to the web-based environment.
* Provision of emergency service contacts and location information.

2.3 **User Characteristics -**

* User-friendly product which meets the ergonomic requirements.
* User must have general computer skills and should be comfortable in the English language.
* Technically competent in the general purpose applications on the computer.

2.4 **Abbreviations -**

**OS** – Operating Systems

**GUI** – Graphical User Interface

**LAN** – Local Area Network

3. **Specific Requirements**

3.1 **Functional Requirements -**

3.1.1 **Registration Module**

a. Introduction – This module handles the registration of a user of the telephone directory system. This is carried out when a person wants to make their telephone information available in the directory.

b. Input – Name, Contact Number, Address and PAN Card number of the person.

c. Processing – Checks whether the given information is already existing in the file, and prints suitable message if true, otherwise stores the information as a new record. Generates a unique login ID and corresponding password.

d. Output – Login ID and password.

e. Attributes – Name, Contact Number, Address, PAN, Login ID, Password.

3.1.2  **Login Module**

a. Introduction – This module takes care of the authorization of the user of the telephone directory. It is done to ensure that access to the telephone directory is provided only to registered personnel.

b. Input – Login ID and Password.

c. Processing – To check for the existence of the Login ID in the file. If found, verify the corresponding password.

d. Output – In case of correct credentials, the user gets access to the user’s directory privileges. Otherwise, prints incorrect credentials message.

e. Attributes – Login ID and Password.

3.1.3 **Search Module -**

a. Introduction – This module helps the user of the TDS software in searching for the desired contact information in the telephone directory. It allows for search by Name, Contact Number or Address.

b. Input – The user selects the option from:

- Search by Name

- Search by Contact

- Search by Address

Following this, the search input is obtained.

c. Processing – To take the user input and search the file for matching entries in the attribute opted by the user.

d. Output – Results in the displaying of all entries matching the search query, if any. Prints No Match Found message otherwise.

e. Attributes – Name, Contact Number and Address.

3.1.4 **Modify Module -**

a. Introduction – This module enables an authorized user to modify their own entry in the telephone directory. It is done to keep the directory up-to-date.

b. Input – User selects option from Modify Name, Modify Contact Number and Modify Address then provides the information to update the corresponding attribute.

c. Processing – The system proceeds to the record of the user corresponding to the Login ID to update the chosen attribute with the given input.

d. Output – Result is the updated record of the user’s information in the directory.

e. Attributes – Login ID, Password, Name, Contact Number and Address.

3.1.5 **Delete Module -**

a. Introduction – This module handles the feature of deletion of a telephone directory entry of a user, and can only be done by the user after logging in.

b. Input – Select Delete Entry option, Login ID and Password ( for confirmation ).

c. Processing – The file record corresponding to the Login ID is erased and the directory is reorganized.

d. Output – The user’s contact information is no longer present in the directory and their Login ID and password become invalid.

e. Attributes – Login ID, Password.

3.1.6 **Saved Contacts Module –**

a. Introduction – This module provides the facility of saving contacts to the user. The user can search for a contact and save it for future reference by using this feature.

b. Input – User selects the record in the telephone directory to be saved.

c. Processing – The selected telephone directory record in the file is linked with the user’s telephone directory record.

d. Output – The saved contact appears in the Saved Contacts list of the registered user.

e. Attributes – Login ID, Password, Name, Contact Number, Address and Saved Contacts.

3.1.7 **Emergency Services Module** –

a. Introduction – With the help of this module, the user can get access to contact information necessary in case of an emergency.

b. Input – User selects the Emergency Services option.

c. Processing – All emergency service records in the file are retrieved.

d. Output – List of all emergency service contacts.

e. Attributes – Login ID, Password.

3.2 **Non-Functional Requirements –**

3.2.1 **Reliability –**

* The TDS software should be available 24/7 (incorporating scope for cases of emergency).
* It should present the most updated contact information.

3.2.2 **Security –**

* The software should maintain Login IDs and corresponding passwords for users whose entries are stored in the directory. This is done in order to ensure that the activities of users are mutually exclusive.

3.2.3 **Performance –**

* The queries made by users must be readily retrieved from the file.
* It should be able to handle multiple users working on different modules from various locations in the region.
* Traffic-independent responses have to be brought about.

3.2.4 **Interoperability –**

* The software should be developed in a manner such that it can be easily integrated with several devices and environments.

3.2.5 **Usability –**

* The TDS software must be user-friendly and follow an interactive GUI.
* The web interface should be simple to navigate to ensure user convenience.

4. **External Interface -**

4.1 **User Interface -**

* The software provides a user-friendly interface to the user with a simple GUI and follows an organized format which is intuitive to use.

4.2 **Hardware Interface -**

* Intel core i3-i7.
* Minimum 256MB RAM on board.
* Minimum 128GB Hard Disk.

4.3 **Software Interface -**

* Operating systems – Windows, Android.
* Programming language – C++.
* Data storage and access using files.

4.4 **Communication Interface -**

* Must be connected with the central file.