



# **DATA STRUCTURES AND ITS APPLICATIONS**

## **(UE22CS252A)**

**Mini Project**

## Project Title & Team Members

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### Title

**SOCIAL MEDIA NETWORKING**

### Team Members (SRN Name)

- 1. NISHANTH VITTHAL GHORPHADE**
- 2. N C SAI SIDDHARTHA**
- 3. NIRANJAN MANJUNATH NAIK**
- 4. NIRMITH MN**

## Synopsis

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### **Idea:**

**The primary idea is to create a platform where users can register, connect with friends, share updates, view posts from friends, and manage their posts. The system utilizes data structures such as structures and linked lists to represent users, posts, and the relationships between users. It employs a menu-driven interface for user interaction.**

- **Allows user registration, login, friend addition, post updates, and viewing posts/friends.**
- **Data structures: User, Node, Graph (adjacency list), and Post.**
- **User registration and login with basic authentication.**
- **Adding friends updates adjacency lists with mutual connections.**
- **Posting updates with content limited to 500 characters.**
- **Viewing a personalized news feed with user and friend posts.**
- **Continuous loop presents a menu for user interaction.**

## Abstract Data Types

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### User:

- **Attributes:** id, username, password
- **Represents a user in the social network.**

### Graph:

- **Attributes:** user (of type User), friends (a linked list of Node structures)
- **Represents the social network as an array of Graph structures. Each Graph structure corresponds to a user and contains information about the user and their friends.**

### Node:

- **Attributes:** userId, next (a pointer to the next Node)
- **Represents a node in the linked list used for the adjacency list of friends. Each Graph structure has a linked list of friends represented by Node structures.**

### Post:

- **Attributes:** id, authorId, content
- **Represents a post in the social network, including the post's ID, the ID of the user who authored it (authorId), and the content of the post.**

## Contribution of each Team Member

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**Nishanth Vitthal Ghorphade - PES2UG22CS368 :**

**Register User( ) and Login( ) Funtion**

**Niranjan Manjunath Naik - PES2UG22CS364 :**

**Add post( ) and view post( ) function**

**Nirmith M N - PES2UG22CS365:**

**Add friends( ) and display friends ( ) function**

**N C Sai Siddhartha - PES2UG22CS326 :**

**Main function and rest of all code.**