

**Project Proposal: Building a Simplified Version of LinkedIn**

**1. Introduction:**

The aim of this project is to develop a simplified version of LinkedIn, a professional networking platform, focusing on key features such as user profiles, connections, job postings, and messaging. The project will utilize various data structures including Binary Search Trees (BST), Hash Table, Stacks, and Queues to efficiently manage and process user data and interactions.

**2. Objectives:**

The main objectives of this project are as follows:

Implement user profiles functionality.

Allow users to establish connections with other users.

Provide a platform for job postings and job searching.

Facilitate messaging between users.

Utilize appropriate data structures to efficiently manage user data and interactions.

Implement efficient algorithms for search, sorting, and data retrieval.

**3. Proposed Features:**

**User Profiles and Registration:**

* Users will be able to create and manage their profiles.
* Profile information will include personal details, educational background, work experience, and skills.
* User profiles will be stored and managed using a Hash Table data structure.

**Connections:**

* Users will be able to connect with other users on the platform.
* Connections will be stored using a BST to allow for efficient search and retrieval.
* Features like accepting/rejecting connection requests, viewing connections, and managing connection privacy will be included.

**Job Postings and Job Searching:**

* Users will be able to post job opportunities on the platform.
* Job postings will include job title, description, requirements, and application details.
* Users will be able to search for job postings based on various criteria.
* A Hash Table will be used to store and manage job postings for efficient searching and sorting.

**Messaging:**

Users will have the ability to send messages to other users.

Messages will be stored in a Circular Queue data structure to maintain message order and facilitate efficient retrieval.

