

# Career Job Listing Platform - System Design Document

## 1. Introduction

### 1.1 Purpose

This project details the system design of the GoCareer job listing platform. The system will provide a platform that makes it easy for job seekers, university students, and employers to find job, internship, and career opportunities.

### 1.2 Scope

The system will allow users (job seekers and employers) to share job listings and manage applications through the platform. It will be compatible with both mobile and desktop browsers.

### 1.3 Target Audience

- Software developers
- System architects
- Database administrators
- Quality assurance engineers

## 2. System Overview

### 2.1 High-Level Architecture

The system will follow a three-tiered architecture:

- **Presentation Layer:** Web ve mobil uygulamalar
- **Business Logic Layer:** RESTful API servisi
- **Data Layer:** MySQL ilişkisel veritabanı

### 2.2 Technology Stack

- **Frontend:** React.js / Vue.js (Web), React Native (Mobil)
- **Backend:** Node.js / Express.js veya Django / Flask
- **Database:** MySQL
- **Authentication:** OAuth 2.0 / JWT
- **Cloud Deployment:** AWS / Google Cloud / Azure

## 3. System Components

### 3.1 User Management Module

- User registration and login processes with (user\_name and password)
- Role-based access control (RBAC)
- User account and resume management

### 3.2 Job Management Module

- Creating, editing and deleting job and internship advertisements
- Companies should specify the required skills in their job postings.
- Ability to filter job postings by users

### 3.3 Application Management Module

- Management of job applications
- Employers can view applications

### 3.5 Admin Module

- User management (employers and job seekers)
- Platform performance monitoring and reporting
- Data security and backup management

## 4. Database Design

The system will have the following basic table structure:

**Company Table**

| Column       | Type         | Description              |
|--------------|--------------|--------------------------|
| company_id   | INT          | Unique ID of the company |
| user_name    | VARCHAR(50)  | Login name               |
| password     | VARCHAR(100) | User password            |
| company_name | VARCHAR(100) | Company name             |
| industry     | VARCHAR(50)  | INdustry sector          |
| tax_number   | VARCHAR(20)  | Tax number               |
| address      | VARCHAR(100) | Address                  |
| email        | VARCHAR(100) | Unique email             |
| phone        | VARCHAR(20)  | User phone number        |

**Job\_Seekers Table**

| Column        | Type         | Description          |
|---------------|--------------|----------------------|
| job_seeker_id | INT          | Job seeker unique ID |
| user_name     | VARCHAR(50)  | Login name           |
| first_name    | VARCHAR(50)  | User first name      |
| last_name     | VARCHAR(50)  | User last name       |
| gender        | ENUM         | User's gender        |
| address       | VARCHAR(100) | User address         |
| email         | VARCHAR(50)  | User email address   |
| phone         | VARCHAR(20)  | User phone number    |
| cv            | TEXT         | User experience      |

**Jobs\_Posting Table**

| Column         | Type         | Description               |
|----------------|--------------|---------------------------|
| job_posting_id | INT          | Job posting unique ID     |
| title          | VARCHAR(100) | Post's title              |
| description    | TEXT         | Explanation about the job |
| country        | VARCHAR(50)  | Post shared which country |
| city           | VARCHAR(50)  | Post shared which city    |

**Post Table**

| Column     | Type | Description          |
|------------|------|----------------------|
| post_id    | INT  | Post number          |
| company_id | INT  | Which company belong |
| date       | DATE | Shared date          |
| is_active  | ENUM | Post status          |

### Applies Table

| Column            | Type     | Description                  |
|-------------------|----------|------------------------------|
| applies_id        | INT      | Application ID               |
| job_posting_id    | INT      | Relevant line of business ID |
| job_seeker_id     | INT      | relevant user ID             |
| applies_date      | DATETIME | Date, time of application    |
| status            | ENUM     | Application status           |
| motivation_letter | TEXT     | Motivation letter            |

### Message Table

| Column          | Type     | Description             |
|-----------------|----------|-------------------------|
| message_id      | INT      | Message ID              |
| sender_id       | INT      | Who send a message ID   |
| receiver_id     | INT      | Who give a message ID   |
| message_content | TEXT     | What is message include |
| date_time       | DATETIME | When message sent       |

## 5. Security Considerations

- User data will be encrypted with AES-256.
- Authorization will be provided via JWT or OAuth 2.0.
- Secure session management will be implemented.
- Regular backups will be made.
- Unauthorized access will be prevented.

## 6. Performance and Scalability

- The system will support at least 20,000 active users.
- Applications will be processed within 5 seconds at most.
- Load balancing mechanisms will be implemented.
- The system will be automatically scalable for uninterrupted operation.

## **7. Accessibility & Compliance**

- The user interface will be designed in accordance with WCAG 2.1 accessibility standards.
- It will be optimized to be compatible with both mobile and desktop browsers.

## **8. Conclusion**

This document provides a comprehensive explanation of the system design for the career job listing platform. The platform aims to facilitate the process of job and internship search for users, while also enabling employers to discover talented candidates. The system development process will follow the Agile methodology, and it will be built with critical considerations such as security, accessibility, and scalability.