



Bilkent University

Department of Computer Engineering

CS 353

Database Systems

Final Report

Group 4

Mehmet Ege Acıcan – 21602186-Section03

Koray Gürses – 21401254-Section01

Gülnihal Muslu – 21502606-Section01

Can Ozan Kaş – 21501228-Section02

Teaching Asistant

Mustafa Can Çavdar

Due Date: 21.05.2019

Contents

1	Introduction	1
1	Brief Description of the Application System	3
2	Final Conceptual Design	4
3	Final Logical Design	5
4	Implementation Details	5
5	Advanced Database Features	5
6	User Manual	6

1. Introduction

The following is a report of a Company Interview Website Data System. The proposal will include: brief description of the Application, the final versions of the Conceptual and Logical Design, Implementation details, Advanced Database Features and User manual. Conceptual Design will include E/R Diagram of the Database and Notes about the diagram while the Logical Design will include the tables of the Database based from the E/R Diagram. In implementation details, the environment, framework, languages we used explicitly and the problems that we have encountered are described. User manual describes the basic usage of our system.

The final report outline starts with the Project description, which will try to explain what the database system is about and why it is required in this project. After the description, These discussions will be followed by the conceptual design which will show the E/R diagram and discuss specific topics about it. Then, the report will have Logical Design part that will show the tables of the Database System. Later, The report focuses on the Implementation details in which the environment, framework, used languages and the problems that we have encountered are described. Then, the report focuses on the Advanced SQL techniques that we have used and finally offers a user manual.

2. Brief Description of the Application System

Company Interview and Review Platform is a system similar to the Glassdoor job finding website or LinkedIn resume website. With the help of our platform, users are able to search and apply for a specific job and the companies would be able to hire or refuse specific users for themselves. Users are also able to share their informations about themselves and they are able to share their resume in the platform as well. The users are able to review a company as well. However, if a company wants to specific review to be deleted, that review can be removed by the admins if the admin accepts the request made by the company. So, basically this platform is an online Company and Employee review platform that allows the users to choose a specific job and companies to a specific person. Along with this, it is also a resume sharing platform.

3. Final Conceptual Design

The following section contains the Conceptual Design, which consists of the final version of the E/R Diagram.

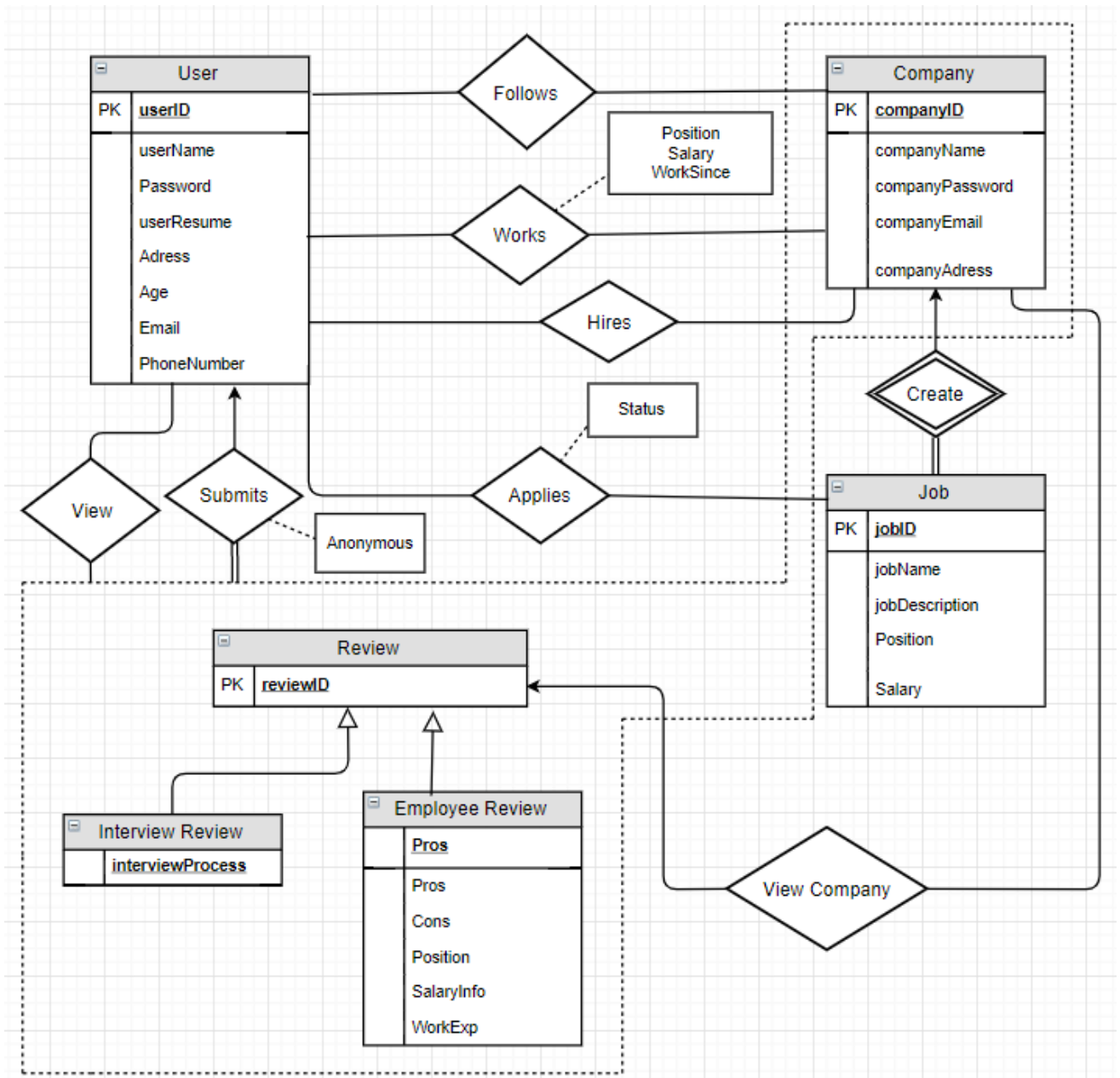


Figure 1: Final E/R Diagram

4. Final List of Tables

The following contains the final list of tables of our Logical Design. No dependencies or queries are included.

User(userID, username, password, Email, userResume, address, age, PhoneNumber)

Job(JobID, JobName, Salary, JobDescription, Position)

Applies(JobID, UserID, JobName, CompanyID, Status)

FK: JobID ref JobID in Job

FK: UserID ref UserID in User

Submits(UserID, ReviewID, CompanyID Anonymous)

FK: CompanyID ref CompanyID in Company

FK: JobID ref JobID in Job

FK: UserID ref UserID in User

Review(ReviewID)

InterviewReview(ReviewID, InterviewProcess)

EmployeeReview(ReviewID, Pros, Cons, Position, SalaryInfo, WorkExp)

Company(CompanyID, CompanyName, CompanyAddress, CompanyEmail)

Follows(CompanyID, UserID)

FK: CompanyID ref CompanyID in Company

FK: UserID ref UserID in User

Create(JobID, CompanyID)

FK: CompanyID ref CompanyID in Company

FK: JobID ref JobID in Job

Works(UserID, CompanyID, Position, Salary, WorkSince)

FK: UserID ref UserID in User

FK: CompanyID ref CompanyID in Company

Hires(CompanyID, userID)

FK: UserID ref UserID in User

FK: CompanyID ref CompanyID in Company

View(userID, reviewID, companyID)

FK: CompanyID ref CompanyID in Company

FK: JobID ref JobID in Job

FK: UserID ref UserID in User

ViewCompany(companyID, reviewID)

FK: CompanyID ref CompanyID in Company

5. Implementation Details

This section focuses on the Implementation details in which the environment, framework, used languages and the problems that we have encountered are described

Environment: As an environment, we have used Maven. Our project is designed to be a Maven project and it is implemented in that way.

Framework: As a framework, we have used Spring Boots. Our project is designed to be a Spring Boot project and it is implemented in that way.

Used Languages: As for Database SQL, MySQL has been used and as for High Level Language, Java Programming Language has been used. Also, HTML and CSS has been used as well. Dijkstra has been used as well.

Several Problems that we have encountered over the implementation: During the implementation, we have received errors specifically about the connection and the update of the database by user interaction. Also it took a considerable amount of time in order to comprehend the Spring Boot therefore using the framework completely has made a problem for us.

6. Advanced Database features

This section describes the advanced database features that are used in our system.

As Advanced Database features, indexing has been used. The index is being used in our Job table due to the immense amount of numbers that the available jobs can be. The indexing has been done on JobName. Triggers have not been used as an advanced Database feature.

7. User Manual

This section is a User manual. It basically describes the basic usage of our system.

The user firstly interacts our initial page where he/she chooses between login or signup options. In these login and signup options, the user is able to choose between Company and User login/signup. So, firstly the user encounters between four options.

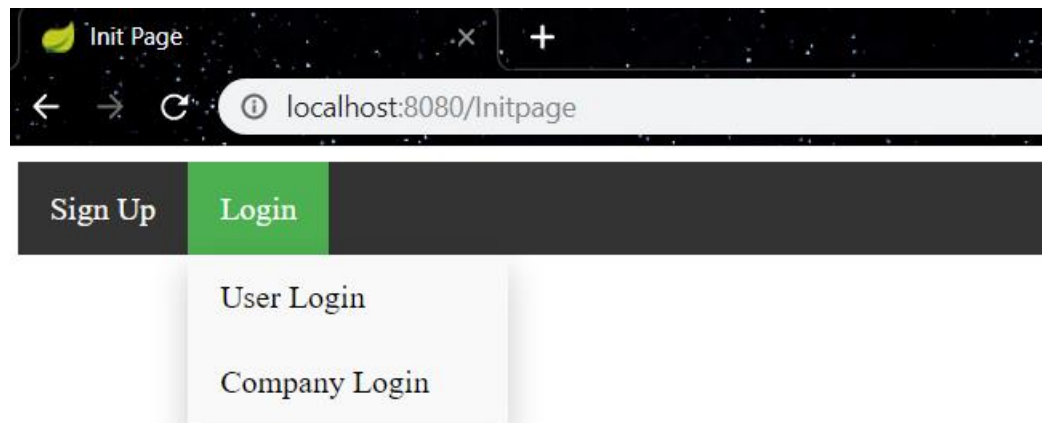


Figure 2: Initial Page: Login

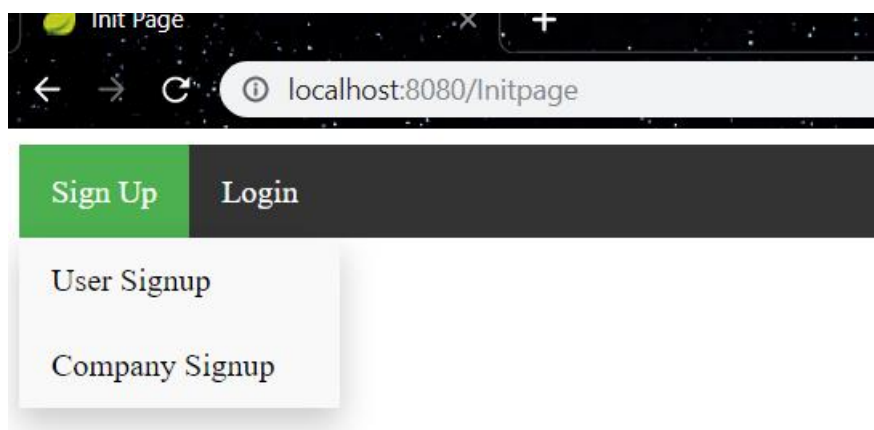
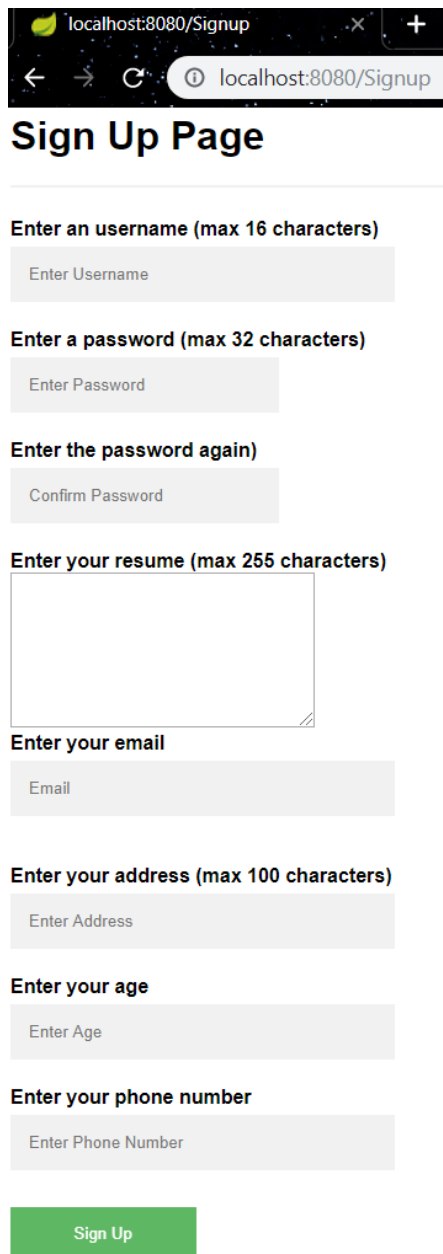


Figure 3: Initial Page: Sign Up

After the user chooses one of the four options. He/She either goes to the User signup, Company Signup, User Login or Company Login Page. If the user has entered to sign up, he/she will encounter another scene where he/she has to enter specific information about himself such as username, password, resume, phone number and address. If a company wants to signup, then the company has to enter specific information about the company.



The image shows a web browser window with the address bar displaying 'localhost:8080/Signup'. The page title is 'Sign Up Page'. Below the title, there are several input fields with labels and character limits:

- Enter an username (max 16 characters)**: A text input field with the placeholder 'Enter Username'.
- Enter a password (max 32 characters)**: A text input field with the placeholder 'Enter Password'.
- Enter the password again)**: A text input field with the placeholder 'Confirm Password'.
- Enter your resume (max 255 characters)**: A text area with a placeholder 'Enter your resume'.
- Enter your email**: A text input field with the placeholder 'Email'.
- Enter your address (max 100 characters)**: A text input field with the placeholder 'Enter Address'.
- Enter your age**: A text input field with the placeholder 'Enter Age'.
- Enter your phone number**: A text input field with the placeholder 'Enter Phone Number'.

At the bottom of the form is a green button labeled 'Sign Up'.

Figure 4: User signup

Company Sign Up Page

Enter your company name (max 32 characters)

Enter your company e-mail(max 40 characters)

Enter your company's address

Sign Up

Figure 5:Company signup

If the user or the company already has an account, they have to log in by entering username and password, or if it is a company, the company has to enter the companyID.

User Login Page

Username

Password

Log in

Figure 6:User Login

[Sign Up](#) [Login](#)

Company Login Page

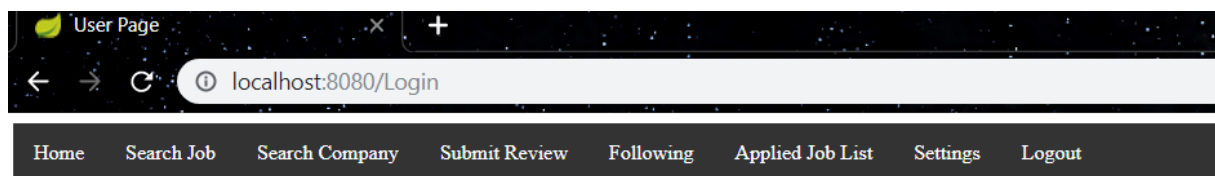
Enter your Company ID

Enter Company ID

Log in

Figure 7: Company Login Page

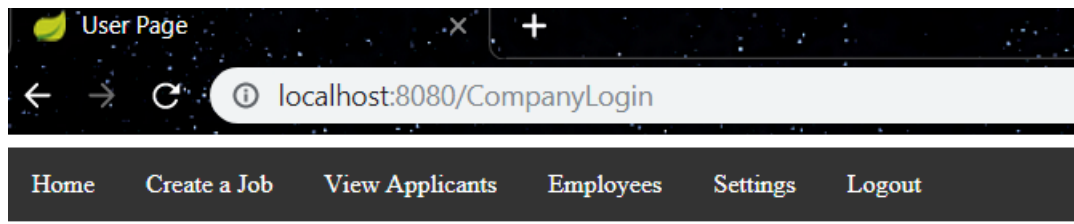
Once the user has logged in or signed up, the user is welcomed with a message, then above the message, the user is able to choose multiple options: Search Job, Search Company, Submit Review, Following(goes to the page which shows which companies that the user follows), Applied Job list, Settings and Logout.



Hello das

Figure 8: User Page

Once the company has logged in, the company encounters with multiple options as well. These are: Create a Job, View Applicants, Employees, Settings and Logout.



Welcome!
alyelken

Figure 9: Company Page, Company Name is alyelken

Company options:

Create a job: The Companies can create a job by entering the respective data that their new job will contain: Enter job name, description, position and salary.

localhost:8080/CreateAJob

Home Create a Job View Applicants Employees Settings Logout

Enter Job Name

Enter Job Description

Enter Job Position

Enter Job Salary

Create a Job

Figure 10: Create a job Page

View Applicants: The companies are able to see the applicants for their jobs. The company can hire or reject the user.

Insert title here

localhost:8080/ViewApplicants

Home Create a Job View Applicants Employees Settings Logout

Name	Email	Resume	Job	Position	Hire	Reject
das			Boss		Hire	Reject

Figure 11: View Applicants page

Employees: The companies are able to see the employees that works for them. They are able to see the employees positions as well.

Hires

localhost:8080/Hires

Home Create a Job View Applicants Employees Settings Logout

Name	Email	Age	Job	Position
das		23	Boss	

Settings: The companies are able to adjust the settings by changing their company names, company e-mails and company addresses.

localhost:8080/CompanySettings

Home Create a Job View Applicants Employees Settings Logout

Settings

Change Your Company Name

Enter Name

Update Your Company Email

Enter Email

Update Your Company Address

Enter Address

Figure 12: Settings

User options:

Search Job: The users are able to search a job by entering a specific job name or a specific company name. Once entered, the user can see the possible jobs that can be applied to.

SearchCompany

localhost:8080/SearchJobByNameOrCompany

Home Search Job Search Company Submit Review Following Applied Job List Settings Logout

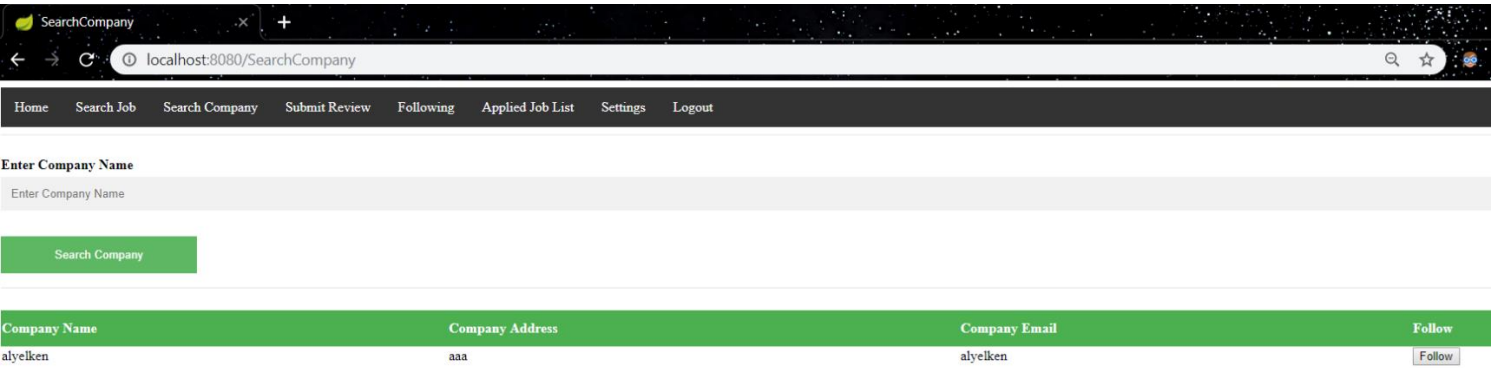
Enter Job Name or Company Name

Enter Company or Job Name

Search

Company Name	JobName	Job Description	Position	Salary	Apply
alyelken	Boss	boss		330000000	<input type="button" value="Apply"/>

Search Company: Just like searching for a job, the users are able to search companies by their names in order to follow them.



Submit Review: Firstly, the user comes across with the companies that he/she can submit review to, after clicking to submit review button on one company. He/she comes across with the page that asks what type of review that the user will enter. Then, the user enters specific info about him/herself and then enters pros, cons and work experience for the company.

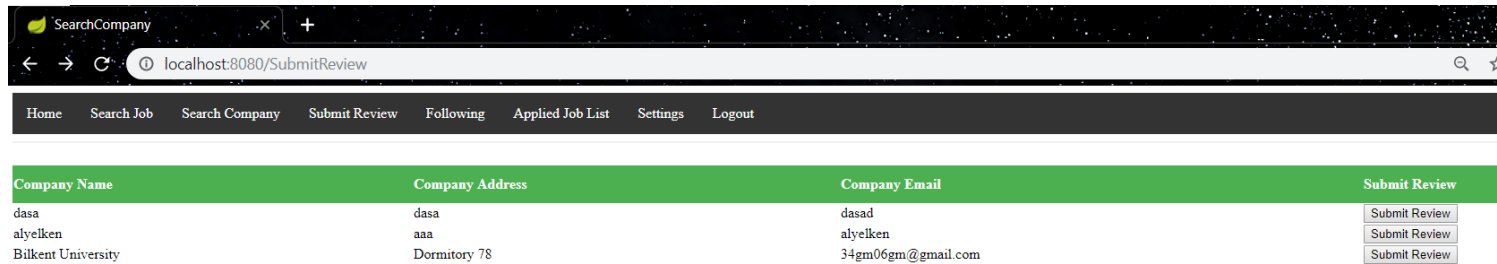


Figure 13: Submit Review company selection screen

Select Your Review Type

Employee Review

Enter your position

Enter Your Salary Info

Write Pros for Your Company

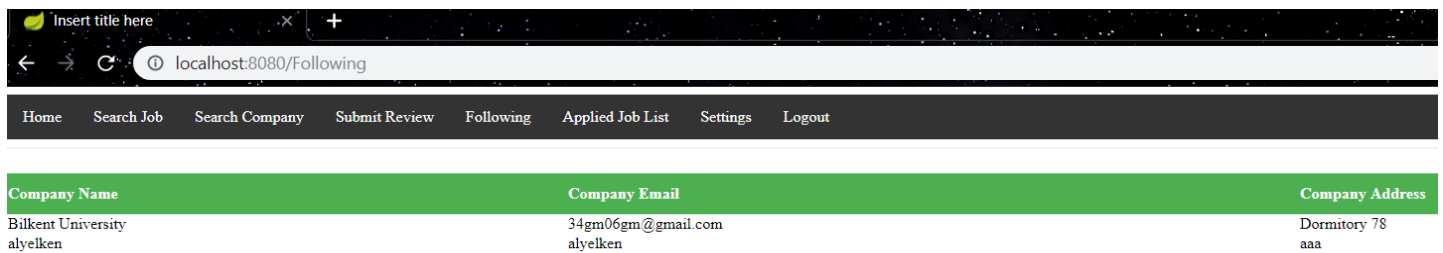
Write Cons for Your Company

Write Your Work Experience

Post Review

Figure 14: Submit review Post Review Screen

Following: The user can see which companies he/she follows from this page.



Company Name	Company Email	Company Address
Bilkent University alyelken	34gm06gm@gmail.com alyelken	Dormitory 78 aaa

Figure 15: Following Screen

Applied Job List: The user is able to see the jobs that they have applied to.

Company Name	Company Email	Job Name	Salary	Job Description	Position
dasa	dasad	sa	23	sa	sa

Figure 16: Applied Job list

View Review: Both the users and the companies are able to view what has been written about certain companies by this option. They are able to see who has written the review and they are able to see the viewers Username, Position, Salary, that reviewers personal pros and personal cons about the company.

Company Name	Username	Position	Pros	Cons	Salary Info	WorkExp
dasa	trixle06	asdasd	asdasd	asdasd	123123	asdasd
dasa	trixle06	asdasd	asdasd	asdasd	123123	asdasd
Bilkent University	trixle06	asdasd	sdfsd	sdf	123123	fgfd

Figure 17: View Review Page

View Interview Review: Both the users and the companies are able to see the Interview view by choosing this option. The users are able to view the Company name, UserName and Interview Process of the Interview Reviews.

Company Name	Username	InterviewProcess
Bilkent University	trixle06	alsfjlk

Settings: The user is able to update the password, resume, e-mail, address and phone number by the settings

Settings

Change Your Password

Enter Password

Update

Update Your Resume



Update

Update Your Email

Enter Email

Update

Update Your Address

Enter Address

Update

Update Your Phone Number

Enter Phone Number

Update

Figure 18: Settings Screen