Application name: Lindeed

Project team name: database designer

Class: cpsc 332-02 tuesday/ thursday 5:30-6:45

Date: 5/16/2022

Team members: Angaar Hamid, Christopher Melgar Morales, Kevin Ortiz, Kelly Vu, Victor Xiao, Kyle Yee

Introduction

This is the project report for Database Designers group for CPSC 332-02. The report includes the transformation of the conceptual model to the physical model, as required by the project instructions. The report also contains information on the demo application, where PHP,CSS,HTML and mySQL queries were used to populate the demo with the relevant data needed to mimic Job hunting sites like Linkedin or Indeed. Parts of the project are still incomplete, including the demo viewing of job post details, applying for job posts, employers viewing specific applications for their job posts, and searching for job posts under Title/City/State restrictions.

Database Design Process

Requirements

Building an ER Diagram based on the provided requirements -Provided Below

Building a Relational Model based on you ER Diagram - Provided Below

Normalize your database to 3NF - ER and Relational Diagram Retrofitted to 3NF

Building the Physical Model inside your environment. -Model(mwb) and Script Generation file Provided in Repository

Populating your database with sample data. - Sample Data included in model, and inserted through Script Generation file

Create a demo application to showcase your database design in PHP and MySQL - Website Structure for Xampp provided in Repository

Provide a SQL script to create a database called “myjob” in MySQL server. Make sure that your script can create the database and all the tables without an issue. - Provided as the Script Generation file from the model in the Repository

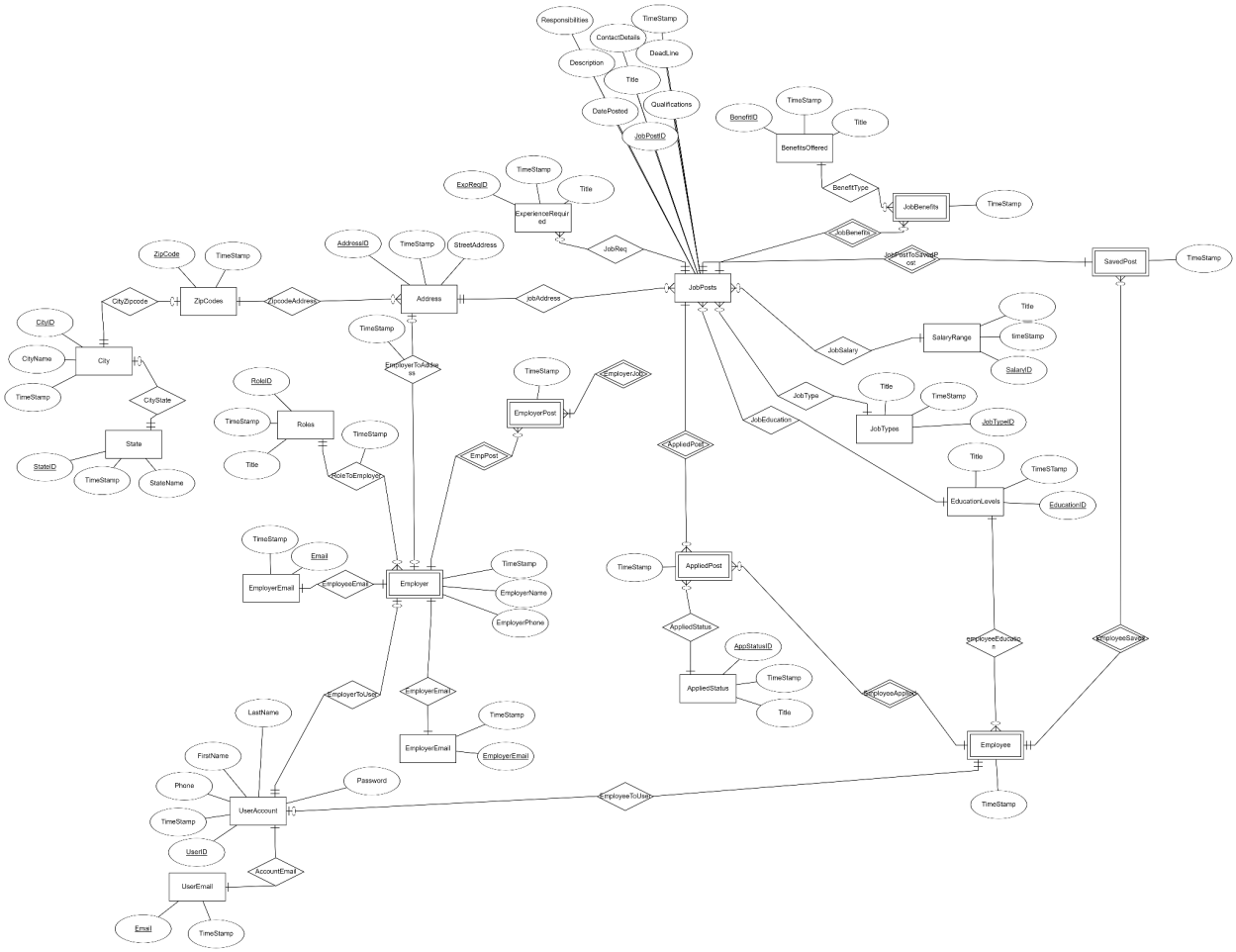
2. Create a VIEW which has first names, last names, and email of all employees who apply more than one jobs. -Implemented in the model as ‘bothroles’ view, applied to the script generation

3. Create a VIEW which shows the employers (first name, last name, and email) who post more than 3 jobs. -Implemented in the model as ‘employ3’ view, applied to the script generation

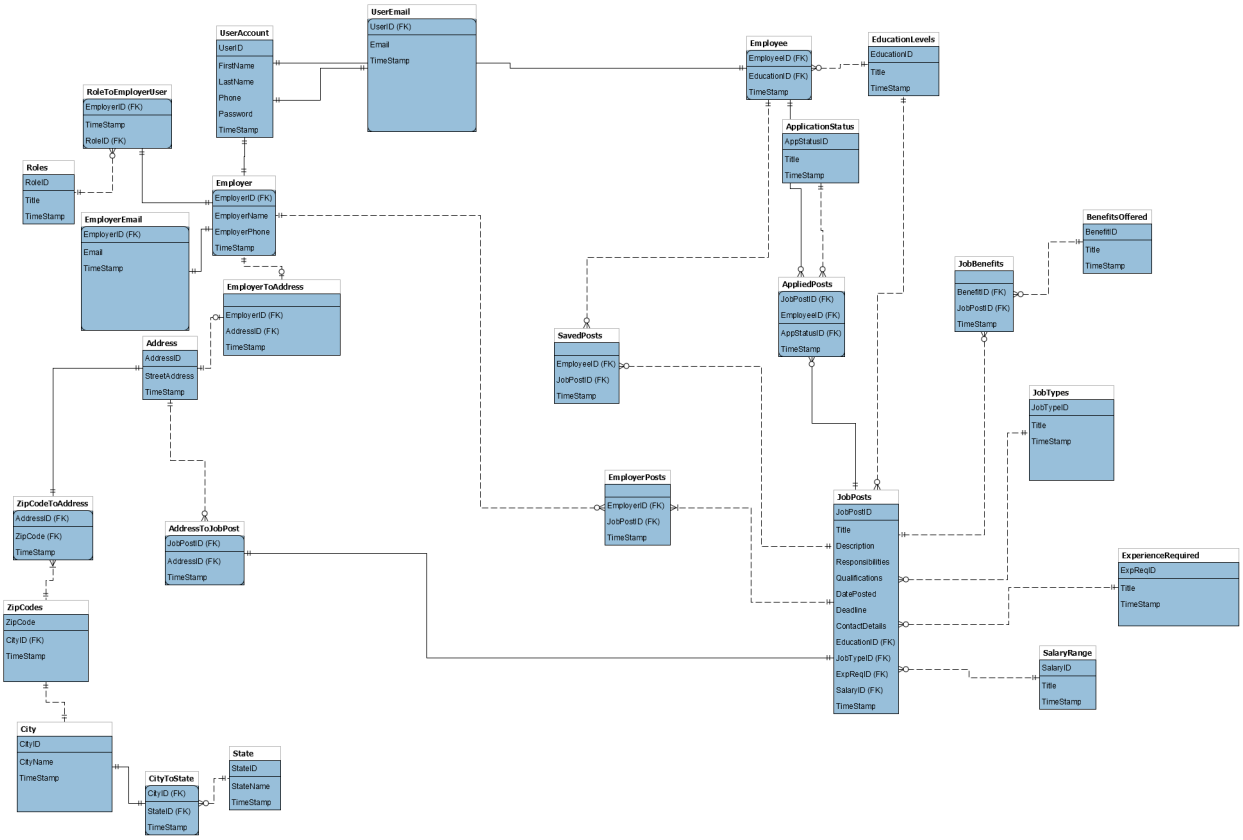
4. Create a view which shows all users that have both roles (employee and employer) -

-Implemented in the model as ‘employee1’ view, applied to the script generation

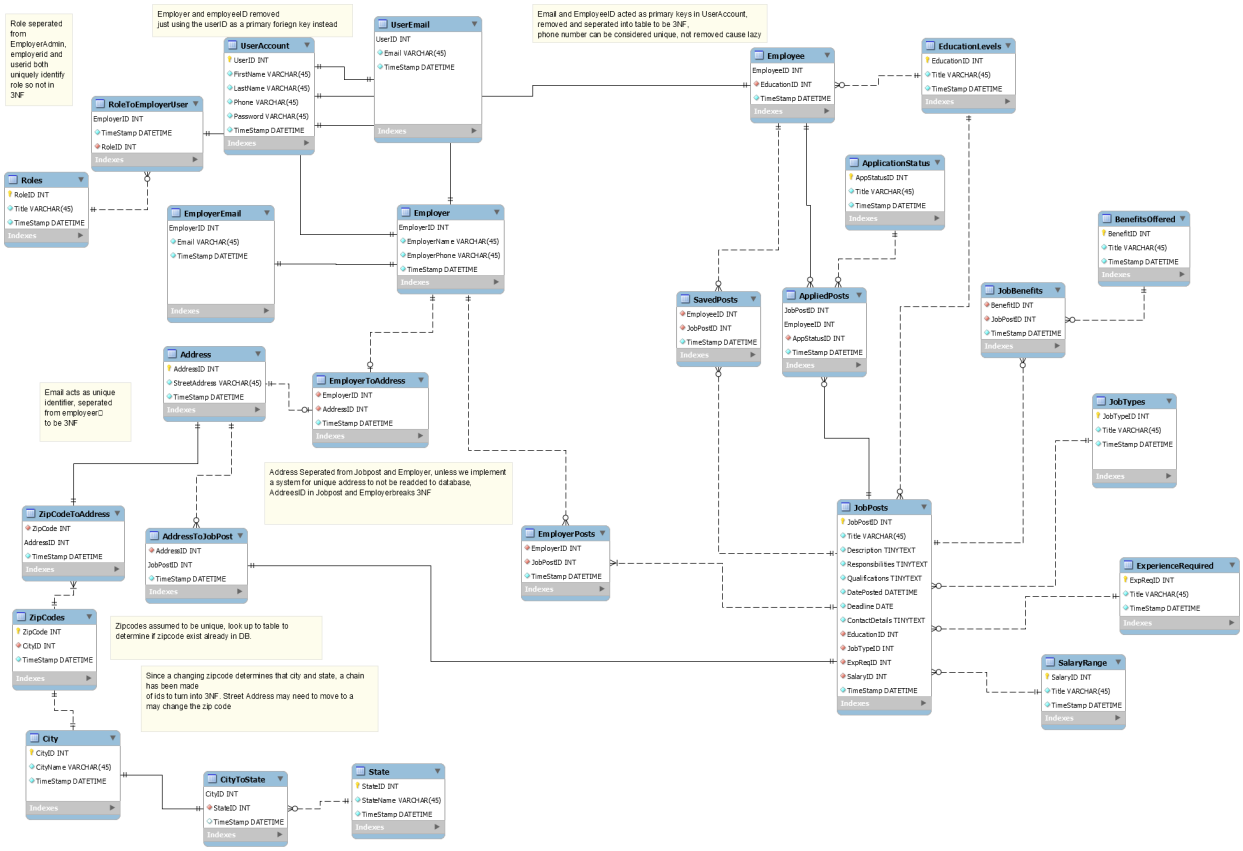
ER Diagram


Responsibilities
TimeStamp
ContactDetails
DeadLine
Description
Title
DatePosted
Qualifications
JobPostID
BenefitID
TimeStamp
Title
BenefitsOffered
BenefitType
JobBenefits
TimeStamp
ExpReqID
TimeStamp
Title
ExperienceRequired
JobReq
JobBenefits
JobPostToSavedPost
SavedPost
TimeStamp
ZipCode
TimeStamp
CityZipcode
ZipCodes
ZipcodeAddress
AddressID
TimeStamp
StreetAddress
Address
jobAddress
JobPosts
CityID
CityName
City
TimeStamp
CityState
State
StateID
TimeStamp
StateName
TimeStamp
EmployerToAddress
JobSalary
SalaryRange
Title
timeStamp
SalaryID
JobType
JobEducation
JobTypes
Title
TimeStamp
JobTypeID
RoleID
TimeStamp
Roles
Title
TimeStamp
RoleToEmployer
TimeStamp
EmployerPost
EmployerJobs
EmpPost
AppliedPosts
Title
TimeStamp
EducationLevels
EducationID
TimeStamp
Email
EmployerEmail
EmployeeEmail
Employer
TimeStamp
EmployerName
EmployerPhone
TimeStamp
AppliedPost
AppliedStatus
AppStatusID
AppliedStatus
TimeStamp
Title
employeeEducation
EmployeeSaved
EmployeeToUser
EmployerEmail
LastName
FirstName
Phone
TimeStamp
UserID
UserAccount
Password
AccountEmail
UserEmail
Email
TimeStamp
TimeStamp
EmployerEmail
EmployerEmail
EmployeeToUser
EmployeeApplied
Employee
TimeStamp

Relational Model



Physical Model



Application Design

Overview

The project is written mostly in PHP. Valid pages links are register.php,login.php,viewEmployerPosts,createJobPosts.php,searchResults.php and logout.php.Configuration for the ‘myjob’ database can be found at config.php

The creation of the database is done through myjob.sql, which creates the tables needed for the demo(tested script with phpmyadmin tools and direct forward engineer), and also inserts dummy data for 20 individuals onto the site. 5 of the users are employers each with job posts inside the database already.The site has been run and tested on XAmpp through the Apache service that also provided the mySQL server. Validation of credentials and input forms were done on the forms that needed it, but the error messages for inputs to users is limited to a few pages.

SQL Queries

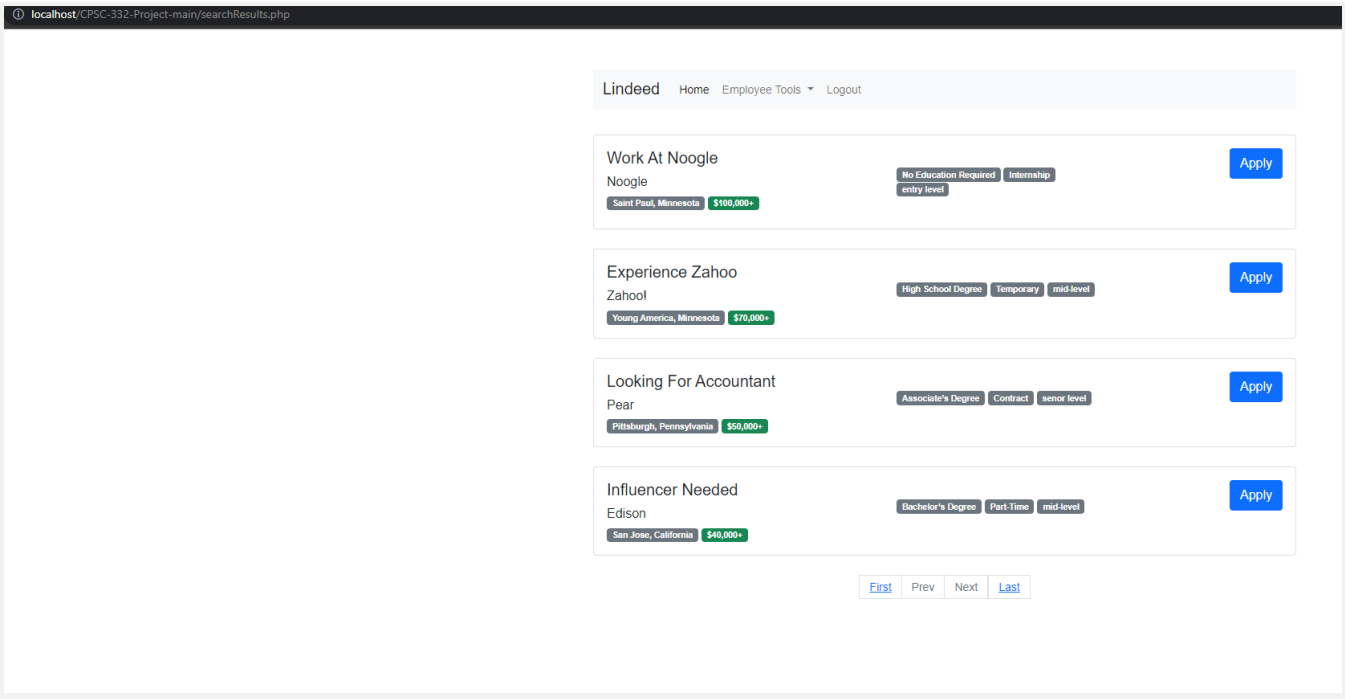
```
1 •   CREATE VIEW `BothRoles` AS
2     Select UserID,FirstName,LastName
3     FROM UserAccount Join Employee ON UserID = EmployeeID
4     WHERE EXISTS (SELECT * FROM Employer WHERE EmployeeID = EmployerID);
```

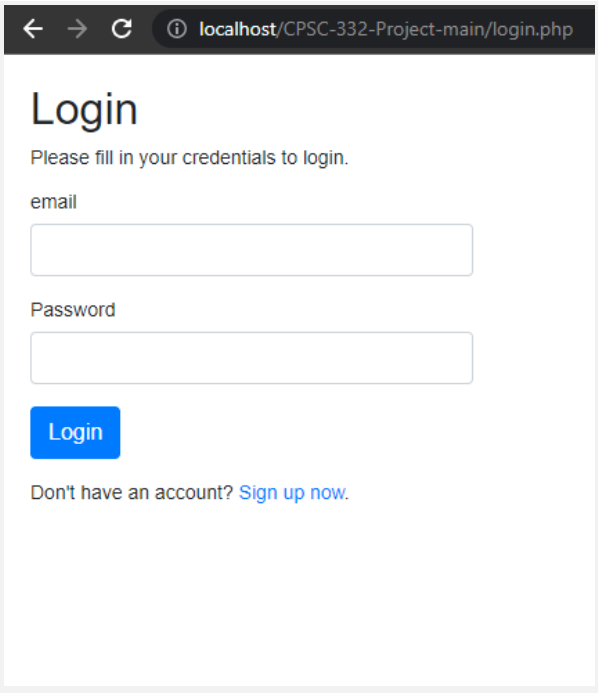
```sql
CREATE VIEW `Employ3` AS
select
    EmployerName,
    (Select Email From EmployerEmail Where Employer.EmployerID = EmployerEmail.EmployerID) as Email
 from
    Employer
 where
    EmployerID in (
       select
           EmployerID
       from
           employerposts
       group by
           EmployerID
       having
           count(1) >3
    );
```

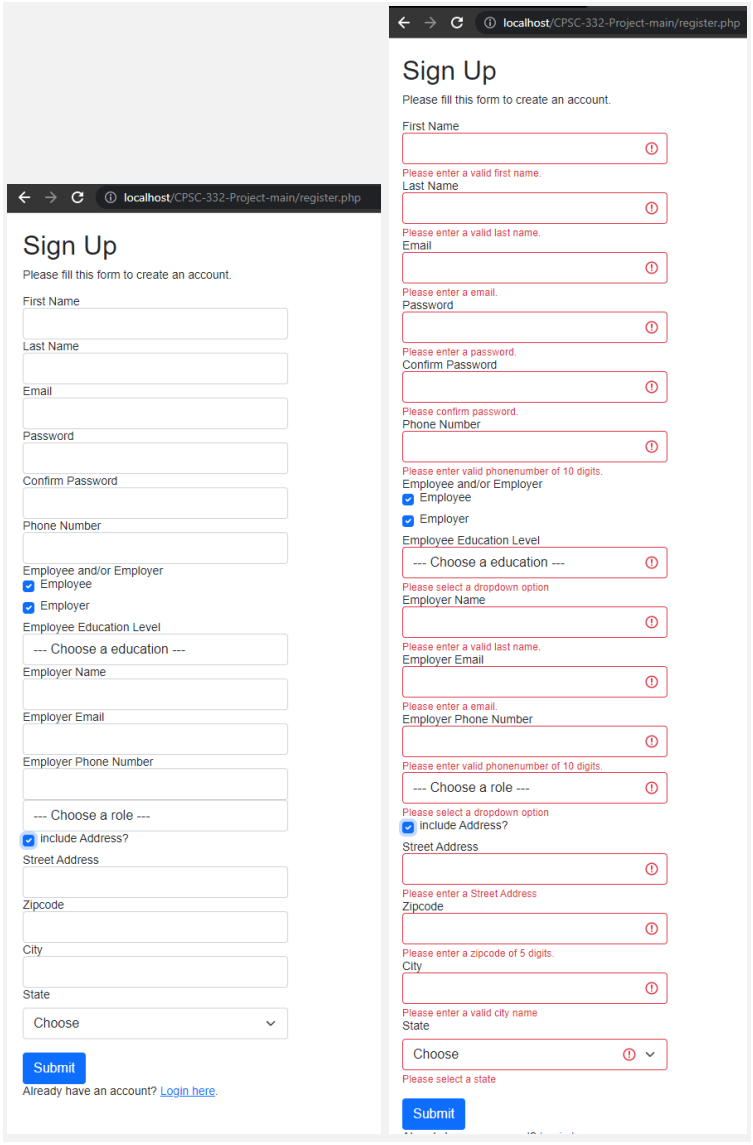
```sql
CREATE VIEW `Employee1` AS
select
     FirstName,LastName,
     (Select Email From userEmail Where Employee.EmployeeID = userEmail.UserID) as Email
 from
     Employee join useraccount on EmployeeID = UserID
 where
     EmployeeID in (
        select
            EmployeeID
        from
            appliedposts
        group by
            EmployeeID
        having
            count(1) >1
     );
```

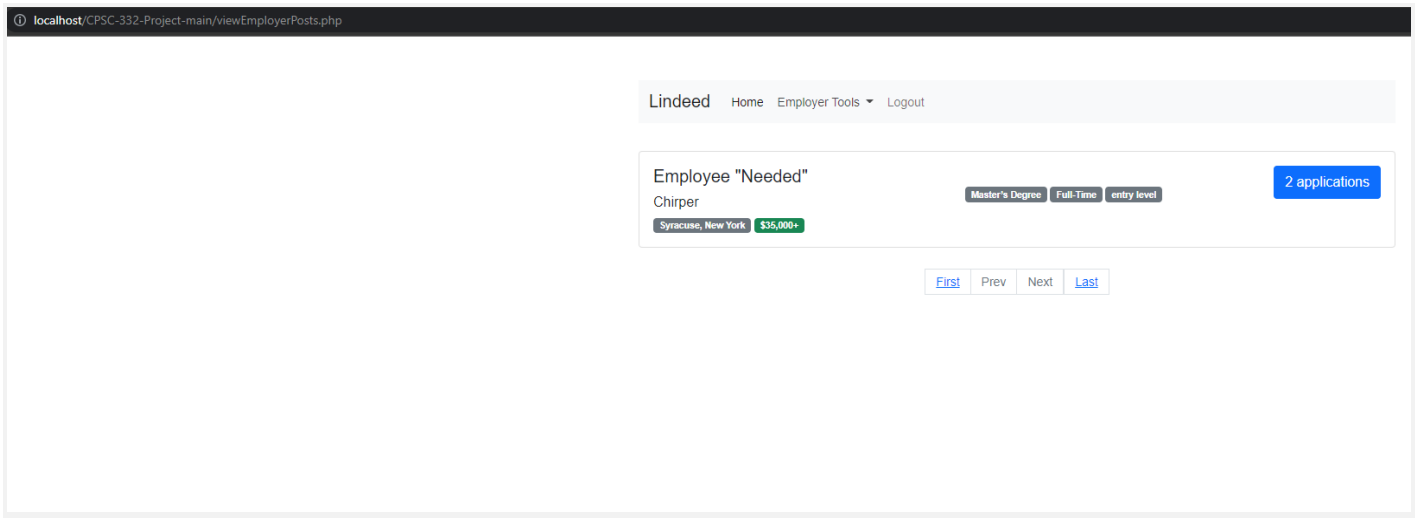
Additional queries for displaying jobpost information or checking credentials information in the database can be found in php files mostly in folder inserts and validation at the root of the project.The statements are extremely long with all the joins to other tables, but were necessary in the context of our model. A better method for storing sql statements in php and binding parameters will be needed for any future updates to the projects.

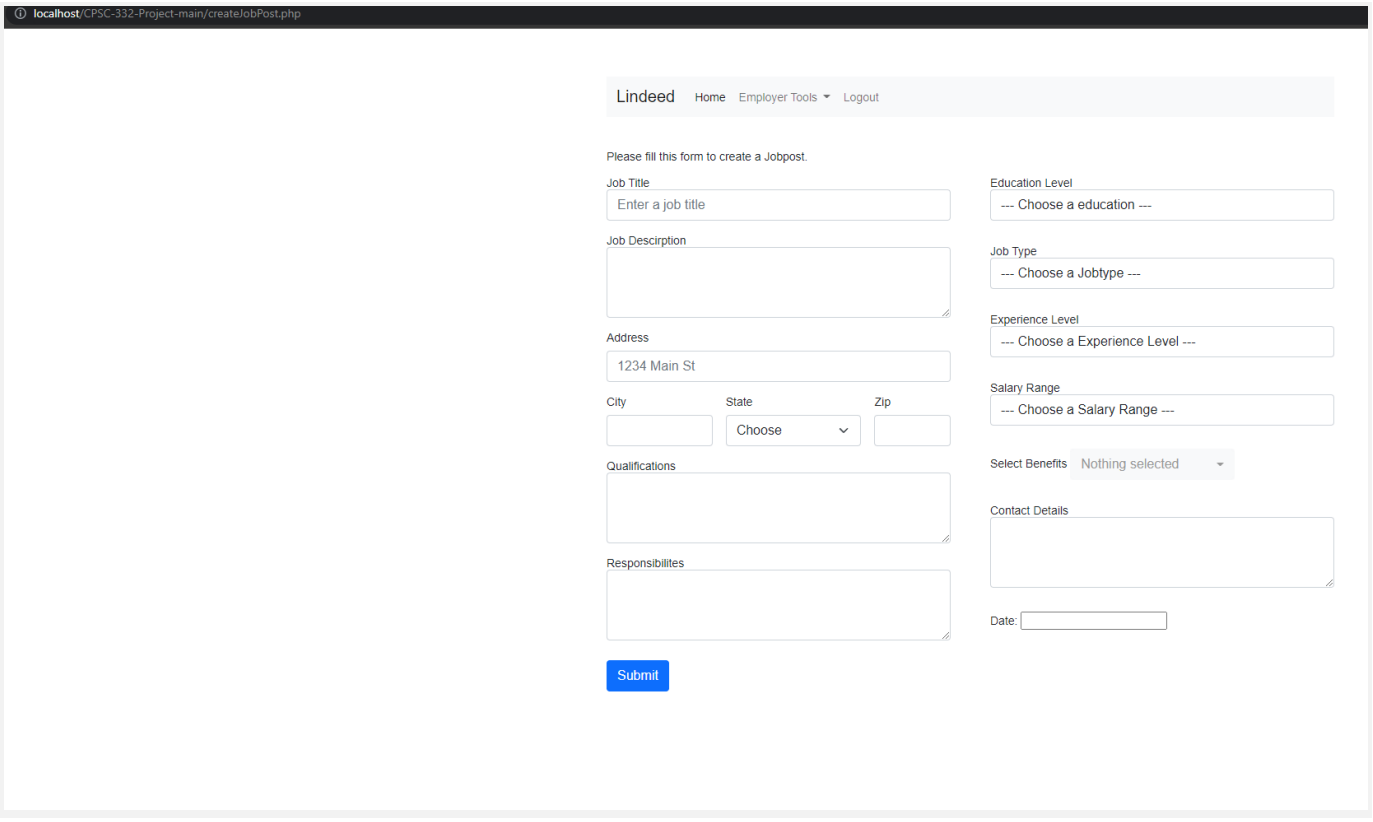
Final Product

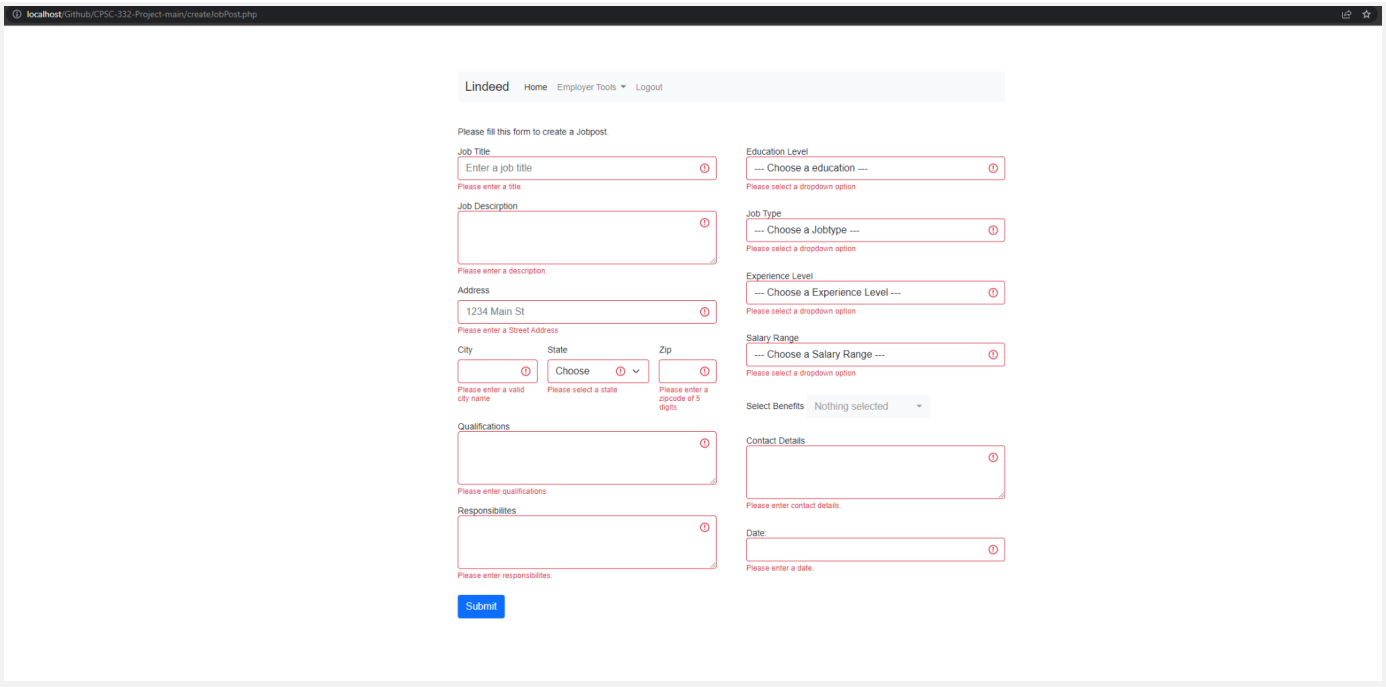





localhost/CPSC-332-Project-main/register.php
Sign Up
Please fill this form to create an account.
First Name
Last Name
Email
Password
Confirm Password
Phone Number
Employee and/or Employer
Employee
Employer
Employee Education Level
--- Choose a education ---
Employer Name
Employer Email
Employer Phone Number
--- Choose a role ---
include Address?
Street Address
Zipcode
City
State
Choose
Submit
Already have an account? Login here.
localhost/CPSC-332-Project-main/register.php
Sign Up
Please fill this form to create an account.
First Name
Please enter a valid first name.
Last Name
Please enter a valid last name.
Email
Please enter a email.
Password
Please enter a password.
Confirm Password
Please confirm password.
Phone Number
Please enter valid phonenumber of 10 digits.
Employee and/or Employer
Employee
Employer
Employee Education Level
--- Choose a education ---
Please select a dropdown option
Employer Name
Please enter a valid last name.
Employer Email
Please enter a email.
Employer Phone Number
Please enter valid phonenumber of 10 digits.
--- Choose a role ---
Please select a dropdown option
include Address?
Street Address
Please enter a Street Address
Zipcode
Please enter a zipcode of 5 digits.
City
Please enter a valid city name
State
Choose
Please select a state
Submit


localhost/CPSC-332-Project-main/viewEmployerPosts.php
Lindeed
Home
Employer Tools
Logout
Employee "Needed"
Chirper
Syracuse, New York
$35,000+
Master's Degree
Full-Time
entry level
2 applications
First
Prev
Next
Last


localhost/CPSC-332-Project-main/createJobPost.php
Lindeed
Home
Employer Tools
Logout
Please fill this form to create a Jobpost.
Job Title
Enter a job title
Job Descirption
Address
1234 Main St
City
State
Choose
Zip
Qualifications
Responsibilites
Submit
Education Level
--- Choose a education ---
Job Type
--- Choose a Jobtype ---
Experience Level
--- Choose a Experience Level ---
Salary Range
--- Choose a Salary Range ---
Select Benefits
Nothing selected
Contact Details
Date:


localhost/Github/CPSC-332-Project-main/createJobPost.php
Lindeed
Home
Employer Tools
Logout
Please fill this form to create a Jobpost.
Job Title
Enter a job title
Please enter a title.
Job Descirption
Please enter a description.
Address
1234 Main St
Please enter a Street Address
City
Please enter a valid city name
State
Choose
Please select a state
Zip
Please enter a zipcode of 5 digits.
Qualifications
Please enter qualifications
Responsibilites
Please enter responsibilites.
Submit
Education Level
--- Choose a education ---
Please select a dropdown option
Job Type
--- Choose a Jobtype ---
Please select a dropdown option
Experience Level
--- Choose a Experience Level ---
Please select a dropdown option
Salary Range
--- Choose a Salary Range ---
Please select a dropdown option
Select Benefits
Nothing selected
Contact Details
Please enter contact details.
Date:
Please enter a date.

The Final product is in the Folder CPSC-332-Project-main, which will be linked to canvas submission, and also can be found at https://github.com/kortiz21/CPSC-332-Project as soon as the github page goes public. If the project were to be further updated, the update can be found at the same github page.

Summary

From the conceptual model to the actual demo program, there were lots of learning points along the journey. Our model originally was inadequate, and the help from the Schemers diagram built the foundation that our program stands upon. Synchronizing the files between the project members was important to keep everyone updated, so we had to spend some time setting up git and getting used to github integration with our project. The creation of the physical model took the least amount of time, since we had a foundation to work off, and only a small portion of model had to be reworked while testing out the demo site.While the php files for the site are relatively small, we used no functions making the php code harder to read than it needs to be.If we were to refactor our codebase with functions and modularity in mind, we could have produced a cleaner final product. Overall, we were able to get a database in a mySQL server running as specified in the project instructions, and partially fulfill the same requirements needed for the actual demo application.