Team Project

Goal

Wewantto create an employee and HR website portal for managing the new employee onboarding process. Employees will be able to update personal information, upload required documents for identification and work authorization, and monitor their housing situation. HR will be able to access employee information and make changes regarding the onboarding status or housing assignments.

General Requirements

1. Eachteam will be assigned a team lead. The team lead has to make the decision of all tools to be used in the project and needs to host a daily meeting to assign and check the work of each teammate.
2. To start off, create *GitHub Organizations*. Team leads should create proper branches for teammates to merge code.
3. Each team needs to add trainers to their GitHub Organization.
    a. Leo's email: leo.liu@beaconfireinc.com
    b. Jim's email: jim.xie@beaconfireinc.com
4. Each team leader needs to meet with one of the trainers by the end of the day(Starting from 12/5/2025). In the meeting, the team leader has to provide a report about:
    a. What the team has finished?
    b. Are there any roadblocks?
    c. A brief demo(It can be a unit test, Postman call, or UI)
    d. What did each team member work on?
    e. A link for the GitHub Organization for today's work.
5. Each team has to follow the ***Agile methodology*** to have deliverable items every 1 - 2 days. Use Jira to manage the project and track issues.
6. "*Done is better than perfect*" — You should finish all requirements first. But DO think about how to make it better. (This is what you can talk more about during the interview)
7. The trainer will provide the table design for the database. Each team has to create all the tables using their own types of relational database and add

corresponding constraints to the tables (at least Primary Key and Foreign Key constraints). If you have any suggestions to make the table look better, talk to the trainer.

8. Here are the requested tech stacks:
    a. The user interface and front-end logic of the application should be developed using **React**.
    b. For the backend, the application should adopt the microservices architecture, utilizing **Netflix Eureka** and **Spring Cloud API Gateway**. All backend communication should be facilitated through one or more of the following methods:
        i. **Spring Cloud OpenFeign**
        ii. **RestTemplate** with Spring Cloud
        iii. **Messaging** (asynchronous communication) using RabbitMQ or Kafka
    c. **Core Services** in the Microservices architecture include the following(Please create composite service as you need):
        i. **EmployeeService**
        ii. **ApplicationService**
        iii. **HousingService**
        iv. **EmailService**
    d. An **Authentication Server** should exist OUTSIDE of the Microservices Architecture. This server should handle all operations related to *User Identity Management*, including authentication, role management, and registration.
    e. For each restful service, you need to use **Spring Boot**, **Maven**, **Actuator**, **Swagger**, **Spring Security**, **Hibernate**, and/or **Spring Data Repository**.
    f. Each team has to create all the tables/collections using MySQL and MongoDB, adding corresponding constraints to each. The cloud databases **AWS RDS** and **MongoDB Atlas** must be used to share database access between team members.
    g. All actions related to file storage should be associated with the **AWS S3 Buckets**. For example, files and images such as driver's licenses, profile pictures, I-20, etc. should be stored in AWS S3 Buckets.
    h. **JUnit**, **Mockito,** and **Jacoco** should be used for testing. The code coverage report should be around 50% (You only need to test the service packages of each service)

i. **Spring AOP** for exception handling.
j. **Spring Cloud Config** for shared configuration files.
k. Additional **MongoDB** connections/designs are needed to debug the messaging system.

Features

Employees	**HR**
Login & Navigation	
Registration	Hiring Management
Onboarding Application	
Personal Information	Employee Profiles
Visa Status Management (Employee)	
Housing	Housing Management

Project Requirements

Employee Section

1. Registration
    a. Firstly, an HR representative generates a registration token along with a link to the registration page and sends it to the newly recruited employee's email address. This is the only way for new employees to access the registration page. (**See HR - Hiring Management**)
    b. Users must provide a password, unique username, and unique email address (it doesn't necessarily need to be real).
2. Login
    a. Employee can log in with their username/email and password and then be redirected to the Personal Information page.
    b. If they are not logged in, redirect them to the Login page.

3. Onboarding

a. Auser must set up the username and password after the user registers their account by using the registration token.

b. After setting up the username and password, the user will be redirected to the onboarding page.

c. The onboarding application form contains the following input fields (**bold fields** are **required**, the rest are optional)

i. **First Name**, **Last Name**, Middle Name, Preferred Name

ii. Avatar (should have a default pic for the user in case they don't upload one)

iii. **Current Address**

iv. **Cell Phone**, Work Phone

v. Email (Pre-filled with the email used by getting the registration token, Not Editable)

vi. **SSN**, **Date of Birth**, Gender(Drop down: Male, Female, Other, I Prefer Not to Say)

vii. **"Are you a citizen or permanent resident of the U.S.?"**

1. If yes, choose either "**Green Card**" or "**Citizen**"
2. If no, **"What is your work authorization?"**(Dropdown: H1-B, L2, F1(CPT/OPT), H4, Other)
   a. If others, show an input box for specifying the work authorization, start date, and expiration date.
   b. otherwise, show input boxes for the start date and end date.
   c. In both situations, the user has to upload a copy of their own work authorization (such as an EAD card or H1B document…).

viii. **"Do you have a driver's license?"**

1. If yes, **driver's license number**, **expiration date** and **upload a copy of driver's license**.

ix. Reference(Who recommends you to come here, the reference can only be one person withnfollowing fields)

1. **First name**,**Last name** , Middle name, **Phone**, **Address**, **Email**,**Relationship.**

x. **Emergency Contact**(at least one)

1. **First name**,**Last name** , Middle name, **Phone**, **Email**, **Relationship.**

d. After user completes the application form, the documentation page should be loaded with all documents(Basically all documents in the DigitalDocument Table).

i. All documents marked as required should be validated before the user can submit the application.

ii. For each document, provide a download link so users can download the file.

iii. If user clicks on the link, open a pop-up with a preview of the document(<object> — it will provide a download link)

iv. User should be able to upload the document when they complete and sign on the document.

e. After all required documents have been uploaded, user should be able to submit the onboarding application.

i. Once submitted, user should be presented a page with “Please wait for HR to review your application” User can go to their home page if

ii. and only if the HR approved their application. If the application is rejected, user should be able to receive an email notifying them that

iii. their application is rejected. The user should be able to log into the system to check which field is wrong or any missing document.

4. HomePage

a. Once user’s onboarding application has been approved, the user should be able to see the home page after they login.

5. NavigationBar: UsershouldbeabletousetheNavigationbartogoto followingpages:

a. Personal Information

b. Visa Status Management (Only Available if the user is NOT a citizen or green card holder)

i. When hovering over, a link to OPT STEM Management should be displayed.

c. Housing

d. House Detail

e. Report facility issue

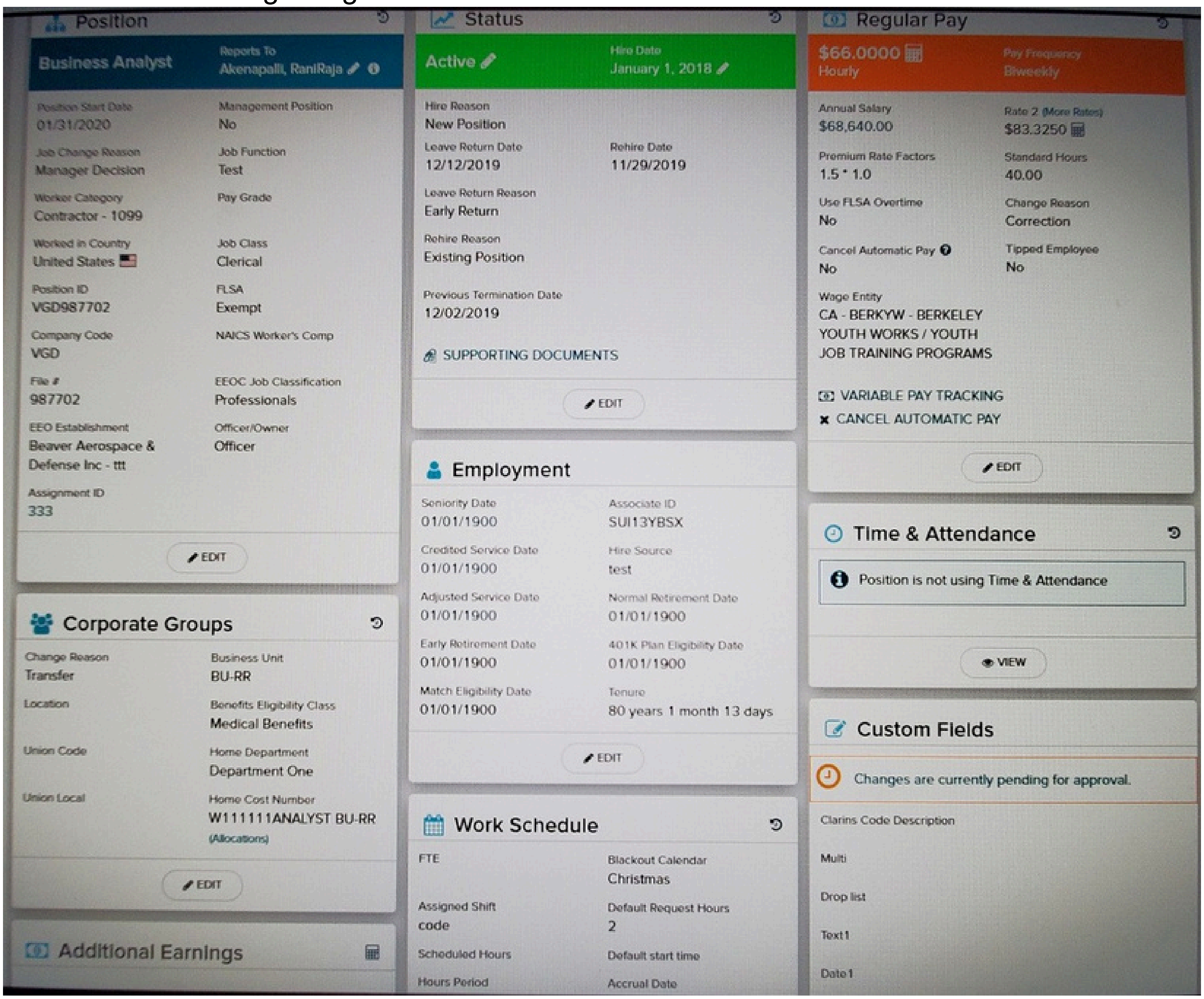
f. In the body of the home page, display a welcome message

(e.g. i“.H ello Zack, Welcome to BeaconFire”)

ii. You can customize your welcome message or add additional features(such as Quick Links) in the body

6. PersonalInformation

a. User should be able to view their own personal information with the following design:



b. User should be able to see the following sections:

i. Name Section

1. Name — Legal Name(Full Name)
2. Preferred Name
3. Avatar
4. Date of Birth, Age, Gender
5. SSN(Only Show Last Four Digits)

ii. Address Section
    1. Primary Address
        a. Address Line 1, Address Line 2, City, State, Zip
    2. Secondary Address
        a. Address Line 1, Address Line 2, City, State, Zip

iii. Contact Info Section
    1. Personal Email, Work Email
    2. Cell Phone, Work phone

iv. Employment Section
    1. Work Authorization
    2. Work Authorization Start Date
    3. Work Authorization End Date
    4. Employment Start Date
    5. Employment End Date
    6. Title
    7. Emergency Contact(List View)
        a. Full Name
        b. Phone
        c. Address

c. Each Section mentioned above should have an Edit button. Once clicked, user should be able to edit the content in the section.
    i. If user clicks the “Edit”, the button will be replaced by two buttons — “Save” and “Cancel”
    ii. If the user clicks “Cancel,” a pop-up or alert should appear: “Are you sure to discard all your changes?”

d. Document Section(List View)
    i. User should be able to view and download all documents they have uploaded
    ii. The document should be displayed as an icon + name
    iii. When user clicks on it, show a pop-up with preview(<object>)
    iv. All documents should be ordered by createdDate descending. (With the most recent on the top)

7. VisaStatusManagement
    a. User should be able to manage their work authorization on this page. (We just take care of the OPT application process now)

b. International students have to use OPT/OPT STEM to work in the U.S. During the onboarding process, they must **provide the EAD card**. The OPT status changes are listed below:

i. (DOWNLOAD) I-983 (Need to be filled for OPT STEM)
ii. (UPLOAD) I-20 (After submitting the I-983 to the school, the student will receive a new I-20)
iii. (UPLOAD) OPT STEM Receipt (Applied for OPT STEM, but don't receive the OPT STEM EAD)
iv. (UPLOAD) OPT STEM EAD (Received the OPT EAD), and wait for HR's response
    1. *Forallthe UPLOADactions, a confirmation emailwith informationonthenextstep willbesentto theuser's email*
    2. Along with the button for downloading I-983, user should be able to find a button to upload their new I-20
    3. If the user has uploaded the new I-20, they should be able to see the next step as "Please upload your OPT STEM Receipt".
        a. After the message, the user should be able to see a button to upload the OPT STEM Receipt.
    4. If the user has uploaded the OPT STEM Receipt, they should be able to see the next step as "Please upload your OPT STEM EAD".
        a. After the message, the user should be able to see a button to upload the OPT STEM EAD.

c. A List of Documents the user has uploaded.

i. User should be able to view and download all documents they have uploaded
ii. The document should be displayed as icon + name
iii. When user clicks on it, show a pop-up with preview(<object>)
iv. All documents should be ordered by createdDate descending. (With the most recent on the top)

8. Housing

a. The employee will be assigned to a house when their registration token has been generated. Employees can only view the details about the house, but can not change the house assigned to them.

b. House Detail Page

i. Employees should be able to view the following house detail

1. Address
2. List of employees who live in the house with the following details
   a. Name (Preferred Name, if it is empty, then the First Name)
   b. Phone

c. Facility Reporting Page
   i. Employees should be able to report a facility issue in the house, and see all comments by employees or HR
      1. A Facility Report with the following details
         a. Title
         b. Description
      2. A list of existing reports with the following details
         a. Title
         b. Description
         c. Created By(Who reported this issue)
         d. Report Date
         e. Status(There are 3 status: Open, In Progress, Closed)
            i. When a report is created,
         f. A list of comments with the following details
            i. Description Created By Comment Date(If the
            ii. last modification date is empty, display the
            iii. created date; otherwise, display the last modification date)

         g. For each report, employees can add comments or update comments which are created by the employee.

HR Section

1. Login
   a. Both employee and HR should have exactly the same login portal. The system should be able to check whether the login user is an HR or an employee.
   b. Please hard code at least one account with Role as HR
   c. Note: An HR is also an employee. The difference is that HR has one more role called HR

2. Home Page

a.AfterHRlogin, they should be redirected to the home page with the following details:

i. Navigation Bar(It should be displayed on all pages for HR)
   1. Employee Profile
   2. Visa Status Management
   3. Hire
   4. House Management

ii. Application Tracking Table(It should be in the HomePage)
   1. The table works as a reminder: if any action needs to be taken to update employee Visa status or On-boarding process, there should be one item in the table
      a. e.g., If the employee applied for STEM OPT and has already uploaded their new EAD card, then a reminder to approve/reject this application
   2. The application tracking table should have the following details
      a. Name (Legal full name)
      b. Type of Application
      c. Status
      d. Last Modification Date

3. Employee Profile

a. HR should be able to view all employee profiles.

b. The profile page for HR is the same as the Employee profile page with the following additional features

c. Summary and Search bar

i. The HR should be able to view the summary of an employee with the following details
   1. Name(Legal Full Name)
   2. SSN
   3. Starting Date
   4. Visa Status

ii. The total number of employees
   1. e.g., If there are 100 pages in the company and the current profile is the 10th page, then it should be displayed as “<10/100>”

        2. You should use the `user_id` to decide the order of employees
    iii. The HR should be able to search for the employee in the search bar with the following criteria
        1. Name(First Name or Last Name or Preferred Name)
        2. Note: It is up to you to decide how to display the search results, but make sure your design covers all possible cases: One Record found, Multiple Records found, No record found.

4. VisaStatusManagement
    a. This page works almost the same as the Application Tracking Table on the Home Page, but it provides more details about user information AND allows actions to be taken by the HR user. This page will display all visa statuses even if no action is needed.
    b. When HR goes to this page, they should be able to see a list of information as follows.
        i. Name (Full Legal Name)
        ii. Work Authorization
        iii. Expiration Date (of said authorization)
        iv. Days Left (of said authorization)
        v. Active STEAM OPT Application and Actions (Approve, Reject, or NONE)
            1. For an employee in the process of a STEM OPT application and you have yet to reach its final stage, HR can reject said application. A comment can be provided for this rejection.
            2. For a STEM OPT Application that has its new EAD card uploaded, HR can either approve or reject this application (i.e., reject due to uploading a wrong file). A comment can be provided if rejected.
        vi. Document Received:
            1. Provide access to all past documents submitted by the employee.

5. Hire
    a. The HR should be able to create the registration token and review the onboarding application or other applications, such as the OPT STEM application
    b. Registration Token Generation

i. By entering the new hire's email, HR should have a button "Generate Token and Send Email" to send the token to the email address provided.
    1. The default valid duration should be set through the property file, and the value should be 3 hours.

c. Application Review
    i. HR should be able to review employees' onboarding applications
        1. Form Application
            a. HR should be able to view the same form for the onboarding application with the following rules:
                i. All fields are not editable
                ii. All fields are populated with user-entered data
                iii. HR should be able to add comments for the entire application
        2. Supporting Documentation
            a. HR should be able to view each uploaded document and add comments for each document without downloading the document.
            b. Note: it is up to you to design how it should look like.
    ii. Each Employee can only have one ongoing (non-Completed) application
    iii. Application Status: Open, Rejected, Completed, and any NECESSARY STATUS based on your design
    iv. HR should be able to approve or reject the application
        1. Once approved, the application status should be changed to Completed, and the user will be allowed to open another application. (STEM OPT Application, for example)
        2. If rejected, there should be comments about what is wrong. Then the employee has to fix those errors or upload other documents.
        3. Either approved or rejected, the employee should be able to receive an email about any decision made on the application.
    v. When HR go to this page, they should be able to view all ongoing onboard applications. When clicking on each application, it should show the application details listed.
        1. Note: it is up to you to design how it should look.

6. House Management

a. HR shouldbeable to view, add, and delete the house property belonging to the company.

b. View

    i. HR should be able to view all houses that are currently under management by the company with the following details

        1. Address
        2. Number of Employees in the house
        3. Landlord Information:

            a. Legal Full Name
            b. Phone
            c. Email

c. HR should be able to click on each house record to view the details as follows:

    i. Basic House Information (same as the previous section)

        1. Address
        2. Landlord, Phone, Email
        3. Number of People

    ii. Facility Information

        1. Number of Beds 2. Number of Mattress 3. Number of Tables 4. Number of Chairs

    iii. Facility Report(List View)

        1. Display all facility reports with (Title + Date + Status) format in a table or similar structure
        2. Each page should only display 3 - 5 reports
        3. All reports are sorted by the created date
        4. Once clicked, display a pop-up with all the following details

            a. Title
            b. Description
            c. Created By(Who reported this issue)
            d. Report Date
            e. Status(There are 3 status: Open, In Progress, Closed)

                i. The time when this report is created

            f. If applicable, a list of comments with the following details

i. Description Created By Comment Date(If the
ii. last modification date is empty, display the
iii. created date; otherwise, display the last modification date)

iv. For each report, HR can add comments or update comments which are created by HR.

d. Employee Information(List)

i. Name (Preferred Name, if null, then First Name)
ii. Phone
iii. Email
iv. If clicked on each row, redirect to the Employee profile page and load the clicked employee information.

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