SW Engineering CSC 648/848 Fall 2022

The Hiring Guru

Team 2: Binary Brains
Farhan Haider (Team Lead/Backend Lead): shaider1@sfsu.edu
Kenny Leong (Frontend Lead/GitHub Master): kleong2@mail.sfsu.edu
Mamadou Bah (Frontend): mbah1@mail.sfsu.edu
Khushi Khanna (Backend) kkhanna@sfsu.edu
Eric Leow (Backend): elow@mail.sfsu.edu

Milestone #3

November 9th, 2022

Row	Document Version	Review Date	Description
1	Version 1	10/21/2022	Milestone 3 was assigned, met up and discussed how we want to complete the Milestone. Made assignments to be completed prior to class on Thurs
2	Version 2	10/25/2022	Completed data definitions, partially prioritized the functional requirements
3	Version 3	11/02/2022	Completed EER and UML diagrams
4	Version 4	11/07/2022	Added wireframes

5	Version 5	11/09/2022	Finalized document for submission

Table of Contents

1 - Data Definitions

HR Manager

An HR Manager does the following:
- An HR manager shall be able to be the main actor and the most frequent user of this application, responsible for managing the complete hiring process.
- A HR Manager shall be able to schedule the various steps of the application process
- A HR Manager shall be able to reach out to Candidates throughout the application process
- A HR Manager shall be able to move the Candidate along the recruitment pipeline given positive feedback from Interviewer
- A HR Manager shall be able to be able to engage with communication channels
- A HR Manager shall be able to view hiring insights to find the most suitable Candidate
- A HR Manager shall be responsible for ensuring the onboarding process is completed by the Candidate

Candidate

A Candidate does the following:
- The Candidate is a prominent user within the application, responsible for going through the entire Recruitment Pipeline Process from start to finish
  - Involves being aware of open positions and requirements of each position
  - Involves completing each step of the recruitment process on time
  - Involves remaining in communication during the recruitment process with various other users

Executive

An Executive does the following:
- The Executive entity is an entity that has the same influence as the HR Manager but is one above the HR Manager.
- The Executive shall be able to do all of the tasks that the HR Manager can, such as:
  - An Executive is able/responsible for scheduling the various steps of the application process
  - An Executive is able to reach out to Candidates throughout the application process
  - An Executive moves the Candidate along the recruitment pipeline given positive feedback from Interviewer
  - An Executive is able to be able to engage with communication channels

- ○ An Executive is able to view hiring insights to find the most suitable Candidate
  - ○ An Executive is responsible for ensuring the onboarding process is completed by the Candidate
- ● An Executive includes creating referral programs and overseeing the entire recruitment process and managing the progress of the other users within the recruitment pipeline

Tech Recruiter/Marketing

A Tech Recruiter does the following:
- ● A Tech Recruiter, or the Marketing Team, is the main user that starts the entire Recruitment Pipeline Process within the Hiring Guru, responsible for hiring the Candidate that will undergo the process.
- ● A Tech Recruiter shall be able to promote the job on various platforms and figure out what is the best platform and marketing strategy to target the appropriate group of Candidates
- ● A Tech Recruiter shall be responsible for presenting suitable Candidates needed for the job description

Interviewer

An Interviewer does the following:
- ● An Interviewer is a user who is an employee within the desired company by the general user and interviews them to see if they qualify for the specific role.
- ● An Interviewer shall be responsible for scoring each of the Candidate's based on the scoresheet provided by the company
- ● As an Interviewer, it's crucial to understand the skills and experience that are necessary for the job description

Job Application

A Job Application does the following:
- ● A Job Application shall be created by an Employee
- ● A Job Application shall be filled out by a Candidate
- ● A Job Application shall contain profile information of many candidates
- ● A Job Application shall be able to be modified by an Employee

Employee

An Employee does the following:
- ● An Employee shall be able to view candidates in the Recruitment Pipelines Process

- An Employee shall be able to interview Candidates
- An employee shall be able to schedule interview of candidates
- An employee shall be able to setup Permissions and Groups
- An authorized employee shall be able to shortlist Applications
- An authorized employee setup Recruitment Pipelines Process
- An authorized employee shall be creating many Job positions
- An authorized employee shall be able to create many Job roles

General User

A General User can do the following:
- A General User is a user who is only exploring the application and has the most basic features accessible to them, most often an unauthenticated user.

Group

A Group can do the following:
- A group can have many employees
- A group can be assigned multiple permissions

Permission

A Permission can do the following:
- A Permission can be assigned to multiple Groups

2 - Prioritized Functional Requirements V2

P1

Authorized User

Requirement ID	Requirement Statement
FRAUTH001	Authorized user shall be able to log out anytime
FRAUTH002	Authorized user shall be able to create an organization
FRAUTH004	Authorized user shall be able to invite employees to the organization
FRAUTH008	Authorized Users shall be able to create a new role (e.g., QA Engineer, Software Engineer, etc.)
FRAUTH009	Authorized User shall be able to update a role
FRAUTH010	Authorized User should be able to see the list of all roles
FRAUTH011	Authorized User shall be able to remove a role from the system
FRAUTH012	Authorized User shall be able to open a new position for a particular role
FRAUTH013	Authorized User shall be able to close a listed position
FRAUTH014	Authorized User shall be able to see all the applications for a specific position
FRAUTH015	Authorized User shall be able to add referral for a specific position
FRAUTH016	Authorized User shall be able to see all the referrals for a specific position
FRAUTH017	Authorized User shall be able to drop an application
FRAUTH018	Authorized User shall be able to design the hiring process for a position
FRAUTH019	Authorized User shall be able to update the hiring process for a position
FRAUTH020	Authorized User shall be able to see the hiring process for a position
FRAUTH003	Authorized User shall be able to move a stage backward in the hiring process
FRAUTH005	Authorized User shall be able to move a stage forward in the hiring process
FRAUTH006	Authorized User shall be shown a confirmation before deleting a step

Requirement ID	Requirement Statement
FRAUTH007	Authorized User shall be able to easily move to another page using a side navigation
FRAUTH021	Authorized User shall be able to search for job roles using a query field
FRAUTH054	Authorized User shall be able to write a job description

General User

Requirement ID	Requirement Statement
FRGENR000	General user shall be able to sign up directly for an individual account
FRGENR001	General user shall be able to signup using Google account
FRGENR003	General user shall be able to login using Google account
FRGENR005	General user shall be able to login using Username and Password
FRGENR006	General user shall be able recover his/her account using email
FRGENR007	General User shall be able to go back to the home screen anytime by clicking on the HiringGuru logo
FRGENR009	General User shall be able to see the HiringGuru about page in the page footer
FRGENR010	General User shall be able to see the product features in the home page
FRGENR011	General User shall be able to search for jobs on the home page
FRGENR012	General User shall be able to apply for a job

P2

Authorized User

Requirement ID	Requirement Statement
FRAUTH062	System should automatically add an accepted application to the hiring process
FRAUTH022	Authorized User shall be able to see a list of all the accepted applications
FRAUTH023	Authorized User shall be able to remove a Candidate from the hiring process

FRAUTH024	Authorized User shall be able to add an Employee
FRAUTH025	Authorized User shall be able to view a list of all Employees
FRAUTH026	Authorized User shall be able to remove an Employee from the company
FRAUTH027	Authorized User shall be able to schedule an interview of the Candidate
FRAUTH028	Authorized User shall be able to send a calendar invite to the Interviewers and the Candidate
FRAUTH029	Authorized User shall be able to see the schedule detail of an interview of the candidate
FRAUTH030	Authorized User shall be able to see the detail of an interview of the candidate
FRAUTH031	Authorized User shall be able to schedule a programming test of the candidate
FRAUTH032	Authorized User shall be able to update the time and date of a programming test
FRAUTH033	Authorized User shall be able to add the feedback/decision of a programming test
FRAUTH034	Authorized User shall be able to attempt a programming test
FRAUTH035	Authorized User should be able to create a job post on LinkedIn
FRAUTH036	Authorized User should be able to create a new advertising campaign on LinkedIn
FRAUTH037	Authorized User should be able to analyze LinkedIn profiles using Artificial Intelligence
FRAUTH038	Authorized User shall be able to send a message to the matching profiles to see if they are interested
FRAUTH039	Authorized User shall be able to add profiles of interest to the recruitment pipeline
FRAUTH030	Authorized User shall be able to like a listed position
FRAUTH041	Authorized User shall be able to update his profile

FRAUTH042	Authorized User shall be able to search for job by the posted time
FRAUTH043	Authorized User shall be able to post the job advertisement on LinkedIn
FRAUTH044	Authorized User shall be able to schedule a programming test for the candidate
FRAUTH045	Authorized User shall be able to schedule an interview of the candidate
FRAUTH046	The system shall send email to the candidate once programming test is scheduled
FRAUTH047	The system shall send email to the candidate once an interview is scheduled
FRAUTH048	Authorized User shall be able to send acceptance email to the candidate
FRAUTH049	Authorized User shall be able to send rejection email to the candidate
FRAUTH050	Authorized User shall be able to send a background check must to a candidate, which must be passed before being able to accept a job offer
FRAUTH051	Authorized User shall be able to review each applicant's resume and experience prior to interviewing
FRAUTH052	Authorized User shall be able to determine how to score candidate's responses based off of company's expectations
FRAUTH052	Authorized User shall be able to answer Candidate's questions appropriately
FRAUTH053	Authorized User shall be able to administer situational and personality tests to narrow the list of Candidates
FRAUTH055	Authorized User shall be able to ensure that the employment paperwork is correct and complete
FRAUTH056	Authorized User shall be able to ensure that the application should be easy to complete
FRAUTH057	Authorized User shall be able to schedule a phone screen
FRAUTH058	Authorized User shall be able to schedule a skills test

FRAUTH059	Authorized User shall be able to ensure appropriate questions are on the skills test related to the job requirement
FRAUTH060	Authorized User shall be able to schedule a new time for the skills test if Candidate is unable to complete it within the provided time frame
FRAUTH061	Authorized User shall be able to allow for convenient and quick channels of communication for the candidate to ask questions throughout the interview process
FRAUTH119	Authorized User shall be able to assign role to candidate
FRAUTH120	The application should be able to provide job-specific programs for each candidate
FRAUTH121	The application should be able to grant access to technical tools needed by the candidate
FRAUTH122	The application should be able to have a paid or unpaid boarding process
FRAUTH123	The application should be able to allocate mentor for Candidate
FRAUTH124	The application should be able to create a schedule for the Candidate
FRAUTH125	The application should be able to organize the workspace
FRAUTH126	Introduce the candidate to technologies they will need to learn how to use
FRAUTH127	Authorized User shall be able to prepare orientation with other Candidates
FRAUTH128	The application shall have an administration tools for the interviewer
FRAUTH129	Authorized User shall be able to Take in any comments or complaints that the candidate might have
FRAUTH130	Authorized User shall be able to Organize meetings between the employer and the candidates
FRAUTH131	Manage any health benefits that should be given to the employee

Requirement ID	Requirement Statement
FRAUTH132	Authorized User shall be able to request Employment background screening
FRAUTH133	Authorized User shall be able to Send offer letter to candidate
FRAUTH134	Authorized User shall be able to Email reminders of the next steps in onboarding

General User

Requirement ID	Requirement Statement
FRGENR013	General user shall be able to book a product demo
FRGENR014	General user shall be enable or disable cookies
FRGENR015	General user shall be able to chat with the organization bot
FRGENR002	General user shall be able to signup using a Microsoft account
FRGENR016	General user shall be able to login using Microsoft account

P3

Authorized User

Requirement ID	Requirement Statement
FRAUTH094	System should automatically remove the Candidate from the hiring process if a step is failed
FRAUTH095	Authorized User shall be able to view the detail of an Employee
FRAUTH096	Authorized User shall be able to update the detail of an Employee
FRAUTH097	Authorized User shall be able to allow an interviewer to set their availability time
FRAUTH098	Authorized User shall be able request Candidate availability for an interview
FRAUTH099	System should automatically schedule an interview of the Candidate

FRAUTH100	System should automatically schedule a programming test if it is the current step
FRAUTH101	Authorized User should be able to create a job post on Stackoverflow
FRAUTH102	Authorized User should be able to create a new advertising campaign on YouTube
FRAUTH103	Authorized User should be able to create a new advertising campaign on StackOverflow
FRAUTH104	Authorized User should be able to calculate the budget and allocate money for specific advertising campaigns
FRAUTH105	Authorized User shall be able to calculate budget to see how many open positions are possible to create
FRAUTH106	Authorized User should be able to calculate the budget to allocate for training interviewers on how to conduct an interview
FRAUTH107	Authorized User shall be able to talk about the day-to-day duties and inform the candidate about the work culture
FRAUTH108	Authorized User shall be able to identify if the hire is an external or internal applicant
FRAUTH109	Authorized User shall be able to determine if an internal hire- minimal advertising is needed
FRAUTH110	Authorized User shall be able to design a recruitment pipeline for individual candidates
FRAUTH111	Authorized User shall be able to provide specific feedback as to why they didn't pass that round
FRAUTH135	Authorized User shall be able to prepare new Candidate for training
FRAUTH136	Authorized User shall be able to create a new onboarding program
FRAUTH137	The application should be able to have a calculate candidate hours
FRAUTH138	The application should be able to have a decrease wage

FRAUTH139	The application should be able to have a give raise
FRAUTH140	The application should be able to have a calculate trust level
FRAUTH141	The application should be able to have a survey candidate
FRAUTH142	The application should be able to have a find jobs for the candidate within company
FRAUTH143	The application should be able to have a create presentations
FRAUTH144	The application should be able to host meetings
FRAUTH145	The application should be able to have a way to communicate with other data items
FRAUTH146	Authorized User shall be able to create tasks for candidate
FRAUTH147	The application should be able to have a deadline setter
FRAUTH148	Authorized User shall be able to set goals for the candidate to complete
FRAUTH149	Authorized User shall be able to find candidate function
FRAUTH140	Authorized User shall be able to pause candidate function
FRAUTH141	Authorized User shall be able to remove candidate function
FRAUTH142	The application should be able to have memory allocation for Candidate information
FRAUTH143	The application should be able to organize team dynamics
FRAUTH144	The application should be able to organize team dynamics
FRAUTH145	The application should be able to organize where and how they will be working
FRAUTH146	Authorized User shall be able to do a performance review scheduling
FRAUTH147	Manage space for Candidates
FRAUTH148	Authorized User shall be able to display information needed by the candidate

General User

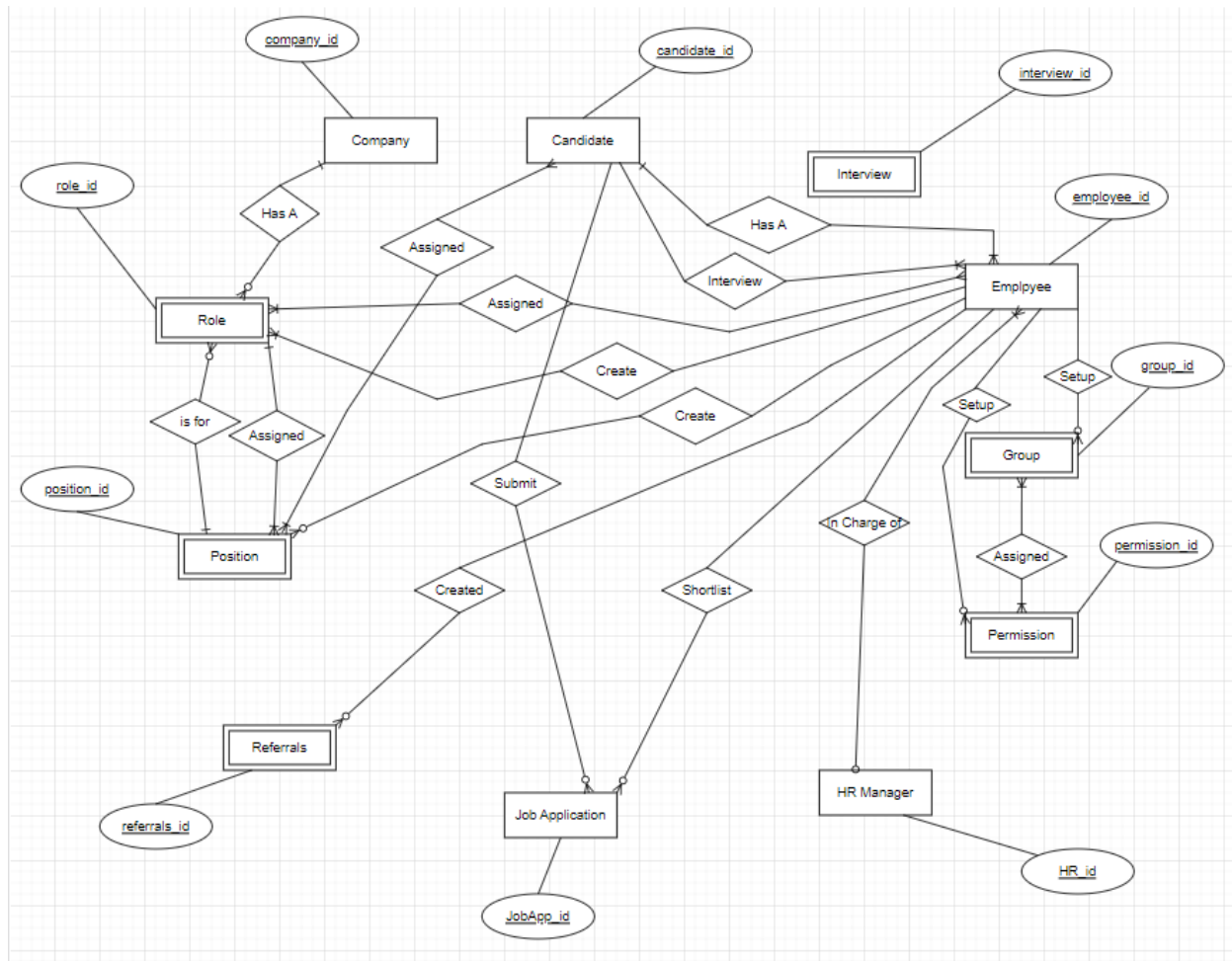| Requirement ID	Requirement Statement
FRGENR016	General user shall be able to see product pricing
FRGENR017	General User shall be able to see statistics of a job post

3 - Wireframes based on your Mockups/Storyboards

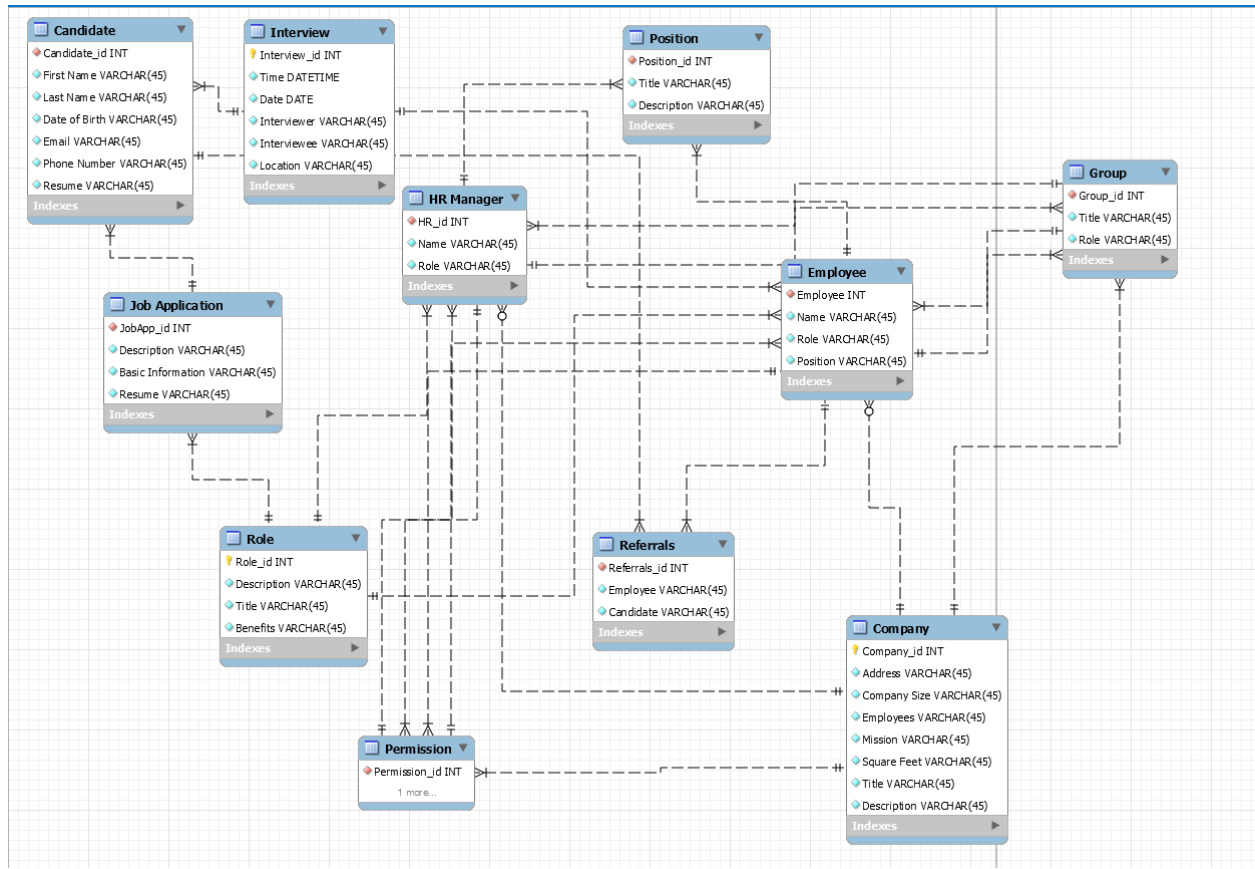Please use the following Figma Link to go through the wireframes.

https://www.figma.com/file/rHSzFAi6KRzUgaVS3QQsUq/Hiring-Guru-M3-Wireframe-Diagrams?node-id=0%3A1

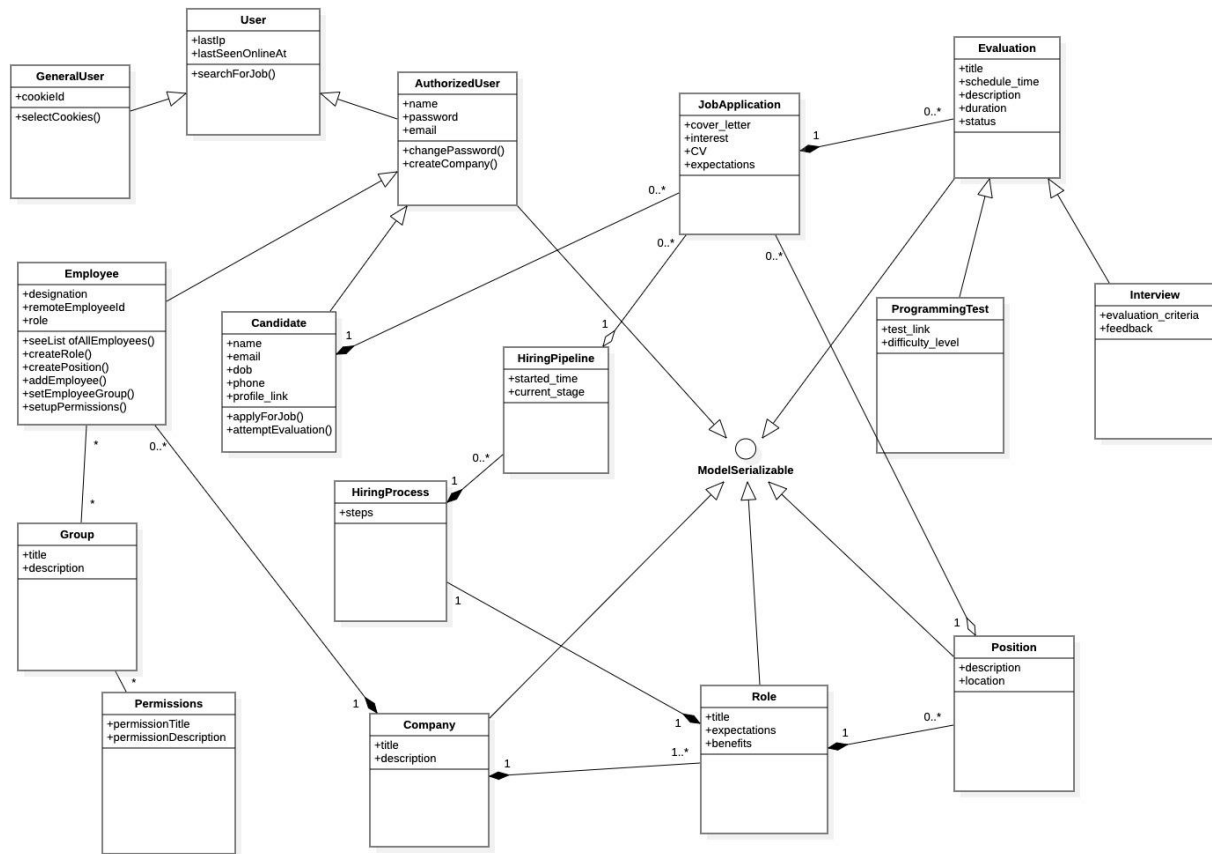# 4 - High Level Database Architecture and Organization

Entity Relationship Diagram (ERD)

Enhanced Entity Relationship (EER)

5 - High Level UML Diagram V2

User
+lastIp
+lastSeenOnlineAt
+searchForJob()

GeneralUser
+cookieId
+selectCookies()

AuthorizedUser
+name
+password
+email
+changePassword()
+createCompany()

JobApplication
+cover_letter
+interest
+CV
+expectations

Evaluation
+title
+schedule_time
+description
+duration
+status

Employee
+designation
+remoteEmployeeId
+role
+seeList ofAllEmployees()
+createRole()
+createPosition()
+addEmployee()
+setEmployeeGroup()
+setupPermissions()

Candidate
+name
+email
+dob
+phone
+profile_link
+applyForJob()
+attemptEvaluation()

HiringPipeline
+started_time
+current_stage

ProgrammingTest
+test_link
+difficulty_level

Interview
+evaluation_criteria
+feedback

HiringProcess
+steps

ModelSerializable

Group
+title
+description

Position
+description
+location

Permissions
+permissionTitle
+permissionDescription

Company
+title
+description

Role
+title
+expectations
+benefits

6 - Detailed list of Contributions

- Contributions:
  - Kenny Leong
    - Dashboard
    - Manage applications
    - Apply for job
    - Wireframe: Home/Landing page, Pages interfacing with Dashboard
    - Fixed M2 feedback on Vertical Prototype
  - Mamadou Bah
    - Job referral
    - Create job
    - Company creation
    - ERR
  - Khushi Khanna
    - Wireframes: Dashboard, Apply for a Job, Recruitment Process, Manage Job Applications
    - Fixed M2 feedback on High Level APIs and Algorithm
    - CRUD Model for Company, Role, and Job
  - Eric Leow
    - Wireframes: Login and Signup Page
    - Wireframe: Job Roles
    - Wireframe: Create Job/Position
    - Wireframe: Job Referral
  - Farhan Haider
    - Setup authentication
    - Setup recruitment process
    - Manage roles
    - Helped other team members in their work
    - Planned and organized the work
    - Worked on M2 feedback
- Score (Out of 10 - 10 being ideal)
  - Kenny Leong - 8
  - Mamadou Bah - 6
  - Khushi Khanna - 6

- Eric Leow - 4