

Software Engineering 23-24

Documenting the existing application from MDS

Our project represents a web application made specifically for one company to help with their hiring procedures. It is designed to help with user & application management and to offer interview scheduling and incorporated conference rooms. It also helps with emails and applicants' notifications.

1. The list of initial project requirements:

- As a user, I want to easily understand the signup form, so that I can quickly and correctly fill in all the required fields.
- As a user, I want to modify my personal data, so that, in case I enter something wrong, I can change that information to be accurate.
- As an applicant, I want that the modifications made to my profile are propagated to all my sent applications, so that I don't have to update or resend all of them.
- As an applicant, I want to receive, per email/notification, details regarding the interviews I was accepted for, so that I stay informed about the stage I am in the recruitment process.
- As an applicant, before the interview day, I want to receive an e-mail/notification with the date and time set for the interview, so that I will not forget about it.
- As an applicant, I want to be able to request interview date changes, so that, if something comes up in my schedule, I can reschedule the interview without sending emails to the interviewers.
- As an applicant, if my application is accepted, I want to select from the available slots, so that I choose the time that fits best for my interview.
- As an applicant, I want to be notified of any interview changes, so that I modify my program accordingly.
- As an applicant, I want the interview room to be easy to access and use, so that I can focus on the assessment.
- As an applicant, I want to withdraw my applications, so that I ease the recruitment process, by not keeping an active application for a position in which I'm not interested anymore.
- As an applicant, I want to check the status of my applications, so that I plan my job search and interview preparation activities.
- As an unauthenticated user (potentially applicant), I want to be aware of all the stages of the recruitment process, so that I can decide whether I want to create an account on the platform.
- As an applicant, I want to filter the offered positions, on criteria such as: requirements, period, location, so that I can quickly find what fits best for me.
- As an interviewer, I want my applicants to have valid accounts and not impersonate other people, so that the recruitment process stays legal and relevant.
- As an interviewer, I want to be able to filter the applications based on keywords, so that I quickly find the candidates who best fit to my offered positions.
- As both an interviewer and an applicant, I want a clean and secure interviewing process, without being interrupted.
- As an interviewer, I want the applicants to be properly informed about the interviews, so they are able to prepare and reach their maximum potential during the assessment.
- As both an interviewer and an applicant, I want a clean and secure interviewing process, without being interrupted.
- As both an interviewer and an applicant, I want to view specific messages for any incorrect operations performed on the platform, so that I know what to fix.
- As both an interviewer and an applicant, I don't want to view positions that aren't available anymore, so that I don't waste time and effort applying for them.

Unachieved User Stories:

The following Users Stories weren't achieved at all, because we didn't consider them as being of high priority, so, due to lack of time, we decided to focus on the essential features.

- As an applicant, if my application is accepted I want to have a calendar from which to select from the available dates the date that fits best for my next interview.
- As an applicant, I would like to be able to filter the offered positions, on criteria such as: requirements, period, location.
- As an interviewer, I want to be able to filter the applications based on keywords and specific profile requirements.
- As an interviewer, I need to have the applicants listed on different criteria and to have a table with their contact dates so I can easily communicate with them.

We definitely plan to implement the features corresponding to the above mentioned User Stories, in the following development phase (during this semester).

In order to ensure that these requirements will be achieved, we are going to carefully divide them into subtasks and schedule their implementation gradually, during the sprints.

The following Users Stories were partially achieved, because of them having higher complexity than initially estimated:

- As both an interviewer and an applicant, I want a clean and secure interviewing process, without being interrupted.
We plan to create a secure system for the interview room.
- As an applicant, I want to be able to check the status of my applications, at any time.
We would like to create an application status system, to achieve this requirement. Last year we didn't figure out exactly how to design and implement this feature. We have to research a bit more in this sense.
- As an interviewer, I want my applicants to have valid accounts and not impersonate other people.
To address this User Story, we established user permissions, but we didn't apply them yet in the application-flow. This is also part of what we are planning to include in this new development stage.
- As an applicant, I would like the application process to be transparent. I want to be informed, from the very beginning, about all its stages.
In order to fulfill this requirement and improve the User Experience, we are going to implement a FAQ page, trying to clear up the possible ambiguities, from the beginning of the application process on. This way, the candidates will benefit from a smoother application process.

2. Team description

The team that worked on this project is composed of:

- Dragoş-Dumitru Ghinea » Team Leader - Full Stack Developer, QA
Has worked on: conference room implementation, notification system, testing
- Gabriel-Bogdan Iliescu » Backend Developer, QA
Has worked on: security, user management, terms of use, testing
- Ştefania Rîncu » Full Stack Developer
Has worked on: database, user management, job application management
- Dafina Trufaş » Full Stack Developer
Has worked on: user management, job application management, database

We don't predict major changes to the roles of the team members. Everyone will be more responsible of testing.

3. Software Architecture Report

a. What are the technologies that you have used, and why?

Since the application is fullstack we use a variety of technologies to accommodate the implementation of both and the communication between them.

- Frontend - The main technology used for frontend is REACT. The reason behind using REACT is the necessity of an interactive and lightweight dynamic page update, especially for the interview rooms.
- Backend - We chose to develop a Java backend using Spring Boot.

b. What are the architectural patterns you have implemented and were they appropriate, and why?

We have tried to respect the SOLID principles as much as possible (more in the backend than the frontend). To help us in this regard, we chose to use a repository-service-controller-model layout to properly separate and manage the responsibility of specific regions of code and ensure a somehow natural flow between the layers.

c. Were the coding principles established enforced successfully? (For example if you included linting in the application, did you respect it? Did you try to implement coding standards and practices?

We have followed the coding standards for Java provided by this guide (<https://www.baeldung.com/java-clean-code>).

- d. What are the faults that were discovered during development that haven't been addressed by the time of delivery?

A fault that hasn't been addressed in the delivered product is related to the email notification system. To improve User Experience, we intend to display an appropriate message while waiting for the email to be sent.

- e. Does any part of the project require refactoring?

Yes, we plan to refactor all the frontend pages, splitting them into REACT modules and potentially using typescript to enhance the coding flow and enforce more principles.

The link to our MDS-project repository is <https://github.com/DragosGhinea/HiringSystem>.