# “REVITALIZING THE WEB PAGE UI : IMPROVING RESPONSIVENESS AND USER SATISFACTION”

## GROUP - 5

**IS-636 Structured System Analysis and Design**


**Group Members**

**Ameenur Rahman Khan - DJ46492- Project Manager**

**Gurleen Kaur - DK19934 - UI/UX Designer**

**Tarun Singh Jodha - HG53853 - Front-End Developer**

# EXECUTIVE SUMMARY

The Hays job search website is out-of-date, sluggish and fails to meet the needs of modern job seekers as well as recruiters. The suggested updates will improve the website's usability, responsiveness, and accessibility.

The redesigned website's user interface will be the initial stage of the update process. It will be simpler to use and have a more contemporary, eye-catching look. Additionally, the website's responsiveness to various screen sizes and devices will be improved.

Enhancing the search capabilities of the website will be the second stage of the update process. The results by the new search engine will be more timely and it will be more effective . additionally, a user-friendly version of the website will be made available

Enhancing the website's security will be the third step in the update process. The enhanced security measures will guard against unwanted access and data breaches on the website. The recommended improvements will run $835,000 in total. It should take six months to complete the project.

The upgrade's advantage include:

- ➢ A higher level of user satisfaction will result from the new website's improved usability and responsiveness.
- ➢ The search functionality would be improved from the new elastic search feature which will produce faster search results.
- ➢ Accessibility will be improved for people with impairments on the new website.

The Hays job search website will become a more responsive, user friendly and secure platform for job seekers as a result of the suggested modifications. The project is anticipated to be finished within six months and will offer Hays job search a number of advantages.

In addition to the advantages mentioned above, the suggested modifications will aid Hays Job search in attracting new customers and keeping the current ones. The new website will be easier to use and more aesthetically pleasing, increasing the likelihood that users will frequent it and utilize its services. Users will locate the information they need more quickly and simply thanks to the new search engine's increased strength and efficiency.

It will cost a lot of money to implement the planned changes to the Hays Job Search website, but the investment should eventually pay dividends. Due to its improved usability, responsiveness, and security, the redesigned website will be a more appealing resource for job seekers. Consequently, there is a good chance that Hays Job Search will see an increase in website traffic and sales.

# TABLE OF CONTENT

# 1. PROJECT DESCRIPTION

The project is based on a search website ‘Hays Job Search’. It’s a job search website which is used by recruiters to hire potential candidates. It acts as a bridge between the job seekers and the recruiters. The aim of this website is to help the recruiters with their hiring process. It narrows down the list of applicants who match the requirements of the hiring team. Our project is to uplift the current website and make it more user friendly in terms of response, layout,and accessibility. The website which we are going to analyze is a Candidate searching website named “X Candidate Search”. The website has some scope of improvements which we as a team are going to improve in this project. As this website is not used publicly ,to expand this, we need a better storage management tool where a huge dataset of the candidates can be stored and fetched quickly. We also have to make the website reliable, so if a large traffic is thrown to the website ,the website should not crash.

The Current Web Page UI has some issues that affect its responsiveness and user satisfaction from a developers perspective. It takes too long to load and its navigation is a tad bit confusing ,making it difficult for the users to find the information they need. Additionally , The Design and layout of the Web Page are out dated , which negatively impacts the user experience.
A well designed website UI can improve the experience by making the project easier to use for the people with different abilities. Such as those with visual disabilities. A good UI can encourage people to spend more time on the website, exploring its features and functionality.

## Business Needs

Front End Improvements & Feature Addition

## Proposed Solution

The motto of the team will be to provide quick response in terms of fetching the data, UI experience keeping in mind what aligns best with the developers thought process and also building an internal web app for better accessibility of the website. It will run hand in hand with the improvements of the business model of the website.
To achieve the mentioned objectives we are proposing the below implementation

- To improve the front-end we are planning to use a website development tool called ‘Squarespaces’. This will improve the website's feel and make it more modern and user-friendly.

- To improve the responsiveness of the search functionality we are planning to incorporate a distributed search and analytics engine called ‘Elastic Search’. It will optimize the website's performance to ensure faster loading times and responsiveness on various devices.

- To improve the accessibility of the user we are proposing to develop an internal website named ‘One Touch’. This web app will only be accessible to limited users. The purpose of this application is to maintain the privacy of the stored data and to upgrade the reachability.

## Organizational Workflow

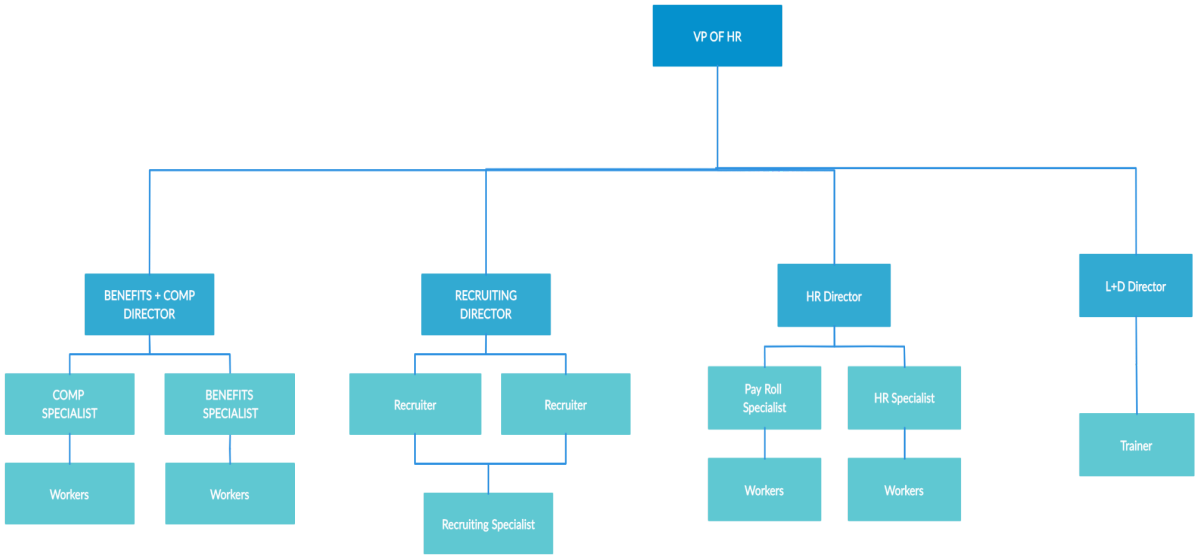



Figure 8: Organizational Chart

Our primary objective is to enhance the workflow of our middle-layer organization (Recruiting Director, Recruiter, Recruiting Specialist), which will enable us to source suitable candidates for our company's needs much more quickly.

We're confident that these changes will highly improve our selection process time and encounter, and we're stimulated to see their confident impact on our organization. We believe this alteration will bring fresh and invigorating energy to our workplace ultimately saving up the cost of recruiting process by saving time, and we're eager to encounter the benefits first-hand.

## 2. SYSTEM REQUEST

A system request is a document that specifies the business needs for constructing our system as well as the expected advantages. We have included the following components in our system request

**Title:**REVITALIZING THE WEB PAGE UI

### Project Sponsor

As you can see in the previous section of the organization flow chart .The vice president of the organization and the human resources are at the executive level. Hence they will be budgeting and sponsoring this project. The planning, design and analysis will be held by the rest of the team.

### Front-End development :

Overview

Front-End development is one of the crucial aspects of our project development. To achieve this we are planning to incorporate a website development tool Squarespace, Inc..It is an American website building and hosting company which is based in New York City.It provides software as a service for website building and hosting, and allows users to use pre-built website templates and drag-and-drop elements to create and modify web pages.

Scope

Redesign the website's design, typography, and color scheme to make it more visually appealing and contemporary.

- streamline the website's navigation and make it more instinctive for users to search what they want.
- Improve the job search serviceability to allow users to filter and sort job listings by various standards, such as location, job type, and industry.
- Build a more user-friendly and streamlined job application process that motivates more job seekers to apply for open positions.
- Construct the website reactive to various screen sizes and devices to ensure a better viewing experience.

Risks and Constraints

- Budget: The budget is $210,000.
- Timeline: The website must be completed within two months.
- Client acquiring: Client acquiring may be a challenge, as Client side testing and response may be required make sure the new design satisfies  the needs of our clients

## Response Optimization

Overview

Response optimization refers to the process of improving the effectiveness and efficiency of responses given by a system.To improve this aspect we are using Elastic search.Elasticsearch is a search engine based on the Lucene library. It provides a distributed, multitenant-capable full-text search engine with an HTTP web interface and schema-free JSON documents. Elasticsearch is developed in Java and is dual-licensed under the source-available.

Scope

- Optimized responses are tailored to meet the needs of users, resulting in improved user satisfaction. Well-crafted responses that are relevant, accurate, and timely can enhance the overall user experience, leading to increased engagement, customer loyalty, and retention.
- The search engine can streamline interactions and reduce the need for back-and-forth exchanges, resulting in faster resolution of issues or inquiries. This can lead to increased efficiency in handling customer queries or requests, allowing businesses to handle a larger volume of inquiries or support tickets without sacrificing quality.
- It will also ensure that the responses given by a system are consistent in tone, style, and branding, aligning with the overall brand image and messaging. Consistent responses can help build trust and reinforce the brand identity, which is important for maintaining a positive impression among customers.
- The following techniques can help minimize errors, such as inaccurate or irrelevant responses, which can negatively impact the user experience. By optimizing responses, businesses can reduce the risk of providing incorrect information or misleading answers, which can lead to customer dissatisfaction or confusion.
- ElasticSearch  often involves analyzing data, such as user interactions and feedback, to identify areas for improvement. This data-driven approach can provide valuable insights into user preferences, common issues, and opportunities for process optimization, allowing businesses to continuously refine and improve their responses.

Risks and Constraints

- Budget: The budget is $350,000
- Timeline: The website must be completed within three months.
- Abundant time should be allocated for testing. As it is a search engine tool the trails and errors for implementing this into the website will be a strenuous task.

## Accessibility Upgrade

Overview

Accessibility upgrades refer to modifications or improvements made to physical environments, products, services, or digital platforms to make them more accessible to a specific set of people .In order to achieve that in our project we are building an internal website named One Touch. It will only be accessible to the users (Recruiters).The aim of this application will be to make the users accessibility easier at the same time protecting the client data.

Scope

- The Internal web application will have a simple and intuitive user interface that allows employees to access it with just one touch or click, without the need for complex navigation or multiple steps.
- Implementing a secure SSO system can streamline access to the application, allowing employees to sign in once and gain access to multiple integrated systems or features with just one touch.
- The application will offer quick actions or shortcuts for commonly performed tasks, such as submitting time-off requests, accessing important documents, or initiating common processes, all accessible with a single touch or click.
- One touch will be personalized to each employee's preferences and needs, allowing them to customize their dashboard, prioritize relevant information, and set up personalized notifications or alerts, all accessible with one touch.
- The application will send real-time notifications and alerts to employees about important updates, events, or tasks, enabling them to take quick actions with just one touch to stay informed and productive.
- One Touch will be optimized for mobile devices, allowing employees to access it on the go with a single touch on their smartphones or tablets, providing seamless and convenient access to internal resources.

Risks and Constraints:

- Budget: The budget is $275,000
- Timeline: The web application must be completed within three months.
- All the aspects of building internal sites should be regulated.
- A dedicated team should be assigned to support the application for lifetime.

# 3. FEASIBILITY ANALYSIS

## Technical Feasibility

The website requires a thorough assessment of various technical characteristics to decide feasibility. Here are some of the key elements to consider

- Data Architecture: A search engine requires a vigorous data architecture that can handle huge volumes of data, process it structurally, and provide accurate search outcomes. All the data of our clients in this website will be stored in the database as well as in the elastic search engine.The implementation of the elastic search will provide a stronger boost up to the foundation architecture of the website.
- User Experience: The user experience is an essential aspect of any search website.The implementation of Squarespaces tool the user experience will exponentially rise and will be a huge boost for websites navigation, search functionality, search results page, and different user interface factors.
- Search Algorithms: The productiveness of a search website will depend on the search algorithms used. To dictate the feasibility of rebuilding a search website, it's requisite to assess the current search algorithms and regulate whether they need upgrade or renewal.
- Scalability: As the amount of data and traffic expands, a search website requires to be scalable to hold the load. The implementation of the elastic search will regulate the infrastructure in a way that will make the website traffic more scalable..
- Security: Search websites require to be secured to ensure the privacy and certainty of users' data. The implementation of a secured internal website will satisfy all the rules for the security improvement of the website

## Economic Feasibility

The economic feasibility of these changes will depend on number of aspects, consisting the price of executing the improvements, the certain expansion in revenue or price reduction, and the rivalry in the retail.Here are few important deliberation for grading the economic feasibility of enhancing a search website:

- Cost of improvement: The cost of executing enhancements to the website, consisting of recruiting developers, designers, and different associates, and buying any mandatory software or hardware.
- Competition: The extent of rivalry in the market and the volume to which the enhancements will evolve the search website from contenders.

- Timeframe: The anticipated timeline for attaining the required changes will be little to over a year. The return on investment (ROI) from the enhancements, including any anticipated short-term costs and longer-term interests.
- User feedback: The response from users and any data obtainable on user conduct, including the productiveness of the actual search functionality, the recursiveness of searches, and the variety of searches being performed.
- Scalability: The capacity of the enhancements to scurf as the search website increases and the user groups expands.

## Organizational Feasibility

- Resources: The organization must have the mandatory assets, inclusive of workforce, machinery, and cost, to execute the changes needed to enhance the search website.
- Technical expertise: The organization should have the technical proficiency needed to execute the compulsory changes to the website's search serviceability. This may consist of proficiency in areas like search algorithms, user experience composition, and data analysis.
- Organizational culture: The organization should have a customs that holds up revolution and change, and that motivates partnership across teams and sections.
- Stakeholder support: The organization must have the support of key stakeholders, consisting users, management, and various applicable departments. This support may be crucial in gaining the mandatory assets and competence to execute the changes necessary to upgrade the search website.
- Legal and regulatory requirements: The organization must with hold with legitimate and administrative obligations associated to data privacy, security, and various aspects that can affect the search serviceability of the website.
- Competitive landscape: The organization should garde the rival landscape to inspect how its search website differentiates to contenders and assess factors for enhancement.

By vigilantly considering these aspects, an organization can evaluate the organizational feasibility of enhancing our search website and regulate whether it has the required assets, skill, and support to execute such a project.

## Cost Analysis Breakdown

| Price Factor | Cost |
|---|---|
| Squarespaces Front-end Design  Services | $150,000 |
| Elastic Search Engine Implementation | $300,000 |
| Elastic Search Engine Maintenance | $12,000 / month |
| Web Application Design | $200,000 |
| Web Application Maintenance | $5,000 to $5,500 / year |

## 4. PROJECT SCOPE

Depending on the unique objectives and requirements of the project, improving the front end of a search website may entail a number of different activities. Here are some potential project scope components that might be present:

- **User research:** Collecting information about the wants and needs of the website's intended audience through user research and using it to drive the design and functionality of the new front end.

- **Design:** Making a fresh, user-friendly, and in line with the brand's values and messaging visual design for the website's front end.

- **User experience (UX) design:** Improving the user experience by enhancing the usability of search by making it more intuitive, responsive, and interesting. Redesigning the search bar, improving the search results page, or including new features like autocomplete recommendations might all be part of this.

- **Accessibility:** Making sure that everyone, including those with disabilities, can utilize the new front end. This may entail making a web application suitable with screen readers, including the addition of alternative language for images, and following other accessibility guidelines.

- **Performance:** Optimizing response performance for speed and effectiveness to provide quick and simple website navigation and search for users.

- **Technology:** Deciding on the best technology stack for the new front end based on aspects including scalability, upkeep needs, and compatibility with current systems.

- **Testing:** Carrying out quality assurance and user testing to make sure the new front end is operating as planned and is free of defects and mistakes.

- **Implementation:** Deploying the new front end to the live website and offering employees and users support and training so they can utilize it efficiently.

- **Maintenance:** Creating a maintenance schedule to guarantee that the front end keeps working correctly over time and fixing any problems or defects that crop up.

## 5. MANAGEMENT & PLANNING

The first management issue for any project is to identify the roles of the team members they will be playing on the project. To complete the project we would require three roles i.e project manager, UI/UX designer and frontend developer.

In the First Phase as per the skills and experience we decided the roles of each member i.e Ameenur Rahman Khan as project manager, Gurleen Kaur as UX/UX designer and Tarunsingh Jodha as frontend developer.

Ameenur will be responsible for overseeing the project and ensuring that it is completed on time and within budget. Gurleen will be responsible for designing the user interface and user experience, while Tarunsingh will be responsible for developing the frontend of the website.

In the Second phase we switch the roles to get a better understanding of the project. So we chose Ameenur as backend developer,Gurleen as a test engineer and Tarunsingh as Project Manager.

| S.no | Name | Role 1 | Role 2 | Tasks assigned |
|---|---|---|---|---|
| 1 | Ameenur Rahman Khan | Project manager | Backend Developer | ● Project description<br>● Functional requirements<br>● DFD<br>● System design alternative<br>● Future works |
| 2 | Gurleen Kaur | UI/UX | Test engineer | ● System request<br>● Feasibility Analysis<br>● Use case diagram<br>● Requirements Elicitation<br>● Conclusion |
| 3 | Tarunsingh Jodha | Frontend Developer | Project manager | ● Management and planning<br>● Non-functional requirements<br>● Context diagram<br>● ER diagram<br>● Miscellaneous |

## Gantt Chart

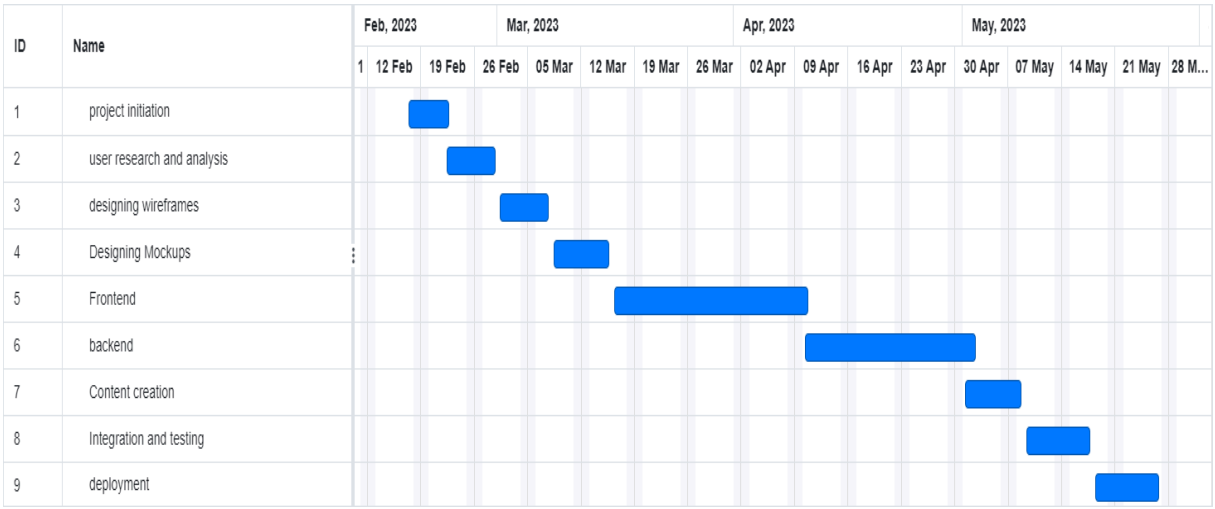



Figure 9 : Data Chart

## Milestones

- The first month should be spent mapping out what we need to accomplish and how we will do it.
- In the next 1.5 months we will focus on frontend development followed by backend development including user feedback and changes to be done according to the feedback.
- The 3rd and last phase would be testing and deployment of the project.

## Development Model

To achieve the Milestones, we have chosen the Agile development model.The agile development model is a flexible and iterative approach to project management that focuses on delivering working software in short times .

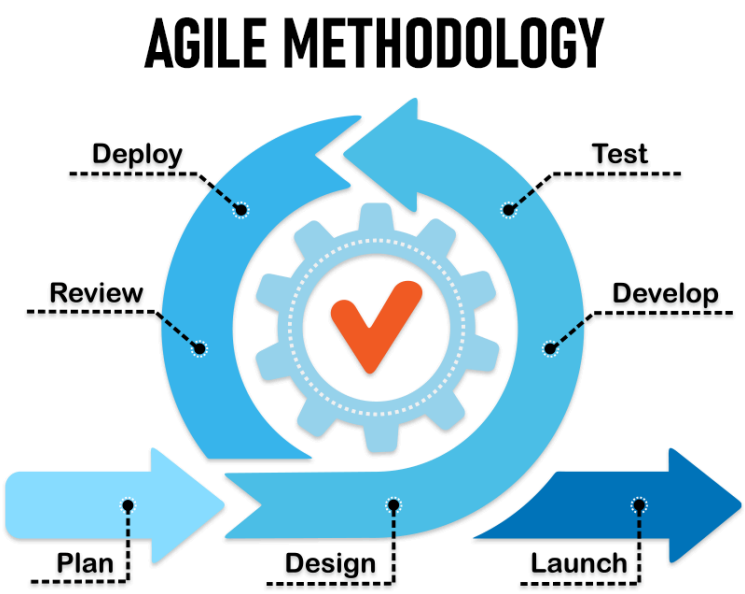



Figure 10: Agile Methodology

This development model is used in projects where continuous feedback is required and in this project since we are updating the current website,we require continuous feedback .
Any project must have effective communication if it is to succeed. The communication channels that will be used are email, chat, phone, in-person meetings, google drive . Protocols for using these tools, as well as the frequency of meetings and other forms of communication, should be decided upon by the team. We must make sure that everyone in the team is aware of and rigorously adheres to the communication plan.

### For communication we will use following platforms:

- Google doc: to work collaboratively
- Google drive: to store the file in cloud storage for easy access
- Google meet /Phone call: to discuss and plan the work
- Blackboard: to access all the resources

# 6. SYSTEM REQUIREMENTS

## Requirements Elicitation

Elicitation is the process of gathering and defining requirements for a system or project. It involves using various methods to gather information from stakeholders and documenting it in a clear and concise way to ensure that the requirements accurately reflect the needs of stakeholders and the overall goals of the project.

Our project manager Ameenur Rahman (for the first half of the project) has worked on the 'Hays Job Search' website. He played a prominent role in helping us gather all the information required to work on this project. We reached out to a few of the employees who were associated with this website to gather all the data. Apart from that we have conducted independent research as well.

| Position | Position Purpose of Interview | Data acquired |
|---|---|---|
| Project Manager | To understand the workflow of the team in the project and how the base foundation is laid. | We got to know abundant insights on the project which we used as a pillar to build our project upon. |
| System Architecture | To get the blueprint and the infrastructure of the website and understand all the essential components involved. | We achieved a well designed system architecture which defined all the working requirements. |
| System Analyst | To get an overview of the system request involved , We also aspired to understand the functional and non-functional requirements at this point. | We collected all the requirements essential to build the project . |
| Senior Developer | To understand the basic functionality of how the code runs in the realtime. Also getting an overview of the technologies used to build the website at the initial stages. | This information helped us in understanding which new technologies can be introduced into the project. |

This requirement ensures that the website is still accessible and easy to use on desktop computers, laptops, tablets, smartphones, and other devices. The back-end developer would ensure the server can efficiently handle requests and deliver content to these devices. In contrast, the front-end developer would need to design and implement a layout that automatically adjusts to the screen size and orientation. By incorporating this system requirement, the project aims to improve the user experience, reach a wider audience, and remain competitive in today's digital landscape.

**Interview:**
Interviews helped us dig through  SMEs and users' knowledge base, so that we can understand what they understand and think, which is what we need to write strong requirements. The five Ws—Who, What, When, Where and Why were addressed by using this method of elicitation.

**Requirements Workshops:**
In a requirements workshop, we asked everyone to sit down and hammer out the requirements with us. Got everyone on the same page regarding the purpose of the workshop ahead of time (defining scope, unearthing business requirements, etc.) and then we conducted the workshop like an interview, with open-ended questions presented to the room**.**

**Document Analysis:**
We had a chance to interact with a few of the users along with the development team. This helped us understand the project at the very core level.The user guides, user experience and detailed feedback were collected at this level.

**Observation:**
A former employee's insights aided in the smooth remote development of the project with the organization's personnel.

## Functional Requirements

| Type | Description | Examples |
|---|---|---|
| Process Oriented Requirements | These requirements describe the specific actions that the website should be able to perform | -Job Search and Application: The website should allow users to search and apply for job opportunities.<br>-Personalized Job Alerts: The website should provide job seekers with personalized job alerts based on their interests and qualifications.<br>-Job Postings Management: The website should enable employers to post job vacancies and manage candidate applications.<br>-User Profile Management: The website should allow registered users to create and edit their profiles, including their contact information, work experience, and education. |
| Data Oriented Requirements | These requirements describe the data that the website should be able to handle and the constraints on that data. | -Industry Insights and Career Advice: The website should have a blog section that provides industry insights and career advice.<br>-Social Media Integration: The website should allow users to share job postings and content on social media.<br>-Data Privacy: The website should keep user data confidential and secure, complying with data protection laws.<br>-User Activity Tracking: The website should track user activity on the website, including job searches, job views, and applications, for analytics and reporting purposes.<br>-User Authentication and Authorization: The website should authenticate users based on their roles, permissions, and access levels, ensuring that only authorized users can access sensitive data.<br>-Integration with Other Systems: The website should integrate with other systems, such as applicant tracking systems (ATS), job boards, and social media platforms, to streamline data exchange and enhance user experience. |

Our goal is to make the website mobile friendly so these are following tools we will be using in the project

Google Mobile-Friendly Test: This free tool from Google analyzes your website and provides a report on whether it's mobile-friendly or not. It also provides suggestions for improving mobile-friendliness.

Mobile-Friendly Test by Varvy: This is another free tool that analyzes your website and provides a report on its mobile-friendliness. It also provides suggestions for improving mobile-friendliness.
Responsinator: This is a free tool that allows you to preview your website on different mobile devices. It shows how your website looks on different screen sizes and resolutions, allowing you to identify potential issues and make adjustments.
BrowserStack: This is a paid tool that allows you to test your website on different devices and browsers. It provides real-time testing on actual devices, allowing you to identify and fix issues quickly.
Mobify: This is a mobile optimization channel that dispenses tools for generating reactive and modifying layout, enhancing website pace, and building a mobile-first experience. It also consists of resources like A/B testing and personalization.
WPtouch: This is a WordPress plugin that constructs a mobile-friendly variety of your website. It consists of characteristics like responsive layout, custom branding, and touch-friendly navigation.

Remember, mobile-friendliness is a crucial aspect for both user experience and search engine optimization. These tools can help you understand problems and make reservations to ensure a better mobile encounter for you.

## Non Functional Requirements

Non-functional requirements are factors of an organization that narrate how it should execute or behave, preferably than what it should do. Here are some non-functional requirements that can help enhance a search website:
Security: The search website should be secure, with conventional original and authorization controls, encryption of sensitive data, and protection that covers similar web application vulnerabilities.

- Implement SSL/TLS: Secure Sockets Layer (SSL) or Transport Layer Security (TLS) should be executed to encrypt information between the server and the client. This avoids man-in-the-middle strike and to make sure the private of user data.
- Use strong authentication: Implement powerful authentication systems such as two-factor authentication or multi-factor authentication to avoid unauthorized attack on user accounts. This can consist of the use of biometric authentication or security tokens.
- Usability: The search website must be uncomplicated to use and navigate, with an instinctive search layout and clear search outcomes.
- Incorporate filters and sorting options: furnish filtering and sorting alternative to assist users nail down their search outcomes based on their inclination. This can incorporate filters like price, area, time, and review.
- Provide autocomplete suggestions: execute autocomplete suggestions to assist users discover what they are looking for rapidly. This can comprise suggestions revolving around prominent searches, historic searches, or relevant searches.
- Compatibility: The search website should be compatible with a huge range of devices, operating systems, and web browsers, to make sure a reliable experience for all users.
- Test on multiple browsers: check the search website on various browsers, comprising popular ones such as Google Chrome, Mozilla Firefox, Microsoft Edge, and Safari. This will make sure that the website performs as expected on various browsers and platforms.
- Use standardized code: Ensure that the search website is constructed using regularized code that is compatible with various web browsers and platforms. This includes using HTML, CSS, and JavaScript that cohere to web standards.
- Accessibility: The search website should be approachable to users with impairment, with support for assistive technologies and compliance with approachability standards.
- Use headings and subheadings: Use headings and subheadings to systemize the content of the website and make it uncomplicated for people with visual dysfunction to navigate the website.
- Provide keyboard navigation: Ensure that the website can be navigated utilizing the keyboard alone, as some people with motor dysfunction may not be able to use a mouse.
- Use color contrast: Use color difference to make the text and various aspects of the website visible to users with visual dysfunctions.
- Maintainability: The search website should be easy to sustain and upgrade, with clear documentation, modular code, and disassociation of concerns.
- Use version control: Use version control software like Git to follow up changes to the website code and associate with other developers. This can assist to determine and fix problems and errors more rapidly.

# 7. SYSTEM MODELING

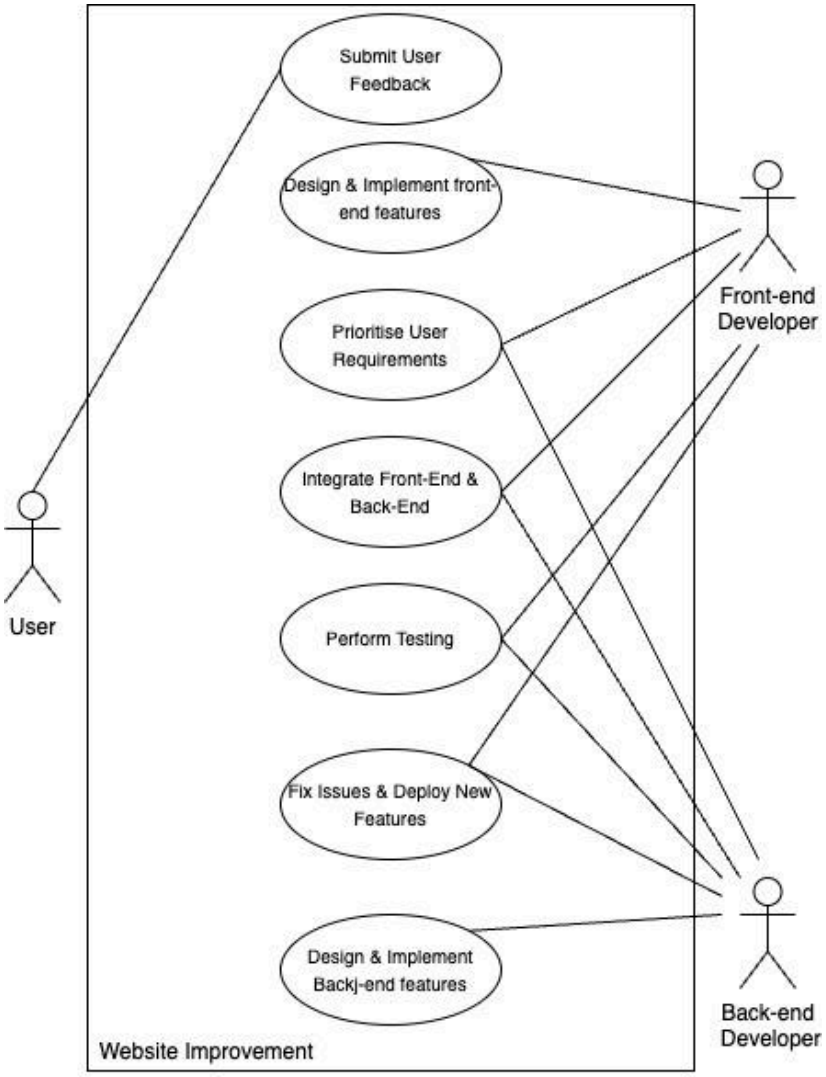



Figure 11 : Upper Level Use Case Diagram

**Use Case Diagram** The significant actors in a use case diagram for website enhancement are the User, the Front-end developer, and the Back-end developer. The process begins with the user providing feedback, which aids both developers in prioritizing user requirements. Next, front-end and back-end developers collaborate to design and implement their respective features, and their plans are coordinated to ensure seamless integration. They each execute unit tests before moving on to integration tests to ensure the functioning and compatibility of the implemented functionalities. After reviewing the test results, any detected issues are corrected and retested to provide a resolution. Once all tests have been passed successfully, the developers will publish the new features to the website, thereby improving the user experience and satisfying the needs acquired from user feedback.

| Use case: Feedback | ID:UC-1 | Priority:High |
|---|---|---|
| Actor: User | | |
| Description:The user submits feedback on the website's existing features or suggests a new feature. | | |
| Trigger: User accesses the website and navigates to the feedback form | | |
| Type: ☑ External ☐ Temporal | | |
| Preconditions: The website is accessible to the user | | |

| Use case: Design Front-end features | ID:UC-2 | Priority:High |
|---|---|---|
| Actor: Front-end developer | | |
| Description:The fron-tend developer designs the user interface and experience for the new feature | | |
| Trigger: User requirements have been prioritized | | |
| Type:☑ External ☐ Temporal | | |
| Preconditions: User requirements have been prioritized and approved. | | |

| Use case: Design back-end features | ID:UC-3 | Priority:High |
|---|---|---|
| Actor: Back-end developer | | |
| Description:The backend developer designs the server side logic and data processing to support the new feature | | |
| Trigger: User requirements have been prioritized | | |
| Type:☑ External ☐ Temporal | | |
| Preconditions: User requirements have been prioritized and approved. | | |

| Use case: Integrate frontend and backend | ID:UC-4 | Priority:High |
|---|---|---|
| Actor: Frontend developer, Back-end developer | | |
| Description:The frontend and backend developer integrates their features to ensure that they work together seamlessly | | |
| Trigger: Frontend and backend features are implemented | | |
| Type:☑ External ☐ Temporal | | |
| Preconditions: Frontend and backend features are approved. | | |

## Data Flow Diagrams

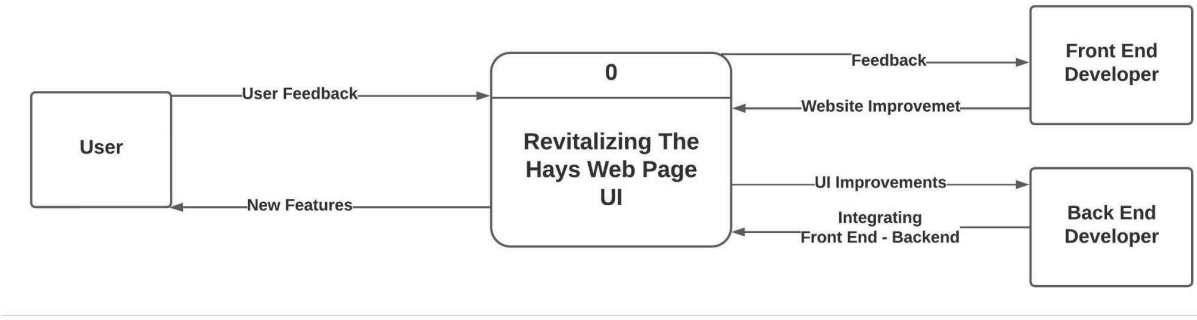



Figure 12 : Context Diagram

### Context Diagram

The setting outline outlines the framework is broken down and its connections with outside elements. In this instance, the context diagram shows how front-end and back-end developers collaborate to add new features to an existing website and improve it. The User, who provides feedback and interacts with the website, and the Source Code Repository, which stores the developers' code changes, are the external entities.

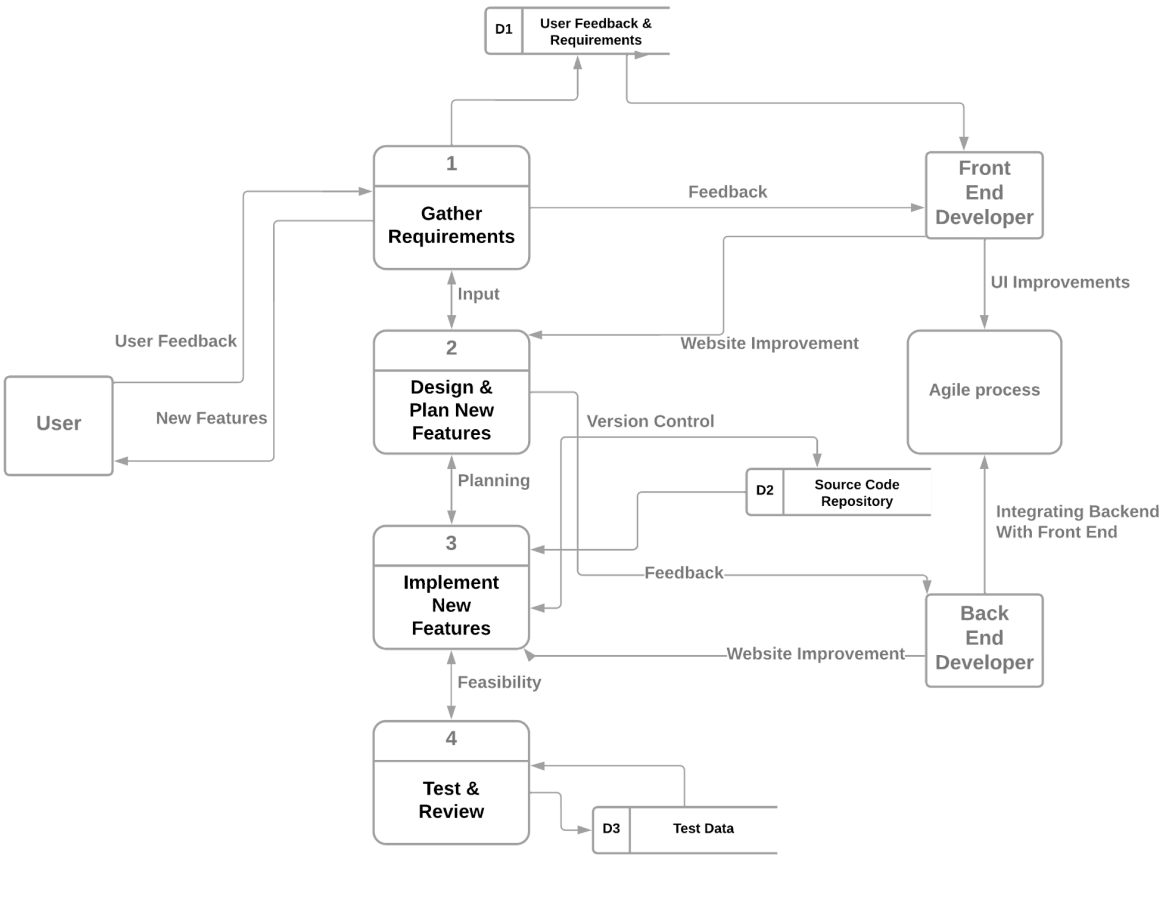



Figure 13 : Level 0 Diagram

## Level 0 Diagram

Description ~ The primary processes or functions of the system and their interactions with one another are depicted in the level 0 diagram. In this instance, the four primary stages of the website improvement process are depicted in the level 0 diagram: Accumulate Necessities, Plan and Plan New Highlights, Execute New Elements, and Test and Survey. In addition, the diagram demonstrates the connections that exist between the four processes and the User and Source Code Repository, two external entities.

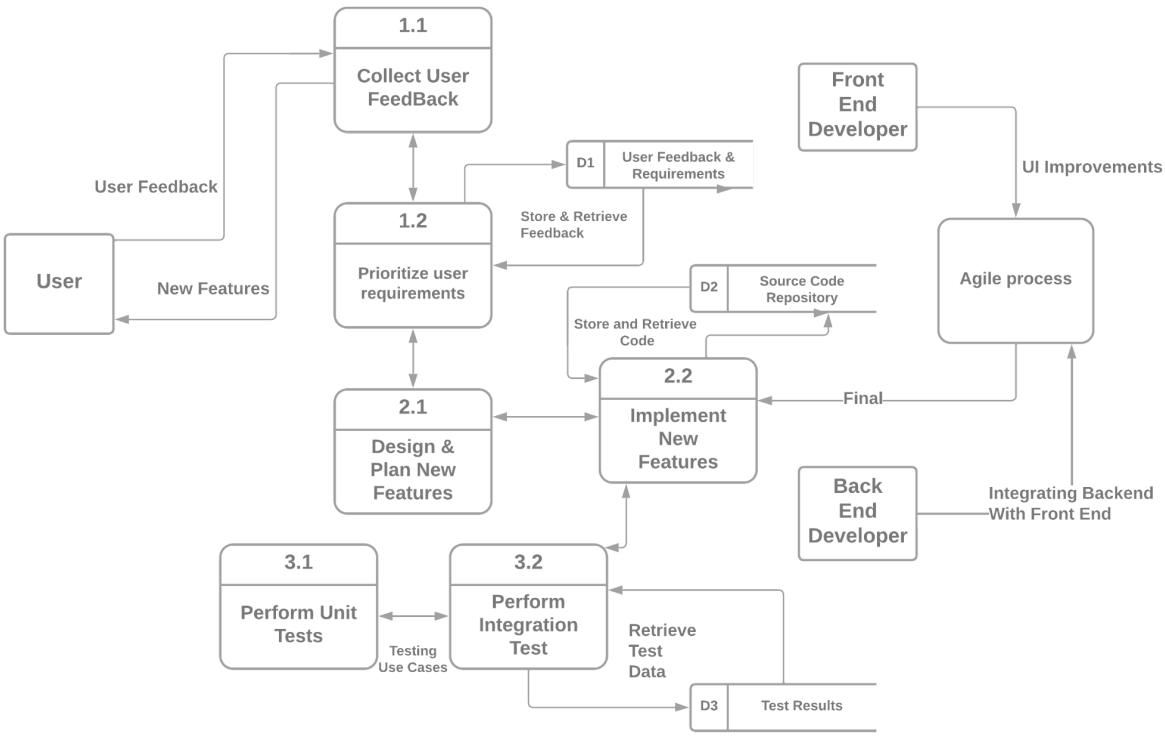



Figure 14 : Level 1

## Level 1 Diagram

Description ~ The sub-processes or tasks involved in each of the main processes in the level 0 diagram are described in greater detail in the level 1 diagram. The four main processes' sub-processes are depicted on the level 1 diagram in this instance: Collect requirements, plan and design new features, implement them, and test and evaluate them. The diagram depicts the connections between the sub-processes, the main processes, and the User and Source Code Repository's external entities. Comprehending and analyzing the interactions between the processes and the external entities is more straightforward, thanks to the level 1 diagram's more granular view of the website improvement process.

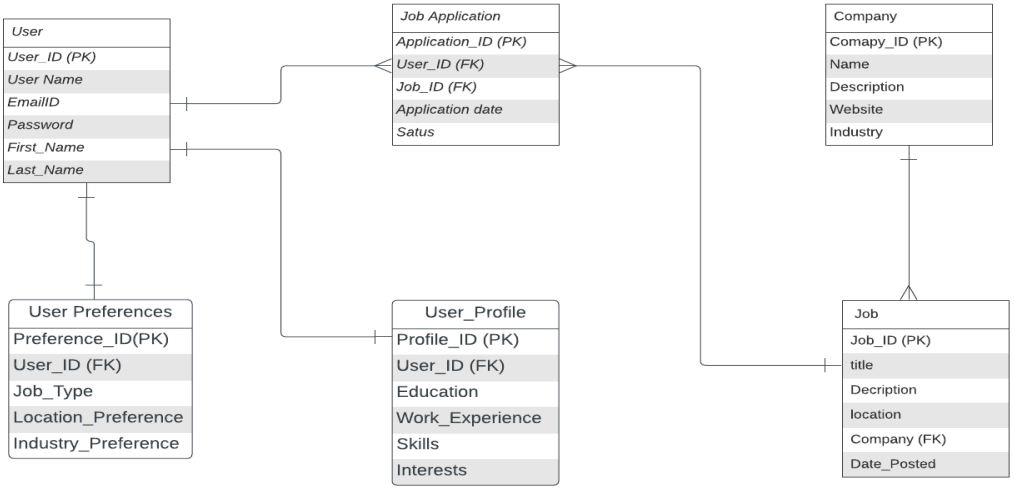
## ER diagram

Five entities are represented in the ER diagram, including User, UserProfile, UserPreferences, Job, and Company. The diagram lists the characteristics of each entity. Additionally, the connections between the entities are displayed.

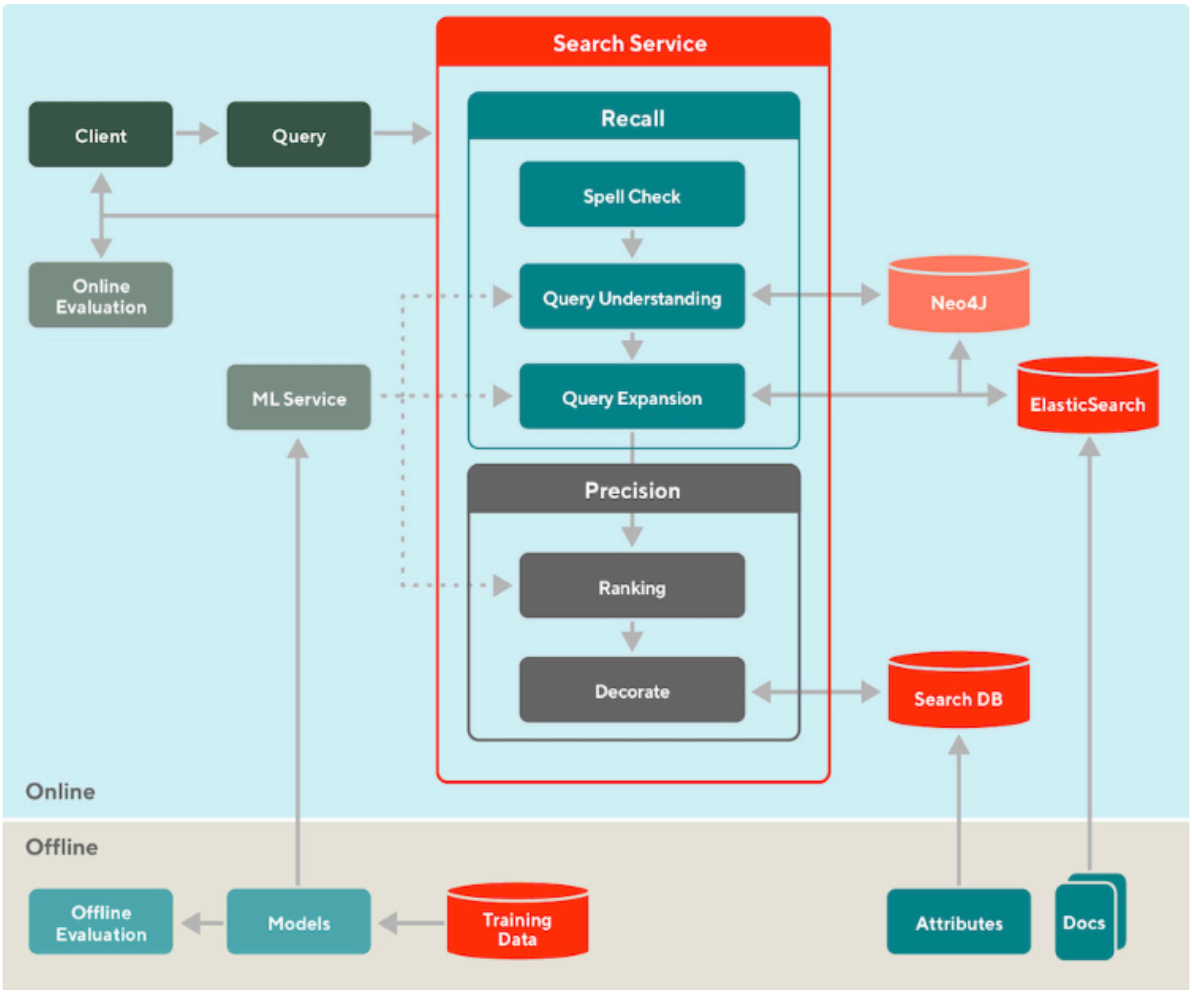
UserPreferences and UserProfile are one-to-one relationships with the User entity. Each user is paired with a distinct UserProfile and UserPreferences. A user can apply for several jobs, but only one user is assigned to each job application, hence the User entity also has a one-to-many relationship with JobApplication.

Each job is posted by a different firm, but a company can submit several jobs, hence there is a many-to-one link between the Job object and the firm. As a job may have several applications, but each application is for a single job, the Job entity likewise has a one-to-many relationship with JobApplication.

The links between the entities are shown in the figure via the foreign keys. Each UserProfile belongs to just one User, as shown by the foreign key in the UserProfile entity that points to the primary key in the User entity. UserPreferences, which also includes a foreign key linking to the User entity, is the same. The User and Job entities are referenced via the JobApplication entity's foreign keys, which show which user applied for which job.




# 8. SYSTEM DESIGN




**User Interface Design**

Below are the steps that represent the website once the project is executed. These are not the actual results. But based on our analysis and future prediction .This the closest representation of the projected website.

**Hays Candidate Search**

Keyword Search searches on the entire entity including the CV but excludes the Journal, Document Library and Additional Notes (candidates only). You can add or remove synonyms to refine your search. This field uses the Boolean rules.

| | |
|---|---|
| A space in between keyword search terms = OR | marketing manager will produce results containing either the word marketing OR manager |

| | |
|---|---|
| But anything within quotes will be taken as a single<br>phrase | "marketing manager" will produce results<br>for the exact match -marketing manager |
| OR in capitals is a boolean operation | Marketing OR manager will produce results containing either the word marketing OR manager and hence broadening the search results returned |
| AND in capitals is a boolean operation | Marketing AND manager will produce results containing both the words marketing AND manager and hence fewer search results will be returned. |
| The minus symbol or NOT excludes terms from your search<br>Minus Sign must be directly in front of the word with NO space | Account Manager –Recruiter will produce any results for Account manager excluding Recruiter in the record. |
| Use ( ) to group together complex search strings | (marketing OR sales OR product) AND (manager OR director) will produce results containing anything in the first set of brackets AND anything in the second set of brackets |
| Dots between 2 numerical range WILL NOT work | For example: current salary 100…200 will not work, instead use facets/filters (best to use the between operator) |

**Job Title Searches**

This field searches for the job title entered along with the keyword to filter down the search results, i.e. This will produce only those results with java as a keyword and having “Project Manager” as the job title (Boolean rules are applicable in job title)

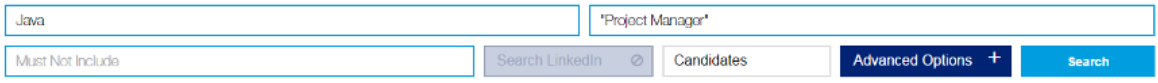



Figure 1: Search Box

**Advance Filters Search and facets**

“X”s Search allows us to filter down our search results with the help of numerous advanced filters and facets. E.g. For advanced filters,Press Advanced Options and select any filter (Perm Status) + operators (AND/OR), another filter (Current Position), and the search button Note: OR does not work with not specified criteria with date filters. We should not use OR with not specified using dates. However, AND will work with not specified along with dates.

E.g.Last Interview Date before 20/12/2015 OR Last Successful Contact Date not specified – will not work.
Last Interview Date before 20/12/2015 AND Last Successful Contact Date not specified – will work.


Figure 2: Advanced Filters

Facets also help us to filter down the results. But we can apply facets on the current set of results returned from the server.

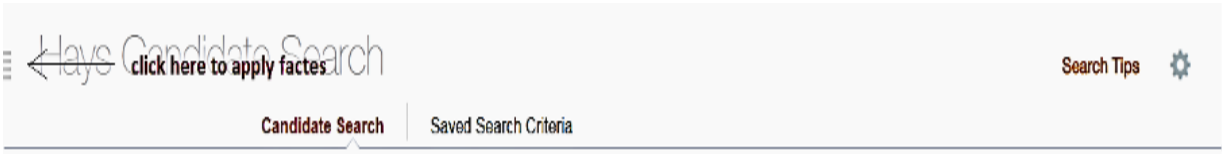



Figure 3: Facet Overview

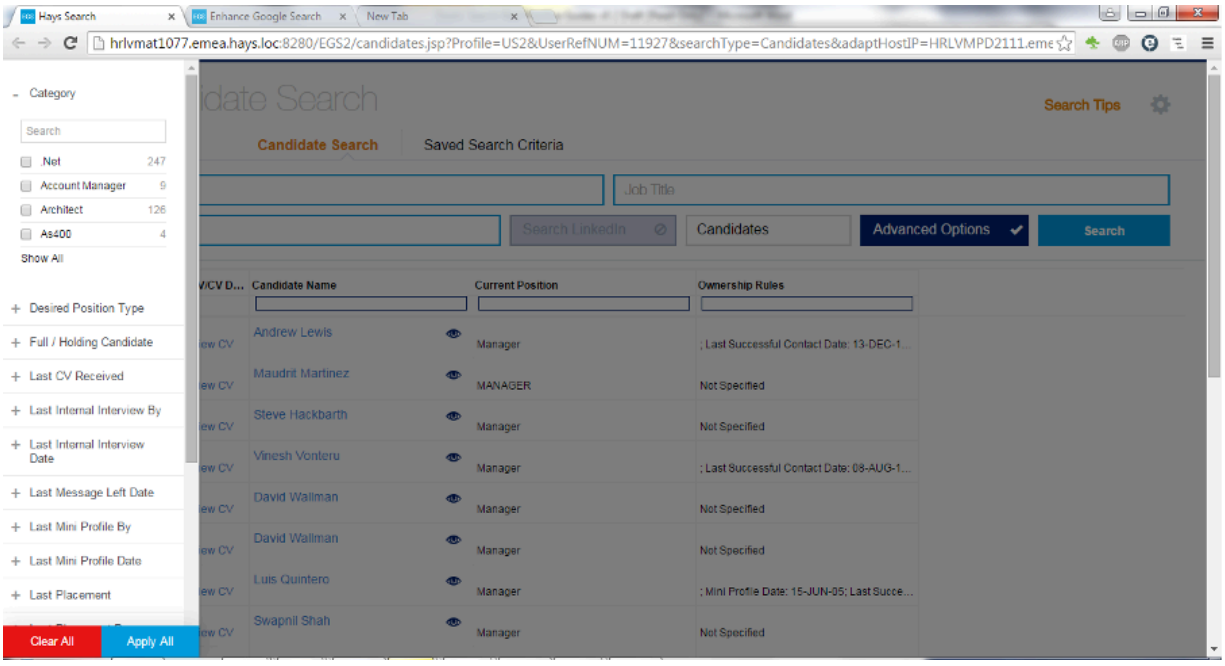



Figure 4: Facets View

**Activity Options and Their Use Case**

| | |
|---|---|
| Save Search results | Allows a search result to be saved back into "X"s Internal Portal. This can be used for marketing purposes |
| Add to Target List | Provides the option to add selected candidates to a target list |
| Longlist | The option to longlist a candidate/candidates directly to the job. This helps to manage the candidate through the recruitment process |

| | |
|---|---|
| Save Search Criteria | For commonly used searches, saving the criteria saves time when recruiting for similar jobs. |
| Select columns | Select suitable reformat options, e.g. agency, client name, category etc |

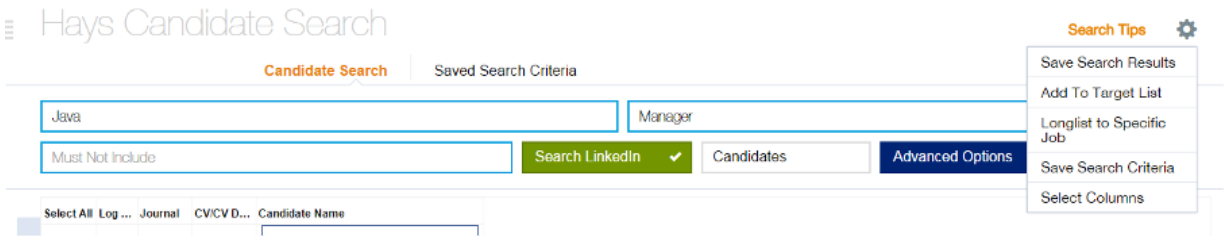



Figure 5: Settings/Activity

## Squarial Search

Squarial Search allows you to search for candidates within a radius of a specific address. For example, if you want to find candidates close to a particular organization for easy access to the job you are recruiting for. Please note that you must use either the full address or the postcode when using Squarialode. Follow the steps below to see how:

Step 1: In Squarial Search Address, enter the address where the job is located.

Step 2: Select the distance from the address you want to search by dragging the blue box along the scale.

Step 3: Select kilometers or miles in the Distance Unit drop-down menu.

NOTE: A Squarial search will only apply to your "X"s Internal Portal search results when running a parallel investigation. You must use a location filter for your LinkedIn search results separately.

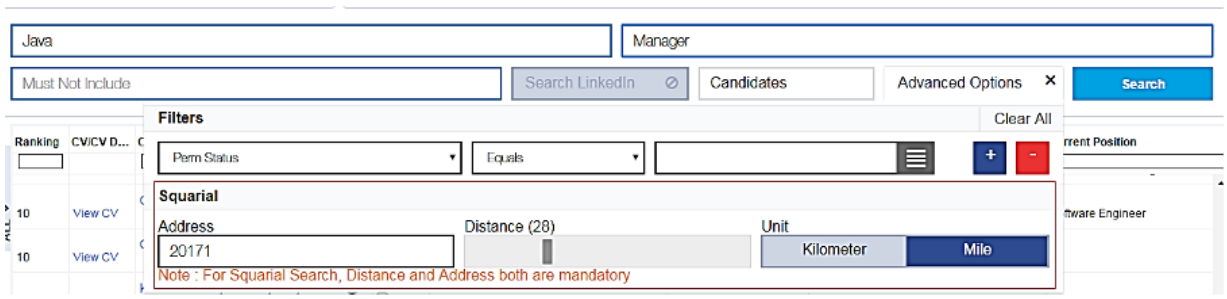



Figure 6: Squarial Search

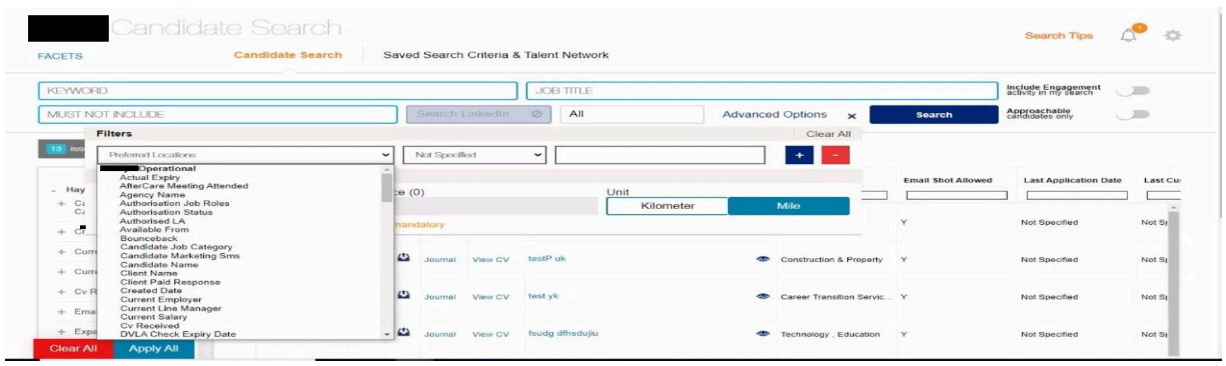



Figure 7: Front End

## 9. FUTURE WORK

Hays recently announced that it has become the first recruitment agency to develop an office space in the metaverse. The increased adoption of the metaverse, where people can meet through avatars in private and public environments, is an exciting development in the way we communicate and has many useful applications.

After implementation of our work on the website there will be a lot of scope for the future team to take it forward. Especially the work on the on touch website can be related to their recent announcement related to metaverse. Tailoring search results to individual users' preferences and needs. A search website can leverage machine learning algorithms to understand users' search behavior and provide more relevant results based on their search history, location.

Voice search is becoming increasingly popular as more people use virtual assistants like Siri, Alexa, and Google Assistant. Search websites can integrate voice search capabilities to allow users to search using their voice, making the search process faster and more convenient.
These mentioned future works can leverage the website efficiently.

- **Successful project to update hays.com enhanced user experience through job search functionality, profile management, and personalized job recommendations.**
- **Entity-Relationship and Data Flow Diagram facilitated effective communication and smooth implementation of planned changes.**
- **Ongoing user research, usability testing, and performance optimization can maintain hays.com's competitive edge.**
- **User-centric platform cements its position as a leading platform for job seekers and employers by providing meaningful connections and facilitating employment opportunities.**

## 10. CONCLUSION

In conclusion, the project to update the user interface and add new features to the hays.com website has successfully enhanced user experience and made the platform more accessible, efficient, and personalized. In addition, this project has focused on critical areas, including improving job search functionality, streamlining user profile management, and introducing a personalized job recommendation system, catering to the diverse needs of job seekers and employers in today's competitive job market.

The Entity-Relationship Diagram (ERD) and Data Flow Diagram (DFD) created for this project have provided a clear and comprehensive understanding of the data structures, processes, and interactions between various system components. In addition, these diagrams have facilitated effective communication among team members and ensured the smooth implementation of the planned changes.The project team should also consider investing in ongoing user research, usability testing, and performance optimization to guarantee that the hays.com website maintains its competitive edge. In addition, exploring potential integrations with third-party applications or services, such as single sign-on, social media sharing, or job posting syndication, may also prove beneficial in expanding the platform's reach and functionality.

By prioritizing user experience and incorporating innovative features, this project has not only improved the current state of the hays.com website but has also laid a strong foundation for its future growth and success. In addition, this commitment to delivering a user-centric platform will cement hays.com's position as a leading platform for job seekers and employers alike, fostering meaningful connections and facilitating employment opportunities in an ever-changing job landscape.

## 11. REFERENCES


Hays. (n.d.). Project description. Retrieved from https://www.hays.com/jobs

Logz.io. (n.d.). Elasticsearch tutorial. Retrieved from https://logz.io/blog/elasticsearch-tutorial/

Squarespace. (n.d.). Create a website with Squarespace. Retrieved from https://www.squarespace.com/websites-start/

Happeo. (n.d.). Easy-to-use Google intranet. Retrieved from https://www.happeo.com/easy-to-use-google-intranet-apr

Yan, E. (n.d.). System design for discovery. Retrieved from https://eugeneyan.com/writing/system-design-for-discovery/

Houston Chronicle. (n.d.). Basic steps in the management planning process. Retrieved from https://smallbusiness.chron.com/basic-steps-management-planning-process-17646.html

ProjectManager.com. (n.d.). How to conduct a feasibility study. Retrieved from https://www.projectmanager.com/training/how-to-conduct-a-feasibility-study

ModernAnalyst. (n.d.). The top five go-to requirements elicitation methods. Retrieved from https://www.modernanalyst.com/Resources/Articles/tabid/115/ID/2483/The-Top-Five-Go-To-Requirements-Elicitation-Methods.aspx

**The successful project to update hays.com has improved user experience through enhancing job search functionality, streamlining user profile management, and personalized job recommendations. The Entity-Relationship Diagram and Data Flow Diagram facilitated effective communication and ensured the smooth implementation of planned changes. Ongoing user research, usability testing, performance optimization, and exploring potential integrations with third-party applications or services can maintain hays.com's competitive edge. The user-centric platform will continue to cement its position as a leading platform for job seekers and employers by providing meaningful connections and facilitating employment opportunities.**