



Business Requirements Document

HYPERSCREEN

University of British Columbia

CPSC 319 - Software Engineering Project

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Version	Approved By	Revision Date	Description of Change	Author
1.0		01/27/2025	Completed Deliverables Matrix	All internal team members
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Stakeholder Sign Off

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Table of Contents

Executive Summary	4
Problem Statement and Description	4
Business Requirement Summary/Scope section	5
Constraints and Dependencies	6
Stakeholder and Systems Impacted	6
Functional Requirements	7
Use Cases	9
Non-Functional Requirements	11

Executive Summary

The HyperScreen project aims to address the challenges faced by AWS recruiters and hiring managers in managing high application volumes by developing a web-based tool to streamline and optimize applicant screening. Leveraging technologies like Nextjs/react, Django, Docker, and Linode, the application will enable efficient job posting, applicant evaluation, and reporting with a user-centric design. Key features include customizable scoring criteria, detailed reporting, and streamlined recruiter workflows, targeting a 50% reduction in screening time and high candidate retention. With a modular release plan and clear governance structure, the team adopts a waterfall methodology to ensure timely delivery and mitigate risks related to accuracy, scalability, and security. The project also prioritizes cost-effectiveness through free-tier services for prototyping, with scalability options for future growth.

Problem Statement and Description

Problem Statement: As AWS postings continue to garner a large number of applicants, the team at AWS Vancouver would like to speed up the process and allow recruiters and hiring managers to become more effective in filling positions in the organization.

- **What is it?**
 - HyperScreen is a web application allowing hiring managers to quickly and effectively identify top-talent. HyperScreen allows prospective applicants to find and apply to jobs at Amazon. Our service allows for both hiring manager and admin profile setup, each with their different permissions for applicant tracking. Scoring systems are made to efficiently screen applicants from the public job portal, allowing simplified screening for first-round interviews.
- **Why build it?**
 - **Time Saving:** High volumes of applications can overwhelm hiring teams. By using a streamlined scoring system, HyperScreen reduces the manual effort of scanning through resumes, thereby shortening the overall hiring timeline.
 - **Consistency in Quality:** Standardized scoring criteria maintain the consistency of evaluations across different roles and teams, improving hiring quality and fairness.
- **Why now?**
 - **Mass Applications:** With the rise of AI-driven job application tools (e.g., Simplify, AIApply), it has become easier for candidates to apply to numerous roles. This trend amplifies the volume of submissions, necessitating a more robust and efficient filtering mechanism.
 - **Competitive Talent Market:** Speed is crucial in securing top talent. Delayed outreach due to slow screening processes can lead to the loss of high-potential applicants.
- **Who is it for?**
 - **AWS Hiring Managers & Recruiters:** Particularly those who regularly manage postings with over 750 applicants each. HyperScreen offers them a tailor-made approach to quickly identify the most suitable candidates, reducing time-to-hire and ensuring the best possible recruitment outcomes.

- o **Applicants:** Job seekers gain a clear, user-friendly method to find relevant positions at AWS, apply seamlessly, and have their applications fairly assessed by a standardized scoring system.

Business Requirement Summary/Scope section

Module	Tasks
In-scope deliverables	
Applicant Module	- Access to this module is open to any users with the URL and no authentication is needed - Allow applicants to search job postings by reference number, job title, location or keywords - Enable applicants to complete a basic form (e.g., name, email, contact, years of experience, referral source) - Upload and submit resumes/CVs in Word/PDF format
Hiring Manager Module	- Scan current database of applicants for new posting - Hiring Manager login - Create, delete, and update job postings - Set and edit scoring criteria with prioritization for job posting - Evaluate and rank applicants based on criteria - Select and see applicant detail(e.g. Name, score, email, status, resume) - Capture interview notes from interviews for applicant into the database - Email notifications for candidates upon job deletion or rejection
Recruiter/Admin Module	- Hiring manager/admin onboarding - Admin login - Set up, update, delete hiring manager and admin accounts. - Configure master scoring criteria dynamically (e.g., years of experience, education, skills) - View jobs
Reporting Module	- Show number of applicants to a posting - Show the ranking of all the applicants for a posting - Show a detailed report on specific applicants - Show interview outcomes and application status of applicants for a posting - Show report of experience analysis of applicants for a posting (e.g., years of experience average, median, minimum, maximum, distribution) - Show report of referral sources (e.g., 33% Indeed, 66% LinkedIn) - Show scoring criteria breakdown for a posting - Ability to export detailed reports of applicants for each job as an Excel file
License	- All software created in this project will fall under MIT creative license.
Out-of-scope deliverables	

ML Module	- Apply AI model beyond the keyword matching in the core requirements - Generate candidate-specific questions for interview - Automation for notification of candidate - Ability to mask interview notes until all interviews
Others	- Handling users beyond the specified 500 participants or 10 concurrent users is excluded. - End-to-end notifications and dynamic job descriptions. - Mobile application development - Real-time collaboration features - A place where applicants can see their ongoing applications and status

Constraints and Dependencies

Concern	Risk Level	Description
Constraints		
Response time	HIGH ▾	- Response times for searches/filters less than 2 seconds.
Concurrent users	HIGH ▾	- System can support up to 10 concurrent users
Assumptions		
Maximum users	HIGH ▾	- Assume maximum user base of 500 participants (recruiter, HR and hiring manager, applicants, etc)

Stakeholder and Systems Impacted

Stakeholder	Pros	Cons
Hiring Manager	• Reduces time on first-round applicant screening	• New software to learn and adapt to • Job posting in an additional software apart from their integrated system • Tracking applicants on multiple platforms
Recruiters	• Scoring system templates applied company-wide	• New software to learn and adapt to • Learning curve required for scoring system
Applicants	• Simplified application process as applicant needs to upload resume and answer only few questions	• New Amazon job application platform to find

No systems are impacted by Hyperscreen (assuming we are not integrating with their current ATS)

Functional Requirements

Highest priority: 1 and Lowest priority: 5

Related test cases, statuses and comments will be updated as the project proceeds.

Reference	Req No	Requirement Description	Priority (1-5)	MVP (Y/N)	Related Test Case ¹	Test Status	Comments
Applicant Module	A01	Allow applicants to search job postings by reference number	1	Y	1.1	Pass	
	A02	Allow applicants to search job postings by title	1	Y	1.1	Pass	
	A03	Allow applicants to search job postings by keywords	1	Y	1.1	Pass	
	A04	Allow applicants to search job postings by category	3	Y	1.1	Pass	
	A05	Allow applicants to search job postings by location	3	Y	1.1	Pass	
	A06	Allow applicants to fill out information needed for an application including email, name, phone number, years of experience, referral source	1	Y	1.2	Pass	
	A07	Upload and submit CVs for each job application	1	Y	1.3	Pass	
	A08	Scroll through available postings	4	Y	1.4	Pass	
	A09	Applicants should be able to click on a posting to get a more detailed view of the job requirements and apply	4	Y	1.4	Pass	
Hiring Manager Module	HM01	Allow Hiring Manager to signin/signout with Employee account	1	Y	2	Pass	
	HM02	Allow Hiring Manager to filter, scroll and see job postings they created	2	Y	2	Pass	

¹ Refer relevant test cases to the numbered test cases in the "Hyperscreen Test Plan document"

	HM03	Allow Hiring Manager to create job posting (Job title, location, job type, team, description)	1	Y	2.1	Pass	
	HM04	Allow Hiring Manager to delete job posting	1	Y	2.1	Pass	
	HM05	Allow Hiring Manager to update job posting (Job title, location, job type, team, description)	1	Y	2.1	Pass	
	HM06	Allow Hiring Manager to select job postings for more detail	1	Y	2.3	Pass	
	HM07	Allow Hiring Manager to set scoring criteria for a job posting	1	Y	2.2	Pass	
	HM08	Allow Hiring Manager to see applicant list for posting	2	Y	2.3	Pass	
	HM09	Allow Hiring Manager to see applicant details for posting (score, email, status, resume)	2	Y	2.3	Pass	
	HM10	Allow Hiring Manager to add Interview Notes for applicant in job posting	3	N	2	Pass	
	HM11	Allow Hiring Manager to update status of applicant(e.g. Submitted, scheduled interviewed, accepted)	2	Y	2	Pass	
	HM12	Allow Hiring Manager to generate and see interview questions for applicant ²	3	N	2	Pass	
	HM13	Allow Hiring Manager to launch mass evaluation process for applications for a job	3	Y	2.3	Pass	
Admin/Recruiter Module	AR01	Allow Hiring Manager to signin/signout with Employee account	1	Y	3	Pass	
	AR02	Allow Admin to set up Hiring Manager and Admin accounts (Name, email, role, password)	1	Y	3.2	Pass	
	AR03	Allow Admin to delete Hiring Manager and Admin accounts	1	Y	3.2	Pass	

² HM12 is only available in local implementation due to resource constraints

	AR04	Allow Admin to update Hiring Manager and Admin accounts (Name, email, password)	1	Y	3.2	Pass	
	AR05	Allow Admin to set up master/default score criterias available for Hiring Managers including experience, education and skills	1	Y	3.1	Pass	
	AR06	Allow Admin to filter and scroll through postings and click on specific posting	2	Y	3.3	Pass	
Reporting Module	R01	Allow Hiring Managers and Admins to receive a report of the number of applicants per posting.	3	Y	4	Pass	
	R02	Allow Hiring Managers and Admins to receive report of ranking of applicants	3	Y	4	Pass	
	R03	Hiring Managers and Admins should be able to click on the applicant to get more detailed reporting about the score of the applicant.	3	Y	4	Pass	
	R04	Allows Hiring Managers and Admins to see visualizations (e.g. graphs and charts) to learn details about the applicant pool.	3	Y	4	Pass	
	R05	Allow Hiring Managers and Admins to see application status of applicants for job	3	Y	4	Pass	
	R06	Allow Hiring Managers and Admins to receive a report of years of experience of applicants (e.g. average, median, minimum, maximum, distribution)	3	Y	4	Pass	
	R07	Allow Hiring Managers and Admins to receive reports of referral sources	3	Y	4	Pass	
	R08	Allow Hiring Managers and Admins to export report as a file	3	Y	4	Pass	

Design and Business Processes Working Document:

<https://www.figma.com/board/Vce7NbutpFgdn2xSJ7ydYi/HyperScreen?node-id=0-1&t=tJ2Tpcs pwKKnBWYI-1>

Use Cases

Applicant Module	
Description	Allows any applicant to apply for any posting available on the posting database.
Primary Actor	Applicant
Preconditions	No precondition as applicant does not authentication
Postconditions	- An application is created in the system - Applicant resume/CV is attached to application object which can be referred to later
Main Scenario	1. Applicant arrives at job posting: a. Applicant uses link to arrive at job posting b. Applicant searches for job posting using either reference number, title, keywords, category or location c. Applicant can scroll through available job postings 2. Applicants should be able to click on a posting to get a more detailed view of the job requirements and apply. 3. Applicant fills out application information such as email, name, phone number, years of experience, referral source 4. Applicant uploads and submits CV
Alternate Scenario	- (1,2) Applicants can search for jobs by simply scrolling through all postings, rather than using search - (3) Applicant does not fill out all the information in the form, leading to an error - (4) Applicant submits a wrong format document, leading to an error - (4) Applicant has already submitted application, gets error saying applicant already applied for this job

Hiring Manager Module	
Description	Main Portal for hiring managers to edit job postings, set scoring criteria, and compare applicants.
Primary Actor	Hiring Manager
Preconditions	Internal authentication to verify Hiring Manager permissions. Default master scoring criteria created in recruiter module and made available

Postconditions	- Job posting created in system - Evaluation pipeline is run - Applicants ranked according to scoring criteria
Main Scenario	1. Hiring Manager signs in with Hiring Manager account to access Hiring Manager Module 2. Hiring manager sees list of their associated job postings (can only see postings they created for their team) 3. Select form to create their own job posting a. Enter posting details b. Complete posting 4. Click on individual job posting a. See list of applicants b. Click on applicant score to see score breakdown for selected applicant c. Rank applicants d. Modify scoring criteria for job posting i. Delete, add and assign weight to skills and location ii. Toggle education degree and assign weight to education iii. Assign weight to years of experience iv. Click "Save Changes" to save scoring criteria e. See resume of applicant for posting f. Change status of applicant (e.g. submitted, schedule, accepted) g. Generate interview questions for local applicants h. Add interview notes for local applicant in posting i. Mass evaluate applicants
Alternate Scenario	- (1) Hiring manager puts in wrong email or password preventing access - (1) User logs in with Admin account leading to Recruiter/Admin module - (3) Edit existing job postings - (3) Manager enters invalid input to job posting details, getting error - (4a) Run evaluation pipeline on all resumes in the database - (4h) Update existing interview note

Recruiter/Admin Module	
Description	Admin portal for Recruiter/Admin to set up hiring managers, system process to evaluate applicants, and main scoring criteria
Primary Actor	Recruiter, Admin

Preconditions	- Internal authentication to verify Hiring Manager and Recruiter/Admin permissions
Postconditions	- New Hiring Manager accounts are created in system - Default master scoring criteria will be set up for Hiring Manager - Evaluation process is launched
Main Scenario	1. Admin signs in with Admin account to access Recruiter/Admin module 2. Admin sets up Hiring Manager/Admin accounts, assigning roles/access 3. Admin deletes and updates Hiring Manager/Admin accounts 4. Admin sets up default/master scoring criterias available for Hiring Manager a. Admin delete, add and assign weight to skills and location b. Admin toggle education degree and assign weight to education c. Admin assign weight to years of experience d. Admin click "Save Changes" to save master scoring criteria 5. Admin filter job postings by title, reference or location and scroll through job postings 6. Admin can view job posting details and reports
Alternate Scenario	- (1) Admin puts in wrong email or password, getting error - (1) Admin signs in with Hiring Manager account leading to Hiring Manager Module - (2) Hiring Manager/Admin account exists -> edit their roles or access - (2) Admin provides invalid email, getting error - (3) Admin tries to delete their own Admin account that is logged in, getting error - (5) If no postings exist, nothing shows - (6) Report for application cannot be run unless there is at least one applicant for the position

Reporting Module	
Description	Provides several statistical reports of the applicants to the hiring managers.
Primary Actor	Hiring Manager, Admins/recruiters
Preconditions	- There need to be applicants for job posting - The job posting has to be created - Evaluation of a job should have been run - Hiring Manager/Admin has to access through their accounts

Postconditions	Reports are viewed on the application for the specified job
Main Scenario	1. Hiring Manager/Admin signs in 2. Hiring Manager/Admin goes to a particular job a. evaluates candidates for that particular job 3. Hiring Manager/Admin clicks on "View Analytics & Reporting" 4. Hiring Manager/Admin taken to/clicks on "Metrics for {insert Job title}" in "View All Metrics" a. See key metrics for applicants (e.g. average/min/max applicant scores, average/min/max years of experience) 5. Click scoring criteria to see scoring criteria breakdown 6. Click "View Interview Outcomes" a. See pie chart of Interview Outcome distribution(e.g. Interviewed, Accepted, Needs Interview, Applied, Rejected) b. See application status detail 7. Click "View Applicant Scores" a. See bar graph of all applicant scores b. See applicant listing of name, score and percentile 8. Click "View Application Status" a. See bar graph of applicant status (e.g. submitted, interviewed, scheduled) b. Show percentage of applicant status c. Click "View Applicants" on applicant status to see list of applicants under that status 9. Click "Experience Analysis" a. See bar distribution graph of years of experience b. See experience metrics(e.g. average/median/max/min years of experience) c. See breakdown of years of experience listing 10. Click "Referral sources" a. See pie chart of referral sources b. Select graph type (pie, bar chart) c. See breakdown of chart of referral sources 11. Hiring Manager/Admin export the report as a file
Alternate Scenario	- (2a) The Hiring Manager cannot see report unless there is at least one local applicant for the position - Local candidates are those who have applied directly to the job, rather than being part of the broader applicant pool of HyperScreen. - (3) If posting has no applicants, notify there are no applicants and prevent access to reporting module

Non-Functional Requirements

Topic	Plan
Backup Needs	- Response times for searches/filters less than 2 seconds. - The database and files need to be routinely backed up in case of server failure.
Security Needs	- Uploaded resumes are only accessible to the hiring manager and not to the rest of the applicants or the open web.
Capacity Needs	- Assume a maximum user base of 500 participants (recruiter, HR and hiring manager, applicants, etc). - System can support up to 10 concurrent users. - Entire source code of the application should be under an open source license and publicly available.
Cost Parameters/Constraints	- Time constraint: fixed time by which design and development should complete.