JOB APPLICATION PORTAL (JAP)
USING CLICKS NOT CODE

A project work submitted for the degree of

BACHELOR OF TECHNOLOGY
IN
COMPUTER SCIENCE AND ENGINEERING

Submitted by

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April, 2025

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CERTIFICATE OF AUTHENTICATION

We solemnly declare that this project report **"JOB APPLICATION PORTAL (JAP) USING CLICKS NOT CODE"** is the bonafide work done purely by us, carried out under the supervision of **Mr. D. PHANI KUMAR**, towards partial fulfillment of the requirements of the Degree of **BACHELOR OF TECHNOLOGY** in **COMPUTER SCIENCE AND ENGINEERING** as administered under the Regulations of Godavari Institute of Engineering & Technology(Autonomous), Rajamahendravaram, AP, India and award of the Degree from Jawaharlal Nehru Technological University, Kakinada during the year 2024-2025.

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ACKNOWLEDGEMENT

We feel immense pleasure to express our sincere thanks and profound sense of gratitude to all those people who played a valuable role for the successful completion of our project.

We would like to express our gratitude to **Dr. K.V.V. SATYANARAYANA RAJU**, Chairman, Chaitanya Group of Institutions, **Sri. K. SASI KIRAN VARMA**, Vice Chairman, GIET Group of Institutions for providing necessary infrastructure.

We are thankful to **Dr. T. JAYANANDA KUMAR,** Principal for permitting and encouraging us for doing this project.

Our special thanks to **Dr. N. LEELAVATHY,** Vice Principal (Academics) for their content guidance and motivation and also for providing an excellent environment. We are truly grateful for her valuable suggestions and advice.

We would like to express our gratefulness to **Dr. B. SUJATHA**, Professor, and Head of the Department, Computer Science and Engineering for giving constant encouragement and moral support.

We feeling grateful to express my deep sense of gratitude and respect towards our supervisor **Mr. D. PHANI KUMAR**, Assistant Professor, whose motivation and constant encouragement have led to pursue a project in the field of Salesforce. We are very fortunate, for having his gracious presence to enlighten us in all the aspects of life as well as project and transforming us to be an ideal individual in this field.

Our family members have put us ahead of themselves, because of their hard work and dedication, this success is possible. Our heart full thanks to them for giving constant support.

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ABSTRACT

The rapid expansion of the job market and the growing number of job seekers have intensified the need for an efficient and digitalized recruitment process. Traditional recruitment methods require recruiters to collect, store, and manage large volumes of applicant data manually, leading to inefficiencies, mismanagement, and loss of crucial information. This manual process is not only time-consuming but also prone to errors, making it increasingly challenging for organizations to streamline their hiring workflows effectively. To address these challenges, we propose the development of an innovative job application portal built using a no-code approach on the Salesforce Cloud Platform. This platform is designed to bridge the gap between recruiters and job seekers by offering a seamless, digitalized, and automated recruitment solution that enhances efficiency and minimizes human intervention.

The proposed job application portal leverages the powerful capabilities of Salesforce, enabling recruiters to collect, process, and manage applicant data in a structured and secure manner. By utilizing features such as automated workflows, data validation, and centralized document management, the system ensures that no data is misplaced or lost. The incorporation of intelligent automation and real-time tracking mechanisms empowers recruiters to gain complete control over the hiring process while reducing their dependency on manual operations.

Unlike traditional software development, which requires extensive coding expertise, our solution allows recruiters and HR personnel to configure and adapt the system to their specific hiring needs with minimal technical knowledge. The use of Salesforce's declarative tools, such as Process Builder, Flow, and App Builder, facilitates the creation of customized workflows, automated notifications, and data analytics dashboards, thereby enhancing the overall user experience. The platform supports multi-user access, enabling different stakeholders including hiring managers, HR representatives, and job seekers to interact with the system efficiently. Job seekers can submit applications, upload required documents, and track their application status in real time. Meanwhile, recruiters can filter applications, schedule interviews, and communicate with candidates through integrated messaging features. The system's dynamic reporting and analytics capabilities provide valuable insights into recruitment trends, helping organizations make informed hiring decisions.

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LIST OF ABBREVIATIONS

JAP	Job Application Portal
HR	Human Resources
HRM	Human Resource Management
CRM	Customer Relationship Management
IT	Information Technology
HRMS	Human Resource Management System
UI	User Interface
AI	Artificial Intelligence
ATS	Applicant Tracking System
GDPR	General Data Protection Regulation
KPI	Key Performance Indicator
UX	User Experience
LWC	Lightning Web Components
RBAC	Role-Based Access Control
IDE	Integrated Development Environment
SOQL	Salesforce Object Query Language
SOSL	Salesforce Object Search Language
URL	Uniform Resource Locator
REGEX	Regular Expression
API	Application Programming Interface
CRUD	Create, Read, Update, Delete

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CHAPTER- 1

INTRODUCTION

1.1 Job Application Portals (JAPs)

A **Job Application Portal (JAP)** is a digital platform that streamlines the hiring process by allowing job seekers to apply for positions online while enabling recruiters to manage applications efficiently. Modern JAPs integrate with various enterprise systems to enhance recruitment efficiency, applicant tracking, and data-driven decision-making.

With the rapid evolution of cloud computing and AI-powered recruitment, organizations increasingly adopt customized JAPs to improve user experience, reduce manual efforts, and optimize recruitment workflows. Among various solutions, Salesforce-based JAPs stand out due to their scalability, automation capabilities, and seamless integration with HR systems.

1.2 Background

Over the past few years, Human Resource Management (HRM) has undergone a remarkable transformation, evolving from a traditional administrative role into a strategic partner that directly contributes to an organization's overall success. This shift is largely driven by the advancement of Information Technology (IT), which has revolutionized how HR functions are executed and perceived within companies.

Traditionally, HR was primarily responsible for payroll, hiring paperwork, recordkeeping, and basic employee management. However, with the rise of HR Information Systems (HRIS), cloud computing, automation, and data analytics, HR professionals now have access to tools that enable them to make more data-driven and strategic decisions. These systems help streamline and automate routine tasks such as recruitment, onboarding, training, performance evaluations, and employee engagement, freeing up time for HR to focus on more strategic initiatives like workforce planning, talent management, succession planning, and organizational development.

The digital transformation of HR has also significantly changed how data is collected, stored, managed, and shared across departments. Modern HR systems allow for real-time access to employee data, advanced reporting, and predictive analytics, all of which empower HR professionals to anticipate trends, identify skill gaps, and proactively address

workforce needs. Furthermore, these systems improve transparency and compliance, ensuring organizations meet legal and regulatory requirements more efficiently.

As a result of these advancements, HR has become a key contributor to business strategy. It is now expected to align workforce capabilities with organizational goals, drive change management, and foster a culture that supports innovation and agility. The ability to use technology to measure and enhance employee performance, engagement, and satisfaction has given HR professionals a strategic voice at the executive table.

This evolution has elevated the value of the HR function within organizations, positioning it not just as a support department, but as a critical driver of business performance and growth. HR professionals today are not only managing people but also shaping organizational strategy through talent insights, culture building, and leadership development. This enhanced role makes HR a cornerstone in building a resilient, future-ready workforce.

1.3 A Sample Subsection

The hiring industry is just one of many sectors that have undergone significant transformations due to the digital age. Technology has rapidly evolved to streamline the hiring process for both companies and job seekers, leading to the rise of numerous job portals and recruitment platforms. However, despite these advancements, many platforms still rely heavily on complex coding and user interfaces, posing significant challenges for non-technical users. As a result, both recruiters and job seekers—especially those without programming knowledge—often find these platforms difficult to navigate, leading to inefficiencies and frustration.

Furthermore, there are still a lot of issues facing the worldwide employment scene. The disparity between employment accessibility and availability is still a problem, especially in neglected or less developed areas. Despite the abundance of competent applicants, many do not know about the openings or do not have the means to use conventional employment portals. Ineffective methods that don't deliver accurate and fast job matching further worsen this gap between companies and job searchers.

The effectiveness of employment portals is being hindered by a lack of tailored and efficient recruitment solutions. Traditional platforms often use a one-size-fits-all approach, failing to meet the unique needs of businesses, recruiters, and job seekers. As the digital landscape

evolves, there is a growing demand for job portals that prioritize user experience and provide intuitive, accessible platforms for all users, regardless of their technical expertise. These platforms must bridge the gap by helping companies more effectively connect with qualified candidates, while ensuring job seekers find the right roles.

There is an urgent need for online recruitment solutions that are both easy to use and highly efficient. By streamlining current processes, we can create an ecosystem where opportunities are not missed, and skilled individuals are not overlooked.

1.4 History and Evolution of CRM-Based Models

In order to assist firms in managing their customer contacts, Customer Relationship Management (CRM) systems were originally established in the early 1970s. CRM systems were first only instruments for monitoring customer information and sales results. CRM systems have developed over time into all-inclusive platforms that facilitate a variety of corporate operations, including sales, marketing, customer support, and general strategic management. This change is a reflection of the increasing recognition that establishing trusting connections with clients is essential to sustained company success**.**

Salesforce and other contemporary CRM systems have completely changed how companies communicate with their clients and customers. CRM platforms enable companies to better understand customer preferences, behaviours, and interaction histories by providing an integrated approach to customer data management. This improves communication and provides more individualized service. CRM systems are now available from any location thanks to cloud computing, which gives companies real-time data and optimized procedures that boost operational effectiveness.

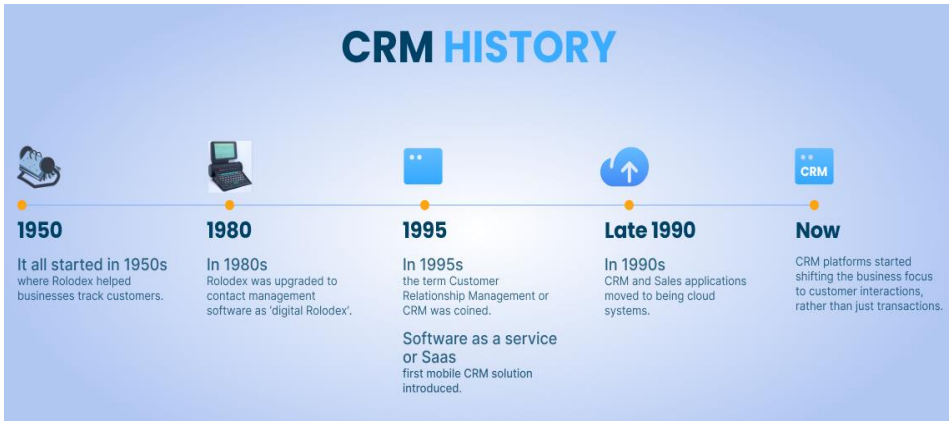

Figure.1.1: History and Evolution of CRM based systems

CRM-based approaches have become very popular in the recruitment industry. CRM solutions are becoming crucial tools for managing candidate data, enhancing job matching procedures, and improving the recruitment workflow as a whole, with Salesforce at the forefront.

The CRM-based recruitment methodology has improved productivity, decreased administrative workloads, and enabled the use of data-driven insights to make more informed hiring choices. Businesses may expedite and streamline the hiring process by integrating CRM technologies into recruitment platforms, which will benefit both employers and job seekers.

1.5 Need for a User-Centric Solution

Employers and job seekers alike are finding it more and more difficult to use traditional recruitment tools in today's cutthroat and digitally-first labour market. Applicants may find it difficult to navigate complicated interfaces that require them to upload several documents, complete lengthy forms, and endure tiresome application procedures. Similar to this, companies frequently see a deluge of applications that might not be qualified for the role because of inadequate screening processes or a discrepancy between the qualifications of candidates and the job specifications.

The existing job application system has to be made simpler as technology develops so that people from a variety of backgrounds, including those who might not be technically inclined, can utilize it more easily.

There has never been a greater need for a user-centric solution because recruiters and candidates alike require tools that are tailored to their individual needs in a way that reduces aggravation and boosts productivity.

The creation of a no-code job portal—a platform that puts user-friendliness first and does away with the requirement for technical expertise—is the answer. In addition to making the process easier for job searchers, this platform should give businesses the resources they need to properly assess and handle applications. This solution can improve the entire hiring process by providing a user-friendly and adaptable experience for all parties by utilizing Salesforce's no-code features.

1.6 The Power of Salesforce

Salesforce, a cloud-based platform for customer relationship management (CRM), has become one of the most effective and adaptable solutions available in the commercial sector. With its comprehensive array of products for marketing, sales, service, analytics, and more, Salesforce has greatly surpassed its original purpose of assisting businesses in managing their customer interactions. Its cloud-based architecture enables businesses to function more effectively and efficiently by giving them access to real-time data and scalability.

Whether they are technical workers, HR specialists, or business executives, Salesforce's no-code features enable customers to construct highly customized apps without the need for programming expertise. The platform's customisable elements and user-friendly drag-and-drop interface make it simple to create apps that satisfy particular organizational requirements.

Salesforce offers the recruitment sector a special chance to expedite the hiring procedure. Employers and job seekers can benefit from customized features in a job portal created with Salesforce's no-code solutions. For example, businesses can effectively track, manage, and evaluate candidates with integrated CRM tools, while job searchers can apply for openings fast with simple, intuitive interfaces. Additionally, Salesforce has strong automation features that enable the smooth automation of repetitive processes like delivering feedback, setting up interviews, and sending job alerts.

Salesforce's cloud-based architecture and scalability allow the job portal to be accessed from any location, giving users flexibility and convenience no matter where they are.

The suggested employment portal can function as a dynamic, changing platform that consistently satisfies the needs of companies and job searchers by Salesforce's sophisticated features. Salesforce is a future-proof solution that will continue to be important and relevant in the long run because of its flexibility and customisation choices, which guarantee that the platform can expand with shifting market demands.

1.7 Job Application Portal in Salesforce

Salesforce, a popular cloud-based CRM platform, offers low-code and no-code development capabilities for building custom JAP solutions.

The Salesforce JAP is designed to:

- Automate the job posting and application process.
- Enable real-time applicant tracking and communication.
- Integrated with third-party HRMS (Human Resource Management Systems) and Applicant Tracking.

This JAP is built using Salesforce Lightning, Apex programming, and Flow automation, ensuring a seamless and scalable recruitment process.

CHAPTER – 2

LITERATURE REVIEW

2.1 Motivation of Research

In recent years, the rise of low-code/no-code platforms has transformed how organizations develop applications, especially in areas like Human Resource Management (HRM) and recruitment systems. These platforms allow non-technical users or "citizen developers" to build, customize, and manage systems using drag-and-drop interfaces, prebuilt components, and automated workflows significantly reducing the time, cost, and technical complexity associated with traditional software development.

According to **Gartner (2021)**, by 2025, 70% of new applications developed by enterprises will use low-code or no-code technologies. This trend is particularly valuable in HR domains, where teams often need to respond quickly to changing recruitment needs without heavy reliance on IT departments.

The need for efficient, AI-powered, and scalable JAPs has grown due to:

Traditional hiring challenges – Manual resume screening, long processing times, and recruiter workload.

Demand for seamless applicant experience – Candidates expect real-time updates, mobile-friendly portals, and AI-driven recommendations.

Integration with HR systems – Organizations seek unified recruitment solutions that sync with HR platforms like Workday, SuccessFactors, and Oracle HRMS.

This research aims to bridge the gap between traditional hiring practices and modern AI-driven automation, ensuring faster, data-driven, and candidate-friendly hiring. One of the most effective use cases of these platforms is the creation of **Job Application Portals**. These portals serve as the front-end system where candidates submit applications and track their status, while HR teams manage applicants in the backend.

2.2 Researches Related Applications

One of the major problems that both developed and emerging nations must deal with is unemployment. For instance, since the 1970s, the unemployment rate in Europe has been rising quickly. According to Dorn et al. [1], one of the factors contributing to this problem

is the unequal distribution of job opportunities or a lack of awareness of them, which keeps people from finding out about new positions. It suggests that even while some positions are open, job seekers are not aware of them. Job seekers may find that a comprehensive online search helps them find work. While some job portals offer candidates a useful means of searching the web for information about available positions, they may not bridge the gap between them. [2]

Edirisinghe, S.M., developed a, Collab Infinite is a web-based platform that offers a full solution for career development and recruitment management, thereby addressing the important gap between the supply and demand of IT workers. Collab Infinite automates the entire recruitment process, from job posting and candidate matching to interview scheduling and offer administration. It is specifically designed for IT university students and recent graduates. All users may access it with ease because to its user-friendly design and simple navigation, and its cloud-based architecture guarantees scalability and dependability. Collab Infinite helps people start prosperous careers in the IT sector by matching them with appropriate work opportunities and providing resources for professional development. [4]

V. Pavani et al, (2022) introduced a feature-based online job portal designed to facilitate efficient job searching and recruitment. The portal aims to connect job seekers with suitable opportunities by considering factors like educational qualifications and preferences [5], V. Yadav et al proposes an online job board system specifically designed for college students. The system aims to bridge the gap between students and career opportunities by providing services like job recommendations based on skills and candidate filtering for companies.[6] This innovative approach has the potential to revolutionize the way businesses operate and individuals advance their careers. It integrates sales management, job searching, and investment features. [7]

A. Mohamed et al, presents a new candidate recommendation system called Smart Applicant Ranker. Designed for IT recruitment firms, the system uses ontology to match candidate resumes with job requirements.[8] H. Kim and J. Hahm, initiated a lightweight cloud-based job management system for data-intensive scientific applications. It is a cloud-based solution offers scalable and effective computing resources, making it suitable for handling large scientific datasets. [9]

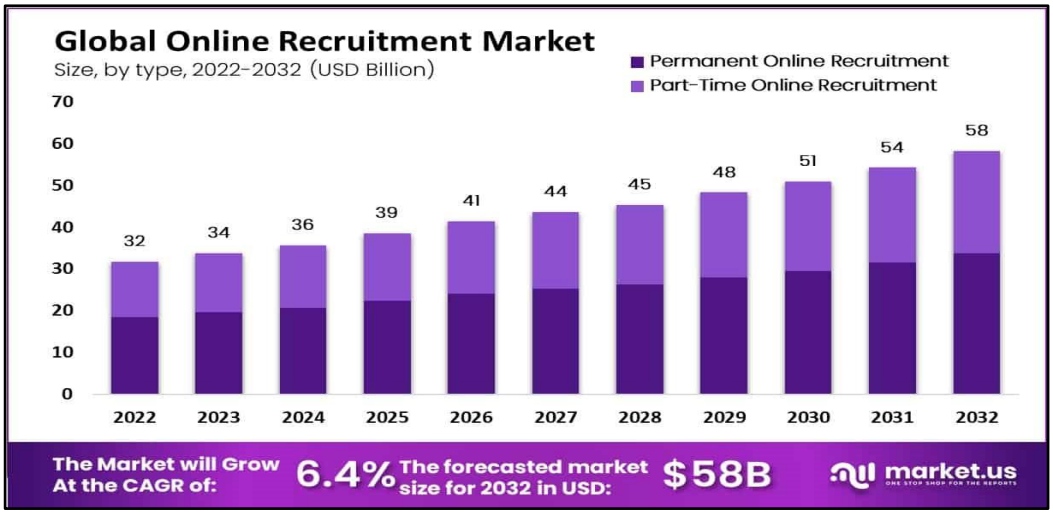

Figure.2.1: Global Online recruitment market and its need in feature predicament

2.3 Summary of Literature

Automated recruiting tools have become the brainiac to manage the HR functions and labour of a business. As the technology innovates and HR functions are distorted through all areas, there is a gap to develop automated software that can handle the process of recruitment and hiring. The varying nature of business and the way that companies are recruiting has resulted in recruitments of are acting as the key player. With the ideal recruitment software can change the way you hire, It saves your monitor expenses and timely effort during the recruiting process, and most importantly, ensures that you are hiring the ideal candidate. It may even be reasonable to say that recruitment software has become a major role of the HR function significantly along the past few years when many continents have been fighting through a universal recession. Retaining, attracting and recruiting the suitable people have become the index to productivity of the effectiveness and efficiency of growth for many businesses, which has become a major industry level satisfaction.

CHAPTER- 3

EXISTING SYSTEM STUDY & PROPOSED SYSTEM

The emergence of digital platforms like Indeed, Glassdoor, Monster, and others, which connect job searchers with businesses in an effort to streamline and speed up the hiring process, has drastically changed the recruitment environment. Although these platforms have made it easier for employers to identify talent and for job seekers to apply for employment, they still have a number of drawbacks and inefficiencies that make it difficult for both parties. Although these portals provide a number of tools to make hiring easier, they have not adequately addressed the intricacies of hiring, which has resulted in a number of serious issues that need to be solved.

3.1 Existing System and Their Limitations:

3.1.1 Automated Screening and Keyword Matching:

Applicant tracking systems (ATS) are frequently used by job application platforms to screen applications and resumes according to keyword matching. These programs are made to scan resumes and cover letters for particular words and phrases that correspond to the requirements of a position. Administratively speaking, this method is effective, but it may unintentionally leave out eligible applicants who might not utilize the precise wording or phrases that the system is designed to look for.

Impact: Automated screening procedures may inadvertently miss candidates who possess the necessary training and expertise but lack the exact language that these algorithms are designed to value. Even if they have the necessary qualifications, candidates who may not be experienced in optimizing their resumes for ATS algorithms—for example, those who are not familiar with the standard wording or keyword structures—are at a disadvantage. This restriction results in an algorithm-driven, impersonal hiring process that is unable to recognize the entire range of a candidate's abilities.

3.1.2 Overwhelming and Time-Consuming Application Processes:

Many employment portals demand applicants to fill out lengthy, repetitious forms and repeatedly enter the same information, even if it is already on their resumes. Candidates are frequently required to upload a wide range of documents, fill out extensive profiles, and

respond to extra questions that can be unnecessary or unrelated to the position for which they are seeking.

Impact: In addition to making applicants frustrated, this drawn-out and repetitious application process wears them out. Because it takes too much time and effort, talented people can give up on the application in the middle. Top talent is deterred from finishing applications as a result of the bad user experience. Additionally, candidates may believe that the portal is ineffective and does not represent the digital-first environment that the labour market ought to adopt if they are asked to enter the same information repeatedly.

3.1.3 Impersonal and Generic Candidate Experience:

A candidate frequently receives little to no individualized feedback or communication about their progress after submitting their application. Without providing any information about an applicant's performance or how they might improve for future applications, the majority of job portals only issue automated rejection emails or provide generic status updates.

Impact: For candidates, the absence of tailored feedback makes the experience uninteresting. Applicants are left in the dark regarding the status of their applications without any helpful criticism, which makes it difficult for them to get better and raise their chances of getting hired again. Employers and applicants may get estranged as a result of this lack of human interaction, which could result in a bad user experience. Additionally, it might damage the employer's reputation because candidates might feel ignored or under appreciated. For candidates, the absence of tailored feedback makes the experience uninteresting. Applicants are left in the dark regarding the status of their applications without any helpful criticism, which makes it difficult for them to get better and raise their chances of getting hired again.

3.1.4 Bias and Inequity in Screening:

Many ATS algorithms are designed to favour candidates who match specific educational backgrounds, experiences, or skill sets, with a focus on exact keyword matching. While this ensures efficiency in screening, it often leads to bias in the recruitment process, prioritizing candidates who conform to traditional educational norms or the preferred phrasing used in resumes.

Impact: The reliance on predefined keywords and rigid criteria discriminates against applicants who may not have attended prestigious universities or who may not use the specific terms expected by the system. This can exclude highly qualified candidates from underrepresented communities, non-degree holders, or those with unconventional career paths. The result is a biased and inequitable job market where candidates who may offer unique perspectives or skill sets are overlooked, perpetuating a lack of diversity and inclusivity in the hiring process.

3.1.5 Volume of Applications:

Large companies often receive hundreds or thousands of applications for a single job opening. While automated systems like ATS help to manage the influx of applications, they often fall short in accurately identifying the most suitable candidates due to the reliance on rigid filtering rules.

Impact: The volume of applications can overwhelm recruiters, forcing them to rely too heavily on automation. As a result, they may miss out on promising candidates whose qualifications do not fit the rigid filters set by ATS. Moreover, this over-reliance on automated systems reduces the opportunity for personalized engagement, where recruiters could provide feedback or guidance to promising candidates, thereby missing out on nurturing valuable talent.

3.1.6 Privacy Concerns and Data Security:

Job application portals collect a wide range of sensitive personal data, such as resumes, contact details, employment history, and even social security numbers. Unfortunately, many platforms fall short in securing this data or implementing best practices for data protection, leaving both job seekers and employers vulnerable to data breaches or unauthorized access

Impact: The privacy and security of candidate data are paramount, and failures in this area can lead to significant risks. A data breach could compromise personal information and lead to identity theft, financial fraud, or other consequences. Candidates may be reluctant to share sensitive information on platforms that lack robust security protocols, and companies may face legal consequences if they fail to comply with data protection regulations. This creates a trust deficit between job seekers and recruiters, diminishing the credibility of the platform.

3.1.7 Lack of Effective Collaboration and Feedback:

Current job application portals often function in isolation, focusing primarily on the submission and filtering of applications. Unfortunately, this process rarely facilitates effective collaboration between employers, candidates, and other stakeholders (such as investors or external recruiters). Without constructive feedback loops, candidates are left without actionable insights, and recruiters miss opportunities to improve their hiring practices.

Impact: The absence of collaboration between the various parties involved in recruitment can lead to missed opportunities for improvement. Job seekers do not receive feedback that could help them tailor their profiles or resumes for future positions. Similarly, employers may fail to engage with applicants in a meaningful way, leading to a static, transactional recruitment process that overlooks the potential for continuous improvement and innovation in hiring practices.

Summary of Limitations in Existing Systems:

- **Impersonal Experience:** ATS and automated systems often overlook qualified candidates who do not fit exact keyword matches or preferred educational backgrounds.
- **Complexity and User Experience Issues:** Lengthy forms, repetitive inputs, and time-consuming processes discourage applicants, especially those applying to multiple positions.
- **Bias and Inequity:** The reliance on ATS algorithms creates bias, disadvantaging non-traditional candidates and those without access to optimized resumes.
- Volume of Applications: High application volumes lead to over-reliance on automation, which can result in missed opportunities for promising candidates.
- Privacy Concerns: Many job portals lack robust data security measures, leaving sensitive candidate information vulnerable to breaches.
- Ineffective Collaboration: Job portals often lack mechanisms for collaboration, feedback, and engagement between applicants, employers, and other stakeholders, limiting the potential for continuous improvement in the hiring process.

3.2 Proposed System

More effective, safe, and customized job application portals are essential as businesses continue to adapt to the rapidly shifting technological environment. Numerous fundamental problems, including usability, scalability, and effective workflows, have not been addressed by the job portals that are now in use. We suggest a new job application portal based on Salesforce, a cloud-based, no-code platform that promises to improve user experience, provide flexibility, and expedite the hiring process for both businesses and job seekers in order to address these issues.

Businesses may design unique apps that can adjust to a variety of purposes and user requirements thanks to Salesforce's flexible and scalable technologies. By emphasizing automation and data-driven insights, the proposed system aims to transform the job application process and provide a smooth and user-friendly experience for all users.

3.3 Proposed Methodology for Job Application Portal

The development and deployment of the Salesforce-based Job Application Portal (JAP) follow a structured, phased approach that ensures systematic planning, efficient execution, and smooth delivery of the solution. This methodical process involves a series of well-defined stages, each designed to ensure quality, user satisfaction, and alignment with business goals.

1. Requirement Gathering & Planning

The initial phase focuses on understanding the business needs of stakeholders—primarily recruiters, HR personnel, and applicants. Functional requirements, such as job posting management, candidate tracking, automated workflows, and data privacy measures, are collected. Non-functional requirements such as performance, security, and scalability are also considered. This planning stage helps define the project scope, timelines, and resource allocation.

2. Design

Based on the gathered requirements, a detailed solution design is created. This includes:

- Data Model Design – Custom objects such as Job Application, Candidate, Review, Job Posting, and Position are defined, along with relationships (lookup, master-detail).

- User Interface Design – Page layouts, Lightning App pages, and Community Pages (for candidate portals) are planned for intuitive user experiences.
- Security Model – Role-based access, profiles, permission sets, and sharing rules are designed to protect sensitive information.

3. Configuration and Development

In this phase, the system is built using Salesforce's Click-Not-Code tools (e.g., Flows, Process Builder, Page Layouts) wherever possible to speed up development and reduce technical complexity. Where necessary, Apex code, Lightning Web Components (LWC), and Visualforce pages are used for custom logic and UI enhancements. Features such as validation rules, automated notifications, job matching, and resume uploads are implemented here.

4. Testing

Once development is complete, thorough unit testing, system testing, and user acceptance testing (UAT) are performed. Apex test classes are written to ensure at least 75% code coverage. Bugs and issues are logged, tracked, and resolved to ensure system reliability. The system is tested for data accuracy, functional completeness, user roles, and integration points.

5. Deployment

The tested solution is then deployed to the production environment using tools like Change Sets or Salesforce DevOps Center. Deployment includes migrating metadata, activating Flows, setting up scheduled jobs (if any), and reconfiguring permissions as per the production environment. Backup plans and rollback strategies are prepared in case issues arise post-deployment.

6. Training and Documentation

End users (HR teams, recruiters, and admins) are provided with training sessions and user manuals. These sessions ensure a smooth transition from legacy processes and empower users to utilize the platform effectively.

7. Post-Deployment Support and Maintenance

After going live, the portal enters the support phase where feedback is collected from users,

and performance is monitored. Minor enhancements, issue resolutions, and compliance updates are made based on real-world usage.

3.4 Key Features and Functionality of the Proposed System

1. Salesforce No-Code Platform:

- Explanation: Salesforce offers a no-code environment, meaning businesses can create applications without needing advanced programming knowledge. This allows for rapid deployment, modification, and scaling of the system.
- Impact: The system's development time is drastically reduced, enabling businesses to introduce new features faster and more efficiently. Since ongoing updates can be handled by non-technical users, this minimizes reliance on technical developers, reducing long-term costs and making system management more agile.

2. Customizable and Flexible Objects:

- Explanation: The ability to create custom objects allows the platform to be tailored to specific needs. Employers can manage not just job postings, but applicant profiles, resumes, interviews, feedback, and more, all through the same system.
- Impact: The flexibility of custom objects ensures that the system adapts to different industries, companies, and job types. This customization enables a personalized experience for each applicant, improving user engagement and satisfaction.

3. Integrated Workflow Automation:

- Explanation: Automation tools within Salesforce allow for seamless workflows. For example, after a candidate submits an application, the system can automatically send acknowledgment emails, schedule interviews, update application statuses, and trigger reminders for recruiters.
- Impact: This automation reduces the administrative burden, enhances operational efficiency, and ensures that tasks are performed consistently without human intervention, leading to quicker hiring decisions and less manual effort for recruiters.

4. Dependable Operational Flows:

- Explanation: The system ensures that every stage of the recruitment lifecycle, from posting jobs to scheduling interviews, collecting feedback, and final hiring, operates smoothly without delays or bottlenecks.
- Impact: By optimizing the workflow, the platform improves efficiency, enhances candidate experience, and leads to faster decision-making. Recruiters are freed from administrative overload, which allows them to focus on more meaningful tasks, such as evaluating candidates and making hiring decisions.

5. Personalized User Experience:

- Explanation: Both job seekers and employer benefit from a personalized experience. Job seekers will receive customized job recommendations based on their skills, preferences, and qualifications, while employers can generate tailored reports to track metrics such as candidate quality, application sources, and recruitment efficiency.
- Impact: Personalization increases user engagement and satisfaction. Job seekers are presented with relevant job opportunities, while employers benefit from data-driven insights that optimize recruitment strategies.

6. Centralized CRM System for Employers:

- Explanation: Salesforce's Customer Relationship Management (CRM) tools allow employers to manage all aspects of candidate interaction in one centralized system. This includes tracking application history, interview feedback, candidate communications, and more.
- Impact: With centralized candidate data, employers can track and evaluate the entire recruitment process more efficiently. Collaboration between HR team members is simplified, improving coordination and ultimately leading to better-informed hiring decisions.

7. Scalable and Cloud-Based Infrastructure:

- Explanation: Built on Salesforce's robust cloud architecture, the system supports scalability for businesses of any size. It can accommodate significant growth, handle increased user activity, and provide real-time updates.

- Impact: The cloud infrastructure ensures the platform can handle high volumes of data and users without compromising performance. Its scalability means that it can grow with the business, offering improved reliability and uptime, along with faster load times for users, regardless of their location.

8. Automated Candidate Evaluation and Feedback System:

- Explanation: The platform automates the evaluation of candidates based on predefined criteria such as resume quality, experience, interview performance, and overall fit for the role. Post-interview, feedback from recruiters is also automated.
- Impact: This ensures that candidate evaluation is consistent and objective, reducing human bias and increasing the overall fairness of the hiring process. Recruiters can access real-time performance data, which enables more informed decision-making.

9. Data Integrity, Privacy, and Security:

- Explanation: With data security being a top concern in the digital age, Salesforce offers advanced encryption, role-based access controls, and audit trails to protect sensitive candidate information. The system complies with international privacy regulations like GDPR to ensure data privacy and integrity.
- Impact: The strong security features foster trust among job seekers and employers, ensuring that sensitive data is handled appropriately. Enhanced compliance also minimizes the risk of data breaches, which could harm the platform's reputation.

10. Real-Time Analytics and Reporting:

- Explanation: Salesforce's analytics tools provide both job seekers and employers with real-time insights into recruitment progress. Job seekers can track their application status, interview schedules, and overall progress, while employers can monitor KPIs like time-to-hire, conversion rates, and applicant sources.
- Impact: Real-time analytics help job seekers stay informed and motivated, while employers can optimize their hiring strategies by using data to drive decisions. This data-driven approach improves transparency and accountability within the recruitment process.

3.4.1 Advantages of the Proposed System Over Traditional Systems:

- Speed and Efficiency: The no-code platform accelerates development and updates, allowing the system to be adapted quickly to meet user needs, with minimal resource input required for maintenance.
- Ease of Use: With its intuitive interface, personalized features, and streamlined workflows, the proposed system enhances both the candidate and employer experience, reducing the likelihood of application abandonment.
- Cost-Effective: By leveraging Salesforce's no-code environment, the system is significantly more cost-efficient to develop and maintain than traditional platforms, reducing the need for extensive development resources and ongoing support.
- Scalability: The system is designed to accommodate growing user bases, more job postings, and greater recruitment activity, making it adaptable to businesses of any size. Whether a small startup or a large enterprise, the platform can scale according to need.
- Flexibility and Customization: With customizable features and objects, the system offers a high degree of adaptability, allowing businesses to tailor the platform to their specific requirements and hiring processes.
- Real-Time Collaboration and Analytics: Centralized data management and real-time analytics allow for faster decision-making, better collaboration among team members, and continuous improvement of the recruitment process.

Feature	**Existing JAP Portal**	**Implemented Jap (Salesforce)**
Technology Stack	Basic web technologies (HTML, PHP, etc.)	Salesforce Lightning, Apex, LWC, Flows, API Integration
User Interface (UI)	Static and less interactive	Intuitive, responsive UI with Lightning Experience
User Roles	Limited role separation	Distinct roles for Employers, HR, and Candidates with RBAC
Application Tracking	Manual or basic tracking	Automated application status tracking with workflows
Candidate Notifications	Manual emails	Automated notifications via Email Dashboard

Job Posting Management	Static job listing forms	Dynamic, customizable job posting with filters and tracking
Candidate Profiles	Limited information	Detailed Candidate Object storing resumes, history, and more
Search and Filtering	Basic keyword search	Advanced dynamic search, filtering, and list views
Evaluation and Reviews	Manual comments or spreadsheets	Review Object with structured ratings, comments, scoring
Reports & Analytics	Basic or unavailable	Real-time Reports & Dashboards (time-to-hire, pipeline, etc.)
Integration Capabilities	Limited or none	Integrated with LinkedIn, HRMS, Email, APIs
Data Validation	Minimal checks	REGEX-based email/phone validation, date checks, duplicate prevention
Security & Privacy	Basic access control	RBAC, Consent Management, Right to Access/Deletion (GDPR-like)
Automation	Mostly manual	Automated workflows via Salesforce Flow and Apex triggers
Scalability	Limited growth potential	Cloud-based and scalable storage/infrastructure
Email Management	Manual communication	Email Dashboard with templates, tracking, scheduling
Custom Views	Not available or limited	Custom list views (by rating, application, job)
Development Tools	Traditional IDEs	Salesforce Developer Console with SOQL/SOSL, debugging tools

Table.3.1:Comparision of the Existing and Proposed JAP's

CHAPTER – 4
IMPLEMENTATTION

4.1 Overview:

Implementing the suggested no-code job portal solution with Salesforce will concentrate on developing unique features and objects that let hiring managers and applicants effectively handle their hiring procedures. In order to accommodate the various needs of recruiters and job searchers, the portal will be easy to use, intuitive, and configurable. The following is a more thorough explanation of the system's main parts and features:

4.2 Technologies Used in JAP Development

The JAP is developed using a combination of Salesforce-native tools and cloud-based technologies for efficiency and flexibility:

- **Salesforce Lightning Experience** – Provides an intuitive UI for recruiters and applicants.
- **Apex (Salesforce's programming language)** – Enables backend logic, automation, and custom workflows.
- **LWC (Lightning Web Components)** – Enhances the frontend experience with modular and reusable UI components.
- **Salesforce Flow** – Automates application status updates and communication processes.
- **Data Loader & API Integrations** – Facilitates data migration and external system connectivity (e.g., LinkedIn, HRMS).

4.3 Objects & Front-End Development:

User Object:

- The system will define two primary user types Employers and Candidates each with clearly defined roles, responsibilities, and access permissions to ensure a streamlined and secure job application process. Employers are typically recruiters or hiring managers responsible for creating and managing job postings, reviewing candidate applications, scheduling interviews, and making final hiring decisions.

They have access to dashboards and reports that provide insights into hiring trends, application statuses, and candidate performance. Employers can also collaborate with team members, leave reviews, and initiate communication with shortlisted candidates directly through the portal. Employers: Employers will use the app to post jobs, track candidates, and manage recruitment records. Employers can create job postings, track the progress of candidates applying to their jobs, and handle applications through streamlined processes.

Employer Attributes:

- Role Creation: Employers can create and manage different roles for their team, such as recruiters, HR managers, or hiring managers.
- Candidate Tracking: The system will track the application status for each candidate, such as "applied," "interviewing," "hired," or "rejected."
- Data Management: Employers will have access to a centralized database for managing candidate records, job postings, and related documents.

Candidates:

Candidates will engage with the Job Application Portal (JAP) through a personalized and intuitive interface that allows them to take full control of their job-seeking journey. They can browse available job openings posted by various employers, filter them based on location, job type, or domain, and then apply directly to the positions that match their interests and qualifications. Once an application is submitted, candidates can track the real-time status of each application whether it is under review, shortlisted for an interview, or marked as selected or rejected. This visibility ensures transparency and keeps candidates informed at every stage of the hiring process.

Candidate Attributes:

- **Application Forms**: Candidates can submit application forms containing fields such as name, education, work experience, and contact details.
- **Event Pop-ups**: Candidates will receive pop-up notifications regarding interviews, updates on their application status, or other relevant events.
- **Notifications**: A notification system will alert candidates about new job postings, interview requests, and status updates.

- **Application Tracking**: Candidates can track the progress of their applications, including any feedback or requests for further documentation.

Position Object:

The Position Object plays a central role in the Job Application Portal by serving as the foundational structure through which employers can create, manage, and maintain job postings. Each record in the Position Object represents a unique job opportunity, containing key details such as the job title, department, location, required qualifications, experience level, salary range, job description, and application deadlines. Employers can easily create new job postings directly within the portal and update or deactivate them as needed based on the hiring status.

Key Features:

- **Customizable Job Postings**: Employers can create custom job postings with fields such as position title, job description, minimum wage, and job status.
- **Job Details**: Each job posting will include detailed information like required skills, job responsibilities, qualifications, salary, and application deadline.
- **Tracking Views**: To improve tracking, Salesforce provides various views like **Tabular**, **Kanban**, and **Split views** to monitor job posting statuses, application progress, and candidate statuses.
- **Job Search and Filters**: Employers will be able to search and filter job postings based on criteria such as job status, location, and closing date. Recent records can also be accessed for faster navigation.

Job Application Object:

The Job Application Object is a critical component of the Job Application Portal (JAP), designed to facilitate the seamless management of candidate applications by employers and HR teams. Each record in this object represents a unique submission made by a candidate for a specific job position. It acts as a bridge between the Candidate and Position objects, linking individual applicants to the jobs they have applied for, and providing a centralized space for tracking and processing these applications.

Key Features:

- **One-to-Many Relationship**: The system will establish a one-to-many relationship between applicants and their job applications, allowing HR to track multiple applications for each candidate.
- **Custom List Views**: Employers can create custom views, such as "All Applicants," "By Application," or "By Evaluation," to organize and manage applications more efficiently.
- **Rating Fields**: Each application will include fields for tracking candidate ratings, interview scores, and HR evaluations.
- **Scoring Criteria**: HR professionals can define scoring criteria, such as performance during interviews or qualifications, for evaluating candidates. These scoring systems will be used to assess and rank candidates, enabling HR to make data-driven decisions.

Review Object:

The Review Object in the Job Application Portal (JAP) is designed to bring structure, consistency, and transparency to the candidate evaluation process. It allows HR personnel and hiring managers to systematically assess applicants by recording detailed feedback after each stage of the hiring journey—be it resume screening, telephonic interviews, technical rounds, or final interviews. Each review is typically linked to a specific Job Application record, ensuring that evaluations are directly tied to the job the candidate has applied for.

Key Features:

- **Linking Candidate and Application**: The Review object will link to both the **Candidate** and **Job Application** objects using lookup fields, ensuring seamless access to relevant information.
- **HR Ratings**: A field will be added for HR to rate candidates based on skills, experience, and interview performance. This will allow for consistent evaluation criteria across all applicants.

- **Custom Rating Criteria**: HR managers can customize rating fields to assess candidates based on different factors like technical expertise, cultural fit, or soft skills.
- **Comments**: HR will be able to add comments or feedback on candidates, which can be helpful during the decision-making process.

Candidate Object:

The Candidate Object is a core component of the Job Application Portal (JAP), designed to store and manage all essential information related to job seekers in a structured and centralized manner. It acts as the digital profile of each applicant, capturing personal, educational, and professional details that are crucial for the recruitment process.

Each Candidate record includes basic personal information such as full name, email address, phone number, and location. It also stores educational background, work experience, skills, certifications, and any other qualifications relevant to the job market. Additionally, candidates can upload supporting documents like resumes, cover letters, portfolios, or certifications, which are securely attached to their profiles.

Key Features:

- **Candidate Details**: This customizable object will track candidate details like name, education, contact information, employment history, and other relevant personal details.
- **Lookup Fields**: Linked objects such as applications and job postings will be easily accessible through lookup fields.
- **Workflows**: Workflows will be set up to automate tasks like updating application statuses and triggering notifications to candidates or employers about application progress.

Job Posting Object:

The Job Posting Object plays a fundamental role in the Job Application Portal (JAP) by enabling employers and recruiters to efficiently create, manage, and monitor job vacancies. This object acts as the digital representation of a job opening, storing all relevant information about the position being offered. Each record in the Job Posting Object includes detailed fields such as the job title, department, employment type (e.g., full-time,

part-time, contract), job location, required qualifications, experience level, salary range, and a comprehensive job description.

A key function of the Job Posting Object is its integration with other core components of the portal—most notably the Position Object, Job Application Object, and Candidate Object. These relationships allow for seamless tracking of how many candidates have applied to each job, what stage they're in, and the overall progress of the recruitment process for that particular posting.

Key Features:

- **Position Details**: Includes fields like position title, company name, and employment type.
- **Platform Information**: Employers can specify which job boards or platforms the job is being posted to, including URLs and pricing details.
- **File Uploads**: Employers can upload job-related files (e.g., detailed job descriptions or brochures).

Employment Website Object:

The Employment Website Object is a specialized component of the Job Application Portal (JAP) that enables employers to track and manage job advertisements published on external job boards, career websites, or social media platforms. This object serves as a bridge between internal job postings and external recruiting channels, ensuring that hiring efforts are well-coordinated, measurable, and optimized for reach and effectiveness. Each record in the Employment Website Object typically includes fields such as the name of the external job board or website (e.g., LinkedIn, Indeed, Glassdoor), URL of the job advertisement, posting date, expiration date, and job reference ID.

Key Features:

- **Website Details**: Information such as the job platform name, URL, and price per post can be stored.
- **Ad Strategy Management**: Employers can monitor ad performance and analyse which platforms yield the best recruitment results.

- **Optimization**: Data insights will help employers optimize their recruitment strategies by identifying the most effective platforms.

Dynamic Search and View Facilities:

Salesforce's built-in search capabilities will be fully utilized to enable both employers and candidates to search for relevant records.

Key Features:

- **Advanced Search**: Users can search for candidates or job postings based on specific criteria such as job title, skills, location, or rating.
- **Custom List Views**: Custom views such as "All Candidates," "By Application," and "By Rating" will provide different perspectives on candidate data.
- **Sorting and Filtering**: Salesforce allows users to filter and sort records to help streamline candidate searches and application management.

Customization and Enhancements:

Several customization features have been integrated into the Job Application Portal (JAP) to enhance both its usability and operational efficiency, ensuring that it meets the specific needs of diverse users—employers, HR personnel, and candidates alike. These customizations not only provide a tailored experience but also streamline workflows, improve navigation, and support data accuracy and compliance.

The portal also features custom Lightning components, such as dashboards for real-time hiring analytics, custom record creation screens, and interactive timelines to track application progress. These components offer a modern, responsive user experience and can be placed strategically on Home Pages or Record Pages to surface key information quickly.

Key Features:

- **Workflow Rules**: Workflow rules will automate processes like sending confirmation emails, setting application statuses, and triggering approval tasks for HR personnel.

- **Reports and Dashboards**: Custom reports and visual dashboards will allow employers and HR teams to visualize and analyse recruitment data, helping with decision-making and strategy development.
- **Scalable Storage**: Salesforce's cloud-based infrastructure will offer scalable storage solutions, allowing employers to store an unlimited amount of candidate and job data as their recruitment efforts grow.

Email Dashboard:

An Email Dashboard will automate the process of sending notifications and updates to candidates. An Email Dashboard designed to automate sending notifications and updates to candidates could streamline communication, saving time and ensuring consistency.

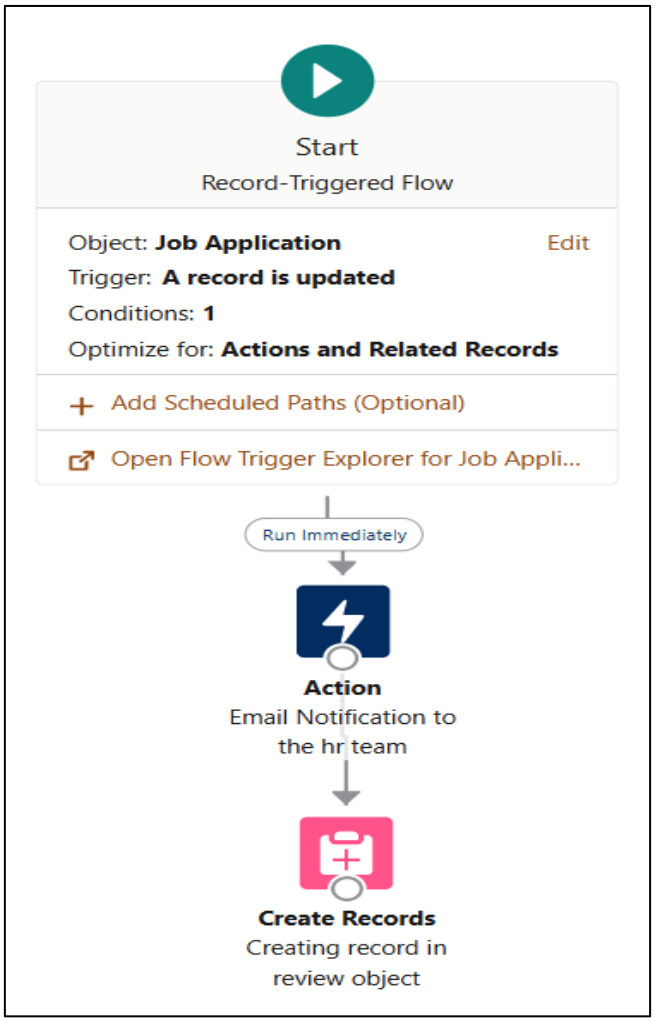

Figure.4.1: Email Work Flow (Record created)

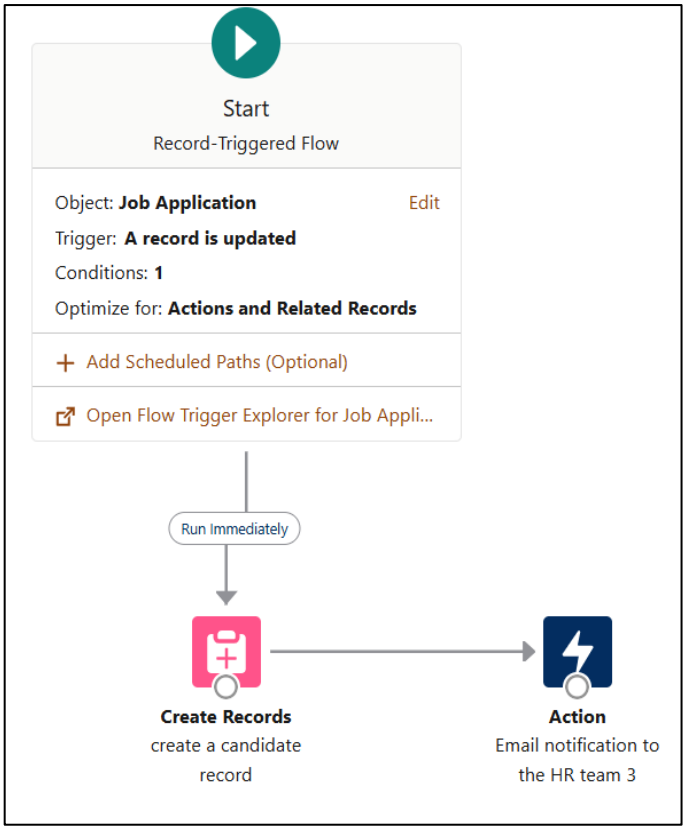

Figure.4.2: Email Action Work Flow

Here's a conceptual breakdown of how the dashboard might work:

Features of the Email Dashboard:

1. **User Interface (UI)**:
    - **Clean Dashboard**: A simple, organized layout displaying key metrics and statuses of ongoing communications (e.g., number of candidates contacted, responses, etc.).
    - **Customization Options**: Pre-designed templates for different types of notifications (e.g., interview invitations, application status updates).
    - **Real-time Preview**: Display how an email will look before sending.
2. **Automated Email Templates**:
    - Pre-written templates for various communication types (e.g., interview confirmation, rejection letter, thank-you notes).
    - Ability to customize the content, such as adding candidate names, job positions, interview times, etc.

3. **Bulk Sending**:
    - Bulk send functionality to send personalized emails to multiple candidates at once.
    - Ability to schedule emails to be sent at a specific time.
4. **Personalization**:
    - Merge tags to insert candidate-specific information (name, role, interview date, etc.) into each email.
    - Tracking of responses for personalized follow-up.
5. **Candidate Tracking**:
    - View who has opened or clicked on the emails.
    - Flag candidates who need follow-up emails or have not yet responded.
6. **Analytics**:
    - Track the success of different templates (open rates, response rates, etc.).
    - Identify the best times to send emails for maximum engagement.
7. **Integration**:
    - Sync with your Applicant Tracking System (ATS) or database to automatically pull candidate information.
    - Integrate with email service providers like Gmail, Outlook, or Mailchimp for sending emails.
8. **Reminders and Follow-ups**:
    - Set reminders for follow-up emails based on candidate responses or lack thereof.
    - Automated follow-up emails to remind candidates about interview dates or outstanding tasks.

4.4 Overall Workflow Design:

The workflow of the Job Application Portal built on Salesforce revolves around a well-structured set of interconnected objects that streamline the hiring process for both recruiters and applicants. At the core, the User Object represents internal users such as recruiters or hiring managers who initiate and manage recruitment activities. The process begins when a recruiter creates a Position Object, representing an open job role within the organization. Each position is linked to an Employment Website Object, capturing the external platforms (such as LinkedIn or Indeed) where the job is posted. These connections are managed through related lists on both the Position and Employment Website objects, allowing users to track which positions are posted on which platforms.

Once job postings are live, candidates interact with the system by submitting applications. Each applicant is represented by the Candidate Object, which holds personal and application-related information. When a candidate applies for a position, a Job Application Object is created, linking the candidate to the specific position they applied for. This object acts as the central point of the application process, and it contains a Review Related List where feedback from recruiters or interviewers is stored. These reviews are housed in a separate Review Object, capturing evaluations, ratings, and comments made by internal users during the hiring cycle.

The portal ensures full traceability, as each Position shows all applications received, and each Candidate profile maintains a history of all job applications submitted. The Job Posting Object further supports this structure by documenting each individual posting instance, helping track the performance of different platforms. The overall system design is highly relational and enables a clear flow from job creation to candidate evaluation, supporting a transparent, efficient, and manageable hiring process—all without the need for complex coding, thanks to Salesforce's no-code capabilities.

Key Features:

- **Automated Email Sending**: Employers can send auto-generated emails to candidates regarding application status, interview schedules, and other recruitment-related updates.
- **Reduced Manual Effort**: By automating communication, HR teams will save time and reduce errors in tracking and following up with candidates.

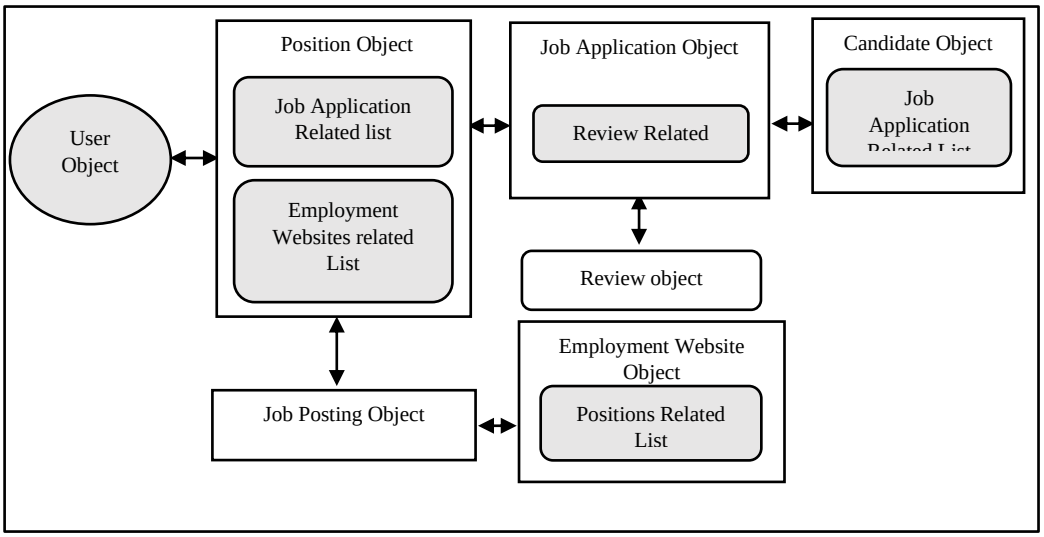

Figure.4.3: Work flows of the JAP

1. **Input**: Import candidate list with names, email addresses, and relevant details (position applied, interview date, etc.). This information can be entered manually, collected through application forms, or imported in bulk using Salesforce tools like Data Import Wizard or Data Loader. Once imported, the data is stored in custom objects such as Candidate, Job Application, and Interview Schedule, which are linked together via relationships for efficient tracking and access.

2. **Automation**: To ensure consistent and professional communication, predefined email templates are used. These templates are built using Salesforce's Email Template Builder or Lightning Email Templates, and include dynamic merge fields like Candidate FirstName, Interview Date, or Job Position. When a candidate record is selected, these fields are automatically populated with relevant data, ensuring personalized content without manual editing. Salesforce Flows or Process Builder can be configured to trigger this step based on certain conditions for example, when an interview is scheduled or a candidate is moved to a particular stage.

3. **Send**: Once the templates are ready and personalized, the system allows for:Immediate bulk email dispatch to all selected candidates. Scheduled email delivery based on time zones or preferred timings, ensuring the messages arrive at the most appropriate moment.

4. **Track**: Monitor the status of emails sent (opened, clicked, responded). These insights are captured using Salesforce's Activity Timeline, Email Logs, and Engagement History, helping recruiters measure outreach effectiveness and identify

any gaps in candidate communication. These insights are captured using Salesforce's Activity Timeline, Email Logs, and Engagement History, helping recruiters measure outreach effectiveness and identify any gaps in candidate communication.

5. **Follow-up**: Based on the tracked email responses, automated follow-up actions are initiated. For instance:
    - If a candidate does not respond within a set time frame, a reminder email can be sent automatically.
    - If a candidate confirms the interview, a confirmation email with interview details and location or video link is sent.
    - If a candidate declines, the system can reassign the recruiter or flag the record for manual follow-up.
    - These actions are handled by Scheduled Flows, Apex Triggers, or Time-Based Workflow Rules, ensuring timely engagement without manual monitoring.

4.5 Validation and Data Privacy:

To maintain high standards of data accuracy, security, and compliance within the Salesforce Job Application Portal (JAP), a robust set of validation and data privacy mechanisms were strategically implemented. These measures ensure the integrity of application data while aligning with privacy regulations and best practices in user data protection.

Data Validation Measures:

A comprehensive validation framework was established to prevent incorrect or incomplete data entry at every stage of the application process. First and foremost, field-level validations were enforced on critical fields such as Name, Email, Phone Number, and Resume Upload. These fields were made mandatory to avoid submission of partially completed applications, ensuring that each application contains the minimum required information for evaluation.

To verify the correctness of data, advanced Regular Expression (REGEX) logic was used. For instance, email fields were validated using a REGEX pattern to accept only correctly

formatted email addresses (e.g., example@domain.com). Similarly, phone numbers were validated to allow only 10-digit numeric inputs, ensuring consistency and contact accuracy.

Date validations were configured to enforce logical chronology within application records—for example, ensuring that the application start date is always earlier than the end date. This prevents timeline inconsistencies in application processing and tracking.

To uphold data uniqueness and prevent system clutter, a Unique Candidate Check was put in place using either email addresses or phone numbers as unique identifiers. This helped in detecting and blocking duplicate applications from the same candidate, thereby improving data quality and recruiter efficiency.

Additionally, Salesforce Validation Rules were extensively used to define custom logic for data validation at the record level. These rules ensure that only valid, clean, and compliant data enters the system, enhancing the reliability of the recruitment process.

Data Privacy and Compliance Measures:

To ensure the system adheres to global data privacy standards such as GDPR and CCPA, multiple security and compliance-focused features were implemented within the portal.

One of the key strategies was the adoption of Role-Based Access Control (RBAC) using Salesforce Profiles and Permission Sets. This allowed the system to restrict access to sensitive candidate information based on user roles. For example, only authorized HR personnel and recruiters can view or manage application data, while candidates can only access their own records. This minimizes the risk of data exposure and enhances confidentiality.

Supporting the principles of data ownership and transparency, candidates were also given the Right to Access and Deletion of their personal data. A self-service feature was introduced that allows applicants to request deletion of their data at any time. These requests are automated using Salesforce Flows and Apex Triggers, ensuring that data removal is processed securely and promptly without manual intervention.

To further ensure lawful data processing, a Consent Management system was implemented. During the application process, candidates are prompted to explicitly agree to the portal's privacy policy by checking a consent checkbox. These consent decisions are stored as part of the candidate record, ensuring a clear audit trail for compliance verification.

How the Job Application Portal (JAP) Works:

The process starts when a User (typically a job seeker) accesses the Job Application Portal (JAP). Through the portal, users can browse and apply for available Jobs that are published by recruiters or hiring managers. When a user applies for a job, a Job Application record is created in Salesforce.

This Job Application goes through several well-defined stages, which are managed through status updates. These statuses represent the progress of the application in the recruitment pipeline:

1. **New:**
   This is the initial state when a candidate submits their application. The system captures basic details and creates a record.
2. **Review-Resume:**
   Recruiters review the applicant's resume. Based on this evaluation, the status is updated accordingly. If the resume is not shortlisted, the application may be rejected here.
3. **Phone:**
   If the resume is satisfactory, the candidate is contacted for a phone screening. The status is marked again after this step based on performance.
4. **Schedule:**
   Successful phone interviews lead to scheduling a detailed interview or an assessment. This step is crucial for evaluating the candidate more thoroughly.
5. **Extend(Offer-Decision):**
   Based on the interview, the company may decide to extend an offer to the candidate. At this stage, two outcomes are possible:
   - Hired: The candidate is selected and accepts the offer.
   - Reject: The candidate is not selected, and the application process is closed.

Backend Automation (Implied in the Flow):

- Status changes may trigger Salesforce Flows or Apex Triggers to automate tasks like sending emails, updating dashboards, assigning interviewers, etc.

- Recruiters interact with the JAP system via Salesforce UI or Experience Cloud, updating statuses and managing interview schedules.

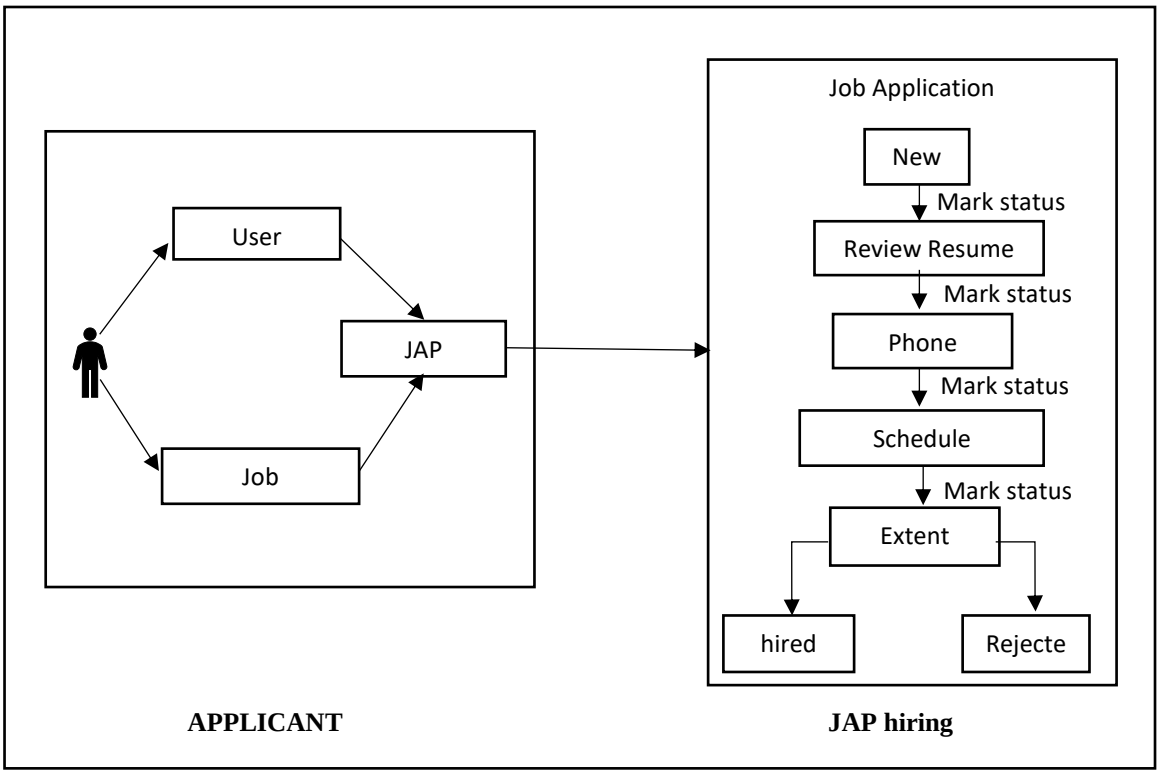

Figure.4.4: JAP System Architecture WorkFlow

This structured approach ensures transparency, consistency, and traceability in the recruitment process, offering a seamless experience for both candidates and recruiters. The JAP workflow, supported by Salesforce's robust backend, creates a comprehensive ecosystem for managing job applications from initial submission to final outcome.

4.6 Backend:

The backend of the Salesforce Job Application Portal (JAP) is built using a combination of Salesforce Objects, Apex, Flows, and Security Configurations to ensure smooth operation, automation, and data integrity.

At the core of the backend, Custom Objects such as Job Applications, Candidates, and Job Openings are used to structure and store applicant data. These objects are linked using Lookup and Master-Detail Relationships, ensuring seamless data association. Validation Rules and Triggers enforce data integrity by preventing incorrect entries and automating workflows.

At the core of the backend, several Custom Objects are defined to represent real-world entities within the recruitment process. These include objects like Job Application, Candidate, Position (Job Opening), Review, and Employment Website. These objects are interconnected using Lookup and Master-Detail Relationships, which ensure proper data integrity and relational structure. For example, a single Candidate can be linked to multiple Job Applications, and each Job Application is associated with a specific Position. These relationships allow data to flow naturally across different parts of the application while enabling granular control over record ownership and permissions.

To maintain data accuracy and prevent erroneous inputs, Validation Rules are implemented. These rules enforce conditions such as mandatory fields (e.g., email, phone number), proper formats (using REGEX), and logical constraints (e.g., ensuring that the application date is before the closing date). Additionally, Apex Triggers are used to handle more complex backend logic that cannot be achieved with point-and-click tools alone. For instance, triggers are responsible for automatically updating the status of a Job Application based on candidate actions or recruiter reviews, preventing duplicate submissions, and maintaining application limits per candidate.

To streamline and automate business processes, the backend also incorporates Salesforce Flows, which are no-code/low-code automation tools. These Flows handle tasks like sending automated email notifications when an application is submitted, creating tasks or alerts for recruiters to review applications, or automatically assigning a recruiter based on job location or department. Additionally, Flows can be used to guide users through multi-step processes such as approving or rejecting applications, with clear conditions and decision logic.

For backend performance and governance, Salesforce's Governor Limits are taken into consideration when writing Apex logic and designing Flows. This ensures that backend operations are optimized to prevent hitting limits related to CPU time, SOQL queries, or DML operations. The Developer Console and Debug Logs are utilized to test and refine Apex classes, triggers, and automation logic to maintain system efficiency and reliability.

Lastly, Security Configurations play a critical role in backend design. Using Profiles, Permission Sets, Field-Level Security, and Role Hierarchies, access is controlled so that only authorized users such as HR managers or recruiters can view or modify sensitive information. For example, candidates can only access their own application records via an

Experience Cloud portal, while recruiters have broader access to application pipelines and candidate data.

Together, these backend components ensure that the Job Application Portal runs smoothly, with automated workflows, clean and reliable data, and secure access controls offering a highly functional and scalable recruitment platform built entirely within the Salesforce ecosystem.

4.7 Developer Console:

The Salesforce Developer Console is an advanced and highly integrated development environment that empowers Salesforce developers to efficiently build, test, and troubleshoot customizations within the Salesforce platform. As a browser-based tool, it provides a centralized workspace where developers can manage everything from Apex code and Visualforce pages to Lightning Components and SOQL/SOSL queries, without needing any external software.

At the core of the Developer Console is the Apex Code Editor, which allows developers to write and modify Apex classes and triggers directly within Salesforce. It supports syntax highlighting, auto-completion, and error checking, making it easier to write clean and efficient code. This feature is especially useful for implementing custom business logic, such as automated workflows, validation logic, or trigger-based updates.

Another key component is the Logs and Debugging panel, which captures detailed logs of code execution. This is critical for troubleshooting complex logic and identifying runtime issues. Developers can apply filters, checkpoints, and debug statements to trace the exact flow of code execution and spot where things may be going wrong—whether it's due to logic errors, governor limit breaches, or data issues.

The SOQL and SOSL Query Editor is another powerful tool within the console, enabling developers to test and fine-tune their queries. By writing and running queries in real-time, developers can retrieve records from Salesforce objects and validate data structures before implementing them in code. This accelerates development and helps ensure that queries are both accurate and performance-optimized.

The console also includes a Test Execution Framework, where developers can write and run unit tests to validate the correctness of their Apex logic. Salesforce requires at least 75% code coverage for deploying Apex code to production, and the Developer Console

provides visibility into test results and coverage percentages. This feature helps ensure quality assurance and smooth deployment cycles.

Beyond testing and debugging, the Developer Console offers performance monitoring tools, which allow developers to assess script execution time, heap size, CPU time, and other governor limits. These insights are invaluable for optimizing code to run efficiently within Salesforce's multitenant architecture.

Additionally, event monitoring and profiling features help track user interactions, API calls, and background operations, offering a complete view of application performance and behavior in real time. This is particularly useful for maintaining system health and improving the end-user experience.

4.8 Reports and Dashboards in the Job Application Portal:

In the Salesforce Job Application Portal (JAP), Reports and Dashboards play a crucial role in tracking and analyzing the recruitment process efficiently. These tools provide real-time insights into candidate applications, hiring progress, recruiter performance, and job vacancy status.

Reports are used to generate detailed analytics on key recruitment metrics. Standard and custom reports track data such as the number of applications received, candidate status (applied, interviewed, hired, rejected), time-to-hire, and source of applications (e.g., LinkedIn, company website). Filters and groupings allow HR teams to refine insights, such as analyzing applications by job role, location, or hiring manager.

Dashboards provide visual representations of recruitment data using charts, graphs, and tables, making it easier to identify trends. Key dashboard components include Application Volume Trends, Hiring Pipeline Progress, Time-to-Fill Jobs, Recruiter Performance, and Diversity Metrics. With dynamic dashboards, HR teams can view personalized reports based on their role and access level.

By leveraging Salesforce Reports and Dashboards, recruiters and HR managers can make data-driven decisions, optimize hiring strategies, and improve overall recruitment efficiency within the Job Application Portal. It will help to keep trackof all the documents and the hiring process in track and follow a streemline process for recruiting a candiadte for any organization.

4.9 Key Features of Salesforce JAP:

The Salesforce JAP offers a streamlined, secure recruitment experience with features like candidate profile management, automated workflows, job posting tools, and insightful reporting. Role-based access and duplicate prevention ensure data accuracy, privacy, and efficient hiring processes.

- **Candidate Profile Management –** Applicants can create and manage their profiles, upload resumes and cover letters, and track the real-time status of their job applications through a user-friendly interface.
- **Automated Workflows** – Approval processes, email notifications, and interview scheduling are streamlined using Salesforce Flows, reducing manual efforts and speeding up response times.
- **Job Posting Management** – Recruiters can create, update, and manage job postings with predefined templates and criteria.
- **Reporting and Analytics** – Salesforce Reports and Dashboards provide hiring managers with detailed insights into application volume, candidate sources, job fulfilment rates, and overall recruitment performance.
- **Role-Based Access Control** – Using Profiles and Permission Sets, access to data is restricted based on user roles (e.g., HR, recruiter, applicant), ensuring data privacy and system security.
- **Duplicate Application Prevention** – Validation rules, Matching Rules, and Duplicate Rules ensure that candidates cannot apply for the same job multiple times using the same credentials.

4.10 Testing Details of the Job Application Portal (JAP):

Thorough testing was conducted to ensure the reliability, performance, and accuracy of the Job Application Portal (JAP) developed in Salesforce. The testing process involved multiple phases, including unit testing, system testing, integration testing, and user acceptance testing (UAT). Unit testing was primarily handled through Apex test classes to validate the logic of custom triggers, classes, and flows. These tests ensured that core for backend functionalities—such as validation rules, duplicate prevention, and automated status updates—performed as expected. System testing focused on the end-to-end workflow of job applications, from candidate profile creation to final hiring decisions. It verified that field-level security, record visibility, and data consistency were maintained throughout. Integration testing was done to validate communication between related objects

such as Candidates, Job Applications, Positions, and Reviews. Test scenarios included resume uploads, interview scheduling, and automated notifications. Finally, User Acceptance Testing (UAT) was carried out by end users (recruiters and applicants) to confirm the usability and effectiveness of the portal. Salesforce's built-in test coverage tools were also used to ensure that Apex code met the required 75% minimum coverage for deployment. Additionally, positive and negative test cases were executed to check system behaviour under valid and invalid input conditions. Overall, the testing ensured that the JAP was robust, user-friendly, and ready for deployment in a real-time HR environment.

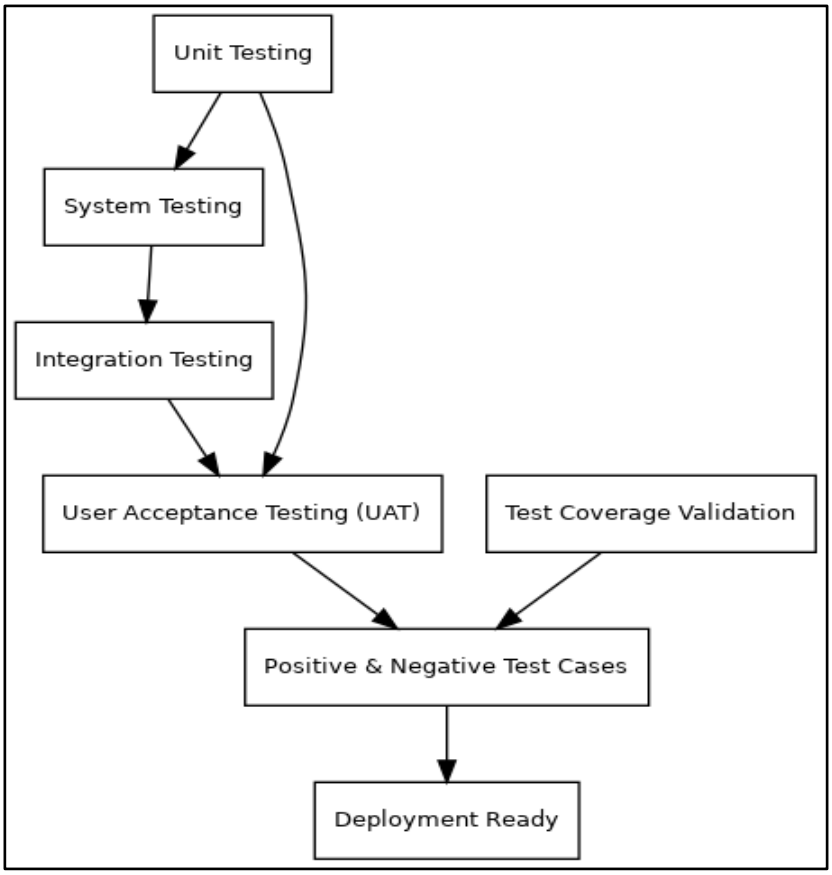

Figure.4.5: JAP Testing Workflow: From Unit Testing to Deployment Readiness

4.11 Hardware and Software Requirements:

Hardware Requirement	
Component	**Requirement**
Processor (CPU)	Intel i5/i7 or Apple M1/M2
RAM	8 GB or more
Internet	10 Mbps or higher
Storage	500 MB free disk space

Software Requirements	
Operating System	Windows 10 / macOS 10.14+ / Linux (Ubuntu 18+)
Web Browser	Google Chrome / Mozilla Firefox / Safari (latest ver)
Salesforce Platform	Salesforce Lightning Experience (Developer Edition or higher)
Apex & LWC Development	Salesforce Developer Console / VS Code with Salesforce Extensions

Table 4.1: Hardware and Software Requirements

CHAPTER – 5

RESULT AND DISCUSSION

5.1. RESULTS & ANALYSIS

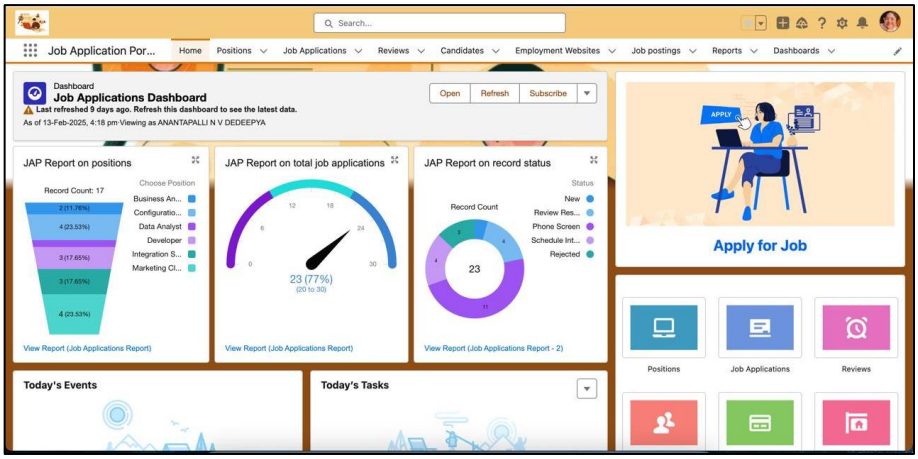

Figure.5.1: Home Page-Admin Portal

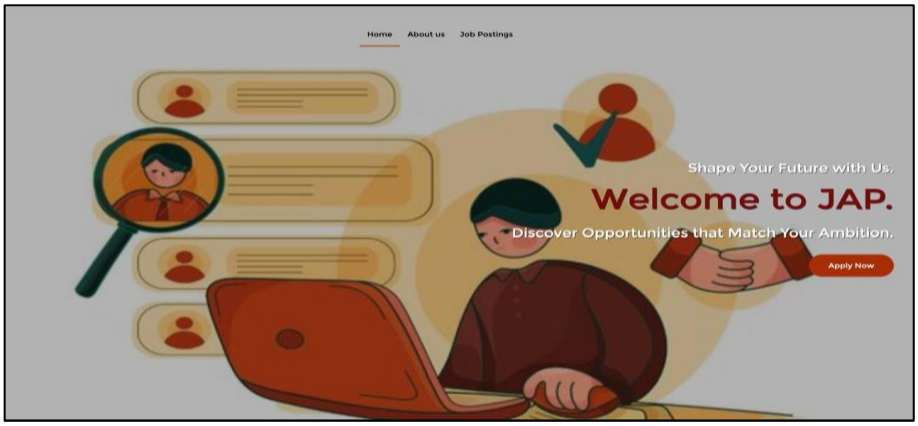

Figure.5.2: Home Page-Applicant Portal

Figure.5.3: Application Portal

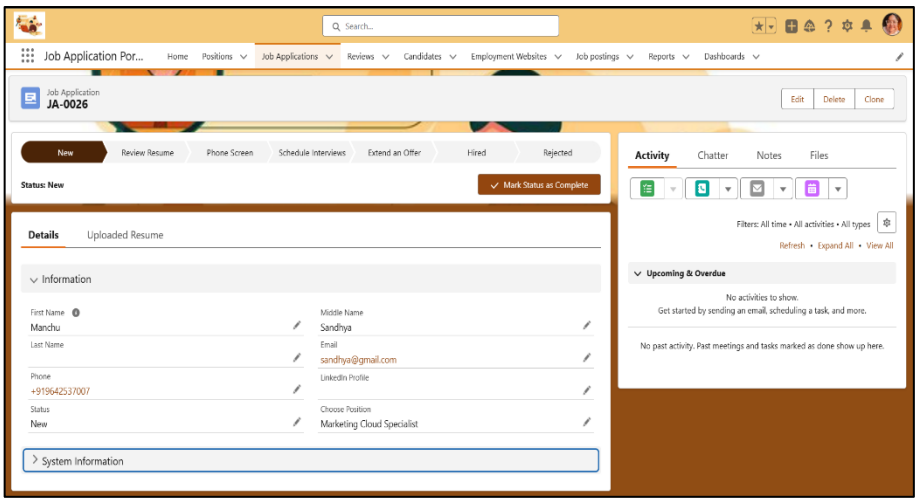

Figure.5.4: Job Application Object

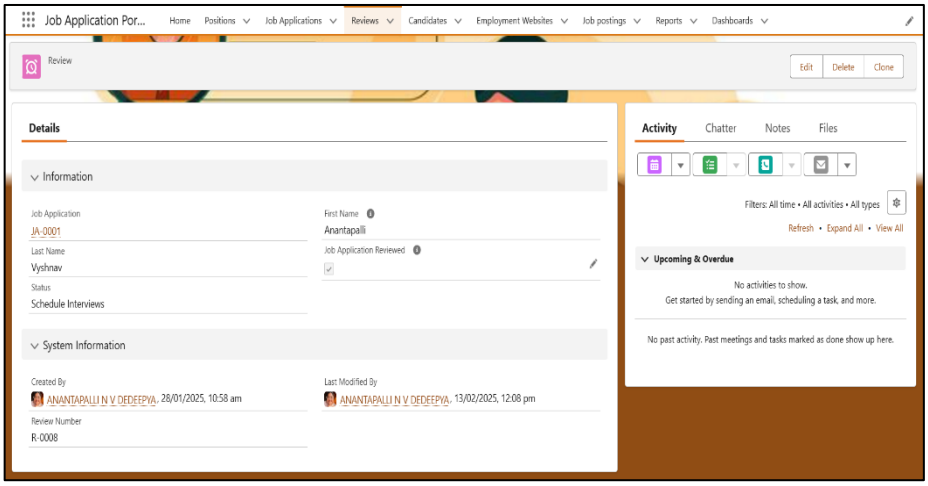

Figure.5.5: Reviews Object to track the status.

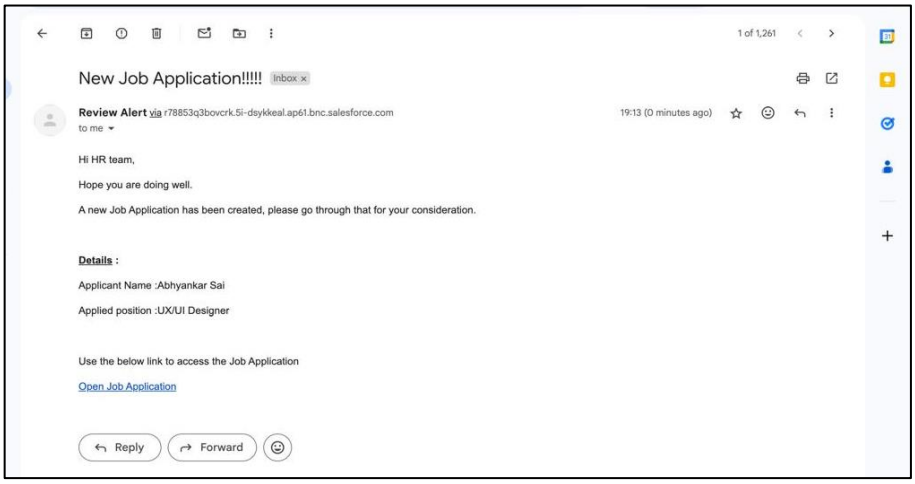

Figure.5.6: Automated Applicant alerts for HR Team.

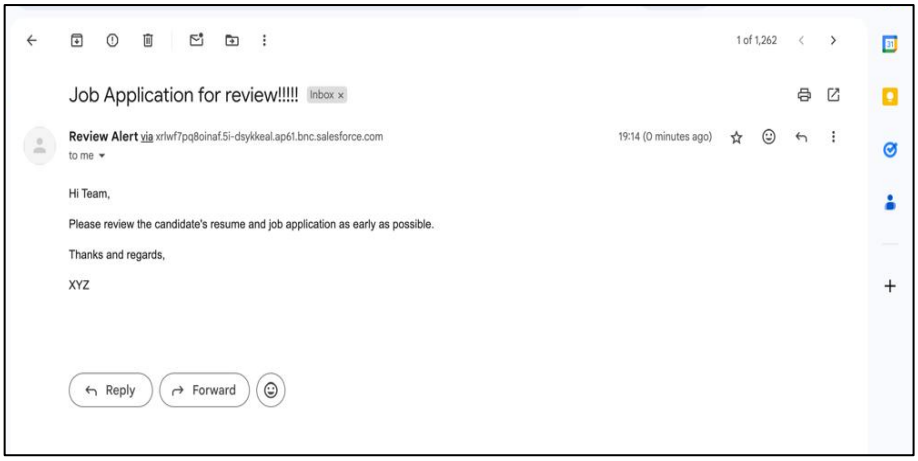

Figure.5.7: Resume screening alert.

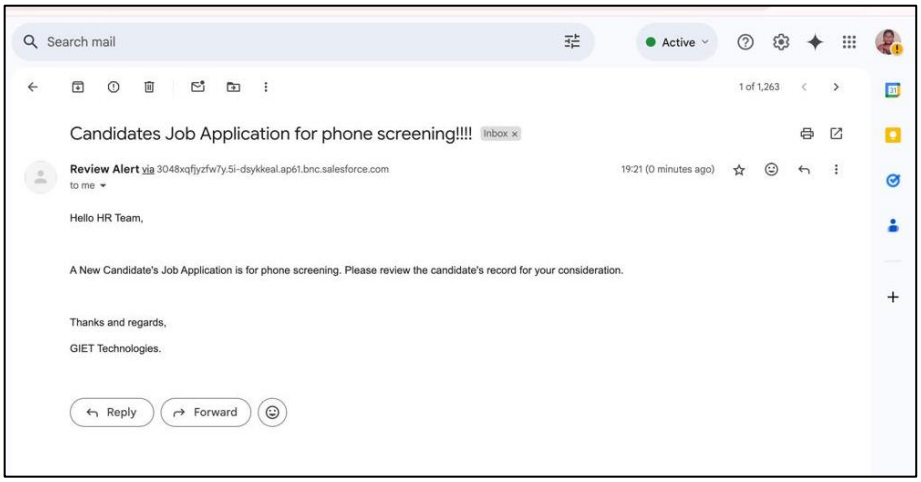

Figure.5.8: Phone Screening alert.

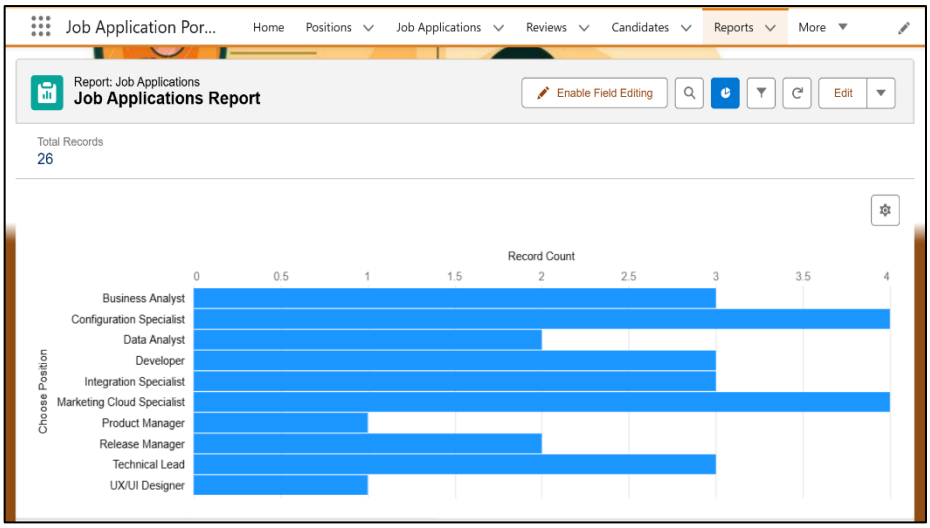

Figure.5.9: Reports of Applicants.

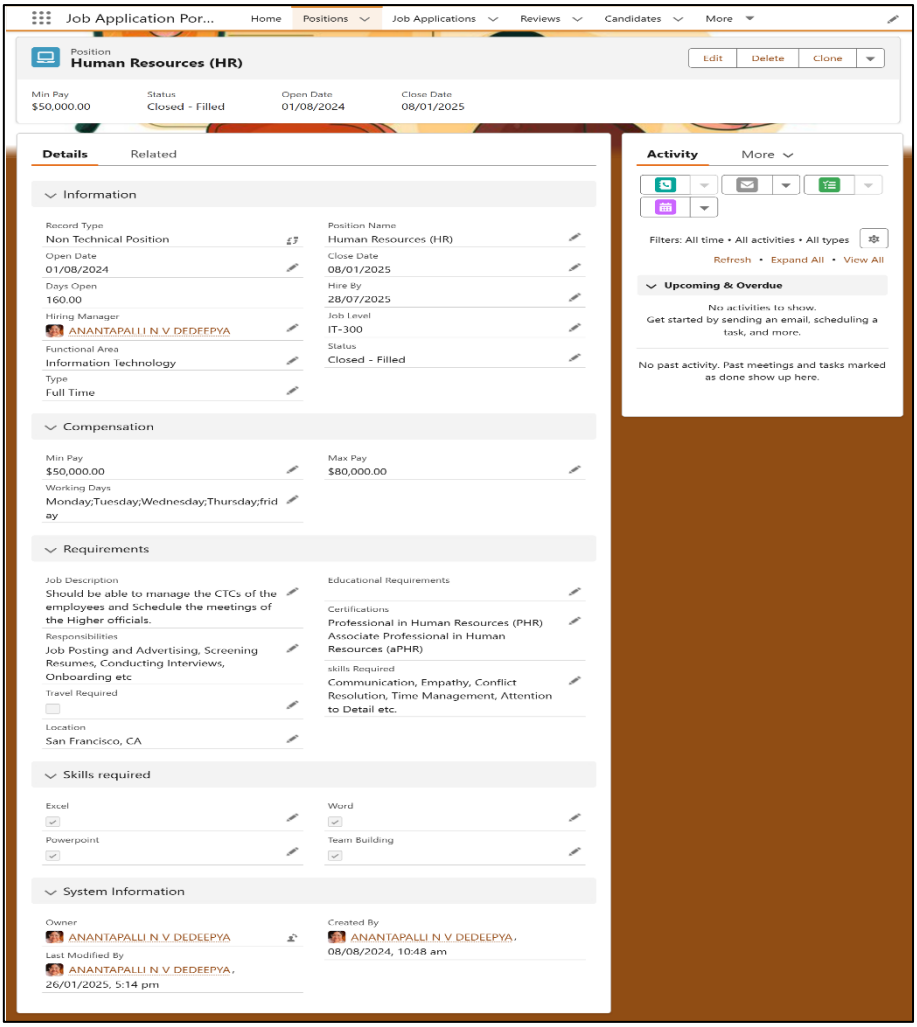

Figure.5.10: Position object (Create new positions in organization)

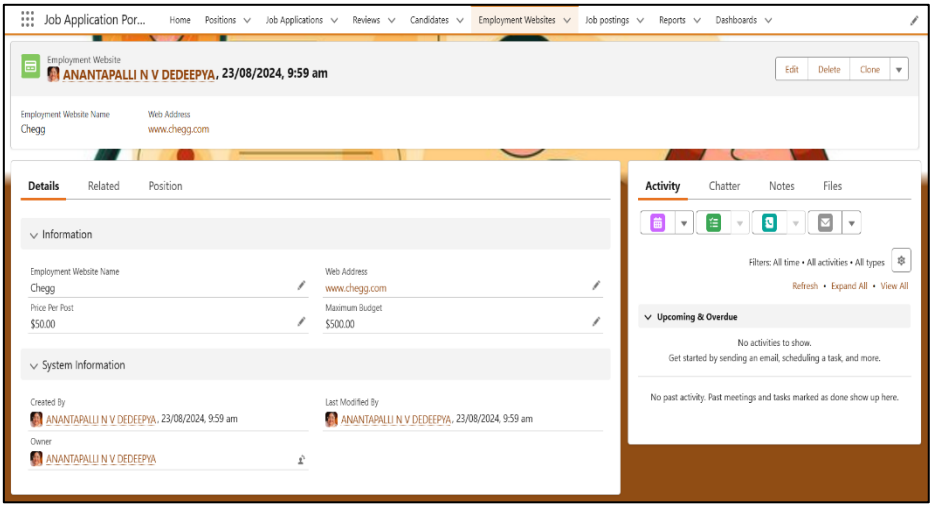

Figure.5.11: Employment Websites for promotion.

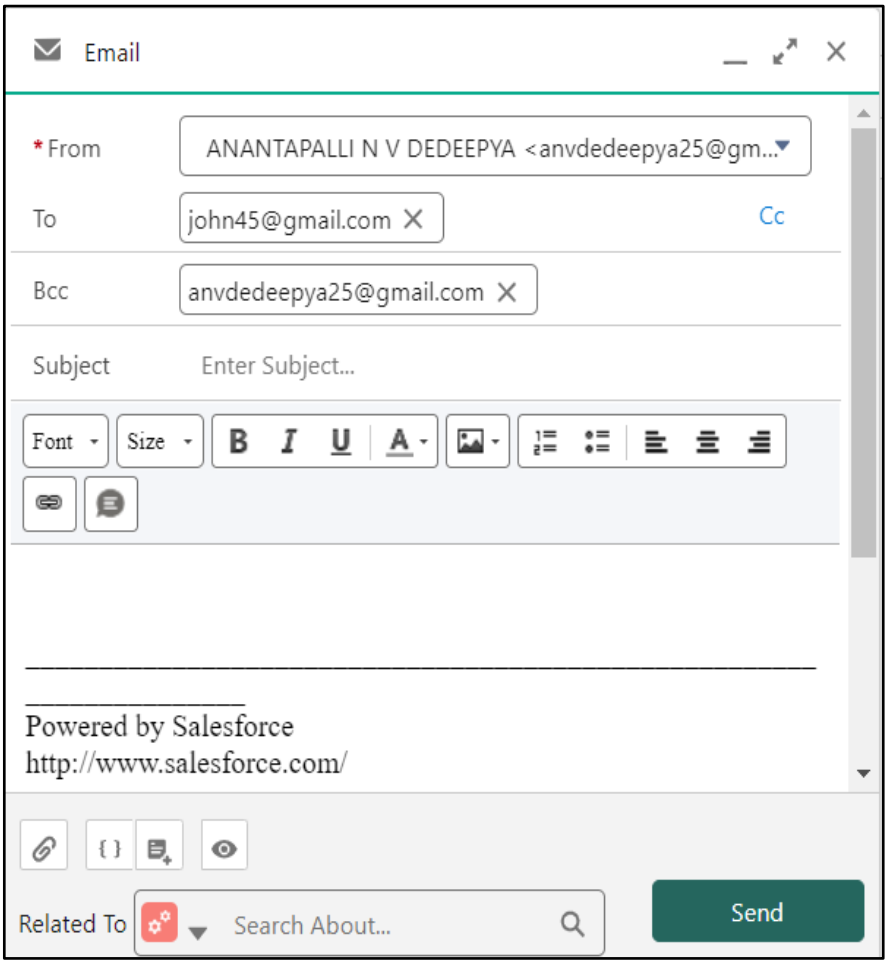

Figure.5.12: Automated Email Generator

CHAPTER- 6

CONCLUSION AND FUTURE SCOPE

This is a Salesforce CRM project where a job application framework is created without using any code with the aid of declarative objects, flows, automations, and email notifications that use the equivalent of validation rules and formulas. Data concerning available and filled positions, as well as candidates, are handled through custom objects, and a structure of employees submitted by the application holds the progress of application processes and simulates actions like status change and interviews ordering. Validation rules are in place to allow data to be correct, while formulas make it possible to calculate and show vital data. System automated mails make sure that at every point in the process, both applicants and recruiters are constantly updated. With this approach the system is rather simple and is possible to expand without any programming, being limited to only standard offerings of Salesforce.

The objective of this project is to develop a no-code application that empowers users, particularly those with no coding experience, to build applications quickly and intuitively. By leveraging Salesforce CRM, this initiative aims to create a user-friendly environment where end users can easily understand the application architecture, thereby enhancing their development skills. Ultimately, this project will provide a rewarding and accessible experience for users, fostering innovation and collaboration within the Salesforce ecosystem.

It is feasible to detect automated accounts in the future by incorporating time series user data into recurrent neural networks and preventing them from being created. When creating an automated account dataset, it is feasible to reduce the biases in the dataset by identifying genuine users who are relevant to the automated account dataset. This research explains how the bogus user detector may be used to identify real users in an automated account dataset using the bogus user detector, as demonstrated in the study. The Support Vector Machine proved to be the most accurate modelling technique available in the end. Forecasting accuracy still has room for improvement.

CHAPTER- 7

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