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SKILL TRACKER APPLICATION

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Abstract

Skill pursuit systems area unit items of package which will assess the information associate worker has. If a developer is aware of an exact framework like jQuery, management will build a note of it in their ability pursuit system. Later, once a project needs a team of staff conversant in jQuery, management will use a similar system to decide on the foremost qualified team members. This is often particularly helpful for giant organizations wherever it's impractical to stay track of this data manually ability pursuit systems vary in practicality. Some systems, just like the answer by adept, solely permit manual input of skills and a few search options. Another system by Skillsoft focuses on coaching staff in skills and pursuit the progress of this coaching. Such selection makes it doable to search out a system that may add virtually any situation.

Keywords – *skill tracker, skill management, employee management.*

I.INTRODUCTION

Systems for pursuit skills will judge a worker's level of data. Management will record in their talent pursuit system that a developer is acquainted with a precise framework, like jQuery. Later, management could use constant technique to pick the most effective team members once a project requires a gaggle of employees UN agency square measure acquainted with jQuery. Since it might be not possible to manually track this info in Brobdingnagian businesses, this can be terribly useful. practicality varies among talent pursuit systems. solely manual talent input and some search choices square measure supported by bound systems, like Track star's resolution. worker talent coaching and pursuit square measure the most objectives of another system by Skillsoft. Such diversity permits one to trace the workers with correct skills that the corporate is searching for. It may be additionally helpful for university students' journey through their placements, their minds square measure fastened on a standard finish goal, that of graduating with success and landing their dream job.

They aim for achieving the highest grades and specialize in their studies, assignments, and exams. during this journey, the scholars usually overlook or underestimate the importance of developing some skills that employers could think about necessary for his or her jobs. during this report, we have a tendency to gift a example of a mobile application that stimulates university students to mirror upon their experiences and assess the talents they will develop that might facilitate them towards their dream job. The mobile application is meant to support students to acknowledge employability skills, conduct a self-assessment of their skills, document their skills in terms of the experiences that contributed to the event of the talents and to produce learning resources for rising skills.

II.EASE OF USE

Skill-tracking is one in every of the tougher ways to implement within the work. There are many necessities that the management team should got to produce associate organized, and sophisticated skill-tracking schedule. Skill-tracking needs a robust social control employees that includes a firm understanding of the comes they're leading, method} they will be organized in a very way that batches common tasks along, permitting them to be completed at just once. the power to make a strict define that reflects the project goals may be a important talent for your project managers to possess.

A skill tracker application with a high level of ease of use will have a user interface that is easy to understand and use, minimizing the time and effort required to use the application. This simplicity can be achieved through several design factors such as clear instructions, logical organization, and intuitive navigation. A skill tracker application with a high level of ease of use is essential because it can improve user experience and increase user engagement. If an application is difficult to use, users are likely to become frustrated and abandon it, which can lead to poor user satisfaction and lower adoption rates. On the other hand, an application that is easy to use will encourage users to engage with it more frequently and for longer periods, leading to better outcomes for both the user and the organization.

A skill tracking application should aim to provide an easy, intuitive user experience to maximize the benefit for its users. If an app is complicated, confusing or frustrating to use, people will not adopt it or stick with it for long. Some key principles that make an app easy to use include:

Simplicity of design. A clean, minimal interface with only essential elements and options makes an app easy to navigate and understand. It should not feel overwhelming or cluttered. All functionalities should have a clear purpose. Logical flow and consistency. Moving from one area of the app to another should follow a predictable, consistent flow. Options, navigation and terminology should remain consistent across the whole experience. This helps build familiarity and allows users to easily find what they need. Visibility of progress. In an skill tracking app, ease of use means the ability to see progress, milestones and metrics at a quick glance. Simple progress bars, stars, points or any indicators that provide an at-a-glance sense of progress for each skill make the app extremely easy to use. Intuitive tracking. The actual tracking of progress on a skill should be seamless and intuitive. Recording milestones, updating progress, earning points or any other metrics should be a simple, straightforward process requiring minimal effort or explanation.

The more intuitive the tracking functions the better. Guidance and reminders. Useful guidance, hints and reminders guide users in getting started and maintaining progress. Reminders to track progress or notifications of milestones provide motivation and encouragement. Embedded help documentation allows users to quickly find answers to questions. Customization. Letting users customize aspects of the app to their unique needs improves ease of use. The ability to choose which skills to track, how progress is measured, appearance preferences and notification settings gives users control of their experience.

In summary, ease of use is a critical factor for the success of a skill tracker application. Organizations must prioritize the needs of the user when designing the application, including a clear visual design, simple navigation, concise instructions, customization options, and error prevention and feedback. By creating an intuitive and user-friendly application, organizations can improve user experience, increase user engagement, and achieve better outcomes for their users. A skill tracker application with a high level of ease of use will encourage users to engage with it more frequently and for longer periods, leading to better outcomes for both the user and the organization. In today's competitive market, it is crucial to provide an application that is easy to use, efficient, and achieves the intended outcomes.

PROPOSED SYSTEM

The Skill Tracker Application is a microservice based Cloud Native Application. The Main purpose of Skill Tracker is to keeping track of skill of individual Full Stack Engineers. The core modules of Skill Tracker app are:
Full Stack Engineer would add their profile with skill set (skill set detailed in User stories).

Full Stack Engineer would be able to update their skill set. Admin would be able to search profiles based on certain criteria (criteria are detailed in User Stories). Skill Gap Analysis for Employees, Managers, Executives and Admins. Need to find people with a certain skillset? Or maybe you need to see who can be trained to meet the challenges of the next job. Take a precise look at where your people stand in each skill, show how many are ready for the job right now, and who can be trained to meet your needs. The skills gap analysis is the basis for so much critical personnel management.

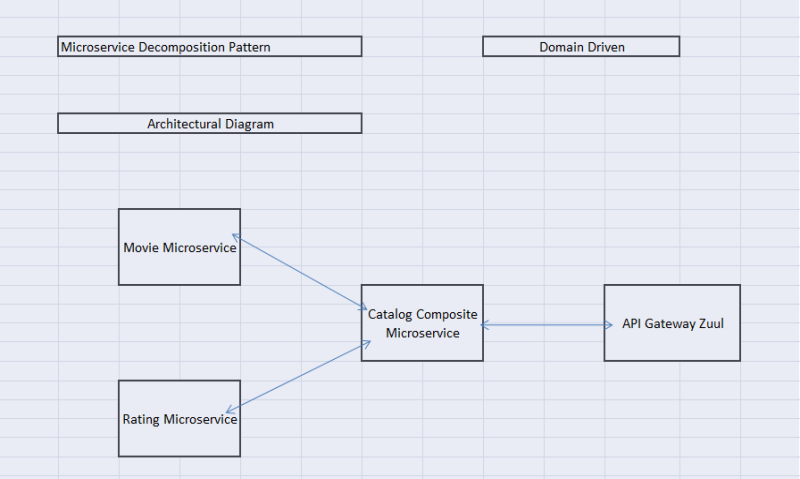

Fig. 1: Flow Chart Diagram

Here in the application after signing up the employee who is unemployed or looking for a change of job, first they need to submit their personal as well as their contact detail and then after that a new window will open in which they will be asked to qualification and their specialization after that next window will be regarding the skills they have in their specialization.

For Example, if the employee is from IT field then he will be asked about the Programming languages he know and the Databases, he needs to fill them and submit the certificates for proving the claims. After this the work from the employee side is done, the data is stored in the database. When the employer search for the employee with skill sets, they will search in our system for the candidates and the candidates will be shortlisted in a ranking format and then they will be contacted through our system for the interview after the interview the selected candidates will be notified through the system that they got the job.

Fig 2: Architecture Diagram

III.IMPLEMENTATION PRESENTATION

- Implement using either Angular or React.
- Implement any one of the Gang of four Patterns to compose data using typescript before presenting the same on UI.
- Implement at least one approach for UI performance consideration.
- Identify and Implement client-side Optimization Techniques for Bootstrap.
- Implement the prevention of XSS cross-site security threats for frontend applications.
- Develop the backend application as a microservice architecture. (Implementation as follows)
- Identify the best decomposition pattern and create microservice based on that (mention the architecture of same in design document)
- Identify the best Database Deployment pattern for use case and implement it (mention the same in design document)
- Integrate a message broker in your microservice (Kafka, RabbitMQ or ActiveMQ) to implement CQRS pattern. Implement it for adding a profile.
- Use any one of the Creational Design patterns for composing the model object to be sent back as response on following endpoint:

/Skill-tracker/API/v1/admin/{criteria}/ {criteria Value} (Searches for profile based on provided criteria.

- Mention the patterns used in design document and specify the reason for selecting the one)
- Identify and implement the best possible use of JavaScript collections.
- Document REST endpoints with Open API or Swagger
- Expose all rest Endpoints using a common API Gateway.
- Implement service discovery and circuit breaker pattern in microservice architecture.
- Implement at least 2 Security OWASP recommendations in your applications.

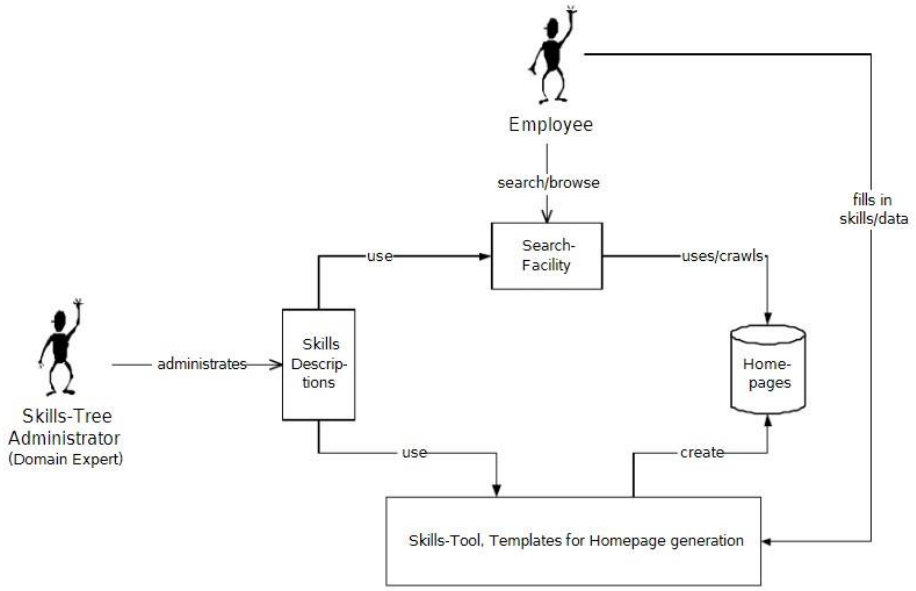

Fig 3: System Architecture of Skill Tracker Application

IV.RESULTS AND DISCUSSIONS

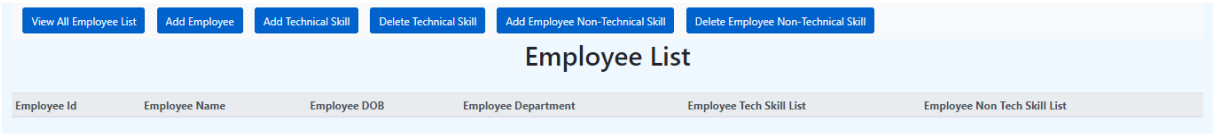

Fig 4 is the User Inference of the Skill tracker Application. The UI has Employee list , Add Employee, Add Employee Skill, Delete Employee List, Delete Employee Skill.

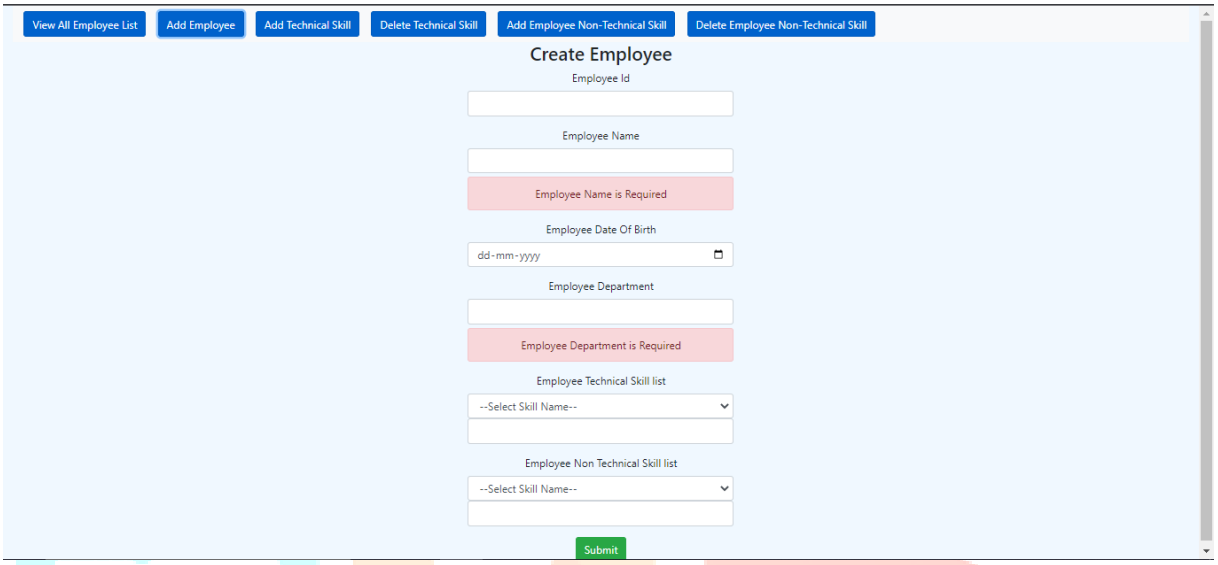

Fig no:5 Employee Page

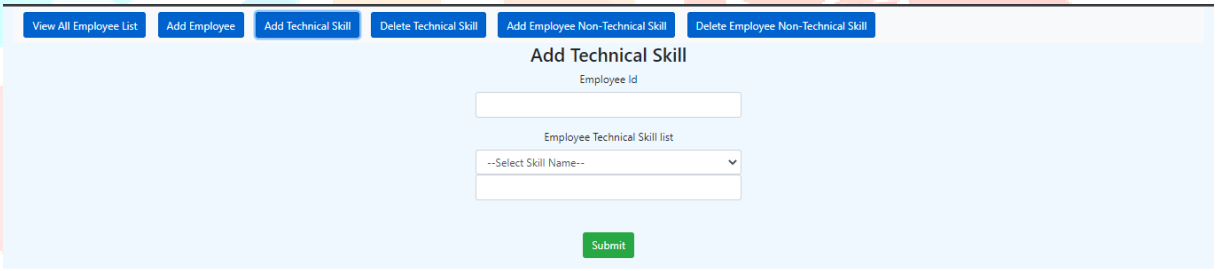

Fig no:6 Add Technical Skill

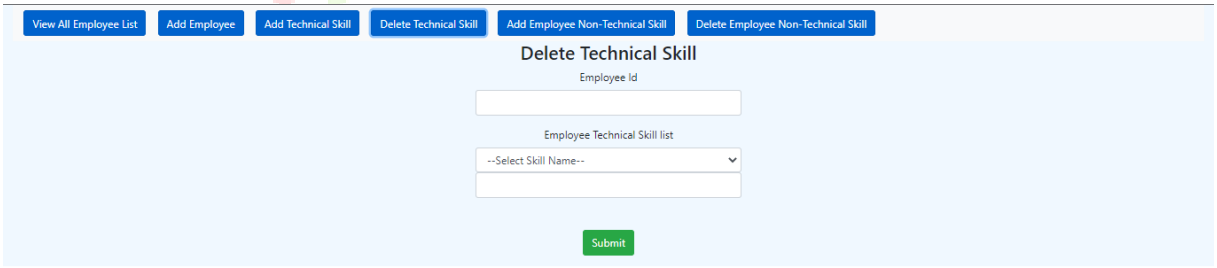

Fig no:7 Delete Technical Skill

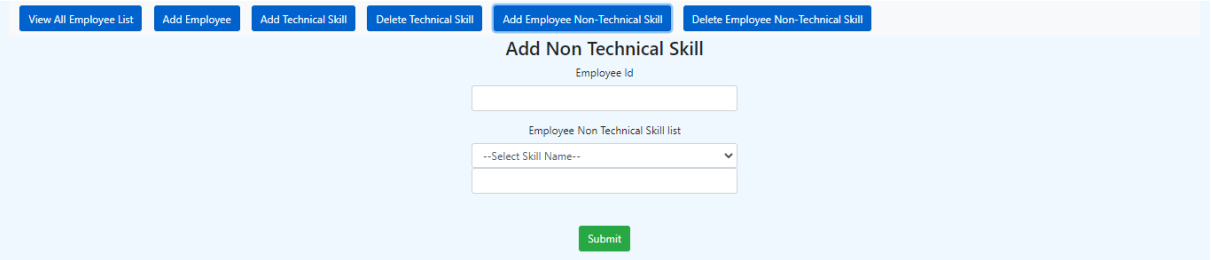

Fig no:8 Add Non-Technical Skill

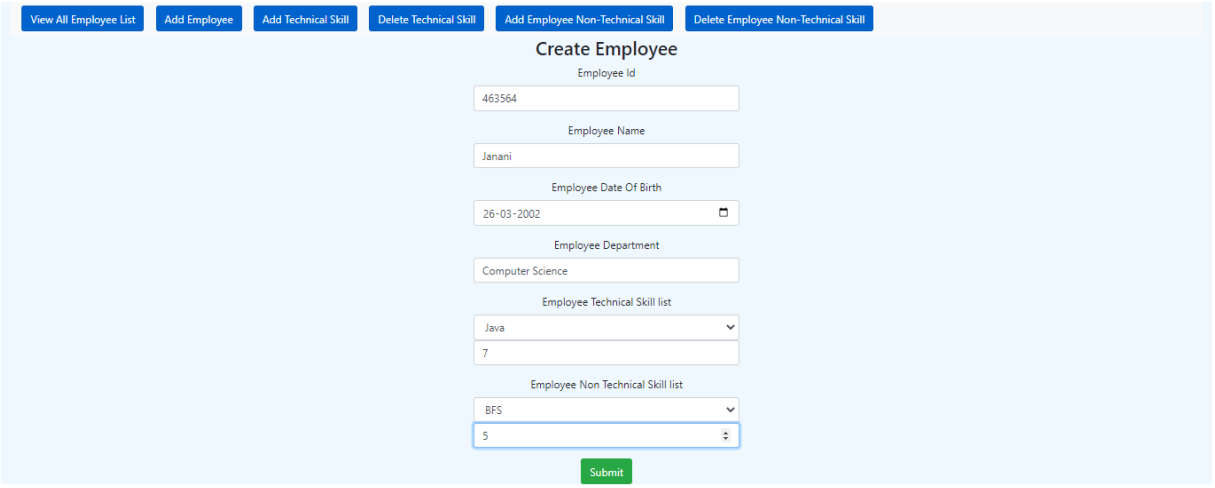

Fig no:9 Create Employee page

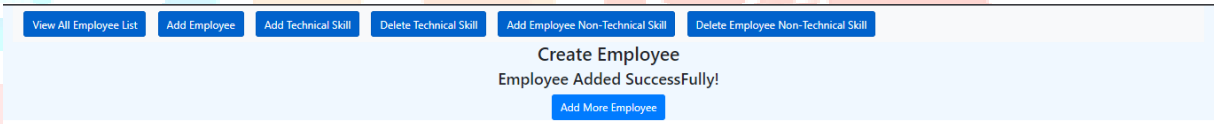

Fig no:10 Result Page

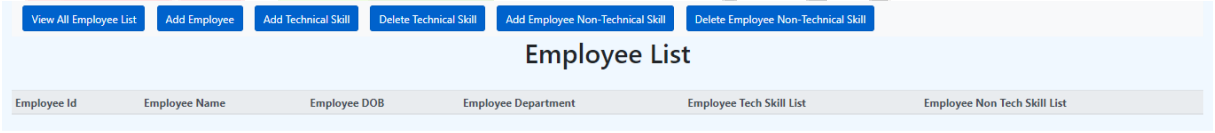

Fig no:14 View Employee List

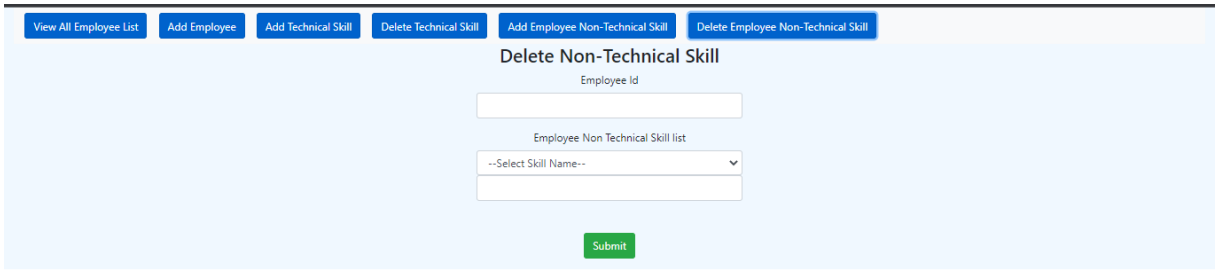

Fig no:15 Deletion Page of Non-technical Skill

V.ADVANTAGES

In the following points, the advantages of skill tracking application are mentioned: -

6.1 Improved visibility and transparency.
6.2 Enhanced employee engagement.
6.3 Increased agility and adaptability.
6.4 Improved succession planning.
6.5 More efficient training and development.
6.6 Data-driven decision making.

VI.CONCLUSION

In conclusion, skill tracking applications are essential for organizations to manage their talent effectively. These apps offer benefits like improved visibility, engagement, training, and data-driven decision making. With a diverse and dynamic workforce, skill tracking apps are critical to staying competitive. It's necessary to design them for the user to be intuitive and meet everyone's needs. As technology advances, we can expect more sophisticated apps that provide greater insights into the workforce. Investing in these apps will help create a skilled, engaged, and agile workforce for the future..

VII.FUTURE ASPECTS

The future of skill tracking applications is promising, with potential aspects like integration with other HR apps, AI, mobile accessibility, focus on soft skills, and gamification. These advancements enable organizations to have a skilled and engaged workforce to drive innovation and growth. Skill tracking applications will become more mobile-friendly, personalized, and engaging in tracking skills and competencies. Soft skills will be increasingly focused on, and gamification will make the tracking process more enjoyable for employees. The continuous development of technology will keep improving the skill tracking applications to make them more valuable for organizations.

XI. ACKNOWLEDGEMENT

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