truemate: A Socio-Academic Networking System* and Open Resource Repository

B.Tech. Project

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* under development

Problem Statement

As a member of an organised academic community, i.e. an institution, a university, etc. one uses a number of different services to effectively enhance their day-to-day socio-academic activities.

A hassle of using such plethora of services is that, while being very efficient in their specific purpose, they do not support seamless integration with one-another.

Project Description

This Project* is meant to solve the problem aforementioned by providing the users a number of services meant to be used for their day-to-day socio-academic activities.

The service being provided presently is an Open Resource Repository, where users registered with a particular institution can easily pool in resources in various formats, such as documents, images, videos, and even archives.

The project is to be considered under development as there are many services yet to be provided, e.g. instant messaging, event management, etc. to name a few.

* under development

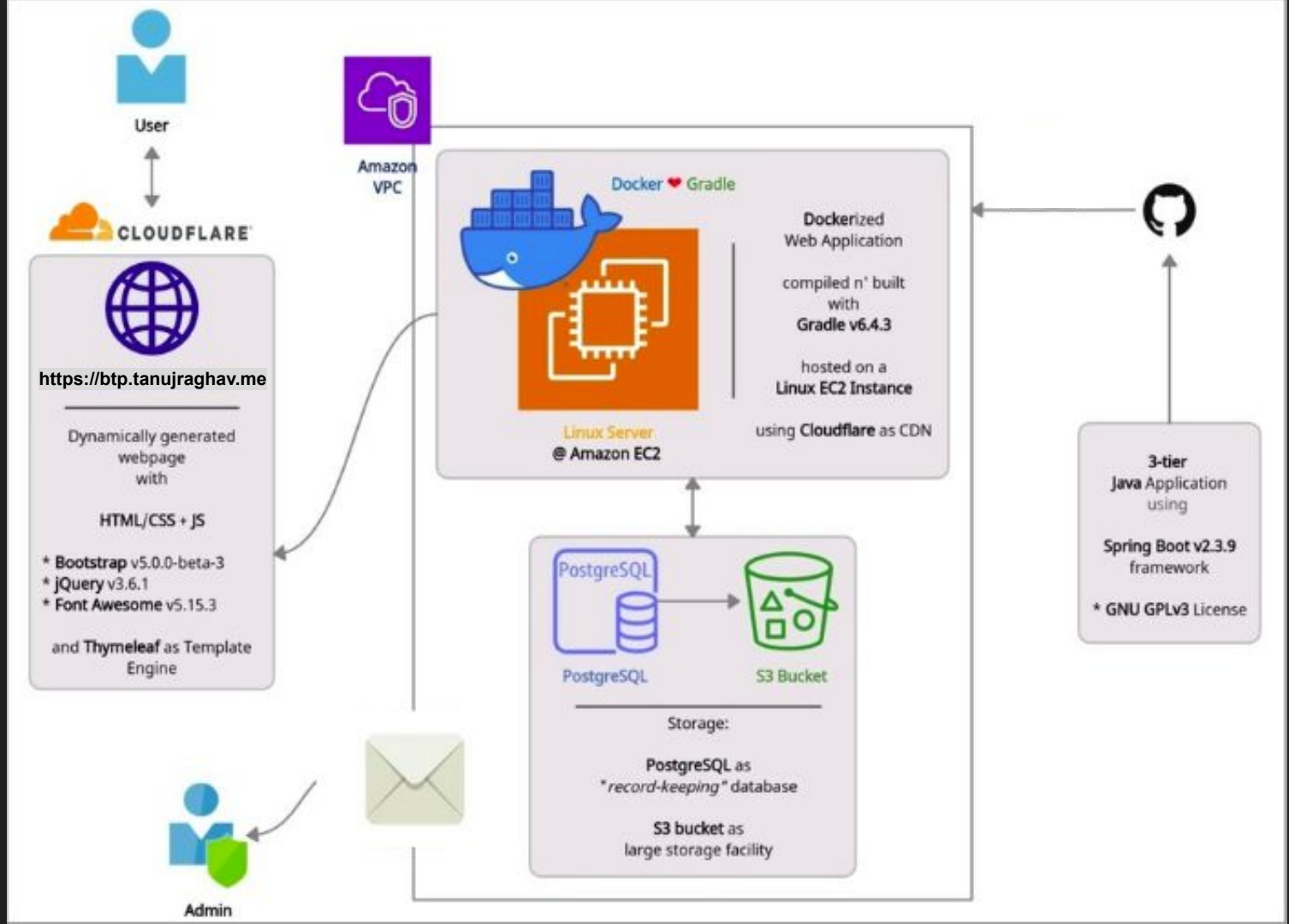
Features

- **Publicly Accessible**, anyone with an active internet connection can access the available resource pool.
- **Restricted Update**, only users with authorised email addresses can update the resource library, as for the testing case, I've provided anyone with a *_soe@jnu.ac.in address the access to updation.
- **Multiple Field Sorting**, providing the end-user the ease of browsing the database, much helpful in case of large databases.
- **Multi-Metadata Support**, it supports all sorts of data ranging from documents, images, video files all the way to archives.

Tools & Technologies

- Programming Language: **Java, HTML/CSS + JS, SQL**
- Framework: **Spring Boot**
- Build System: **Gradle**
- Template Engine: **Thymeleaf**
- Version Control: **Git & GitHub**
- Containerisation Tool: **Docker**
- Cloud Services: **Relational Database, Simple Storage Service, Elastic Compute Cloud, Virtual Private Cloud**
- Cloud Services Provider: **Amazon Web Services**
- Content Delivery Network: **Cloudflare**
- Mail Service Provide: **Postale**
- Domain Registrar: **Google**

Application Diagram



Conclusion

This project has been par-success, at least as far as the architecture is concerned. I've solved the problem of a publicly available resource pool, with a restricted inbound storage.

Given the current atmosphere of privacy, I've implemented best available and understood privacy tools from designing our own Virtual Private Cloud Network at the very base to a SSL/TLSv1.3 secure CDN at the user-front.

In addition to this, I've implemented a proper SDLC, meeting most of the industry-standards.

I've high hopes regarding the future of development, given I've already cleared all the necessary groundwork, all that is remaining is essentially the pseudo cloning.

Thank You!

This has been a presentation in the partial fulfillment of the requirements for the award of the degree of **Bachelor of Technology** (a part of Five-Year Dual Degree Program) in **Computer Science & Engineering** by Jawaharlal Nehru University, New Delhi - 110067.

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