KGPverse

Team : NeverGonnaGiveYouUp

The purpose of this document is to showcase the architecture for the website for this hackathon. We are a team of 8 members, with subteams devoted to frontend and backend tasks. Below we have included the tentative plans and timelines to achieve in the making of the website.

1. **Technologies Used**

   Taking into consideration the suggestions given for the hackathon along with looking for some other technologies which we feel are going to be easy to work with, having high practical use potential and at the same time give desirable results, we came up with the following list of technologies to use for various purposes as mentioned.

   (a) Frontend - React : Bootstrapped using Create-React-App

   (b) Backend - Django : High-level Python web framework

   (c) Version Control - Git and GitHub

   (d) Hosting Services - Amazon Webservices EC2

   (e) Database - Postgres

   (f) Storage - Amazon Webservices S3

   (g) Session Management - Supertokens

   (h) Frontend Hosting Service - Netlify

   (i) Containerization - Docker

2. **Projected Timeline**

   We have tentatively decided to follow the following timeline, fixing regular goals to achieve for both the Frontend and Backend teams.

   (a) **Round 1**

   This is the Architecture round in which the Frontend team successfully designed the UI for the website and the Backend team planned and designed the database models. The UI can be found as png files inside the zip file provided.

(b) **Round 2**

In this round, we aim to complete a significant portion of the website. Below we have mentioned the screens Frontend team plans to accomplish, during which the Backend team plans to create database modals and endpoints catering the problem statement.

i. Frontend
   A. Home Page
   B. User management
   C. Student Profile
   D. Quick Info (CDC, TSG Contacts, Halls)
   E. Events (TSG)
   F. Society Point

ii. Backend
   A. Setting up Github Actions and CI/CD
   B. Setting up database.
   C. Creating endpoints as per requirements of Frontend.

(c) **Round 3**

In this round, we aim to complete the website along with final finishing touches. The following list includes the remaining screens for Frontend team to complete while Backend team sets up the remaining endpoints.

The team will also make sure all the data is dynamic and can be updated without any hassle. Periodic backups will be set up for the database, ensuring any mishap can be reverted.

i. Frontend
   A. Notification (using chrome.notifications api)
   B. News Bulletin
   C. Innovative Feature (details mentioned here)
   D. Quick Info (QuickLinks, Societies, Faculty)
   E. Students Point

ii. Backend
   A. Completing remaining endpoints
   B. Setting up Notifications service

3. **FrontEnd Prototype**

Using the vector graphics editor and prototyping tool *Figma*, we have designed UI elements for the website, all of which can be found here.
The final frontend prototypes for the UI elements in PNG format can be found here.

4. **Backend Modals/Schemas**

   Here we provide the modals/schemas of Postgres database that we are planning to use for the website.

5. **Architecture Drawing**

   The following architecture drawings explain how the data will flow from our Postgres database and Django servers to the React frontend. It also enlists the different services that we have planned to use for making of the website.

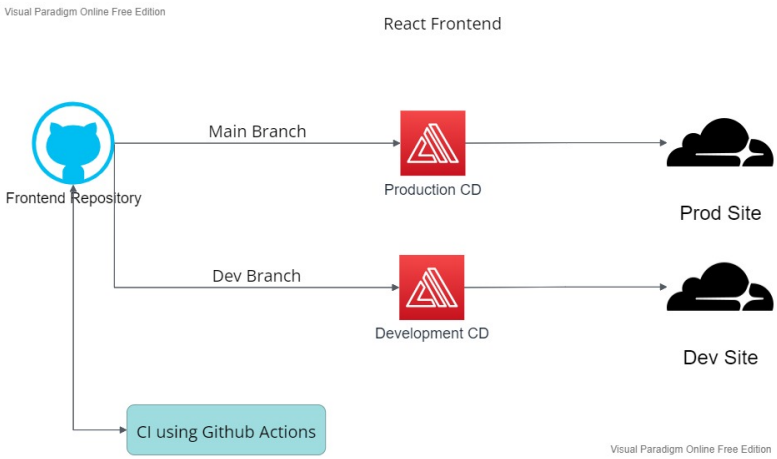

Fig 1 : FrontEnd Architecture

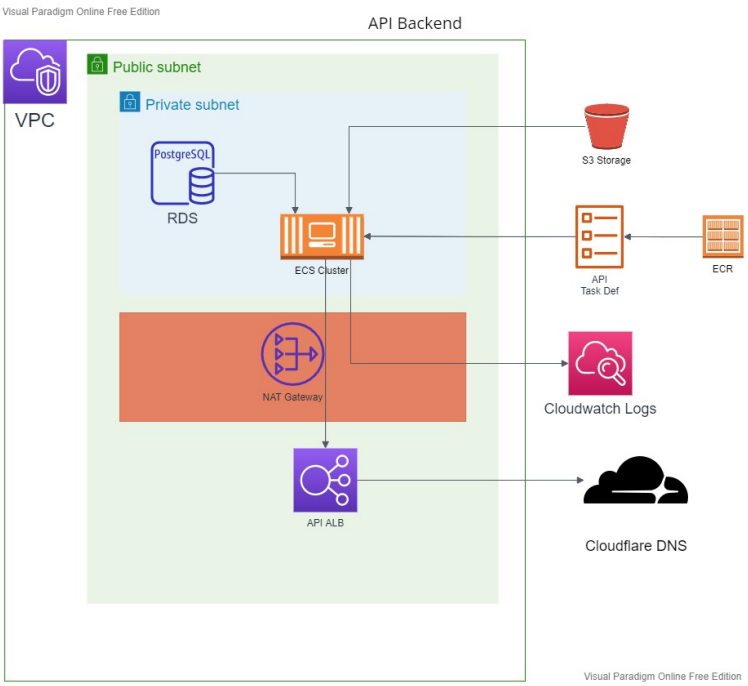

Fig 2 : BackEnd Architecture

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