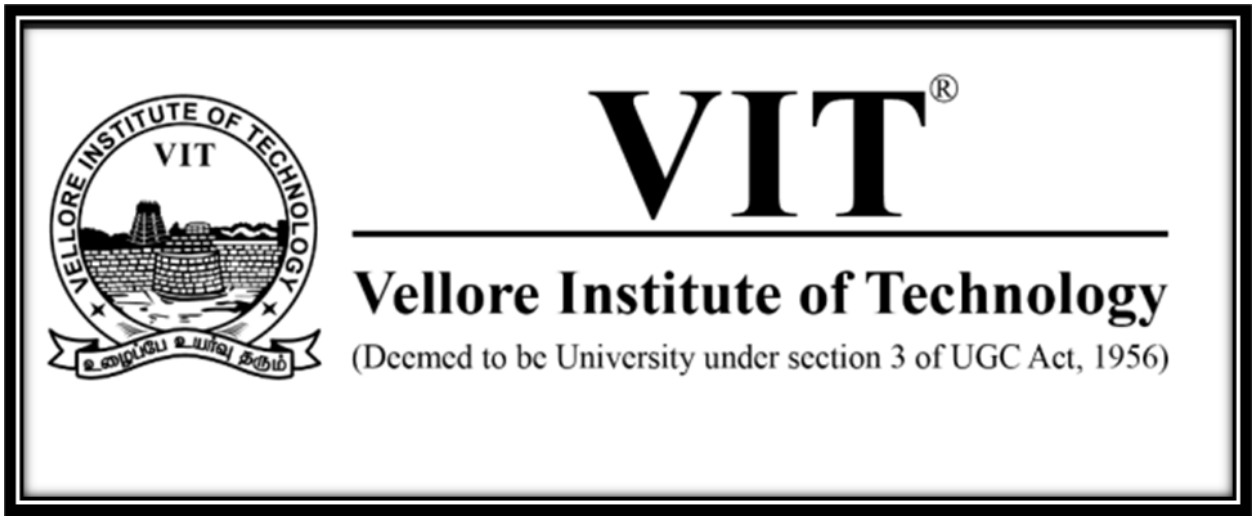

Digital Assignment - 5

CSE1901 - TECHNICAL ANSWERS FOR REAL WORLD PROBLEMS

Summer Semester Special 2021-2022

App Based Road Safety Violation Recording System

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FEASIBILITY ANALYSIS REPORT

1. Technical Feasibility

The App Based Road Safety Violation Recording System uses secure and efficient servers through Firebase to facilitate fast and reliable storage/retrieval of files. It uses multiple servers to serve up the data to the user on demand and is active 24/7. Load balancing is provided due to the usage of multiple servers as well as backup and redundancy. Hence the failure of one server would not result in a system crash. These properties result in the system being highly scalable for various users.

The usage of Java Web Tokens (JWT) ensures data confidentiality, integrity and authentication. Availability is ensured by the servers. These four properties make the system feasible for industry usage.

The application comprises various state-of-the-art tech stacks due to which it is highly versatile.

The UI/UX enable the user to get acquainted with the system in a minimum amount of time and makes the application highly intuitive to use. This property would make

2. Economical Feasibility

The cost of building and running this application for a small number of users (50-100) is NIL since the entire tech stack is based on open software. The future cost of running and maintaining the application would depend on how the application will require scaling and the costs pertaining to the web hosting platform which are minimal. These costs will not grow exponentially with the increase in the number of users. Hence the development and maintenance of the application is economically feasible for a small as well as a large organisation.

The major chunk of costs would arise from extra storage that would be required i.e. expanding the MongoDB Atlas capability for the application while scaling.

The multiple servers being used are bound to increase costs but their benefits to various organisations will cover those costs and beyond. The revenue model for the application would charge organisations depending on the amount of resources they use rather than the time for which they use.

3. Social Feasibility

At a broad level, such frameworks to assess transport policies, plans and programmes tend to focus on key environmental issues, while the assessment of social impacts is in many cases indirect, qualitative or simply reflected in the appraisal or planning assumptions.

Such an application will affect the social realm of the society in a beneficial manner as the road complaint system will provide an open platform for users to notify the authorities. Also, the responsiveness and accountability will increase as the public will be able to keep a check of the actions taken for improvement, if any.

In terms of public convenience, since it is an online system, it is socially feasible. It is much better than the existing offline complaint registry system. If the user comes across any road safety violation, they can immediately inform the concerned authorities through this app, rather than waiting in lines or doing the same thing through exhausting phone calls. Moreover, not only will it be socially feasible, it will also be desirable, as the pros outweigh the cons. It will be convenient, user friendly, authoritative, reliable and versatile.

4. Environmental Feasibility

An Environmental Feasibility Study assesses the viability of a proposed development from an environmental and social perspective, identifying potential issues and threats to the successful completion of the proposed development. Solutions and mitigative measures are investigated.

In terms of the environmental impact, it by far, does not have any implications on a large scale that will negatively affect the environment. As it is an online system, no physical stress is involved. Additionally, it saves the environment as it compels the stoppage/reduction of pollution, deforestation and harm to animals. It provides a platform where all the negative elements hurting nature can be kept under check. It will help diminish the negatively impactful activities and those not directly involved will also be benefited from the app. When it comes to an actual environmental risk, its job is to eliminate the environmental risks by securely ensuring the safety and compliance of rules which are laid out for the road safety and its violations. Finally , it provides “Environmental Sanitation” and “Environmental Sustainability”, which means activities aimed at improving and maintaining the standard basic environmental conditions affecting the well being of people.

5. Political Feasibility

The application solves a social problem of road safety recording using computer engineering paradigms and is not affiliated to any particular political, social or religious groups. The application is suitable for any political climate since it solves a common problem for the people of India and does not discriminate based on caste, creed, class and religious beliefs. The documentation and the UI is clear in communicating its requirements and constraints to the user which make it very difficult to be misrepresented. Hence this application is unlikely to be influenced politically or have a biased influence on an individual or any organisation.

6. Demographic Feasibility

This section comprises the various demographic factors involved in the usage and the implications of the same. It includes age, race, ethnicity, gender, marital status, income, education, and employment. To start off with describing the demographics of the user market, we can say that the majority of the users of the app will be vendors, production factory owners, logistics service providers, truck owners and drivers. The platform is most suited for them as they will be provided with a platform to deliver their grievances. There are no race and ethnic particularities for the app. However, the primary users are generally males in their 30s through early 50s, with low to medium average monthly income. They are usually school pass outs and some of them are college graduates. Since it will be a free application, it will be easily accessible for almost all demographics of users. It requires a smartphone which is no longer a luxury. The factory owners and logistics services providers comprise the economically elite class of users of the app and thus, it is feasible for them as well. Also, the app provides a straightforward platform to add and solve complaints, and hence, there are no backlashes or demographic complications involved since it has no bias whatsoever.