**CS302L: SE Term Project**

| Team number | 3 |
| --- | --- |
| Project Title | CommuniConnect |
| Document | SE Project Concept Document |
| Existing Work | Nextdoor, cityspidey  1)Several existing community websites primarily concentrate on neighborhoods within Western nations. However, these websites lack localization and adaptation to adequately cater to the needs of Indian users, resulting in technical challenges.  2)A limited number of existing websites that are designed to cater to Indian neighborhoods and users are encountering operational issues ,thereby significantly degrading the overall user experience.Some of them also lack basic features to serve the needs of communities. |
| Differences | 1)The concept of using postal code-based segregation to ensure relevant connections and information.  2)A website designed to cater to Indian communities with a range of features, including public alerts, complaint registration, storage of community-related crime data, and more. The central goal of the website is to ensure well-organized content presentation.  3)By leveraging information from complaints and reported crimes within the community, the website utilizes available data to provide analyses to anyone interested in understanding the community's living conditions. |
| Technologies | MERN stack, Three.js, Federated learning for privacy preservation. |
| Customers | People residing in the same postal code area. |

**Description**

**Problems being addressed :**

To address and resolve ongoing community problems by harnessing the collective input and concerns of community members.Everymember of the community should be able to post their problems maintaining their anonymity. Website aims to facilitate efficient communication between community members and authorities, ultimately leading to actionable solutions and improved community well-being. At the core of this platform is the ability to generate a final, cohesive narrative that presents community issues to the government for attention and resolution maintaining privacy of the user.Not just problems,but also capturing noteworthy instances occurring in the community through maps,groups etc

**Existing Ideas:**

Nextdoor, cityspidey

1)Several existing community websites primarily concentrate on neighborhoods within Western nations. However, these websites lack localization and adaptation to adequately cater to the needs of Indian users, resulting in technical challenges.

2)A limited number of existing websites that are designed to cater to Indian neighborhoods and users are encountering operational issues ,thereby significantly degrading the overall user experience.Some of them also lack basic features to serve the needs of communities.

**Differs from Existing :**

1)The concept of using postal code-based segregation to ensure relevant connections and information.

2)A website designed to cater to Indian communities with a range of features, including public alerts, complaint registration, storage of community-related crime data, and more. The central goal of the website is to ensure well-organized content presentation.

3)By leveraging information from complaints and reported crimes within the community, the website utilizes available data to provide analyses to anyone interested in understanding the community's living conditions.

**Profile of Users**

User profile should provide details about the various types of end-users that are going to be using the system. This will influence the way a specific project is designed/implemented. For example, Students, Teachers, Administrators, Parents, etc may use a university registration system. In each case you should list down the characteristics. For example, a parent might not be computer literate which might impact the way the parent interface for the university registration system is designed.

**Technology Stack**

***1) MERN :***

*The MERN stack is known for its flexibility, scalability, and efficiency, making it a popular choice for developing modern web applications,*

*Alternative is* ***Django stack***

***MongoDB:*** *A NoSQL database that stores data in a flexible, JSON-like format. MongoDB is commonly used for handling structured and unstructured data.*

***Express.js:*** *A backend web application framework for Node.js. Express simplifies the process of building robust, scalable, and performant server-side applications and APIs. React: A JavaScript library for building user interfaces. React is used for creating dynamic, interactive, and responsive front-end web applications.*

***Node.js:*** *A runtime environment that allows you to run JavaScript on the server-side. Node.js is used to handle server-side logic, API requests, and database interactions in MERN applications.*

***2) Three.js :***

*We are using three.js for creating a 3d experience for people living in rural areas such that the people can easily understand it as a 3d environment.*

***3) Federated learning:***

*Preserving the privacy of the user allowing him to post sensitive content anonymously*

***4) GIT , GITHUB:***

*As a version control tool to manage our project and collaboration among developers.*

***5)Docker :***

*It is used for consistent deployments across various environments*