Software Engineering CS301

Project Report

TEAM NAME

SOCIOVERT

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INTRODUCTION

Social media is a computer-based technology that helps us to communicate with people, share, create or exchange content and creative ideas virtually. It is not just a broadcast channel or a marketing tool but is about conversations, community, connecting with the audience and building relationships.

This project report outlines the development of a social media chat website for niche communities. The website should provide a platform for users to create and join communities based on shared interests and engage in discussions, share content, and connect with like-minded individuals. The website aims to create a safe and inclusive space for niche communities and promote healthy and respectful online interactions.

PURPOSE

By seeing the Market analysis, we understood that there is a growing demand for online communities that cater to specific interests and hobbies. Existing social media platforms may not provide adequate support for niche communities, leading to a fragmented user experience. By creating a social media chat website that focuses on niche communities, we aim to address this gap and provide a dedicated space for users to connect and engage with others who share their interests.

So we tried to create an interactive user-friendly platform for users to explore and share their knowledge. There exist apps for interaction but the need for an interactive website is still there.

SCOPE

The target audience for the website includes individuals who are looking for a platform to connect with others who share their interests. The website will cater to a wide range of interests, including gaming, music, sports, travel, and more

**Sociovert** will be a user-friendly platform that is easy to navigate and understand. It will allow users to create profiles, search for topics of their liking and delve deeper into it by joining community groups. The feed would be visible to the connected people (friends) only.

REQUIREMENT ANALYSIS

For the analysis of requirements and Feasibility Study, we members of this project conducted several meetings to research a bit into user requirements

* Market research - The first step in creating a feasibility report for a social media website is by conducting market research. This involves gathering information about the target market and identifying the needs and wants of potential users. This research was conducted through surveys on different people we know and focus groups.

Tools we used to conduct this study:

* Data Analysis Tools: Tools such as Microsoft Word and Google Docs are used to analyse the data collected during market research and to create charts and graphs.
* Project Management Tools: Tools such as notion are used to manage the development process and keep track of progress.
* Website Design Tools: Tools such as VScode are used to create wireframes and mockups of the website.

Some of the main Feasibility Study results:

(Detailed analysis is in our separate document for Feasibility Report which is available in our github repo)

***Technical feasibility***: We believe our team has the necessary technical expertise to develop and maintain a scalable social media platform.

***Financial feasibility***: We plan to seek funding from investors and crowdfunding platforms. We also plan to monetize the platform through advertising, premium features, and sponsorships.

***Market feasibility***: We identified several potential niches and partners, indicating a growing demand for niche communities.

***Legal feasibility***: We will ensure that the platform complies with all relevant laws and regulations related to data privacy, user safety, and intellectual property.

***Operational feasibility***: We (our team members) will try to acquire the skills required to ensure that the platform is safe, engaging, and user-friendly and can also expand by recruiting a team of moderators and community managers when we’re financially stable enough.

Based on this feasibility study, we believe that developing a social media platform for niche communities is viable and worth pursuing. We will proceed to develop a detailed project plan and roadmap for the platform's development and launch, seeking funding and partnerships to ensure the success and sustainability of the platform.

FEATURES AND FUNCTIONALITIES:

For better user experience we tried to include the following features and functionalities

**User-profiles**: People can create their accounts in the website using their mail where they can add a profile picture, cover picture, bio, and other information relevant to their interests. They will also be able to view communities they belong to, and users they are following(friends) and also the posts they share and details of the posts (like likes, shares and comments)

**Direct Messaging**: Users will be able to send private messages to their friends. This feature includes the ability to send text, images, and other multimedia content and also get to connect by a video call

**Content Sharing**: Users will be able to share different types of content, such as text posts, images, videos, and links. The platform supports multimedia uploads and allows users to tag their content with relevant keywords or hashtags. This content will be shown in the feed of user’s friends

**Community**:

Users will be able to create and manage their own communities based on their interests and hobbies. This feature includes the ability to customise community details such as description, rules, and privacy settings

Users can search and find communities they like and join them to share knowledge about the particular topic or know more about it

They can share content in the community about the topic via posts, photos, texts or videos

**Community Chats**:

There is a separate chat page for each community where users can talk how much they want about the topic without interrupting the home page of the community

**Special features :**

* **NewsFeed page**

This is where the users can find all the trending news articles related to that community

* **Streaming**

Users can stream content like videos, movies or turn it to just a friendly meet with fellow users in the same community

* **Gaming**

Users can play games and connect with fellow users in the same community

* **Language Translation**

Based on the users who are chatting, if they have a different language they speak then their message will be automatically translated into English or any common language they have

* **Chat with anonymous users**

Users can connect with random users of similar interests to socialise in a better way

METHODOLOGY:

Software Development life cycle model: AGILE Scrum model

We divided the process into various phases like

* Requirement Analysis
* Design
* Implementation (Coding)
* Testing

We chose and implemented this model because

Scrum allows for flexibility in responding to changing requirements, as it uses an iterative approach to development, which means that the product is developed incrementally and can be adapted based on customer feedback.

Team Collaboration: Scrum emphasises collaboration between team members, which leads to improved communication and problem-solving.

Focus on Value: Scrum focuses on delivering value to the customer in short, frequent iterations, which helps ensure that the product meets customer needs.

Transparency: Scrum emphasizes transparency, which means that team members and stakeholders have visibility into the development process, which helps build trust and facilitates effective decision-making.

IMPLEMENTATION:

Technologies used to develop this software:

* Frontend: React.js, CSS
* Backend: Node.js and MongoDB

The tech stack used is MERN stack

The first thing we implemented after conducting the feasibility study was the UML diagrams i.e., **Use-case diagram, Sequence diagram and Class diagram**

* The platform used to draw these diagrams is **StarUML**
* These diagrams acted a base for design of the project and even in coding phase

(Detailed diagrams are available in the github repo)

Next phase of the project is ***Design*** phase

First activity in the design phase is the **UI Design (Prototype)**

* The UI design of a product has a significant impact on the overall user experience. A well-designed user interface makes it easier for users to navigate and interact with the product, which can lead to higher user satisfaction and better adoption rates.
* The platform used to achieve this is Figma
* All of our team members got to know more about UI designing in Figma and made the design according to our taste
* We kept on changing details in the prototype till we were sure that all the user requirements are satisfied

Next task for us was to make the Technical Design i.e., to decide how the features and functionalities are to be implemented in the code

* So we chose the MERN tech stack because One of the main advantages is that it is easier for developers to switch between front-end and back-end development. It also means that developers can use a single language and toolset throughout the entire development process.
* It is a highly customizable tech stack, allowing developers to choose from a wide range of libraries, frameworks, and tools to suit the specific needs of the project.
* All the technologies in the MERN stack are open-source, which means that they are free to use and can help to keep development costs low.