A WEB APPLICATION FOR COMMUNITY CHAT PLATFORM

A PROJECT REPORT

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Gur Prashad

Declaration

I, **Gur Prashad**, hereby declare that this thesis entitled **"Web Application for Community Chat Platform"** is my original work, conducted under the supervision of **Prof. Partha Pratim Das**.

I affirm that:

1. All sources of information used in this thesis have been duly acknowledged and referenced.
2. The research presented in this thesis has not been submitted for any other degree or qualification.
3. The data collected and analyzed for this research are authentic and have been presented accurately.
4. Any contributions made by others to this thesis, including technical assistance, data collection, and manuscript preparation, have been duly acknowledged.

Furthermore, I acknowledge that any use of copyrighted material within this thesis has been done in accordance with relevant copyright laws and regulations.

I understand that any act of plagiarism or academic dishonesty in relation to this thesis may result in severe disciplinary action, including the revocation of my degree.

Gur Prashad

Certificate

This is to certify that the thesis entitled **"Web Application for Community Chat Platform"** submitted by **Gur Prashad**, bearing registration number **DTU/2k21/MDID/06**, in partial fulfillment of the requirements for the degree of **M.Des** in **Department of Design, Delhi Technological University**, has been examined and found satisfactory.

Supervisor: Prof. Partha Pratim Das

Date : April 2023

This thesis has been accepted for the fulfillment of the requirements for the degree of Mdes. Interaction Design.

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Date: 20 April 2023

Abstract

Pluto.place is a community chat platform designed to provide a seamless and secure communication experience for its users. With features such as phone number authentication via 6-digit OTP, auto read (optional), referral checks, username setup with duplication check, avatar assignment, and community management tools including request to join, leave community, and member reporting, Pluto.place aims to create a safe and engaging space for users to connect and communicate in a community environment. Additionally, Pluto.place offers group chat and optional audio room functionality for enhanced communication within communities. This thesis explores the various features of Pluto.place, their significance in fostering a positive user experience, and their potential impact on community engagement and management.

Chapter 1: Introduction

Pluto.place is an innovative community chat platform that provides a unique social experience for its users. The platform is designed to connect people with similar interests and passions, allowing them to engage in meaningful discussions, collaborations, and friendships.

One of the key features of Pluto.place is its easy-to-use interface that allows users to quickly find and join communities or create their own. Communities can be based on a wide variety of topics, such as tech, gaming, cooking, sports, or anything in between. Each community has its own feed where members can share posts, images, and comments, making it easy to stay up-to-date on the latest news and events within the community.

In addition to community feeds, Pluto.place also offers group chat functionality where members can chat in real-time with other community members. Direct messaging is also available, allowing users to connect with other users one-on-one.

Pluto.place is focused on providing a safe and secure environment for its users. The platform requires phone number authentication via a 6-digit OTP, and members can report any inappropriate behavior or messages. Admins have the ability to kick out members who violate community rules and guidelines.

Overall, Pluto.place is a vibrant and dynamic community chat platform that offers a rich social experience for users with diverse interests and backgrounds. Whether you're looking to collaborate with others, learn new skills, or simply connect with like-minded individuals, Pluto.place has something for everyone.

Research Questions:

1. How effective is Pluto.place in connecting users with similar interests and passions?

2. How does user authentication impact the safety and security of the platform?

3. What are the key challenges in community management on Pluto.place?

4. How do communication tools impact the engagement and satisfaction of users on Pluto.place?

Objectives:

1. To evaluate the effectiveness of Pluto.place in connecting users with similar interests and passions through a user survey and analysis of platform data.

2. To assess the impact of user authentication on the safety and security of Pluto.place by analyzing platform data and conducting user interviews.

3. To identify the key challenges in community management on Pluto.place through analysis of platform data and user interviews.

4. To evaluate the impact of communication tools on the engagement and satisfaction of users on Pluto.place through analysis of platform data and user surveys.

Overall, the objectives of the thesis are to assess the effectiveness and impact of Pluto.place community chat platform in creating a safe, engaging, and productive environment for users with diverse interests and backgrounds. The research questions aim to address key areas of the platform, including user authentication, community management, and communication tools, in order to provide insights that can inform future improvements and developments on the platform.

Chapter 2: Literature Review

Community chat platforms have gained significant popularity as online spaces where users can engage in discussions, seek information, and connect with like-minded individuals. Understanding user behavior and effective community management are critical for fostering a positive and engaging environment in these platforms. This literature review synthesizes findings from several studies on community chat platforms to provide insights into user behavior, platform design, and community management.

Studies by Bicen and Kocakaya (2019), Nonnecke and Preece (2000), and Mechael et al. (2013) highlight the importance of social influence, user motivation, and social norms in shaping user behavior on community chat platforms. Users are motivated by factors such as the desire for information, social connection, and validation from peers. Social norms and identity play a significant role in influencing user behavior, including participation levels, engagement, and information sharing.

Zaki et al. (2013) emphasize the impact of platform design on user engagement. Aesthetics and attractiveness of the platform interface are important factors in attracting and retaining users. A visually appealing interface can enhance user experience and increase engagement.

Kim and Gupta (2013) discuss the challenges of community management on community chat platforms. Effective community management is crucial for addressing issues such as negative behavior, spam, and misinformation. Strategies such as moderation, rules enforcement, and community guidelines are important for maintaining a positive and supportive environment.

Quora is a popular question-and-answer website that was launched in 2010. It allows users to ask and answer questions on a wide variety of topics, from science and technology to entertainment and politics. In 2011, Quora launched its mobile app, which allowed users to access the platform from their smartphones and tablets.

One study published in the Journal of the Association for Information Science and Technology in 2019 looked at the types of questions being asked on Quora and how they related to users' information needs. The study found that the most common types of questions were "how-to" questions and opinion-based questions, and that users tended to ask questions that were related to their personal interests or experiences.

Another study published in the Proceedings of the 2017 ACM Conference on Computer Supported Cooperative Work and Social Computing looked at the factors that contribute to the quality of answers on Quora. The study found that factors such

as the expertise of the answerer, the length of the answer, and the use of external sources all had a positive effect on the quality of the answer.

Overall, Quora has become a popular platform for people seeking information and knowledge on a wide range of topics. Its mobile app has made it easier for users to access the platform on the go, and research has shown that the quality of the information provided on Quora can be quite high.

According to data from SimilarWeb, Quora has an estimated 500 million monthly visitors, with the majority of its traffic coming from the United States. Quora's user base includes a mix of professionals, academics, and enthusiasts across a wide range of topics and industries.

In terms of user demographics, Quora's user base tends to be well-educated, with a high percentage of users holding a college degree or higher. According to Quora's own data, around 70% of its users have completed a bachelor's degree or higher, and 50% hold a graduate degree.

As for its relevance as a community chat platform, Quora allows users to engage in discussions and exchange knowledge on a wide variety of topics. Users can follow topics, people, or questions to stay up-to-date on the latest information and insights. Quora's voting and commenting system also allows users to rate and provide feedback on answers, helping to ensure that the best information rises to the top.

Overall, Quora's large and diverse user base, coupled with its robust platform features, make it a valuable resource for individuals seeking information and insights on a wide range of topics. While Quora is not typically thought of as a traditional chat platform, its community-based approach allows users to engage in conversations and connect with like-minded individuals across a wide range of topics.

Both Reddit and Quora are community-based platforms that allow users to engage in discussions, share information, and connect with others who share similar interests. However, there are some key differences between the two platforms.

One of the main differences between Reddit and Quora is their focus. Reddit is primarily a social news and discussion platform, where users can share links, photos, and other content on a wide range of topics. Reddit's structure is based around "subreddits," which are individual communities focused on specific topics, such as news, science, politics, or hobbies. Users can join these communities and engage in discussions with other members.

In contrast, Quora is primarily a question-and-answer platform, where users can ask and answer questions on a wide variety of topics. Quora's focus is on knowledge sharing and expertise, with users being encouraged to provide detailed, informative answers to questions.

Another key difference between the two platforms is their user base. While both platforms have large and diverse user bases, Reddit is known for its younger demographic and its focus on humor and entertainment, as well as more niche interests. Quora, on the other hand, tends to attract a more professional and academic user base, with a focus on more serious topics and discussions.

In terms of community chat, both platforms offer the ability for users to engage in discussions and connect with others who share similar interests. However, Reddit's focus on social news and entertainment means that conversations on the platform can sometimes be more casual and less focused on knowledge sharing, while Quora's focus on expertise means that conversations are often more in-depth and detailed.

Overall, both Reddit and Quora offer unique features and benefits for users looking to engage in discussions and connect with others who share similar interests. While they have some similarities, they have different focuses and user bases, which may make one platform more suitable than the other depending on individual needs and preferences.

User authentication, community management, and communication are all important aspects of community chat platforms. While these areas present opportunities for engagement and growth, they also pose several challenges that need to be addressed.

User Authentication: User authentication is the process of verifying the identity of users on a community chat platform. This is essential for maintaining the safety and security of the platform and its users. One of the challenges of user authentication is ensuring that users are who they say they are. This can be particularly difficult on community chat platforms, where users may use pseudonyms or fake identities. To address this challenge, platforms may use various authentication methods, such as email verification, two-factor authentication, or social media authentication. However, these methods may not always be foolproof, and it's important for platforms to regularly review and update their authentication processes to ensure that they remain effective.

Community Management: Community management involves creating and maintaining a positive and supportive environment for users on a community chat platform. This can include moderating content, enforcing rules, and responding to user feedback and concerns. One of the challenges of community management is balancing the need for free expression and open discussion with the need to maintain a safe and respectful environment. Moderators need to be able to identify and remove inappropriate content while also allowing for healthy debate and discussion. Another challenge is keeping up with the volume of content and users on the platform, particularly as the platform grows in size. To address these challenges, platforms may

use automated moderation tools, hire community managers, or rely on user reporting to identify and remove inappropriate content.

Communication: Communication is an essential component of community chat platforms, allowing users to share ideas, exchange information, and connect with others who share similar interests. One of the challenges of communication is ensuring that users have access to the information they need and are able to communicate effectively with one another. This can be particularly difficult on larger platforms, where the volume of content and users can make it difficult to find relevant information or engage in meaningful conversations. To address these challenges, platforms may use algorithms to surface relevant content, offer advanced search capabilities, or provide tools for users to filter and organize content.

Opportunities: Despite the challenges associated with user authentication, community management, and communication, there are also many opportunities for growth and engagement on community chat platforms. By creating a safe and supportive environment for users, platforms can attract a wide range of users and encourage healthy discussion and debate. By providing effective communication tools, platforms can facilitate the sharing of information and the development of new ideas. And by implementing effective community management practices, platforms can build trust and loyalty among users, leading to greater engagement and growth over time.

This literature review highlights the importance of understanding user behavior, platform design, and community management in community chat platforms. User motivations, social norms, and platform aesthetics are critical factors influencing user engagement, while effective community management strategies are crucial for maintaining a positive community environment. Further research is needed to explore additional factors that impact user behavior and engagement in community chat platforms and to develop best practices for platform design and community management.

Chapter 3: Methodology

Design thinking is a user-centered approach to problem-solving that involves empathy, ideation, prototyping, and testing. To conduct research on community chat platforms using design thinking, you could follow a process that involves the following steps:

1. Empathize: Start by gaining a deep understanding of the users of community chat platforms, their needs, and their pain points. You could conduct user research through interviews, surveys, and observation to gather insights into user behavior, motivations, and preferences.

2. Define: Based on the insights gained from the empathize stage, define the problem or opportunity that you want to address in your research. For example, you may identify that users struggle with finding relevant information on community chat platforms, or that there is a need for better community management tools.

3. Ideate: Brainstorm possible solutions to the problem or opportunity identified in the define stage. You could use techniques such as mind mapping, brainstorming, and prototyping to generate ideas.

4. Prototype: Create low-fidelity prototypes of your ideas, such as wireframes or mockups, to test and refine your solutions. You could also conduct usability testing to gather feedback from users on the prototypes.

5. Test: Based on the feedback received in the prototype stage, refine your solutions and test them again. This iterative process allows you to continually improve your solutions and ensure that they meet the needs of users.

Overall, the design thinking methodology provides a structured approach to research on community chat platforms that emphasizes user-centered design and iterative testing. By following this process, you can gain a deep understanding of user needs and develop effective solutions that address their pain points and enhance their experience on community chat platforms.

A.   Data Collection Methods:

• Interviews: Conducting one-on-one interviews with users of community chat platforms to gather qualitative data on their experiences, behaviors, motivations, and challenges.

• Surveys: Administering online surveys to collect quantitative data on user preferences, usage patterns, and demographics.

• Observations: Observing users in real-time as they interact with community chat platforms to gain insights into their behaviors, interactions, and needs.

- User Testing: Conducting usability testing of prototypes or existing community chat platforms to gather feedback on their usability, functionality, and effectiveness.

  B.   Sample Selection:

- Purposeful Sampling: Selecting participants who are representative of the target population of users of community chat platforms. This could involve selecting users from different demographics, usage patterns, and levels of engagement to ensure diversity and representativeness in the sample.

- Recruitment: Recruiting participants through various methods, such as online advertisements, social media, or through the community chat platforms themselves.

- Informed Consent: Ensuring that participants provide informed consent to participate in the study, and protecting their privacy and confidentiality throughout the research process.

  C.   Data Analysis Techniques:

- Qualitative Analysis: Analyzing interview transcripts, open-ended survey responses, and observational notes using qualitative data analysis techniques such as thematic analysis, content analysis, or grounded theory to identify patterns, themes, and insights.

- Quantitative Analysis: Analyzing survey data using descriptive and inferential statistical techniques to summarize and interpret quantitative data, such as frequencies, means, correlations, and regression analyses.

- Iterative Analysis: Conducting iterative analysis throughout the research process, allowing for ongoing refinement of research questions, data collection methods, and analysis techniques based on emerging findings and insights.

Overall, the combination of qualitative and quantitative data collection methods and analysis techniques can provide a comprehensive understanding of user behavior, preferences, and challenges on community chat platforms, and inform the development of effective solutions using the design thinking approach. It's important to ensure ethical considerations, such as obtaining informed consent and protecting participant privacy, throughout the research process.

Chapter 4: UX Research

4.1 User Persona

User 1 : Aman, 25 Coder

Background: Aman is a 25-year-old software engineer who is passionate about coding and is constantly looking for ways to upgrade his skills. He has been working in the industry for the past three years and has had some experience collaborating with other coders on projects. However, Aman feels that he has hit a plateau in his learning and is looking for new ways to expand his skillset and connect with other coders.

Goals:

- Connect with other coders on Pluto.place to collaborate on coding projects
- Learn new coding techniques and best practices from other coders
- Upgrade his skills and expand his knowledge in the field of software engineering
- Build a strong network of like-minded individuals who share his passion for coding

Pain Points:

- Difficulty finding other coders with similar interests and skill levels
- Limited opportunities to collaborate and learn from other coders
- Limited exposure to new coding techniques and best practices
- Lack of a strong network of like-minded individuals

Behaviors:

- Aman is an active user of social media and messaging platforms
- He is comfortable sharing his ideas and collaborating with others online
- He is interested in joining online communities and forums related to software engineering
- He prefers platforms that are user-friendly, secure, and offer features to enhance user engagement and collaboration

User Journey:

- Aman discovers Pluto.place through online research and recommendations from other coders

- He registers on the platform using his phone number and sets up his profile with a unique username and avatar

- He searches for coding communities on Pluto.place using the community list and finds several that match his interests and skill level

- Aman requests to join a community and is approved by the community admin

- He engages with other community members through group chat, DMs, and audio rooms, and collaborates on coding projects

- Aman learns new coding techniques and best practices from other community members and shares his own knowledge and expertise

- He builds a strong network of like-minded individuals who share his passion for coding and continues to engage with them on Pluto.place

Conclusion: Aman is a motivated and passionate coder who is looking for new ways to connect with other coders and upgrade his skills. Pluto.place offers him a user-friendly and secure platform to achieve his goals and engage with a community of like-minded individuals. By leveraging the features of Pluto.place such as community search, group chat, and audio rooms, Aman can enhance his learning and collaboration experiences and build a strong network of contacts in the software engineering field.

User 2 : Sujal, 25 Year Old

Background: Sujal is a 25-year-old working professional who enjoys watching movies and TV shows in her free time. She has a broad range of interests and enjoys watching different genres of films and shows. However, Sujal feels that she doesn't have anyone to talk to about her favorite movies and shows, as her friends don't share the same interests as her.

Goals:

- Connect with like-minded individuals on Pluto.Place who share her passion for movies and TV shows

- Engage in meaningful discussions about her favorite movies and shows

- Discover new movies and shows through recommendations from others

- Build a community of movie and TV show enthusiasts

Pain Points:

- Lack of people to talk to about her favorite movies and shows

- Limited exposure to new movies and shows

- Limited opportunities to engage in meaningful discussions about movies and shows

- Lack of a strong community of movie and TV show enthusiasts

Behaviors:

- Sujal spends a lot of time on social media and messaging platforms

- She actively seeks out recommendations for new movies and shows to watch

- She enjoys discussing movies and shows with others and sharing her opinions

- She is interested in joining online communities related to movies and TV shows

User Journey:

- Sujal discovers Pluto.Place through online research and recommendations from other movie and TV show enthusiasts

- She registers on the platform using her phone number and sets up her profile with a unique username and avatar

- She searches for movie and TV show communities on Pluto.Place using the community list and finds several that match her interests

- Sujal requests to join a community and is approved by the community admin

- She engages with other community members through group chat, DMs, and audio rooms, and discusses her favorite movies and shows

- Sujal discovers new movies and shows through recommendations from other community members and shares her own recommendations

- She builds a strong network of like-minded individuals who share her passion for movies and TV shows and continues to engage with them on Pluto.Place

Conclusion: Sujal is a movie and TV show enthusiast who is seeking a community of like-minded individuals to talk to and discover new movies and shows. Pluto.Place offers her a user-friendly and secure platform to achieve her goals and engage with a community of movie and TV show enthusiasts. By leveraging the features of Pluto.Place such as community search, group chat, and audio rooms, Sujal can enhance her engagement and discussions experiences and build a strong network of contacts who share her interests.

User 3 : Dr. Neha Manocha, 38 year Old

Background: Dr. Neha Manocha is a 38-year-old medical professional who spends most of her time at the clinic. She has a busy schedule and often finds it difficult to connect with other professionals who share similar interests. Neha is looking for a platform that can help her connect with other medical professionals, network with them, and stay up-to-date with the latest industry trends.

Goals:

- Connect with other medical professionals who share her interests on Pluto.Place

- Network with other professionals to build her professional circle

- Stay up-to-date with the latest industry trends and news

- Share her experiences and knowledge with other medical professionals

Pain Points:

- Difficulty in finding time to connect with other professionals

- Limited opportunities to network with other medical professionals outside of work

- Limited exposure to the latest industry trends and news

- Limited opportunities to share experiences and knowledge with other medical professionals

Behaviors:

- Neha is an avid user of social media and messaging apps to stay in touch with friends and family

- She is interested in attending industry conferences and seminars to network with other professionals

- She enjoys sharing her experiences and knowledge with others

- Neha is open to new ideas and interested in exploring new ways to connect with other professionals in the medical field

User Journey:

- Neha discovers Pluto.Place through online research and recommendations from other medical professionals

- She registers on the platform using her phone number and sets up her profile with a unique username and avatar

- Neha searches for medical communities on Pluto.Place using the community list and finds several that match her interests

- Neha requests to join a community and is approved by the community admin

- She engages with other community members through group chat, DMs, and audio rooms, and discusses the latest industry trends and news

- Neha discovers new networking opportunities through the community, such as virtual events and job postings

- She shares her experiences and knowledge with other community members and learns from their experiences as well

- Neha builds a strong network of like-minded medical professionals who share her interests and continues to engage with them on Pluto.Place

Conclusion: Dr. Neha Manocha is a busy medical professional who is seeking a platform to connect with other medical professionals who share similar interests. Pluto.Place offers her a user-friendly and secure platform to achieve her goals and engage with a community of like-minded medical professionals. By leveraging the features of Pluto.Place such as community search, group chat, and audio rooms, Neha can enhance her networking and professional development experiences and build a strong network of contacts who share her interests.

4.2 Empathy Maps

Empathy Map for User 1 : Aman:

What does he SEE?

- Aman sees a plethora of online coding communities and platforms.

- He observes fellow coders collaborating and sharing knowledge online.

- He notices the lack of personalized connections and opportunities for meaningful collaboration.

What does he HEAR?

- Aman hears about Pluto.Place through online forums and recommendations from peers.

- He listens to discussions among fellow coders about the latest technologies and coding practices.

- He hears about the challenges faced by other coders in finding like-minded individuals for collaboration.

What does he SAY and DO?

- Aman actively seeks recommendations for online platforms where he can connect with other coders.

- He expresses his desire to learn and collaborate with others in the coding community.

- He asks questions and shares his experiences and knowledge with others.

What does he THINK and FEEL?

- Aman thinks about ways to expand his coding skills and network.

- He feels excited about the prospect of connecting with like-minded individuals.

- He is eager to learn new techniques and practices from others in the coding community.

What are his PAINS?

- Aman experiences frustration due to the lack of personalized connections and meaningful collaboration opportunities.

- He feels isolated in his learning journey and struggles to find peers with similar interests and skill levels.

- He is concerned about missing out on new coding techniques and best practices.

What are his GAINS?

- Aman gains satisfaction from connecting with other coders on Pluto.Place.

- He experiences personal growth and skill enhancement through collaboration and knowledge sharing.

- He builds a strong network of like-minded individuals who support and inspire him in his coding journey.

Empathy Map for User 2 : Sujal:

What does she SEE?

- Sujal sees numerous online platforms for discussing movies and TV shows.

- She observes discussions about favorite movies and shows on social media and forums.

- She notices the lack of personalized connections and meaningful discussions about her interests.

What does she HEAR?

- Sujal hears about Pluto.Place from fellow movie and TV show enthusiasts.

- She listens to recommendations for new movies and shows from friends and online communities.

- She hears about the challenges faced by others in finding like-minded individuals for movie discussions.

What does she SAY and DO?

- Sujal actively seeks recommendations for platforms where she can discuss her favorite movies and shows.

- She expresses her love for movies and TV shows and shares her opinions with others.

- She joins online communities and engages in discussions about movies and TV shows.

What does she THINK and FEEL?

- Sujal thinks about ways to connect with like-minded individuals and discover new movies and shows.

- She feels frustrated by the lack of opportunities for meaningful discussions about her interests.

- She is excited about the prospect of joining a community of movie and TV show enthusiasts on Pluto.Place.

What are her PAINS?

- Sujal experiences frustration due to the lack of personalized connections and meaningful discussions about movies and TV shows.

- She feels isolated in her passion for movies and TV shows and struggles to find peers with similar interests.

- She is disappointed by the limited exposure to new movies and shows and the lack of opportunities for meaningful discussions.

What are her GAINS?

- Sujal gains satisfaction from connecting with like-minded individuals on Pluto.Place.

- She experiences enjoyment and fulfillment from engaging in meaningful discussions about her favorite movies and shows.

- She discovers new movies and shows and expands her knowledge and appreciation for different genres.

Empathy Map for User 3 :Dr. Neha Manocha:

What does she SEE?

- Neha sees a busy schedule filled with patient appointments and clinic duties.

- She observes discussions about medical advancements and industry trends on social media and professional forums.

- She notices the lack of personalized connections and networking opportunities with other medical professionals.

What does she HEAR?

- Neha hears about Pluto.Place from colleagues and peers in the medical field.

- She listens to conversations about industry news and developments during conferences and seminars.

- She hears about the challenges faced by other medical professionals in finding networking opportunities outside of work.

What does she SAY and DO?

- Neha actively seeks recommendations for platforms where she can connect with other medical professionals.

- She expresses her interest in networking and staying updated with industry trends.

- She participates in discussions about medical topics and shares her experiences and knowledge with others.

What does she THINK and FEEL?

- Neha thinks about ways to expand her professional network and stay informed about industry developments.

- She feels frustrated by the lack of time to connect with other professionals and limited opportunities for networking.

- She is excited about the prospect of joining a community of medical professionals on Pluto.Place.

What are her PAINS?

- Neha experiences frustration due to the lack of personalized connections and networking opportunities with other medical professionals.

- She feels overwhelmed by her busy schedule and struggles to find time for networking outside of work.

- She is concerned about missing out on important industry trends and news due to limited exposure.

What are her GAINS?

- Neha gains satisfaction from connecting with other medical professionals on Pluto.Place.

- She experiences personal and professional growth through networking and knowledge sharing.

- She builds a strong network of like-minded individuals who support and inspire her in her medical career.

4.3 Opportunity Mapping:

1. **User 1: Aman, 25, Coder**

   - Opportunity: Create specialized coding communities on Pluto.Place tailored to different programming languages, frameworks, or tech interests.

   - Opportunity: Implement features such as code sharing, collaborative coding environments, and coding challenges to enhance collaboration and skill development.

   - Opportunity: Offer regular coding workshops, webinars, and mentorship programs within coding communities to facilitate learning and skill enhancement.

2. **User 2: Sujal, 25, Movie Enthusiast**

   - Opportunity: Establish movie and TV show discussion communities on Pluto.Place categorized by genres, decades, or specific interests.

   - Opportunity: Introduce features such as movie recommendation systems, watch parties, and virtual film screenings to enhance engagement and interaction among users.

   - Opportunity: Organize film festivals, director retrospectives, and Q&A sessions with industry professionals to provide unique and enriching experiences for movie enthusiasts.

3. **User 3: Dr. Neha Manocha, 38, Medical Professional**

- Opportunity: Create medical communities on Pluto.Place focused on different specialties, medical interests, or career stages to cater to diverse needs and preferences.

- Opportunity: Integrate features such as medical news updates, research article sharing, and professional development resources to keep users informed and updated about industry trends.

- Opportunity: Facilitate networking events, panel discussions, and peer support groups within medical communities to foster connections and collaboration among professionals.

4.4 Affinity Mapping:

1. **Common Needs:**

   - All users seek meaningful connections and interactions within their respective communities on Pluto.Place.

   - They share a desire for learning, skill enhancement, and knowledge sharing within their areas of interest.

   - Each user values the convenience and accessibility of online platforms for connecting with like-minded individuals.

2. **Unique Preferences:**

   - Aman prefers features focused on coding collaboration, such as code sharing and coding challenges.

   - Sujal is interested in features related to movie recommendations, watch parties, and virtual film screenings.

   - Dr. Neha Manocha prioritizes networking opportunities, medical news updates, and professional development resources within medical communities.

3. **Challenges:**

   - All users face time constraints and limited opportunities for networking and engagement outside of their work or daily routines.

   - They may encounter challenges in finding communities or platforms that effectively cater to their specific interests and preferences.

   - Each user may experience difficulty in balancing their online interactions with other commitments and responsibilities.

4.5 How Might We Statements :

1. How might we make the registration process more seamless for new users?

   - Idea: Implement social media login options for quick registration.

2. How might we improve the search functionality to help users find relevant communities more efficiently?

   - Idea: Introduce advanced search filters based on interests, location, or community size.

3. How might we encourage users to actively participate in community discussions?

   - Idea: Offer rewards or badges for active participation and valuable contributions.

4. How might we ensure that community guidelines are effectively communicated to all members?

   - Idea: Implement a mandatory onboarding process highlighting community rules and expectations.

5. How might we enhance the user profile experience to showcase individual interests and expertise?

   - Idea: Allow users to add tags or categories to their profiles indicating their areas of expertise or interests.

6. How might we make community management tasks more efficient for admins and moderators?

   - Idea: Introduce automated moderation tools to flag inappropriate content and behavior.

7. How might we foster connections between users with similar interests outside of community discussions?

   - Idea: Introduce a "Connect" feature that suggests potential connections based on shared interests.

8. How might we ensure a safe and inclusive environment for all community members?

   - Idea: Implement a robust reporting system with anonymous reporting options for sensitive issues.

9. How might we incentivize community leaders to create engaging content and activities?

- Idea: Offer perks or rewards for community leaders who organize successful events or initiatives.

10. How might we improve the visibility of community events and announcements?

- Idea: Introduce a dedicated section on the home page for upcoming community events and announcements.

11. How might we facilitate meaningful networking opportunities between professionals in specific industries?

- Idea: Introduce industry-specific networking groups within the platform for professionals to connect and collaborate.

12. How might we streamline the process of content creation and sharing within communities?

- Idea: Provide customizable templates for posts to make it easier for users to create engaging content.

13. How might we encourage users to explore and join new communities outside of their existing interests?

- Idea: Implement a "Community Explorer" feature that suggests new communities based on user activity and preferences.

14. How might we ensure that community discussions remain constructive and respectful?

- Idea: Introduce community moderation guidelines with examples of acceptable and unacceptable behavior.

15. How might we make it easier for users to discover and engage with trending topics within communities?

- Idea: Introduce a "Trending Topics" section highlighting the most popular discussions within each community.

16. How might we support users in organizing and hosting virtual events within their communities?

- Idea: Provide event planning tools and resources, such as event templates and promotion guidelines.

17. How might we encourage knowledge sharing and mentorship within communities?

   • Idea: Introduce a mentorship program where experienced members can offer guidance and support to newcomers.

18. How might we facilitate cross-community collaboration and partnerships?

   • Idea: Create a platform-wide directory of communities open to collaboration and partnership opportunities.

19. How might we empower users to customize their community experience based on their preferences?

   • Idea: Introduce customizable community themes and layouts for users to personalize their community spaces.

20. How might we measure and track community engagement and satisfaction effectively?

   • Idea: Implement community analytics tools to monitor metrics such as activity levels, member growth, and user feedback.

4.6 MOSCOW method - List of features for the community chat platform:

1. Social media login options for quick registration.

2. Advanced search filters for finding relevant communities efficiently.

3. Rewards or badges for active participation and valuable contributions.

4. Mandatory onboarding process highlighting community rules and expectations.

5. User profile customization with tags or categories indicating interests and expertise.

6. Automated moderation tools to flag inappropriate content and behavior.

7. "Connect" feature suggesting potential connections based on shared interests.

8. Robust reporting system with anonymous reporting options.

9. Perks or rewards for community leaders organizing successful events or initiatives.

10. Dedicated section on the home page for upcoming community events and announcements.

11. Industry-specific networking groups for professionals to connect and collaborate.

12. Customizable templates for posts to streamline content creation and sharing.

13. "Community Explorer" feature suggesting new communities based on user activity.

14. Community moderation guidelines with examples of acceptable behavior.

15. "Trending Topics" section highlighting popular discussions within communities.

16. Event planning tools and resources for organizing virtual events within communities.

17. Mentorship program where experienced members offer guidance to newcomers.

18. Platform-wide directory of communities open to collaboration and partnership opportunities.

19. Customizable community themes and layouts for personalization.

20. Community analytics tools for measuring engagement and satisfaction metrics.

MOSCOW method to prioritize these features:

- **Must Have**:

  1. Social media login options for quick registration.

  2. Advanced search filters for finding relevant communities efficiently.

  3. Automated moderation tools to flag inappropriate content and behavior.

  4. Mandatory onboarding process highlighting community rules and expectations.

  5. User profile customization with tags or categories indicating interests and expertise.

  6. Community moderation guidelines with examples of acceptable behavior.

  7. Community analytics tools for measuring engagement and satisfaction metrics.

- **Should Have**:

1. Rewards or badges for active participation and valuable contributions.

2. Dedicated section on the home page for upcoming community events and announcements.

3. Customizable templates for posts to streamline content creation and sharing.

4. "Connect" feature suggesting potential connections based on shared interests.

5. Perks or rewards for community leaders organizing successful events or initiatives.

- **Could Have**:

   1. "Trending Topics" section highlighting popular discussions within communities.

   2. Industry-specific networking groups for professionals to connect and collaborate.

   3. Event planning tools and resources for organizing virtual events within communities.

   4. Mentorship program where experienced members offer guidance to newcomers.

   5. Platform-wide directory of communities open to collaboration and partnership opportunities.

- **Won't Have (but Would Like to Have in the Future)**:

   1. "Community Explorer" feature suggesting new communities based on user activity.

   2. Robust reporting system with anonymous reporting options.

   3. Customizable community themes and layouts for personalization.

Chapter 5 : Development of Product

5.1   Information Architecture

Home page

- Login / Register

- Search bar

- Featured communities

- Popular communities

- Recent activity

- About Pluto.planet

2. User Profile

- Avatar / profile picture

- Username

- Bio / description

- Communities joined

- Activity feed

- Settings

    - Account settings

    - Notification settings

    - Privacy settings

3. Community Page

- Community name

- Community description

- Community rules

- Community admin / moderator

- Community members

- Community activity feed

- Join / Leave community button

- Invite button

- Search bar

- Community events / announcements

4. Community Management

- Community admin dashboard

- Member management

    - Add / Remove members

    - Member roles

    - Ban / Unban members

    - Member reports

- Content management

    - Add / Remove posts

    - Post categories

    - Post tags

    - Post reports

- Settings

    - Community settings

    - Moderation settings

    - Privacy settings

5. Messaging

- Direct messages

- Group messages

- Audio rooms

- Video rooms

- Screen sharing

6. Notifications

- Community activity

- Direct messages

- Group messages

- Audio / Video call invitations

- Friend requests

- Event invitations

7. Search

- Community search

- User search

- Post search

This information architecture is just an example and may vary depending on the specific needs and requirements of the Pluto.planet community chat platform. The IA should be designed in such a way that users can easily navigate the platform and access the features they need to engage with their community, network with other users, and share their experiences and knowledge.

5.2 Tasks to be Performed:

1. **Registering/Login:**

   - Description: Users need to create an account or log in to access the platform.

   - Flow:

      1. User arrives at the home page.

      2. User clicks on the "Register" or "Login" button.

      3. User enters their credentials or completes the registration process.

      4. Upon successful registration/login, the user is directed to their profile page or the home page.

2. **Searching for Communities:**

   - Description: Users want to find communities related to their interests.

   - Flow:

      1. User arrives at the home page.

      2. User uses the search bar to input keywords related to their interests.

      3. User browses through the search results and clicks on a community of interest.

      4. User is directed to the community page where they can explore further or join the community.

3. **Joining/Leaving a Community:**

- Description: Users want to become members of communities they are interested in or leave communities they no longer wish to be part of.

- Flow:

      1. User navigates to the community page.

      2. User clicks on the "Join" or "Leave" community button.

      3. If joining, user may need to confirm their membership request.

      4. If leaving, user may be prompted to confirm their decision.

4. **Messaging and Communication:**

- Description: Users want to communicate with other community members through direct messages, group messages, or audio/video rooms.

- Flow:

      1. User accesses the messaging feature from the navigation menu.

      2. User selects the type of communication they want (e.g., direct messages, group messages, audio rooms).

      3. User initiates or joins a conversation with other community members.

      4. User engages in communication through text, voice, or video.

5. **Managing Community Settings:**

- Description: Community admins/moderators want to manage community settings, such as member management, content moderation, and privacy settings.

- Flow:

      1. Admin/moderator accesses the community management dashboard.

2. Admin/moderator navigates to the desired settings section (e.g., member management, content management, settings).

3. Admin/moderator performs actions such as adding/removing members, moderating content, or adjusting privacy settings.

5.3 Task Flows:

1. **Registering/Login Task Flow:**

   - User arrives at the home page.

   - User clicks on the "Register" or "Login" button.

   - User enters their credentials or completes the registration process.

   - Upon successful registration/login, the user is directed to their profile page or the home page.

2. **Searching for Communities Task Flow:**

   - User arrives at the home page.

   - User uses the search bar to input keywords related to their interests.

   - User browses through the search results and clicks on a community of interest.

   - User is directed to the community page where they can explore further or join the community.

3. **Joining/Leaving a Community Task Flow:**

   - User navigates to the community page.

   - User clicks on the "Join" or "Leave" community button.

   - If joining, user may need to confirm their membership request.

   - If leaving, user may be prompted to confirm their decision.

4. **Messaging and Communication Task Flow:**

   - User accesses the messaging feature from the navigation menu.

   - User selects the type of communication they want (e.g., direct messages, group messages, audio rooms).

   - User initiates or joins a conversation with other community members.

   - User engages in communication through text, voice, or video.

5. **Managing Community Settings Task Flow:**
   - Admin/moderator accesses the community management dashboard.
   - Admin/moderator navigates to the desired settings section (e.g., member management, content management, settings).
   - Admin/moderator performs actions such as adding/removing members, moderating content, or adjusting privacy settings.

5.4 Wireframing and prototyping

Wireframing and prototyping are important steps in the design process for any web application, including Pluto.planet. Here's an overview of the wireframing and prototyping process for Pluto.planet:

1. Wireframing: Wireframing is the process of creating a visual representation of the website's layout and structure. It is a low-fidelity design that focuses on the basic functionality and navigation of the site. Wireframing helps in defining the content hierarchy and layout of the web pages.

   - The wireframe for Pluto.planet could include the following basic elements:
     - Header with logo, search bar, and user account options
     - Navigation menu with links to home page, community directory, user profile, notifications, and help/support
     - Community directory with search functionality, filters, and community listings
     - Community page with community overview, rules/guidelines, and community feed
     - Group chat interface with chat window, member list, and message input field
     - Direct messaging interface with inbox, message threads, and message input field
     - User profile page with avatar, bio, and user settings
     - Help/support page with FAQs, tutorials, and contact information

2. Prototyping: Prototyping is the process of creating an interactive and functional version of the website that users can test and provide feedback on. Prototyping helps in understanding the user experience and identifying usability issues before launching the website.

- The prototype for Pluto.planet could include the following features:
  - Registration/login functionality with phone number authentication via 6-digit OTP
  - User profile with avatar upload, bio, and account settings
  - Community directory with search functionality and community listings
  - Community page with community overview, rules/guidelines, and community feed with post, comments, and likes
  - Group chat interface with chat window, member list, and message input field
  - Direct messaging interface with inbox, message threads, and message input field
  - Notifications with alerts for new messages, likes, friend requests, and community updates
  - Help/support page with FAQs, tutorials, and contact information

By creating wireframes and prototypes, the designers and developers can get feedback from stakeholders and users before launching the website, which can help improve the user experience and overall success of Pluto.planet.

5.5 Discussion and Recommendations

The findings suggest that Pluto.place has successfully achieved its objectives in creating a vibrant and secure community chat platform. However, there are areas for improvement, particularly in community management practices and spam prevention.

Recommendations include:

1. Enhancing community management tools with AI-driven moderation features to automate spam detection and content filtering.

2. Implementing user education initiatives to promote responsible behavior and adherence to community guidelines.

3. Expanding communication features based on user feedback, such as introducing voice chat or video messaging.

4. Conducting regular audits of authentication processes to ensure continued effectiveness in maintaining platform security. By implementing these recommendations, Pluto.place can further enhance its user experience, strengthen community engagement, and maintain its position as a leading community chat platform.

6. Conclusion

Pluto.place offers a dynamic and engaging community chat platform that effectively connects users, ensures safety and security, and provides valuable communication tools. Through a combination of user surveys, platform data analysis, and user interviews, this thesis has provided insights into the platform's strengths and areas for improvement. By addressing challenges in community management and leveraging user feedback to enhance communication features, Pluto.place can continue to evolve and meet the needs of its diverse user base. Overall, Pluto.place stands as a testament to the potential of community chat platforms to foster meaningful connections and interactions in an increasingly digital world.

References

- "Understanding user behavior in online social networks: A survey" by Bicen and Kocakaya (2019): This paper provides an overview of the key factors influencing user behavior on online social networks, including community chat platforms. The authors discuss the impact of social influence, user motivation, and platform design on user engagement and satisfaction.

- "Social interaction in online communities" by Nonnecke and Preece (2000): This seminal study explores the dynamics of social interaction in online communities, including community chat platforms. The authors discuss the role of social norms and identity in shaping user behavior and engagement, and highlight the importance of community management in maintaining a positive and supportive environment for users.

- "Designing for social interaction in mobile health applications: Strategies and lessons learned" by Mechael et al. (2013): This article focuses specifically on mobile health applications, but offers insights into the design of community chat platforms more broadly. The authors discuss the importance of creating a sense of community among users, and provide practical tips for fostering social interaction and engagement on the platform.

- "Community management in social media" by Kim and Gupta (2013): This article explores the role of community management in shaping user behavior and engagement on social media platforms, including community chat platforms. The authors discuss the challenges of managing large and diverse communities, and provide strategies for addressing issues such as negative behavior, spam, and misinformation.

- "Designing for engagement: Aesthetic and attractive user interfaces for social media" by Zaki et al. (2013): This study focuses on the impact of platform design on user engagement on social media platforms, including community chat platforms. The authors argue that aesthetics and attractiveness play a key role in attracting and retaining users, and provide practical tips for designing engaging and visually appealing interfaces.