



ChitChat
Software Requirements Specification
For Social Media Website

Version 1.0

Chitchat Corp	Version: 1.0
Software Requirements Specification	Date: 10/15/23
First Draft	

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Software Requirements Specification

1. Introduction

This design report will give an overview of our design for a mini twitter website. The purpose and scope will be clarified along with key definitions for understanding the rest of the report.

1.1 Purpose

The purpose of this software requirements specification is to describe the scope, to provide a complete and comprehensive description of ChitChat, fully describe its external behavior, along with the nonfunctional functional requirements and design constraints. Additionally, it is designed and written for five types of users to this system, super users (SUs), corporate users (CUs), trendy users (TUs), ordinary users (OUs), and surfers (Ss), each having their own respective tasks.

1.2 Scope

ChitChat is a social media platform inspired by Twitter. The scope of the components of Chit Chat is to simulate a social media platform where it includes features such as user registration, posting posts, following/unfollowing other users, and a user profile. Each user of this system has their own respective ability to perform certain tasks. As the hierarchy goes, from most power to least power, SUs > CUs, and TUs > OUs > S. SUs are basically the administrators of the system, and have access to almost everything. The OUs unlock more features than the Ss because they are the registered members of the system, such as changing their personal information, the ability to create/delete posts, comment, tip, like/dislike, complain, follow messages, and subscribe to other users, all in addition to what the Ss can do. The Ss have limited features compared to the other users, such as browsing, filing reports to SUs, and signing up to become OUs. CUs are companies and employers who have permission to post ads and job openings. TUs are popular users who meet certain criteria such as receiving a certain amount in tips (monetary donations), a certain number of likes/dislikes and have authored a certain amount of popular messages. Each user has their own restrictions and constraints as well. In other words, the OUs and Ss don't have some of the powers that SUs have to perform certain tasks, and the Ss don't have some of the power that OUs have to perform certain tasks. If users other than CUs post a job opening or an ad, they'll face some sort of penalty that will be specified later in this document. We are aiming to have a low cost of designing and maintaining Chit Chat and complete the basic functionalities by the end of the fall semester. We also want to make sure there are as few issues present as possible and a high percentage of uptime in order for users to interact smoothly and enjoy their time here. Furthermore, the use-case model it is associated with is the UML diagram that describes the functionalities of the system and the interactions between the users and the system.

1.3 Definitions, Acronyms, and Abbreviations

Acronym	Terms	Definition
CC	ChitChat	A social media platform inspired by Twitter, where users can discuss and distribute information.
SU	Super User	An administrator user who has all the same features/permissions as the users below. They can also warn, add, and delete any users and/or messages.
CU	Corporate User	A user with all permissions of an ordinary user (OU), in addition to having permission to post ads and job openings.

TU	Trendy User	A user with all permissions of an ordinary user (OU). Subset of ordinary users who are: <ul style="list-style-type: none"> • Subscribed by >10 users • Received >\$100 tips or #likes-#dislikes > 10 • Author of at least 2 trendy messages
OU	Ordinary User	A user with all the permissions/features of a surfer in addition to being able to post/delete, comment, tip, like/dislike, follow messages, and subscribe to other users.
S	Surfer User	A user, with no account on the website, capable of only viewing/searching messages & reporting/complaining to the super-user about misinformation
GUI	Graphical User Interface	A method of interacting with the computer through visual means, like windows, icons, menus, etc.
HTML	Hypertext Markup Language	A markup language employed in the creation and formatting of web content, which structures text and hyperlinks on a webpage.
CSS	Cascading Style Sheets	A style sheet programming language utilized for web design, with the primary aim of incorporating visual elements into an HTML document
JS	JavaScript	A scripting language employed to create interactive features on webpages, enhancing the user experience.

1.4 References

- spec_sample.pdf, located in the course website provided by Jie Wei
- proj spec.docx, located in the course website provided by Jie Wei

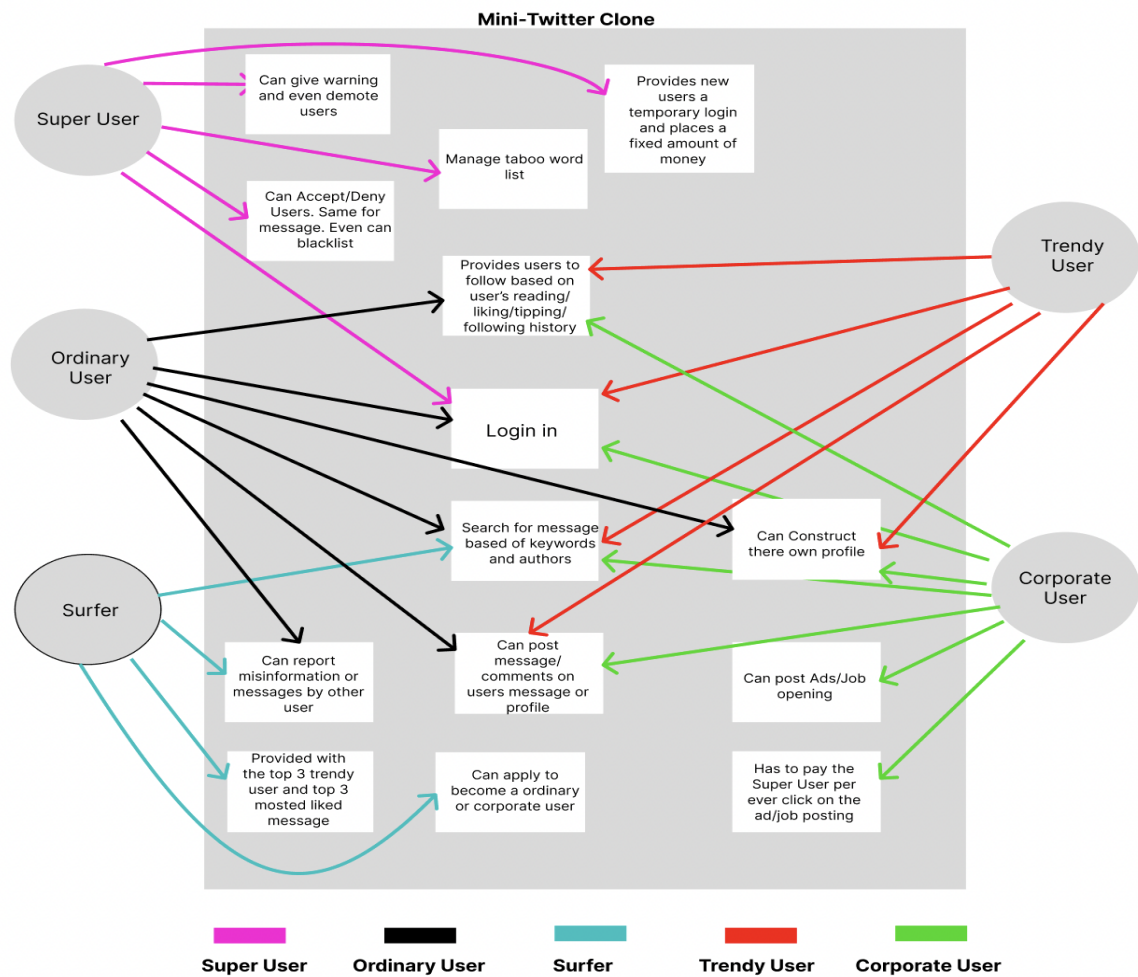
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1.5 Overview

The second section of this document, overall description, will describe the general factors that affect the product and its requirements such as the use-case model which demonstrates the interactions between the system and the users of ChitChat and the assumptions and dependencies which contains any key technical feasibility, subsystem or component availability. The third section provides background information, use-case models, subsystems and features for these functional and software requirements which are defined in detail in order to make them easier to understand. The last section contains supporting information that makes the software requirements specification easier to use such as the table of content, index or appendix.

2. Overall Description

2.1 Use-Case Model Survey



(Figure 1: The Use-Case Diagram of the Mini-Twitter(ChitChat))

Function:	Description:
Login in	OU/TU/SU/CU can all login in to the website
Sign up	All previous users mentioned in login can sign up.This is where a surfer can also sign up and choose an account type.
Give warning/Demote User	SU receive reports and issues warning or demotion
Report Message/Profile of Users	S and OU can file a complaint on other users
Taboo List	SU sets up all the taboo words
Deny Users/Accept Users	SU can deny and accept users trying to make an account
Illegal Posting	OU/TU will be fined for posting ads/job post
Comment on other User Profile	OU/TU/CU can all comment on other people profile
Search for Message	OU/TU/CU/S can all search for message
Deposit Money	SU adds a certain amount of money on User account when created
Posting Ads/Job Link	CU have to pay SU and the website
Providing temporary password	SU provide a temporary password to all the user they accept
Construct own profile	OU/TU/CU can all customize their own profile
Exceed Word Count	OU/TU have to pay if they exceed 20 words.
Trendy Post	TU posts are considered as trending posts. And OU can become a TU and have trending posts also.

2.2 Assumptions and Dependencies

Assumptions/Dependencies:

- 1) **User Availability:** The success of the ChitChat depends on a significant number of users actively using the platform. The number of users subscribing to TU accounts, as well as the amount of tips and likes received, are crucial for the differentiation of user types.
- 2) **Monetary Transactions:** The system assumes the availability of a reliable payment gateway for handling financial transactions, such as depositing funds, billing users, and processing payments from CU users. Any issues with this payment gateway may impact the financial aspects of the system.

- 3) Content Promotion: The identification and promotion of "trendy posts" are dependent on the system's algorithms for analyzing message reads, likes, and dislikes. The quality of these algorithms is vital to promoting relevant and engaging content.
- 4) Ads and Job Postings: The availability of advertisers and employers willing to use the platform for posting ads and job opportunities is essential. The system's revenue generation heavily relies on the participation of Corporate Users (CU) for this feature.
- 5) Privacy and Data Security: The platform must ensure the privacy and security of user data. Compliance with privacy regulations and effective data protection measures are vital.
- 6) User Interface and User Experience: The success of the platform relies on a user-friendly and intuitive interface. This requires the availability of appropriate UI/UX design and development resources.
- 7) We are assuming that all users know how to use their computer, are familiar with internet browsing, have access to the internet, and are familiar with social media to the extent where they can understand some basic functions that can be found on several popular forms of social media such as Youtube, Twitter, Facebook/Meta, Discord, etc. The web application should be able to work across most browsers, especially popular ones like Windows, Linux, and macOS.
- 8) We are only considering people that have an average level of English literacy skill since our interfaces will consist only of English. We care about our user experiences.

3. Specific Requirements

The specific requirement for this project will allow our different users (Trendy Users, Admin(Super) User, Normal Users, Surfers, Corporate Users) to post messages, view other users' comments/pictures, and link pictures and videos on this social media platform. As previously mentioned that there are different types of users as mentioned in section 1.3. Aside from a surfer, all the other options required a sign up. Once they sign up, an admin(Super) will then allow them to let in. Then they are allowed to roam and message, the trendy user, normal user and the corporate users all can accomplish this task. Then only corporate users are allowed to pay for ads while any other user will get fined. Will also get charged \$10 per every message they make. While trendy or ordinary users will only get charged if they exceed 20 max characters. These users/functions are used in this app for the website to be fully functional without errors.

3.1 Use-Case Reports

This is where we go in depth with all the Use-case shown in the diagram and table shown in section 2.1

User Registration:

- Surfers(S) have the option of visiting the website without signing up, and they can freely access messaging and viewing the website. However, their home page will only consist of trending user posts. They can sign up to become an ordinary or corporate user with a their own chosen id
- Super User(SU) are in charge of accepting and denying any person trying to sign up to the website. If they are denied then the Super user has to provide a reason for why he/she denied the user. If accepted then, the Super User will provide a temporary password and deposit a set of money on the account for the user to have a balance upon logging in.

Creation of a User Profile:

- Trendy User(TU), Ordinary User(OU), and Corporate User(CU) can customize their profile. These profiles may include personal information, preferences, and interests. However these profiles can be subjected to reports if they contain misinformation or inappropriate content deemed by other OU and even surfers(S). These profiles can also be commented on by other users.

Message Posting and Payments:

- The System checks the length of every post by Ordinary User and Trendy User. If the user exceeds the amount(>20 words) then they will be billed for every single word that exceeds the limit. \$0.1 for every single time.
- Corporate Users(CU) also are able to post messages, both regular and messages that are correlated to an ad/Job posting. However they don't have a limit but rather are billed for every word.

- Super User(SU) can also post messages, alongside just posting they can also delete other users' comments. They can create a taboo list of words that are considered inappropriate, and mentioning words in this list can trigger a warning. Excessive amounts of word use can result in message blocks.

Trendy Post:

- If the message receives a lot of engagement in terms of the amount of likes and dislikes, then it has the chance to turn into a trendy post. These posts show up in the “Trending” to gain more visibility.
- If an ordinary user has at least 2 trendy messages then they will be promoted to a Trendy user(TU). Then their messages will also be appearing on the trendy page.

Follow Suggestions:

- Based on the activity of the user that is logged in, the system will give the Trendy User/Corporate User/Ordinary User accounts to follow based on their reading history, liking, and tipping activities. When Surfers view the webpage, they are instead recommended trendy users and the top 3 liked messages as well.

User Argument/Warning System:

- If a user receives a warning due to their behavior or their comment, then they can argue against the Super user to have it removed by submitting an explanation. The super user will then review the explanation and then decide on whether he wants to approve or deny. If denied the warning stands, if approved then the warning is removed and the initiator receives the warning instead for false information. If they do not argue, then they are expected to pay a fixed price for the warning to be removed. If it's a trendy user, who has received 3 or more, then they are demoted to an OU. If it's an Corporate/Ordinary user, then they are removed from the system.

Message Searching:

- All users including surfers are able to search messages on the website. The criteria for searching depends on the user's message, specific keywords, image/videos.

Posting Ads/Job Listing:

- Corporate Users can post advertisements and job openings on the platform. Other users can view the post and even apply for the advertised job. They have to pay \$0.1 for each click on their advertisement and also for each job application to the Super user.

Penalty for Unauthorized Ad/Job Listing post:

- Any Trendy User (TU) or Ordinary User (OU) who posts any unauthorized advertisements, sponsorship, or job opportunities is subjected to receiving a penalty. The penalty is up to 10 dollars and you will also receive a warning with the fine.

3.2 Supplementary Requirements

Certain requirements are necessary for the design, hosting, and operation of this web application. These requirements include having a preferred 64-bit processor/CPU to efficiently manage data processing. The system should run on one of the following operating systems: Windows 7/10/11, MacOS Sierra or a more recent version (>10.12), or a popular Linux distribution with the latest Ubuntu version or a similar recommended Linux operating system. Programming languages used within the web application, such as Python, should be at version 3.10.4 or higher, HTML should be based on HTML5, and CSS should adhere to version CSS3.

Efficiency Requirement:

Response Time: The system should offer responsive performance to ensure that user interaction occurs. Some examples are posting messages, searching, and following other user code without any delay.

Resource Utilization: The system should efficiently use built in libraries and also server resources to provide the number of users, messages, and files.

Security Condition:

User Verification: Create a secure mechanism for user verification and authorization to be in place to protect users data from breachers trying to get access to such information.

Information Encryption: For sensitive information, such as user information or even financial transactions such as credit card and debit card. They should be encrypted to make sure that they are private for that current user.

User Privacy: The system should follow data protection rules and make sure that all of the users data is properly handled and does not get lost.

Constant Security: The System should perform constant updates and patches on the security of the platform to make sure it can withstand any potential cyber attacks.

User Experience:

User Interface: The user interface should be user-friendly and instinctive to make the overall user experience even better than what it currently is.

Accessible to others: Make sure that the website is accessible to not only normal users but also

user

users with disabilities and even users that are in other time zones.(Undecided)

4. Supporting Information

Below is a rough prototype of ChitChat made using figma. This will undoubtedly change as we progress through this assignment, but for now it serves as a visual representation of what we envision for our website at this time. We have a signup and login page, home, trending, and profile pages, as well as a payment, settings and profile page. These pages are self explanatory and just have their most basic functionalities at the moment.

Appendix: (Image Below represent the description above)

Appendix A: Sign up

Description: A page where new users can sign up and create an account.

Key Features: It provides User Information that will get stored.



Name:

Username:

Email:

Password:

DOB:

Phone:

Sign up

Appendix B: Login

Description: Existing Users are able to login to the website.

Key Features: Requires User information previously created by the user, such as Username and Password.



Username:

Password:

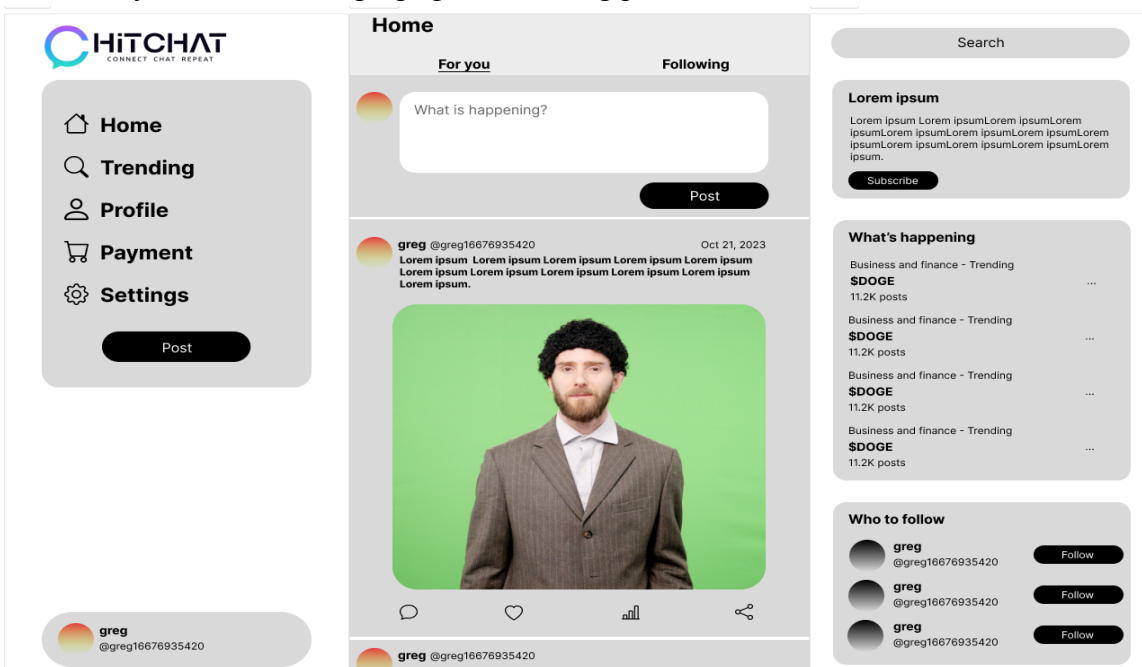
Login

Sign up

Appendix C: Home

Description: The Home Page is a key aspect that users will see when logging in. Contain various possibilities for the user.

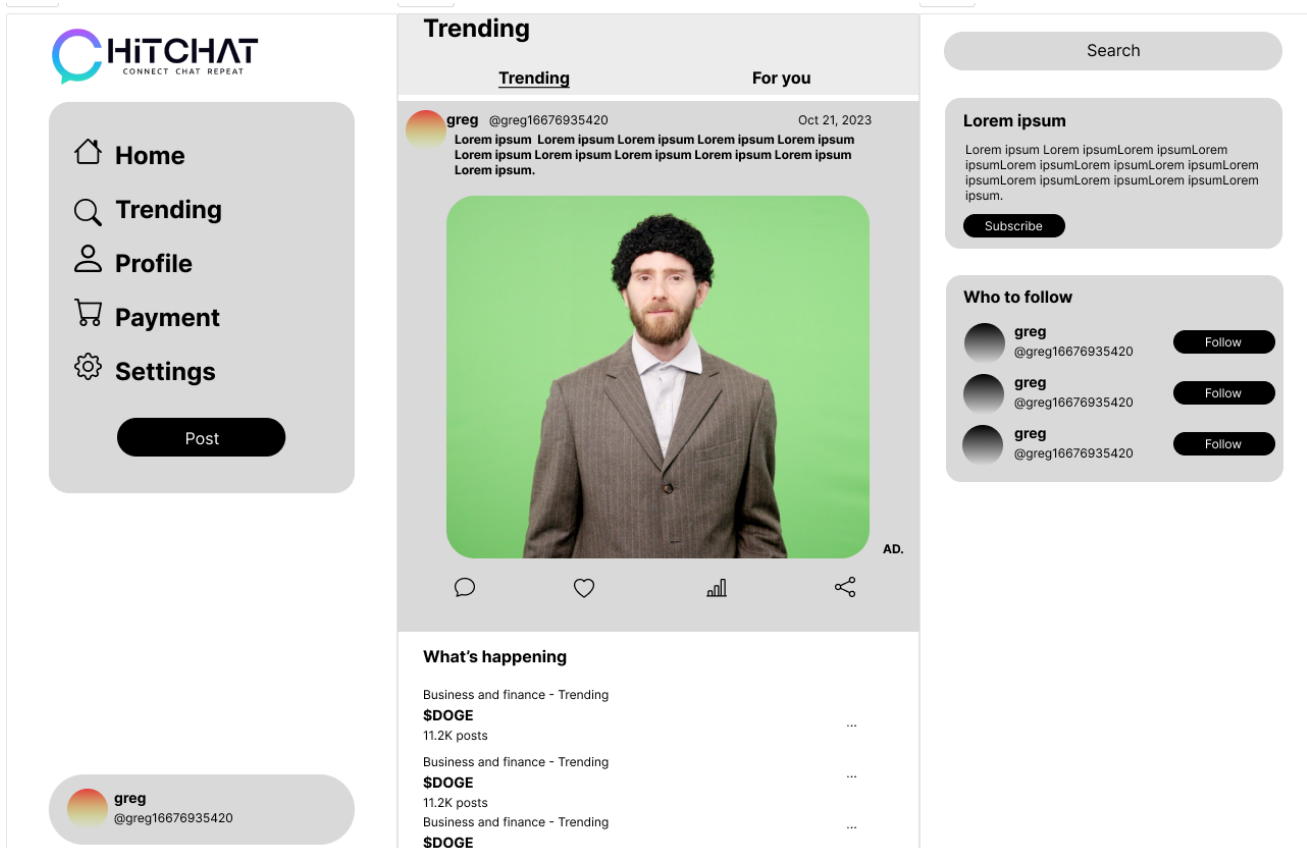
Key Feature: Messaging option, trending post, and also Users to follow.



Appendix D: Trending

Description: The trending page is similar to the home page but will only consist of trendy users' posts and will not allow you to post any comment.

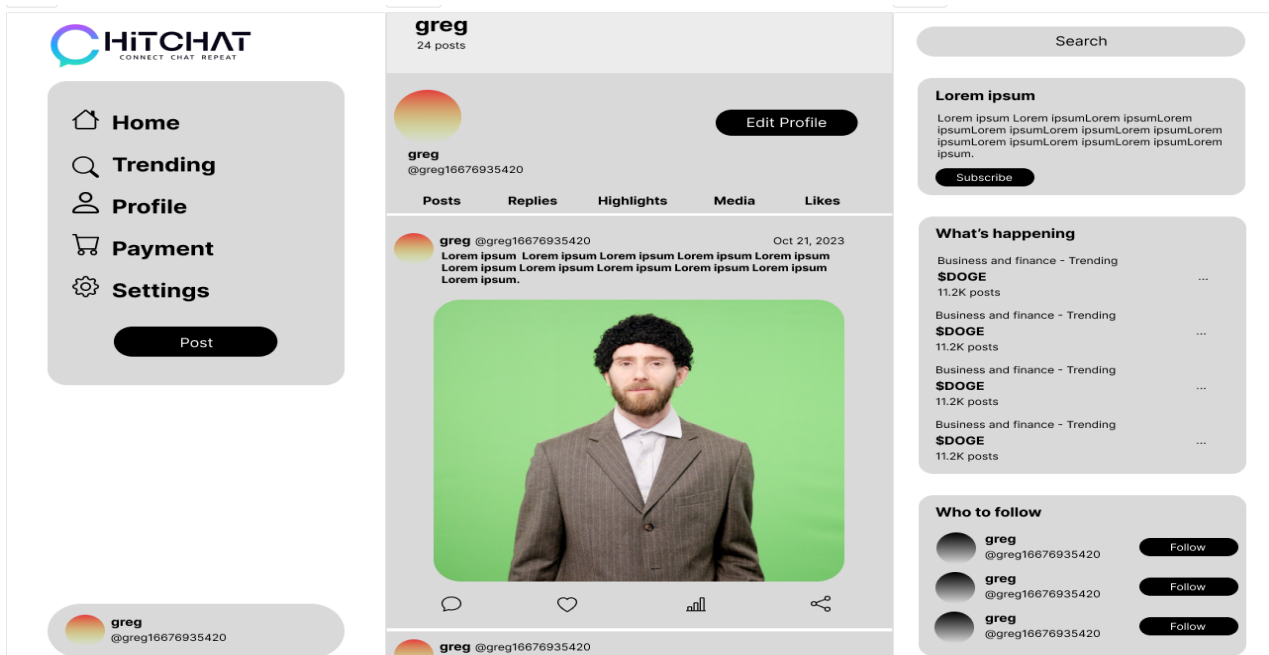
Key Features: List of all the trending messages.



Appendix E: Profile

Description: It is the Users Profile, it will allow them to see their replies, posts, and likes to other posts.

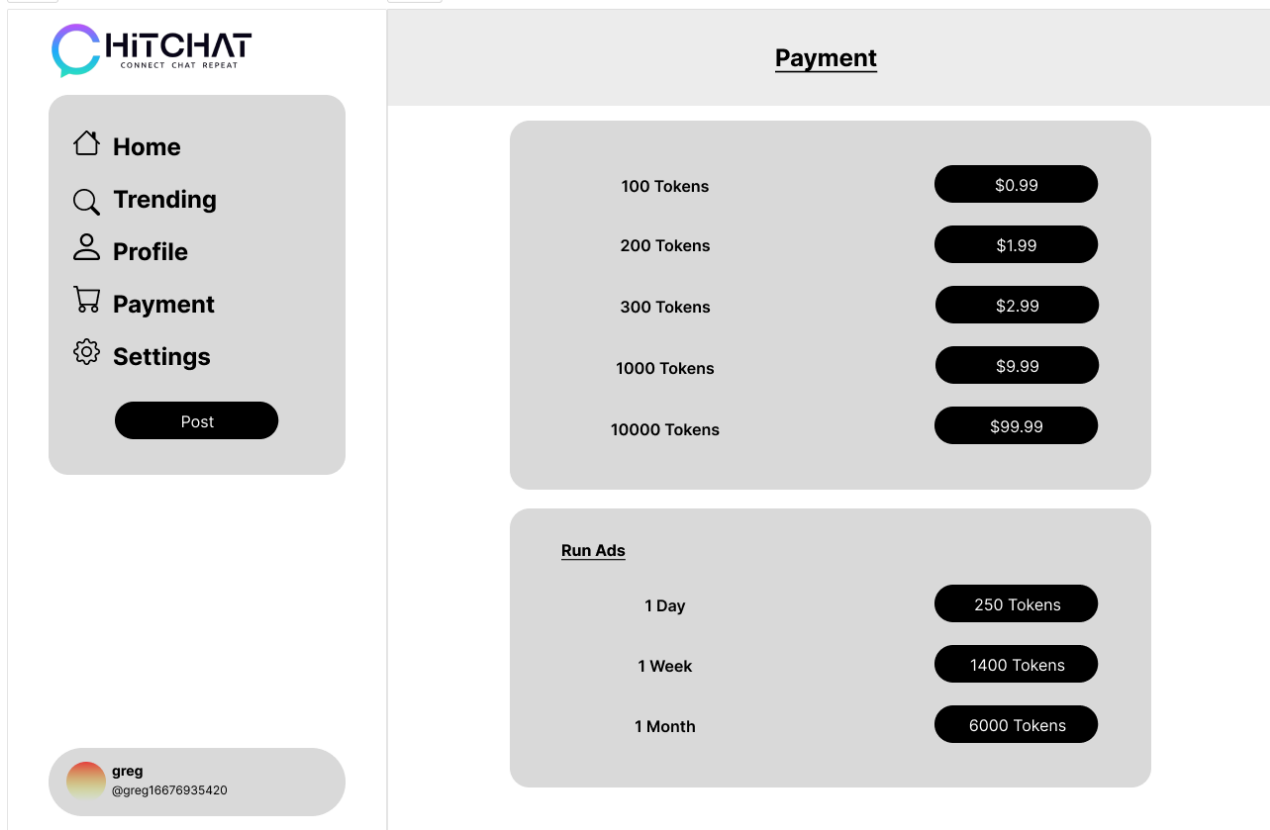
Key Feature: User Profile and User Customization.



Appendix F: Payment

Description: (Warning: Still in initial phase), it will contain a payment option for CU/TU/OU to pay their amount due.

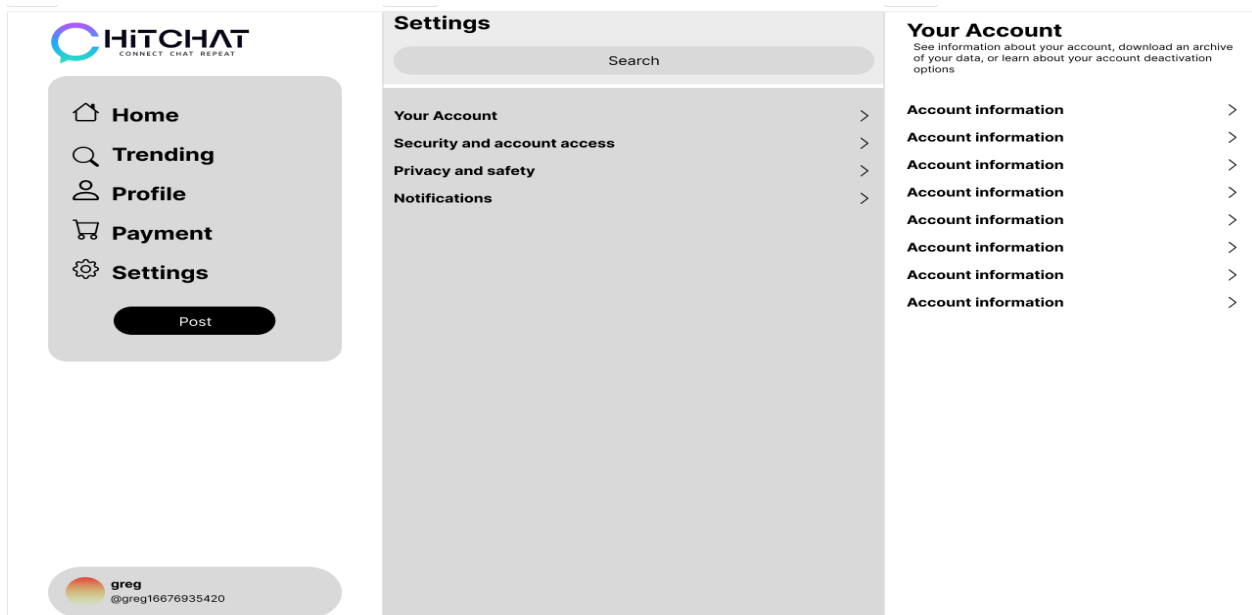
Key Feature: Deposit form



Appendix G: Settings

Description: Will be the place where you can view your account and check the security of the information.

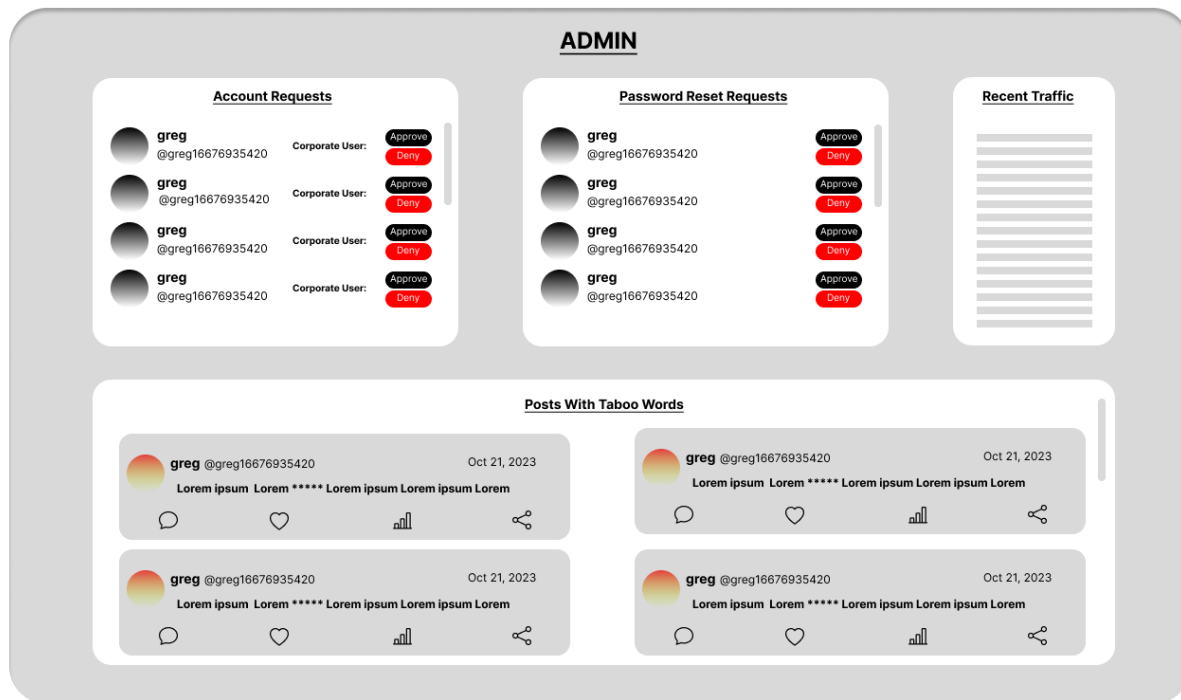
Key Feature: Account settings and notification preferences



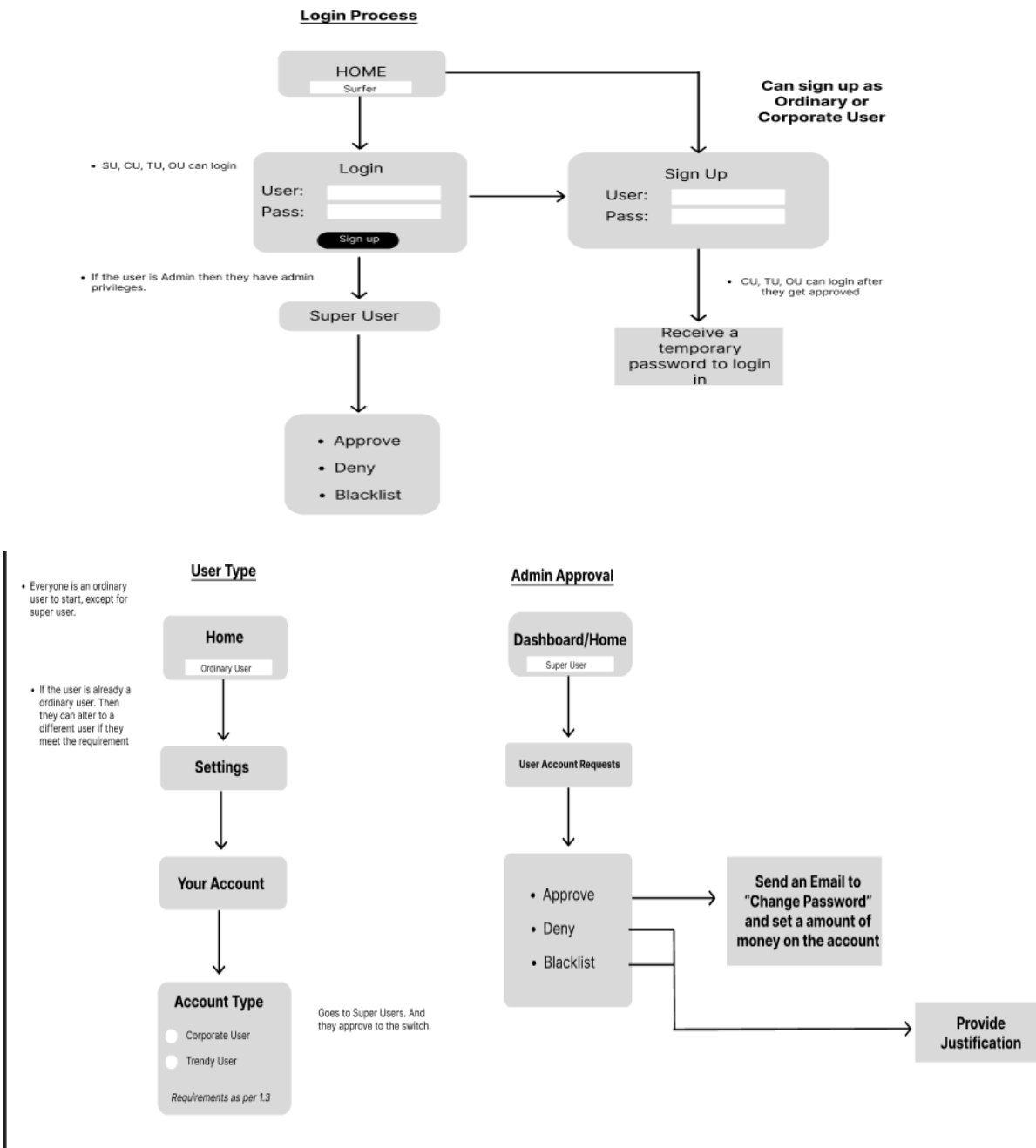
Appendix H: Admin

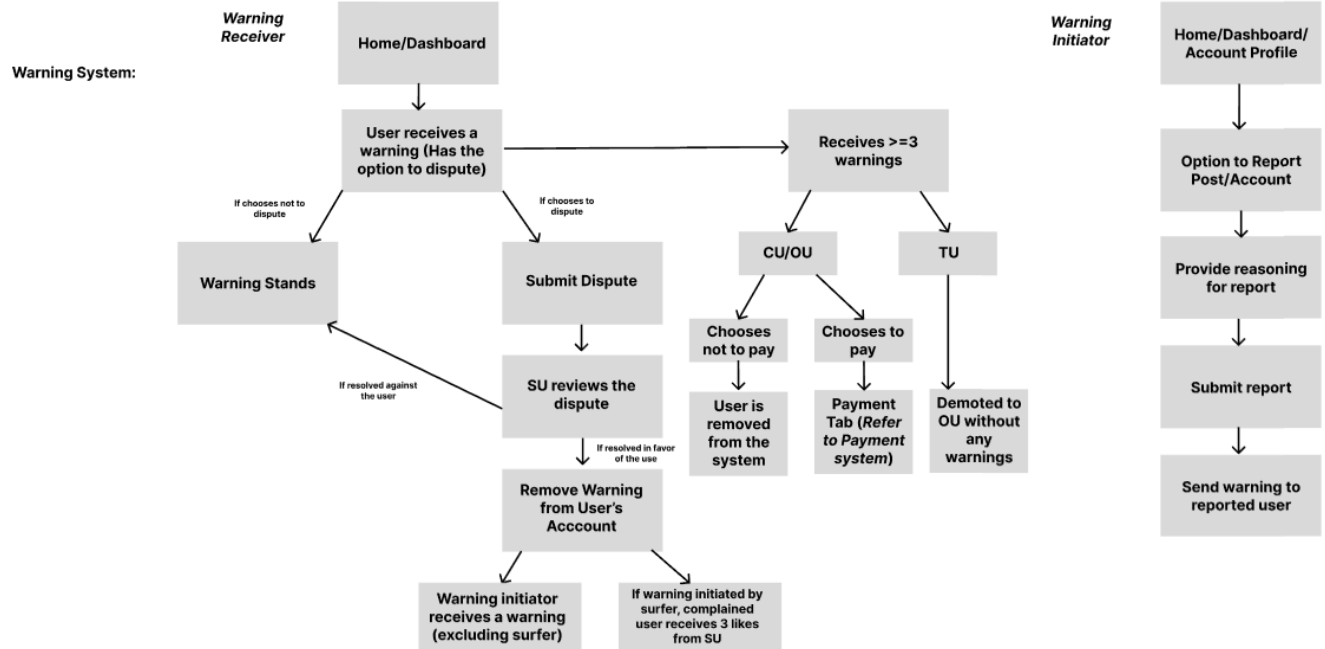
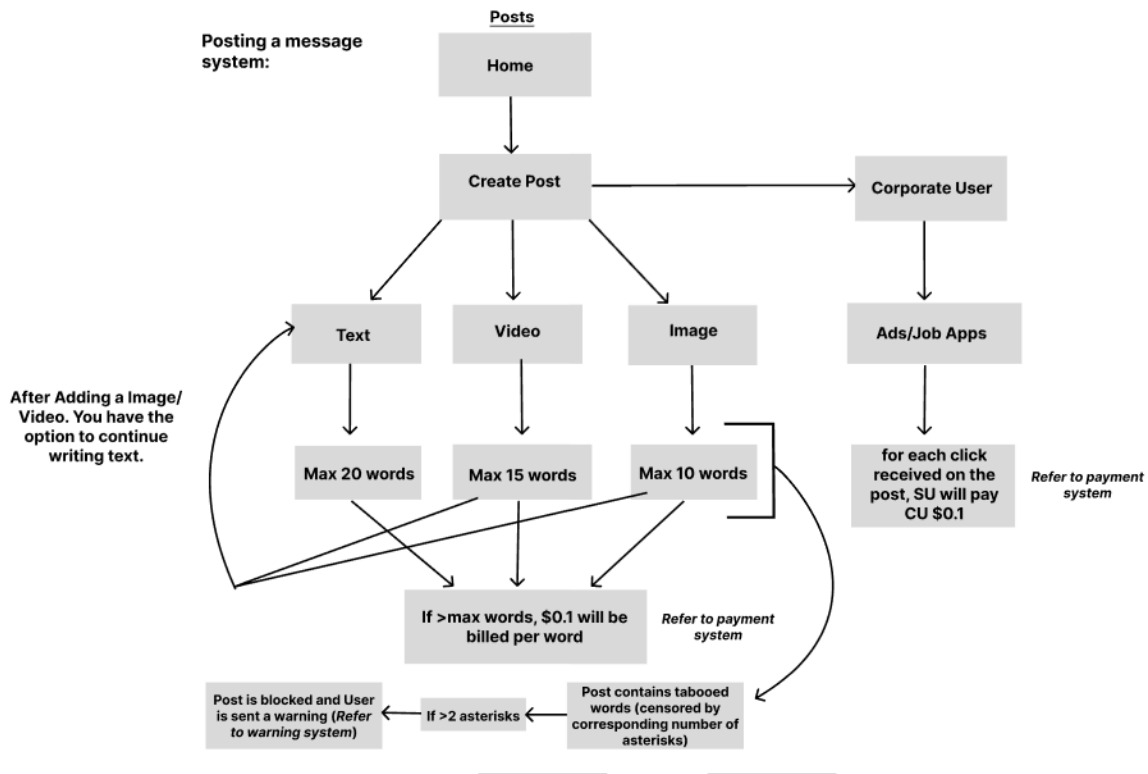
Description: This will only be for admin Users, as they can accept or deny new users and see messages that contain taboo words.

Key Feature: Add, remove, or edit taboo words and monitors the new user

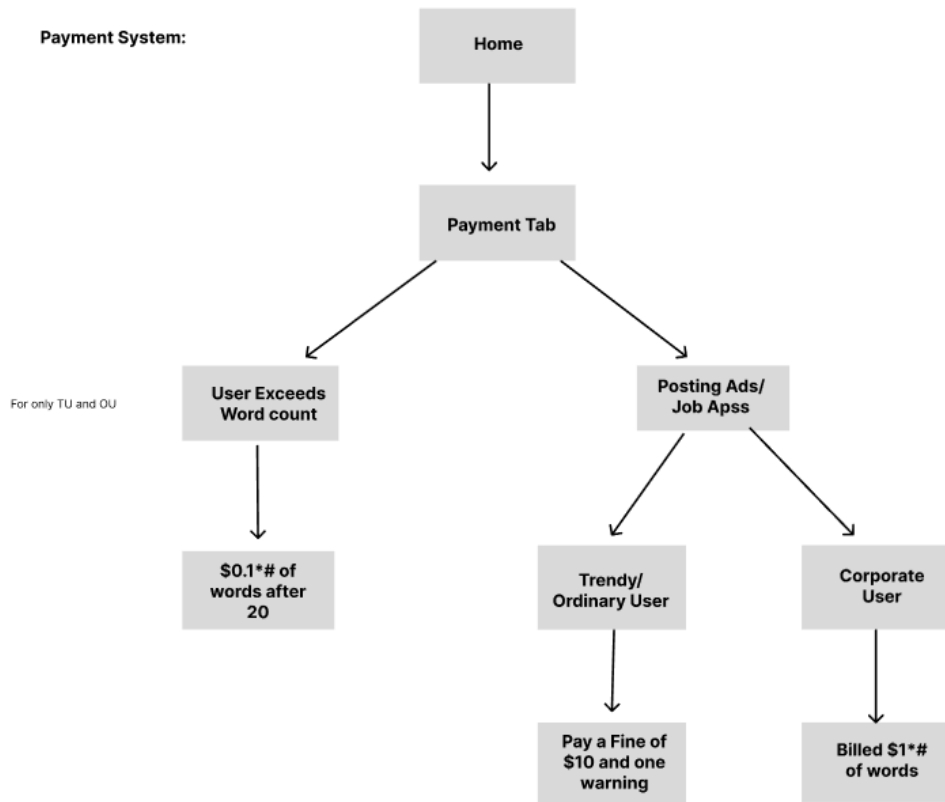


Additional Diagrams:





Payment System:



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