

---

# SocialPulse - Team W

---

## **SocialPulse Software Requirements Specification For SocialPulse**

**Version 1.0**

grade: 98

comments: one of the best phase 1 report in the class with adequate details given and thoughtful ideas on the project demonstrated. The use case diagram is the central piece of this report, but what you gave is not a user-friendly one to go thru.

kudos to the team, keep up the great job!

## Revision History

Date	Version	Description	Author
10/23/2023	1.0	Updated Purpose	Selma Doganata
10/23/2023	1.0	Updated Scope	Georgios Ioannou
10/24/2023	1.0	Updated Use-Case Model Survey, Use-Case Diagram	Leon Belegu
10/27/2023	1.0	Updated Use-Case Reports, Supplementary Requirements	Jolie Huang
10/27/2023	1.0	Updated Use-Case Model Survey	Christian Rasmussen

# Table of Contents

<b>1. Introduction.....</b>	<b>4</b>
<b>1.1 Purpose.....</b>	<b>4</b>
1.2 Scope.....	4
1.3 Definitions, Acronyms & Abbreviations.....	5
1.4 References.....	6
1.5 Overview.....	6
<b>2. Overall Description.....</b>	<b>7</b>
2.1 Use-Case Model Survey.....	7
2.2 Assumptions and Dependencies.....	13
<b>3. Specific Requirements.....</b>	<b>14</b>
3.1 Use-Case Reports.....	14
3.2 Supplementary Requirements.....	15
<b>4. Supporting Information.....</b>	<b>16</b>

## **1. Introduction**

### **1.1 Purpose**

Our proposed social media platform, SocialPulse, prioritizes user interactions, content management, and the fostering of community development. SocialPulse is a comprehensive messaging platform that caters to the diverse needs of its users. The system aims to provide a seamless and secure communication environment for five distinct types of users specified in sections 1.2 and 1.3. Users will be able to post, read, like, dislike, comment, tip, and follow messages. With an emphasis on enhancing user interactions, SocialPulse not only includes a mechanism to detect and address instances of misinformation and inappropriate content using taboo keywords, but also incorporates a recommendation algorithm based on preferences and popularity of content. In addition, SocialPulse generates revenue through a billing service for users exceeding a specific word limit and offers corporate users the opportunity to post ads and job openings - ensuring fiscal sustainability for the platform.

### **1.2 Scope**

The proposed software aims to create a social media platform with core features, similar to those found on X, formerly known as Twitter. This social media platform will be designed with the user in mind and will provide the users with the familiarity of any social media platform, but with added features that make our platform more convenient and comprehensive to use and easier to navigate. The software will require registration to be used and will allow five types of user roles. The five types of user roles that will be supported by the software are:

- 1. Super-user (SU)**
- 2. Corporate-user (CU)**
- 3. Trendy-user (TU)**
- 4. Ordinary-user (OU)**
- 5. Surfer**

Overall, the software will provide users with the ability to post, subscribe to other users, tip other users, engage with short messages, and edit their own user profiles. Therefore, all user roles will be able to contribute to the platform with their own posts, interactions, and

engagements, tailored to their specific privileges and responsibilities. The core features will be discussed in more detail in the Specific Requirements section. Moreover, since the software supports five user roles, the functionality of the system will differ based on the user role. The functionalities for the five user roles are specified in the Use-Case Model Survey.

### 1.3 Definitions, Acronyms & Abbreviations

1. **Super-user (SU):** Can warn/add/delete any users and/or messages.
2. **Corporate-user (CU):** Can post ads and job openings.
3. **Trendy-user (TU):** The subset of ordinary users who were:
  - a. Subscribed by strictly greater than 10 users.
  - b. Received strictly greater than \$100 tips or likes.
  - c. Author of at least 2 trendy messages.
4. **Ordinary-user (OU):** Besides having all features for a surfer, who can post/delete, comment, tip, like/dislike, report, follow messages, and subscribe to other users.
5. **Surfer:** A person who is visiting the system without having an account/being logged into an account. Can view messages, search messages, and report/warn to SU about messages regarding misinformation.
6. **Registered User:** Referring to all users who have registered for an account (OU/TU/CU/SU). Does not include surfers.
7. **Tabooed Words:** Can only view/search the messages and report to the super user about the misinformation.
8. **Message:** 1 to 1 direct message communication
9. **Post:** A piece of content, which can be text, images, videos, or other forms of media, shared with all users across the software. Used for communication, expression, and engagement.
10. **Ads:** Any posting that promotes a product or service.
11. **Job Listing:** Any posting that promotes a job position and includes details such as the job title, job, description, required skills and qualification, and application instructions.
12. **Like:** A quick way for users to show that they approve or find something interesting.
13. **Dislike:** A quick way for users to show that they disapprove or find something not interesting.

14. **Trendy Post:** Any message with strictly greater than 10 reads and strictly greater than 3 likes.
15. **Trending Tab:** A tab with filtered posts where users can see only the trendy posts of the platform.

## 1.4 References

Bowen, Shannon A. "Using classic social media cases to distill ethical guidelines for digital engagement." *Journal of Mass Media Ethics* 28.2 (2013): 119-133.

Carr, Caleb T., and Rebecca A. Hayes. "Social media: Defining, developing, and divining." *Atlantic journal of communication* 23.1 (2015): 46-65.

"IEEE Guide for Software Requirements Specifications," in *IEEE Std 830-1984* , vol., no., pp.1-26, 10 Feb. 1984, doi: 10.1109/IEEESTD.1984.119205.

## 1.5 Overview

The documentation is structured into two key sections. The first, "Overall Description," provides a comprehensive use-case model survey, outlining all actors, features, and their accessibility. This section includes illustrative diagrams to visualize the relationships. The second section, "Specific Requirements," delves into use-case reports and supplementary requirements, ensuring a clear understanding of feature functionality and system specifications. This approach simplifies the understanding of the software's operation and compliance.

## **2. Overall Description**

### **2.1 Use-Case Model Survey**

#### **Actors:**

##### **Super-User (SU):**

The super user has priority access across the social application. This includes responsibilities such as monitoring the use cases of the applications featured by other users. If features of the application are being inappropriately used, users at fault can be warned or deleted by designated super user(s). Users can also be created by the super user upon appropriate request. Super users also have the ability to monitor posts, with the ability to delete any posts. Additionally, super users are not restricted to any of the constraints put on ordinary users, for example they can post messages with an unlimited number of words.

##### **Corporate-User (CU):**

The role of the corporate user is for professionals who wish to find people to hire. They can post job hiring posts and ads, which display the title of the job, a description of the jobs requirements and duties. It is optional but encouraged to add the pay rate for the job as well, though not required.

##### **Trendy-User (TU):**

As the 'influencers' of the application, trendy users are able to receive donations. To be an influencer you must have a significant following, or be approved by a super user. To be approved your existing content will be reviewed for appropriateness, and relevance. If you have few posts then you are unlikely to be approved. It is generally suggested for trendy users to have multiple trendy posts, more than 10 followers, and a significant number of donations or tips. Additionally the posts made by these accounts are able to be seen by all users in their trendy feed.

**Ordinary-User (OU):**

This is a user who can post, delete, comment, tip, like, dislike, report, follow messages, and subscribe to others along with inheriting all the features of a Surfer user.

**Surfer:**

The surfer is a user who is allowed to only view and search messages as well as report/report to a super user about misinformation. This role is ideal for people who would like to consume the content on the system but are not willing to commit to making an account.

**Use-Cases:**

**Registering:** This is a function that is accessible and available when a surfer and registered user first access the site. They will be prompted to register for an account (ordinary user or corporate user), in which they will declare their username. The super user will then either confirm or deny new users. If the new user is accepted, they will be sent a temporary password which the new user will have to change. If the new user is denied, then justification will be provided as to why. The normal case is that the username a surfer wants to use is not taken/valid. Exceptional cases include that the username has been taken already (meaning they are already a registered user).

**Logging-In:** This is a function accessible to returning users, where they will have the option to login to their existing account to access the site. Once the user logs in, they will be given the option to follow certain users based on the user's viewing/liking/tipping/following history. The normal case is that the returning user provides a valid username and password. Exceptional cases include the returning user providing an invalid username and/or password.

**Viewing Posts:** Users of all types will be able to view the posts on SocialPulse. Posts can vary in type. For instance, there can be ad posts, job posts, and regular posts. Normally, a post is viewed either in the feed of the user or in the profile of another user. When a post is clicked, a page with just that post and its attributes such as likes, dislikes,



and comments will be loaded. Here the user will be able to like, dislike or comment on the post. Exceptionally, there is a chance that the post has been deleted (either by the author or super user), and your feed has not refreshed since the post has been taken down. If this is the case, when the post is clicked on, the user trying to access the post is immediately told that the post has been deleted, and is redirected to the user's refreshed feed page (so any deleted posts are removed).

**Interacting with Posts:** Surfers and registered users can interact with posts in various ways:

**Reporting:** Surfers and registered users can report a post containing misinformation. Surfers and registered users which report other posts are responsible for this action, and may be penalized for creating false claims. Once a report is submitted it is sent to super users and it is up to the due diligence of super users to take action on how the post should be handled, either left up or deleted. If the super user decides to have the post taken down, the user who posted the post will have one hour to refute (through a chat message) the deletion of the post. If the super user decides that the reason for the post being made is sufficient, they may decide to keep the post up, and remove the report from the post. An exceptional case is if a post has been already reported. If this happens then the super user will be notified of additional reports, which may influence their decision to leave it up or not.

**Tipping:** All registered users (which don't include surfers) can leave tips on posts. The tips got to the user who posted the dedicated post. The normal case is that the tipper has enough funds in their account that covers the desired amount to tip, and the transaction goes through. The exceptional case is that the tipper does not have enough funds - in this case an error screen will show up with a prompt displaying how much more money needs to be deposited to give the desired amount.

**Liking/Disliking:** All registered users (which don't include surfers) can like/dislike posts. Normally, when a registered user likes or dislikes a post, the respective counter will increase by one. The user can 'take back' the like by the same action they performed to like the post. An exceptional case would be that the post has been taken down, then when a person tries to like or dislike the post, the counter won't change, and a prompt to refresh the page will appear.

**Commenting:** All registered users (which don't include surfers) can comment on posts that will be made public. An exceptional case is when a user tries to post a comment under media that has been deleted. Once the request to put up a comment is sent, the user is booted out of the page and is sent back to their feed with a prompt noting that the post has been deleted, and their comment not saved.

**Deleting posts:** All registered users (which don't include surfers) can decide to delete their own messages/posts however they cannot delete other users' messages/posts. This function is only accessible by the super user who can delete any message on a post they deem appropriate. Posts can also be deleted upon viable reasoning, by super users, or after a reviewed report.

**Searching:** Surfers and registered users can search for messages based on author, keywords, with/without images/videos, and/or number of likes/dislikes. Within the search, they can also look for other users (except surfers) to follow, or view their profile.

**Removing Warnings:** There are different ways to remove warnings on a post such as:

**Disputing:** If a registered user is issued a warning, they have the opportunity, within an hour, to dispute it with the super user. Winning the dispute entails that the warning gets removed and the user who initially issued the warning gets a warning in return. If this user was a surfer, the winning dispute user gets awarded with monetary compensation added to their funds.

**Paying out a Fine:** If an ordinary user, trending user, or corporate user has three outstanding fines, they are required to pay out the fines for the warnings. If not, the user will be de-platformed - however if it is a trending user, they will instead be demoted to an ordinary user.

**Deleting a User:** This function is only available to the super user who is able to delete a user when they deem appropriate. There is also the opportunity to delete your own account, erasing all information such as likes, posts, etc. tied to the user.

**Posting:** Registered users (which don't include surfers) can make posts that will be made public. If the post contains one or two tabooed words from the list managed by the super user, the word(s) will be changed to asterisks. If there are more than two taboo words in the post/message, the post/message will be blocked and the author of the post/message is issued a warning. Additionally, if the ordinary user or trendy user exceeds 20 words on their post, the author must pay the system \$0.10 times the number of extra words on the post. However, if it is a corporate user, then the author must pay \$1.00 times the number of extra words on the post. If the registered user has insufficient funds they will be directed to add funds to their account.

**Posting Ads/Job Listing:** If a corporate user posts an ad/job application, they must pay the system (super user) \$0.10 for each application of the job listing and click, which entails following the link to the specified embedded website. However, if a user who is not a corporate user tries to post ads or job postings, they will be issued a warning and a fine of \$10. An exceptional case would include the instance in which the link would lead to an expired ad/job listing. This case would be resolved by monetary compensation to users reporting it.

**Creating a Profile:** Registered users (which don't include surfers) will be able to create and edit their own profiles which are subjected to comments/reports by other users. To add, the warning policy described for posts applies to profiles as well. When creating an account they must create a username. An exceptional case would be that the username

has been already taken. If so the user trying to make the account will be told to try a different username.

**Follow Users:** Registered users (which don't include surfers) could follow/unfollow other accounts.

**Resolve Dispute:** This is a function accessible to a Super User to determine whether a dispute issued by registered users (ordinary users, trendy users, and corporate users) and unregistered users (surfer users) alike is valid or not.

**Demoting TU:** This is a function accessible to a super user to demote a trendy user to an ordinary user if the trendy user has received three outstanding warnings.

**Manage Taboo Words list:** The super user maintains a list of taboo words that pertain to the following ideas:

1. Hate Speech and Discrimination
2. Threats and Violence
3. Harassment and Cyberbullying
4. Explicit and Violent Content
5. Child Exploitation
6. Personal Information Disclosure
7. Doxing and Privacy Violation
8. Hate Symbols and Extremist Content
9. Malware, Phishing, and Scams
10. Spam and Deceptive Content
11. Copyright Violations
12. Impersonation and Fake Accounts
13. Terrorism and Extremism
14. Drug Promotion
15. Self-Harm and Suicide Content

**Managing Funds:** To add funds one must input their (fake) credit or debit card information to wire money into their account. In a registered user's profile, they have the option to add money to their account, where a prompt asks for whether or not they are using a credit or debit card, and how much money they would like to add to their account. Once you input all of your information, a confirmation page will arise, allowing you to ensure the information is accurate, and the money amount is confirmed. If you are a trendy user, the tips received from fans will be deposited into this profile account. You will only be able to withdraw money into your personal bank account if you are a trendy user, and have more than \$50 in your account.

## 2.2 Assumptions and Dependencies

There must be a multitude of subsystems that work together to provide users with an enjoyable experience, relating a pleasant and consistent frontend to a reliable backend. A major subsystem of the backend is the important ability to manage (create, delete, and edit) posts, which depends on the characteristics of the user. The management of posts directly communicates with each person's feed, for instance, if a post is deleted, the post will no longer be viewable in the feed of those who follow that user. Additionally is the ability to 'tip' certain users, and interact with their posts. Interactions include liking a post, commenting on a post, and sharing the post to others. These interactions all change characteristics of the post class, which then are displayed in various manners (underneath the post in the users feed and in the post page), and to other users. When creating an account, applicants are assumed to be ordinary users, and select users will be granted to be a super user by SocialPulse developers, allocating the appropriate role. In a few instances, trendy user status will be automatically granted to those who have achieved appropriate fame on SocialPulse.

Another subsystem that must be developed to maintain the integrity and security of SocialPulse, is that of managing appropriate and relevant media, and the ability to regulate what is being posted. This job is majorly up to the discretion of super users, who are allowed to take down posts and comments that they feel are negatively affecting the social media platform (taboo words or unregulated job posting). Beyond this, we rely on the flagging of media in two different ways; flagging media because of word usage, and through reports from confirmed users (not including surfer users). When a piece of content is flagged in one of these two ways, a super user

is notified, and can inspect the content to make an executive decision on whether it should be left posted or removed from the site.

### **3. Specific Requirements**

#### **3.1 Use-Case Reports**

- When a surfer visits the social media platform SocialPulse, they are able to:
  - View/search for posts and messages
  - Report a post/issue a request for the post to be taken down: When a user encounters a post that includes misinformation. This will then notify the super user of this post.
- A surfer can register for an account if they choose to do so: they can sign up to become either an ordinary user (OU) or corporate user (CU). OUs inherit surfer features of being able to view, search, and report messages. They gain additional features such as being able to:
  - Post messages
  - Like/dislike messages
  - Follow other registered users
  - Tipping messages
- CUs inherit OU features, and gain the feature of being able to:
  - Post ads/job listings
- Deposit/withdraw money: All registered users have \$0 in their account as default. They are able to add funds to their account via their Profile.
- SocialPulse also implements some creative aspects that enhance the experience of registered users - All registered users (OU/TU/CU; not including surfers) can additionally customize their profile:
  - Customize profile: Registered users (OU/TU/CU; not including surfers) can implement/update the following information on their profile: “About Me” section, profile picture, and the displayed color of their username.

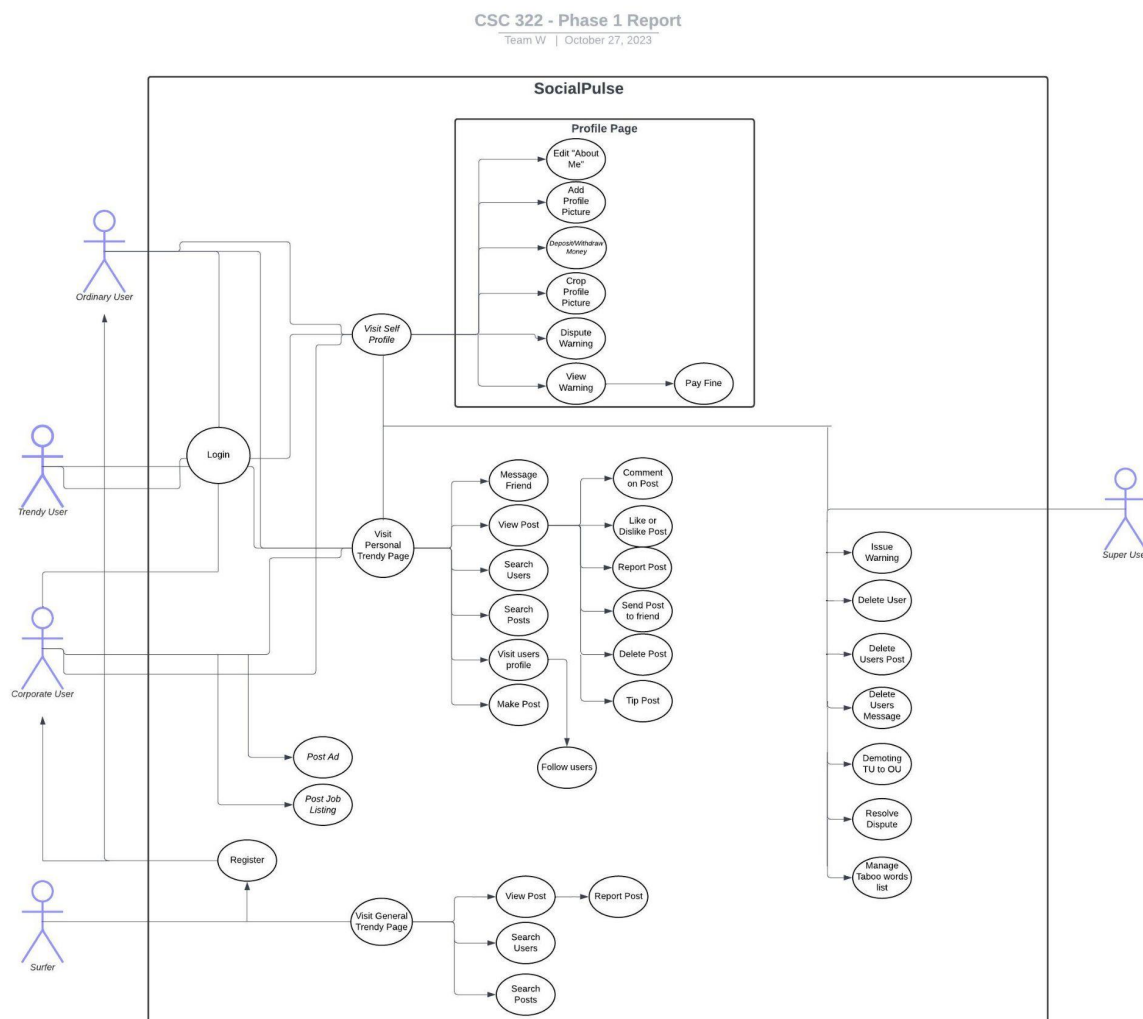
- Crop profile picture: Registered users (OU/TU/CU; not including surfers) can crop their desired profile picture in the system to appropriately fit the parts of the picture they want to display.
- Issue account warning: A super user can issue a warning to a registered user's account if they violate rules such as including taboo words in their posts, and if a registered user other than a CU posts an ad/job application.
- View warning: a registered user can view all the warnings and the reasoning behind the warnings they have received from the super user.
- Report: Surfers and all registered users can file a report about posts containing misinformation within a post's user interface.
- Posting with Insufficient Funds: If an ordinary user or trending user attempts to make a post with insufficient funds, they will be issued a warning and prompted to the payment page. The normal case is that the OU/TU will add funds to their account, and the post will be published without further issues. Exceptional cases include that the OU/TU does not add funds to their account - in this case, the user is told how much more money they must put into their account.

### 3.2 Supplementary Requirements

- Dispute a report: A super user (SU) oversees a dispute that happens between two parties. There are two cases in which this could happen:
  - Case 1 - registered user (RU1) vs. registered user (RU2): If RU1 files a dispute to RU2, the SU will determine who wins or not. If RU1 wins the dispute, then RU2 will receive a warning of the property they have been reported on from RU1's issued dispute. If RU1 loses the dispute, then RU1 will receive a warning for falsely issuing a dispute, and no further action will be taken on RU2.
  - Case 2 - surfer vs. registered user (RU1): If the surfer files a dispute on RUI and the surfer wins, then RU1 will receive a warning of the property they have been reported on from the surfer's issued dispute. If the surfer loses the dispute, then no further action will be taken on both the surfer and RU1.

- Manage Taboo words list: A super user maintains a list of “taboo” words that registered users are not allowed to use in their posts. A violation of this will automatically generate a warning, and the taboo words will be replaced by asterisks.
- View warning: Warnings that are given by the SU to a registered user will happen in a few cases: if a registered user’s post contains misinformation, if a registered user does not have enough funds to make a post, and if a registered user has their message blocked due to it containing taboo words. These warnings can be viewed via a registered user’s profile page.

## 4. Supporting Information



most ovals have more than one user, yours seem to suggest otherwise. could merge many of them to avoid over-crowded diagram.



[https://lucid.app/lucidchart/0f93e555-22bc-4554-b5f9-ad98a010c117/edit?viewport\\_loc=-2906%2C-1382%2C4216%2C2292%2C0\\_0&invitationId=inv\\_b1d31990-8471-4694-90aa-cbc11025a72c](https://lucid.app/lucidchart/0f93e555-22bc-4554-b5f9-ad98a010c117/edit?viewport_loc=-2906%2C-1382%2C4216%2C2292%2C0_0&invitationId=inv_b1d31990-8471-4694-90aa-cbc11025a72c)