# GROUP 01 - CHÚ HỀ LÀM PHẦN MỀM

# LOGBLOCK SOCIAL MEDIA SERVICE
# Vision Document

**Version 1.1**

# Revision History

| Date | Version | Description | Author |
|---|---|---|---|
| 22/10/2024 | 1.0 | Document layout, structural references and relevant stakeholders, users information. | Introduction, Stakeholders and Users Description: N. K. Hùng |
| 29/10/2024 | 1.1 | Initial product overview, features and other non functional requirements | Positioning, Product overview: T. C. An. Product Features, Other Product Requirements: T. T. Long. |

# Table of Contents

# Vision (Small Project)

## 1. Introduction

This document provides a high level formulation of the functional requirements as well as the desired system scope provided by the needs of stakeholders and business officers regarding the servicing system of *LogBlock,* a programmer-centric social media platform. This document is directed to demonstrate the analysis of the development team to the stakeholders without compromising the abstraction and allows for future references if needed.

The document will first define the Positioning, laid out in section 2. Positioning, where the development team formulates the problem provided by stakeholders and users as broken down tasks. The document will then provide an overview of stakeholders and the users in section 3. Stakeholder and User Descriptions, as well as the specifications and constraints of the stakeholders and users. Section 4. Product Overview will give an overview of the service application and relation to other third parties services, as well as the assumed dependencies of the system structures. Section 5. Product Features provides a more in-depth description of expected core features for the shipping version of the service. Finally, section 6. Non-Functional Requirements defines the expected requirements regarding the operational properties of the service, the constraints on up-time, as well as the recommended user's operation infrastructure and end-user requirements.

### 1.1 References

- IBM Engineering Lifecycle Management Suite, Vision document.
- Softbody Simulation System Design, Software Requirements Specification, CONCORDIA UNIVERSITY.

## 2. Positioning

### 2.1 Problem Statement

The programmer community needs a place to exchange, share knowledge and connect with others.

| The problem of | Lack of a separate social network for programmers to share knowledge and connect with the community |
|---|---|
| affects | Programmers and technology experts who want to share and learn more knowledge about programming |
| the impact of which is | Limit the ability to reach and learn from communities of share to interests, reducing growth and collaboration |
| a successful solution would be | Provides a friendly platform where developers can share articles, source code and connect with each other |

### 2.2 Product Position Statement

The LogBlock project will bring something new to programming. Helps programmers no longer feel bored when coding alone , but now everyone can connect and share knowledge with each other.

| For | Programmer |
|---|---|
| Who | Need a friendly platform to share knowledge and learn about programming |
| The (product name) | LogBlock |
| That | Provides a specialized environment to share articles, source code and connect the programmer community |
| Unlike | Regular social media platform don't focus on the developer community |

| Our product | Create an optimal experience for learning, sharing programming knowledge and building a network of connection |
|---|---|

For those who are passionate about programming and want to have a private social network to connect with, LogBlock will now satisfy you. Unlike other sites, LogBlock brings more intimacy and excitement as an entertainment social network.

## 3. Stakeholder and User Descriptions

This section provides a profile of the stakeholders and users who are involved in the project. This section also identifies the key problems that stakeholders and users consider that the proposed solution must address. This section does not describe specific requests or requirements; a separate stakeholder requests artifact captures these items. The key-problem description provides the background and justification for requirements.

### 3.1 Stakeholder Summary

| Name | Description | Responsibilities |
|---|---|---|
| Course Lecturer<br>Ph.D. Nguyễn Minh Huy | Project overseer | Provides necessary guidance on the development process, common pitfalls and feedback on progress. |
| Project Initiation, Legislation and Monitoring Organization<br>M.Sc. Hồ Tuấn Thanh<br>M.Sc. Trương Phước Lộc | Project Administration and Monitoring; Business Operator | Provides feedback on project vision and initiates project development process. Monitors development process for up-to-date and deliverable products. |
| Public Users | The general targeted users of the services. | Ensure the usage of this platform aligns with the development team vision while following all terms of service. |
| Chú Hề Làm Phần Mềm team | The core service development team | Engineer and analyze detailed requirements of other stakeholders; design and implement system(s) which satisfy the aforementioned requirements; deploy and maintain the developed system(s) lifecycle. |

### 3.2 User Summary

| Name | Description | Responsibilities | Stakeholder |
|---|---|---|---|
| Guest (Non-Registered) Users | Public, new-coming users accessing the platform. | Providing initial feedback and early iteration while following the terms of service. | Public Users |
| Registered Users | Users who have opted into the service through registration and service subscription. | Providing insights of service drawbacks while ensuring the usage following the organization's vision. | Public Users |

| Expert Users | Registered users who have been manually verified by the moderation team. | Regularly provides expert contribution to the public users community, while ensuring the same responsibilities as Registered Users | Public Users |
|---|---|---|---|
| Administrator Users | The moderation team of the operating business. | Moderation team responsible for the service non-technical, community tasks along with enforcing terms of service. | Project Initiation, Legislation and Monitoring Organization ; Course Lecturer |

### 3.3    User Environment

Under Public Users' standpoint, the environment is expected to be a compatible, modern web browser with additional hardware, software requirements to be defined later in the development process. With web-related assets as our main user interface scripting language, the environment should be able to support extension to native web-apps if needed.

Under Business Operator's standpoint, the operating environment is currently expected to be on Linux-kernel operating systems, with additional but restricted support to Windows operating systems. The system modules are developed in C++ and Javascript, which requires the operating environment to at least support x86 instruction sets. During operation, the moderation team will be provided Administrator User authorization which enables more interactive management tools on-site.

### 3.4    Summary of Key Stakeholder or User Needs

| Need | Priority | Concerns | Current Solution | Proposed Solutions |
|---|---|---|---|---|
| Accurate, reliable and smooth user interface. | Medium | Client hardware issues, visual impairment. | Default textual design implemented by client browser environment. | Minimal-focused design using third parties libraries with small transition interpolation. |
| Incomplete core mechanism | Very High | Current iteration doesn't meet minimum stakeholder's expectation | Iteration process on all core requirements. | Divide-and-conquer approach by addressing crucial requirements first. |

### 3.5    Alternatives and Competition

| Competitor | Strengths | Weaknesses |
|---|---|---|
| Github Community | ● Reputable Operation Timeline<br>● Extensive support for multiple developer-related content creation tools.<br>● Extensive support to major cloud source control platforms | ● Not fully utilized, with major drawbacks lie in the content distribution system.<br>● No regular major feature extension from users' requests. |
| LinkedIn | ● Major platform for business-related profiles.<br>● Extensive support on hiring process integration directly on platform. | ● Business-centric, very little support for developer visualization tools.<br>● Lots of biased content, often not fully related to development. |

# 4. Product Overview

This section provides a high-level view of the product capabilities, interfaces to other applications, and system configurations. The LogBlock Social Media Service (hence forward will be referenced as the Service) is a multimedia platform for programming-based content distributions, with a focus on appealing interfaces and ease of access to code block authoring tools for interactive guides, code snippets. The Service aims to provide a personal profile space for content storage, while also encouraging visibility of knowledge via tailored exploration functionalities based on posts interaction.

## 4.1 Product Perspective

LogBlock is a self - contained platform designed to help users share and discover programming content, without dependence on other systems.

LogBlock is built with a clear user hierarchy consisting of groups: Guests, Registered Users, Experts, and Administrators. Each user group has its own powers and functions to ensure a safe, trustworthy, and transparent knowledge sharing ecosystem.

Block diagram:
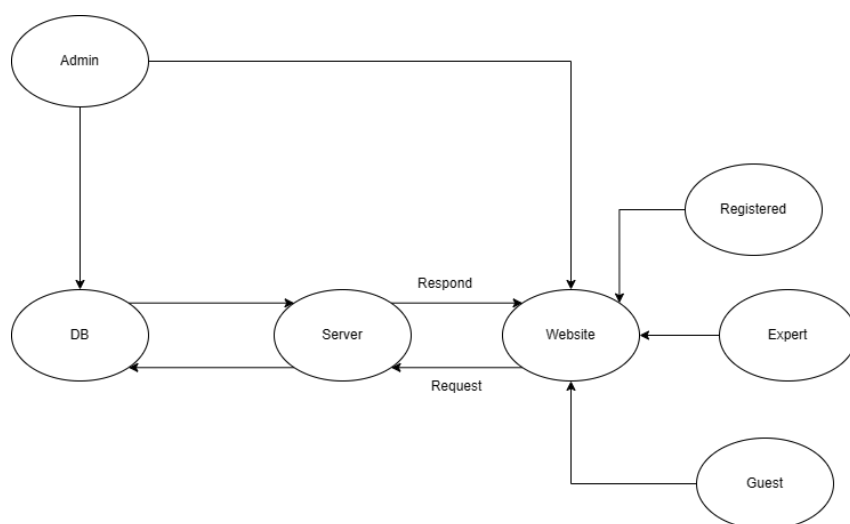


## 4.2 Assumptions and Dependencies

The key assumptions and dependencies of LogBlock include:

● **Operating Environment**: It is assumed that LogBlock will be deployed on an internal server system with tightly controlled access. If this environment changes or requires external network connections, security features will need to be adjusted accordingly.
● **Operating System**: LogBlock requires running on stable versions of operating systems that fully support security and access management features. If the operating system is not supported or does not meet security requirements, LogBlock's functionalities may be affected.

- **Scalability**: It is assumed that the system can handle a large volume of log data without degrading performance. If data processing demands significantly increase, LogBlock will need more advanced storage and data management solutions.

If these factors change, they may require adjustments or updates to the Vision document to meet new requirements.

## 5.  Product Features

1. **Account Management**
   - **Account Registration:** Users can easily sign-up using emails, and log-in/out of the account.
   - **Password Reset:** Users can set a new password using their registered email.
   - **Profile Management:** Users can update their personal information, as well as manage the target audience of their information/content.
2. **Content Management & Exploration**
   - **Posting:** Registered users can post contents on their profile, and they can manage the target audience for the post.
   - **Post Tags:** Each post has a number of tags applied by the author of the post, which helps classify the type of the post. This can easily be seen along with the post.
   - **Searching:** A search bar is provided, allowing users to search for other users and posts. A filter is also available to increase the accuracy and efficiency of searching.
   - **News Feed:** Each user has a unique **News Feed** that displays the newest contents that are relevant to the user. Relevancy is measured by the user's interaction with the author (e.g. viewing/upvoting the author's content, following the author), and the tags of posts that are interested by the user recently.
   - **Trending Feed:** Displays the posts that are most interested by users recently.
3. **User Cross Interaction**
   - **Following:** Users can follow/unfollow other users. The contents of a user is more prioritized on the **News Feed** of their followers.
   - **Post Upvoting:** Users can upvote/downvote posts. While posts with an overwhelming amount of upvotes are more likely to be recommended to other users via the **News Feed** and **Trending Feed**, posts at the other end of the spectrum could get deleted by the administrators.
   - **Post Commenting:** Users can comment in posts. This creates a sub-thread within the content block and could be upvote, downvote or report just like a regular post.
   - **Post Sharing:** Users can share others' posts. This will appear in the users' profile.
   - **Tagging:** Users can tag other users in posts/comments. This will send a notification to the tagged user.
   - **Direct Message:** Users can send a private message directly to other users that can not be seen by anyone else.
   - **Blocking:** Users can block other users or posts, so that posts by the blocked users do not appear in their **News Feed**, and they can not receive any direct messages from the blocked users.
   - **Reporting:** Users can report other users. If a user gets reported repeatedly in a short period of time, the administrators may consider closing the account.
4. **Expert Users Privilege**
   - **Requesting for Expert User Privilege:** A registered user can apply to become an **Expert User**. The administrators will then decide whether to grant the **Expert User Privilege** or not.
   - **Additional Display:** Expert Users will have a title in their display in order to distinguish them with regular users.
   - **Expert Suggested Solution:** A section where users can ask **Expert Users** for technical advice.
5. **Real-time Notifications:** All of the interactions to the users (e.g. their comments/posts get a response, or they are tagged) will be notified via emails in real time.

## 6.    Non-Functional Requirements

1. **System Requirements**
   - **Availability:** The website must operate continuously without downtime (except in case of catastrophic failures or during maintenance).
   - **User Interface (UI) Design:** The UI should be modern and esthetics, while not sacrificing functionality and performance. The UI also must be intuitive and ensure smooth navigation.
2. **Performance Requirements**
   - **Capacity:** The system should support up to 1,000 users; and up to 10,000 posts/sub-threads.
   - **Concurrency:** The system should be able to handle up to 100 concurrent users without any significant performance issues.
3. **Security Requirements**
   - **Data Encryption:** Users' information (includes personal information, password, and direct messages) should be encrypted using standard encryption protocols.
   - **Users Protection:** Unauthorized access to users' information is not allowed. Any form of harassment, abusing, cyberbullying, scamming, and/or spreading of hazardous contents is prohibited.
   - **Data Backup:** Regular data backups are performed to ensure no data is lost in case of a failure.
   - **Failure Recovery:** There must be a recovery plan(s) to ensure that any form of failure will be detected and extinguished within 3 hours.
4. **Compatibility Requirements**
   - **Operating Systems and Web Browsers:** The website should be able to function without any significant differences in performance in every major operating system, and web browser.
   - **Hardware Compatibility:** The website should be lightweight to support a wide range of hardware specifications.
5. **Documentation Requirements**
   - **User Documentation:** A comprehensive user manual is provided to ensure efficient navigation and utilization of the website.
   - **Technical Documentation:** Well-detailed and up-to-date technical documentation for developers and related personnels, including system architecture, code documentation, maintenance procedures, and backup/recovery procedures.