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**GROUP 01 - CHÚ HỀ LÀM PHẦN MỀM**

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**LOGBLOCK SOCIAL MEDIA SERVICE**  
**Software Development Plan (Small Project)**  
Version 1.1

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## Revision History

Date	Version	Description	Author
29/10/2024	1.0	Project planning of first iterations and expected deliverables.	Ngũ Kiệt Hùng
01/11/2024	1.1	Project Overview, Organization and Management Process	Introduction, Project Overview: N. T. T. Long. Project Organization, Management Process: N. K. Hùng.

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# Software Development Plan (Small Project)

## 1. Introduction

### 1.1 Purpose

This document provides a high level formulation of the development plans regarding the engineering process of *LogBlock*, a programmer-centric social media platform. This document is directed to demonstrate the development model, as well as the related toolings which the development team will utilize for future references.

The document will first define the Project Overview, laid out in section [2. Project Overview](#), where the development team will give a brief description of the project purpose, the project scope and objectives. The document will then provide an overview of the Project Organization in section [3. Project Organization](#), with detailed development team members' roles and responsibilities. Section [4. Management Process](#) will give an overview of the project management scheme, how Project Manager and Executive Officer will organize and track tasks, project iteration phase templates, as well as timeline for the project deliverables.

### 1.2 Scope

This Software Development Plan describes the overall plan to be used by the LogBlock project, including deployment of the product. The details of the individual iterations will be described in the Iteration Plans.

The plans as outlined in this document are based upon the product requirements as defined in the Vision Document.

### 1.3 Overview

This Software Development Plan contains the following information:

Project Overview — provides a description of the project's purpose, scope, and objectives. It also defines the deliverables that the project is expected to deliver.

Project Organization — describes the organizational structure of the project team.

## 2. Project Overview

### 2.1 Project Purpose, Scope, and Objectives

The LogBlock Social Media Service Project is Chủ Hệ Làm Phần Mềm team's first contracted project. Under the development team's perspective, the project will be our first real experience with delivering a functional and high quality web-based social media platform, while ensuring our aims and objectives of pursuing open-source contribution to the developer community. The LogBlock Social Media Service Project is Chủ Hệ Làm Phần Mềm team's first contracted project. The project, under stakeholders' shared view, is a step forward in providing a scalable platform and non-bias community for developers to share their snippets of ideas and educational contents.

The development team, through this project, will be able to deliver a functioning product that meets requirements through business scheme analysis; under a supervised development process of course lecturers.

### 2.2 Assumptions and Constraints

#### Assumption:

1. The project will have sufficient resources for effective development and testing of the platform.
2. The development team will have access to the necessary tools and documentation for building **LogBlock**'s features.
3. End users will primarily access **LogBlock** through web browsers and on a variety of devices.
4. Minor changes will be reviewed and integrated within each development cycle to meet any

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emerging requirements.

**Constraints:**

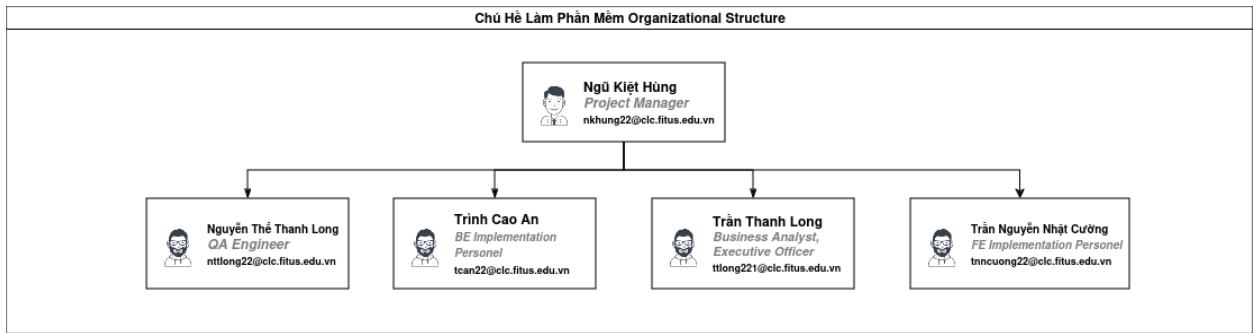
1. **Staffing:** The development team has a limited number of members, with key roles such as project manager, frontend and backend developers, and quality assurance personnel.
2. **Equipment:** The platform must ensure compatibility with popular browsers and support various devices.
3. **Schedule:** The project will follow a phased timeline with clear milestones to stay on track.

**2.3 Project Deliverables**

The final deliverable is a fully functional website where users can share codes, interact with other users, and explore the newest content in the programming world. The target delivery date is expected to be the 14<sup>th</sup> December, 2024.

**3. Project Organization**

**3.1 Organizational Structure**



**3.2 Roles and Responsibilities**

Person	Role
Ngô Kiệt Hùng. Project Manager.	The Project Manager should be responsible for the team coordination, performance and development documentation. Project Manager is expected to apply development schemes and follow standard development procedures in order to accurately track and maintain production quality. Project Manager should be responsible for reporting and finalizing production results to the Business Operator.
Trần Thanh Long. Business Analyst; Executive officer.	Business Analyst provides the necessary technical functional and non-functional requirements for the development team, while ensuring the consistency of user needs and constraints of the business domain. The Executive Officer should be responsible for team specific production and decision-making processes. Detailed development models are implemented based on the Executive Office plan.

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Trần Nguyễn Nhật Cường. Front-End (FE) Implementation Personnel.	Implementation Personnel is responsible for the specific implementation of the codebase as well as unit testing and ensuring working, performance and competitive production results. Implementation Personnels are expected to provide acceptable results in a reasonable amount of time.
Trình Cao An. Back-End (BE) Implementation Personnel.	
Nguyễn Thế Thanh Long. Quality Assurance (QA) Engineer.	Quality Assurance Engineer is expected to ensure the correctness and availability of the product operational functionalities requirements, as well as implementing testing suite while maintaining production results alignment with Project Constraints.

## 4. Management Process

### 4.1 Project Estimates

#### 4.1.1 Estimated Development and Operational Costs

##### 4.1.1.1 Development Team Contracted Salaries

Via team contract, the development team will be funded in a monthly manners, with the detailed budget allocated to the team as follow:

- Project Manager: \$40/hour over 25 hours per week, totaling **\$1000**.
- Business Analyst, Executive Officer: \$40 over 25 hours per week, totaling **\$1000**.
- Implementation Personnel: \$45 over 25 hours per week, totaling **\$1125**.
- Quality Assurance Engineer: \$40 over 25 hours per week, totaling **\$1000**.

##### 4.1.1.2 Software Licensing and Development Operations Services

- Github Professional Team: \$4 per team member per month over 5 team members and 3-month development cycle, totaling **\$60**.
- Figma Professional Team: \$15 per designing personnel (3) per month, over a 3-month development cycle. Totaling **\$135**.
- Amazon Aurora PostgreSQL-Compatible DB: at Standard Serverless configuration with initial capacity of 1 TiB, with predefined total of 6 peak hours per month, averaging 1500 I/O connections per peak hour at \$455.40 per month over a 3-month development cycle. Totaling **\$1366.2**.
- Github Action for Continuous Development and Integration: default Linux-based system with 1 GB of compiling storage: \$0.008 \* estimated 1000 compiling and deployment minutes per month, over a 3-month development cycle. Totaling **\$24**.
- Amazon EC2: High-performance, dedicated instance(s) of business-logic servers on Linux at 16 vCPUs, 32 GiB of RAM at \$2,025.31 per instance per month; 1 instance will be used for business environment testing operations during the 3-month development cycle, totaling **\$6075.93**.

All other costs are reserved by up to **\$1500** for the development process and should be reserved by **\$4000** for operational periods.

**Total estimated infrastructure cost: \$14411.13** over a 3-month development period. **\$6480.71** per operational month.

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#### 4.1.2 Estimated Project Major Release

The LogBlock first Major Public Release iteration is estimated to be deliverable at the end of the 3-month development cycle, with continuous support and features addition follows for the fore-coming operation years.

## 4.2 Project Plan

The project will perform the SCRUM iteration development scheme, with a total of 5 Iterations/Sprints. Each sprint lasts 2 weeks with each PA (Process Area). Following the outlined agendas in each PA, along with the core development of service software systems and operation infrastructure, the planning of each sprint is as follows.

### 4.2.1 Sprint 01 - PA1

- Start date: 20/10/2024
- End date: 02/11/2024
- Task:
  - Detailed Project Plan and Vision Document
  - Prepare tools and documents for group management
  - Experiment with NextJS framework and philosophy
  - Experiment with C++ HTTPS Server Framework
  - Design Initial Layout and Navigation
  - Initial Database Layout Design

### 4.2.2 Sprint 02 - PA2

- Start date: 04/11/2024
- End date: 16/11/2024
- Tasks:
  - Project Planning and Vision Document refinement based on stakeholder feedback.
  - Use-case specification documentation.
  - User interface server implementation and basic layout structure for business data retrieval and view.
  - Business-logic server request controllers routing and input interfaces.
  - Finalize database schematic.

### 4.2.3 Sprint 03 - PA3

- Start date: 18/11/2024
- End date: 30/11/2024
- Tasks:
  - Use-case model and specification refinement based on stakeholder feedback.
  - Based on the previous two prototyped system models, a general system architecture is defined and should be consistent with requirements.
  - Service system visualization by diagram.
  - User Interface integration with User Experience by layout and view refinement on front-end components.
  - Business-logic implementation of database management system and performance data retrieval algorithms.
  - Presenting first beta-iteration to stakeholders for early feedback.

### 4.2.4 Sprint 04 - PA4

- Start date: 02/12/2024
- End date: 14/12/2024
- Tasks:

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- Based on previous feedback, User Interface should be refined if needed.
- Setting up fully autonomous Continuous Integration pipelines for dockerized operating environments.
- Third parties operational services setup for system integration and pre-deployment.
- SAD documentation finalization.
- Business-logic optimization and various testing on multiple Operating System platforms.

#### 4.2.5 Sprint 05 - PA5

- Start date: 16/12/2024
- End date: 28/12/2024
- Tasks:
  - Quality Assurance pipeline based on criterias set by the development team's quality of work standards.
  - Quality Assurance Engineering tests and penetration tests for system's functional and non-functional requirements satisfaction.
  - Summarize and report test results.
  - Prepare for Project Major Release
  - Prepare for stakeholder meetings for Project Major Release.

### 4.3 Project Monitoring and Control

#### 4.3.1 Requirements Management

The requirements for this system are captured in the Vision document. Requested changes to requirements are captured in Change Requests, and are approved as part of the Configuration Management process.

#### 4.3.2 Reporting and Measurement

#### 4.3.3 Risk Management

Risks will be identified and the Risks list will be redefined after each Iteration using the steps identified in the RUP for Small Projects activity "Identify and Assess Risks". Project risk is evaluated at least once per iteration and documented in this table. The risks of the greatest magnitude are listed first in the table.

Risk Ranking (High, Medium, Low)	Risk Description and Impact	Mitigation Strategy and/or Contingency Plan
High	Incorrect development management scheme implementation, resulting in delayed and technical debts.	Thorough review of Project Plan and Per Iteration Planning & Review documents in order to capture management defects.
High	Missed deadlines; missed established communications reception expectancy.	Re-evaluate related factors' contribution to project; resolution based on Team Contract.
High	Project requirement update.	Immediate development team re-evaluation of requirements as changes that are needed to be introduced.
Medium	Lost of development team member.	Rearrange task allocation per weekly meeting.
Medium	Failure of Service by third parties development tools	Resought to senior technical officer for alternative toolings.



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Medium	Team member's incompetence quality of work without retrospective and resolution.	Re-issues related tasks to the development team and applies penalties based on team contract.
Low	Cloud source control service unavailable	Re-issuing codebase copies through direct file transfer (via Google Drive) of the most up-to-date version from the team.

#### 4.3.4 Configuration Management

Appropriate tools will be selected which provide a database of Change Requests and a controlled versioned repository of project artifacts.

All source code, test scripts, and data files are included in baselines. Documentation related to the source code is also included in the baseline, such as design documentation. All customer deliverable artifacts are included in the final baseline of the iteration, including executables.