

**A Major Project Mid-term Report on
Sanolagani**

Submitted in Partial Fulfillment of the Requirements for the Degree of

Bachelor of Software Engineering
under Pokhara University

Submitted by:

Santosh Bhattarai, 181640

Ishwor Jung Raya, 181619

Saroj Khatiwada, 181641

Ashant Chaudhary, 181607

Under the supervision of

Mrs. Aruna Chhatkuli

Date: 08/06/2023

Department of Software Engineering



**Nepal College of
Information Technology**

Balkumari, Lalitpur, Nepal

Abstract

The project entitled **Sanolagani** is a web-based application software powered by Java Programming Language in the backend and HTML5, CSS3, and Javascript in the front end. The main aim of the application is to provide a platform for crowdfunding for startup companies.

In this system, there are altogether three parties involved. The first party is the fundraiser company which is a startup company. Next are the people or investment firms willing to invest in the company. The platform resides as the intermediate party that helps to connect the fundraiser and the investor.

The company to raise the fund should provide their financial report of at least one year. The platform then analyzes the performance and scope of the company. Once approved, the company is listed in the fund-raising process. The company is then open for investment. Thereafter, the investors can fund the company.

Keywords: startup, investment, firm, financial report

Table of Contents

1. Problem Statement.....	4
2. Project Objectives.....	5
3. Proposed System.....	5
4. Significance of Study.....	6
5. Scope and Limitations	6
6. Literature Review	7
6.1. Government Regulations.....	7
6.2. Summarization of Financial Statements	8
7. Methodology.....	9
7.1. Incremental Model of Software Development Process.....	9
8. Tasks Done so far	11
9. Results and Discussion	11
10. Performance Analysis and Validation.....	12
11. Task Remaining	12
12. Deliverables	12
13. Project Task and Time Schedule.....	13
14. Software Design.....	14
15. References	Error! Bookmark not defined.

List of Figures

Fig 1 Incremental Model.....	11
Fig 2 Gantt Chart.....	13
Fig 3 Use case diagram for raising capital	14
Fig 4 Sequence diagram for raising capital.....	15

1. Problem Statement

It is known globally that, in today's market, it is extremely difficult to start a new small-scale business and live through the competition from well-established and settled owners. The opportunity to invest in the early phase of development of a business to a small investor has recently been popular. Only a few investment corporations, mutual funds, banking financial institutions, and big investors get a chance to invest in a bootstrap company restricting others from being part of the investment opportunity.

Ordinary people are often provided with an opportunity to invest in an established business institution through Initial Public Offering (IPO). The company has some restrictions on capital to raise funds through IPO. The negotiation power of a big investor is high in a bootstrap company. To bridge the gap between the fundraiser company and investment firm, this platform provides an intermediate solution.

Project **Sanolagani** is a web-based application that provides a service to raise capital in exchange for preferred equity. It offers a chance to invest a small amount to an individual for a company's growth at an initial phase.

2. Project Objectives

1. To provide a platform to be an early investor of a startup company to ordinary people in exchange for equity.
2. To provide a platform for raising funds for a startup company mainly through crowdfunding.
3. To provide insights into the performance and vision of the company.
4. To provide the platform to pitch the business to early investors.

3. Proposed System

The development of this system contains the following activities which try to meet the basic requirements of raising a fund and investment in a company.

1. Add collateral using any payment processing platform.
2. Build an investment portfolio.
3. Provide a summary of the performance report of the company.
4. Provide key insight.
5. Provide the plan and goals of the company.
6. Transparency on income and expenses of the company.

4. Significance of Study

In recent days, there is a rise in the number of people trying to start their journey in entrepreneurship opening the space for new business and therefore creating a place for investment. With the increase in the number of businesses, it is challenging to find early investors for the business to rise. This gap provides an opportunity for investment to the general people. Identifying this problem, we have developed an idea to bridge the gap between startups and investors.

In the context of Nepal, there is a rising popularity of investment among people with low capital for investment. A platform to let these people be investors in a startup company tries to fill the gap.

5. Scope and Limitations

Scope

- Investment opportunity at the initial stage of a company.
- Startups can find investors more easily.
- Minimum restriction for raising capital.
- Equal opportunity to be a shareholder for all.

Limitation

- The company should have operated for at least one year to raise the fund.
- Suitable for the desktop web only.

6. Literature Review

Startup investment service online is a new and growing concept around the world. This system is intended to connect general people as investors in a startup company.

6.1. Government Regulations

Licensing: Crowdfunding platforms must obtain a license from SEBON to operate in Nepal. The license is subject to various conditions, including minimum capital requirements, compliance with SEBON's rules and regulations, and adequate systems and controls to manage operational risks.

Disclosure requirements: Crowdfunding platforms must provide full and accurate information about the issuer and the securities being offered to investors. This information should be easily accessible and presented clearly and understandably.

Investment limits: SEBON has set investment limits for individual investors in crowdfunding campaigns. As per SEBON's directive, individual investors can invest up to NPR 200,000 in any single crowdfunding campaign.

Anti-money laundering (AML) and know-your-customer (KYC) requirements: Crowdfunding platforms must comply with SEBON's AML and KYC requirements to prevent money laundering and terrorist financing activities.

Investor protection: Crowdfunding platforms must have adequate measures in place to protect investors, including proper risk disclosure, escrow arrangements, and dispute resolution mechanisms.

Reporting requirements: Crowdfunding platforms are required to submit periodic reports to SEBON, including information on the securities offered, the number of investors, and the amount of funds raised.

6.2. Summarization of Financial Statements

Some of the similar platforms operating in different countries are:

Start Engine

It is one of the similar platforms. It operates in the United States to raise the capital from general people. It requires a minimum amount of investment that varies with the company. In exchange, it guarantees a fixed number of shares. It also provides a platform for trading stocks.

Startup Paisa

Startup Paisa is a startup investment platform that offers startup founders access to reliable investors & venture capitalists. This platform provides startups with multiple opportunities, including getting the right angel investors, seed funding, and advisers. This platform has partnered with startup veterans who have successfully founded, grown, funded, and exited their businesses.

7. Methodology

7.1. Incremental Model of Software Development Process

The incremental model is a process of software development where requirements are divided into multiple standalone modules of the software development cycles. In this model, each module goes through the requirement, design, implementation, and testing phases. Every subsequent release of the module adds a function to the previous release. The process continues until the complete system is achieved.

The project is estimated to be completed in four increments.

First Increment

Requirement gathering, discussion, and designing the skeleton of the system.

Second Increment

Modeling the database and setting up the project by design. Adding primary features to the project.

Third Increment

Integrating payment gateway for investment and facilitating the company to raise capital.

Fourth Increment

Developing the investment dashboard and portfolio.

Each increment consists of the following phases of the software development process.

Requirement Analysis

In this phase, the requirement for the development of the project will be gathered. The outcome of this phase would be SRS which is an acronym for “System Requirement Specifications”. Initially, we plan to collect the requirements and analyze the system for designing the system.

Design

In this phase, the requirements of the system will be used to design the system. The system design will contain schema, package, and module design. The design will contain both high-level design and low-level design of the product.

Code

In this phase, the task for each individual will be divided. The code will be developed according to the design.

Test

In this phase, the system will be tested. The test level will contain Unit Test, Integration Test, and System Test. After the completion of the tests, the product will be ready.

The reason for choosing the Incremental Model for our system design are:

- Requirements will be defined clearly and understood.
- Easy to design and develop projects.
- Easy to test and more flexible.
- Improvement and feedback on each iteration.
- Works well even when the complete requirements are unknown.
- Best fit for this project.

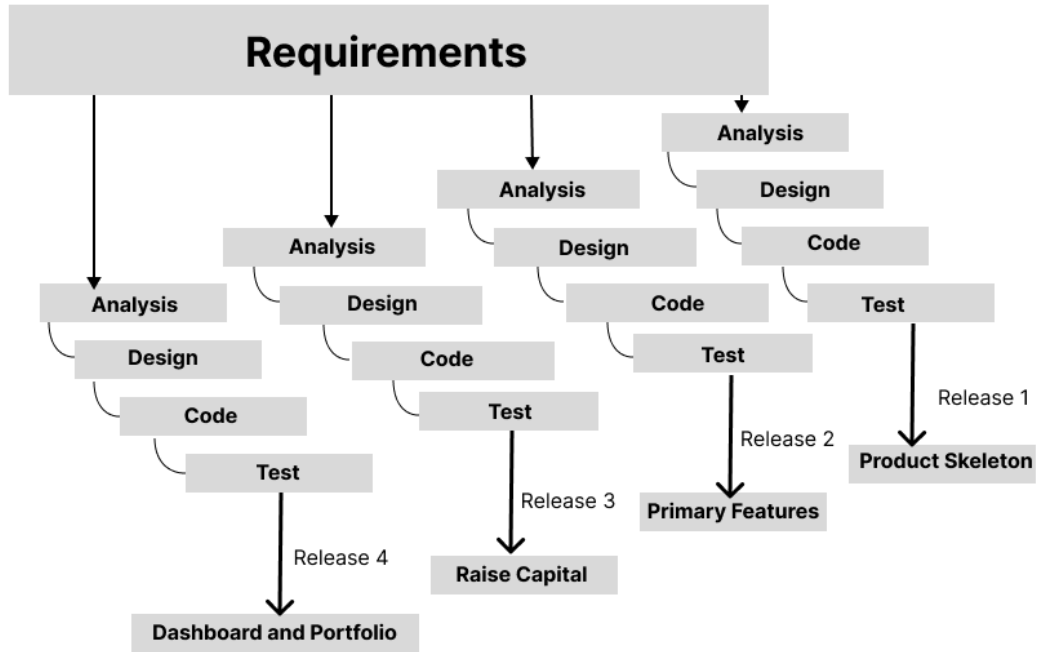


Fig 1 Incremental Model

8. Tasks Done so far

- Overall design of the system is completed.
- A user can now register and log into the website.
- Automatic document parsing on submission of audit report.
- Parsed tables from the document can be viewed in tabular format.

9. Results and Discussion

The project was developed as a user-friendly online platform for individuals to invest in various firms. Automatic extraction of the tabular data from a pdf document is completed. The investor can go through the extracted financial report to gain insight of the company's performance.

10. Performance Analysis and Validation

In the user registration process, the user must provide the valid email. OTP is received in the email and the user needs to submit the OTP along with the email used for registration. The company needs to provide necessary informations along with the audit report in pdf format. Once the document is submitted, it automatically detects and extracts the information from the tables. The tables need to be clear with proper border lines. The document should contain textual data in it.

11. Task Remaining

- Raising the capital.
- Payment gateway integration.
- User portfolio
- Admin section.

12. Deliverables

By the end of the project, the project will have the following features:

- Collateral deposit using any one of the available payment gateway services.
- Set a reminder for an upcoming fundraiser.
- Invest in a company with an option to cancel within 48 hours.
- Portfolio dashboard.

13. Project Task and Time Schedule

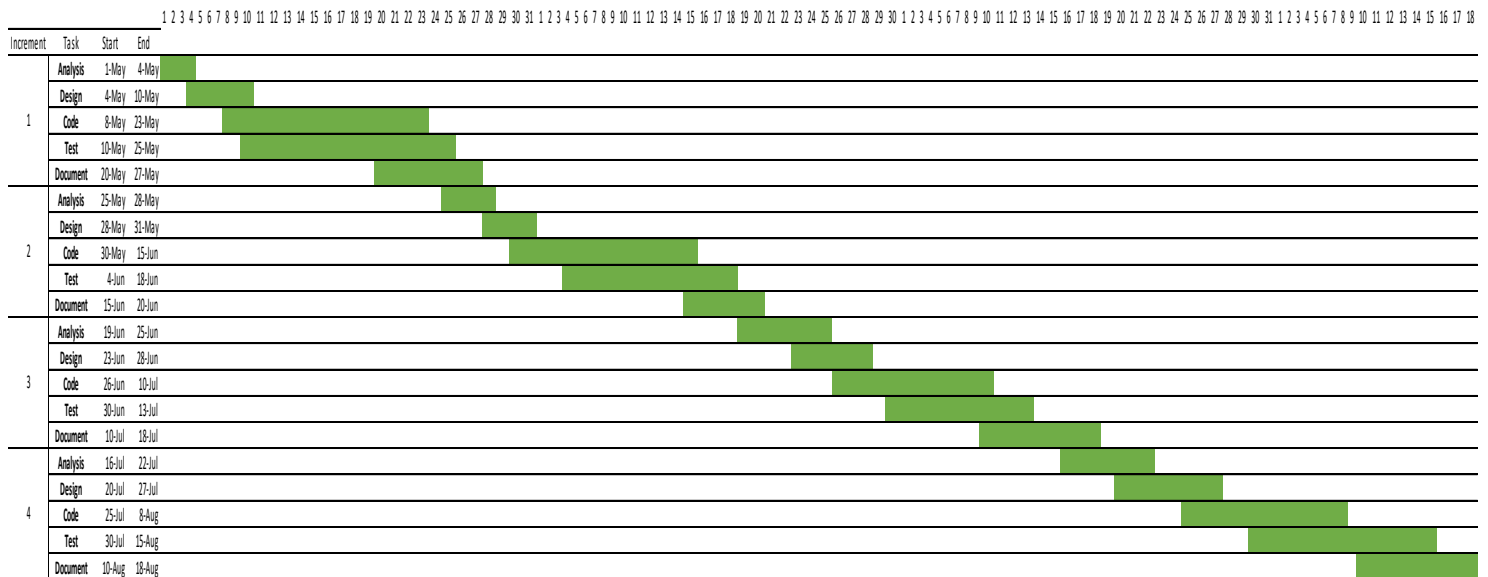


Fig 2 Gantt Chart

Tasks	Increment 1	Increment 2	Increment 3	Increment 4	Approximate Duration (in days)
Analysis	4	4	7	7	22
Design	7	4	6	8	25
Code	16	17	15	14	62
Test	16	15	17	13	61
Document	8	6	14	15	43

Table 1 Project Task and Time Schedule

14. Software Design

Visualization of the workflow or working of any application enables to development of the application in a much more efficient and convenient way. It describes all the aspects of an application. Some diagrams used for the development of this application are given below:

Use Case Diagram

A use case diagram at its simplest is a representation of a user's interaction with the system that shows the relationship between the user and the different use cases in which the user is involved.

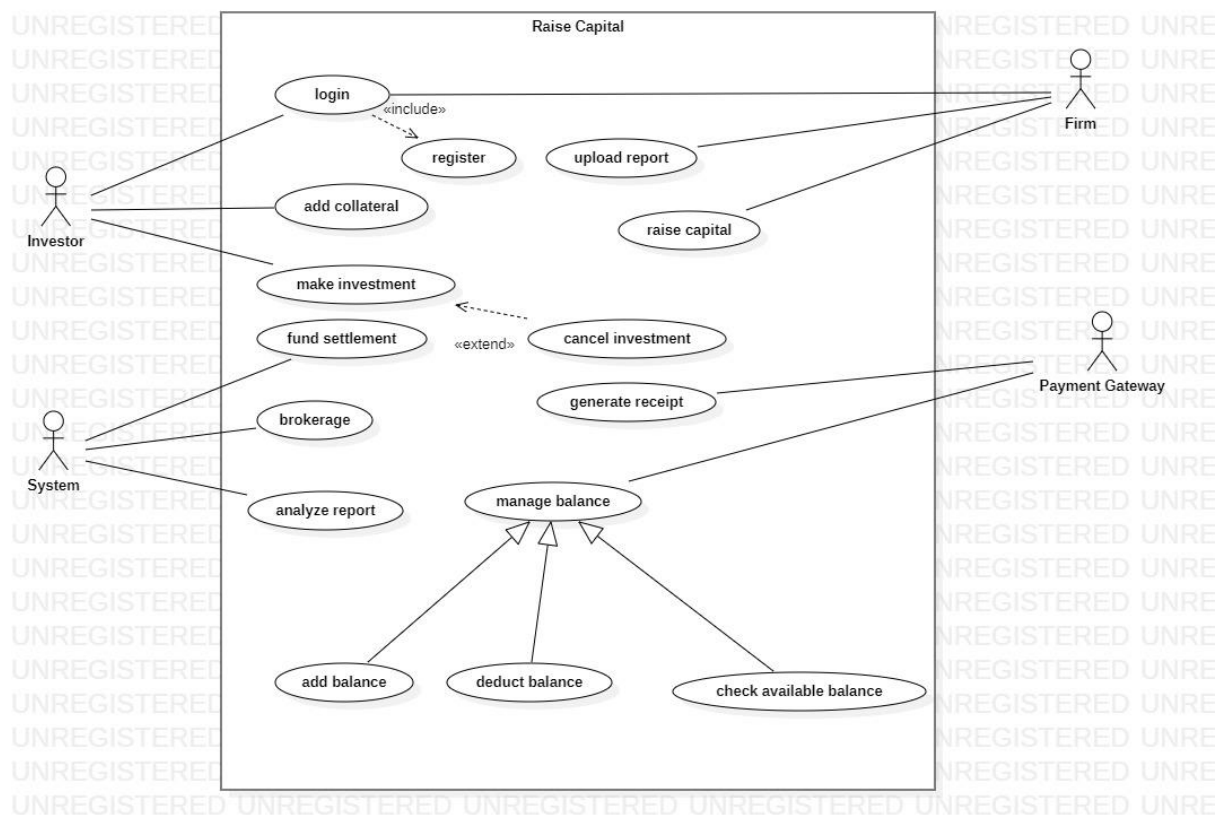


Fig 3 Use case diagram for raising capital

Sequence Diagram

A sequence diagram is an interaction diagram. It shows the occurrence of events and the order of occurrence.

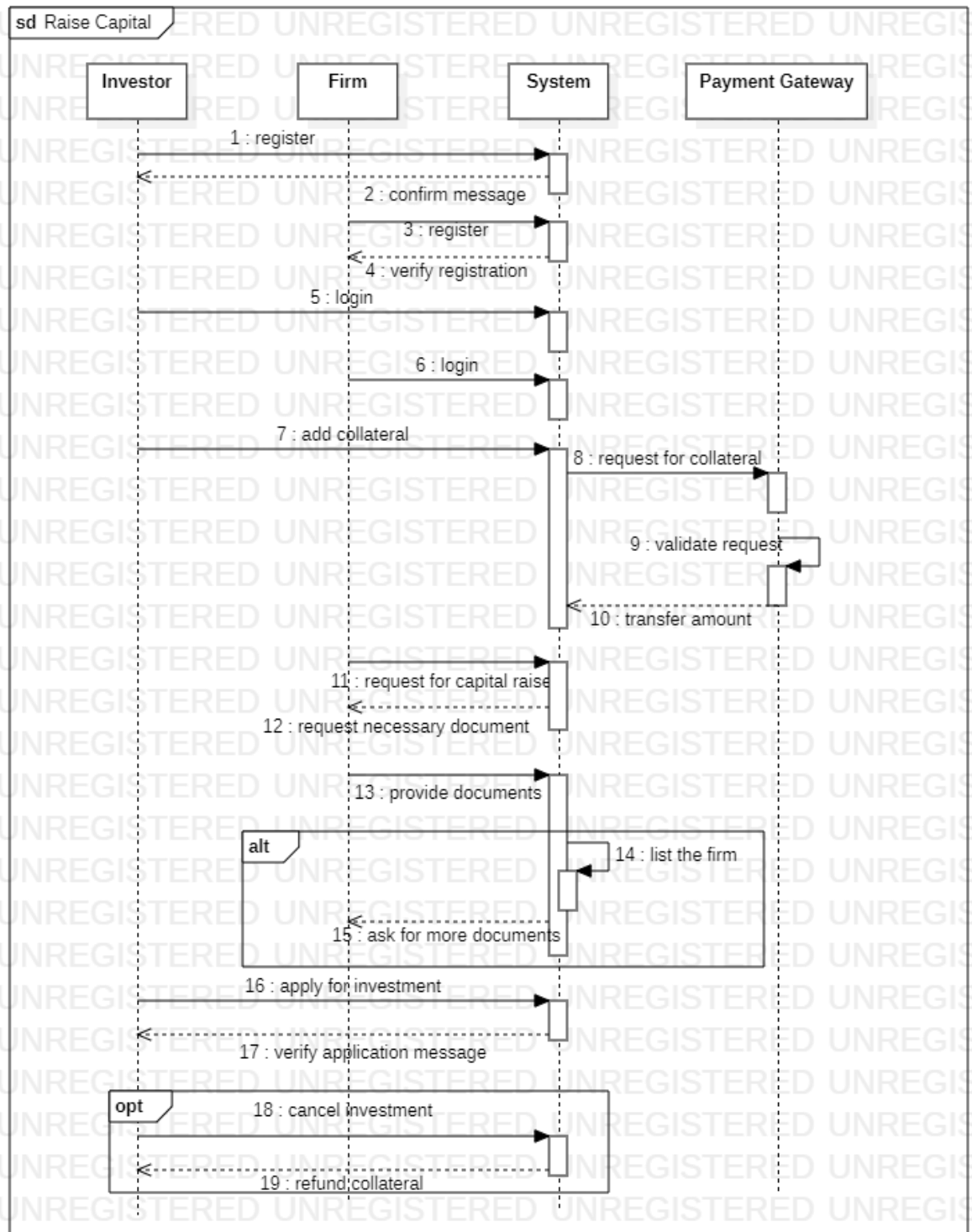


Fig 4 Sequence diagram for raising capital.

15. References

Admin (2018) *Incremental software development life cycle model – custom web & mobile development company*, New Line Technologies. Available at: <https://newline.tech/incremental-model-of-software-development-life-cycle/> (Accessed: May 4, 2023).

Online Gantt chart maker for Project Planning (no date) *GanttPRO*. Available at: <https://app.ganttpro.com/#/project/1656466452653/gantt> (Accessed: May 4, 2023).

Martin, M. (2023) *Incremental model in SDLC: Use, advantage & disadvantage*, Guru99. Available at: <https://www.guru99.com/what-is-incremental-model-in-sdlc-advantages-disadvantages.html> (Accessed: May 4, 2023).