



**Tribhuvan University**  
**Faculty of Humanities and Social Sciences**

**A PROJECT PROPOSAL**  
**ON**  
**“MERO LIBRARY”**

**Submitted To:**  
**Department of Computer Application**  
**Mahendra Morang Adarsh Multiple Campus**  
**Biratnagar, Morang, Nepal**

**In partial fulfillment of the requirements for the Bachelor in Computer Applications**

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## **1. Introduction**

Mero Library is an open source online digital library system. It is a modern and useful digital reading platform for schools, offices, lecturers, researchers, etc. worldwide. Mero Library is a web-based system where once an admin uploads the book or article or other reading material then anyone can get access to it if interested. There are 2 users: Admin and Client, where Admin uploads the reading materials whereas Client explores the available details and clicks on interested material where he/she gets access to that material online.

Mero Library is a system that:

- Provides a reading platform easily and safely.
- Saves Time, money and energy by few minute's exploration on any smart devices.
- Will reduce paper advertising and paper publishing.

## **2. Problem Statement**

Still in this modern technological era people have to loiter whole day or even weeks or more in search of books or articles. People keeps on searching for the report samples, articles and books to read or to have a concept of some document here and there physically. These all results in waste of time, waste of energy and even waste of money even someone can't find materials.

This system/site (Mero Library) gathers the details of books or articles which are available for publishing and the information of the material. Book readers and book authors/publishers, both can have a proper experience on this.

### **3. Objectives**

The main objective of developing the Mero Library is to have a quality and feasible library system with the aim of following objectives:

- To create a system management that would store the necessary information of the material owners and readers.
- To act as an intermediary between readers and authors or publishers.
- To study and analyze the requirement specifications of the online library system.

### **4. Methodology**

#### **a. Requirement Identification**

##### **i. Study of Existing System**

There are some libraries available in the web sites but only few of them are open source and free of cost. Many of them are taking charges for reading the materials. Some of them are only meant to buy their materials. Not even that but also people search books by loitering whole day physically or by asking friends or relatives if they have bought. People spent a lot of time and energy searching for books. There are few web apps/systems which provides online library services which are not sufficient. Those systems are limited in certain areas. Some of them are beyond user's choice.

##### **ii. Literature Review**

This review aims to analyze and synthesize the findings from various studies that develop into different aspects of library applications, including writer's capabilities, readers engagement, skill improvement, and user experience. Some of the existing System of similar category are:

- **Open Library:**

One web page for every book ever published. It's a lofty but achievable goal. To build Open Library, we need hundreds of millions of book records, a wiki interface, and lots of people who are willing to contribute their time and effort to building the site. To date, Founders have gathered over 20 million records from a variety of large catalogs as well as single contributions, with more on the way. Open Library is an open project: the software is open, the data are open, the documentation is open, and they welcome our contribution. [1]

- **Project Gutenberg:**

Project Gutenberg is an online library of free eBooks. Project Gutenberg was the first provider of free electronic books, or eBooks. Michael Hart, founder of Project Gutenberg, invented eBooks in 1971 and his memory continues to inspire the creation of eBooks and related content today. The mission of Project Gutenberg is to encourage the creation and distribution of eBooks. [2]

- **E-Pustakalaya:**

E-Pustakalaya is an education-focused free and open digital library. They provide free and easy access to age-appropriate books that help improve children's reading skills and develop a reading culture in schools. Teachers can benefit widely from our selection of books, various teaching resources and educational materials in core subjects as well as various other subjects such as agriculture, health, environment, and technology. We also have plenty of reference materials professional development. The communities around the schools can also access the content on the digital library on their laptops, tablets or mobile phones. [3]

### iii. Requirement Collection

- **Functional Requirements**

The proposed system is able to:

- Allow administrator to add books, articles and also those material's details
- Allow the administrator to delete users, uploaded materials and defaulters' details
- Allow the administrator to search data in the database

- **Non-Functional Requirements**

This system

- Typically grant access to accounts when users enter the correct username and password.
- Can be portable since it is web-based.
- Must have faster login and responding.
- Must have storage capacity to store as many data as possible.

- **System Requirements**

Software Configuration:

- Microsoft Windows based Operating System

- Python, CSS, Django technology
- Office Package (MS-Word, MS-PowerPoint, MS-Excel)
- Server
- Visual Studio Code

Hardware Requirements:

- PC'S – Pentium IV processor
- RAM
- HDD/SSD
- Color Display Monitor

Miscellaneous

## **b. Feasibility Study**

As feasibility study is an assessment of the practicality of a proposed plan or method, our proposed solution might satisfy all the requirements and is flexible enough. Changes can be easily done for the further future requirements. According to its workability, impacts on the organization, ability to meet user needs and effective use of the resources its main task done during feasibility study are:

### **i. Technical Feasibility**

We can say that this system is going to be technically feasible since Microsoft Edge browser will be used for scrutinizing and it will be developed on MS-Windows 10 platform and a high configuration of 8GB RAM on Intel Core i5-7th Generation processor. It meets the need of the proposed system. This includes the study of function, performance and constraints that may affect the ability to achieve an acceptable system.

### **ii. Operational Feasibility**

Our system can be operationally feasible since it can reduce the cost of developing the system without undermining its quality or product. Well trained manpower is not necessary to operate. Users can easily access the system and each process are smoothly done which also makes easy to operate. It provides timely, suitable, accurate and useful formatted information.

It perfectly intends to solve the stated problem and leverage the opportunities identified during the scope definition phase. Additionally, it will also satisfy every requirement identified in its requirement analysis phase.

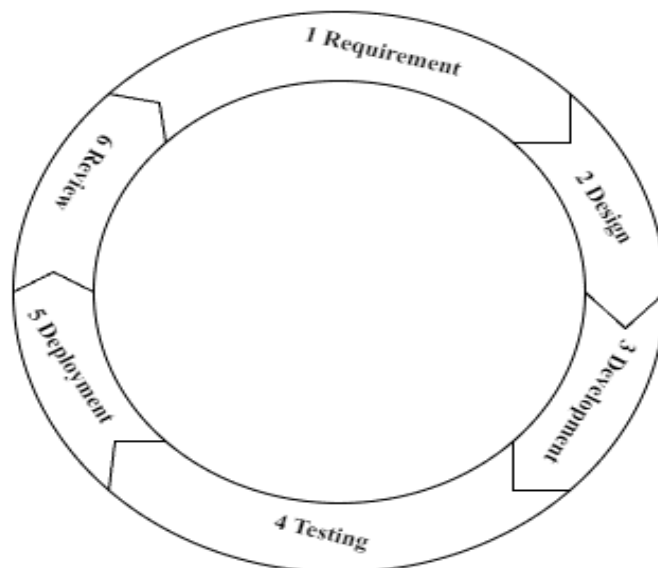
### **iii. Economic Feasibility**

It is designed with freeware software. Also, no external personal is needed for its development and the whole system cycle will be operated by two people. This factor will decrease the overall expenses of the project development life cycle. There is no extra cost required for this project. This system will be available free of cost for all users. Thus, it can be called Economically Feasible.

## **c. High Level Design of the System**

### **i. Methodology of the proposed system**

After analyzing all the available data models, I found that agile methodology is suitable for my project because agile project management is in an iterative approach to software development projects and ensures feedback can be acted on quickly and responsive changes can be made at each stage of a product cycle. Agile project management incorporates continuous testing and responsiveness to change.



**Figure 1: Agile Methodology**

## ii. Flowchart

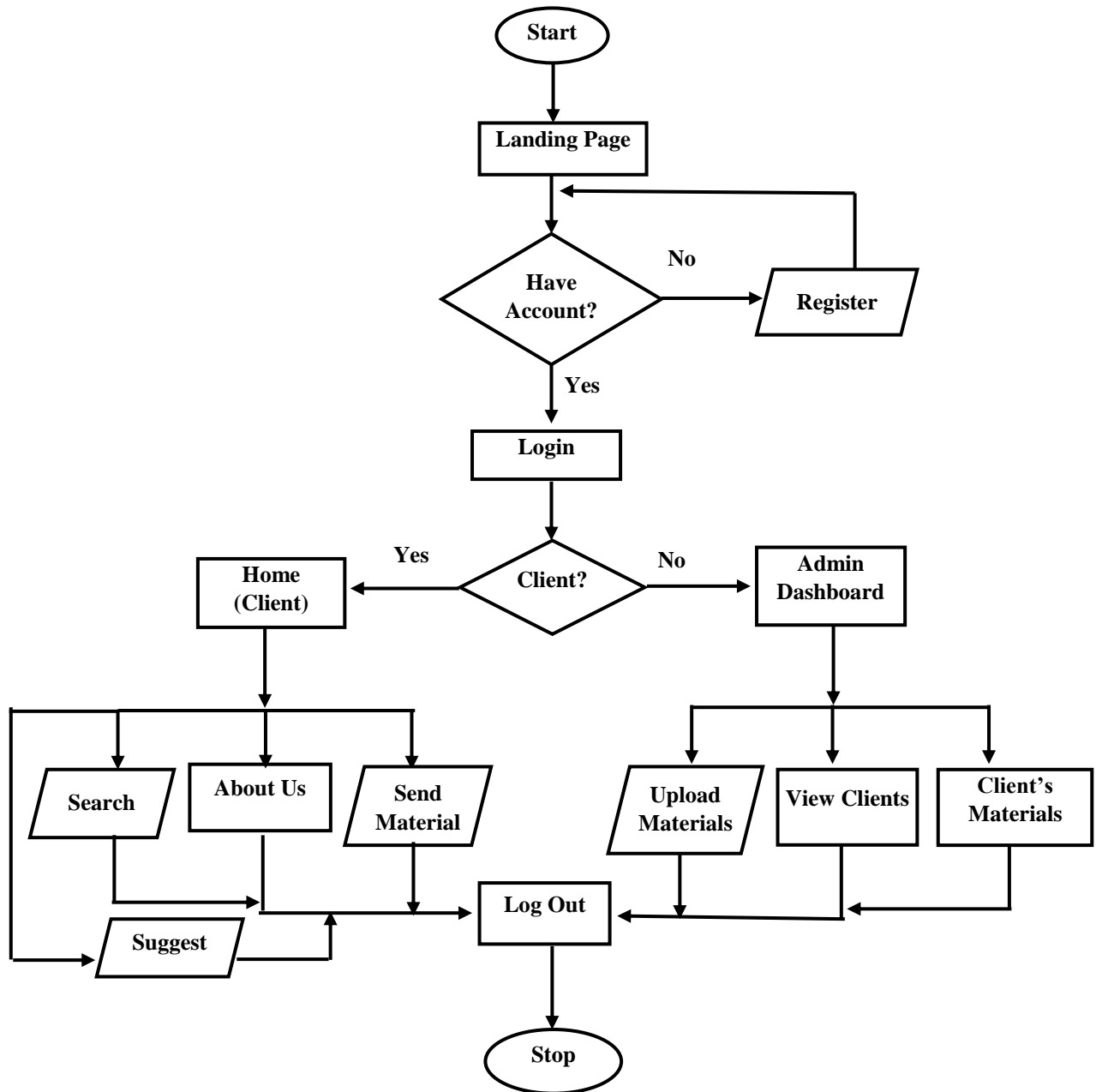


Figure 2: Flowchart



### iii. Description of Algorithm

stepwise algorithm for a content-based filtering algorithm:

Step 1: Start

Step 2: Input Content metadata (e.g., features, categories, keywords)

Step 3: Clean and preprocess the data, removing noise and irrelevant information.

Step 4: Assign weights or scores to the features based on their importance or relevance to the user.

Step 5: Compute the similarity between items based on their content features.

Step 6: Select the top-n most similar items based on their content similarity scores.

Step 7: Compare the algorithm's performance against baseline methods.

Step8: Stop

The reasons behind using Content-based filtering recommendation system are:

- Recommendations are highly relevant to the user.
- Content-based filtering systems are generally easier to create. [4]

## 5. Gantt-Chart

The given Gantt-Chart shows the schedule feasibility of my project with the time separated for different stages of tasks. It can also help us view the start and end dates of a project in one simple chart. A Gantt chart is incredibly useful because it allows us to simplify complex projects into an easy-to-follow plan and track the status of tasks as work progresses.

**Table 1: Gantt chart**

		WEEKS											
		1	2	3	4	5	6	7	8	9	10	11	12
ACTIVITIES	Planning												
	Research												
	Design/coding												
	Implementation												
	Testing												
	Documentation												

## **6. Expected Outcome**

With this system, we hope the users will enjoy and like a new way of reading books. This proposal suits the needs and will definitely fulfill user's criteria. The expected outcome is to achieve the goal.

- Clean and informative user interface with easy user experience.
- Secure user privacy and encrypted password system.
- Informative and accurate search results.
- Saves time, energy and money as well.
- Punctual documentations.

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