**Sylhet Engineering College**



**Computer Science and Engineering**

Course Name: Software Development

Course Code: CSE 600

{ Project Proposal on LipoBlog : A Blogging Platform }

|  |  |  |
| --- | --- | --- |
| **Submitted By:** | | **Submitted To:** |
| 1. | Member 01: | Nayan Kumar Nath |
|  | Name: Enamul Hasan | Lecturer, Department of CSE |
|  | Reg: 2019331503 | Sylhet Engineering College, |
|  |  |
| 2. | Member 02: | Sylhet, Bangladesh |
|  |

Name: Kabir Hussan

Reg: 2019331543

Department: Computer Science &

Engineering (CSE)

**#01: Title**

Hall Management System

**#02: Executive Summary**

LipoBlog is a Blogging website which means broadcast-style communications systems that enable authors to publish articles, opinions or product reviews (known as posts), which can be delivered through stand-alone websites, email, feed syndications systems and social networks. Blogging platforms also enable direct reader participation with the host blogger or with other blog participants by enabling user comments. LipoBlog allows the user to create, organise, and publish written and visual content online in a blog.

**#03: Letter of Transmittal**

September 20, 2023

Nayan Kumar Nath,

Lecturer, Department of CSE

Sylhet Engineering College, Sylhet, Bangladesh

Subject: Submission of LopoBlog Project

Dear Sir,

We the proposers would like to present the proposal of "LipoBlog : A blogging platform" in compliance with your instructions, as per the requirements of the Software Development course. The goal of this article is to suggest a website that we believe will be beneficial to society. This website will be able to empowers content creators, writers, and bloggers to showcase their talents, connect with readers, and contribute to meaningful online discourse.

We simply hope that you will approve of this suggestion.

Yours Sincerely,

Enamul Hasan, 2019331503

Kabir Hussan, 2019331543

**#04: Introduction**

In the digital age, content creation and information sharing have become fundamental aspects of our online lives. With the ever-increasing demand for easily accessible and user-friendly platforms to express ideas, share knowledge, and engage with a wider audience, we propose the development of a state-of-the-art Blogging Website.

LipoBlog allows the user to publish posts, display the date that the post was published, and assign a specific author assigned to the post. It also allow users to tag content with specific categories, making it easier to search for all posts on topic within the blog.

A user can create and manage his personal blog site in lipoblog and after publishing the posts any internet user can read his posts, comments and see his blog site.

**#05: Member Introduction:**

Our team consists of three members.

Software Quality Assurance Tester: Kabir

**#06: Objectives**

1. **Create a User-Friendly Blogging Platform**

Develop a user interface that is intuitive and easy to navigate, ensuring a seamless experience for bloggers and readers. Implement a user-friendly content management system (CMS) for bloggers to easily create, edit, and manage their posts.

1. **Enable Diverse Content Creation**

Provide support for various content formats, including text, images, videos, and embedded media, to cater to a wide range of bloggers. Implement rich text editing capabilities to allow bloggers to format and style their content.

1. **Ensure Responsive Design**

Design the website to be responsive across different devices (desktops, tablets, and smartphones) to reach a broader audience. Optimize the user experience on mobile devices with a mobile-responsive design.

1. **Implement User Registration and Profiles**

Enable user registration and authentication for bloggers to create personalized profiles. Allow bloggers to customize their profiles with profile pictures, bios, and social media links.

1. **Support Social Interaction and Engagement**

Implement commenting functionality to encourage reader engagement with blog posts. Integrate social sharing features to allow bloggers and readers to easily share content on social media platforms.

1. **Develop Robust Search and Filtering**

Create a powerful search functionality for users to find specific blog posts or topics of interest. Implement filtering options based on categories, tags, or keywords to enhance content discovery.

1. **Enhance Content Organization**

Develop a category and tagging system to help bloggers categorize and organize their content effectively. Create an archive system to allow users to access past posts easily.

1. **Ensure SEO-Friendly Structure**

Optimize the website's structure and content for search engines to improve discoverability and ranking. Implement clean URLs, metadata, and sitemaps to enhance SEO performance.

1. **Implement User Analytics**

Integrate analytics tools to provide bloggers with insights into their content's performance, such as page views, user engagement, and audience demographics.

1. **Ensure Security and Privacy**

Implement security measures to protect user data, prevent unauthorized access, and ensure data privacy compliance. Regularly update and patch the website to address security vulnerabilities.

1. **Provide Scalability**

Design the website architecture to handle increasing traffic and accommodate future feature enhancements. Plan for scalability by selecting appropriate hosting and infrastructure options.

1. **Deliver Documentation and Training**

Provide comprehensive documentation for bloggers and administrators on how to use and maintain the website.Offer training sessions or resources to onboard new bloggers effectively.

1. **Meet Project Deadlines**

Adhere to the project timeline to ensure timely delivery of the blogging website. Regularly update stakeholders on project progress and milestones.

1. **Gather User Feedback**

Conduct user testing and gather feedback to make iterative improvements to the website. Prioritize user-driven enhancements based on feedback and usage data.

These objectives serve as a foundation for the development of a successful blogging website, outlining key features and considerations to meet the needs of both bloggers and readers. Customizing these objectives to your specific project requirements is essential for a well-defined project plan.

**#07: Project features**

1. **User Management:**

In a Hall Management System (HMS) software with different types of user role access such as Student, Hall Provost and Administrator. it's essential to include features that cater to the specific needs and responsibilities of each user role. Here are some key features for each user role:

1. **Administrator:**
   * Responsible for overall management and administration of the HMS.
   * Has access to all features and functionalities of the system.
   * Can add, modify, or delete user accounts, rooms, facilities, and other system settings.
   * Manages financial aspects such as fee collection, budgeting, and expense tracking.
   * Generates reports, analyzes data, and makes strategic decisions to optimize hostel operations.
2. **Hall Provost/Manager:**
   * Oversees the management of a specific hostel or hall within the college.
   * Responsible for room allocation, maintenance, and security within the assigned hall.
   * Manages resident issues, complaints, and requests for facilities and services.
   * Conducts periodic inspections of rooms and common areas to ensure cleanliness and compliance with regulations.
   * Collaborates with administrators and other stakeholders to implement policies and procedures for hostel management.
3. **Students/Residents:**
   * Occupants of the hostel rooms who reside within the college premises.
   * Can access features such as room booking, fee payment, maintenance requests, and complaint submission.
   * Manage personal information, preferences, and contact details through their user accounts.
   * Follow hostel rules and regulations regarding behavior, visitor policies, and facility usage.
   * Provide feedback and suggestions to improve hostel services and amenities.

Additionally, the software should include role-based access control (RBAC) mechanisms to ensure that users only have access to features and data relevant to their role. This helps maintain security and confidentiality while enabling efficient management of hostel operations by respective user roles.

1. **Room Allocation and Management:**
   1. Automated room assignment based on student preferences, availability, and specific requirements.
   2. Ability to assign, modify, and track room allocations efficiently.
2. **2. Student Information Management:**
   1. Centralized database for storing student profiles, including personal details, contact information, emergency contacts, etc.

3. Fee Collection and Billing:

- Online payment gateway integration for collecting hostel fees and other charges.

- Generation of invoices, receipts, and financial reports.

- Automated reminders for overdue payments and notifications of payment status.

4. Maintenance and Complaint Management:

- System for residents to submit maintenance requests, report issues, and track their status.

- Assignment of tasks to maintenance staff, scheduling of repairs, and monitoring of completion.

- Feedback mechanism for residents to rate and provide feedback on maintenance services.

5.

7. Communication and Notifications:

- Messaging platform for administrators to communicate announcements, notices, and updates to residents.

- Automated notifications for room assignments, maintenance schedules, fee deadlines, etc.

- Broadcast messaging for emergency situations or important announcements.

8. Reporting and Analytics:

- Generation of reports on room occupancy, fee collections, maintenance requests, etc.

- Data analytics tools for identifying trends, patterns, and areas for improvement.

9. Mobile Accessibility:

- Mobile app or responsive web interface for residents to access hostel-related services and information on-the-go.

- Mobile-friendly interfaces for administrators to manage operations from smartphones or tablets.

10. Integration and Customization:

- Customization options to tailor the software to the specific needs and preferences of the college or university.

- APIs and developer tools for extending functionality or integrating with third-party services.

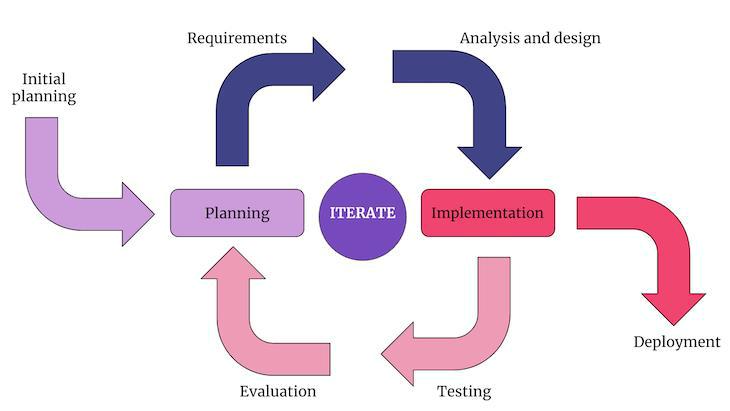
By incorporating these features, a Hall Management System software can effectively streamline operations, enhance communication, and improve the overall experience for administrators and residents alike.

**#08: Tools**

1. Back-end: Python with Django framework.
2. Front-end: HTML, CSS, BootStrap, Javascript & JQuery.
3. SQL for Performing Query in Database.
4. SQLite for development / MySQL Database for production.
5. Git and github for version control system.
6. I.D.E: Visual Studio code.

**#09: Methodology**

The incremental model is a software development process that divides requirements into numerous separate modules during the software development cycle. Each module in this paradigm goes through the processes of requirements, design, implementation, and testing. Every release of the module after then adds functionality to the preceding iteration. The procedure is repeated until the entire system is completed.



**#10: Project Planning**

The project will be completed over a duration of 8-10 weeks, with each week dedicated to specific development tasks and testing phases. A detailed timeline is provided below. We have planned our project with five processes. Those area given below:

1. We will have full basic idea of project and new features within 1 week.
2. We will start designing database schema changes from the mid of first week to second week.
3. Then initial design for the project structure in between week 1 to week 3.
4. Then the development of the project will be starting from end of the week 2 to week 7.
5. Then features addition will be completed between end of the week 2 to middle of the week 7.
6. Then end of the 7th week to final week we will be fixing bugs and then submit the project.

|  |  |  |  |
| --- | --- | --- | --- |
| **Tasks** | **Time interval** | | **Remarks** |
|  |  | |  |
| **Basic idea and Structure** | **Week 01 Day: 01 - 07** | |  |
|  |  | |  |
| **Database Schema Design** | **Week 01 Day: 04 - Week 02 Day: 07** | |  |
|  |  |  |  |
| **Initial Design of Prototype** | **Week 01** | **– Week 03** |  |
|  |  |  |  |
| **Development phase** | **Week 02** | **– Week 07** | **Frontend and Back-** |
| **end development** |
|  |  |  |
|  |  |  |  |
| **New Features addition** | **Week 02** | **– Week 07 Day: 04** |  |
|  |  |  |  |
| **Bug Fixing phase** | **Week 08** | **– Final day** | **SQA Testing** |
|  |  |  |  |

**#11: Feasibility analysis**

**1. Technical Feasibility**

Resource Availability: We have access to the necessary technical resources, including web developers, designers, and hosting infrastructure.

Technology Stack: The selected technology stack is well-established, and team members have expertise in these technologies.

Scalability: The chosen technologies and architecture can accommodate the expected user load and scalability requirements.

Integration: Necessary third-party tools and APIs, such as social media sharing and analytics, are available and can be integrated seamlessly.

**2. Operational Feasibility**

User Requirements: User needs and expectations have been analyzed, and the website's features align with these requirements.

User Engagement: The website's potential to attract bloggers and readers has been assessed through market research and competitor analysis.

Content Moderation: Operational processes for content moderation and user management are defined to ensure a safe and engaging environment.

Scalability Planning: Plans for handling increased traffic and user-generated content have been established.

**3. Schedule Feasibility**

Project Timeline: A well-defined project timeline has been created, taking into account all development phases, testing, and quality assurance.

Resource Allocation: Human resources, including developers, designers, and testers, are allocated according to the project schedule.

Milestones: Key project milestones and deadlines are established to track progress effectively.

**4. Risk Assessment**

Risk Identification: Potential risks and challenges, such as technical issues, security threats, and changing market dynamics, have been identified.

Risk Mitigation: Strategies and contingency plans have been developed to mitigate identified risks.

**5. Sustainability and Growth**

Long-term Sustainability: The project considers long-term sustainability, including ongoing maintenance, updates, and feature enhancements.

User Growth: Strategies for attracting and retaining users are outlined to ensure the website's long-term viability.

**#12: Conclusion**

We design LipoBlog for the bloggers who want to express the new idea of his/her with the people. It’s a multi user blogging system where we can see various kinds of writers and bloggers. Making this blogging platform we learned front-end developing tools like html, css, bootstrap and back-end developing tools like python, django framework. We also learned about blogging platforms, how to manage it and so on. We hope this site will create a new era in Bangladesh blogging system.

Blogs provide ways for you to not only express your thoughts and (potentially) build an audience, but also build a portfolio of original work at your pace and on your terms.