**TITLE OF THE PROJECT**

***A project report submitted to University of Calicut***

***in partial fulfillment of requirements for the award of***

**BACHELOR DEGREE**

***in***

**COMPUTER APPLICATION**

***by***

**NAME OF THE CANDIDATE**

**REG. NO…………..**

**(2021-2024)**



**POSTGRADUATE DEPARTMENT OF COMPUTER APPLICATION**

**SAHRDAYA**

**COLLEGE OF ADVANCED STUDIES**

**KODAKARA, THRISSUR**

**TITLE OF THE PROJECT**

***A project report submitted to University of Calicut***

***in partial fulfillment of requirements for the award of***

**BACHELOR DEGREE**

***in***

**COMPUTER APPLICATION**

***by***

**NAME OF THE CANDIDATE**

**REG. NO…………..**

**(2021-2024)**

***Under the supervision of***

**Guide’s Name**



**POSTGRADUATE DEPARTMENT OF COMPUTER APPLICATION**

**SAHRDAYA**

**COLLEGE OF ADVANCED STUDIES**

**KODAKARA, THRISSUR**

**TITLE OF THE PROJECT**

**PROJECT REPORT**

**UNIVERSITY OF CALICUT**

****

**CENTRE: SAHRDAYA COLLEGE OF ADVANCED STUDIES, KODAKARA**

**BCA**

**(2021-2024)**

**Name : Student’s Name**

**Reg. No : ……………….**

**Semester : Sixth**

**SAHRDAYA COLLEGE OF ADVANCED STUDIES**

**KODAKARA, THRISSUR**



**CERTIFICATE**

This is to certify that the project entitled **“PROJECT TOPIC”** submitted to the Department of Computer Application in partial fulfillment of the requirements for the award of Bachelor Degree in Computer Application is a bonafide record of original work done by **STUDENT’S NAME (Reg. No…………….)**in the period of his/her study in the Postgraduate Department of Computer Science, Sahrdaya College of Advanced Studies, Kodakara under my supervision and guidance during the year of 2021-’24.

Supervisor Head of the Department Principal

External Examiner:

Internal Examiner:

Palace : Kodakara

Date : / /2024

**DECLARATION**

I hereby declare that the project entitled **“TITLE OF THE PROJECT”** submitted to the University of Calicut in partial fulfillment of the requirement for the award of the **BACHELOR OF COMPUTER APPLICATION** is a record of original work done by me during the period of my study in the Postgraduate Department of Computer Science, Sahrdaya College of Advanced Studies, Kodakara.

Place : Kodakara Student’s Name

Date : / /2024

**ACKNOWLEDGEMENT**

The effort taken by the completion of this project would not have been possible without the kind of support and help rendered by many individuals and organizations. I would like to acknowledge my sincere thanks to all of them.

First, I would like to thank God Almighty for his glorious blessings which have been accompanied throughout the course of my work. I firmly believe, it was with His help that I was able to complete this project successfully.

I am highly indebted to Rev. Dr. Devis Chenginiyadan, Executive Director and Dr. Mathew Paul Ukken, Principal, Dr. Rani M J, Vice Principal and Dr. Joy K L, Vice Principal for their guidance and constant supervision as well as providing all facilities to carry out my project as part of the curriculum.

I extend my deepest sense of gratitude to my guide Ms/Mr…………… Postgraduate Department of Computer Science for his/her patience and support together with proper guidance throughout the completion of my project.

I record sincere thanks to Dr. Joy K L, Head of the Department of Computer Science and all other teachers of the department for their strong support and help.

I would like to express my special gratitude and thanks to the trainers from Techmindz, Carnival Infopark for giving me such attention and time.

I also express my gratitude to the Computer Lab Assistants for providing various facilities for this project.

I am very thankful to all my classmates and friends for their wholehearted support.

**CONTENTS**

**List of Tables**

**List of Figures**

**List of Abbreviations**

1. **Introduction 1**
   1. Background 2
   2. Objectives 3
   3. Problem Statement 4
2. **System Specification 5**
   1. Hardware Specification 6
   2. Software Specification 7
   3. Developing Tool 8
3. **Software Description 9**
   1. Developing Platform 10
   2. Front End Tool 11
   3. Back End Tool 12
4. **System Analysis 13**
   1. Existing System 14
   2. Literature Survey 15
   3. Proposed System 16
   4. Data Flow Diagram 17
   5. ER Diagram 18
5. **Project Description 19**
   1. Problem Definition 20
   2. Overview 21
      1. Technology 22
      2. Modules 23
      3. Android Application/Web Application 24
   3. Phases of Proposed System 25
      1. Collection of Data 26
      2. Producing the output 27
   4. Flow Chart 28
6. **System Testing 29**
   1. White Box Testing 30
   2. Black Box testing 31
   3. Unit Testing 32
   4. Integration Testing 33
   5. Acceptance Testing 34
   6. Test Cases 35
7. **Implementation Result and Performance Evaluation 36**
   1. Primary Module 37
   2. Processing Module 38
   3. Networking Module 39
   4. Web Application 40
   5. Performance Evaluation 41
   6. Comparative Study 42
8. **Screenshots 43**
9. **Conclusion 44**
10. **References 45**

**RFERENCES**

1. “*Book name*”, name of the author, publisher, published edition.
2. “*https://simple.wikipedia.org/wiki/RSA\_algorithm”*

**1.INTRODUCTION**

* 1. **Background**

A social media application is a digital platform that allows people to connect, share, and communicate with each other online. In the context of a project report, understanding the background of a social media application is crucial. These platforms gained prominence in the early 2000s with the rise of websites like Myspace and Friendster, paving the way for more sophisticated platforms such as Facebook, Twitter, and Instagram.

The primary purpose of social media apps is to facilitate social interactions in a virtual environment. Users can create profiles, share updates, photos, and videos, and connect with friends or followers. The apps often include features like messaging, commenting, and liking to enhance user engagement.

The success of social media applications is driven by the desire for connectivity and information sharing in the digital age. They have become integral to modern communication, influencing how individuals and businesses interact. Social media also plays a significant role in marketing, brand promotion, and information dissemination.

Despite their widespread popularity, social media applications have faced challenges, including privacy concerns, misinformation, and issues related to online behavior. Understanding the background of these platforms is essential for comprehending their impact on society and for developing strategies to address the associated challenges in a project report.

1. Top of Form

**1.2 Objectives**

The problem statement for a social media application project could be that existing platforms face challenges related to user privacy, misinformation, or user experience issues. For instance: "Current social media applications struggle with protecting user privacy and controlling the spread of misinformation. Users often feel uneasy about their personal information, and the ease of sharing content has led to the rapid spread of false information. Additionally, some users find the user interface confusing, impacting their overall experience. Addressing these issues is crucial to creating a safer, more reliable, and user-friendly social media platform."

Top of Form

**1.3 Problem statement**

The problem statement for a social media application project could be that existing platforms face challenges related to user privacy, misinformation, or user experience issues. For instance: "Current social media applications struggle with protecting user privacy and controlling the spread of misinformation. Users often feel uneasy about their personal information, and the ease of sharing content has led to the rapid spread of false information. Additionally, some users find the user interface confusing, impacting their overall experience. Addressing these issues is crucial to creating a safer, more reliable, and user-friendly social media platform."

**2. SYSTEM SPECIFICATION**

* 1. **Hardware specification**
* Processor: A multi-core processor (e.g., Intel Core i5 or equivalent) for efficient development.
* RAM: 8GB or more for smooth development processes.
* Storage: SSD for faster data access during development.
* High-speed internet connection for efficient development and data transfer.
* Consideration for server hosting with sufficient bandwidth to handle user traffic.
  1. **Software Specification**
* Development Environment:

Integrated Development Environment (IDE) such as Visual Studio Code, IntelliJ IDEA, or Eclipse for coding and debugging.

* Front-end Technologies:

HTML, CSS, and JavaScript for building the user interface.

* Back-end Technologies:

Server-side programming languages like Python (Django, Flask), JavaScript (Node.js), for building the back-end logic

**2.3 Developing tool**

* IDE (Integrated Development Environment):

Utilize IDEs like Visual Studio Code or IntelliJ IDEA for efficient coding and debugging.

* Front-end Framework:

Employ frameworks such as React or Vue.js for responsive and interactive user interfaces.

* Back-end Language:

Choose server-side languages like Node.js or Python (Django) for robust back-end development.

**3.SOFTWARE DESCRIPTION**

**3.1 Developing Platform**

* Operating System:

Developers need computers with Windows, macOS, or Linux for coding.

* Development Tools:

Use Integrated Development Environments (IDEs) like Visual Studio Code or Eclipse for writing code.

* Programming Languages:

Choose backend languages (e.g., Python, Ruby) and frontend languages (HTML, CSS, JavaScript) for application development.

* Frameworks:

Employ web frameworks (e.g., Django, React) to streamline development processes.

* Database Management:

Select Database Management Systems (e.g., MySQL, MongoDB) to organize and manage data.

**3.2 Front end tools**

* Text Editor:

Use a text editor like Visual Studio Code for writing and editing code.

* HTML/CSS/JavaScript:

Employ these fundamental languages to structure content, style the interface, and add interactivity.

* Browser Developer Tools:

Leverage built-in browser tools for debugging and optimizing frontend code.

**3.3 Back end tools**

* Server-Side Language:

Choose a language like Python, Ruby, or Node.js for handling server-side logic.

* Web Framework:

Use frameworks such as Django or Express.js for efficient backend development.

* Database Management System (DBMS):

Select a DBMS like MySQL or MongoDB to store and retrieve user data.

* APIs:

Develop APIs (Application Programming Interfaces) for seamless communication between the frontend and backend

**4.SYSTEM ANALYSIS**

**4.1 Existing System**

The existing system in a social media application refers to the current state of the platform before any modifications. This may include features, functionalities, and potential issues. For instance, in an existing system, user interactions and data management might be present, but there could be challenges like privacy concerns or inefficient content filtering. Understanding the existing system is crucial for identifying areas of improvement and guiding the development of a more effective and user-friendly social media application.

**4.2 Literature Survey**

In system analysis for a social media application project, a literature survey involves reviewing existing research, articles, and studies related to social media platforms. This process helps identify trends, challenges, and best practices in the development and management of such applications. The survey covers topics like user engagement, privacy concerns, security measures, and technological advancements. By examining the existing literature, the project report gains valuable insights into the current landscape, allowing for informed decision-making during system design and development. This literature review also aids in understanding user expectations and industry standards, ensuring that the social media application meets user needs and stands out in a competitive market.

**4.3 Proposed System**

The proposed system for a desktop-mode social media application involves a user-friendly interface accessible on computers. The system aims to enhance user engagement and experience through streamlined features like posting updates, sharing media, and connecting with friends. Employing technologies like HTML, CSS, and JavaScript, the application ensures compatibility with popular web browsers on desktop platforms. The backend, powered by languages like Python or Node.js, manages data storage, user authentication, and seamless communication with the frontend. The proposed system prioritizes a responsive design for diverse screen sizes. This desktop-oriented approach facilitates convenient access and efficient utilization of the social media platform, catering to users who prefer desktop interactions.

**4.4 Data flow diagram**

Top of Form

Top of Form

**4.5 ER diagram**

**5. PROJECT DESCRIPTION**

**5.1 Problem definition**

The problem with the current social media landscape is the lack of desktop-centric platforms, limiting user accessibility and convenience. Many users prefer a desktop experience for its larger screen and enhanced functionality. The challenge is to develop a social media application tailored specifically for desktop usage. This involves addressing issues related to user interface optimization, efficient navigation, and ensuring a seamless experience on larger screens. The project aims to fill this gap by providing a user-friendly desktop application, thereby enhancing user satisfaction and expanding the reach of social media to a broader audience.

**5.2 Overview**

Project Overview: Our project focuses on developing a social media application exclusively designed for desktop usage. In response to the current market trend favoring mobile platforms, we recognize the need to cater to users who prefer using social media on their computers. The application aims to provide a user-friendly and feature-rich environment, ensuring a seamless experience for desktop users.

Key Features:

* Comprehensive Desktop Experience: Tailored features and functionalities to optimize social media interactions on desktop devices.
* Enhanced User Interface: A user-friendly design that prioritizes ease of navigation and accessibility.
* Full Suite of Social Features: Facilitating content sharing, connection-building, and communication in a manner synonymous with popular mobile applications.
* Optimization for Performance: Ensuring the application runs efficiently on desktops, delivering a smooth and responsive user experience.

By creating a social media platform specifically for desktop users, this project aims to fill the gap in the market, providing an inclusive and enjoyable social networking experience for individuals who prefer the desktop mode.

**5.2.1 Technology**

The technology used in developing a desktop-mode social media application involves selecting the right tools and platforms to ensure a seamless and efficient user experience. For this project, we will leverage the following technologies:

* Programming Languages:

Choose languages like JavaScript, HTML, CSS for frontend development to create an interactive and visually appealing user interface. Use backend languages like Django or Python for server-side logic.

* Framework:

Employ frameworks such as Electron for building cross-platform desktop applications. This allows us to use web technologies for desktop development.

* Database:

Utilize a reliable database management system like SQLite or MongoDB to store and manage user data efficiently.

* Web Technologies:

Leverage HTML, CSS, and JavaScript to create responsive and dynamic web pages for the desktop application.

* APIs:

Implement APIs to facilitate communication between the frontend and backend, ensuring seamless data exchange.

* Security Measures:

Integrate security protocols and encryption methods to safeguard user data and privacy.

**5.2.2 Modules**

* User Authentication and Profile Management:

Develop a secure login system and profile management module, allowing users to create accounts, log in, and customize their profiles.

* News Feed and Content Sharing:

Implement a news feed where users can share text posts, images, and videos. Enable functionalities for liking, commenting, and sharing posts.

* Friendship and Connection:

Create a module for users to connect with others, send friend requests, and manage their social connections. Include features for private messaging.

* Notifications:

Set up a notification system to keep users informed about friend requests, likes, comments, and other relevant activities.

* Search and Discovery:

Incorporate a search module for users to find friends and discover new content. Enhance user engagement through content recommendations.

* Settings and Privacy:

Provide users with control over their account settings and privacy preferences. Ensure secure handling of user data.

* Desktop Optimization:

Optimize the user interface for desktop usability, considering screen real estate, navigation, and overall user experience.

* Analytics and Reporting:

Integrate analytics tools to gather insights into user behavior, content popularity, and application performance

**5.2.3 Android Application/Web Application**

The project involves the development of a desktop-only social media application, distinct from traditional Android or web applications. Unlike Android apps designed for mobile devices or web apps accessible through browsers, this project focuses on delivering a dedicated application tailored explicitly for desktop usage.

* Desktop-Centric Design: The application prioritizes features and design elements conducive to desktop interaction, taking advantage of larger screens and unique user behaviors associated with desktop usage.
* Enhanced User Interface: By concentrating on a desktop-specific interface, the project aims to provide users with a seamless and optimized experience, ensuring that navigation, content display, and interaction align with desktop standards.
* Desktop-Exclusive Features: The application will offer features specifically catered to desktop users, acknowledging their preferences and requirements in terms of functionality and accessibility.

**5.3 Phases of Proposed System**

* Planning:

Define project goals, scope, and requirements.

Identify target users and analyze their needs for a desktop-centric social media experience.

* Design:

Create user interface (UI) and user experience (UX) designs tailored for desktop environments.

Plan the application's structure, features, and navigation to optimize the desktop user experience.

* Development:

Write and implement the code for the social media application, focusing on desktop functionality.

Integrate backend and frontend components to ensure seamless communication.

* Testing:

Conduct thorough testing to identify and fix any bugs or issues.

Test the application's performance, security, and compatibility on various desktop devices.

* Deployment:

Deploy the desktop application to a server for public or restricted access.

Ensure a smooth transition from development to live usage.

* Maintenance and Updates:

Provide ongoing support, address user feedback, and implement updates to enhance functionality.

Regularly monitor and maintain the system's performance and security.

**5.3.1 Collection of Data**

The collection of data in the context of a desktop-mode social media application involves gathering and managing information to enhance user experiences and platform functionality. The project focuses on several key aspects of data collection:

* User Profiles: Efficiently gather and store user profiles, including personal information, preferences, and settings, to personalize the user experience.
* Content Management: Collect and organize various forms of user-generated content, such as posts, images, and videos, ensuring smooth sharing and retrieval functionalities.
* Activity Tracking: Implement systems to track user activities, interactions, and engagement on the platform, providing valuable insights for content recommendations and platform improvements.
* Security Measures: Collect and secure sensitive user data through robust encryption and adherence to privacy regulations, ensuring the protection of user information.
* Usage Analytics: Implement analytics tools to gather data on user behavior, platform usage patterns, and performance metrics, enabling data-driven decision-making for enhancements and optimizations.

**5.3.2 Producing the output**

* User-Friendly Interface: The application will deliver an intuitive and visually appealing user interface designed specifically for desktop users. This includes features like easy navigation, organized layouts, and a comfortable user experience tailored to larger screens.
* Comprehensive Feature Set: The output will encompass a full suite of features commonly associated with popular mobile social media apps. This includes posting and sharing content, interacting with posts, messaging, notifications, and customizable user profiles—all seamlessly integrated into the desktop application.
* Optimized Performance: The project output will focus on optimizing the application's performance for desktop environments. This involves ensuring fast loading times, smooth transitions, and efficient use of system resources to deliver a responsive and reliable experience.
* Security Measures: The produced output will prioritize implementing robust security measures to safeguard user data and privacy, ensuring a secure environment for social interactions.
* Scalability: The application will be designed to handle potential growth in user numbers, providing a scalable solution that can accommodate increasing user engagement and data loads.

**Top of Form**