A Minor Project II Report on

**KURAKANI**

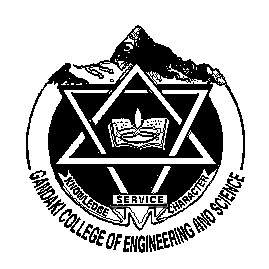
Submitted in partial fulfillment of the requirements for the degree ofBachelor of Engineering in Software Engineering at Pokhara University

***By***

**AJIT BANIYA**

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**Department of Research and Development**

**GANDAKI COLLEGE OF ENGINEERING AND SCIENCE**

Lamachaur, Kaski, Nepal

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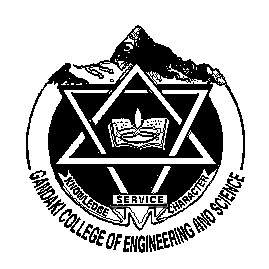
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# BONAFIDE CERTIFICATE

This is to certify that this project titled **KURAKANI** in partial fulfillment of the requirements for the degree of BACHELOR OF ENGINEERING IN SOFTWARE ENGINEERING is a bonafide work of **Ajit Baniya, Bibek Bhattarai** and **Dipesh Gautam** under the supervision of **Er. Krishna Khadka**. It is further certified that this work doesn’t form part of any other project work on the basis of which a degree or award was conferred on any earlier occasion on this by any other candidate.

**Date of Evaluation**: 08/10/2023

|  |  |
| --- | --- |
| ……………………………...…  Er. ………………  External Examiner  Assistant Professor  School of Engineering,  Pokhara University |  |
| ……………………………...…  Er. Krishna Khadka  (Supervisor) | ……………………………...…  Er. Rajendra Bahadur Thapa  Project Head  Research Management Cell |

# ACKNOWLEDGEMENT

In the accomplishment of this project successfully, we want to thank all the people who have contributed their time and effort to guide us throughout the development of the mobile application named ‘Kurakani’.

Primarily, we would like to express our special thanks of gratitude who initially guide us in this project, our teachers and supervisor Er. Krishna Khadka who gave us the golden opportunity to do this wonderful project on the topic of Kurakani, which also helped us in doing a lot of research and we came to know about so many new tools and technologies.

Secondly, we would also like to thank our parents and friends who helped us a lot in finalizing this project within the limited time frame.

Thank You

# ABSTRACT

The proposed project aims to develop a mobile chat system with additional features such as messaging, creating posts, viewing messages and posts, and adding friends. Similar to Instagram but without the Reels and Stories functionalities, this system will be developed using React Native for the frontend and Node.js for the backend. Real-time communication will be facilitated through the integration of socket technology, while data storage and retrieval will be supported by MongoDB.

The main objective of this project is to provide users with a seamless and interactive chat experience, allowing them to connect, communicate, and share their thoughts and updates with their friends. By leveraging the power of React Native, we will ensure a responsive and user-friendly interface that can be accessed across multiple platforms, including both iOS and Android.

The backend will be built using Node.js, which offers scalability, flexibility, and a vast ecosystem of libraries and frameworks. The integration of socket technology will enable real-time updates and notifications, enhancing the overall user experience. Additionally, MongoDB will be utilized as the database system to efficiently store and retrieve user-generated content, such as messages, posts, and user profiles.

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# CHAPTER 1 INTRODUCTION

## Introduction

In today's digitally connected world, social media platforms have transformed the way we communicate and share experiences. Inspired by the success of platforms like Instagram, this project proposes the development of a chat system with features akin to Instagram, focused on fostering real-time communication and meaningful interactions between users.

The goal of this project is to create a comprehensive chat system that allows users to send messages, create posts, view messages and posts, and add friends. By utilizing the power of React Native for the frontend and Node.js for the backend, the system will provide a cross-platform application with a responsive and intuitive user interface. Leveraging socket technology, users will experience real-time updates and notifications, ensuring seamless communication and timely access to information.

The proposed chat system aims to deliver a seamless and engaging user experience, enabling users to engage in conversations, express themselves through posts, and expand their network of friends. By omitting features like Reels and Stories, the primary focus will be on enhancing core functionalities such as messaging, posting, and friend management.

To ensure efficient data storage and retrieval, a suitable database system will be implemented, such as MongoDB. These databases will facilitate quick access to messages, posts, and user profiles, ensuring optimal performance and scalability as the user base grows.

Developing a chat system that replicates the essence of Instagram while incorporating unique features requires a solid understanding of React Native, Node.js, socket technology, and database management. By leveraging these technologies and following industry best practices in user experience design, the aim is to create an application that captivates users with its simplicity, responsiveness, and seamless functionality.

In conclusion, this project seeks to deliver an engaging chat system inspired by Instagram, emphasizing real-time communication and meaningful interactions. By harnessing the power of React Native, Node.js, and socket technology, the goal is to develop a cross-platform application that allows users to send messages, create posts, view messages and posts, and expand their social connections through friend management. With a user-centric approach and attention to detail, this chat system strives to provide an exceptional user experience, facilitating communication and fostering connections in the digital realm.

## Problem Statement

In the rapidly evolving landscape of social media, there is a growing need for a chat system that facilitates real-time communication and meaningful interactions while offering a user-friendly and engaging experience. Although various social media platforms exist, such as Instagram, they often prioritize features like Reels and Stories, leaving a gap in the market for a chat-focused system.

The absence of a dedicated chat system akin to Instagram's core functionalities poses several challenges. Users who desire a platform solely focused on messaging and connecting with friends are left with limited options. While there are messaging applications available, they often lack the comprehensive features and seamless integration found in popular social media platforms.

Existing chat systems often fall short in providing a unified experience, leading to fragmented communication across multiple platforms. Users frequently find themselves switching between various messaging apps and social media platforms, resulting in inefficiencies and confusion. Moreover, these systems may lack real-time updates, causing delays in message delivery and hindering timely conversations.

Additionally, current chat systems often lack the aesthetic appeal and intuitive user interface found in popular social media platforms. Users desire a visually appealing platform that encourages self-expression through posts and multimedia content, while maintaining the primary focus on direct messaging and friend connections.

Addressing these challenges requires the development of a chat system that combines the core functionalities of messaging, post creation, message and post viewing, and friend management into a unified and user-centric platform. The system must leverage the capabilities of modern technologies, such as React Native and Node.js, to provide a responsive, cross-platform application. Real-time communication should be facilitated through socket technology to ensure instant message delivery and updates. Furthermore, efficient data storage and retrieval mechanisms, such as MongoDB, is necessary to support a growing user base and enable seamless access to messages, posts, and user profiles.

By addressing these challenges, the proposed chat system aims to offer users a comprehensive, intuitive, and visually appealing platform for real-time communication, post sharing, and friend connections, filling the void left by existing social media platforms.

## Objectives

* To create a chat system.
* To implement post creation and view posts.
* To facilitate friend management.

## Implications

The development of a comprehensive chat system carries several implications. Firstly, it will enhance communication and connectivity among users, facilitating real-time messaging, post sharing, and friend management. This will result in more meaningful interactions and seamless communication. Secondly, the inclusion of features like post creation and sharing will drive user engagement, allowing users to express themselves through multimedia content and fostering active participation within the community. Additionally, the user-friendly interface and intuitive design of the chat system will ensure a streamlined user experience, leading to increased user satisfaction and retention. The friend management functionality will enable users to expand their social network easily, while the system can also create opportunities for collaboration and networking. Prioritizing privacy and security measures will instill trust among users.

# CHAPTER 2 LITERATURE REVIEW

## 2.1 Literature Review

1. The Influence of Emoticons on Emotional Communication in Social Media Chat Apps: This paper investigates the role of emoticons in facilitating emotional communication within chat app conversations. It explores how emoticons can contribute to the understanding of non-verbal cues and expressions, ultimately enhancing social connections. (Collin, 2021)
2. Privacy and Trust in Social Media Chat Apps: User Perceptions and Behaviors: This study examines users' perceptions and behaviors regarding privacy and trust in chat apps. It delves into the various factors that influence users' decisions to disclose personal information and trust others in the digital realm. (Dobrescu, 2018)
3. Examining the Effects of Group Chat Features on Social Cohesion: This research explores the impact of group chat features on social cohesion within chat app communities. It investigates how the ability to engage in group conversations affects the formation and maintenance of social bonds among users. (Plazz AG, 2020)
4. The Role of Chat Bots in Enhancing Social Support in Mental Health Chat Apps: This conceptual paper delves into the potential of chat bots to provide social support in mental health chat apps. It discusses the benefits of AI-powered chat bots in offering personalized and timely assistance, thereby strengthening social connections among users facing mental health challenges. (Brush, 1999)
5. Language Diversity and Cultural Exchange in Multilingual Chat Apps: This study focuses on the linguistic and cultural dimensions of multilingual chat apps. It examines how language diversity within chat app communities facilitates cultural exchange and broadens social connections across borders. (Preply, 2012)
6. Gamification Techniques for Encouraging Positive Interactions in Chat Apps: This research paper explores the application of gamification techniques to promote positive interactions and social engagement within chat apps. It investigates how elements such as rewards, badges, and challenges can enhance user motivation and foster stronger social connections. (E-learning Industry, 2011)
7. Exploring the Influence of Chat App Design on User Engagement and Social Interactions: This conceptual paper analyzes the impact of chat app design elements on user engagement and social interactions. It examines how features such as interface design, notification systems, and conversation organization can shape the dynamics of social connectivity within chat apps. (Jackiewicz, 2022)

# CHAPTER 3 TOOLS AND METHODOLOGY

## Required Tools

To develop our system, the following tools will be used accordingly:

* + - React Native: for mobile app development
    - Node JS: for backend development
    - MongoDB: for storing the data

## Methodology

The project will be built using the waterfall methodology. This project will be built with required and specific documentation, fixed requirements and enough time, thus the project will be easily developed following the waterfall methodology.

The waterfall model is a linear project management approach, where stakeholder and customer requirements are gathered at the beginning of the project, and then a sequential project plan is created to accommodate those requirements. The waterfall model is so named because each phase of the project cascades into the next, following steadily down like a waterfall. (Tutorialspoint, 2010)

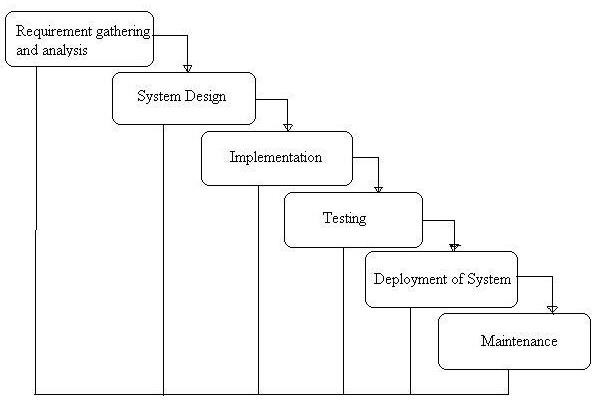
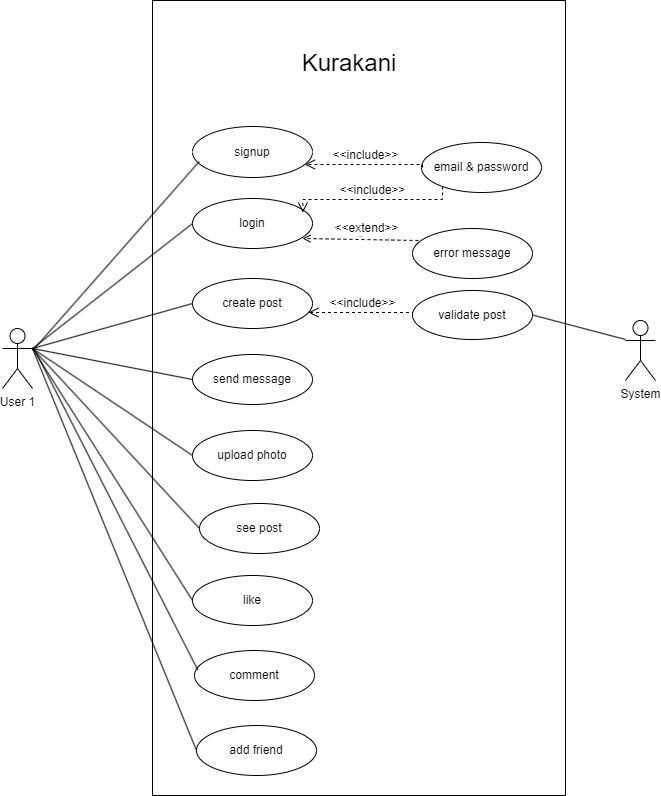


Figure 3.1: Waterfall Model (Tutorialspoint, 2010)

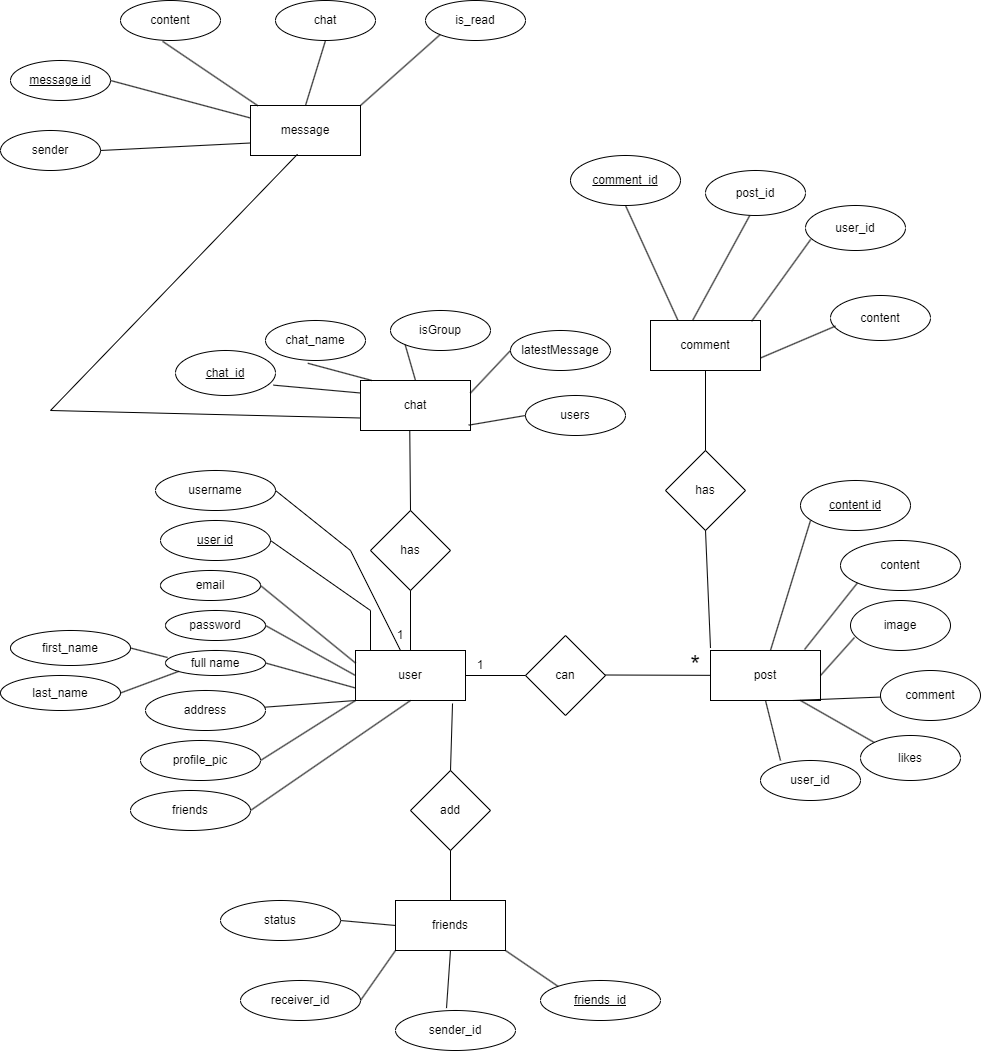
## Designs

## Use Case Diagram



*Figure 3.3.1: Use Case Diagram for the System*

## Entity Relationship Diagram (ER Diagram)

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*Figure 3.3.2: ER Diagram for the System*

# CHAPTER 4 FINDINGS, RESULT AND ANALYSIS

## Testing

Software testing is a phenomenon to evaluate the functionality of a software application with an intent to find whether the developed software met its condition or not. It also identifies the defects to ensure that the product is defect-free in order to produce a quality product. The overall aim for testing a system is to ensure that the system meets its entire functional requirement and to check its performance. The accuracy of the program can be tested with some varying data, testing gives assurance that the new system can achieve its objectives and purpose. Testing is basically an attempt of executing program to find bugs. It consists of various types for which a system is subjected to but the ones to be carried out are the testing objectives. The test plan presents the test in details through identifying the test case areas within the system.

### 4.1.1 Test Results

**Table 1: Admin Login Test**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test**  **Scenario** | **Test Steps** | **Test Details** | **Expected**  **Results** | **Actual**  **Result** | **Pass/Fail** |
| Check the login with correct input access the system | 1.Scan qr  2.Enter email 3.Enter password  4.Click login | Username=Admin  [Email=Admin@admin.com](mailto:Email=Admin@admin.com)  Password=Admin123 | Allow the admin login to the system. | The admin logged into the system. | Pass |
| Check the login module with incorrect input access the system | 1Scan qr  2.Enter username 3.Enter password 4.Click login | Username=Admin Password=null | Deny the admin access to the system | The admin was unable to login into the system.  Error message incorrect username or  password. | Pass |

**Table 2:Profile Test**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test**  **Scenario** | **Test Steps** | **Test Details** | **Expected**  **Results** | **Actual**  **Result** | **Pass/Fail** |
| Check the profile | 1.Upload image  2.Update name | Image uploaded  Name update | Upload success.  Name updated. | Image uploaded.  Name updated. | Pass |

**Table 3:Verify Profile Test**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test**  **Scenario** | **Test Steps** | **Test Details** | **Expected**  **Results** | **Actual**  **Result** | **Pass/Fail** |
| Check update profile | 1.Upload image & enter name and address. | Image uploaded, name and email entered. | Profile verified. | The profile was updated and verified. | Pass |
| Check update profile | 1.Enter name & address but don’t upload image. | Name & email entered. | Deny to verify. | The profile was not verified. |  |

## Outcome

* Improved Communication and Connectivity**:** The chat system will enhance communication and foster better connectivity among users, enabling seamless messaging and real-time interactions.
* Increased User Engagement: The inclusion of post creation and sharing features will drive user engagement, encouraging active participation and fostering a vibrant community.

## Analysis

Kurakani is an error free, secure and handy mobile application to communicate. This mobile application has been passed through various testing to provide users an error free and pleasant software. System analysis is a problem solving activity that requires intensive communication between the system users and system developers. Testing is critical for ensuring that any software is free of bugs and determine the functionality and usability of the software, its user-friendliness. This application has passed from end to end of all essential tests and has offered a proper output as expected by users.

# CHAPTER 5

# CONCLUSION AND RECOMMENDATION

## Conclusion

In conclusion, the creation of Kurakani, an Instagram-inspired chat app, has been a fantastic journey characterized by creativity, user-centric design, and a dedication to forging meaningful connections. We gave factors like user-friendly interface design, a solid backend architecture, strict security protocols, and a superior user experience top priority throughout our development process. Kurakani offers a seamless and pleasurable chat experience because to features like real-time messaging, multimedia sharing, and a user-friendly layout.

In today's dynamic digital landscape, Kurakani plays a pivotal role in enabling individuals to connect, communicate, and cherish moments with their friends and loved ones. Beyond fulfilling the essential criteria for a chatting software, Kurakani has a variety of distinctive features that distinguish it in the crowded market. We stay steadfast in our commitment to ongoing improvement as we look to the future. To respond to the constantly shifting preferences and requirements of our user community, we will aggressively seek user feedback and implement frequent updates and enhancements. Our goal is to foster a thriving Kurakani community where people appreciate and enjoy using our platform to connect and communicate.

Our initiative to develop Kurakani is a confirmation to our commitment to innovation and our dedication for enhancing how people communicate and share in the current digital world. We are happy to observe Kurakani's continuous success and development as it becomes an essential part of people's lives, and we are excited to explore the fascinating possibilities and growth prospects that lie ahead.

## Future Recommendations

As a future work, some additional stuff could be implemented and integrated into the application code making it more practical, reliable and convenient to use. Since this project still has plenty of room to grow, this project can have some additional features like stories, reels etc.

# Bibliography

1), A. (. (2022, 06 13). Retrieved from https://www.flightslogic.com/about.php

Brush, K. (1999, May). *Chatbot and its importance*. Retrieved from Tech Target: https://www.techtarget.com/searchcustomerexperience/definition/chatbot

Collin, C. A. (2021, June). *Journals and books | Sciencedirect.com*. Retrieved from Sciencedirect: https://www.sciencedirect.com/science/article/abs/pii/S0747563211002561

Dobrescu, A. (2018, October 9). *The\_Importance\_of\_Trust\_and\_Privacy\_in\_Social\_Media*. Retrieved from Research Gate: https://www.researchgate.net/publication/315636996\_The\_Importance\_of\_Trust\_and\_Privacy\_in\_Social\_Media

*draw.io*. (n.d.). Retrieved from https://app.diagrams.net/

E-learning Industry. (2011, January). *Gamification Techniques | E-learning Industry*. Retrieved from E-learning Industry: https://elearningindustry.com/gamification-for-learning-strategies-and-examples

Jackiewicz, M. (2022, January). *Chat app development in 2022*. Retrieved from rts Software Blogs: https://www.rst.software/blog/chat-app-development-in-202

Plazz AG. (2020, August). *Group chat features in chat app*. Retrieved from polario.app: https://polario.app/en/chat-group-chat/

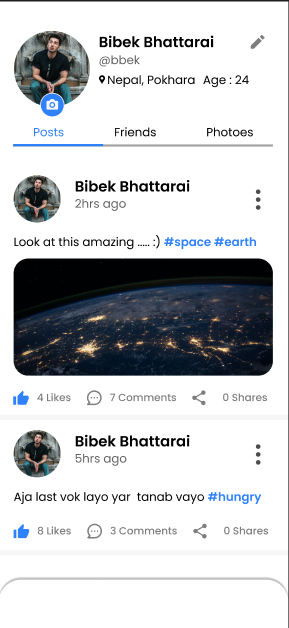
Preply. (2012, February). *Language and cultural diversity | ::Preply.com::*. Retrieved from Preply.com: https://preply.com/en/blog/language-exchange-app/

Tutorialspoint. (2010, June). *SDLC - Waterfall Model*. Retrieved from Tutorialspoint: https://www.tutorialspoint.com/sdlc/sdlc\_waterfall\_model.html

# APPENDICES

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**Appendix 1:Register UI**

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**Appendix 2:Profile UI**