



NEW SUMMIT COLLEGE

Tribhuvan University

Bachelor in Computer Application

AN INTERNSHIP REPORT

On

“College Management System”

At

“Code Point Nepal”

Submitted to:

Department of Humanities and Social Science

New Summit College

Shantinagar, Kathmandu, Nepal

In Partial Fulfillment of Requirements for the Bachelor Degree in Computer Application

Submitted by:

Bibek Shrestha (T.U. Reg. No: 6-2-476-45-2019)

Under the supervision of

Mr. Prawesh Dhungana

ACKNOWLEDGEMENT

I would like to express my sincere gratitude for the opportunity to intern with the esteemed team at Flutter. This experience has been invaluable in expanding my knowledge and skills in mobile app development. I am deeply appreciative of the guidance, support, and mentorship provided by the entire team throughout this internship. Working on real-world projects and being immersed in a dynamic environment has not only enhanced my technical proficiency but also enriched my professional growth. I am truly thankful for the chance to contribute to such an innovative and forward-thinking organization.

First and foremost, I am highly indebted to **Mr. Risabh Acharya** who took confidence in me and provided with the opportunity and resources to work as an Intern at Code Point Nepal Pvt. Ltd.

I would like to express my sincere gratitude to the supervisor of this Internship Program respected **Mr. Prawesh Dhungana** for his guidance, support and valuable suggestions and coordination. I would like to take this opportunity to thank him for believing in me and helping me in the time of uncertainty.

Finally, I am immensely grateful for the chance to be a part of the Flutter internship program. This opportunity has not only allowed me to deepen my understanding of mobile app development but has also provided me with invaluable insights into the industry. As I move forward in my career, I will carry with me the lessons learned and experiences gained during this internship. I am confident that the skills acquired here will continue to shape my journey and enable me to make meaningful contributions to future endeavors. Once again, thank you for the privilege to intern in Flutter, and I look forward to stay connected in the future.

Thanking you.

Bibek Shrestha

ABSTRACT

This report contains the details of the activities carried out during the internship conducted at Code Point Nepal Pvt. Ltd for two and a half months. I am actively involved in developing a Flutter mobile application for the "College Management Application " (CMA) project. This system is dedicated for handling the student information in System.

Working on the project College Management Mobile App System is a valuable experience, enhancing my skills in Flutter, Dart programming, and UI/UX design. The internship not only provides hands-on exposure to mobile app development but also facilitates connections with industry professionals at Code Point Pvt. Ltd, laying the groundwork for future career opportunities. Overall, the College Management App project is a practical and enriching journey, offering insights into real-world project dynamics beyond textbook knowledge.

Keywords: *Flutter, CMA, Dart*

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ABBREVIATIONS

- CMS : College Management System
- UI: User Interface
- UX: User Experience
- API: Application Programming Interface

CHAPTER 1

INTRODUCTION

1.1. Introduction

An internship is a short-term work experience that allows individuals, often students or recent graduates, to gain practical exposure and hands-on training in a specific industry or field. Internships are typically temporary and provide an opportunity for individuals to apply theoretical knowledge acquired in an academic setting to real-world situations. Internships serve as a bridge between academic learning and professional work environments, offering participants the chance to explore their chosen field, develop relevant skills, and make valuable connections within the industry. During an internship, individuals work under the guidance of experienced professionals, gaining insights into the daily operations of a company or organization. Internships are beneficial for both employers and interns. Employers can assess the skills and potential of potential future hires, while interns gain practical experience, exposure to workplace dynamics, and a chance to build a professional network. Internships can be paid or unpaid, and their duration can vary, ranging from a few weeks to several months.

Overall, internships play a crucial role in the career development of individuals, helping them make informed decisions about their chosen career paths and enhancing their employability upon graduation.

1.2. Problem Statement

Manual processes are often time-consuming, prone to errors, and lack real-time accessibility. Additionally, the increasing demand for remote access and mobile solutions adds another layer of complexity to college management systems. Therefore, there is a critical need for a comprehensive mobile system tailored specifically for college management that can streamline administrative processes, enhance communication, and provide stakeholders with seamless access to essential information anytime, anywhere. It is necessary to design a strong and user-friendly mobile application that makes use of technologies like Flutter and Dart.

1.3. Objectives

- To make Streamline administrative process of the college.
- To ensure the safety and accuracy of payment transaction of college fee.
- To enhance Accessibility and mobility of the mobile application
- To improve communication channels.
- To ensure the long-term Scalability.
- To optimize the resources utilization of the college resources like laboratories, libraries, classrooms etc.
- To Support remote Learning initiatives.
- To get review and rating from the user.

1.4. Scope and Limitation

1. Scope

- CMS provides efficiency by automating and simplifying college management tasks.
- Flutter ensures the platform works seamlessly across various devices, enhancing accessibility.

2. Limitations

- Continuous updates required to comply with evolving College management regulations.

1.5. Report Organization

The report is organized into 5 chapters:

1. Chapter 1: Introduction

In this section, the brief introduction of project, scope, statement of problems and its objectives are discussed.

2. Chapter 2: Introduction to organization

This section contains organization detail, organization hierarchy, working domains of organization and description of intern department are discussed.

3. Chapter 3: Background Study and Literature Review

In this section, we have description of fundamental theories, general concepts and terminologies related to the internship project, review of the similar projects during internship, theories and result similar the project during internship are discussed.

4. Chapter 4: Internship Activities

In this section, the brief description of roles and responsibilities, technical details of activities, description of the project Involved during Interns and activities performed are discussed.

5. Chapter 5: Conclusion and Learning Outcome

In this Section, conclusion and learning outcome of project are described.

CHAPTER 2

INTRODUCTION TO ORGANIZATION

2.1. Organizational Details

Code Point Nepal is a leading software development company specializing in full-stack web development and mobile app development using Flutter. The company has rapidly evolved into a dynamic player in the technology industry, offering innovative solutions to clients worldwide. With a team of 5-10 skilled software developers, Code Point Nepal is committed to delivering high-quality, customized software solutions tailored to meet the diverse needs of its clients. Currently I am involved in developing in College Management System with the technologies included in flutter and dart for integrating all kinds resources required and should be implemented in the system.

With its expertise in full-stack web development and mobile app development, coupled with a commitment to delivering cutting-edge solutions, Code Point Nepal is poised to continue making significant strides in the technology industry. The company's focus on innovation, quality, and client satisfaction sets it apart as a trusted partner for businesses seeking reliable software solutions.

Contact Information

Founder and CEO: Risabh Acharya

Code Point Nepal Pvt. Ltd.

Shantinagar, Kathmandu

2.2. Organizational Hierarchy

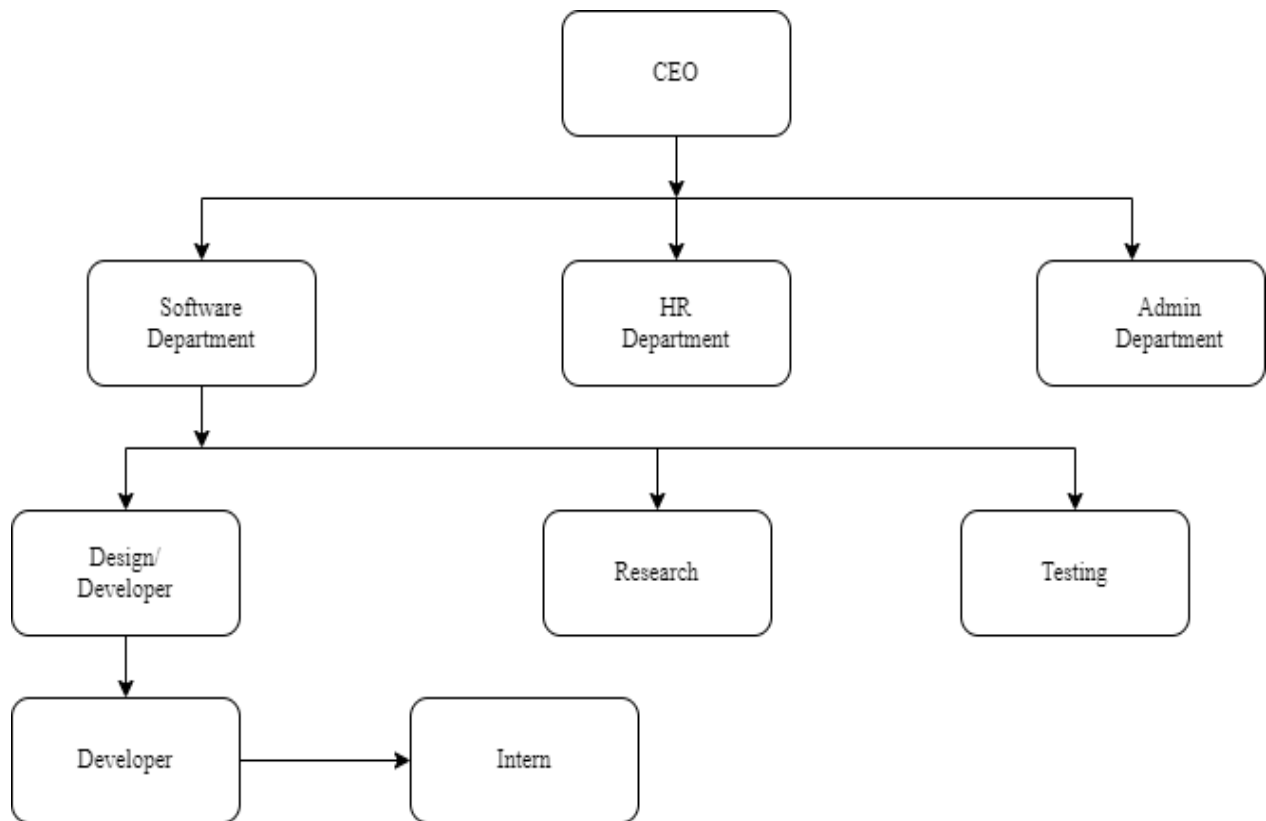


Figure 1:Organizational Hierarchy

2.3. Working Domains of Organization

These are the services provided by Organizations

- Full Stack Web development
- Application Development
- UI/UX Design

2.4. Description of Intern Department / Unit

Internship Work: During my internship at Code Point Nepal Pvt Ltd, I benefit from a supportive and collaborative environment. The team provides a friendly atmosphere where I feel comfortable seeking assistance whenever I encounter challenges in software development. My mentor plays a crucial role, offering valuable guidance and helping me overcome obstacles in various tasks. The communication within the team is effective, fostering an open dialogue that facilitates the exchange of ideas and solutions. This creates a conducive environment for proposing new design concepts and ideas for the project, making the overall internship experience enriching and productive.

Internship Project (CMS): The internship project involves creating a College Management System to streamline administrative tasks and improve communication within educational institutions. Key functionalities include student information management, course scheduling, faculty/staff management, attendance tracking, communication tools, resource allocation, and reporting/analytics. Specially I worked on frontend of the project development utilizing Flutter and Dart for mobile app development, the system aims to enhance efficiency and accessibility for stakeholders. As the system API and backend development is going on the Laravel by my other team members. Interns will gain practical experience in software development and project management, preparing them for future roles in the technology industry.

Internship Duration

They provide incoming interns with instructional materials and support for any issues they run into while learning. Supervisors also monitor employees' overall performance at higher levels of authority. They establish executive-level strategies and ensure that they are carried out. The mentors provide the interns a weekly evaluation. Here are the details of the duration of internship are listed in the following table:

Table 1: Internship Time Details

Start Date	November 2023
Period of Internship	2.5 months
Office hour	12 Am -5 Pm
Working hour	5 hours per day
Average working hours in a week	25 hours
Holidays	Friday and Saturday

CHAPTER 3

BACKGROUND STUDY AND LITERATURE REVIEW

3.1. Background Study

College Management Systems (CMS) are comprehensive software solutions designed to streamline administrative processes and enhance communication within educational institutions. This background study provides an overview of the key concepts, historical context, and current trends in CMS development.

Google's Flutter framework has become well-known for its cross-platform functionality. It makes it possible to create natively generated apps that function flawlessly on a range of devices. The programming language Dart, which is utilized with Flutter, increases the system's efficiency. Flutter's versatility and flexibility offer a distinct advantage in CMS development, enabling a unified and captivating user experience across many devices. The design of the user interface (UI) and user experience (UX) is essential to the CMS project. The emphasis on UI/UX design makes sure that the CMS is both user-friendly and functional, overall experience teachers, students and staffs when working with the College management system.

The historical context of College Management Systems (CMS) dates back to the late 20th century when educational institutions began adopting computer-based systems for student record management. Early systems relied on mainframe computers and batch processing, evolving with technological advancements like the internet and database management systems. Today's CMS encompasses features like student information management, course scheduling, faculty/staff management, attendance tracking, communication tools, resource allocation, and reporting/analytics. Current trends emphasize mobile solutions, cloud computing, integration with Learning Management Systems (LMS), data security, and user experience design. In summary, CMS continue to evolve, playing a pivotal role in enhancing administrative efficiency and facilitating quality education delivery the digital transformation of educational institutions.

3.2. Literature Review

College management systems (CMS) play a crucial role in modern educational institutions, facilitating efficient administrative processes and enhancing communication among stakeholders. A review of existing literature reveals several key themes and trends in CMS development and implementation.

The literature review underscores the critical role of College Management Systems (CMS) in educational institutions, highlighting their importance in enhancing organizational efficiency, academic outcomes, and user satisfaction. Key features such as student information management, course scheduling, and communication tools contribute to streamlining administrative processes and supporting remote education initiatives. CMS development is influenced by advancements in technology, with newer frameworks like Flutter and Dart gaining popularity for mobile app development. Despite challenges such as data security and user adoption, CMS offer opportunities for improved functionality and user experience through emerging technologies like blockchain and artificial intelligence. Ultimately, CMS play a vital role in shaping the future of education by promoting efficiency, communication, and collaboration within educational institutions.

CHAPTER 4

INTERNSHIP ACTIVITIES

4.1. Roles and Responsibilities

The task assigned to me during the intern period was to develop an application of CMS platform using flutter and any designing tools if necessary. The activities performed by me during the internship are:

- To design a platform for CMS using Figma,
- To make proper use of Flutter components, Dart, and many more,
- To integrate API functionalities,
- To make records of the organization staffs, teachers and students like subjects, attendance, notice, calendar, assignments, fee statements of the students, download pdf of any statement, college provided resources and many more.

4.2. Weekly Log (Technical Details of Activities)

Table 2 : weekly Log and Technical details of an Internship

Week	Tasks Completed	Technical Details of Activities	Skills Learned	Challenges Faced	Solutions Found
1	Set up Flutter SDK , create basic components	Installed Dart SDK, created Flutter project with Android Studio App	Flutter basics, Dart language	Issues with package installation	Used a different package manager
2	Built a simple CRUD app with Flutter using Dart.	Learn to use version control tools	State management with Flutter	Difficulty understanding documentation	Reached out to the developer for clarification

3	Collecting Requirement	Gone Through different system and learn how to do it.	Should do research to collect requirement	Issues with collecting adjacent information	Consulted with the team
4	Learning Figma	Learning to use Figma and started designing banking module with basic ideas	Use Figma to design the logos and designs	Difficulty to create unique designs	Do lots of searches and design own
5	Worked on Stateless and stateful class for CMS	Worked on different pages with the stateful and stateless class	Stateless and Stateful class, Widgets	Difficulty with stateful class and widget	Used flutter documentation to solve the problem

6	Learned about Figma designing tools	Practices different designing tools of Figma using duplicate images	Learn to design using Figma	Issues with configuring the tools	Consulted with different videos and documentation
7	Building CMS with multiple components	Created multiple Flutter components and implemented props and state management to communicate between components	Component communication, props and state management	Difficulty with passing data between components	Used Flutter props and state management to pass data

8	API call	Used get, post and patch API to fetch or post the data	Learn to call the API in the real time project	Difficulty with fetching the data from API	Used online accessibility, Network to identify issues while API call
9	Work on different pages of CMS	Configured Different pages to deploy Flutter, set up continuous integration	Real time work	Issues with connecting pages with API	Consulted documentation and online forums
10	Build a real-time mobile app	Completed designing of dashboard	Using different widgets of Flutter	Difficult on using the widgets of Flutter	Used Different videos and documentation
11	Design each parts of module like Dashboard, , Authentication etc. and learn API	Created all design according to requirements and API	API	Difficulty in combining API	Reviewed best practices and consulted online resources

12	Finalize designs and prepare for presentation	Conducted code review and implemented feedback, prepared presentation materials	Code review best practices, presentation skills	Difficulty identifying and addressing code issues	Used code review tools and sought feedback from colleagues
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4.3. Description of the Project's Involved During Internship

As an intern, my responsibilities at Soori Solutions Pvt. Ltd. was to cover all the aspects of creating mobile application to become a mobile application developer. For this required core knowledge about designing tools like Dart, Flutter, Figma, Android Studio and Dart, as well as Git Hub etc. The main responsibility was to ensure that the mobile application designed appeal to the users and audience and as a result, catches their attention and also include a working knowledge of different mobile platforms. During my internship period, I mostly worked with frontend designing mobile application as well as another project too.

4.4. Tasks / Activities Performed

Figma:

- Designing project theme using different tools and features.
- Designing different pages as well as tables and icons of the project using different tools.

Flutter:

- Creating new project.
- Creating modules for Dashboard.
- Creating sidebar and add functionalities.
- Calling API for the backend data.

CHAPTER 5

CONCLUSION AND LEARNING OUTCOMES

5.1. Conclusion

The internship has helped me in learning, to use new tools, solve problems in real world through various new methodologies, work in team and developing social relationship with other employees. I realized the essence of coordination and cooperation in working environment especially in the field of software development as one has to discuss ideas with others for better response and functionality. It helped me to bring the theoretical knowledge into practical use.

In conclusion, I am deeply grateful for the opportunity to have been a part of this internship program. It has been an enriching and rewarding experience that has equipped me with the skills, knowledge, and confidence to embark on the next chapter of my career journey.

5.2. Learning Outcomes

The lesson that I have learnt throughout my internship period is that we must have positive thoughts and vibes to create a friendly environment. Working in coordination with team members rather than standalone with help to sought out the problems more quickly. A good communication must exist for conveying information. How to behave in office with clients and other staffs in an office circumstance. And most of all, I have gained a lot experience working in an office area, building projects and fulfilling all the responsibilities and duties as an intern.

Some of the learning that I made during the period are drawn below:

- Learn project development and management skills through experiences.
- Able to find the solutions for the mobile app development related problems immediately.
- Effectively interacting with seniors, juniors and same level employee.
- Learned to adapt to diverse work environments and situations.
- Developed problem-solving and critical thinking skills.

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