

Tribhuvan University Institute of Science and Technology ERP System Development at Dreamers Design & Developers Nepal Pvt. Ltd.

Internship Report (CSC462) Submitted to

Department of Computer Science and Information Technology

Mahendra Multiple Campus, Nepalgunj

In the partial fulfillment of the requirements for the Bachelor's Degree in Computer Science and Information Technology

Submitted by

Samip Chhetri(Symbol No: 27854/077)

TU registration No: 5-2-55-51-2020

June 2025

Under the Supervision of

Ashok Chand

MENTOR'S RECOMMANDATION



Tribhuvan University Institute of Science and Technology Mahendra Multiple Campus, Nepalgunj

Recommendation Letter

I hereby recommend that this internship report be prepared under my supervision by Mr. Samip Chhetri(27854/077) entitled "ERP System Development" at "Dreamers Design & Developers Nepal Pvt. Ltd." in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Information Technology (B.Sc. CSIT) is recommended for the final evaluation.

Supervisor
Ashok Chand
Assistant Professor
Mahendra Multiple Campus, Nepalgunj



Tribhuvan University Institute of Science and Technology Mahendra Multiple Campus, Nepalgunj

Letter Of Approval

The undersigned certify that they have read and recommended to the Department of Computer Science for acceptance, an internship report entitled" ERP System Development"atDreamers Design & Developers Nepal Pvt. Ltd.submitted by Mr. Samip Chhetri(27854 / 077) in partial fulfillment for the degree of Bachelor of Science in Computer Science and Technology. This ensures that it is satisfactory in the scope and quality of the required degree.

Supervisor	Coordinator
Ashok Chand	Madan Kumar Adhikari
Assistant Professor	Department of B.sc. CSIT
Mahendra Multiple Campus, Nepalgunj	Mahendra Multiple Campus
	Nepalgunj
Internal Examiner	External Examiner

Acknowledgement

I want to express my sincere gratitude to everyone who supported and guided me during my internship and while preparing this report.

This internship report is part of the requirements for the Bachelor of Science in Computer Science and Information Technology (B.Sc. CSIT) at Tribhuvan University. While theoretical knowledge lays a strong foundation, hands-on experience really strengthens practical understanding, especially in areas like software development and system implementation.

I am very thankful to Tribhuvan University and Mahendra Multiple Campus for giving me the chance to gain professional experience in a real-world setting.

I am particularly grateful to my internship mentor, Mr. Shrawan Ghimire. His ongoing support and technical guidance were vital in developing my skills during the internship. Under his mentorship, I focused on Python-based backend development, designing system logic, user authentication, and database connectivity without using frontend frameworks like React.

I also want to thank my academic supervisor, Mr. Ashok Chand. His consistent feedback and helpful suggestions improved the structure and clarity of this report.

Special thanks to Mr. Madan Kumar Adhikari, Head of Department, for his ongoing encouragement and thoughtful feedback, which inspired me to explore backend solutions with more depth and confidence.

Finally, I want to thank my family, friends, faculty members, and all my supporters for their unwavering encouragement throughout this journey. Your support has been essential for my internship experience and report preparation.

Abstract

This report shares an overview of my internship experience as a Backend Developer at Dreamers Design & Developers Nepal Pvt. Ltd., completed as part of the B.Sc. CSIT 8th Semester program under Tribhuvan University.

The main goal of this internship was to connect what I've learned in class with real-world software development practices. It gave me the chance to work in a professional environment, understand how backend systems are built, and contribute to meaningful projects beyond theory.

During the internship, I worked on the development of a full-featured ERP (Enterprise Resource Planning) system designed specifically for educational institutions. My responsibilities focused on the backend side of the system, where I worked on handling user authentication, and database connectivity—all using Python, without relying on frontend frameworks like React.

The ERP system included modules like dashboard analytics, student management, online fee payment, proposal form handling, document generation, and voting competitions. My role involved writing clean and efficient backend code, creating RESTful APIs, and ensuring smooth data flow between the client and the server. The project aimed to streamline

Besides improving my technical skills, this internship also helped me grow in other areas like teamwork, communication, and managing deadlines under pressure. This report outlines my role, technical contributions, key challenges, and the valuable lessons I've taken from the experience.

Overall, this internship was a major step forward in my journey as a developer, helping me bridge the gap between academic studies and real-world software engineering.

Table of Contents

MENTOR'S RECOMMANDATION	2
Recommendation Letter	3
Letter Of Approval	4
Acknowledgement	5
Abstract	6
List of Figures	8
List of Tables	9
List of Abbreviations	10
CHAPTER 1: INTRODUCTION	11
1.1 Introduction	11
1.2 Problem Statement	12
1.3 OBJECTIVES	12
1.4 SCOPE AND LIMITATIONS	13
1.5 REPORT ORGANIZATION	14
CHAPTER 2: ORANIZATION DETAILS AND LITERATURE REVIEW	16
2.1 INTRODUCTION TO ORGANIZATION:	16
2.2 ORGANIZATION HIRERCHY 1. Graphic Design	18 18
2.4 DESCRIPTION OF INTERN DEPARTMENT	
2.5 LITERATURE REVIEW	19
CHAPTER 3: INTERNSHIP ACTIVITIES	
3.2 WEEKLY LOG	22
3.3 DESCRIPTION OF THE PROJECT INVOLVED DURING THE INTERNSHIP	23
3.4 TASKS AND ACTIVITIES PERFORMED	24
CHAPTER 4: CONCLUSION AND LEARNING OUTCOMES	26
4.1 CONCLUSION	26
4.2 LEARNING OUTCOMES	
References	
Appendices	

List of Figures

List of Tables

Table	2.4:	Table	of		Duration
		1	19Table	3.2.	Weekly
log				22	

List of Abbreviations

ADSL Asymmetric Digital Subscriber Line

AP Access Point

DSL Digital Subscriber Line

EIRP Effective Isotropic Radiated Power

FBT Fused Biconical Taper Splitter

FTTH Fiber-to-the-Home

GPON Gigabit Passive Optical Network

IP Internet Protocol

ISP Internet Service Provider

MAC Media Access Control

MC Media Converter

NSP Network Service Provider

OLT Optical Line Terminal

ONT Optical Network Terminal

ONU Optical Network Unit

PON Passive Optical Network

POP Point of Presence

PPPOE Point-to-Point Protocol over Ethernet

SoHo Service of Home and Office

SSID Service Set Identifier

CTO Chief Technology Officer

VLAN Virtual Local Area Network

CHAPTER 1: INTRODUCTION

1.1 Introduction

During my internship at Dreamers Design and Developers Nepal Pvt. Ltd., I was assigned the role of a backend development intern, where my main responsibility was to contribute to the development of an ERP (Enterprise Resource Planning) system tailored for schools.

My contribution primarily focused on developing the backend services using Python, ensuring secure and efficient handling of data, business rules, and communication with the frontend through APIs. Instead of working on the user interface, I concentrated on creating robust backend modules to support students, teachers, and administrators with reliable data processing and management.

The ERP system was designed as a centralized, web-based platform to help schools effectively manage their daily operations. It featured a clean and well-structured backend that enabled seamless interaction between different user roles. Whether it was processing exam form submissions, managing student records, or tracking fee payments, the backend ensured smooth, real-time data access and updates.

These backend services were integrated to reduce manual paperwork and improve overall operational efficiency, ensuring critical information was consistently up to date.

The admin panel backend provided school administrators with full control over the system's data and operations.

This ERP system not only simplified and accelerated information management but also supported the digital transformation of educational institutions by creating a smart, connected school environment. My internship experience strengthened my skills in backend development, API design, database management, and understanding how backend systems power real-time educational platforms.

1.2 Problem Statement

Despite the growing use of digital technologies in education, many schools still lack a centralized, secure, and efficient backend system that can serve as the core of an Enterprise Resource Planning (ERP) solution. Most existing systems are either fragmented or fail to provide consistent performance, especially when it comes to managing data securely and delivering real-time communication between schools, students, and parents.

Traditional paper-based processes remain common in many institutions, which makes tasks like maintaining student records, processing exam registrations, or generating certificates time-consuming and prone to human error. Manual handling often results in miscommunication, lost documents, delayed services, and increased workload for teachers and administrative staff.

One major problem is the lack of automated backend logic for forms, fee payments, proposals, voting, and student management. Many systems lack proper API support, authentication mechanisms, and database consistency, which slows down workflows and reduces system reliability. This affects not only internal operations but also the user experience for students and parents.

Thus, there is a clear need for a scalable, secure, and efficient Python-based backend system that can serve as the backbone of school ERP platforms. The solution should support structured data storage, RESTful API development, authentication, document generation, and reliable data processing to handle dynamic school operations. The primary challenge in this internship was to design and implement backend systems that could interact seamlessly with frontend interfaces and fulfill the data-driven needs of a modern educational environment.

1.3 OBJECTIVES

 To design and implement the backend infrastructure of a school-oriented ERP system using Python and related tools. The system needed to manage and

- automate core functionalities while ensuring data integrity, security, and scalability. The main goals of my role included:
- To build a structured backend system that supports real-time school operations through secure API endpoints.
- To design and implement a RESTful API architecture for modules like student management, form handling, fee tracking, and voting.
- To automate repetitive tasks such as document generation (transcripts, character certificates) and registration processing.
- To enhance communication between schools, students, and parents through datadriven features and backend-triggered updates.
- To implement secure authentication and authorization mechanisms for admin, student, and parent access control.
- To ensure smooth data synchronization between the backend and frontend using JSON responses and effective error handling.
- To reduce manual work for administrators by digitizing record-keeping, announcements, and reporting features.

•

1.4 SCOPE AND LIMITATIONS

Scope:

This internship provided me with practical, hands-on experience in backend development using Python, with a focus on building the server-side infrastructure of a school-centric ERP (Enterprise Resource Planning) system. My responsibilities primarily revolved around Designing and developing RESTful APIs for student management, voting modules, form submissions, and fee tracking. Implementing database models and queries using MongoDB for structured and efficient data storage. Building logic for document generation (e.g., transcripts, certificates) and form validation. Ensuring secure access to the system using authentication and authorization mechanisms.

The ERP platform was designed to operate reliably across multiple client environments, enhancing operational efficiency, reducing manual workload, and ensuring secure, fast access to school services.

Limitations:

While the internship allowed for meaningful backend development contributions, certain limitations were observed:

Frontend development was beyond my scope, as the UI components were handled by a separate team.

☐ Integration of third-party services (such as payment gateways or SMS APIs) was limited in this phase due to resource constraints.

Advanced features such as real-time analytics dashboards, push notifications, and chat/messaging services were not implemented during this iteration.

Load testing and advanced performance benchmarking were not conducted in detail due to the internship's limited timeframe.

The ERP system was not extended to mobile platforms (Android/iOS), although it remains a direction for future enhancement.

Despite these limitations, the project laid a strong foundation for future feature expansion and optimization.

1.5 REPORT ORGANIZATION

This report is organized into four structured chapters, each representing a key aspect of the internship experience:

- Chapter 1: Provides an overview of the internship project, including the system background, identified problems, project objectives, scope, and constraints.
- Chapter 2: Describes the host organization, Dreamers Design and Developers Nepal Pvt. Ltd., including its structure, services, and relevance to my professional goals. It also outlines the technologies and frameworks used during the internship.
- Chapter 3: Details my weekly tasks, specific backend responsibilities, and the modules I worked on. It includes code examples, development methodologies, and tools utilized in the backend implementation process.

• Chapter 4: Presents a reflective conclusion of the overall internship experience. It summarizes the technical skills gained, lessons learned, professional growth, and how the experience will support my future career in software development.

CHAPTER 2: ORANIZATION DETAILS AND LITERATURE REVIEW

2.1 INTRODUCTION TO ORGANIZATION:

Dreamers Design and Developers Nepal Pvt. Ltd. is a dynamic and creative IT company located at Bluebird Mall, Thapathali, Kathmandu. The organization provides a wide range of IT services with a strong focus on innovation, quality, and client satisfaction. Its core offerings include custom web and software development, ERP/CRM systems, cloud-based backend solutions, UI/UX design, digital marketing, and e-commerce platforms.

The company emphasizes backend architecture, robust data security, and scalable system development for various sectors like education, healthcare, finance, and e-commerce. Particularly in the education domain, it has developed full-featured ERP systems that allow schools and colleges to automate academic and administrative workflows.

While frontend technologies such as React Native and Flutter are used in cross-platform app projects, my internship focused exclusively on backend services development, specifically in Python—where I contributed to API design, database interaction, authentication mechanisms, and system integration.

The organization's vision is to help businesses transform their ideas into digital solutions that are scalable, user-centric, and technology-driven. By combining experience in both design and development, Dreamers Design and Developers Nepal Pvt. Ltd. has established itself as a reliable digital partner across Nepal and beyond.

Table 2.1 Contact Details of company

Company Name	Dreamers Design & Developers Nepal Pvt.
	Ltd
Address	Bluebird Mall, Thapathali, Kathmandu
PAN No.	604276179
Contact	+977 9851118911
Mail	mail@ktmvmag.com

Website	www.ktmvmag.com

2.2 ORGANIZATION HIRERCHY

Dreamers Design and Developers Nepal Pvt. Ltd. follows a collaborative, Agile-based flat hierarchy, allowing smooth project communication across departments. Each team is structured to ensure efficiency, timely delivery, and cross-functional problem-solving.

Organizational Structure:

- CEO / Founder
- Operations Manager
- Project Manager
- Hiring Manager
- Marketing & SEO Team
- Web Development Team (Backend & Frontend)
- Design Team
- Software & App Development Team
- Interns

As a backend intern, I worked under the supervision of senior developers in the Web Development and ERP Software Team. My contributions were primarily aligned with backend services for internal school systems and APIs.

2.3 WORKING DOMAINS OF ORGANIZATION

Dreamers Design and Developers Nepal Pvt. Ltd. works across multiple digital solution domains, serving clients from various sectors such as education, startups, and international businesses. The company has experience working with:

- 1. Educational Institutions (custom ERP systems)
- 2. Local Startups (MVP development)
- 3. International Clients (outsourced backend/API services)

1. Graphic Design

The company offers professional and creative graphic design services such as logo design, branding kits, banners, brochures, and social media creatives. These visuals support UI/UX teams in crafting intuitive and engaging user experiences.

2. Web Design and Development

The core of the company's strength lies in custom web development—especially for institutions and businesses needing robust backend systems.

While the frontend is handled using standard web technologies, the backend services are built with a secure and scalable Python-based stack.

- Primary Tech Stack Used:
- Backend: Python (Flask, Django, FastAPI)
- Database: MongoDB, PostgreSQL
- API: RESTful API architecture
- Tools: Git (version control), Postman (API testing), Docker (containerization), Figma (UI collaboration), Jira (task tracking)

Web-based platforms such as ERP systems, document handling portals, and admin dashboards are developed with a focus on performance, security, and usability.

3. Mobile App Development

The mobile development team creates scalable mobile applications (both Android and iOS) for business ERPs, e-commerce platforms, and internal systems. The apps rely on Python-powered REST APIs for backend logic and database operations, ensuring secure data transfer, authentication, and real-time updates.

4. Digital Marketing

To support business growth in the online world, the company also provides:

- Search Engine Optimization (SEO)
- Content marketing and social media campaigns
- Google Ads and Facebook Ads

Analytics-based reporting

This integration helps businesses gain visibility and convert online traffic into results.

2.4 DESCRIPTION OF INTERN DEPARTMENT

During my internship, I was assigned to the Web Development Team, specifically focused on backend development using Python. This team is responsible for building scalable APIs, managing databases, and ensuring that data flows correctly between user interfaces and server-side applications.

Table 2.4 Table of duration

Start date	February 14, 2025
End date	May 14, 2025
Total Duration	3 Months
Position	Frontend Developer Intern
Mentor	Mr. Shrawan Ghimire
Office Hour	11:00 AM – 5:00 PM

2.5 LITERATURE REVIEW

In recent years, the evolution of Python web frameworks like Flask and Django has significantly influenced backend development practices. These frameworks offer a clean, modular architecture that is ideal for rapid development and maintenance of dynamic web applications such as ERP systems [1].

Flask, being lightweight and flexible, allows developers to create RESTful APIs easily. It supports modular blueprints, request routing, and middleware, making it suitable for microservice-based architectures [2]. When paired with MongoDB, the backend becomes scalable and capable of handling semi-structured or unstructured data—ideal for systems dealing with variable records like student details, document requests, and form submissions [3].

In multi-module ERP projects, the integration of RESTful APIs is fundamental. APIs enable smooth data communication between the static frontend pages and dynamic

backend logic. RESTful architecture ensures stateless communication, better scalability, and a clear separation of concerns [4]. Tools like Postman are widely used to test, debug, and document these endpoints, which was essential throughout the internship for verifying data flow between client requests and server responses.

Security is a top priority in backend development. Common techniques include JWT (JSON Web Token)-based authentication for managing user sessions, HTTPS for secure data transmission, and input validation to prevent injection attacks [5]. Moreover, MongoDB supports role-based access control (RBAC), encryption at rest, and secure connection protocols—important features when handling sensitive educational data [6].

Although frontend development was kept minimal in this project, basic HTML and CSS were used to build clean interfaces, ensuring accessibility and responsiveness. Styling was achieved using traditional CSS and utility classes without relying on JavaScript frontend libraries like React. This approach was lightweight and suitable for integrating with Python-based backend systems efficiently.

CHAPTER 3: INTERNSHIP ACTIVITIES

3.1 ROLES AND RESPONSIBILITIES

During my 3-month internship at Dreamers Design & Developers Nepal Pvt. Ltd., I was assigned the role of a frontend-focused backend developer, where I worked extensively on building ERP features using Python (Flask) for backend logic and basic HTML, CSS, and JavaScript for the frontend interface. This internship was conducted as part of the B.Sc. CSIT 8th Semester requirement under Tribhuvan University.

The internship period spanned from February 14, 2025, to May 14, 2025. I worked six days a week from Sunday to Friday, maintaining a regular office schedule from 11:00 AM to 5:00 PM.

Key Roles and Responsibilities:

Understand the company's development workflow, communication channels, and task handling methodologies.

Plan and develop web interfaces using pure HTML/CSS and JavaScript, served via Flask templates (Jinja2).

Implement backend routes in Flask for handling form submissions, login systems, and database operations.

Design and integrate features such as:

- O Student login/registration forms
- Admin dashboards
- Proposal form submission modules

Handle API development using Flask, ensuring smooth interaction between frontend forms and the backend database.

Use MongoDB as the backend database, integrating it with Flask for real-time data read/write.

Utilize Git and GitHub for version control and team collaboration.

Communicate with mentors and supervisors to report weekly progress and get feedback.

This experience not only helped me sharpen my backend development and logic-building skills but also taught me how to build reliable, production-grade systems with a server-rendered approach, reinforcing my knowledge in both software development and project collaboration.

3.2 WEEKLY LOG

A weekly log is a structured summary of the tasks and activities performed during each week of an internship or project.

Table 3.2 Weekly Logs

Week	Activities
Week 1	Orientation and Introduction: Meeting team members, setup
	environment and software tools, understand project scope,
	reviews and guidelines.
Week 2	Basics of web development: Understanding basic concept of
	frontend such as HTML, CSS and Javascript.
Week 3	Flask Basics: Learned how to define routes, render templates,
	handle user input from HTML forms, and connect with
	MongoDB using PyMongo. Created simple login and registration
	views using Flask.
Week 4	Form Handling and Session Management: Implemented secure
	user login and registration with session-based authentication.
	Focused on backend validation and server-side error handling.
Week 5	Student/Admin Modules: Designed dynamic HTML pages for
	student dashboard, proposal submission, and login forms. Created
	modular Flask views to serve each feature route.
Week 6	API Development and Integration: Built RESTful APIs for
	backend interaction. Used Postman for testing endpoints (e.g.,
	form submissions, document applications). Ensured correct
	request/response cycles between frontend and backend.
Week 7	Admin Panel Setup: Developed templates for admin panel

	dashboard, including user management and system notices. Wrote Flask logic to dynamically populate tables from MongoDB.
Week 8	Validation and Alerts: Added input validation (server-side), flash messages for success/error notifications. Worked on real-time data fetch for dynamic rendering using Jinja loops.
Week 9	Project Documentation and Optimization: Started project documentation. Reviewed code for optimization. Cleaned up redundant files and ensured PEP8 compliance in Python files.
Week 10	Proposal Form and Voting Module: Finalized pages for proposal submissions and student voting system. Created forms with Flask backend support to store records in MongoDB collections.
Week 11	Testing and Bug Fixing: Conducted system-wide testing. Debugged API integration issues. Cross-checked routes, form processing, and data flow.
Week 12	Final QA and Handover: Reviewed all modules with the mentor. Ensured proper route mapping, user session handling, and security checks. Prepared the system for handover to the QA team.

3.3 DESCRIPTION OF THE PROJECT INVOLVED DURING THE INTERNSHIP

During my internship at Dreamers Design and Developers Nepal Pvt. Ltd., I worked on a major real-time ERP System for educational institutions, where I was actively involved in the full development process using HTML, CSS, JavaScript for the frontend and Python (Flask) for the backend. This project provided me the opportunity to apply both my academic knowledge and self-taught backend skills in a practical work environment.

The core objective of the ERP system was to digitize academic and administrative operations of schools and colleges. The system was designed to improve internal communication, simplify tasks for teachers and administrators, and offer a user-friendly digital interface for students and parents.

Unlike many traditional frontend-heavy stacks, this project used Flask for route handling and server-side rendering, and MongoDB as the database for storing student records, form submissions, and other structured data.

The admin dashboard was developed to be highly functional, offering CRUD capabilities for users, documents, and announcements. It included role-based access, error logging, and status tracking for transparency.

This project helped me bridge the gap between theory and production-grade systems, and gave me the confidence to manage both frontend and backend tasks cohesively.

3.4 TASKS AND ACTIVITIES PERFORMED

Throughout my three-month internship, I served as a Python-Backend + Web Developer Intern, contributing to the design, logic, and deployment of a school-focused ERP system. My daily activities revolved around planning, coding, debugging, testing, and collaborating with the development team.

The key tasks I performed were:

- Developed HTML pages and Flask route controllers for modules like:
 - Dashboard (student/admin)
 - Admission forms
 - Proposal submission system
 - o Transcript/character certificate requests
 - Contact and notice board sections
 - Exam registration and voting competitions
- Designed the UI layout using raw HTML/CSS with responsive styling.
- Handled form submissions, data validation, and error handling through Flask routes.

- Built Python-based backend logic for each form with proper database schema (MongoDB collections).
- Implemented secure login and role-based access for admin and student users using Flask-Login.
- Connected APIs and data exchange logic using Flask's request, session, and render template features.
- Integrated QR code payment info on the frontend with backend data tracking.

Technical Tools Used:

- VS Code for code editing
- Git and GitHub for version control
- **Postman** for testing Flask API endpoints
- MongoDB Compass for DB visualization
- Jinja2 for dynamic HTML rendering
- Flask extensions (Flask-Login, Flask-WTF, Flask-PyMongo)

Collaboration & Testing:

- Coordinated with the backend team to ensure database consistency and route protection.
- Engaged in weekly review meetings with my mentor (Mr. Shrawan Ghimire) to evaluate progress and address challenges.
- Performed testing and debugging across browsers and screen sizes.
- Documented the project workflow and created a user manual for the admin dashboard.

By the end of the internship, I had not only learned how to work in a real software development team but also understood full-stack development with Python and MongoDB. This experience helped me build confidence in building scalable web platforms and prepared me for more complex real-world software projects.

CHAPTER 4: CONCLUSION AND LEARNING OUTCOMES

4.1 CONCLUSION

My internship at Dreamers Design and Developers Nepal Pvt. Ltd., located at Bluebird Mall, Thapathali, Kathmandu, was a valuable and career-shaping experience. Over a period of three months, I had the opportunity to work on the development of a real-time Enterprise Resource Planning (ERP) system tailored for schools and colleges. This project gave me a practical platform to enhance my backend development skills using Python (Flask) and to build clean and responsive user interfaces using HTML, CSS, and JavaScript.

Integrating the backend with the user interface helped me understand how server-client communication works in real-world applications. I applied validation techniques on both client-side and server-side, wrote clean and modular Python code for route handling, and used tools like Postman for API testing and debugging.

Beyond technical learning, this internship also improved my soft skills and professional discipline. I learned to collaborate with a development team, attend code reviews, handle feedback constructively, and manage version control using Git and GitHub. Working under deadlines, resolving bugs, and delivering working features in a time-bound environment gave me a strong sense of responsibility and adaptability.

Building the admin panel with features like login authentication, role-based access, form management, and data dashboards allowed me to explore both frontend and backend integration deeply. The project also taught me the importance of user flow, accessibility, and security in a production-level application.

Overall, this internship has been a turning point in my development journey. It strengthened my technical foundation in full-stack web development with Python and gave me the confidence to take on complex projects independently. I now feel more equipped for real-world roles in web development, where backend logic, user interface design, and team collaboration are crucial to success.

4.2 LEARNING OUTCOMES

Throughout my internship at Dreamers Design and Developers Nepal Pvt. Ltd., I gained extensive hands-on experience that went far beyond the scope of my academic coursework. The most significant learning outcome was developing the ability to build and maintain dynamic web applications using Python (Flask) for the backend, along with HTML, CSS, and JavaScript for the frontend.

One of the major accomplishments was contributing to the admin panel of the ERP system. This involved building interfaces for managing student data, processing forms (like proposals, transcript requests, etc.), and integrating backend logic to support dynamic data retrieval and updates. These experiences gave me a deeper insight into the full-stack development lifecycle — from interface design and database modeling to user feedback handling and deployment considerations.

Beyond technical skills, this internship helped me improve in areas such as time management, problem-solving, team collaboration, and communication. I participated in regular team discussions, presented progress updates, and learned how to work under real project deadlines.

By the end of the internship, I became more confident in working as a full-stack web developer, especially in backend development using Flask. This internship successfully bridged the gap between academic knowledge and industry practice, preparing me for real-world software development environments with a well-rounded skillset and a professional work ethic.

References

Flask Documentation, *Flask – Web Development, One Drop at a Time*, Pallets Projects, 2024. [Online]. Available: https://flask.palletsprojects.com/

Mozilla Developer Network (MDN), *HTML*, *CSS*, and *JavaScript Documentation*, Mozilla Foundation, 2024. [Online]. Available: https://developer.mozilla.org/

MongoDB, Inc., *MongoDB – The Developer Data Platform*, 2024. [Online]. Available: https://www.mongodb.com/

Postman, Inc., Postman API Platform – The Collaboration Platform for API Development, 2024. [Online]. Available: https://www.postman.com/

Auth0 by Okta, JSON Web Tokens - jwt.io, 2024. [Online]. Available: https://jwt.io/

Git SCM, Git - Distributed Version Control System, 2024. [Online]. Available: https://gitscm.com/

W3Schools, *Web Development Tutorials for Beginners*, Refsnes Data, 2024. [Online]. Available: https://www.w3schools.com/

Appendices









