

INTERNSHIP REPORT

Digital Product Solutions

Submitted by:

Akhil Shibu

Master of Computer Applications (MCA)

CHMM College For Advanced Studies

Internship Period:

April 24, 2025 – May 16, 2025

Submitted to:

Department of Master of Computer Applications

University of Kerala

July 2025

Bonafide Certificate

C.H.M.M COLLEGE FOR ADVANCED STUDIES

Metca Land, Chavarcode, Palayamkunnu P.O-695146

(Affiliated to University of Kerala and Approved by AICTE)

AN ISO 9001 :2015 CERTIFIED INSTITUTION

E-mail : chmmcollege@gmail.com

Website: chmmcollege.edu.in



INDUSTRY INTERNSHIP

Certified that this is a Bonafide Record of the work done by

Sri/Ms.....Reg:No.....
.....of.....Semester in
the.....
.....internship during the year
.....

Staff-in-charge

Head of the Department

Internal Examiner

External Examiner

Internship Completion Certificate

This is to certify that Mr. Akhil Shibu, a student of Master of Computer Applications at CHMM College for Advanced Studies, has successfully completed his internship at Digital Product Solutions, Korani, Thiruvananthapuram, from April 24, 2025, to May 16, 2025. During this period, he worked on various web development projects, demonstrating dedication, technical competence, and a keen interest in learning. His contributions to our projects were valuable, and his conduct was professional throughout the internship.

Adarsh BS (Founder)
Digital Product Solutions
22 July 2025

Acknowledgment

I am deeply grateful to **Digital Product Solutions** for providing me with the opportunity to undertake my internship at their esteemed organization. This experience has been instrumental in shaping my understanding of real-world software development and bridging the gap between academic learning and industry practices.

My heartfelt thanks go to **Mr. Adarsh B S, Founder**, and **Mr. Aromal VG, Co-Founder**, for their visionary leadership and unwavering support. Their encouragement and insights into the startup ecosystem inspired me to push my limits and embrace new challenges.

I owe special gratitude to my mentors, **Mr. Ullakh** and **Mr. Midhin S**, whose expertise in software development and patient guidance helped me navigate complex technical concepts. Their mentorship provided me with practical exposure to Python, Django, and frontend technologies, significantly enhancing my skill set.

I would also like to extend my appreciation to the entire team at Digital Product Solutions for fostering a collaborative and innovative work environment. Their willingness to share knowledge and provide constructive feedback made this internship a truly enriching experience.

I express my sincere gratitude towards our honorable Principal, **Dr. L. Thulaseedharan** of **CHMM College For Advanced Studies** for providing me an opportunity for doing this internship work.

I express my sincere gratitude towards our honorable Director, **Dr. M. Sirajudeen** of **Haji CHMM College For Advanced Studies** for providing me an opportunity for doing this internship work.

I also extend my special thanks to **Mr. Harikrishnan S.R, Associate Professor and Head of the Department (MCA)**, for his expert and valuable guidance, inspiration, and fruitful discussions rendered throughout for successful completion of the internship.

I take this opportunity to express my sincere gratitude and indebtedness to my internal guide **Mr. Harikrishnan S.R, Associate Professor**, Department of MCA, for providing all possible facilities to make this internship a success.

I express my cordial and sincere thanks to our teachers **Mr. Riyad A, Mrs. Saranya R.B, Mrs. Nisha.A, and Mrs. Renjini.L.R, Department of MCA**, for valuable advice and great help in completing our internship.

With great pleasure, I record my deep gratitude to all staff members of the MCA department for immeasurable help rendered to us during the course of the internship.

I express my gratitude to my parents, friends, and teachers of the **MCA Department** for their encouragement, support, and love.

With Gratitude

Akhil Shibu

Master of Computer Applications

CHMM College for Advanced Studies

Contents

1	Introduction	7
2	Company Profile	8
2.1	Overview	8
2.2	Services Offered	8
2.3	Team and Work Culture.....	8
2.4	Vision and Mission.....	9
3	Internship Objectives.....	10
4	Work Responsibilities	11
5	Skills Developed and Experiences Gained	12
5.1	Technical Skills	12
5.2	Professional Skills.....	12
5.3	Key Experiences.....	12
6	Projects Undertaken	14
6.1	Buildwellz Construction Website	14
6.2	Squeezeberriez Soft Drink Website.....	15
6.3	Supermarket eCommerce Website (Ongoing)	15
6.4	Personal Portfolio Website	16
6.5	CRUD-Based Mini Project.....	17
7	Challenges Faced	18
8	Conclusion	19
9	References.....	20
10	Certificates	21

11 Technical Deep Dive	22
11.1 Python and Django	22
11.2 Frontend Development	23
11.3 Deployment and Hosting	23
11.4 Version Control with Git	23
12 Project Management and Agile Methodologies	24
12.1 Sprint Planning	24
12.2 Client Interactions	24
12.3 Code Reviews	24
13 Lessons Learned and Future Goals	25
13.1 Technical Lessons	25
13.2 Professional Lessons	25
13.3 Future Goals	25
14 Recommendations for Future Interns	26

1 Introduction

Internships serve as a critical bridge between academic learning and professional application, particularly in technical fields like the Master of Computer Applications (MCA). They provide students with hands-on experience, exposure to industry-standard tools, and an opportunity to apply theoretical knowledge in real-world scenarios. This report details my internship experience at Digital Product Solutions, a dynamic digital services and web development agency based in Thiruvananthapuram, Kerala. The internship spanned from April 24, 2025, to May 16, 2025, and offered a comprehensive learning experience in full-stack web development.

The primary objective of the internship was to gain practical knowledge of building and deploying web applications using Python and the Django framework. Additionally, I aimed to contribute to real-time client projects, develop a personal portfolio website, and create a CRUD-based mini-project. This internship allowed me to enhance my technical skills, including backend development with Django, frontend design with HTML, CSS, and Bootstrap, and deployment processes. Beyond technical expertise, I also developed soft skills such as collaboration, time management, and professional communication, which are essential for a successful career in software development.

The report is structured to provide a detailed account of my internship journey, including the company profile, objectives, responsibilities, skills acquired, projects undertaken, challenges faced, and key takeaways. It aims to serve as a comprehensive record of my contributions and learning outcomes during this period.

2 Company Profile

2.1 Overview

- **Company Name:** Digital Product Solutions
- **Founder:** Mr. Adarsh B S
- **Co-Founder:** Mr. Aromal VG
- **Established:** 2024
- **Location:** Korani, Thiruvananthapuram, near Trivandrum International School

Digital Product Solutions is a fast-growing digital services and web development agency specializing in delivering affordable, high-quality software solutions tailored to medium-scale businesses. Founded in 2024 by college roommates Mr. Adarsh B S and Mr. Aromal VG, the company has quickly established itself as a reliable partner in Kerala's tech ecosystem, having successfully delivered over 20 projects in a short span.

2.2 Services Offered

The company provides a range of services, including:

- **Custom Web Development:** Building tailored websites and web applications using modern frameworks and technologies.
- **UI/UX Design:** Creating intuitive and visually appealing user interfaces to enhance user experience.
- **E-Commerce Solutions:** Developing robust e-commerce platforms with secure payment gateways and inventory management.
- **Website Maintenance:** Offering ongoing support, updates, and performance optimization for client websites.

2.3 Team and Work Culture

The team at Digital Product Solutions comprises skilled professionals with diverse expertise:

- **Mr. Aromal VG:** Frontend Developer with 2 years of experience, specializing in responsive web design.
- **Mr. Ullakh:** Senior Developer with over 3 years of experience, previously employed at Infosys, with expertise in full-stack development.
- **Mr. Midhin S:** Python and OpenCV Developer with experience at a Bangalore-based startup, focusing on backend systems and computer vision.

The work environment is dynamic, collaborative, and innovation-driven, encouraging team members to experiment with new technologies and contribute creative solutions. Regular sprint meetings, code reviews, and client interactions foster a culture of continuous learning and improvement.

2.4 Vision and Mission

Digital Product Solutions aims to empower businesses by providing cost-effective, scalable, and user-centric digital solutions. The company's mission is to bridge the gap between small-to-medium enterprises and advanced technology, enabling them to compete in the digital landscape.

3 Internship Objectives

The internship was designed to align with my academic and professional goals as an MCA student. The specific objectives included:

1. Understanding the practical applications of Python and Django in real-world software development projects.
2. Contributing to the development, testing, and deployment of client web- sites.
3. Learning professional workflows, including agile methodologies and team communication practices.
4. Independently building and hosting a personal portfolio website to show- case my skills.
5. Designing and implementing a CRUD-based mini-project to solidify my understanding of full-stack development.

These objectives were crafted to ensure a balance between learning new technologies, contributing to live projects, and developing professional competencies required in the software industry.

4 Work Responsibilities

During the internship, I was entrusted with a variety of tasks that provided exposure to both backend and frontend development, as well as project management practices. My responsibilities included:

- **Backend Development:** Writing clean and efficient code using Python and the Django framework, focusing on implementing the Model-View-Template (MVT) architecture.
- **Frontend Development:** Assisting in designing responsive web pages using HTML5, CSS3, and Bootstrap, ensuring cross-browser compatibility.
- **Sprint Participation:** Actively participating in weekly sprint planning and review meetings to discuss project progress, client requirements, and task assignments.
- **Testing and Debugging:** Conducting unit testing and debugging for both frontend and backend components to ensure functionality and performance.
- **Website Deployment:** Learning and implementing hosting processes, including domain configuration, server setup, and database connectivity.
- **Project Development:** Independently developing a personal portfolio website and a CRUD-based mini-project for managing student data.

These responsibilities provided a holistic understanding of the software development lifecycle, from ideation and coding to testing, deployment, and maintenance.

5 Skills Developed and Experiences Gained

The internship was a transformative experience that significantly enhanced my technical and professional capabilities. Below is a detailed breakdown of the skills and experiences gained.

5.1 Technical Skills

- **Python Programming:** Gained proficiency in writing modular, reusable code using functions, object-oriented programming (OOP), and error-handling techniques.
- **Django Framework:** Mastered the Django MVT pattern, admin panel customization, and database interactions using Django's Object-Relational Mapping (ORM) system.
- **Frontend Development:** Developed skills in creating responsive and visually appealing web interfaces using HTML5, CSS3, and Bootstrap.
- **Website Deployment:** Learned the process of hosting websites, configuring domains, setting up servers, and connecting databases for live deployment.
- **Version Control Systems:** Acquired hands-on experience with Git and GitHub for version control, including branching, merging, and pull requests.
- **Database Management:** Understood database design, schema creation, and querying using SQLite and PostgreSQL within Django projects.

5.2 Professional Skills

- **Effective Communication:** Improved my ability to articulate technical concepts during team discussions and client meetings.

- **Time Management:** Learned to prioritize tasks and meet deadlines in a fast-paced startup environment.
- **Team Collaboration:** Developed skills in working collaboratively with developers, designers, and project managers to achieve project goals.
- **Problem-Solving:** Enhanced my ability to troubleshoot technical issues independently through research and experimentation.
- **Documentation Standards:** Learned to follow industry-standard documentation practices for code, project reports, and client deliverables.

5.3 Key Experiences

- Exposure to agile development methodologies, including sprint planning, task prioritization, and iterative development.
- Interaction with clients to understand their requirements and incorporate feedback into project deliverables.
- Hands-on experience in deploying live websites and troubleshooting real-time issues.
- Participation in code reviews, which improved my understanding of writing clean, maintainable, and efficient code.

6 Projects Undertaken

During the internship, I contributed to several client projects and independently developed two personal projects. Below is a detailed overview of each.

6.1 Buildwellz Construction Website

- **Client:** Buildwellz, a construction firm based in Varkala, Kerala.
- **Website:** <https://www.buildwellz.in>
- **Description:** A professional website showcasing the company's construction services, portfolio, and contact details.
- **Technologies Used:** Django (backend), HTML5, CSS3, Bootstrap (frontend), SQLite (database).
- **Contribution:**
 - Designed responsive frontend layouts using Bootstrap to ensure mobile compatibility.
 - Assisted in integrating frontend templates with Django backend for dynamic content rendering.
 - Conducted testing to ensure cross-browser functionality and resolved minor UI bugs.
- **Outcome:** The website was successfully launched, receiving positive feedback from the client for its user-friendly design and performance.

6.2 Squeezeberriez Soft Drink Website

- **Client:** Squeezeberriez, a beverage brand from Thrissur, Kerala.
- **Website:** <https://www.squeezeberriez.in>
- **Description:** An e-commerce website for showcasing and selling soft drink products.
- **Technologies Used:** Django (backend), HTML5, CSS3, Bootstrap (frontend), PostgreSQL (database).
- **Contribution:**
 - Structured the backend to support product listings and content management.
 - Implemented UI enhancements for product pages and checkout forms.
 - Assisted in optimizing database queries for faster page load times.
- **Outcome:** The website improved the client's online presence and facilitated direct customer orders.

6.3 Supermarket eCommerce Website (Ongoing)

- **Client:** A local supermarket chain in Thiruvananthapuram.
- **Description:** A comprehensive e-commerce platform for online grocery shopping with features like product categorization, cart management, and payment integration.
- **Technologies Used:** Django, HTML5, CSS3, Bootstrap, PostgreSQL.
- **Contribution:**
 - Participated in requirement analysis and wireframe discussions to define project scope.

Internship Record - Akhil Shibu

- Assisted in designing the database schema for product and order management.
- Contributed to planning the UI layout for a seamless shopping experience.
- **Outcome:** The project is in the development phase, with significant progress made in the initial design and backend setup.

6.4 Personal Portfolio Website

- **Description:** A personal portfolio website to showcase my skills, projects, and contact information.
- **Technologies Used:** Django, HTML5, CSS3, Bootstrap, SQLite.
- **Features:**
 - About Me section with a professional bio and skills overview.
 - Projects section highlighting internship contributions and personal projects.
 - Contact Form for visitor inquiries.
 - Resume Download feature for easy access to my CV.
- **Contribution:**
 - Independently designed and developed the entire website.
 - Configured a custom domain and hosted the website on a cloud server.
 - Implemented dynamic content rendering using Django templates and models.
- **Outcome:** The portfolio website serves as a professional showcase of my skills and is live for potential employers to review.

6.5 CRUD-Based Mini Project

- **Description:** A Django-based application for managing student records with Create, Read, Update, and Delete (CRUD) functionalities.
- **Technologies Used:** Django, HTML5, CSS3, Bootstrap, SQLite.
- **Features:**
 - **Create:** Add new student records with details like name, roll number, and grades.
 - **Read:** Display a list of students with search and filter options.
 - **Update:** Edit existing student records.
 - **Delete:** Remove student records from the database.
- **Contribution:**
 - Designed the database schema using Django models.
 - Developed frontend templates for user interaction.
 - Implemented form validation and error handling for robust functionality.
- **Outcome:** The project demonstrated my ability to build a fully functional web application and solidified my understanding of Django's core concepts.

7 Challenges Faced

The internship presented several challenges that tested my technical and problem-solving abilities. These included:

- **Adapting to Industry Standards:** Transitioning from academic coding practices to industry-standard conventions, such as modular code design and documentation, required significant effort.
- **Deployment Issues:** Encountered challenges in configuring databases and servers during website deployment, particularly with cloud hosting platforms.
- **Learning New Frameworks:** Mastering Bootstrap for responsive design within a short timeframe was initially overwhelming but achievable with practice.
- **Remote Collaboration:** Coordinating with team members in a partially remote setting required effective communication and time management.
- **Balancing Learning and Contribution:** Contributing meaningfully to live client projects while simultaneously learning new technologies was a delicate balance.

Each challenge was an opportunity to grow. I overcame these hurdles by seeking guidance from mentors, conducting independent research, and leveraging online resources like Django documentation and Stack Overflow.

8 Conclusion

The internship at Digital Product Solutions was a transformative experience that bridged the gap between academic learning and professional practice. It provided hands-on exposure to full-stack web development, deepened my understanding of Python and Django, and enhanced my ability to work in a collaborative, fast-paced environment.

Key takeaways include:

- Proficiency in building and deploying web applications using modern frameworks.
- Enhanced problem-solving and debugging skills through real-world project challenges.
- Improved professional skills, including communication, teamwork, and time management.
- A clearer understanding of the software development lifecycle and client expectations.

Moving forward, I aim to:

- Deepen my expertise in backend development using Django Rest Framework for API development.
- Explore containerization technologies like Docker to streamline deployment processes.
- Learn frontend JavaScript frameworks like React or Next.js to become a more versatile full-stack developer.

I am immensely grateful to Digital Product Solutions for their mentorship, support, and trust in my abilities. This internship has laid a strong foundation for my career in software development, and I am excited to apply these skills in future endeavors.

9 Work Responsibilities

- **Digital Product Solutions:** <https://www.digitalproductsolutions.in/>
- **Buildwellz Website:** <https://www.buildwellz.in/>
- **Squeezeberriez Website:** <https://www.squeezeberriez.in/>
- **Django Documentation:** <https://docs.djangoproject.com/>
- **Bootstrap Documentation:** <https://getbootstrap.com/>
- **Python Official Documentation:** <https://www.python.org/doc/>
- **Git Documentation:** <https://git-scm.com/doc>

10 Certificates

The following documents are attached as part of this report:

- Internship Completion Certificate issued by Digital Product Solutions.
- Appreciation Letters (if any) from the company.
- Screenshots of contributions to live websites, including Buildwellz and SqueezeberrieZ.
- Screenshots of the personal portfolio website and CRUD-based mini-project.
- Hosting confirmation for the personal portfolio website.

11 Technical Deep Dive

To provide a comprehensive understanding of the technical skills acquired, this section elaborates on the tools, frameworks, and methodologies used during the internship.

11.1 Python and Django

Python's versatility and readability made it an ideal choice for backend development.

During the internship, I explored advanced Python concepts such as:

- **Object-Oriented Programming (OOP):** Implemented classes and inheritance to create reusable code components.
- **Exception Handling:** Used try-except blocks to manage errors gracefully in production environments.
- **Modules and Packages:** Organized code into modular structures for better maintainability.

Django, a high-level Python web framework, was the cornerstone of the backend development tasks. Key learnings included:

- **Model-View-Template (MVT) Architecture:** Structured applications to separate business logic, user interface, and data models.
- **Django ORM:** Simplified database interactions using Python objects instead of raw SQL queries.
- **Admin Panel Customization:** Created user-friendly interfaces for non-technical stakeholders to manage content.

11.2 Frontend Development

Frontend development involved creating responsive and visually appealing interfaces.

Key technologies included:

- **HTML5:** Structured web content with semantic elements for accessibility.
- **CSS3:** Styled web pages with advanced techniques like Flexbox and Grid for layout design.
- **Bootstrap:** Leveraged pre-built components to create responsive designs quickly.

11.3 Deployment and Hosting

Deploying websites to live servers was a critical learning outcome. The process involved:

- **Server Configuration:** Setting up cloud servers (e.g., AWS, Heroku) for hosting Django applications.
- **Domain Management:** Configuring DNS settings and linking custom domains to hosted applications.
- **Database Connectivity:** Ensuring secure connections between the application and databases like PostgreSQL.

11.4 Version Control with Git

Git was used extensively for version control. Key commands learned included:

- `git init`, `git clone`, `git add`, `git commit` for repository management.
- `git branch`, `git merge` for collaborative development.

12 Project Management and Agile Methodologies

Digital Product Solutions followed agile development practices, which provided valuable exposure to industry-standard project management. Key aspects included:

12.1 Sprint Planning

Weekly sprint meetings were conducted to:

- Define project milestones and deliverables.
- Assign tasks based on team members' expertise and availability.
- Review progress and address roadblocks.

12.2 Client Interactions

Participating in client meetings helped me understand:

- Gathering and analyzing client requirements.
- Presenting prototypes and incorporating feedback.
- Managing expectations and ensuring timely delivery.

12.3 Code Reviews

Regular code reviews ensured:

- Adherence to coding standards and best practices.
- Identification and resolution of potential bugs early in the development cycle.

Knowledge sharing among team members.

13 Lesson Learned and Future Goals

The internship provided several key lessons that will shape my future career:

13.1 Technical Lessons

- The importance of writing clean, modular, and well-documented code.
- The value of testing and debugging to ensure robust applications.
- The need for continuous learning to keep up with evolving technologies.

13.2 Professional Lessons

- Effective communication is critical for successful collaboration.
- Time management and prioritization are essential in meeting project deadlines.
- Adaptability and resilience are key to overcoming technical challenges.

13.3 Future Goals

Based on this experience, I have set the following goals:

- Master advanced backend development with Django Rest Framework and FastAPI.
- Gain proficiency in containerization tools like Docker and Kubernetes.
- Explore frontend frameworks like React or Vue.js to become a full-stack developer.
- Contribute to open-source projects to enhance my coding skills and community engagement.

14 Recommendation for Future Interns

Based on my experience, I offer the following recommendations for future interns at Digital Product Solutions or similar organizations:

- **Be Proactive:** Take initiative to learn new technologies and contribute to projects beyond assigned tasks.
- **Ask Questions:** Seek clarification from mentors to avoid mistakes and accelerate learning.
- **Document Everything:** Maintain detailed notes on tasks, challenges, and solutions for future reference.
- **Embrace Feedback:** Use constructive criticism to improve your skills and deliverables.
- **Network with the Team:** Build relationships with colleagues to gain insights and foster collaboration.