Industrial Internship Report on

Project name:Multiclientserviceplatform

Prepared by: Meenaloshini S.M.

Executive Summary

This report provides details of the Industrial Internship provided by upskill Campus and The IoT Academy in collaboration with Industrial Partner UniConverge Technologies Pvt Ltd (UCT).

This internship was focused on a project/problem statement provided by UCT. We had to finish the project including the report in 6 weeks' time.

My project was a Multi-Client Service Platform, a web-based application connecting service providers and customers.

Merchants could register and create their own pages to list services and pricing.

Customers could sign up, browse services by category, and book services online.

The platform included a secure payment gateway for smooth transactions.

It provided a user-friendly interface for both merchants and customers.

Categories like home, beauty, and pet care made service selection easy.

The main goal was to improve accessibility and convenience for services.

Overall, it enabled merchants to reach more customers and customers to access services efficiently

This internship gave me a very good opportunity to get exposure to Industrial problems and design/implement solution for that. It was an overall great experience to have this internship.

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1 Preface

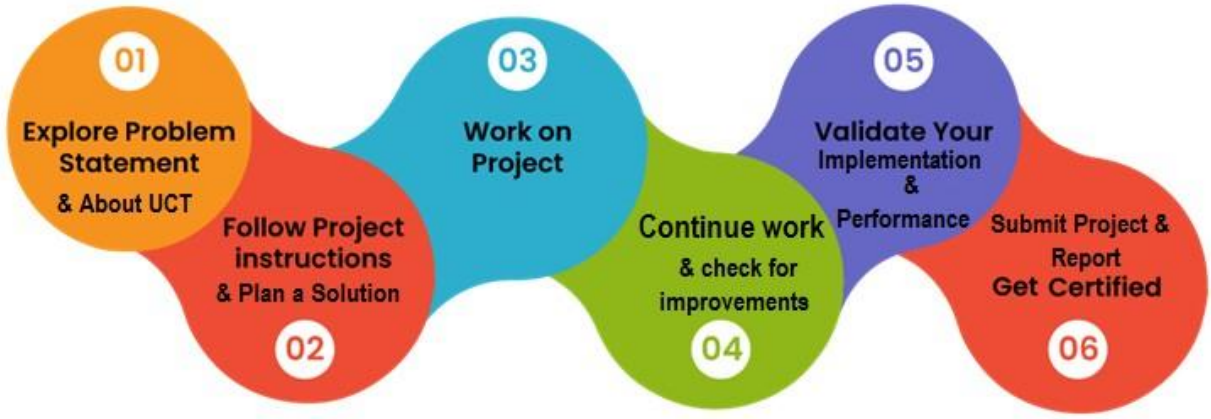
1.About my project

This project aims to develop a multi-client service platform where merchants can register, list their services, and customers can browse and purchase services through a secure checkout process.

2. Problem Statement

Many service providers lack a centralized digital platform to manage services, payments, and customer interactions. This project addresses that problem by offering a unified service marketplace

3.program was planned:



Learning and Overall Experience:

My internship in full-stack development gave me practical experience in building a multi-client service website. I enhanced my skills in front-end technologies like HTML, CSS, and JavaScript, and back-end development with [Node.js/PHP] and database management. I learned to design responsive interfaces, implement authentication, and manage dynamic content. Working on this project improved my teamwork, communication, and problem-solving abilities. Overall, the internship helped me understand real-world software development and prepared me for future projects and professional work.

I sincerely thank Upskill Campus for providing this valuable opportunity, guidance, and support throughout my internship. Overall, this experience prepared me for real-world software development and future professional challenges.

2 Introduction

2.1 About UniConverge Technologies Pvt Ltd

A company established in 2013 and working in Digital Transformation domain and providing Industrial solutions with prime focus on sustainability and RoI.

For developing its products and solutions it is leveraging various **Cutting Edge Technologies e.g. Internet of Things (IoT), Cyber Security, Cloud computing (AWS, Azure), Machine Learning, Communication Technologies (4G/5G/LoRaWAN), Java Full Stack, Python, Front end** etc.

i. UCT IoT Platform (Insight)

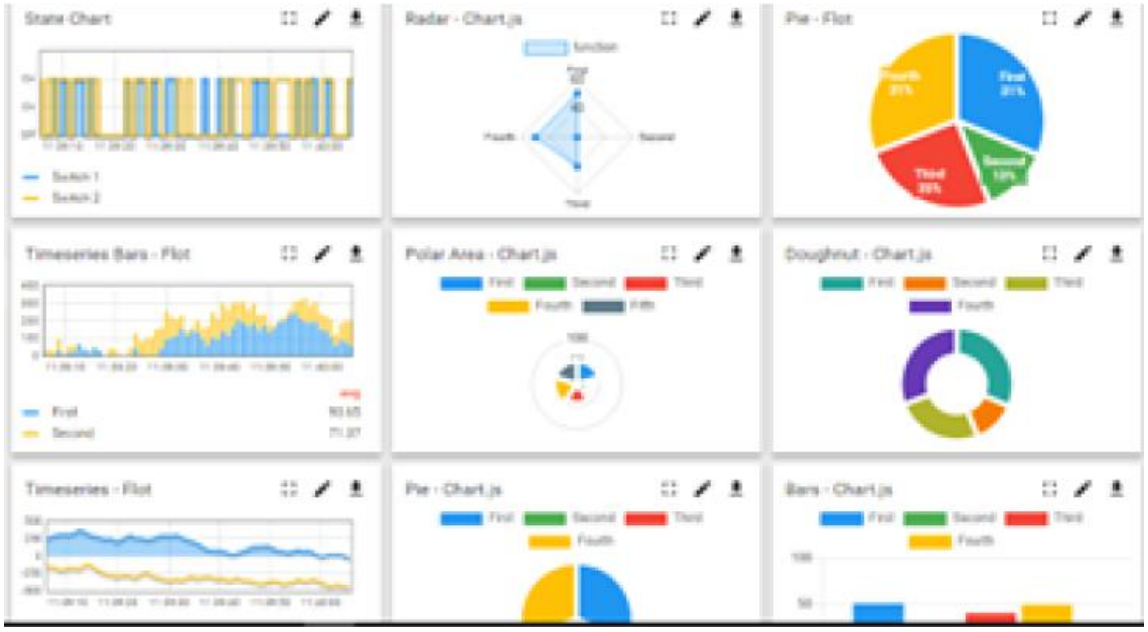
UCT Insight is an IOT platform designed for quick deployment of IOT applications on the same time providing valuable "insight" for your process/business. It has been built in Java for backend and ReactJS for Front end. It has support for MySQL and various NoSql Databases.

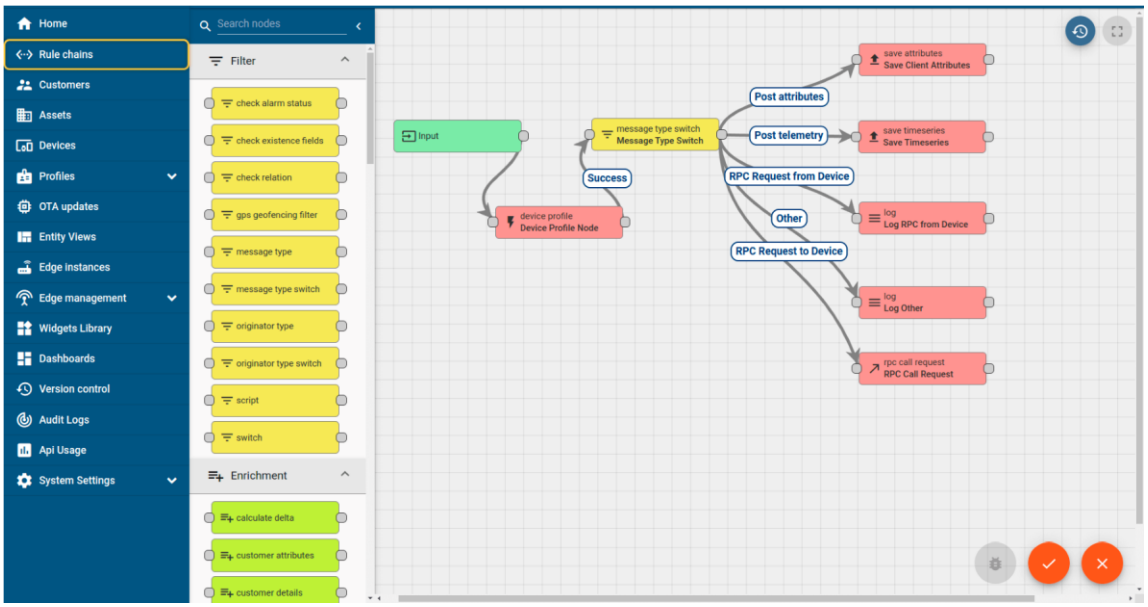
- It enables device connectivity via industry standard IoT protocols - MQTT, CoAP, HTTP, Modbus TCP, OPC UA

- It supports both cloud and on-premises deployments.

It has features to

- Build Your own dashboard
- Analytics and Reporting
- Alert and Notification
- Integration with third party application(Power BI, SAP, ERP)
- Rule Engine





ii. **Smart Factory Platform (** FACTORY WATCH **)**

Factory watch is a platform for smart factory needs.

It provides Users/ Factory

- with a scalable solution for their Production and asset monitoring
- OEE and predictive maintenance solution scaling up to digital twin for your assets.
- to unleased the true potential of the data that their machines are generating and helps to identify the KPIs and also improve them.
- A modular architecture that allows users to choose the service that they what to start and then can scale to more complex solutions as per their demands.

Its unique SaaS model helps users to save time, cost and money.

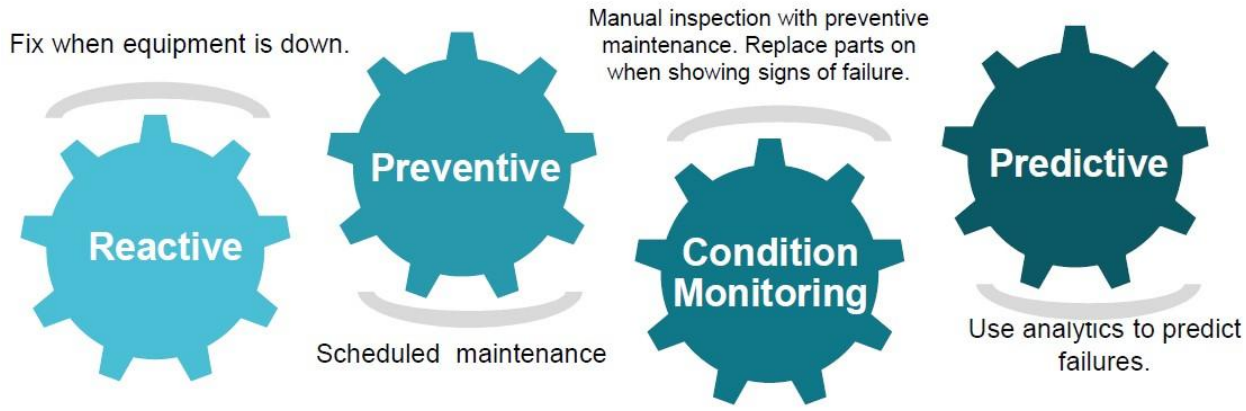
Machine	Operator	Work Order ID	Job ID	Job Performance	Job Progress		Output		Rejection	Time (mins)				Job Status	End Customer
					Start Time	End Time	Planned	Actual		Setup	Pred	Downtime	Idle		
CNC_S7_81	Operator 1	WO0405200001	4168	58%	10:30 AM		55	41	0	80	215	0	45	In Progress	i
CNC_S7_81	Operator 1	WO0405200001	4168	58%	10:30 AM		55	41	0	80	215	0	45	In Progress	i

iii.based Solution

UCT is one of the early adopters of LoRAWAN teschnology and providing solution in Agritech, Smart cities, Industrial Monitoring, Smart Street Light, Smart Water/ Gas/ Electricity metering solutions etc. **iv.**

Predictive Maintenance

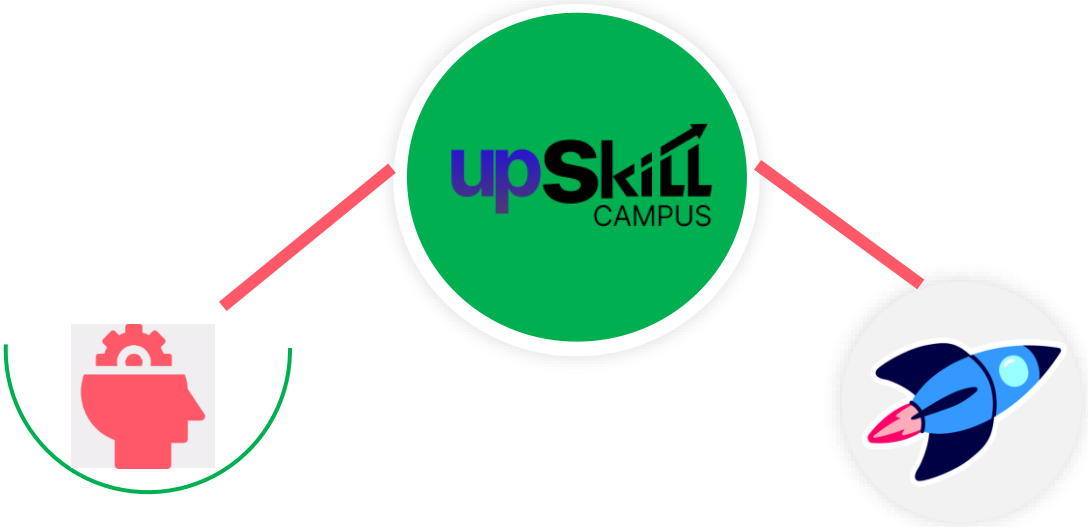
UCT is providing Industrial Machine health monitoring and Predictive maintenance solution leveraging Embedded system, Industrial IoT and Machine Learning Technologies by finding Remaining useful life time of various Machines used in production process.



2.2 About upskill Campus (USC)

upskill Campus along with The IoT Academy and in association with Uniconverge technologies has facilitated the smooth execution of the complete internship process.

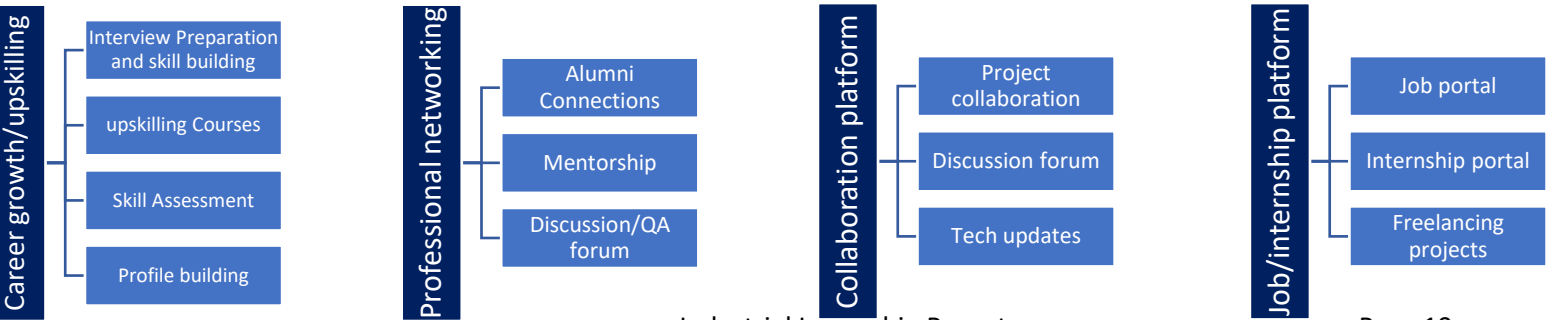
USC is a career development platform that delivers **personalized executive coaching** in a more affordable, scalable and measurable way.



Seeing need of upskilling in self paced manner along-with additional support services e.g. Internship, projects, interaction with Industry experts, Career growth Services

upSkill Campus aiming to upskill 1 million learners in next 5 year

https://www.upskillcampus.com/



2.3 The IoT Academy

The IoT academy is EdTech Division of UCT that is running long executive certification programs in collaboration with EICT Academy, IITK, IITR and IITG in multiple domains.

2.4 Objectives of this Internship program

The objective for this internship program was to ☛

get practical experience of working in the industry.

☛ to solve real world problems.

☛ to have improved job prospects.

☛ to have Improved understanding of our field and its applications.

☛ to have Personal growth like better communication and problem solving.

2.5 Reference

[1] Upskill Campus Full-Stack Development Training Materials

[2] MDN Web Docs, HTML, CSS, and JavaScript Documentation, https://developer.mozilla.org

[3] W3Schools, Full Stack Web Development Tutorials, https://www.w3schools.com

2.6 Glossary

Terms	Acronym
UI(User Interface)	The part of the website that users interact with.
UX(User Experience)	How users feel while using the website.
API (Application Programming Interface)	Connects different software components.
JS (JavaScript)	Programming language for interactive website features.
CSS (Cascading Style Sheets)	Styles and formats the appearance of web pages.

3. Problem Statement

•In today's digital era, many service providers, including home service professionals,

beauty experts, and pet care providers, still rely on offline methods to reach their customers. There is no unified platform that allows multiple merchants to register, showcase their services, manage orders, and receive payments securely. Similarly, customers face challenges in discovering reliable service providers, comparing prices, booking services, and making secure online payments.

•The lack of a centralized multi-client platform results in inefficient service management, reduced transparency, and suboptimal customer experience. Therefore, there is a need for a scalable and secure web-based solution that seamlessly connects service providers and customers through a single online marketplace.

4 Existing and Proposed solution

=>Existing Solutions:

Currently, many service providers rely on:

- Offline bookings and phone calls
- Social media pages without secure payment options
- Multiple independent apps with limited scalability =>Limitations

of existing systems:

- No centralized platform for multiple merchants
- Lack of secure and standardized checkout process
- Poor order tracking and service management.
- Limited customer feedback and rating mechanisms

=>Proposed Solution

- The proposed solution is a Multi-Client Website Offering Client Services, where:
- Merchants can register and create customized service pages.
- Customers can browse services by category and place orders
- Secure payment gateway integration is provided
- Dashboards are available for merchants and customers.

4.1 Code submission (Github link)

4.2 Report submission (Github link) : first make placeholder, copy the link.

5 Proposed Design/ Model

1. Merchant Registration and Dashboard: Merchants can register on the platform, create profiles, and list their services with descriptions, pricing, and availability. They can also manage orders, track requests, and receive payments securely.

2. Customer Registration and Service Booking: Customers can sign up, browse services by category, compare options, book services, and make secure payments through integrated payment gateways.

3. Admin Control: The admin can manage merchants, services, and users, monitor transactions, and maintain platform security.

4. Secure Authentication and Authorization: Role-based access ensures that merchants, customers, and admins have appropriate permissions. Features like login authentication, password encryption, and secure payment handling are implemented.

5.Notification System: Both customers and merchants receive timely notifications regarding bookings, order status, and payments.

6 Performance Test

During the development of the multi-client service platform,

The following constraints were identified:

1. Performance: The system should handle multiple users efficiently. Optimized database queries and asynchronous operations were used. Tests showed smooth operations under normal load.

2. Scalability: The platform should support growing numbers of merchants and customers. Modular design allows easy addition of new users and services.

3. Security: User data and payments must be secure. Implemented encrypted passwords, HTTPS, and secure payment gateway integration.

4. Reliability: The system should run without crashes. Proper error handling and database backups were implemented.

5. User Experience: Interface must be simple and responsive. Testing confirmed easy navigation and smooth booking process.

=> For real-world deployment, cloud hosting, load balancing, advanced security audits, and periodic UI updates are suggested to handle higher traffic and ensure robustness.

6.1 Test Plan/ Test Cases

Test Case	Description
User Registration	Customers and merchants register on the platform Successful account creation with valid data.
Login / Authentication	Verify login functionality for users and merchants Access granted only with valid credentials.
Service Listing	Merchants add or update services. Services appear correctly on their profile.
Booking Service	Customers book a service from a merchant. Booking confirmation and notification sent.

6.2 Test Procedure

1. Registered multiple merchants and customers to verify sign-up functionality.

2. Logged in with different roles to check role-based authentication.

3. Added, updated, and deleted services to confirm CRUD operations.

4. Performed test bookings and payments using the integrated payment gateway.

5. Checked notifications and email confirmations for bookings and payments.

6. Tested the platform on various devices (desktop, tablet, mobile) for responsiveness.

7. Simulated multiple concurrent users to observe system performance under load.

6.3 Performance Outcome

- System Performance: The platform handled multiple users and bookings without noticeable delay.
- Security: Password encryption, HTTPS, and secure payment integration worked as expected.
- Reliability: No crashes occurred during testing; all features performed correctly.
- Responsiveness: The website displayed correctly on desktops, tablets, and mobile devices.
- User Feedback: The interface was easy to navigate, and notifications were timely

7 My learnings

During my internship in full-stack development, I gained hands-on experience in designing and developing a multi-client service platform. I enhanced my skills in front-end technologies (HTML, CSS, JavaScript), back-end development ([Node.js/PHP]), and database management (MySQL/MongoDB). I also learned to implement secure authentication, integrate payment gateways, and design responsive user interfaces.

Working on a real-world project improved my problem-solving abilities, teamwork, and communication skills. This internship gave me practical exposure to the complete software development lifecycle, from requirement analysis to deployment. The knowledge and experience I gained will significantly help me in my future career as a software developer, enabling me to handle real-world projects efficiently and confidently.

8 Future work scope

Due to time limitations, features like AI-based service recommendations, real-time chat between customers and merchants, and mobile applications were not implemented. Future work can also include advanced analytics dashboards for merchants and enhanced security measures. These improvements will make the platform more user-friendly, scalable, and suitable for real-world deployment.