

Industrial Internship Report on**"BMI Calculator"****Prepared by****[Ayush Chandekar]***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 (Tell about ur Project)

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

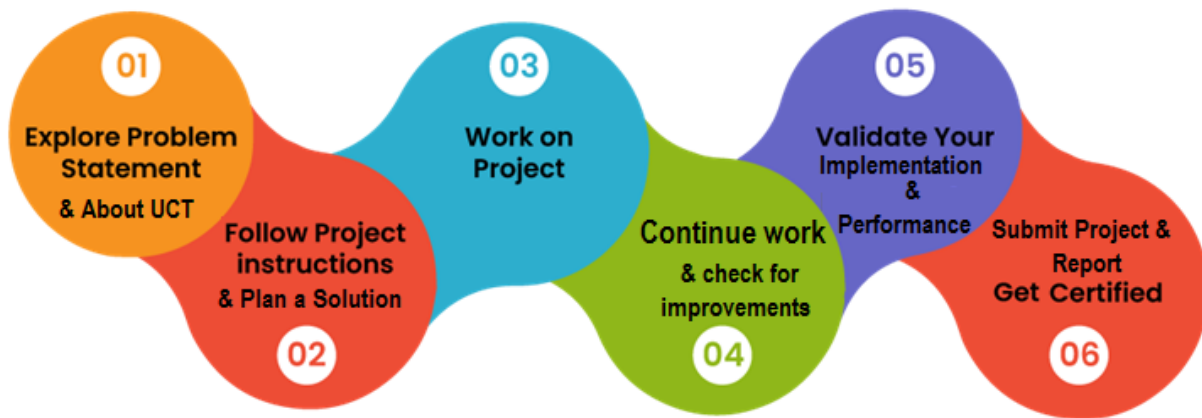
Summary of the whole 6 weeks' work.

About need of relevant Internship in career development.

Brief about Your project/problem statement.

Opportunity given by USC/UCT.

How Program was planned



Your Learnings and overall experience.

Thank to all (with names), who have helped you directly or indirectly.

Your message to your juniors and peers.

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.



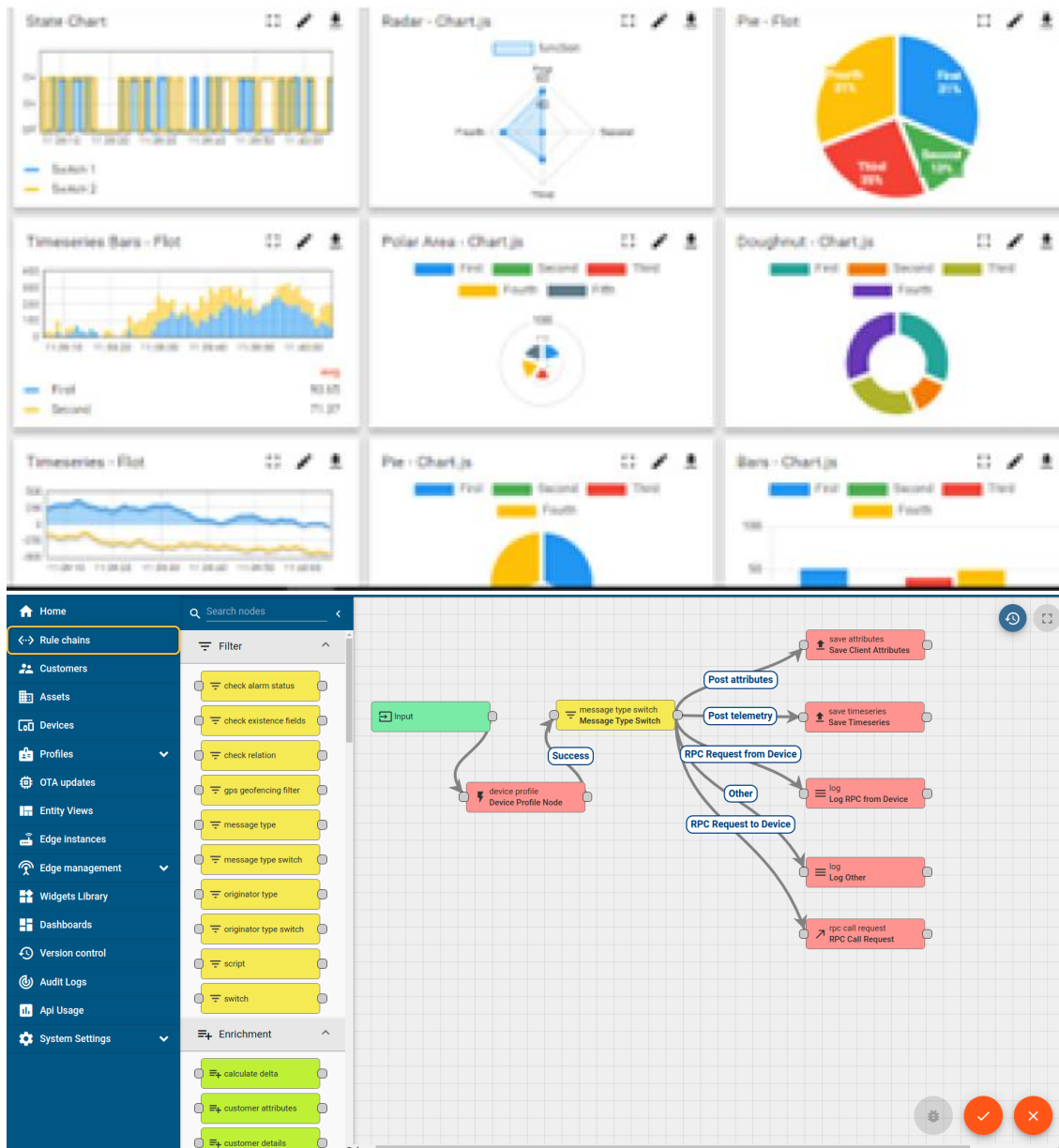
i. UCT IoT Platform ()

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



FACTORY WATCH

ii. Smart Factory Platform ()

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 unleash 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 want 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



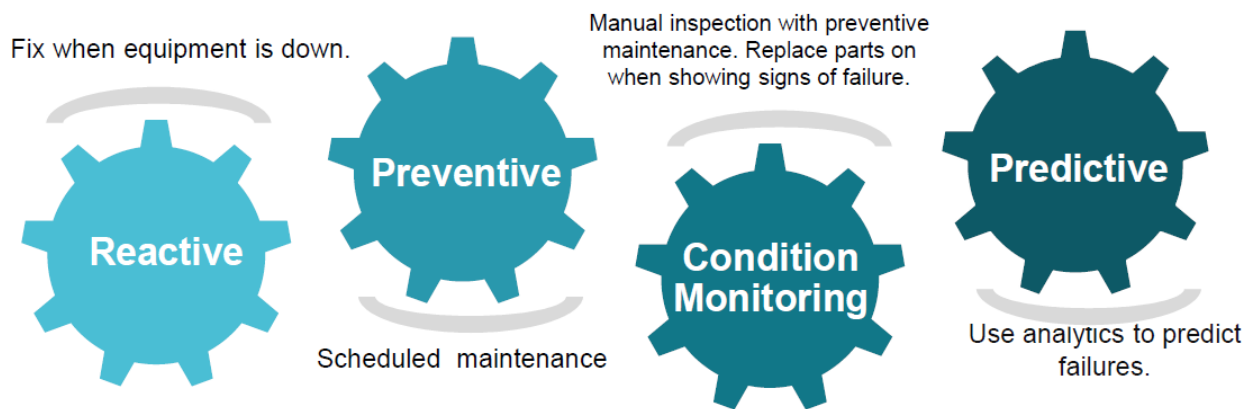


iii. LoRaWAN based Solution

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

iv. Predictive Maintenance

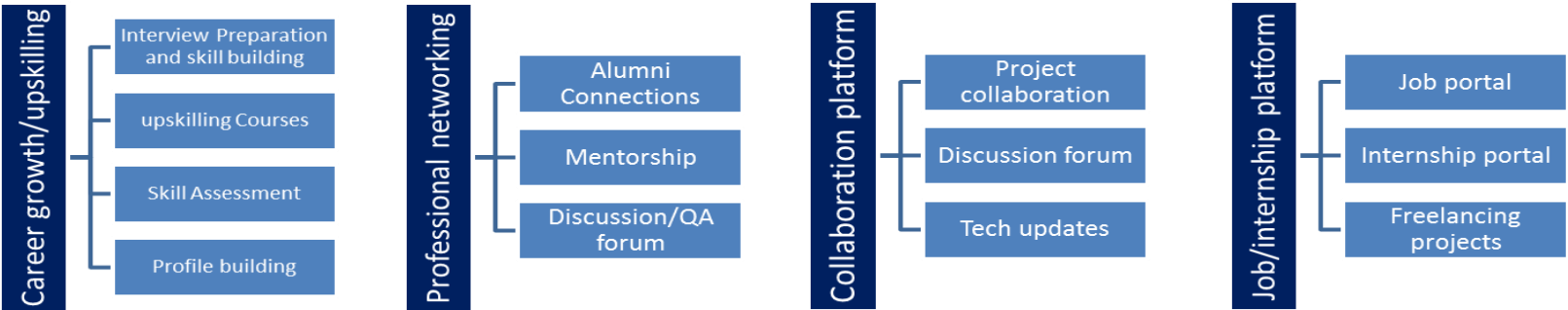
UCT is providing Industrial Machine health monitoring and Predictive maintenance solution leveraging Embedded system, Industrial IoT and Machine Learning Technologies by finding Remaining useful life time of various Machines used in production process.



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.



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]

[2]

[3]

2.6 Glossary

Terms	Acronym

3 Problem Statement

In the assigned problem statement

According to the World Health Organization Body Mass Index (BMI) is a measure for indicating nutritional status in adults. It is defined as a person's weight in kilograms divided by the square of the person's height in metres (kg/m^2). For example, an adult who weighs 70 kg and whose height is 1.75m will have a BMI of 22.9. $\text{BMI} = 70 \text{ (kg)} / 1.75^2 \text{ (m}^2\text{)} = 22.9 \text{ (kg}/\text{m}^2\text{)}$. For adults over 20 years old, BMI falls into one of the following categories. BMI are usually used to have an idea of the health status of an individual. Table 1. Nutritional status BMI Nutritional status Below 18.5 Underweight 18.5–24.9 Normal weight 25.0–29.9 Overweight Above 30.0 Obesity.

4 Existing and Proposed solution

The problem was simple so there were no limitations.

4.1 Code submission (Github link)

<https://github.com/ZEKE-7-7/upskillcampus/blob/main/BankingInformationSystem.java>

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

5 Proposed Design/ Model

6 Step 1: Understanding BMI Formula

BMI is calculated using the formula:

$$BMI = \frac{weight\ (kg)}{\{height\ (m)\}^2}$$

7 Step 2: Setting Up the Python Environment

To build our BMI calculator, we'll use Python. Ensure you have Python installed on your system. Additionally, we'll employ a code editor or IDE like Visual Studio Code, PyCharm, or Jupyter Notebook.

8 Step 3: Writing the Python Code

9 Step 4: Adding Interpretation of BMI

Now that we have the BMI value, it's essential to interpret it. Typically, BMI values fall into different categories:

- **Underweight:** BMI less than 18.5
- **Normal weight:** BMI between 18.5 and 24.9
- **Overweight:** BMI between 25 and 29.9
- **Obesity:** BMI of 30 or greater

9.1 High Level Diagram (if applicable)

Figure 1: HIGH LEVEL DIAGRAM OF THE SYSTEM

9.2 Low Level Diagram (if applicable)

9.3 Interfaces (if applicable)

Update with Block Diagrams, Data flow, protocols, FLOW Charts, State Machines, Memory Buffer Management.

10 Performance Test

There were no constraints in the program.

10.1 Test Plan/ Test Cases

- **Test Case ID:** #BST001
- **Test Scenario:** To find the BMI of the users

10.2 Test Procedure

1. Take weight and height as an input from user.
2. Create a function to carry out the task.
3. Interpretation of BMI categories.

10.3 Performance Outcome

Successfull.

11 My learnings

I learned a lot here. It was my first project and. From soft skills training to making your own report file.

12 Future work scope

I would like to work on real life projects.