# Industrial Internship Report on

# "Project Name"

# Prepared by

# [Student name]

| 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).<br><br>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.<br><br>My project was A basic Python quiz application that is capable of asking a question, collecting an answer, and checking whether the answer is correct. It also includes interacting with the user in the terminal, Improving the usability of the application, Refactor the application to continuously improve it, Store data in dedicated data files.<br><br>This internship gave me a very good opportunity to get exposure to Industrial problems and design/implement solutions for them. It was an overall great experience to have this internship. |

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# 1    Introduction

## 1.1    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.
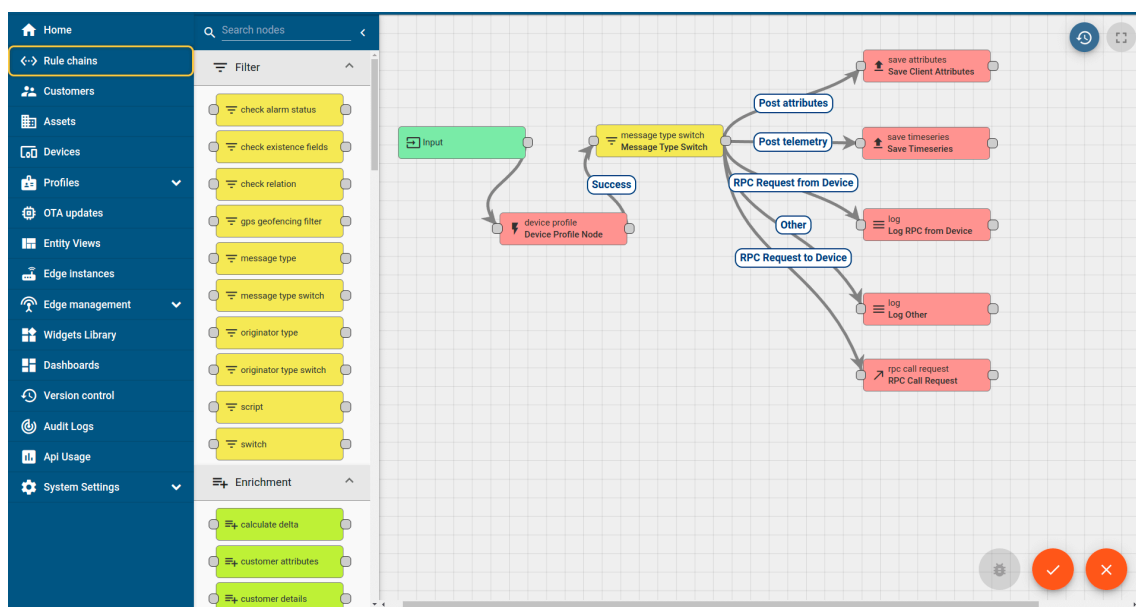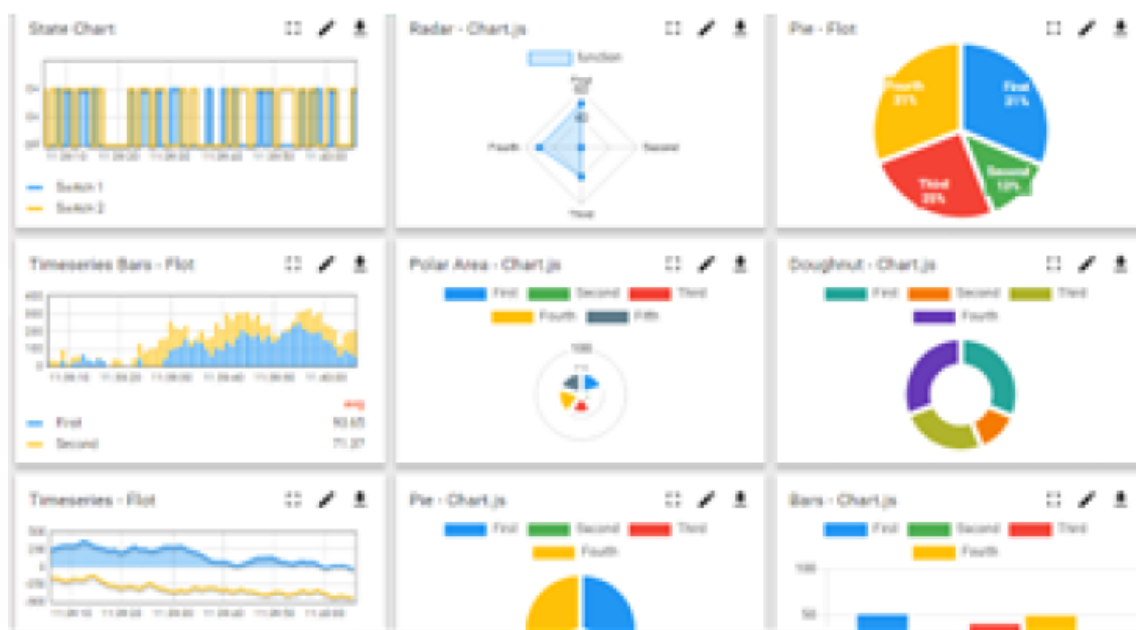


## i.    UCT IoT Platform (  )

**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

## 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.

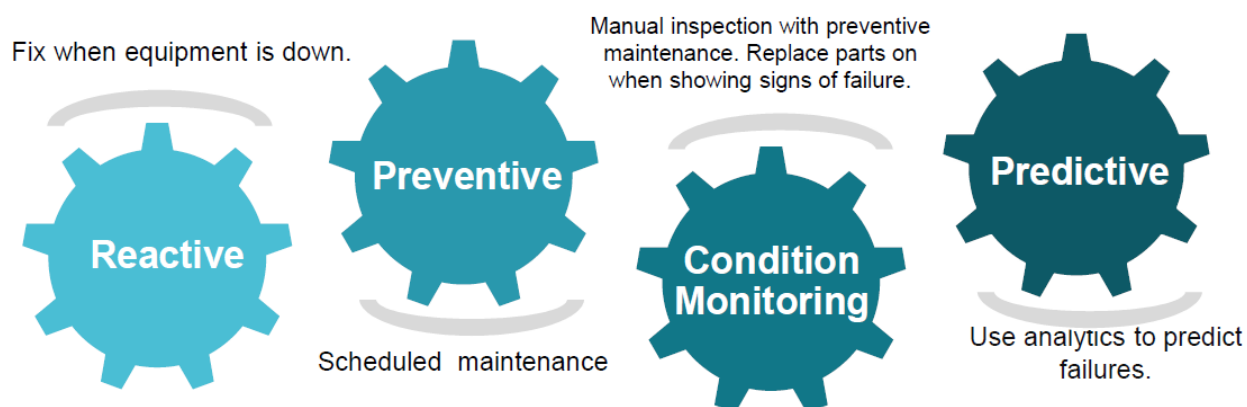| Machine | Operator | Work Order ID | Job ID | Job Performance | Job Progress | | Output | | Rejection | Time (mins) | | | | Job Status | End Customer |
|---------|----------|---------------|--------|-----------------|--------------|---------|---------|--------|-----------|-------|------|----------|------|------------|--------------|
| | | | | | 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 |
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### iii. **LoRaWAN™** 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.



## 1.2 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.
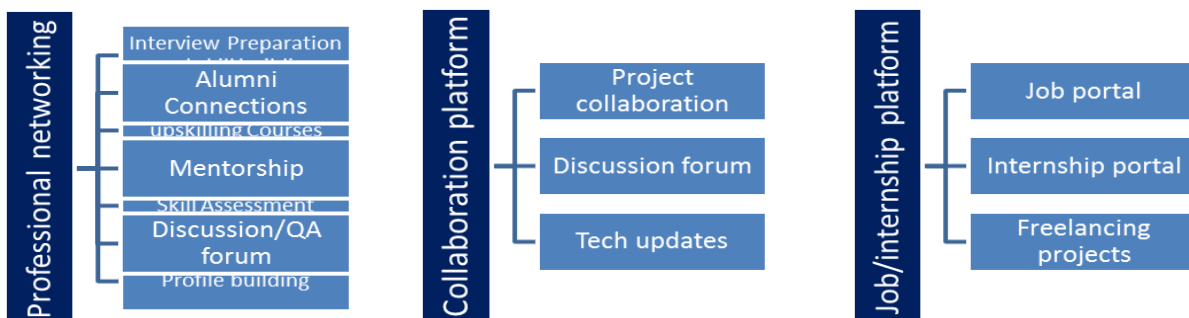
Seeing need of upskilling in self paced manner along-with additional support services e.g. Internship, projects, interaction with Industry experts, Career growth Services

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

https://www.upskillcampus.com



**Professional networking**
- Interview Preparation
- Alumni Connections
- upskilling Courses
- Mentorship
- Skill Assessment
- Discussion/QA forum
- Profile building

**Collaboration platform**
- Project collaboration
- Discussion forum
- Tech updates

**Job/internship platform**
- Job portal
- Internship portal
- Freelancing projects

## 1.3 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.

## 1.4 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    Problem Statement

Description: The quiz game is a Python project that quizzes users on various topics. It reads questions and answers from a file or database, presents them to the user, and keeps track of their score.

Scope: The scope of this project involves designing a user interface to display questions and collect user answers, implementing a database or file system to store quiz data, and developing a scoring algorithm to track the user's progress and calculate their final score.

# 3   Existing and Proposed Solution

The word quiz was first used in 1781 to mean *eccentric person*. Nowadays, it's mostly used to describe short tests of trivia or expert knowledge with questions like the following:

When was the first known use of the word *quiz*?

The **Quiz Application In Python** is a tool for creating and managing quizzes. This program will come in handy for planning quizzes in colleges or schools. The quiz application will aid in the smooth running of the quiz event. A **Python Quiz Application** is useful for learning new skills and practicing Python application development. This project is quite useful, and the concept and logic of the project are simple to grasp.

By following along in this step-by-step project, I have built an application that can test a person's expertise on a range of topics. This project strengthens your own knowledge or challenges your friends to a fun battle of wits. It includes,

- Interact with the user in the terminal
- Improve the usability of your application
- Refactor your application to continuously improve it
- Store data in dedicated data files

The quiz application is a comprehensive project for anyone comfortable with the basics of Python.

## 3.1 Code submission (Github link)

GitHub link: https://github.com/janhveemahajana/Quiz_Game/blob/main/quiz.py

## 3.2 Report submission (Github link):

## 4   My learnings

- File Handling and Database Interaction:

I learned how to read and write data to files in different formats (e.g., JSON, CSV) or interact with databases (e.g., SQLite).

Also understanding the different methods of data storage allows you to make informed decisions on choosing the right storage approach for your projects.

- User Interface Design:

Designing a user-friendly interface is crucial for engaging users and providing a smooth user experience.

I learned how to present information and collect user input effectively, either through text-based interfaces or graphical user interfaces (GUIs).

- Error Handling and Exception Handling:

I learned how to handle various types of errors, such as file not found errors or database connection errors.

Properly implementing error handling ensures that your application gracefully handles unexpected situations.

- Problem-solving and Debugging Skills:

I encounter various challenges and bugs to overcome.

The process of troubleshooting and debugging improved my problem-solving skills and made me a more efficient developer.

# 5   Future work scope

**Web Application:**

Convert the quiz game into a web application using web frameworks like Flask or Django. This allows users to access the quiz through a web browser, making it accessible from any device.

**Multiplayer Mode:**

Implement a multiplayer mode that allows multiple users to play the quiz game simultaneously. One can achieve this using network communication protocols like sockets or WebSockets.

**Leaderboard and High Scores:**

Create a leaderboard to display the highest scores achieved by different users. This adds a competitive element to the game and encourages users to improve their scores.

**Save and Resume:**

Implement a feature that allows users to save their progress in the quiz and resume it later.

**Subject Categories:**

Organize the quiz questions into different subject categories, allowing users to choose specific topics they want to be quizzed on.