Industrial Internship Report on

Quiz game design

Prepared by

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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 python based project provided by UCT. We had to finish the project including the report in 6 weeks' time. My project was quiz game design. This internship gave me a very good opportunity to get exposure to Industrial problems based on coding and design a solution for that. It was an overall great experience to have this internship.

aluable "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
-

FACT◎RY WATCH

i. **Smart Factory Platform (WATCH)**

Factory watch is a platform for smart factory needs.

It provides Users

- 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 what to start and then can scale to more complex solutions as per their demands.

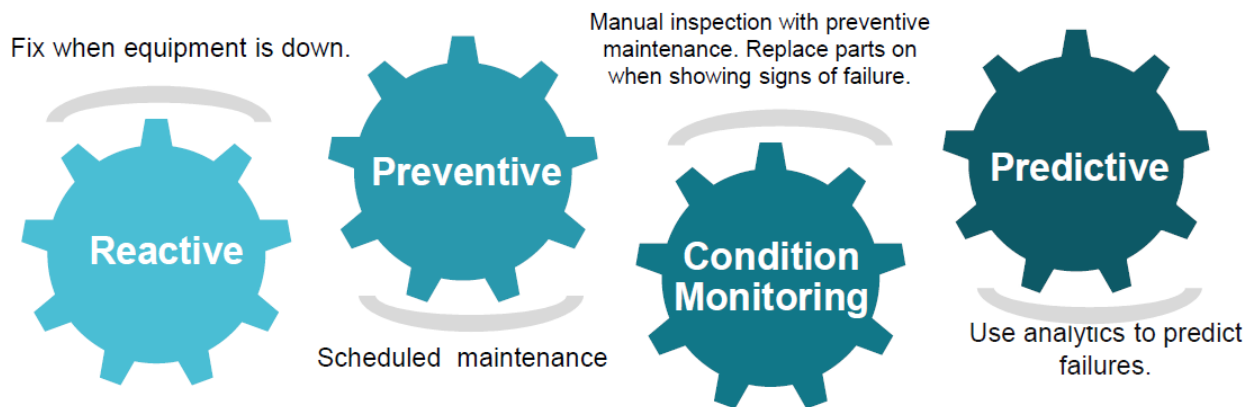Its unique SaaS model helps users to save time, cost and money.

i. **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.

i. Predictive Maintenance

UCT is providing Industrial Machine health

Fix when equipment is down.

Manual inspection with preventive maintenance. Replace parts on when showing signs of failure.

Reactive

Preventive

Condition Monitoring

Predictive

Scheduled maintenance
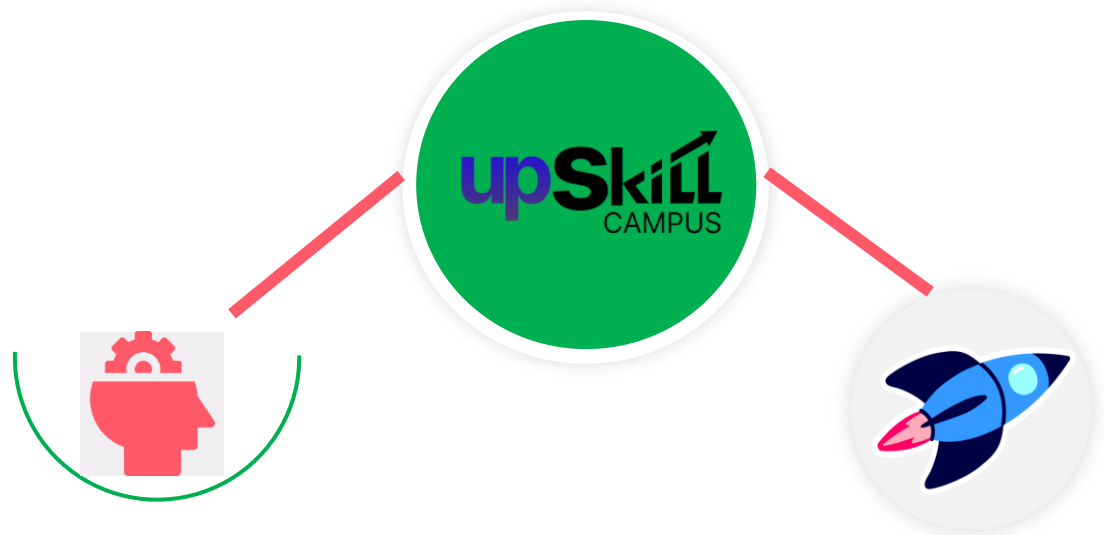
Use analytics to predict failures.

 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.

1.1   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.

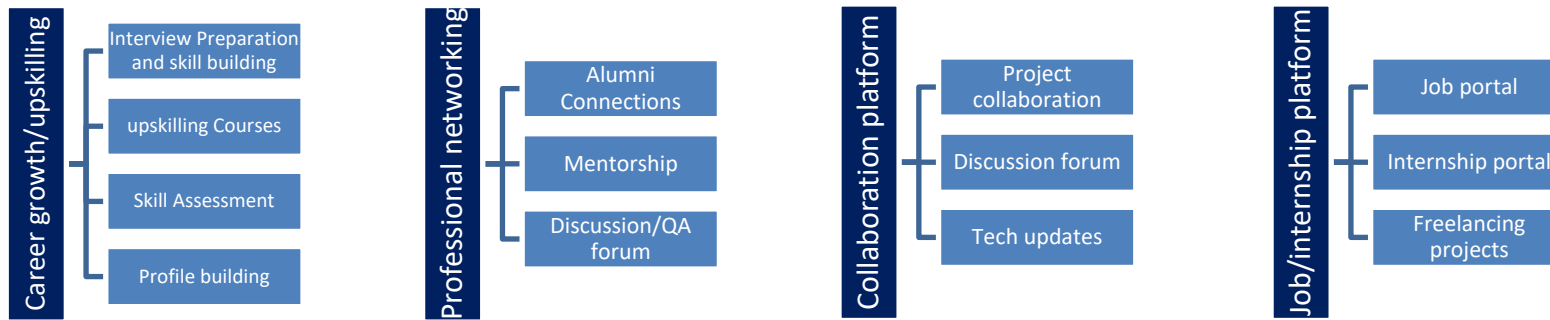USC is a career development platform that delivers **personalized executive coaching** in a more affordable, scalable and measurable way.

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/

Career growth/upskilling	Professional networking	Collaboration platform	Job/internship platform
Interview Preparation and skill building	Alumni Connections	Project collaboration	Job portal
upskilling Courses	Mentorship	Discussion forum	Internship portal
Skill Assessment	Discussion/QA forum	Tech updates	Freelancing projects
Profile building			

1.2 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.

1.3 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

In the assigned problem statement a quiz game had to be designed .The objective was to design a game that displays questions, gets user answer as input, answers from a file or database , displays it to user and keeps track of their score.

3   Existing and Proposed solution

IOT academy provided a lot of information regarding how the project can be done with help of modules either numpy or pandas or both which gave a rough idea about importing data from word and excel , importing them to actual window and performing operations upon them. But problem was faced in designing a blueprint for implementing conditional and looping statements on the database .

The solution was to import files from word and excel, converting them to pandas series and make another pandas series collecting user input, assigning a variable to represent all the values of each database , comparing the corresponding values stored in those two variables using looping statements and framing a third database based on the comparison for displaying scores .
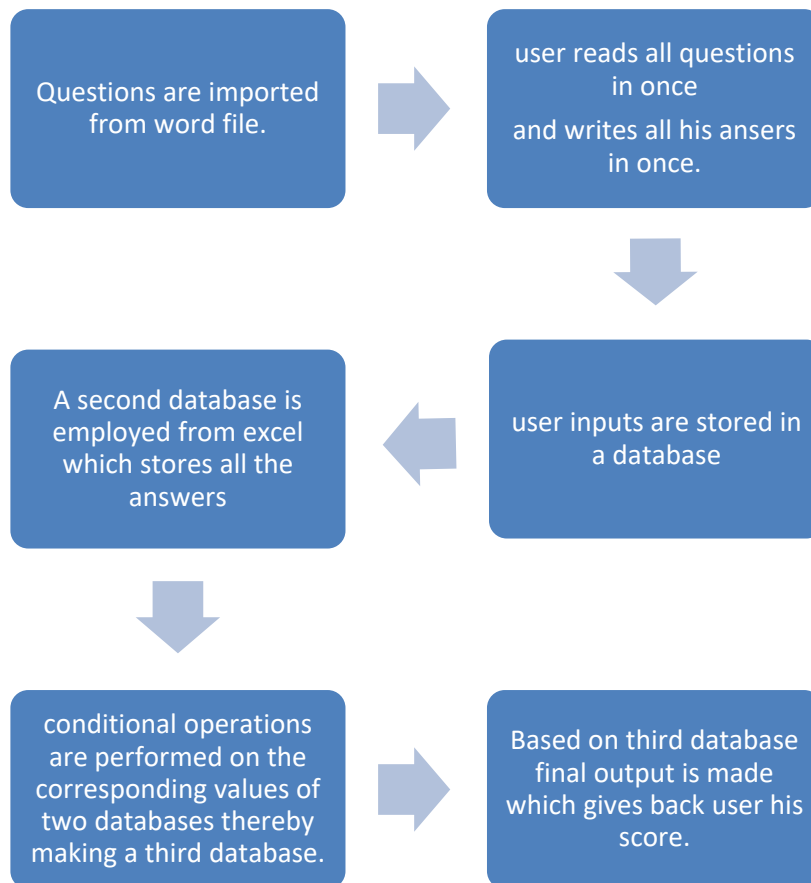
3.1   Code submission (Github link)
   https://github.com/suyash7654/upskillcampus.git

3.2   Report submission (Github link) :

   https://github.com/suyash7654/upskillcampus.git.

4   Proposed Design/ Model

```
┌─────────────────────┐         ┌─────────────────────┐
│                     │         │ user reads all      │
│ Questions are       │   ──▶   │ questions in once   │
│ imported from word  │         │                     │
│ file.               │         │ and writes all his  │
│                     │         │ ansers in once.     │
└─────────────────────┘         └─────────────────────┘
                                          │
                                          ▼
┌─────────────────────┐         ┌─────────────────────┐
│ A second database   │         │                     │
│ is employed from    │   ◀──   │ user inputs are     │
│ excel which stores  │         │ stored in a         │
│ all the answers     │         │ database            │
└─────────────────────┘         └─────────────────────┘
         │
         ▼
┌─────────────────────┐         ┌─────────────────────┐
│ conditional         │         │ Based on third      │
│ operations are      │   ──▶   │ database final      │
│ performed on the    │         │ output is made      │
│ corresponding       │         │ which gives back    │
│ values of two       │         │ user his score.     │
│ databases thereby   │         │                     │
│ making a third      │         │                     │
│ database.           │         │                     │
└─────────────────────┘         └─────────────────────┘
```

5   Performance Test

At first the problem came in how to display all questions of the quiz to the user interface window as writing all questions in code would be very time consuming and also make the file size bulkier. Also the interaction of user to those questions and providing him an interface to write answers had to be considered. Once he wrote answers it had to be decided whether answers would be simultaneously displayed or not based on knowledge of python and processing of answers had to be taken care.

The solution came to import the necessary data from word and excel files for displaying questions to user and performing operations on user inputs by comparing user inputs with answers stored in excel file. Based on the operations of comparison simultaneously make a third database and apply operations in it to make a third and final database be submitted back to user as final score.

Everything went right except the step in which user input had to be collected. Objective type input couldn't be done as such input couldn't be found which will get user input in form of mouse click. Also simultaneously displaying answers to user couldn't be executed due to lack of knowledge provided.

6   My learnings

I learnt a lot about python from this experience and I also practically engaged in python project which helped me even learn more .I also learnt about real world problems and got an opportunity to address real world problems and showcase my skills. It also helped to improve my problem solving skills and applying my knowledge in real world.

7   Future work scope

I would like to learn to design a quiz game that simultaneously displays answers to user while keeping track of their score. Also I would like to design a database that collects user input in form of mouse clicks or taps in future.