X-IOT-A

PROBLEM STATEMENT – 1

Task:

You are the Head IOT Engineer of MediOx, the latest venture of Melon Stark. With the rising health issues throughout the world, MediOx is considering to develop a health monitoring device that can monitor multiple health parameters. You have been assigned to design a basic health monitoring device that has the following properties:

- Application which monitors and displays body temperature, heart rate and blood pressure of the client.
- In case of emergency (like cardiac arrest, very high or very low blood pressure) the device should send a SOS to nearby hospital along with the GPS location.

The system is approved if both the properties are fulfilled. Mr Stark is very enthusiastic towards new features that can improve the device. Device that shows stronger functionality and features gets more attention from Mr Stark.

Your task is to implement the device virtually that can get approved by Mr Stark.

Optional Add-Ons:

- Monitor and display daily steps count or distance travelled.
- Monitor and display blood glucose or blood oxygen level and any other parameters.
- Graphical Analysis of parameters on daily, weekly and monthly basis.
- Interactive user applications.
- Predictive models using ML and AI techniques.
- Any other features which you deem necessary.

Scoring criteria:

- Both properties are mandatory to implement to qualify this round.
- Monitored parameters must be visible on virtual terminal.
- Additional features will fetch higher score.
- Clarity of concept, representation and explanation in the simulators will be judged.

Submission instructions:

- The deadline for completion of PS1 is 23:59 - 2 April 2022
- Each team has to submit an abstract mentioning the features they've implemented.
- The judgment of simulation will be done through Anydesk software (so you are free to use any software/tools available on your system).
- Only one submission per team will be accepted.

Rules/regulations and constraints:

- Since node MCU is not easily available for simulation on many Simulators, we suggest you to complete the task using Arduino board simulation.
- The final submissions must be submitted to the event coordinators in the format specified on or before April 2, 2022.
- The organizers reserve the right to change the rules as they deem fit. Change in rules, if any, will be highlighted on the website and notified on the Discord and WhatsApp group.
- The decision of the organizers shall be final and binding.
  In case of any type of cheating suspected, the team will be immediately disqualified and no certificate will be given.