



भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

Internet of Things(CS5453)

HVAC Controller

Indian Institute of Technology, Hyderabad

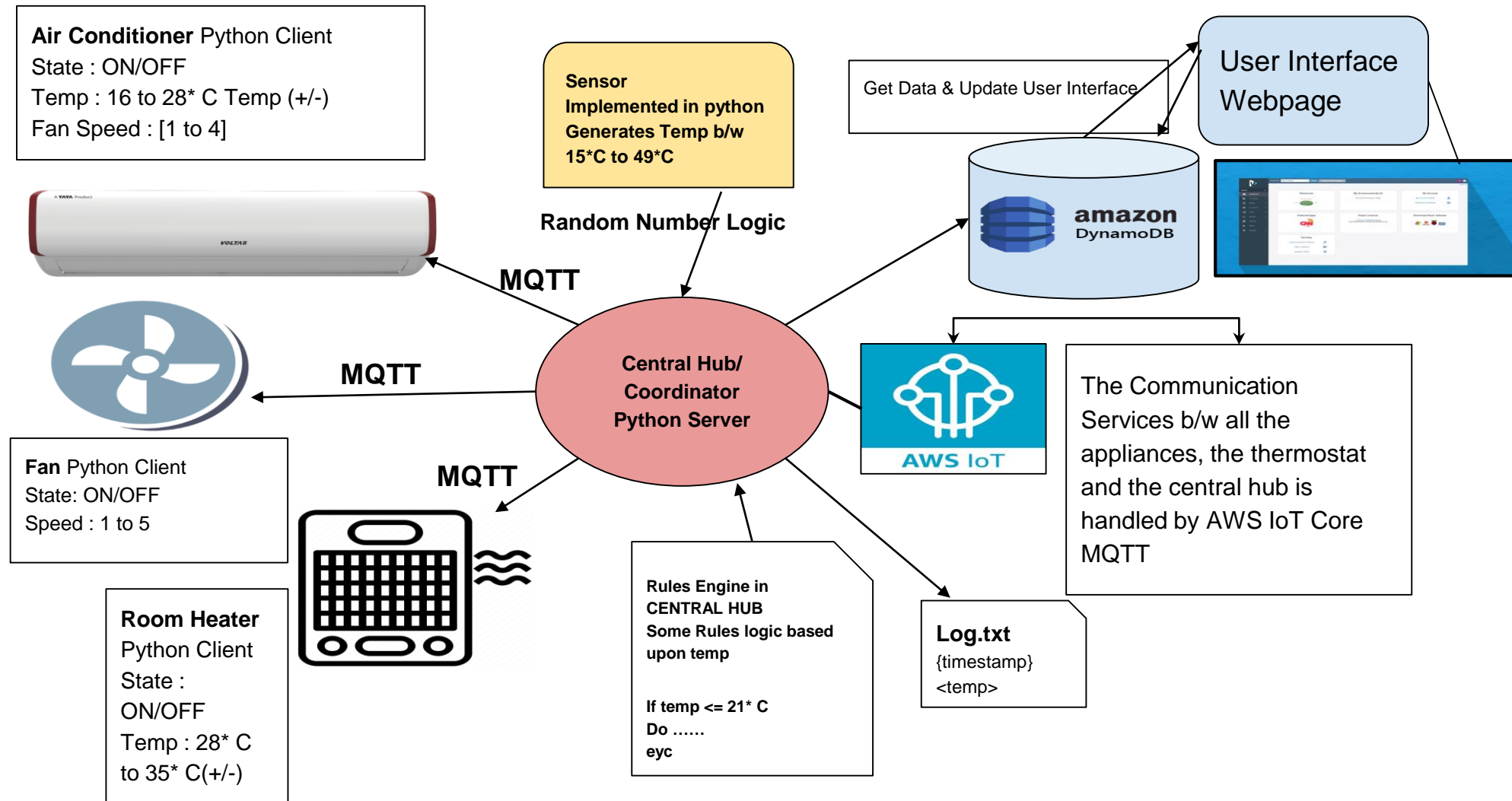
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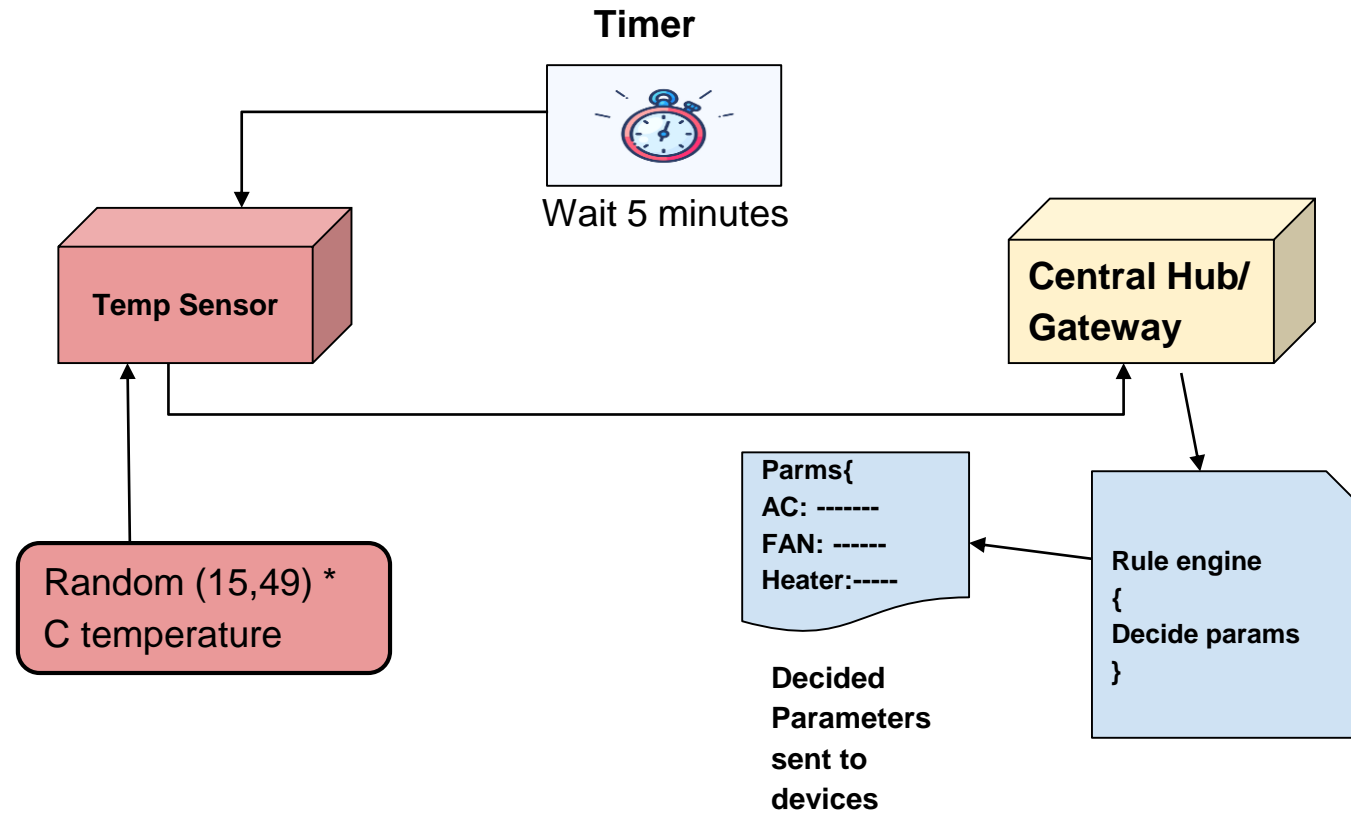


System Architecture





Data Flow





Rule Engine Logic


```
if temp >= 30 and temp <= 35:  
    self.params["AC"] = {"status" : "ON" , "temp" :22, "fan_speed": 4}  
    self.params["Fan"] = {"status":"ON","fan_speed":4}  
    self.params["Heater"] = {"status": "OFF","temp":0}  
    self.params["Room_Temp"] = temp
```



Interfaces of Appliances Modules

tk #3

Air Conditioner (AC) Appliance




Temp: 25^ C
Fan Speed: 3

Current Status :ON
Temp: 25^ C
Fan Speed: 3
Current Room Temp Reported 25^ C

tk #2


FAN Appliance



Current Status :ON
Fan Speed :3
Current Room Temp Reported 25^ C

tk

Room Heater Appliance



Temp :0
Temp :05

Current Status : OFF
Temp :0
Current Room Temp Reported 25^ C

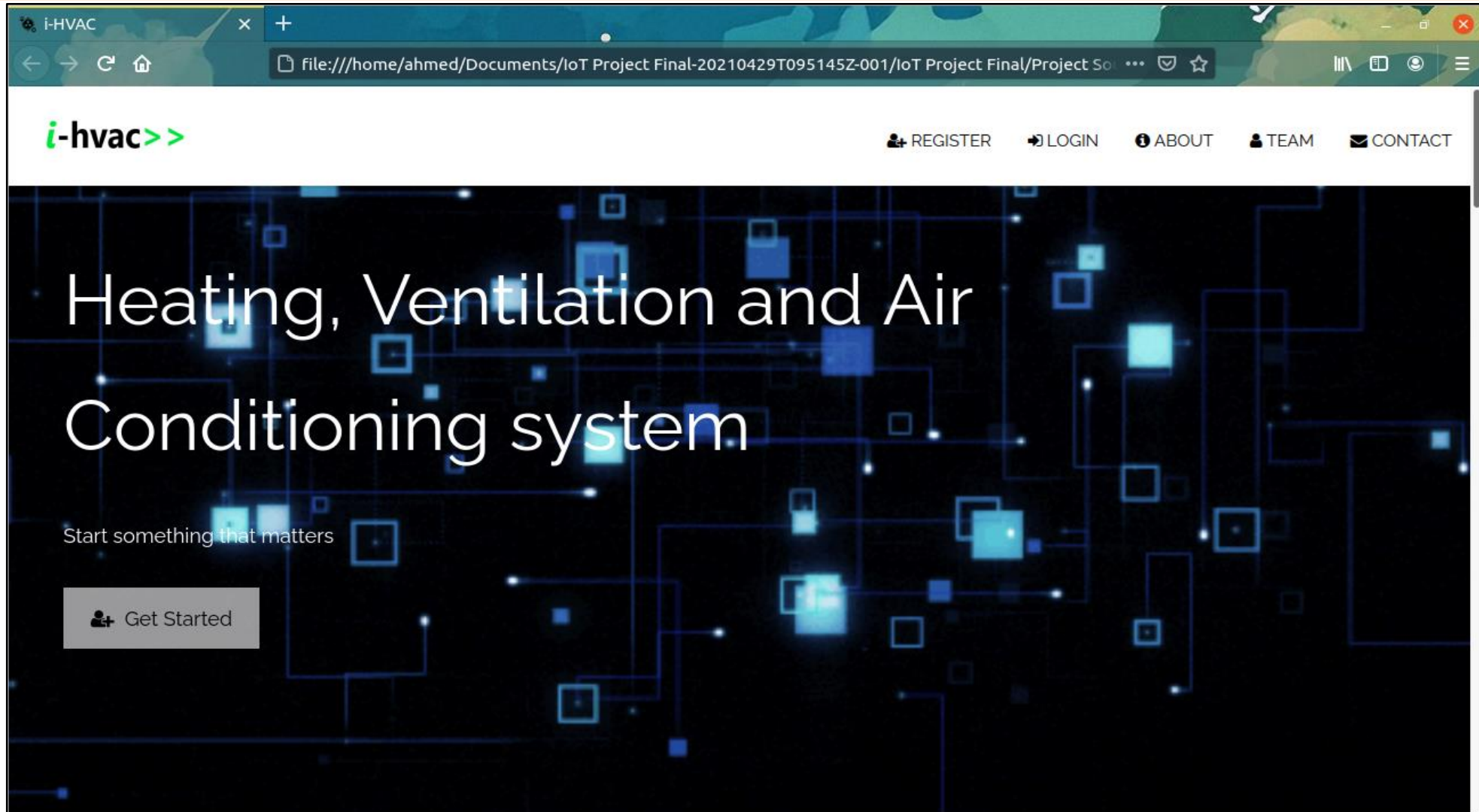
ns3_ratectrl_report.odt

ns3_ratectrl_report.pdf

IoT Case Study.pdf



User Interface: Home Page





User Interface: Login Page

i-HVAC

file:///home/ahmed/Documents/IoT Project Final-20210429T095145Z-001/IoT Project Final/Project ...

Home

i-hvac>>

Login

Username

Password

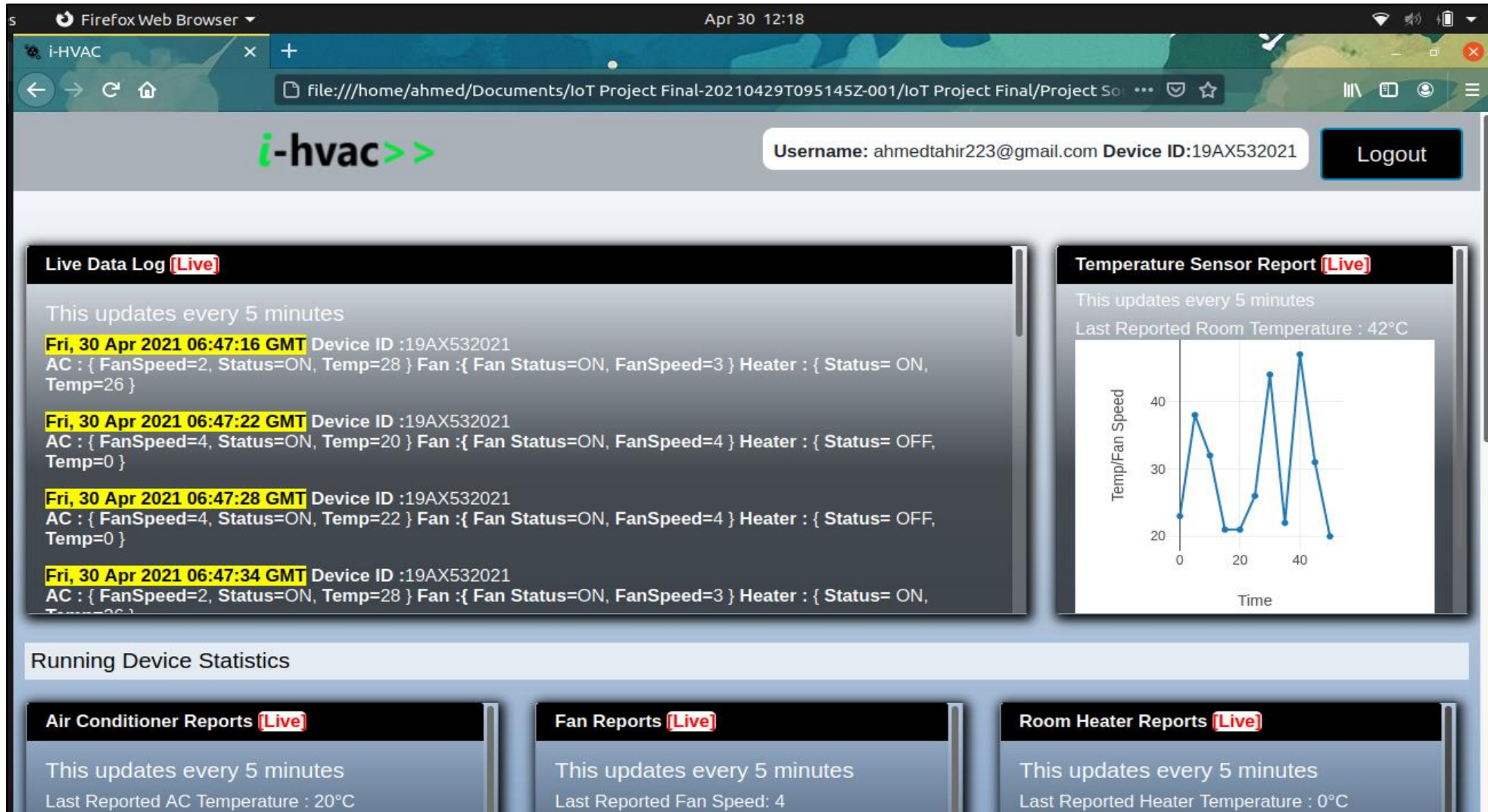
Login Reset

New User? [Register here](#)

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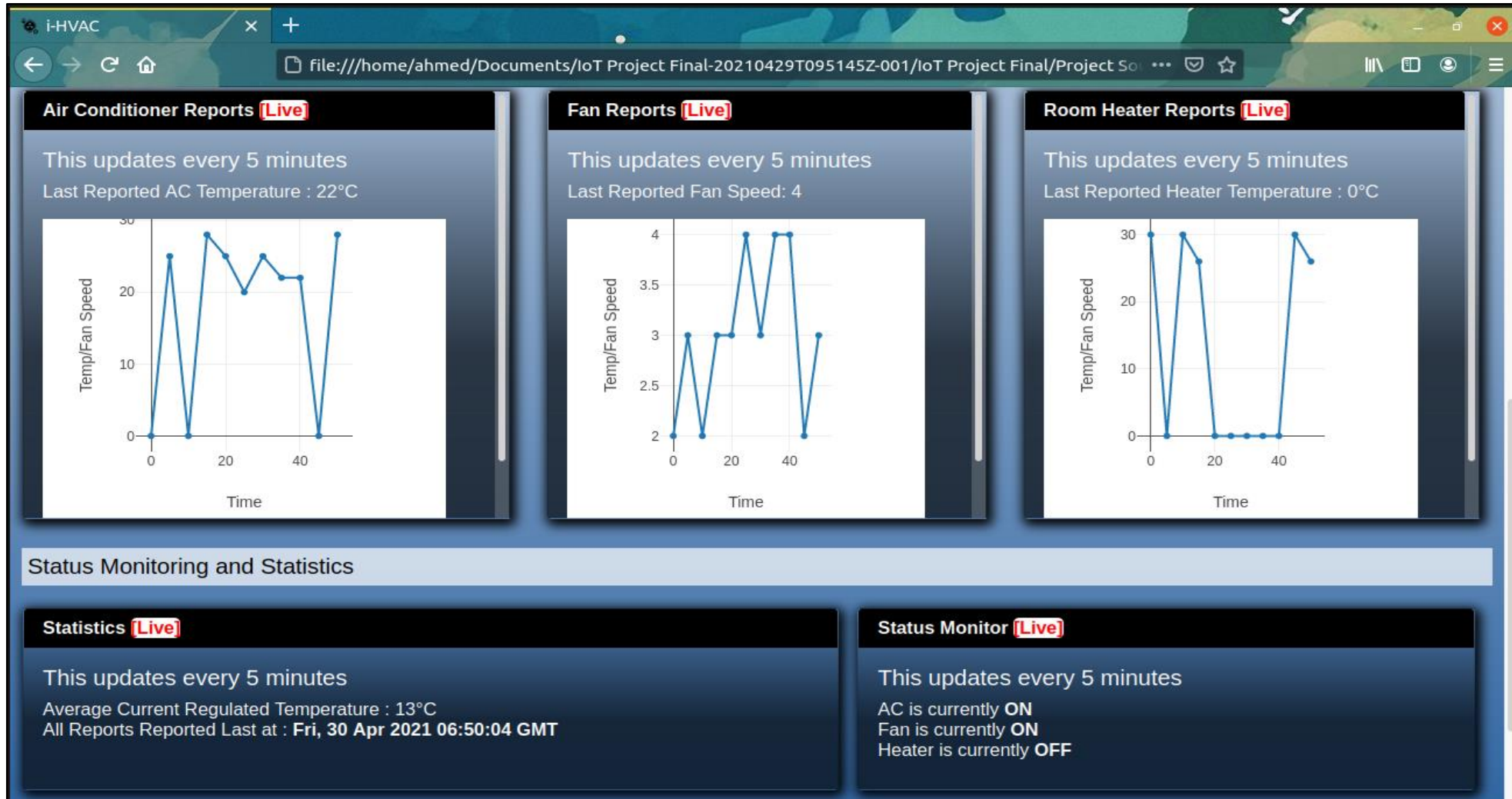


User Interface: Dashboard



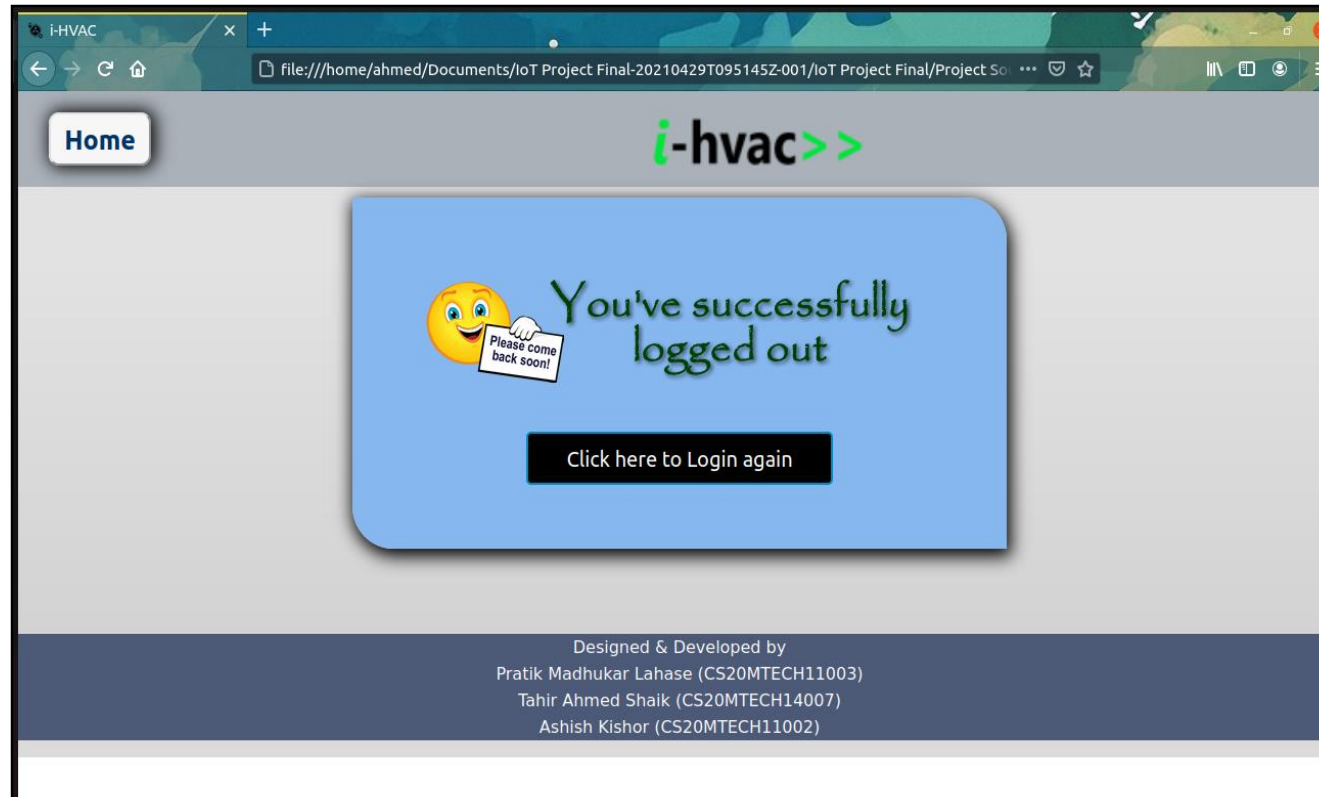


User Interface: Contd..





User Interface: Contd..





References

- [1] https://en.wikipedia.org/wiki/Heating,_ventilation,_and_air_conditioning
- [2] <https://en.wikipedia.org/wiki/Thermostat>
- [3] <https://www.explainthatstuff.com/thermostats.html>
- [4] M. Fukuta, K. Matsui, M. Ito and H. Nishi, "Proposal for home energy management system to survey individual thermal comfort range for HVAC control with little contribution from users," 2015 IEEE 13th International Conference on Industrial Informatics (INDIN), 2015, pp. 658-663, doi: 10.1109/INDIN.2015.7281813.



Appendix



Report



logs.txt



README.txt



THANK YOU!