(12) PATENT APPLICATION PUBLICATION

(21) Application No.202411074085 A

(19) INDIA

(22) Date of filing of Application :30/09/2024

(43) Publication Date : 11/10/2024

(54) Title of the invention : AI POWERED THERMOSTAT AND SERVER FOR HVAC SYSTEMS

(51) International classification	:H04L0067120000, F24F0011300000, H04L0009400000, F24F0011580000, G05B0015020000
(86) International Application No Filing Date	:NA :NA
(87) International Publication No	: NA
(61) Patent of Addition to Application Number Filing Date	:NA :NA
(62) Divisional to Application Number Filing Date	:NA :NA

(71)Name of Applicant :
  1)Chitkara University
    Address of Applicant :Chitkara University, Chandigarh-Patiala National Highway, Village Jhansla, Rajpura, Punjab - 140401, India Rajpura ----------- ----------
  2)Chitkara Innovation Incubator Foundation
Name of Applicant : NA
Address of Applicant : NA
(72)Name of Inventor :
  1)Dr. Gaurav Sharma
Address of Applicant :Associate Professor, Department of Interdisciplinary Courses in Engineering (DICE), Chitkara University Institute of Engineering and Technology (CUIET), Chitkara University, Rajpura, Punjab-140401, India Rajpura ---------- ----------
  2)Raghav Verma???
Address of Applicant :3262 Ground Floor Sector 40D Chandigarh-160036 , India Chandigarh ---------- ----------
  3)Ramanjot Kaur
Address of Applicant :Village Thuha, Teh. Rajpura,Dist. Patiala,Punjab, Pincode-140417 , India Rajpura ---------- ----------
  4)Pushkar Garg
Address of Applicant :B-1/3911 Mohinder Ganj Rajpura Punjab 140401, India Rajpura ---------- ----------
  5)Dr. Vinay Kumar
Address of Applicant :Executive Director, Department of Computer Science and Engineering, Chandigarh Group of Colleges, Jhanjeri, Punjab- 140307 Jhanjeri ----------- ----------
  6)Dr. Sandeep Kumar
Address of Applicant :Faculty, School of Engineering and technology, BML Munjal University, Gurugram, Haryana-122413 Gurugram ---------- ----------

(57) Abstract :
ABSTRACT The present disclosure introduces an AI powered thermostat and server for HVAC system 100 which is a smart system designed to optimize energy efficiency and comfort through advanced data analytics and automation. The system comprises of IoT server 102, which communicates with thermostats 104 equipped with various sensors comprising of temperature 114, motion 116, air-quality 118, humidity 120, air-flow 122, and ultrasonic 124 sensors. These sensors collect real-time environmental data that is processed by IoT server using AI to adjust HVAC operations dynamically. The on-site data storage 106 and off-site data storage 108 ensure secure and accessible data management, while the thermostat driver board 110 and E-ink display 112 provide user interface and control. Additionally, the system integrates a solar panel 126 to power the thermostats sustainably. The invention enhances building management by reducing energy consumption, improving occupant comfort, and providing remote access through an integrated web portal. Reference Fig 1

No. of Pages : 23 No. of Claims : 10