YESHWANTRAO CHAVAN COLLEGE OF ENGINEERING, NAGPUR

(An Autonomous Institution Affiliated to RashtrasantTukadoji Maharaj Nagpur University)

DEPARTMENT OF INFORMATION TECHNOLOGY

IoT Based Smart Wardrobe

(Semester Long Internship Project Undertaken At Information Technology)

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Abstract: Everyone desires to have their favorite clothes last long, enabling them to look their best in public. The quality of clothing is closely linked to how they are stored and the surrounding factors that can affect them. Factors such as air quality, temperature, and humidity can have a significant impact on the quality of clothes stored in a wardrobe. High levels of humidity can cause mold to grow on clothes, which can damage them. Therefore, it is important to maintain optimal air quality, which can be achieved automatically and monitored regularly using a mobile device. So We have aimed to make an IoT smart wardrobe that will monitor various parameters such as odor, humidity, and load. The data from these sensors will be analyzed using an intelligent algorithm to determine the optimal conditions for storing clothes.

Introduction:

In recent years, the world has witnessed a significant transformation in the way we interact with technology. The Internet of Things(IoT) is one of the innovations that have greatly impacted our lives. This IOT project aims to create a smart wardrobe that uses an Arduino Uno, a DHT11 sensor, an odour sensor, and a load sensor to monitor and control the wardrobe. The DHT11 sensor will measure the temperature and humidity level inside the wardrobe, while the odour sensor will detect any unpleasant smells that may be present. Additionally, the load sensor will check the load for each shelf and determine which shelf is less used. The smart wardrobe will be able to provide users with real-time data on the condition of their clothes and the environment inside the wardrobe. The load sensor will allow the user to determine which shelf is less used, making it easier to organize the wardrobe and plan storage.

Simulated Designs:

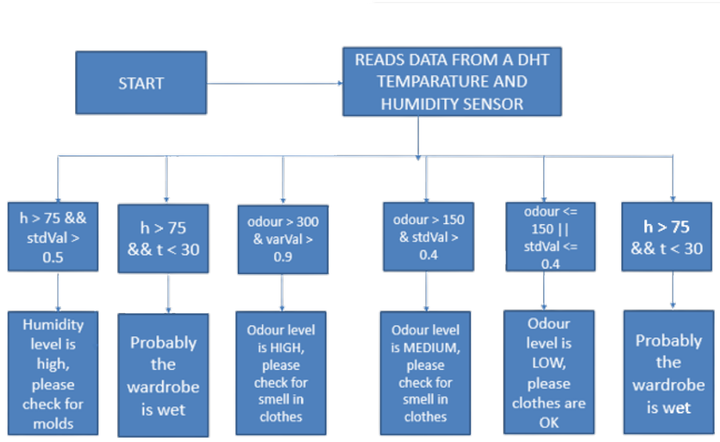

Fig.1 : Workflow of function of Smart Wardrobe

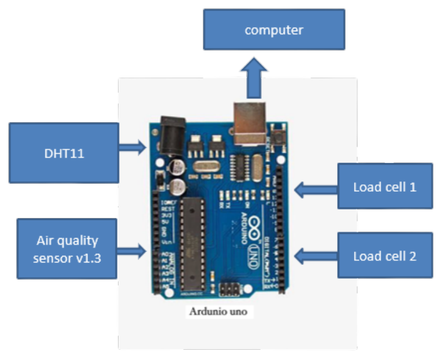

Fig.2 : Ardunui uno

Conclusion and Future scope:

Conclusion: the development of a smart wardrobe using an Arduino DHT11 sensor, odour sensor, and load sensor is a promising application of IoT in the wardrobe systems. The aim of the project was to create a system that can monitor and control the environment inside the wardrobe, detect odours, and check the load for each shelf. The project has demonstrated the potential of using IoT in wardrobe systems to create a more efficient and convenient solution for maintaining a wardrobe. With the use of sensors and an Arduino Uno, user can monitor and control their wardrobes remotely, making their lives easier and more convenient.

Future Scope: Future improvements to the smart wardrobe system could include the integration of machine learning algorithms to predict when clothes need washing or dry cleaning based on their condition & usage. Additionally, the use of RFID tags on clothes could enable the system to track each item of clothing and provide users with details.

Simulation results:

Fig.3. Wardrobe without clother

Fig.4. Wardrobe with clothes

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Temperature = 24°C | 75.20°F
Humidity = 60%

Odour = 100

Load Cell 1
2.11
Odour level is LOW, please clothes are OK
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Fig.9. Normal humidity, normal temperature, low odor variance

CO\PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	√	√	√	√	√			√	√	√		√	√	√
CO2						√	√	√	√	√	√		√	√
CO3		√	√	√									√	√
CO4					√							√	√	√

Signature of Guide