A Smart plant pot: for a greener tomorrow

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Introduction

Most people already know the significance of plants to our beloved home ;earth, yet taking care of plants might be perceived as more challenging these days due to various factors ; Changes in climate patterns, increased urbanization leading to limited green spaces, and the rise of indoor gardening with diverse plant species can contribute to complexities in maintaining ideal conditions. Additionally, busy lifestyles may result in less time for plant care. However, advancements in technology, such as our smart plant care device, can assist in overcoming these challenges by providing automated solutions and real-time monitoring.

Design

The project's design is simple yet efficient ; firstly a reading of the water level is read by the sensor if the water is not enough for the next watering a buzzer will go , alerting the user to fill the water container. Secondly the watering process is based on a timer (**timer 0 interrupt**) using a water pump taking into consideration the needed amount of water for the plant. Then the (**ATD**) reading from the temperature sensor is used to determine the speed of the fan needed depending on the situation as shown in (**figure 1**) using the concept of (**PWM**) . All sensor readings and data that might come to use for the use about the plant are displayed on a LCD.

Figure 1: flow chart

Design

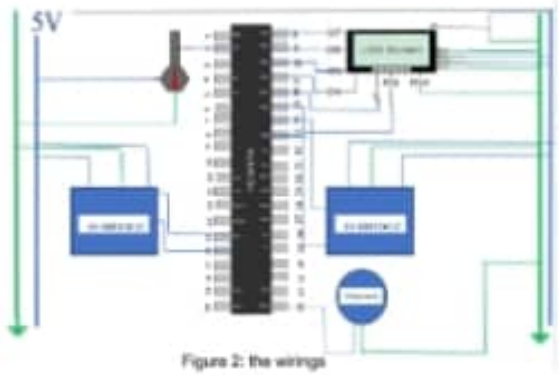

Figure 2: the wirings

Result

The project didn't turn out as we initially intended but Our water pump, temperature sensor(ATD),fan(PWM) and lcd worked

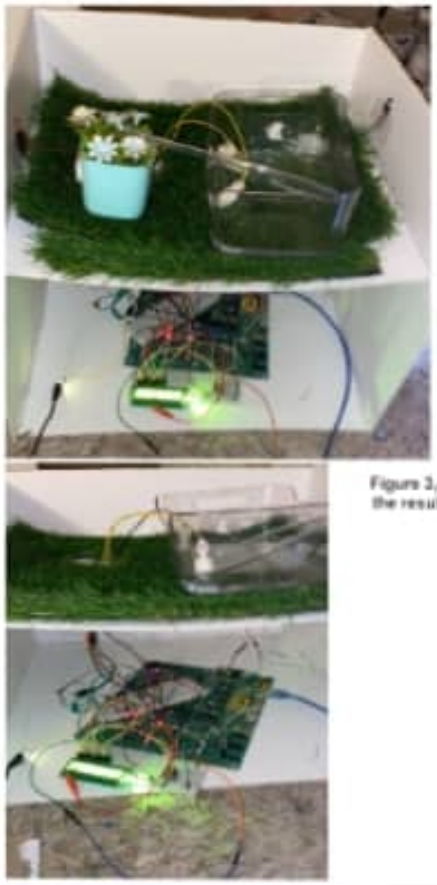

Figure 3,4: the results

Conclusion

Our project does not only simplify the gardening experience for enthusiasts but also fosters an environment where even novices can cultivate a thriving indoor garden. Not to mention that it addresses the challenges of contemporary plant care but also contributes to a greener and more technology-driven future. The smart plant provides an ecosystem where environmental factors are precisely controlled, optimizing conditions for plant growth while conserving resources . bringing us closer to a future where plant care is not just a responsibility but a delightful and stress-free experience.