FACULTY OF ENGINEERING

UNIVERSITY OF RUHUNA

EE6304: EMBEDDED SYSTEMS

AUTOMATED AEROPHONICS SYSTEM

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CHAPTER 1 : INTRODUCTION & SCOPE OF THE PROJECT

Currently agriculture field tend to automated same as other technology fields. At present time smart farming labeled as a trend. As we know agriculture plays major role in the world because every human lives depend on this field. So engineers tend to find methods to increase harvest by using technology.

aeroponics is the process of growing plants in an air or mist environment without the use of soil or an aggregate medium. [1]. There are so many planting methods nowadays. But it is a big problem that soil quality begins to get spoiled because of the harvesting of crops. So world looking for alternative methods to grow fresh crops by decreasing deterioration of the soil. Because of this fact, aeroponics agriculture will become more popular nowadays.

There are so many advantages of using aeroponics systems. [2]

- Quicker, more vigorous rooting
- Less maintenance
- Cleaner, so less chance of disease.
- No need to purchase or prepare growth media.

Our aim is to develop an automated aeroponics system which can allow farmers to manage the system remotely and monetarize status of their crops.

CHAPTER 2 : SPECIFICATION OF THE PRODUCT

In this proposal we propose to develop an IoT based automated aeroponics system. Because IoT based systems are developing as a trend nowadays. As we need to embarrass trending technology and for learning purposes we decide to develop an IoT based system. Our main target is to develop a system which farmers allow to control it remotely using a mobile phone or web dashboard.

Let’s move on to our project specifications.

- The system has indicators which sense the liquid level of the reservoir.
- Measure the flow rate of the nutrition mist.
- Measure the humidity level and the temperature of nutrition mist.
- Monetarize the system and crops using video feed using a camera.
- Remotely visualize data on the web dashboard or android platform and take action depending on the report
- Remotely switch ON & OFF the mist machine to control the humidity level

CHAPTER 3 : BLOCK DIAGRAM OF THE PRODUCT

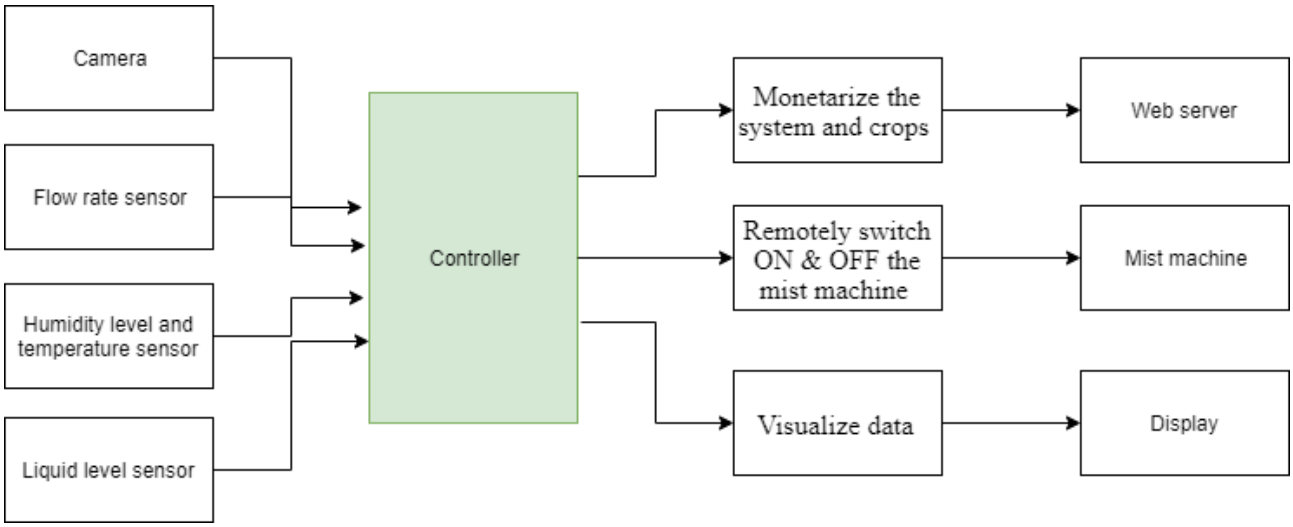

Figure 01 : Block diagram of the product

CHAPTER 4 : REFERENCES

[1] "Wikipedia," [Online]. Available: https://en.wikipedia.org/wiki/Aeroponics.

[2] "JUST4GROWERS," [Online]. Available: http://www.just4growers.com/stream/propagation/aeroponic-cuttings-pros-and-cons.aspx.