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# Detecting and Monitoring Delay in Aircraft

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- ABSTRACT

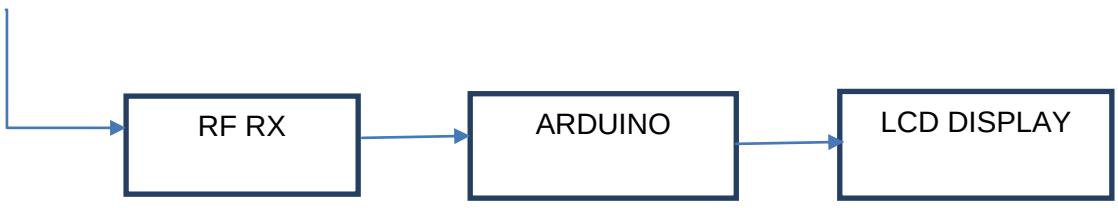
*The initial condition pilot will send the commands to airport authority, based on the weather, flight can be arrived on time / either it can be delayed due to climatic changes, all the weather values displayed in LCD. When time delay happened as with actual time and delay of arrival time will be updated in airport authority, so passengers knows the delay information before arrival of the flight. During this process, the controller simultaneously has to announce the arrival of flight , and its time. Once the flight has landed, arrival message will be popup on LCD Display. Using the system, the air traffic controller communicates with the pilot. Every pilot in his aircraft is provided with another Wi-Fi connection for retrieving and sending the messages.*

***Keywords:*** *Arduino UNO, Aircraft, Ultrasonic sensor, Weather sensor.*

## 1. INTRODUCTION

To provide a platform for autonomous communication in the airport and the aircraft. To provide airport weather forecast. Before landing, the arrival time of the aircraft is announced automatically through LCD display. The situation in India is all using manual communication between the airport and aircraft. The airport personnel will check out for the climate conditions using web applications, runway parameters, air traffic, and variables other information and report it to the pilot. Having all the runway parameters, then the pilot decides whether to land immediate or wait for sometime. In this process of manual operations, there may be some human errors occurring leading to disasters. Therefore, to reduce the manual efforts and human errors, we need to have some kind of automated system monitoring all the parameters and the functioning of the communications between the pilot and the airport personnel.

## 2. BLOCK DIAGRAM




Fig(2.1):block diagram of airport

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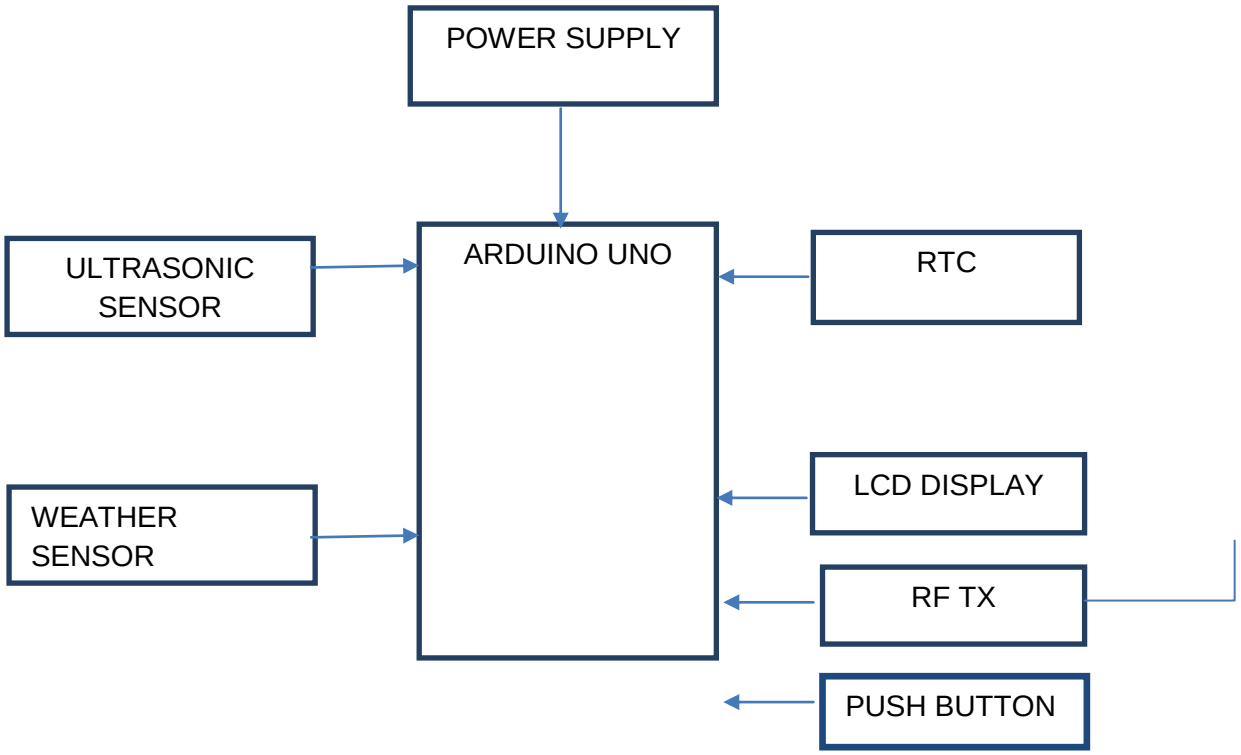
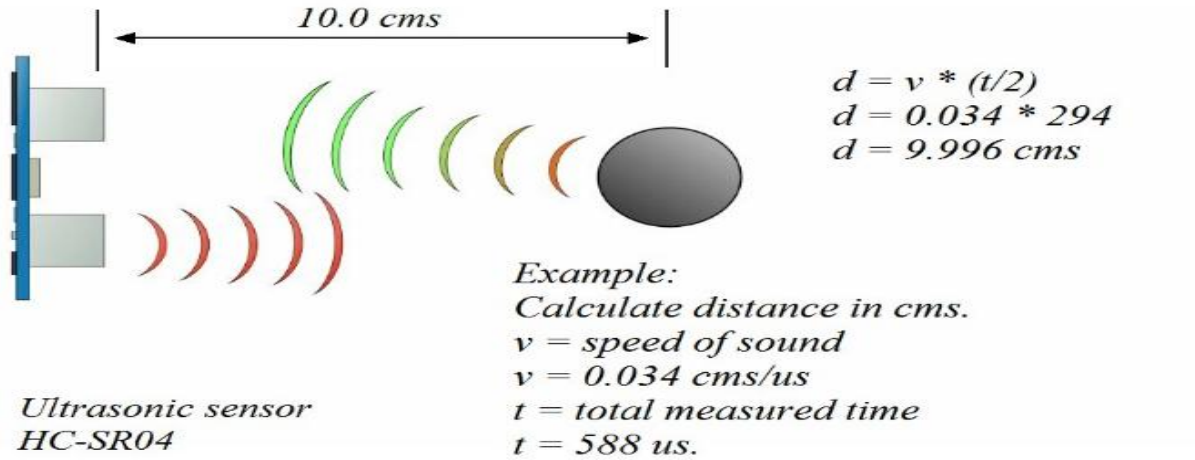



Fig(2.2): block diagram of aircraft

## 3. INDENTATIONS AND EQUATIONS




Distance = duration*0.034/2

## 4. THE HARDWARE SET UP

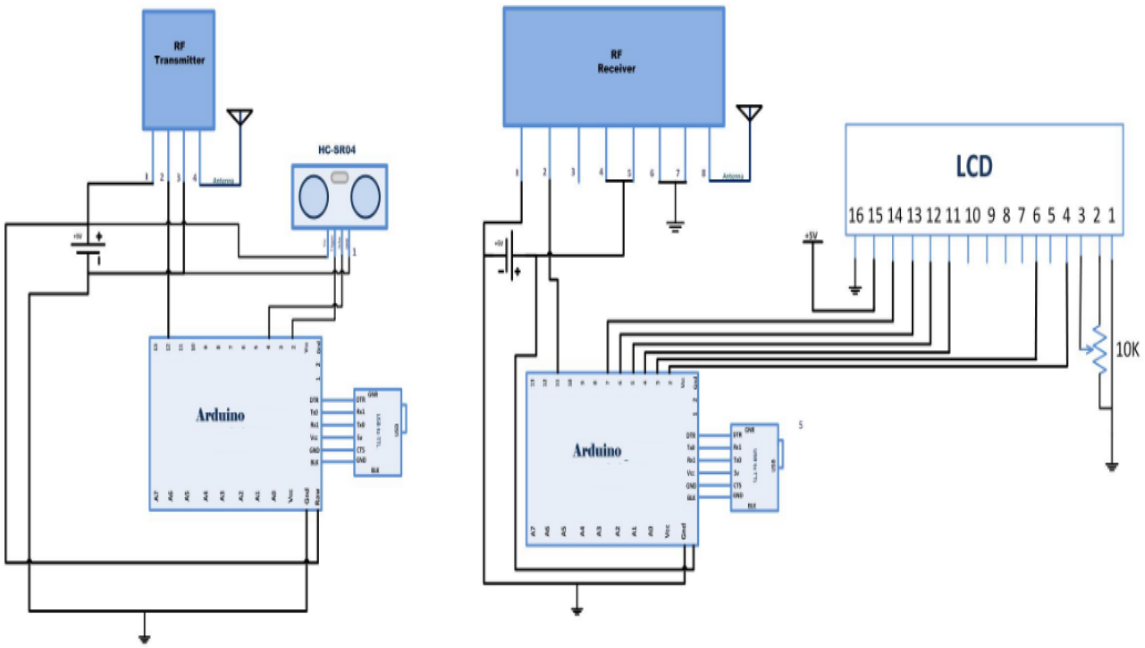



**Fig (4.1). Hardware set up of Aircraft and Airport.**

## 5. FIGURES AND TABLES

| HARDWARE REQUIREMENTS | SOFTWARE REQUIREMENTS |
|---|---|
| 1.Arduino UNO<br>2.Ultrasonic sensor<br>3.DHT sensor<br>4.RF Receiver<br>5.RF Transmitter<br>6.LCD Display<br>7.PUSH Buttons | 1.Arduino IDE<br>2.Embedded C |

## 6. CONCLUSION

As mentioned above, in this paper we have explained about the weather forecast for the aircraft to move smoothly and this project detects and monitors the delay in Aircraft. Here we use ultrasonic sensor for a demo which tells us about the flight distance from Airport and the time required for the Aircraft to reach the Airport. Here we use real time clock to show the delay.

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