**AGROBIRDS**

Agrobirds Intelligent Poultry Health Monitoring, Eggs Hatching & Incubator using IOT Agriculture 4.0 & Cloud Bases



A thesis submitted in partial fulfillment of the requirements

for the degree in Computer science.

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

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**INTRODUCTION:**

Agrobirds is the more advanced incubator based on agriculture 4.0 and IoT. It will facilitate farmers in producing more hatching than poultry birds. In this artificial womb, you can hatch the eggs of nearly all birds and reptiles.

**PROBLEM STATEMENT:**

A hen's hatching process is extremely slow. The hen lays 12-15 eggs at a time. Agriculture advancements result in not only the hatching of the hen but also the hatching of multiple birds. Except for a hen, there is no incubator capable of hatching multiple bird eggs.

**OBJECTIVES:**

1. To Designing and developing IoT based Smart Poultry Farm with Cloud and Android App.
2. To Designing and developing a real time monitoring & controlling system e.g. Temperature, water, Humidity and Light.

**RESEARCH ARCHITECTURE:**

Agrobirds Incubator is based on IoT. In this incubator, we are using ESP32 for controlling temperature, ultrasonic, humidity, fan, and 4-channel relay to automate this incubator.

**RESULTS:**

The result below were obtained when operating the incubator under different environmental or weather conditions. In the temperature fell below the normal operating temperature range. The temperature display unit reading shows 34.1 degrees Celsius and a relative humidity reading of 24.4%. This triggered, through temperature sensor, the bulbs to switch. When the temperature has reached the upper value of the temperature range, 39 degrees Celsius, the lights switched off as shown where the temperature reading was 39.2 degrees and the lights went off. The relative humidity reading was 18.7%. Regarding the turning of egg tray on either side of the axle, such turning. When it was supplied with power. The countdown of days (balance of days), starting with 21days, before hatching. The counter enables the user to make prior preparation form the small chicks before hatching. Bulbs are ON when temperature is below 36.5°C.

**CONCLUSION:**

Agrobirds are a more advanced version of the incubator that hatches not only chicken eggs as well as the eggs of other birds and reptiles. It will be extremely productive who raise chickens and other poultry birds. It is also beneficial to the medical forum that is developing medicine from reptiles. The eggs of the reptiles were also hatched by the agrobirds. It will benefit the agricultural industry.

**GIANTT CHART:**

