

EDARAN TERHAD

R&D Collaboration Presentation

Reban Ayam Kampung Moden

(advance automation using IoT and IR4.0 Technologies)

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The Need for Food Security

- Wabak covid19 telah mengingatkan kita akan kesan yang lebih besar jika negara dilanda bencana yang lebih teruk seperti peperangan dan bencana Alam.
- Kenaikan harga ayam yang diluar kawalan mampu dibendung dengan penggunaan teknologi yang lebih 'distributed'.

The System Objectives

- Tujuan pembangunan sistem ini adalah untuk mengautomasikan proses penjagaan ayam dan pengambilan ayam untuk dihantar kepada tempat penyembelihan.
- Melalui sistem ini kita dapat menjaga reban ayam dari jauh dan hanya perlu ke reban apabila berlaku kecemasan atau hal-hal yang penting sahaja.

Kelebihan Ayam Kampung

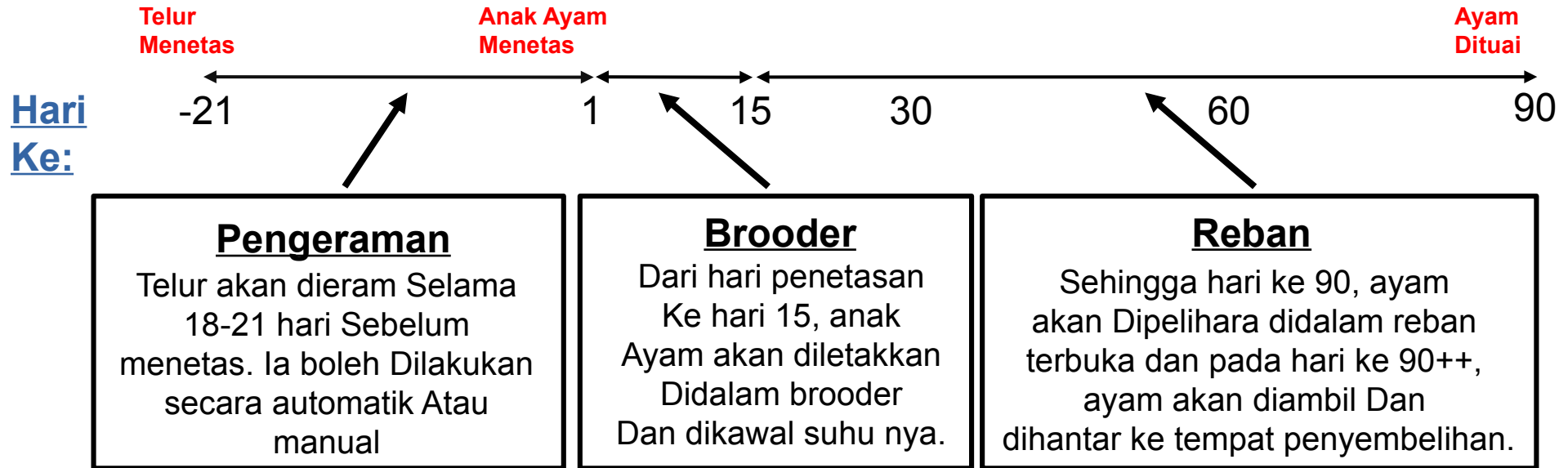
- Baka yang lebih lasak
- Daging yang lebih kenyal
- Lebih sihat
- Pertumbuhan lebih natural
- Baka premium yang mempunyai nilai pasaran yang tinggi

Reban di Bukit Cabang, Perlis



Terletak di atas tanah 5 ekar, binaan Reban seluas 1 ekar boleh memuatkan 8 ribu ekor Ayam dalam satu masa. Terdapat 8 bilik reban dimana setiap bilik seluas 20x60 kaki. Satu Dari 8 bilik reban tersebut digunakan sebagai Prototype untuk Sistem Reban Ayam Kampung Moden ini.

Tempoh Kehidupan Ayam Kampung

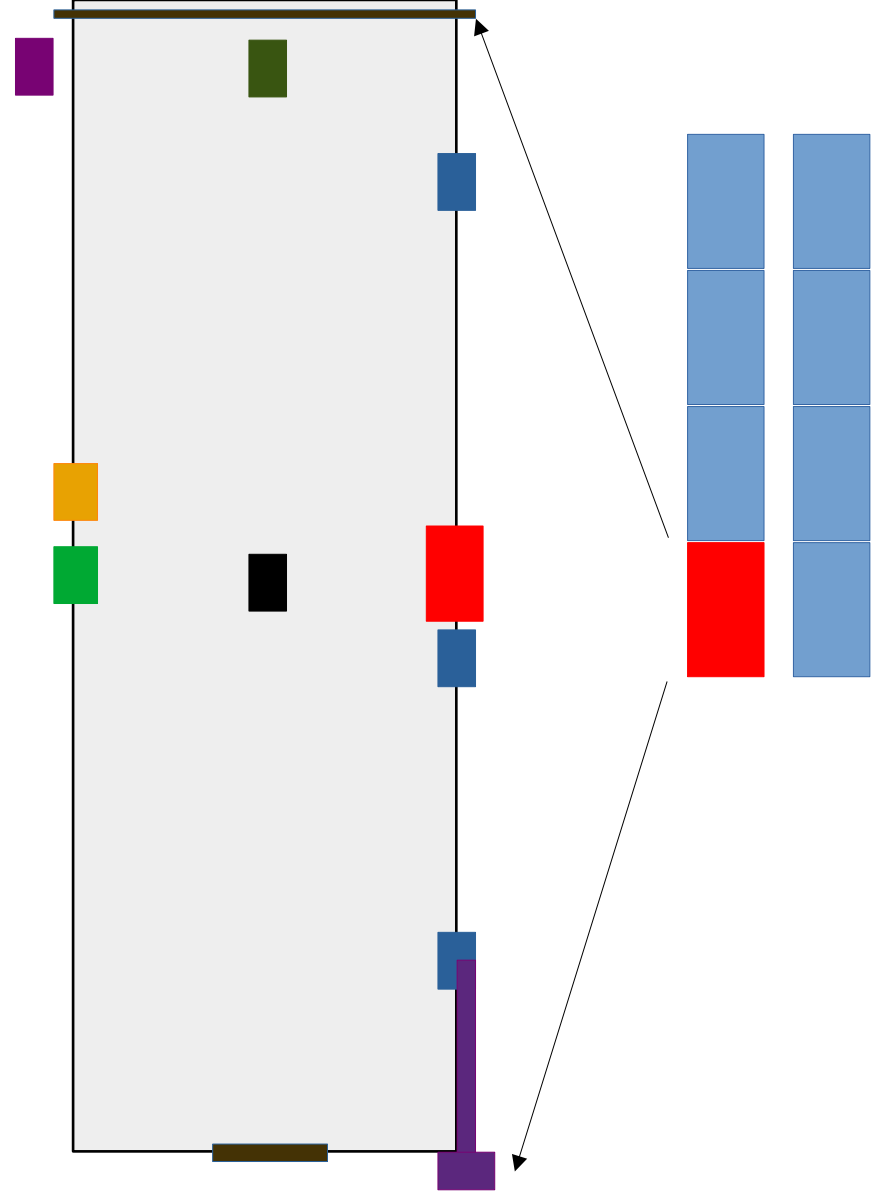
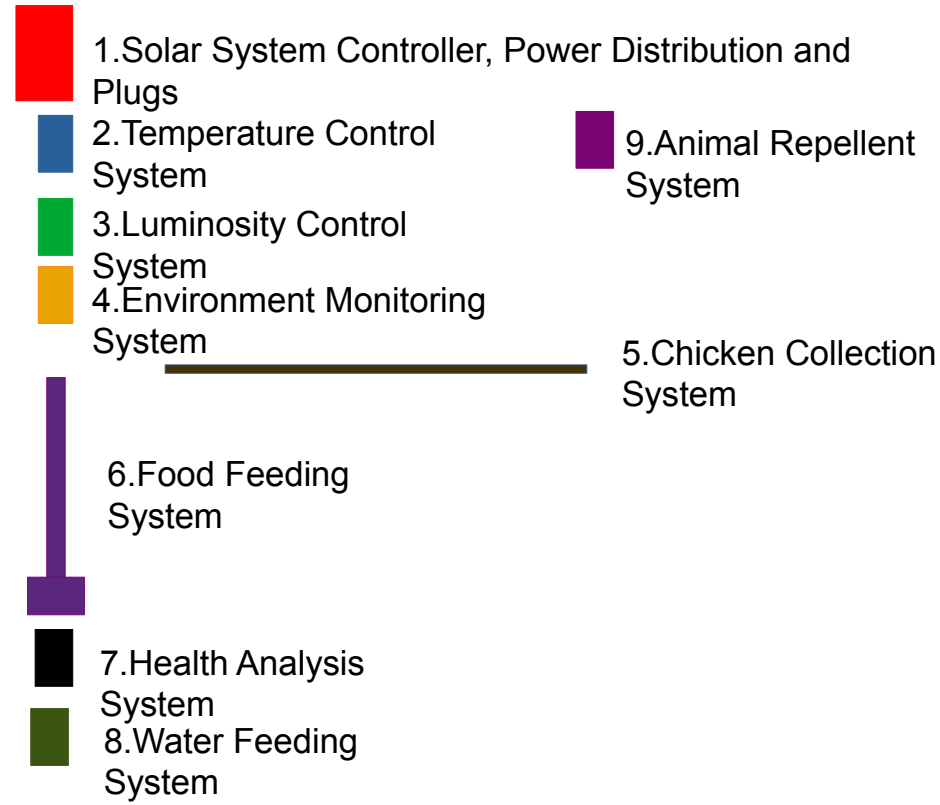


Reban Ayam

Kampung Moden

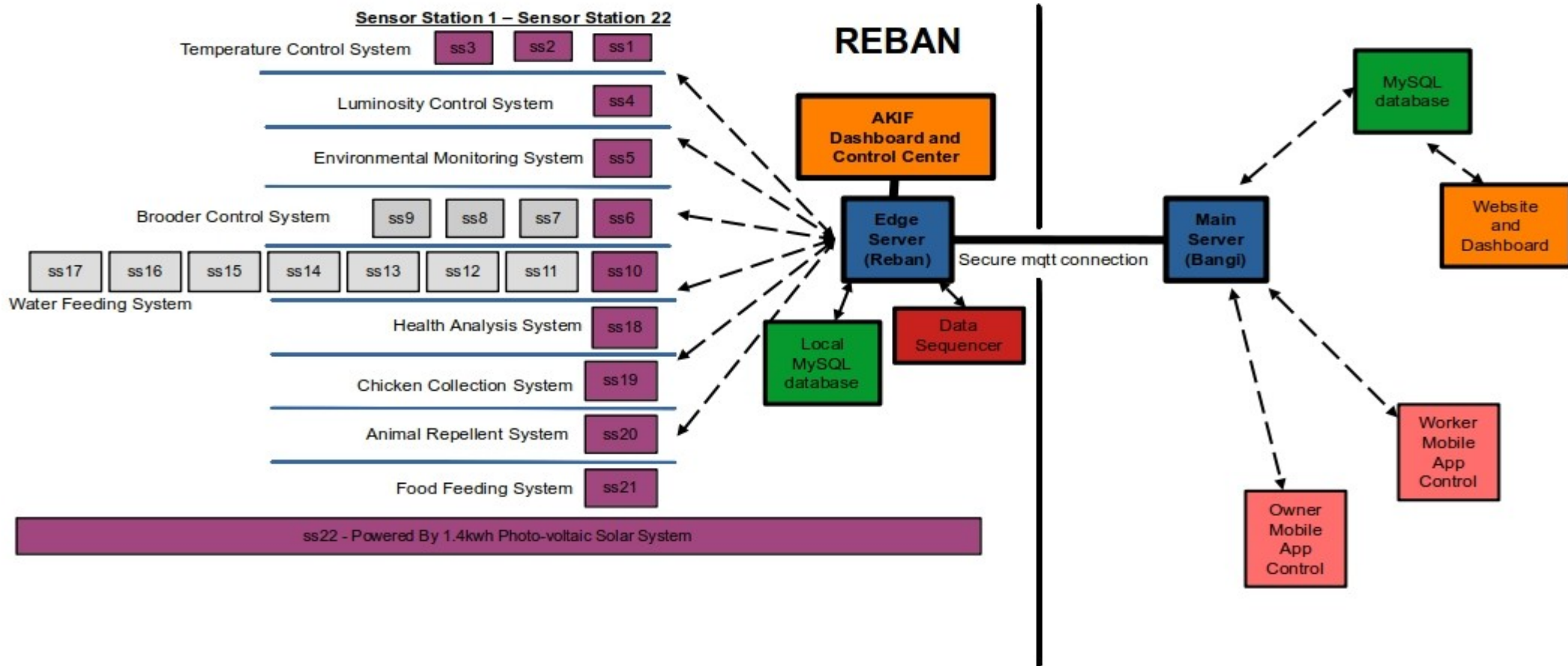
Whole system component on 20'x60'

Reban



Reban Ayam Kampung Modern

IoT System Diagram



Our Reban Features

1

Fully Solar Powered System



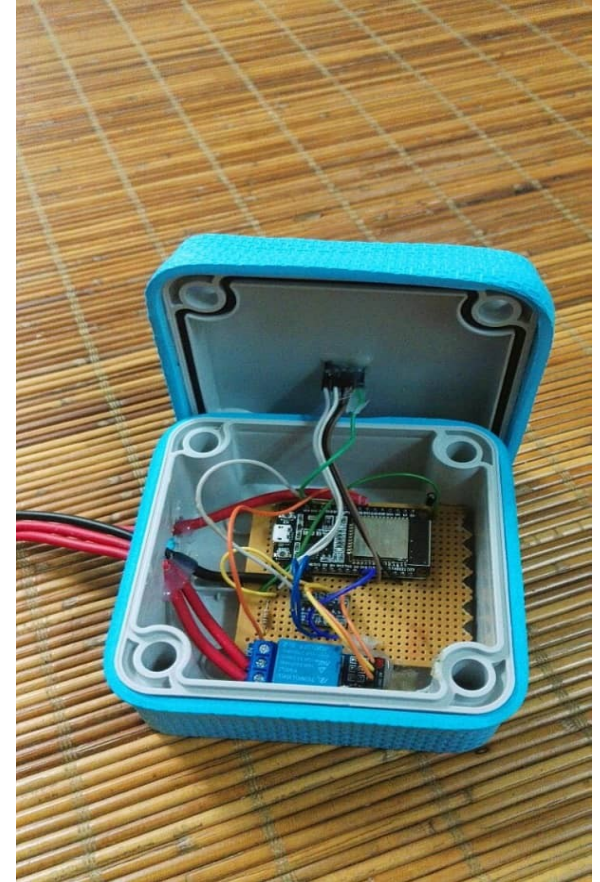
Our system equipped with 1.4kwh Hybrid PV Solar System For sustainable and green energy. All IoT sensor And device controlled is using Solar powered. The system will Use TNB power as backups.



Temperature Control System



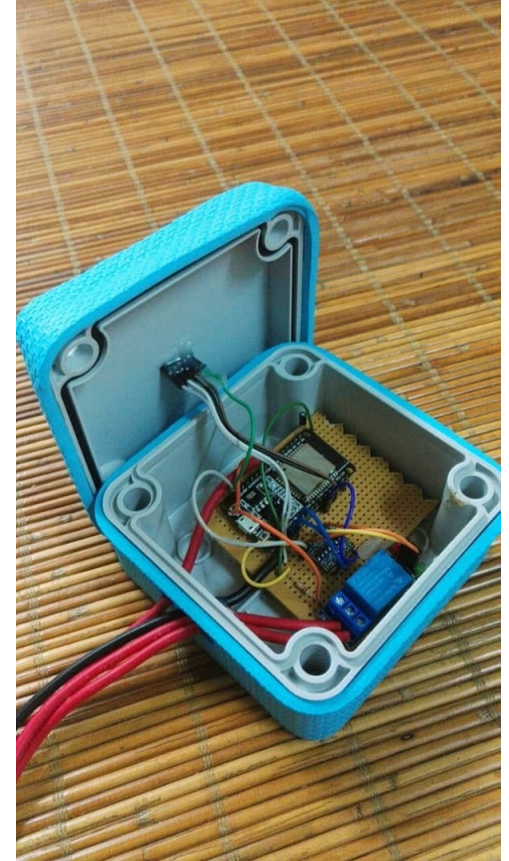
Temperature control system will regulate Reban temperature automatically using sensor or manually using mobile app or normal switch. This enable remote monitoring or control of the temperature inside the Reban.



Luminosity Control System



Temperature control system will regulate Reban luminosity automatically using sensor or manually using mobile app or normal switch. This enable remote monitoring or control of the light inside the Reban.



4

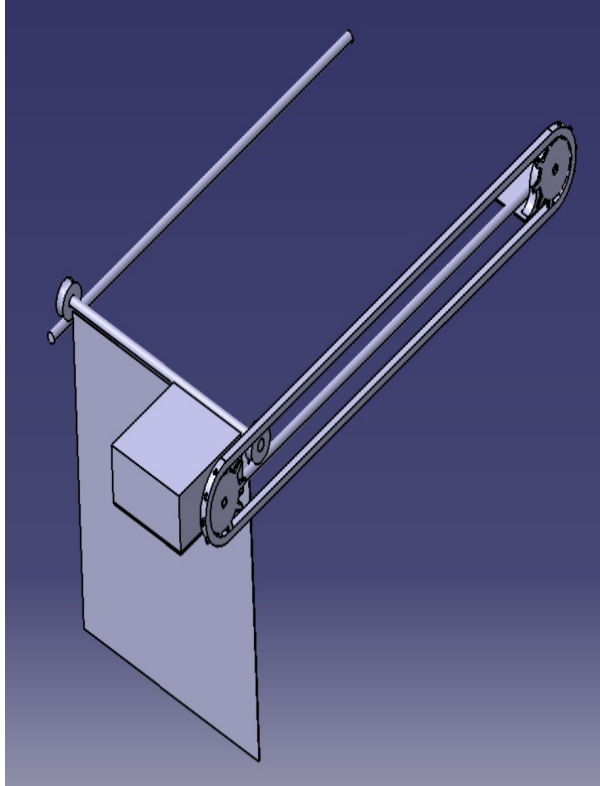
Environmental Monitoring System



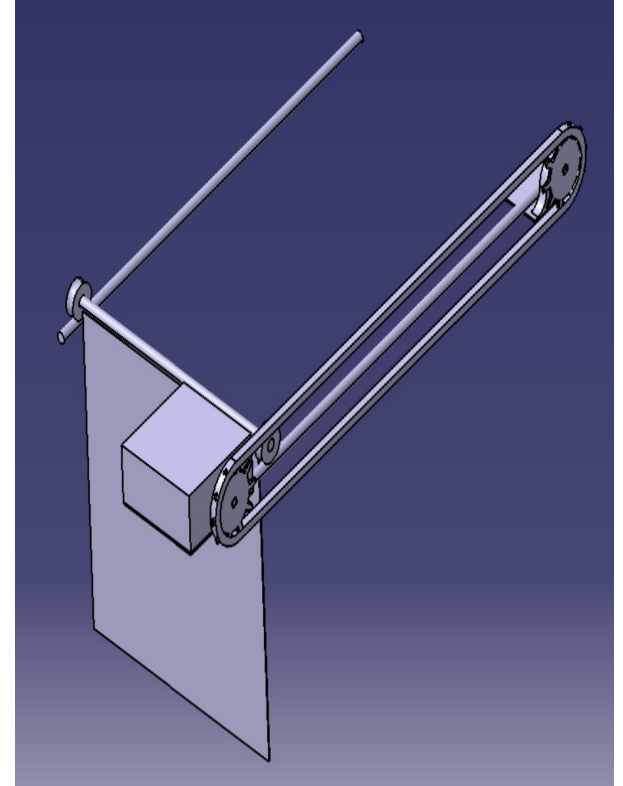
Environment monitoring will Log all the data related to wind speed, rain and air quality. Ammonia reading is also taken and log into database in order to reduce effect to the chicken.



Chicken Collection System

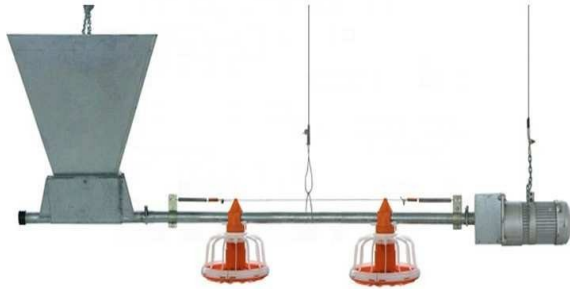


Chicken collection system is a moving wall to help farmers to take the chicken for harvesting. This can help farmers on the time taken for harvesting from 4 hours to 1 hours.

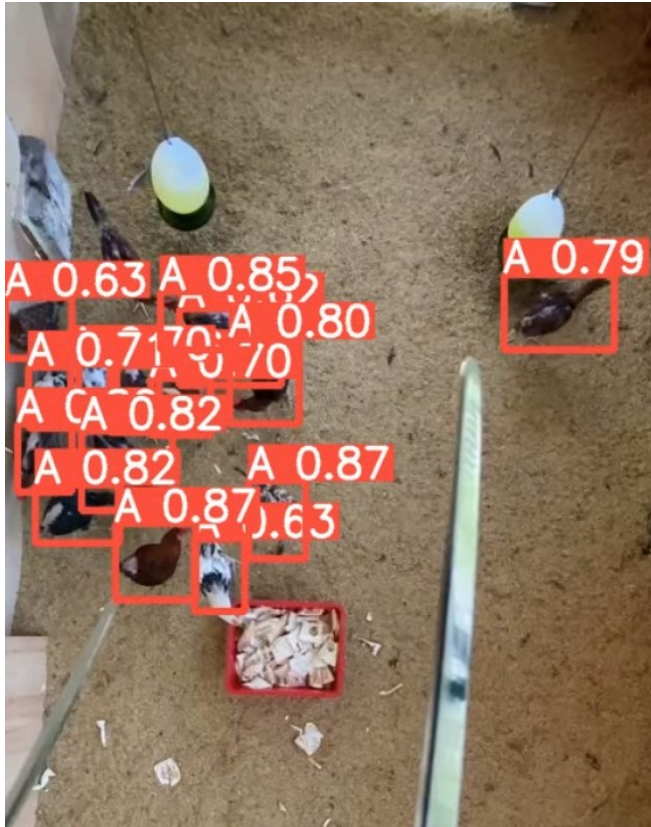


Food Feeding System

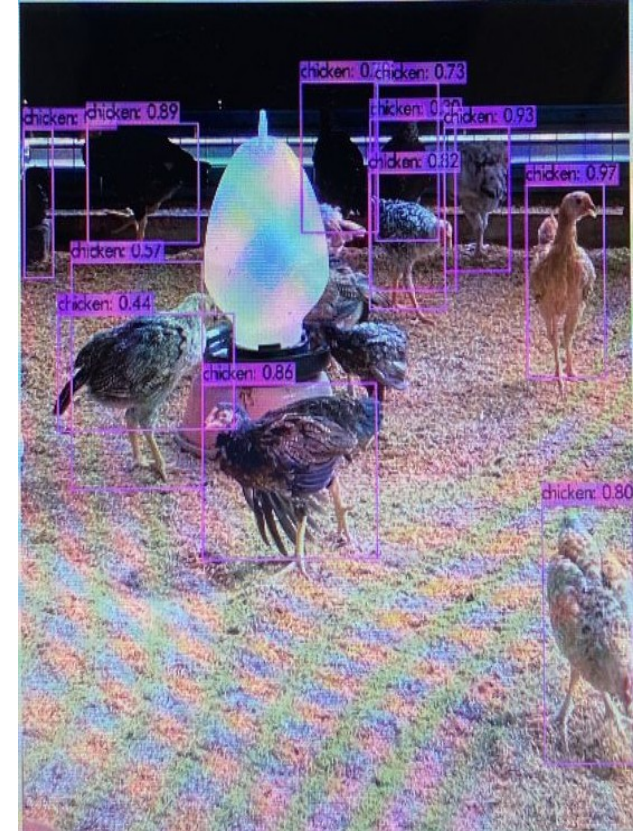
Food Feeding System
enable the automatic food
feeding to the chicken and
enable sensor notification
when food is in needed
and reducing in amount.



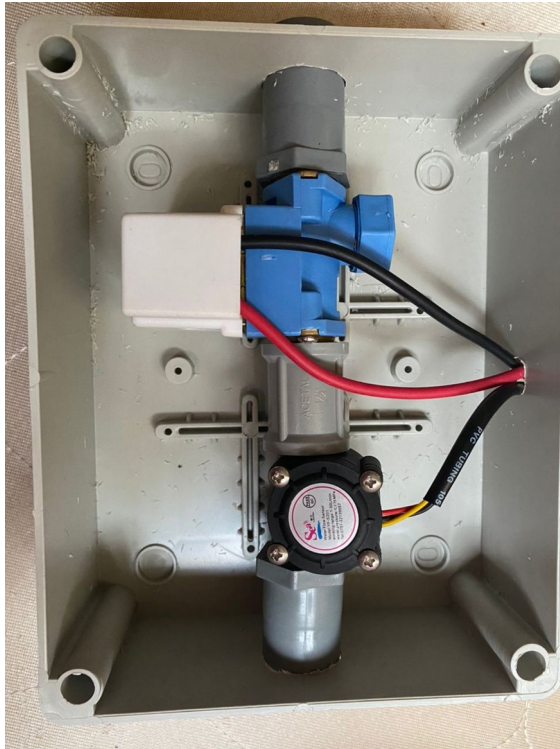
Health Analysis System



Health analysis system is a real time system that measure the activity of each chicken and tag the chicken to calculate the movement of each chicken. The data will be log and in active chicken will be notified to system administrator.



Water Feeding System



Water Feeding System enable the automatic water feeding to the chicken and enable sensor notification on the amount of water that drink by the chicken. It also have valve control to cut off the supply when needed, automatically or manually.



Animal Repellent System

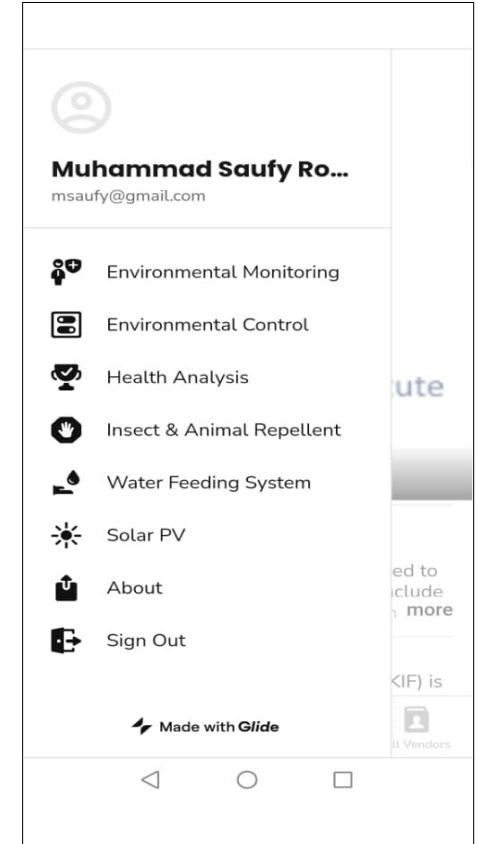
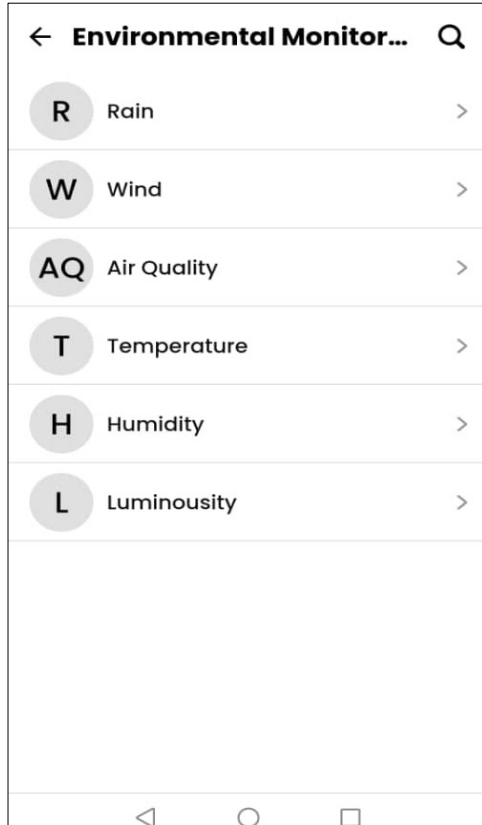


Animal Repellent System will emit 3 range of frequencies to the intruder's animal and spray poisonous water to the intruders. It also will turn on buzzer and red laser to repel the attacker. The data is log to the server and farmer is notified through mobile app.

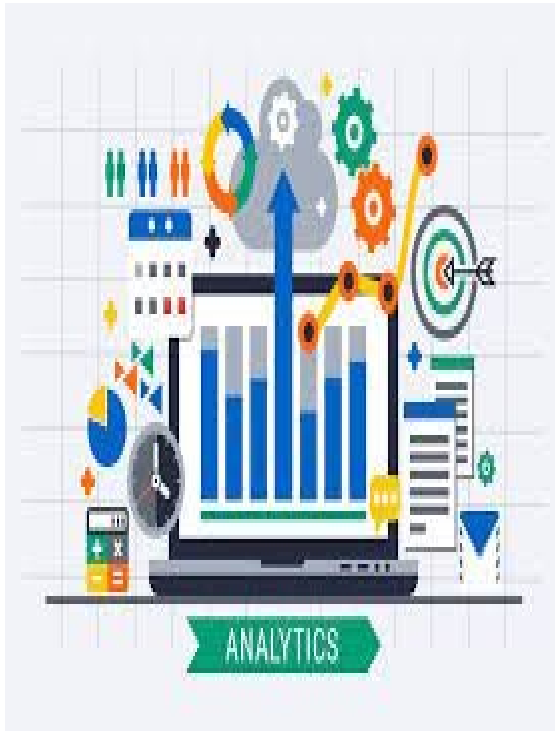


Mobile Application

Mobile application is where administrator manage the Reban and monitor the data.



Analytic and Machine Learning

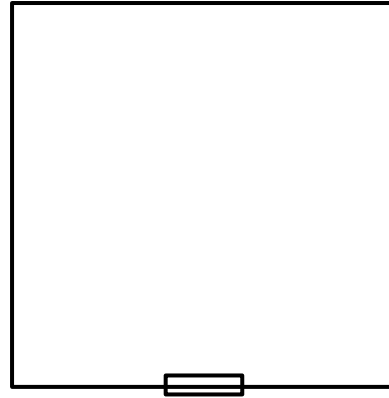


Data pattern and analysis will be performed on the collected data to produce meaningful patterns for the yield optimization of Ayam Kampung. This will be the asset for the development of the best ayam kampung livestock industry.



Individual Unit of Reban

Is a 20'x20' reban pasang siap equipped with all the required system to monitor and control the reban remotely.



It is a community based system that can be installed anywhere.



TERIMA KASIH

