

## ABSTRACT

*Animal physiology is a condition in which livestock are in certain conditions, either in normal/healthy conditions or in uncomfortable/sick conditions. The physiological state of livestock will always be directly proportional to environmental conditions, because the health of livestock is influenced by several factors, namely the environment, habits and feed consumed.*

*Often encountered in several areas in Indonesia, cattle breeders still apply the free livestock system based on cultural influences or because it is based on the busyness of the farmers who are not always able to provide adequate feed for their livestock. With the free livestock system, farmers find it easier to do their other daily work, but besides that livestock owners are not able to control and monitor their released livestock so that in many cases farmers lose their own livestock.*

*This research project presents the design and implementation of a tool that has the ability to monitor the health and presence of cattle. This monitoring system is accompanied by sensors that can capture various information that cannot be seen by the eye such as temperature, heart rate, and the presence of cows when outside the cage. In this study the author uses an Arduino Mega Mini 2560 Pro which is connected to the internet and several sensors. Arduino Mega mini 2560 Pro is responsible for sending data to the Application Programming Interface (API) to be forwarded to the database. The internet source used is the SIM7000E module which can connect the system to the internet in a wide range.*

*From the data that can be seen the system can work well. In addition, the RTT required for PING is 238 MS and the average time required for sending SMS is 16.7 seconds, when monitoring the condition of cattle, 30 data are read and sent by the system to the database, and the time required is about 35 minutes, speed reading gps on internet network and signal in that area.*

*Keywords: Internet of Things (IoT), Heart Rate, GPS, and Body Temperature.*