Livestock Information System using Android Smartphone

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Abstract—These days livestock farming can contribute to the huge profit income to the farmers. The main element must be considered in order to ensure the animal is in good condition is by monitoring the health status. The health data collections in the field such as core body temperature, heart rate, medications, call for fast and accurated method, which allows repeated measurement through time. One of the popular technique for measuring the spatial distribution and temporal variation of livestock health data content is by using Android Smartphone. In this paper we present the development project called Livestock Information System (LIS) on Android Smartphone to access continuously the animal state of health data. This project use Android operating system where equipped with bluetooth technology where it will communicate and process the wearable health sensors reading and display the exact temperature and heart rate of the livestock. In order to gather statistical data from mobile based to PC via web services, Google Cloud Storage enable this interaction. This device is reliable and accurate in determining the livestock health status.

Keywords—Android; Smartphone; Livestock; Health; Wearable Sensors.

I. INTRODUCTION

The livestock is one of the branches of the agricultural component that can produce other items such as food, dairy products and labor. In this study, we focused on cattle breeding although there are some fish and shrimp farming.

Livestock diseases compromise animal welfare, reduce productivity, and can infect humans. Animal diseases may be tolerated, reduced through animal rearing, or reduced through antibiotics and vaccines. In developing countries, animal diseases are tolerated in animal rearing, resulting in considerably reduced productivity, especially given the low health-status of many developing country herds. Disease management for gains in productivity is often the first step taken in implementing an agriculture policy. Disease management can be achieved through changes in animal rearing field monitoring. These measures may aim to control spread using automated electronic measures, such as and tracing records which mandate the use of RFID. Using the unique numbered RFID tag provides a very efficient method of identifying animals and collecting data far more quickly. Each unique FRID tag can be linked to the database

Ever since the break of Mad Cow disease, it become more important to implement automatic livestock profiling and tracking, so that the consumers of meat and other animal products can be protected from animal-borne diseases [7]. RFID plays a vital role by ensuring complete traceability. The meat industry participants can now control animal diseases by keeping track of the vaccination data on a regular basis and also checking the health of the cattle. During an outbreak of a disease, the RFID animal identification system can easily identify the flocks being affected and those can be isolated to stop further spread of the disease.

In recent years, the existence of different types of wearable sensors with small size and powerful functions has facilitated convenient and comprehensive monitoring of the heart rate and