ABSTRACT

Long distance buses generally have several temporary stop to recheck the number of passengers are same with the initial terminal or not. The calculation of the number of passengers is still done manually. In addition, the temporary stop is often used by drivers, conductors and bus passengers for personal gain. That is take the passengers not at the right spot. And then, falsifying the number of passengers. Therefore, the author will design a system to automatically calculate the number of passengers and a system to identify passengers to find out whether there are illegal passengers or not.

To automatically calculate passengers, the author will use the ODS (Occupant Detection System) sensor. The ODS sensor will be placed on each bus seat and a lot of sensors are needed. Therefore, Bluetooth-based wireless sensor network (WSN) will be used to communicate with controllers. The number of seats filled will be added up and become the number of passengers. The identification system will use several sensors, there are an ODS sensors and switches. From that sensors an identification algorithm will be created to identify the presence of illegal passengers or not.

From the test result, this system can count the number of passengers with an average success 100%. With a reference value to detect humans who sit on the bus seat that is 49 ns. And then, the maximum distance between the ODS sensor and the data collector is 6 meters. And the system can identify the presence of illegal passengers with an average success 100%. In addition, it is also expected to be able to help bus officers to count the number of passengers and minimize the fraud committed by bus officers.

Keywords* : *Passenger identification, passenger counting, AKAP Bus