

SOCIALLY RELATED PROJECTS- COMPUTER SCIENCE AND ENGINEERING

Development of a prototype of Smart Garbage Bins for Smart Cities

The scenario of cleanliness with respect to garbage management is degrading tremendously. Proper garbage management techniques are very crucial to stop the garbage menace which has spread everywhere especially in cities like Bengaluru. With this condition of garbage crisis there is a need of applying a method that improves the garbage problems. Therefore, we are developing a framework that helps classification of garbage using Machine Learning.

Machine Learning based Smart Garbage software is an innovative system which will help to segregate the garbage which helps in maintain the huge dumps. This system analyses the garbage data using camera and predict which garbage is more in percentage in the input mixed trash. The system uses Train and test module using which we train the machine to understand the classification with the help of dataset with classes of garbage. Based on the correctness of the classification the accuracy is calculated for total classification done. The system predicts garbage that is more in number form the mixed garbage image input. The classification helps to manage the dumps and to know which dump is produced in most. Smart Garbage software is a prototype which present an efficient method to classify and predict the type of garbage produced. From this the maintenance, collection and recycling of the garbage becomes much easier and hence it will reduce the pollution.



Figure 1: Percentage of Paper present in the mixed trash.



Figure 2: percentage of plastic in the mixed trash

Design and Deployment of a Smart Touch-less Sanitizer Dispenser at Work Places using IoT

Demand for hand sanitizers has surged since the coronavirus broke out and spread around the world. Hand sanitizers are usually applied by squirting the sanitizer liquid when one presses a pump with one's hand. This causes many people to come into contact with the pump handle, which increases the risk of viral transmission. Some hand sanitizers on the market are automatically pumped. However, because sanitizer containers and pump devices are designed to be compatible only between products produced by the same manufacturer, consumers must also repurchase the container for the liquid if they replace the hand sanitizer. Therefore, this paper suggests the design of an automatic hand sanitizer system compatible with various sanitizer containers.

Traditional method of washing hands with soap and water, although the most effective method to rid of germs and impurities, proves to be a cumbersome process. Hence, in both healthcare and community settings, alcohol-based hand sanitizers have become a popular alternative to the traditional handwashing with soap and water.



Figure 1: Indicating Sanitizer Level



Figure 2: Detected a Person



Figure 3: Message Display to Stand Close



Figure 4: Displaying Temperature



Figure 5: Person's Temperature being Normal



Figure 6: Granting Access



Figure 7: Place Hand below to Sanitize Message Display



Figure 8: Dispensing Sanitizer