System to Monitor Environmental Pollution

T.N. de Silva[1], D.K. Withanage[2]

Faculty of Information Technology, University of Moratuwa, Sri Lanka

tharinidesilva@gmail.com[1], withanage@itfac.mrt.ac.lk[2]

Abstract

Litter, or misplaced waste and trash, is one of the predominant causes of environmental pollution. It is a major contributor to soil and water pollution and has a devastating effect on agriculture. Litter pollutes irrigation water, damages soil composition and contributes to climate change which causes changes in weather patterns. Other adverse effects include damage to natural vegetation and wildlife, outbreaks of disease resulting in the loss of human lives and damage to national heritage sites. Public littering has become an escalating problem in Sri Lanka. However little is being done to mitigate the situation. The main reason for the lack of solutions is the amount of man power needed to constantly monitor public locations for instances of littering. Even though there is a certain percentage of the population willing to contribute to handling the situation they have no direct method of notifying authorities of such cases. The Public Littering Monitoring System proposed in this paper is an approach to utilize the assistance of the general public to continuously monitor instances of littering in public locations. Photographs of cases of public littering, taken at their respective locations by members of the general public is uploaded to the system via a publicly available website as input. The system will process these inputs and recommend the most critical cases of littering based on various criteria so that administrative users can take necessary action to control the situation.