

## Mobile Game to Nature Recycling Disciplines in Children

H.W.A.S. Sathsarana, V.M.B.C Karunaratna

*Department of Town & Country Planning, University of Moratuwa, Moratuwa, 10400, Sri*

*Lanka Department of Information Technology, of Moratuwa, Moratuwa, 10400, Sri Lanka*

sahansashi96@gmail.com, vmbcksc456@gmail.com

---

### Abstract

Solid waste management is a major problem in many countries. Certain developed nations like Singapore and Japan have managed to find solutions for this situation by employing methods such as rigorous laws and fining systems or attitude adjustments. However, many third world countries and developing nations, especially within the Asian region (Ex: Sri Lanka, India, Bangladesh, China, Philippines) are still battling this issue with little success. It is not due to lack of trying that the issue has not yet been solved, as it can be seen that many projects pertaining to solid waste management have been deployed within these regions. Unfortunately, not much success can be attributed to these projects as the problem is still prevalent in many regions.

It has been identified that this failure cannot be attributed completely to problems within the projects themselves, but rather has also been affected by the attitudes of the population. This paper identifies the root cause for problems in Solid Waste Management to be the negative attitude of the population towards changing their lifestyles and behaviors, so as to better accommodate the solid waste management policies set by their respective governments.

This paper identifies that building of positive attitudes towards the policies of waste management would be of great benefit in implementing future projects with regards to solid waste management. For this purpose, it has been decided that it is the younger upcoming generations who should be targeted as it is more difficult to change the mindsets of the older generation who have already lived out most of their lives with established behaviors and beliefs. The solution delivered by this paper suggests a mobile game targeting young children (ages 5 and above). The game play embodies the basic principles pertaining to solid waste management, 'Reduce, Reuse and Recycle'.

The game play will follow an entertaining storyline that will interest young children while also making them familiar with the concepts of waste management. Furthermore, it will also serve to develop the respective mindsets within children so that they will be prompted to contribute to sustaining the natural environment from an early age. The concept of a mobile game is presented for this purpose as young children at present are often quite familiar with smart phones and tend to use the devices belonging to their parents. Efforts to remove the influence of these devices on children are also not very successful in this day and age. However, by employing an educational game such as the one proposed in this document, it is noted that parents will be able to expose children to a more positive influence.

The technologies used in the development of this application are Godot, Krita and Audacity. For further applications, it is proposed that the game may be promoted to children of the primary school level and make use of the various game plays and characters as mascots to spread the same message of 'Reduce, Reuse and Recycle' to a greater audience. This extension includes implementations such as the introduction of colour coded recycle bins enhanced with respective characters and locations of the game sequence for greater attraction as well as various offers and rewards with regards to the game for children who actively participate in the programs within the approached schools. Further information with regards to the design and implementation of this solution may be found within the respective sections of this document.