Presented at the DLSU Research Congress 2014
De La Salle University, Manila, Philippines
March 6-8, 2014

# Tree Management System

Manuel Chua [1], Valerie Mae Lim [2], April Angela Pantoja [3], Faith Eunice Pingkian [4], and Lissa Andrea Magpantay [1,*]
*De La Salle University, IT Department*
* lissa.magpantay@delasalle.ph

**Abstract**: Trees are known as a vital component of urban environments and the planting of trees in human settlements is not new. However, the basic information about trees such as their species, ratio and age are difficult to obtain in order to determine what kind of maintenance the trees will require. The chosen test bed was NUVALI since it is committed in ensuring the welfare of the natural environment through preserving and enhancing the existing ecosystems within their area. Its long term objective is to plant 100,000 trees within their buffer areas and wildlife and bird sanctuary. The main issue is the absence of systematic scheme of capturing tree information that can help in monitoring and maintaining trees. The main objective to resolve this issue is "to develop a Tree Monitoring and Mapping Information System that will capture and store all the necessary information of tree-related behavior and monitoring and maintenance activities in order to provide reliable and essential baseline data to NUVALI stakeholders. The methodology used for this study was the Waterfall Model and the tools that were used are Microsoft Visual Studio 2010, Microsoft SQL Server 2008, and Google Maps API. The group asked the users to evaluate the system in terms of the usability of the system, its functionalities, user interface and the integration with other modules. Based on the user feedback, the system got a high rating on the user interface and security and an average rating for functionality. Additional information about the trees such as the fertilizer used, type of soil and weather conditions can be added in the system to improve tree management. Also, it is good if the mobile application can have additional features of free SMS and camera application for data capturing.

**Key Words:** Urban Planning, Tree Management, Tree Monitoring, Information System, GIS, Vertical Portal