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GEOTAGGED ADDRESS INFORMATION FRAMEWORK FOR SERVICE PROVIDERS

G.G.S.L. Bandara[1] and P.M.P.C. Gunathilake[1,2*]

[1]Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka
[2]Department of Statistics and Computer Science, Faculty of Science, University of Peradeniya, Peradeniya, Sri Lanka
[*]prabhath@pdn.ac.lk

In Sri Lanka, various organizations have adopted the use of Geographical Information Systems (GIS) for their internal affairs and community. Numerous researches and related publications have been made in this favor. The requirement of a proper methodology for defining community residences in GIS applications is emerging. Enrolling children in schools, providing relief at the time of disaster, and many other activities essentially need a location identification system. Even though there is a high level of usage of Google® Earth™, Google® Maps™ and the maps issued by the Government Survey Department, the data obtained are not accurate as expected. This research addresses the problems encountered during the use of residential data from the above maps. The objectives of the research were to introduce an effective method to find the exact location, explore how the geotagging method is used for the situation, and to make a platform for service providers. According to the classification and position of 5,267,159 residential houses in Sri Lanka, geotagging is the best method to spot the locations. The research samples were Malwatta and Diyabubula Grama Niladhari divisions in the Kandy district. Magellan® eXplorist™ 610 handheld device was used to obtain longitudes and latitudes of a location. The collected data were processed using a web-based software platform and were distributed through an Application Programming Interface (API). The objective of the API is to provide background for the institutions that are required to meet personal demands. Thus, the result of the research is expected to establish a residential identity, to provide a platform for service providers to access the geo-coordinates of related postal addresses, and to maintain their service attributes with high responsibility of managed credentials. Institutes and authorities can use this API for implementing the public policy of providing direct services to the public. It is imperative to provide access to the relevant institutions while keeping these data secure, with state intervention. Further, proxies with the ability to adapt to changing government policies should be developed to mitigate the problems of the existing methods identified in the present study. HTTPS protocol, cloud server, one-meter accuracy devices, and manpower of forces are recommended to successfully disseminate this research for the country. This research demonstrated the necessity of a correlative geo-based system for emergencies and disasters and it breaks the gap between the government and the public and, lays the foundation for effective strategies.

Keywords: Application Programming Interface, Geographical Information Systems, Geo-Services API, Remote Sensing, Service Broker Framework