World Academy of Science, Engineering and Technology
International Journal of Educational and Pedagogical Sciences
Vol:12, No:06, 2018

System for Monitoring Marine Turtles Using Unstructured Supplementary Service Data

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Abstract : The conservation of marine biodiversity keeps ecosystems in balance and ensures the sustainable use of resources. In this context, technological resources have been used for monitoring marine species to allow biologists to obtain data in real-time. There are different mobile applications developed for data collection for monitoring purposes, but these systems are designed to be utilized only on third-generation (3G) phones or smartphones with Internet access and in rural parts of the developing countries, Internet services and smartphones are scarce. Thus, the objective of this work is to develop a system to monitor marine turtles using Unstructured Supplementary Service Data (USSD), which users can access through basic mobile phones. The system aims to improve the data collection mechanism and enhance the effectiveness of current systems in monitoring sea turtles using any type of mobile device without Internet access. The system will be able to report information related to the biological activities of marine turtles. Also, it will be used as a platform to assist marine conservation entities to receive reports of illegal sales of sea turtles. The system can also be utilized as an educational tool for communities, providing knowledge and allowing the inclusion of communities in the process of monitoring marine turtles. Therefore, this work may contribute with information to decision-making and implementation of contingency plans for marine conservation programs.

Keywords : GSM, marine biology, marine turtles, unstructured supplementary service data (USSD)
Conference Title : ICEDM 2018 : International Conference on Educational Data Mining
Conference Location : Copenhagen, Denmark
Conference Dates : June 11-12, 2018