Abstract: Development And Evaluation Of Citizen Science Application Using Android And Cloud Computing

Author(s): **Joao Sousa**

Abstract:

Citizen Science projects are activities sponsored by organizations which ask citizens to volunteer by contributing to their projects. Each Citizen Science project usually has its exclusive data capturing that can increase the projects' costs and inefficiency of the project's time frame. Some of these applications require sharing of captured images at no or low cost, sometimes not allowed by available frameworks. Developing an application for each individual project is cost and time inefficient. In order to decrease project inefficiency related to custom data capturing application, a COTS (custom off the shelf) application is needed with data capturing mechanism that supports dynamic configuration and free data sharing (e.g.images). To achieve this goal, we first evaluated off the shelf technologies that would allow development of free-to use mobile applications for citizen science that also allow free sharing of images. We then developed an Android mobile with Google App Engine framework which allows dynamic data capturing configuration and data sharing via broadcast capabilities. We used modern software engineering processes like User Centered Design and iterative development. The solution to this problem verified that a mobile Android citizen science application can be built which is easy to configure and allows free sharing of captured images.

Keywords: Citizen science, mobile application, free sharing, Android