

TITLE: APP SAMPLE CONTROLLER, AN APPLICATION FOR REGISTRATION AND MANAGEMENT OF BIOLOGICAL COLLECTIONS

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ABSTRACT:

The term metagenomic was first used in the literature in 1998, the objective of the study is to visualize and understand the genetic diversity found in a specific environment. For this, it is necessary to take samples of the place together with information regarding the natural conditions of that environment. This information can be varied, such as: photos, geographic location and physical-chemical parameters. From this set of materials it is possible to submit it to a genomic analysis, sequencing the genetic material present in the sample, in order to reveal the organisms present. This analysis can reveal a diversity of microorganisms, and evidence the genetic potential of an ecosystem. In addition, if observed with the physicochemical conditions of the environment, we can explain several behaviors and patterns reflected in this environment, and even consider the reproduction of habitat with similar characteristics. To assist sampling activity, a mobile application was developed, which will help in feeding and managing information. The application is functional on Android system and will be access to the sampler team. The aim is to streamline the information gathering process, eliminating the need to use materials such as paper and pen, providing more data security, as they will be stored in the cloud. However, it is important to note that in many situations the environment does not allow connection to the internet, so the application allows the local management of information, but with automatic synchronization of the data in the cloud. In addition, the application provides a function that helps the user to geographically establish themselves in the sample withdrawal environment if they do not know the area perfectly. Along with the application has been developed a Web platform for the Administrator, which has specific management functions. The application has been developed in native Android language, and uses Google technology, Firebase for storing information in real time in the cloud. Firebase is a paid platform, but it has a free version that meets the need in most situations. Given the recent initiative in the construction of tools for the metagenomics, the developed application is very useful and necessary for the laboratories that research the area, making the management process of the information collected in the environment, more intuitive.

Keywords: Metagenomics; Biological Samples; Mobile Application; Management

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