

TITLE: DEVELOPMENT OF A GENOMIC DATABASE FOR PLANTS AND PHYTOPATHOGENS FROM NORTHEAST BRAZIL

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ABSTRACT:

With the exponential increase of genomic data coming from new generation technologies, was generated an immense amount of information by plants and bacteria genomes. In this context, it is necessary to search for new tools and functionalities for better visualization of this data, as well as speed in information processing, efficiency and reliability. The development of a database allows the user not only to search interactively and easily but also to submit files in various formats. Due to the great interest of our team in working with Northeast Brazilian organisms, the objective of this work is to create a platform (database) for the storage and consultation of this information of the semi-arid Brazilian Northeastern environment. For this, a bibliographical search of several existing databases was performed, as well as evaluating the advantages and disadvantages of each tool. After that, the development of a tool was started with the MVC model. It contains the user interface in HTML, CSS, JavaScript and its backend in ruby on rails, allowing the integration of relational and non-relational data from plants and phytopathogens genomes. Based on user requirements surveys, interface design has been developed and, at the moment, is in the development phase of the functionalities and the beginning of the insertion of the genomic data. Thus, we can say that this database has enormous potential, as well as adds enormous innovative value in the area, being the first platform of plant genomics and phytopathogens in the Brazilian northeast.

Keywords: bioinformatics, database, gene, genomes, phytopathogens.

Development Agency: CAPES, CNPq e FACEPE.