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Web Portal to Coordinate Biotechnological Activities in Sri Lanka

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This dissertation is submitted in partial fulfillment of the requirement of the Degree of M.Sc. in Information Technology of the University of Moratuwa.

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Declaration

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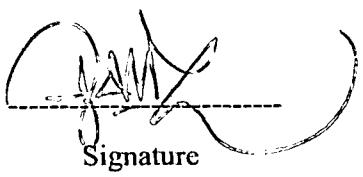

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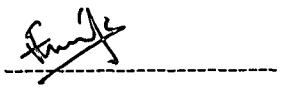

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Mr. D.K. Withanage
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Abstract

This research makes an attempt to look into the current activities taking place among Sri Lanka and create a web portal to link these institutes So that they can share information. It also attempts to disseminate such information among the various personnel involved in research work and make a good coordinating point (Web Portal) to share their newly acquired information for their advantage.

Currently, there is no coordinating point for handling Biotechnological activities in Sri Lanka. Various institutes use their own methods and practices for information management. This has been a major issue because they are not aware of others' work and standards. This is a waste of money, time and human resources.

This project addresses the need to integrate various Biotechnology communities into an online application where information is shared among users in Biotechnology communities as well as other authorized personnel in the community in a secure and accurate manner.

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I started this project with a study of similar domains. The next step was the pilot study and tried to find up stakeholders clearly. In this stage I used the National Biosafety/Biotechnology database compiled by Professor Athula Perera and drafted a questionnaire. The next step started with a finalized questionnaire and a properly selected data sample. Requirements gathered during extended discussions with stakeholders included those from the Government, Semi-government and the Private sector organizations. In this task, a series of interviews were conducted and questionnaires were used to gather requirements/comments. Then the study was done to find out more, with respect to history, various types, features of Web portals and future trends. Vortals are also introduced.

At the design stage, the client side, the server-side and the database design were finalized. All the design stage decisions, tools and technology selections were justified. During the Development stage, all the coding and documentation for the

client, the server and the database were carried out. Next, was the testing & implementation stage and the system was tested before and after deployment. The BioWEB system was assessed to see how it administrates. It also addressed the related security, backups and maintenance of the system. The also incorporates self financing method too, which helps in sustaining the system for a long period as it is used.

The BioWEB is system was compared with available commercial portal software in order to do a self evaluation.

The difficulties faced and limitations of the system are addressed.

Finally, further work that could be performed in order to improve the system is also mentioned.

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List of acronyms and abbreviations

BioWEB	The name of the resulting web portal in this project
IT	Information Technology
NSF	National Science Foundation
FAO	Food and Agriculture Organization of the United Nations
GAIN	Global Agriculture Information Network
USDA	United States Development Agency
HTTP	Hypertext Transfer Protocol
MS	Microsoft
XHTML	Extensible Hypertext Markup Language
CSS	Cascade style Sheet
IIS	Internet Information Server
IDE	Integrated Development Environment
LAMP	Linux, Apache, MySQL, PHP
VB	Visual Basic
IE	Internet Explorer
GAIN	Global Agriculture Information Network
BI	Business Intelligence
ASP	Application Service Provider
NGO	Non Government Organization
OO	Object Orientation
SQL	Structured Query Language

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