Multi-Drug Resistant Infections Visualisations

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1 INTRODUCTION

- Project proposed for Pakistan mainly. After research, it was found that such a tool is needed worldwide and not only for Pakistan. Talk more about the significance of the project.
- This paper presents a web application that - (talk briefly about the characteristics of the web application, and link this with the research questions listed in the project proposal) - main focus is the visualisations
- Briefly talk about the structure of this report

2 RELATED WORK

Summary of the literature review

3 DESIGN AND IMPLEMENTATION

3.1 Requirements Gathering

Regular skype sessions, emails and meetings with the supervisors

3.2 Approach

- Architecture: Model View Controller. Discuss about the models, views and controllers that have been implemented in the solution.
- Methodology: Agile. Discuss the evolutionary prototypes, regular feedbacks from the users, accommodating changing requirements. Give examples.
- Development Tech: ASP.NET(MVC) with Entity Framework (MySQL as core database). Vulnerabilities checklist used to make the system more secure.

3.3 Features

Describe some main features of the system For example: different visualisations. User can upload data. Admin can create seasonal alert/email notifications for those who opted that.

4 TEST DESIGN/METHODS

- **Usability test by questionnaire** with approx 10 Users from Pakistan and some users from the Institute of Infectious Diseases and Molecular Medicine of UCT - Describe what tasks they were given to perform. How they were able to access the web application (the web app were live on a domain through which they were able to access it)? Users will be requested to fill in questionnaire about the visualisations, requirements, usability/user-friendliness and the changes in the process of reporting and detection of MDR diseases/infections.
- **Acceptance Test** - Supervisors will determine whether the web application meets their requirements, whether the process of reporting diseases is being sped up, whether the solution allows visual queries to be answered quickly, etc.
- **Security** - Test cases developed and used to test the security of the system (mainly, users must only be allowed to perform tasks that he is allowed to - regular users cannot delete any account for e.g). Microsoft Azure Automated Vulnerability Test used to uncover vulnerabilities in the system.
- **Scalability (Maybe only Takunda's part?)** - talk about the Microsoft Azure automated load test with varying number of users and response time.

5 RESULTS AND DISCUSSIONS

- Include the results (or summary of same) of the tests
- Use statistical methods to analyse the results (wherever applicable)
- Show the distributions of the results
- Determine clearly where the results are negative (that is, what was not expected)
- Are the number of users enough? Have we been able to test the system enough/thoroughly?

6 CONCLUSIONS AND FUTURE WORKS

- Overall, did the web application work? That is, is it going into production?
- Briefly, what did the testing phase uncover? What was found out about the web application?
- Future work: Extend the system to other languages. Develop a mobile application. Extend the system for other emergency situations, such as storing information about crimes and then determining regions where crimes are more likely maybe?