Input and Sharing of Infectious Disease Data at the Grassroots Level
TJHSST Senior Research Project Proposal
Computer Systems Lab 2010-2010

Anna Stapleton

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1 Introduction

The purpose of this project is to create a user-friendly database and interface which can be used to enter, manipulate, and view pertinent data on individual patient case reports. Electronic patient records systems are commonly implemented in the United States; however, the goal there is most often keeping records for individual patients, not disease surveillance and sharing of information. This system will allow for easy networking between individual computers and databases while maintaining patient confidentiality.

2 Background

The first steps of the project were becoming familiar with MySQL, PHP, and HTML in order to create the database and manipulate it via the user interface. A cursory literature review turned up an article about the socio-techical challenges of implementing such database systems in clinics, such as the inflexibility in the terms available to describe individual cases.

3 Procedure and Methodology

The project will rely on PHP and HTML programming being used to manipulate a MySQL database. Preliminary testing will involve fake data generated to mimic actual input, in order to uncover potential errors and discrepancies between intended input and user interpretation of instructions. Eventually testing will include data garnered from case reports reflecting the types of cases likely encountered in the field where this system would be put to use.

4 Expected Results and Value to Others

This project is meant to be the beginnings of a system that can be implemented in rural clinics in Sub-Saharan Africa, where there are high incidence levels of multiple infectious diseases. In the long term, it is hoped that the simple computers used by the One Laptop Per Child initiative, which are ideal due to their low cost and ability to network easily, can be distributed to these clinics and used by doctors to communicate information about cases of infectious diseases both amongst each other and with the scientific research community.