**Requirements**

Title Page

name, project, class, data, authors

Abstract

introduction

paragraph

-each section has an intro

background section <include images>

introduce client

it support

workflow

problem

what is the current solution? what’s wrong with it?

stories

must be expanded on

longer format than those on the reports

Justify that you have the time

resources

indicate what you need

software, hardware, website, etc.

indicate how you will get it and when you’ll get it

list laptops if you already ave it

maintenance

indicate that the client can maintain it afterwards

security

list anything that’s worrisome

make sure people can’t do tracking

Testing

how we will do testing

are we doing unit testing

how are we doing usability testing

internal testing

giving it to the client to test it

Legal

Is there an NDA?

Who owns the project? GPL2? Proprietary for the company?

Summary

According to stories, we have enough of them

According to resources, we have them

According to legal, we have it

**Core Requirements**

some determination for automation

test

deployment

version control

documentation on how to do that

run all the tests before pushing changes?

tagging names on different places?

Testing

Standards in place

Spikes

Stories

TPS Reports

License File <GPL License>; include developer names

Feasibility Report

Accessing the NHANES Data Sets Through R Shiny

Apolinar Ortega, Antonio Ruiz, Jacob C. Darling

CS 4900

Abstract <Rough, rough draft>

This project is meant to create easier access to the National Health and Nutrition Examination Survey (NHANES) data sets. This data was recorded by the Center for Disease Control and Prevention under the US Department of Health and Human Services. This is a fairly large data set and it is accessed frequently for various projects. This project will create a user-friendly interface for accessing this data set.

Background: add images

**<introduce client>** Our client is Dr. Joseph McKean, who is a professor of statistics here at Western Michigan University. <what kind of research is he doing? What research was his daughter doing?>.

**<it support>** He will be the sole maintainer for the project when we finished developing it. He has extensive experience using the R programming language and with SASS scripts. He has limited experience using bash and SQL. For maintaining the project, he has access to <his own server? ShinyApps? AWS?> for a server. Both his computer and the server has capabilities to run R Shiny apps.

**<Workflow: talk about his daughter’s workflow w/ accessing the data set>**

**<problem: what is wrong with the current solution?>**

**<include images>**

Stories: expand on those from the reports; make these longer

Through this project, the user will access with the NHANES data set through a user-friendly interface. The interface would allow users to select and combine different data sets. The user would then download a file with the format of their choice with the selected data.

Users will navigate through an easy to use interface to access the data sets. The end user would at the very least would have some interest in looking at the data set using R. The end user will be able to download the data in any one of the R-friendly formats such as CSV’s and RDA’s.

The user will be able to select data sets by different properties. These properties could be any combination of the columns within the given data set. For example, the user can select data for a certain set of years.

Once the user has picked properties for a certain data set, they can pick the properties for another data set and combine the two tables. For most data sets, they will combine with the row id number. **<this don’t sound right?>**

**<justify you have the time>** The scope of each of these stories is not excessive. The time to complete these stories is very feasible.

Resources

For our project, we will need computers to develop the program with, the software needed to run R Shiny applications with, and a server to host the applications. The application will be hosted on our own desktops. The software to develop our R Shiny applications are freely available. Amongst this software is the R Studio IDE, CRAN packages, and MySQL server. When developing the application, our server would be MySQL on a localhost. When we deploy the application, the application will be hosted on the CS department servers.

Dr. McKean has the software and hardware needed to maintain an R Shiny application. He will be able to maintain the application from his own computer.

Both we and Dr. McKean have the necessary software and hardware to develop, debug, and deploy our application.

Security

<list anything that’s worrisome>

<make sure people can’t do tracking>

Testing

how we will do testing

are we doing unit testing

how are we doing usability testing

internal testing

giving it to the client to test it

Legal

There is no Non-Disclosure Agreement associated with this project. The project will be open source and maintained on Github. The project will be under a GPL license, whereas anyone has freedom to access and distribute the software.

Summary

According to stories, we have enough of them

According to resources, we have them

According to legal, we have it