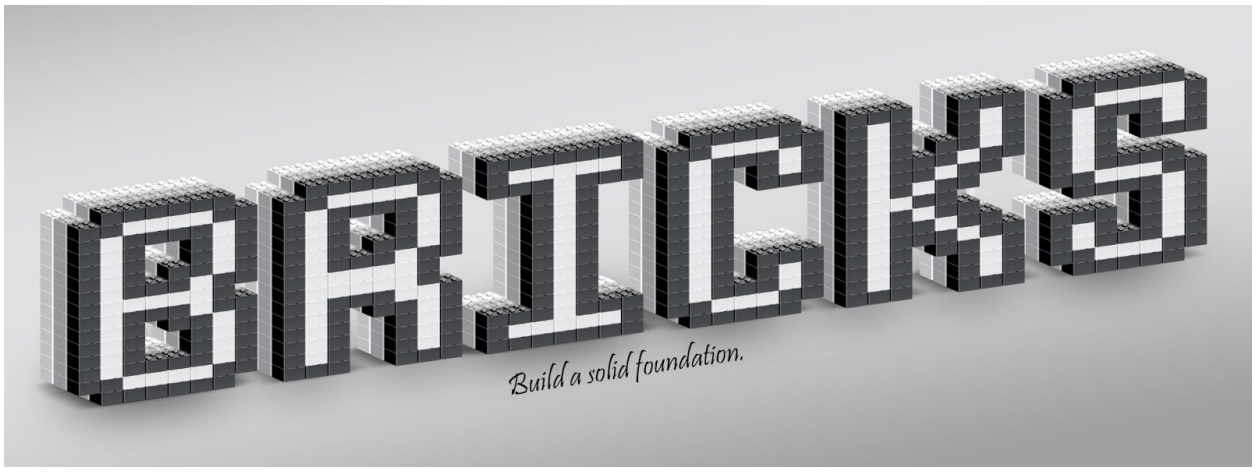
CMSC 447: Software Engineering I October 28, 2017

User Interface Design Document

The Redistrictinator

Client: Geoffrey Weiss



BRICKS

Benjamin Jeremenko

Jacob Philip

Sumanth Neerumalla

Zachary Elliott

Francis Kato

Nathaniel Fuller

Table of Contents

1. Introduction

1.1 Purpose of This Document

This document provides a description of The Redistrictinator user interface at different levels. The main purpose is to provide all the necessary knowledge for the development web-based application. The concepts and techniques exposed in this document shall be carefully applied in the development, in order to obtain optimal districting software. Future changes in development should result in changes in this document.

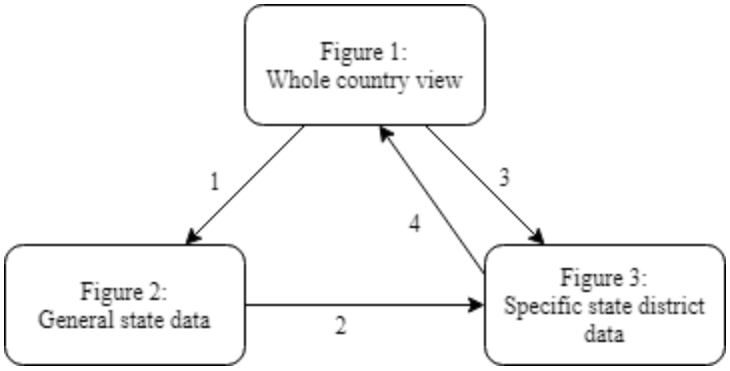
1.2 References

I. Amazon Web Services (AWS) - Cloud Computing Services. (n.d.). Retrieved October 19, 2017, from https://aws.amazon.com/
II. Cloud Condo - Web Application Architecture. (n.d.). Retrieved October 23, 2017, from http://codecondo.com/web-application-architecture/
III. NCZ Online. (n.d.). Retrieved October 23, 2017, from https://www.nczonline.net/
IV. Gliffy Online. (n.d.). Retrieved October 23, 2017, from https://www.gliffy.com/
V. Flask - Web Development. (n.d.). Retrieved October 24, 2017, from http://flask.pocoo.org/

2. User Interface Standards

The application will mainly adapt to tables, forms, variables, and other developer products. We shall use various techniques for navigation, including switchboards, command buttons on forms, and drop-down menus. A standard method for laying out and presenting information on forms, including methods of navigating between various parts of the form, standard colors for forms, and some of the basic functionality should be built into all forms. A standard design and layout for all reports will ensure uniformity. This could include dates and system logs about exactly what is going on. We need standards around the documentation we'd produce, both for systems and user documentation. However, we need to develop a standard for user documentation including the use of screen captures and various features used in creating this documentation.

3. User Interface Walkthrough



1) Mouse over state to view general state data
2) Zoom in on specified state to view specific state district data
3) Same as 2
4) Zoom back out to whole country view

Figure 1: Full country view (excluding alaska/hawaii)

Figure 2: Full country view and state statistics

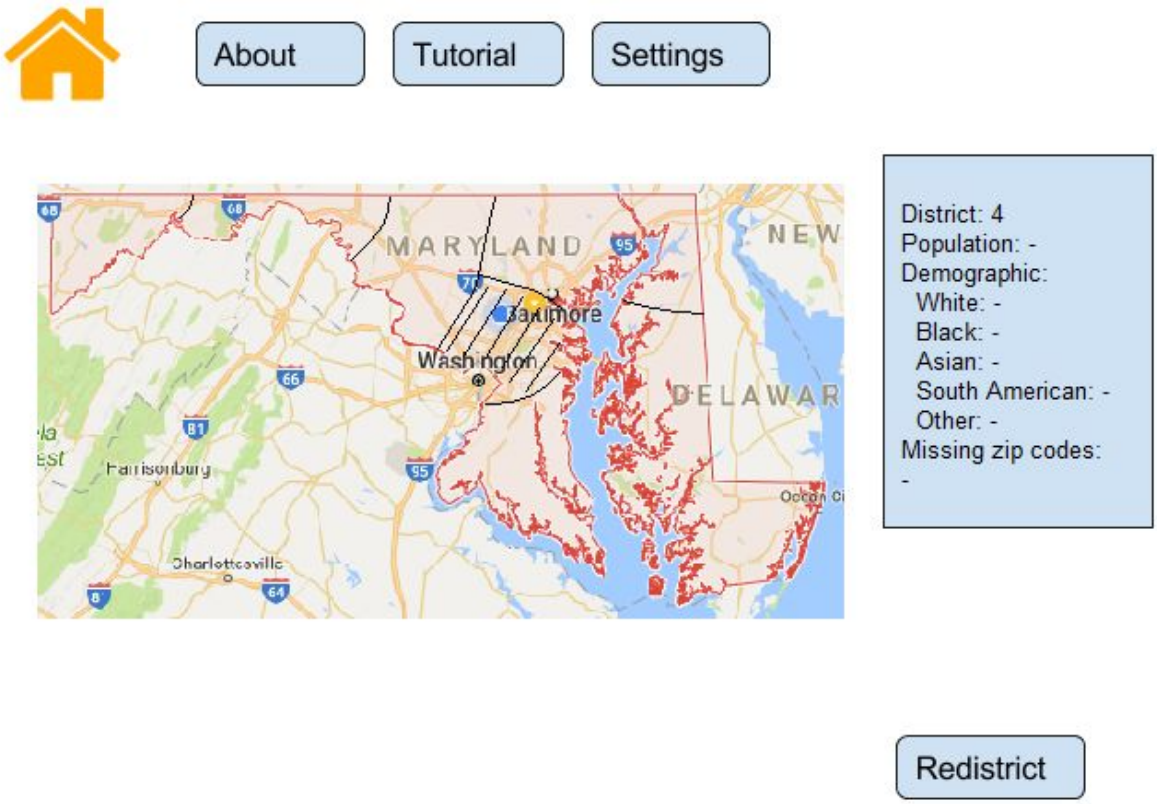


Figure 3: Individual state view and district statistics

4. Data Validation

All required data will be retrieved from Google Fusion Tables containing all of the ZIP codes in the U.S. and their boundaries. The user will not have to enter any data. The algorithm will take a type of census data and use that redistrict a selected state. Each time the redistrict button is clicked the algorithm should run again based on selected census data. Google maps will display the results of state along with information such as demographics, district number, and population. The application will have its most functional aspect underneath minus data choice if it is specified in the settings tab.

5. Report Formats

This product does not generate any hard copy reports that are not described in the User Interface Walkthrough.

Appendix A – Agreement Between Customer and Contractor

The system to be implemented will be a web app that displays 8 districts in Maryland that have been redistricted to create evenly populated districts. The user interface specifications and requirements are accurate and determine the guidelines of this system. Bricks and the customer, Geoff Weiss, all agree to the terms provided in this document.

If a change to this document is necessary, the following procedure will be used. The edit to the document will first be discussed in the biweekly meetings. If agreed upon by both parties, the new document will be drafted by the development team, Team 17. Once completed, the finished document will be sent to the customer to be resigned and then resubmitted to the github account.

Team Members:

Benjamin Jeremenko: ____  ____ Date: ___10/31/17_____

Jacob Philip: _____  _____ Date: ____10/31/17_____

Sumanth Neerumalla:___  _____ Date: ____10/31/17__

Zachary Elliott: ___  _____ Date:__10/31/17_____

Francis Kato: _____  _____ Date: ___10/31/17_____

Nathaniel Fuller: ___  _____ Date: ____10/31/17_____

Customer:

Geoff Weiss: _____ Date: _____

Comments: _____

Appendix B – Team Review Sign-off

All of the following team members have reviewed this document and agree to the content and format.

Team Members:

Benjamin Jeremenko: ____  Date: _____10/31/17_____

Comments: _____

Jacob Philip: _____  _____ Date: ___10/31/17_____

Comments: _____

Sumanth Neerumalla: _____  __ Date: ___10/31/17_____

Comments: _____

Zachary Elliott: _____  ____ Date: ___10/31/17_____

Comments: _____

Francis Kato: ____  _____ Date: _____10/31/17_____

Comments: _____

Nathaniel Fuller: _____  _____ Date: _____10/31/17_____

Comments: _____

Appendix C – Document Contributions

Benjamin Jeremenko:	UI Standards	10%
Jacob Philip:	UI Standards	10%
Sumanth Neerumalla:	Data Validation	10%
Zachary Elliott:	Formatting & Data Validation	10%
Francis Kato:	UI Walkthrough, Data Validation & Introduction	40%
Nathaniel Fuller:	Appendices & UI Walkthrough	20%