# *Project Save Baltimore*

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## User Interface Design Document (UI)

## Version 1.0

Produced For:

Next Century Corporation

Produced By:

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# 1.  Introduction

1.1 Purpose of This Document

The purpose of this document is to provide an overview of Save Baltimore's UI and how it will be used. This document will discuss the UI standards, provide an understanding of the UI through examples, and to describe the data types used and how they can be validated.

1.2  References

System Design Document (SDD), User Interface Document (UID) Presentation by Dr. Karuna Joshi - 2/23/2016
http://www.csee.umbc.edu/~mgrass2/cmsc345/Ch6.pptx

UI Usability Presentation by Laurian Vega - 03/10/2016

Project Document Templates -Dr. Joshi

## 2.  User Interface Standards

Overall, the interface will implement a single page with various tabs.  Each tab will maintain the same components surrounding a iframe.  This frame will show different data views of Baltimore crime data.  The tabs will have a Google Heat map, a charts tab with line graphs for each weapon type over time, as well as relevant histograms and pie charts, and a tabular view tab containing the raw data with sorting options.  Each of these tabs are described below. Before this, the concept of filters will be introduced.

On the top of the main window, there will be a horizontal filter menu containing filter fields.  The user will be able to use the menu to select the data they would like to view.  Each crime incident has crime types, weapon type, district and neighborhood.  These will be options that can be displayed.  The user will edit their filters and the changes will be automatically displayed in the current view frame.  Also, the filters that are selected will be applied to any tab that a user clicks on. This system creates  unified experience where a user can set the filters he/she wants, and can easily visualize their requested data in several formats.

Finally, below the view frame, there will be a slider bar to adjust time filtering. This will have the ability to adjust the amount of time that is being viewed as well as the starting and ending times to pull data from. The time slider will also double as a histogram that changes along with the time period set.

## 3.      User Interface Walkthrough

Home screen (Map View)
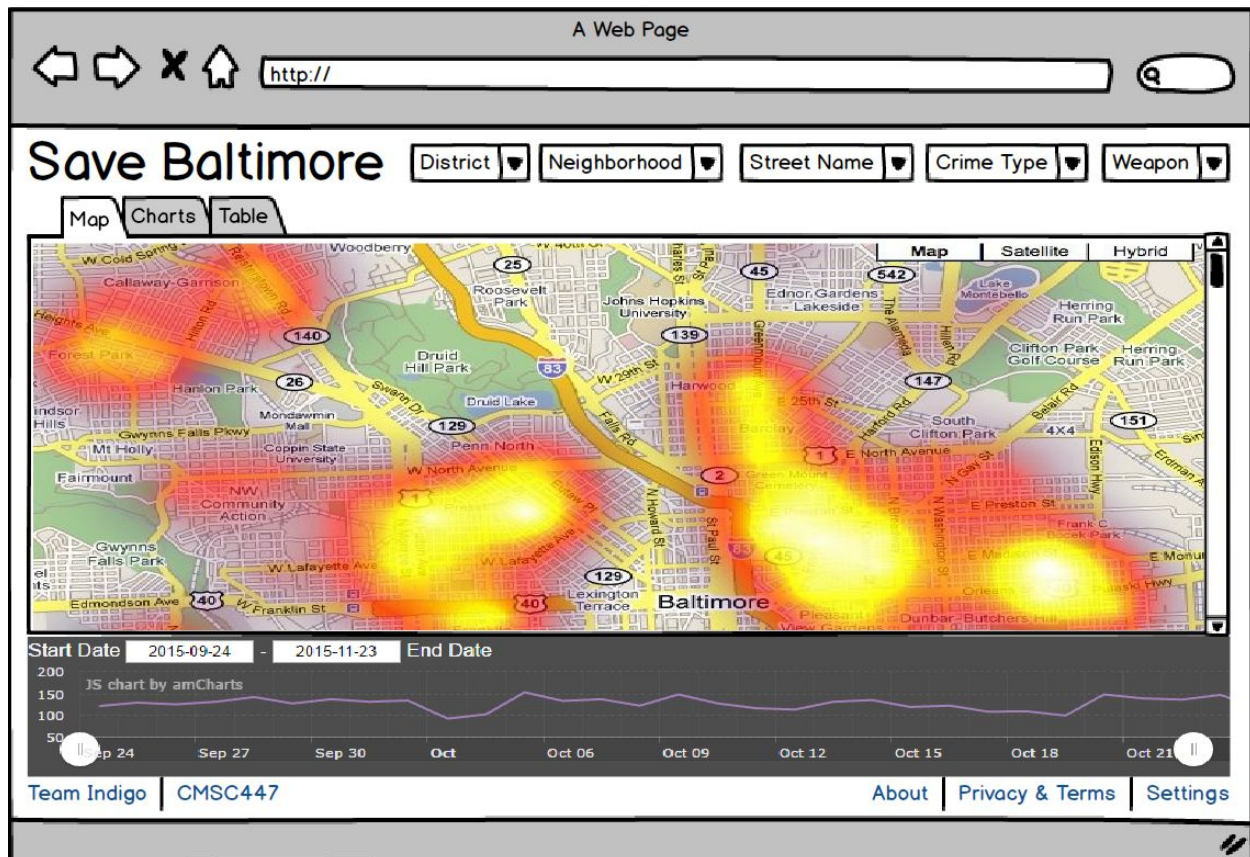


Upon opening the application, the user is met with a google heat map displaying crime densities throughout Baltimore City. Each crime will be a point of color on the map.  As crimes accumulate in an area, the intensity of the light will increase.  This way, users will be able to spot areas of large crime problems.  On the right-hand side of the page, is a menu for filtering the displayed data, based on column headers in the database. There will be options to select location by street, district, and area code as well as crime and weapon type.  As soon as a user clicks to change the filters, the current data view will update to reflect the change in data being seen.

On top of the view box are tabs for different data views. The filters will apply to any selected view. The web page itself remains in a single page-view.
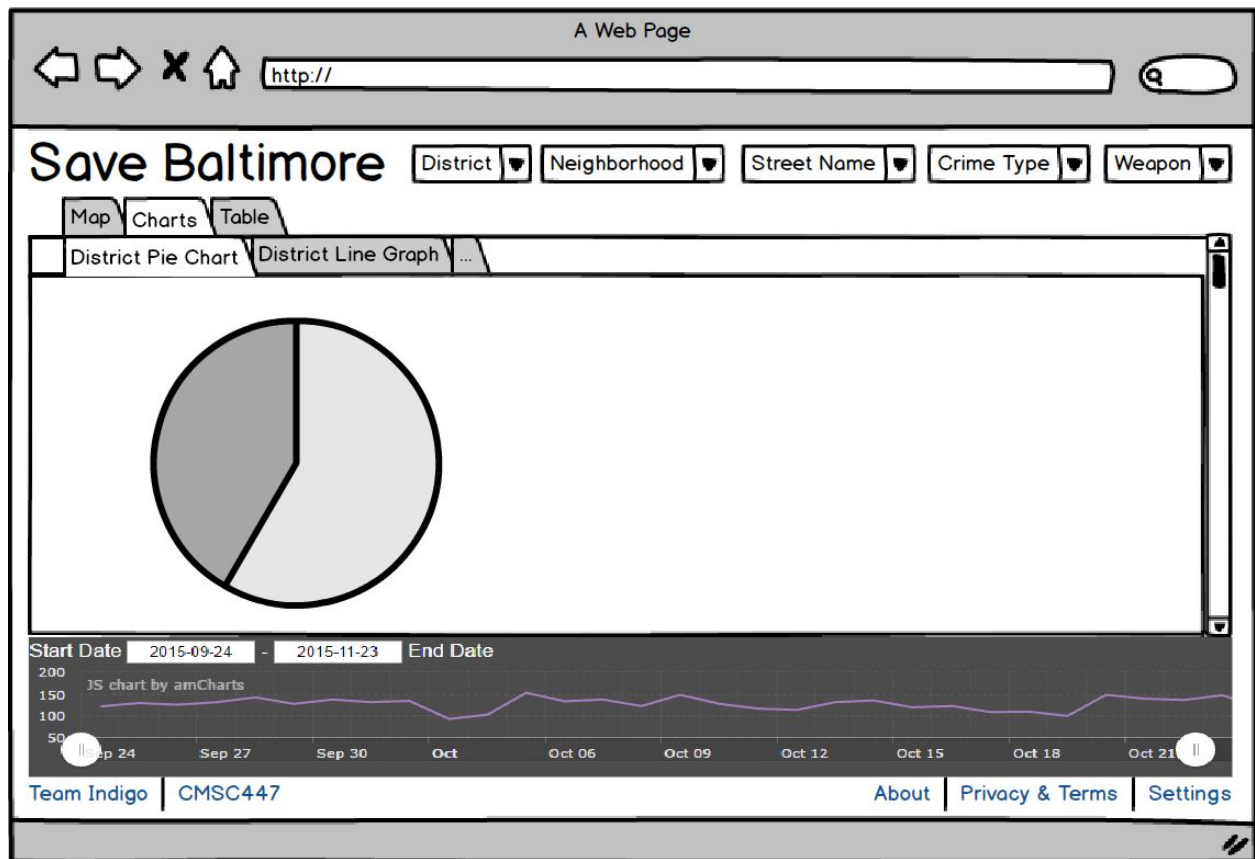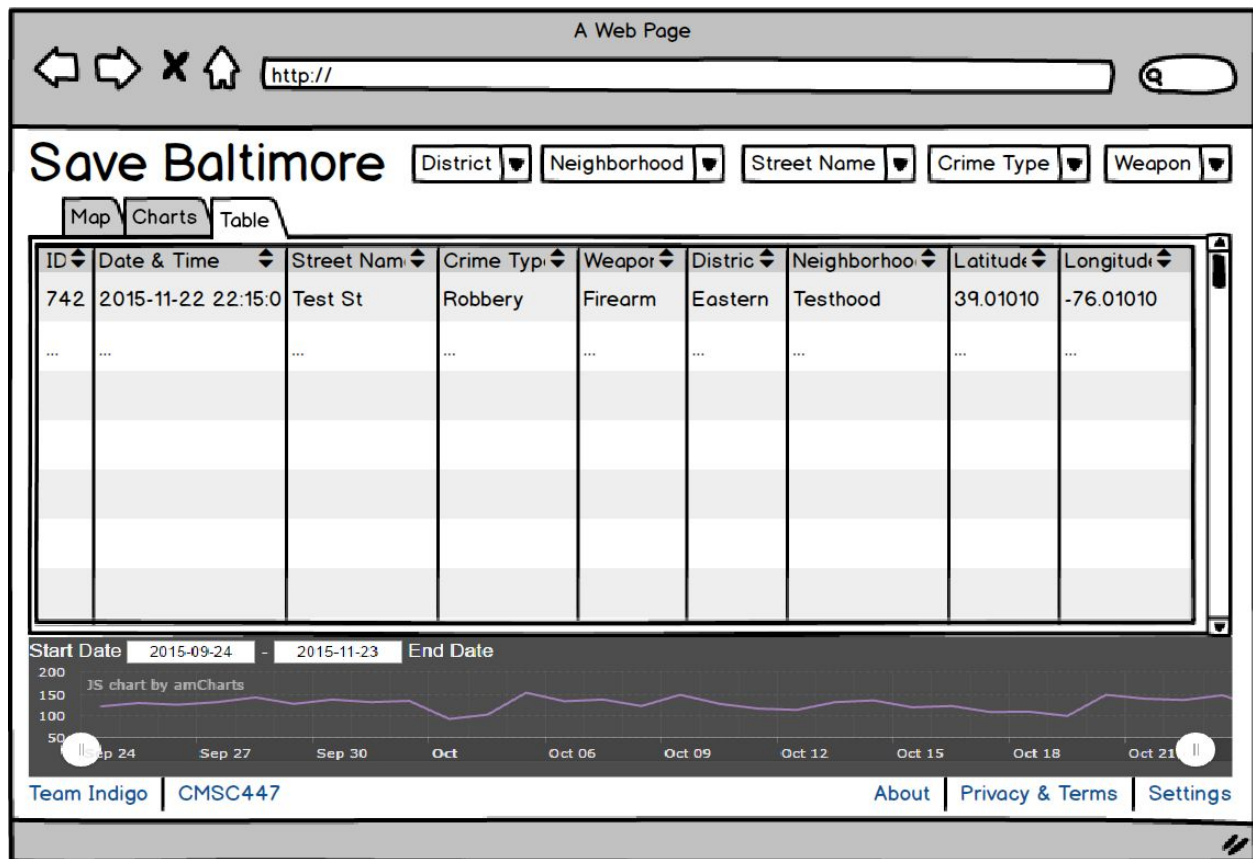
Chart View

Table View



**4.**       **Data Validation**

The user provides input through HTML form elements. For the filters -- district, neighborhood, street names, weapon type, and crime type, the user selects the appropriate option from a dropdown. This takes the form of a string. The final filter, the date range selector, uses the datetime datatype, which is on an HTML range selector input. For all of these filters, the user can only select items that are in dropdowns or slide bars, so there is no need to validate the users' input. All of the options the user can select are valid because they are generated by the Save Baltimore system.

**Appendix A – Agreement Between Customer and Contractor**

The design and user interface will be implemented as shown by the wireframe documents. The UI will allow the system to perform all functions as described by the System Requirements Document (viewing analysis of Baltimore crime data) and in the user-friendly manner presented.  If in the future, the UI design changes, the customer will be notified of an updated solution, and presented with a new design contract agreement before moving forwards.


Customer comments:

**Appendix B – Team Review Sign-off**

All members of the team have reviewed the document and agree/approve of its
content.

Neil Joshi            Signature _____Neil Joshi 3/10/16_____

Nathaniel Baylon      Signature _____Nathaniel Baylon 3/10/16_____

Matthew Landen        Signature ____Matthew Landen 3/10/16_____

Bernie McNamee        Signature ____Bernard McNamee    3/10/16_____


Member Comments:




**Appendix C – Document Contributions**

Neil (~25%): Cover page, UI Diagrams in Balsamiq, Feedback Edits, Cleanup

Nat (~25%): Data Validation

Matthew (~25/%): 1.1,1.2, 2.2 Common feature, walkthrough

Bernie (~25%): UI walkthrough, Appendix Sections