

## IPRO 311 Final Report

## Problem

The US Holocaust Memorial Museum (hereafter, USHMM) possesses a large and ever growing collection of information, detailing the realities of the Holocaust. This information is in many formats. The Mediator was developed to facilitate searching this data.

## Goal

This semester, IPRO 311 is going to take the Mediator developed in previous semesters, and add functionality to it in various ways. An interface will be developed to facilitate user searches, allowing the location of information to be accessed with greater convenience for the average user; this is known as the Locality Search. In addition, Ten functions will be developed to improve searches of the USHMM database, by generating meaningful search terms which can be added to the query. The Mediator will be presented to the USHMM.

## Sub-goals

- Create Ten search Functions
- Run two-hundred queries on each function to determine utility
- Create a user interface for Mediator
- Create a mechanism to add data sets
- Create a manual for that interface
- Present the Locality Search, the Query Improvement, and the Query Improvement Data to the USHMM
- Create any materials necessary for IPRO day

## Team Members

- Jason Soo
- Erica Danielle Scott
- Jeff Rowland
- Justin Moses
- Yacin Nadji
- Jane C. Ji
- Mark R. Haase

## Overall Progress

Our team has made great progress toward our sub-goals, accomplishing all of them in record time. Not only are our sub-goals completed, but there was sufficient time remaining for further analysis of a number of these sub-goals. In addition, our main goals have at this time been either completed or will be completed in the near future.

This fantastic progress is due in large part to the organizational methods and individual diversity of our group. Through frequent use of the Internet, email, instant messaging, and assorted personal sites, we were able to maintain contact amongst members; in addition, we were able to exchange important and necessary data rapidly by use of these exchange media, allowing progress to be made rapidly and fluidly, allow

maximum use of each members potential. In addition, studied division of work allowed each member to apply their talents to an area where they would be most effectively used.

Group members participated in weekly meetings, which further facilitated their work, by allowing individual input to the division of tasks, as well as updates on progress and new individual needs, effective utilization of communication channels allowed for the group members diverse abilities to be put to maximum use. Each group, made up of individuals with complementary skills, was able to succeed and synergistically aid in the success of other groups. The work divided as follows:

#### *The Coders- Yacin, Justin, Jason*

This sub-group had a two-fold purpose. Yacin and Justin were tasked with taking the ideas for search improvement, ideas generated and voted for by the team as a whole, and write code to allow this search improvement to occur in system; this is intended to improve functionality for the user. This has been done; in addition, data from the testers was analyzed with some statistical method. Jason was tasked with creating a Locality Search to find the location of data within the USHMM database; a user is provided with an interface, and can either start from the top of a search tree (a region) and work their way to more specific data (a town), or search for a name they know, and begin at that place in the tree. After reaching the bottom level of the tree, the location of the data is displayed. This has been tested by the group to ascertain its stability and utility.

#### *The Testers- Erica, Jane, Jeff*

The prime function of this sub-group is to run queries on the search improvement functions generated by the coders. This meant running 200 searches from a standardized list of terms for each of the ten functions, then analyzing the results to determine the degree of improvement (specifically, was the search improved, worsened, or no effect). The list of terms was generated by statistical analysis of an actual query log, which covers six months and major holidays. Jane will also be creating the poster for the IPRO, as well as visual material for other parts of the IPRO. After the terms were run, some modifications were made to the queries, necessitating that some terms be run again; this data was analyzed statistically by a subgroup of the "coder" subgroup.

#### *The Documenter- Mark, aided by everyone*

The main function of this sub-group is to document the activities of the group, including taking minutes, creating user manuals, and providing reports. In addition, artificial test data was generated by this group, to determine whether the locality search was fitted to allow for new data to be entered, as well as running some early queries, and generally working where needed on other projects.

#### *Obstacles*

Only minor obstacles have been encountered. Team members carried out their duties admirably well. Only occasionally has a due date been missed, and even then, the work is done in a reasonably timely fashion; indeed, group members have generally gone above and beyond the call of duty to complete their work, and to complete their work well. Occasional issues with assignment of responsibility have arisen, namely when it is

uncertain whose responsibility a task is. However, issues such as this have been infrequent and have been resolved equitably and quickly, due in large part to the quality of the communication amongst group members. Though presented with many tasks, and many difficulties, none were insurmountable, and so our team completed its tasks well and in a timely way.