Group #2
User Guide
Computer Science 4ZP6 – Capstone Project
Dr. Zheng

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1. Revision History

Date	Version	Modifier(s)	Comments
Feb 28th, 2015	0.1	All members	Initial document was created and most content was filled out
Mar 1st, 2015	0.2	Dylan Aspden	Created good copy and added some content
Mar 1st, 2015	0.3	Humza Tariq	Final review, made minor changes

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3. Introduction

3.1. Purpose

The purpose of this document is intended to provide assistance to ViMDa users. This document is meant to help you, the end user, to become acquainted with ViMDa. Below you will find instructions on how to properly use VimDa.

3.2. Background

Through a data-sharing and cooperation agreement between the Digital Music Lab in the department of Music at McMaster University and Nokia, Nokia has provided the lab with hundreds of millions of records of music downloads from across the globe. Conducting research on data of this magnitude requires special tools and infrastructure to provide researchers with the freedom to ask complex questions from the data. Our project will enable researchers at the Digital Music Lab to answer questions that were not possible before, and perform previously feasible tasks more efficiently.

3.3. Scope

The scope of this document consists of:

1. Getting started with the application
2. How to perform simple and complex tasks
3. Troubleshooting tips
4. Frequently Asked Questions (FAQs)

4. Definitions & Acronyms

4.1. Definitions

1. Cluster: A set of objects grouped together based off of defined characteristics
2. Dataset: A set of data pertaining to the clusters in the system
3. Clustering Job: An activity by which clusters are formed
4. Uniform Resource Locator: An Internet address you enter in the address bar

4.2. Acronyms

1. ViMDa: **Vi**sualization of **M**usic **Da**ta
2. URL: **U**niform **R**esource **L**ocator
3. I/O: **I**nput and **O**utput
4. WebGL: **Web G**raphics **L**ibrary
5. GNU: **G**NU's **N**ot **U**nix

5. Installation

5.1. System Requirements

Table 1: Table of system requirements

Item	Requirement	Recommended
Operating System	• Windows 7 SP1 or above • OSX 10.6 or above • GNU/Linux	• Windows 8.1 or above • OSX Yosemite • Ubuntu 14.04.2 or above
Minimum Available RAM	4GB DDR2 or more	8GB DDR2 or more
Processor	Intel Core-2 Duo	Intel Core-i3
Internet Browser	HTML5 and CSS3 compatible	
Internet Access	DSL 6mbps	High-speed cable 15mbps

6. Getting Started

6.1. Opening the Application

In order to open the application to begin, first navigate to the desktop of your operating system and perform the following steps in order:

1. Open your desired web browser through whichever means you are comfortable
2. Once the web browser has opened, click on the address bar typically located at the top of the window
3. In the address bar, enter the URL (Uniform Resource Locator) http://localhost:3000, and press enter on the keyboard to begin navigation
4. Once the page has loaded, verify that you see the following in Figure 1
5. If you do not see Figure 1 displayed on the screen then proceed to the Troubleshooting section for further details

Figure 1: Landing page for the ViMDa application

6.2. Logging in

Logging into the ViMDa application will grant you extended access to administrator portions of the application not available to the public. Registered users can access these administrator features by:

1. Navigate to the application landing page following the instructions in section 6.1.
2. Click on the blue button labelled ‘Login’
3. Verify that you see the following in Figure 2
4. If you do not see Figure 2 displayed on the screen then proceed to the Troubleshooting section for further details
5. Inside of the window that appears, click on the text box under the ‘Email address’ label and enter your registered email address
6. Click on the text box under the ‘Password’ label and enter your password
7. Now click on the ‘Submit’ button or press the enter key on the keyboard
8. If the login was successful, you will be redirected to the main application page, or;
9. If the login was unsuccessful, you will be notified and may try the credentials again

Figure 2: Example of credential input for logging into the ViMDa application

7. Simple Tasks

7.1. Viewing a dataset visualization

User needs to either be logged in as Administrator or as an anonymous visitor to the application, along with having a web browser with WebGL support and perform the following steps in order:

1. The dataset visualization is located on the homepage of the application. Alternatively, user can open the sidebar and click on ‘Datasets’ link
2. On the ‘Clustered Datasets’ page, user can choose from various pre-processed datasets by Clicking on the respective job name
3. Cluster are displayed along with cluster information

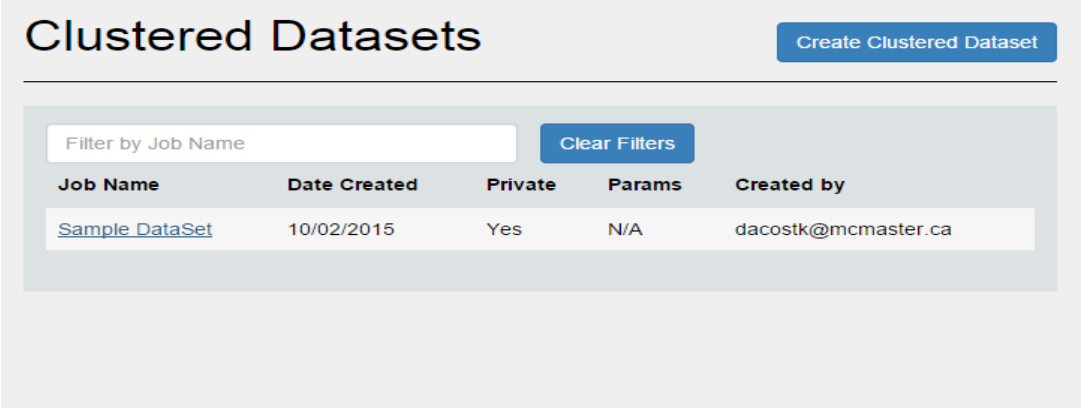

Figure 3: List of clustered datasets which can be visualized

7.2. Manipulating a visualization

Manipulation a visualization involves moving the camera in ways to get a better view of the data. One such example is to stop the camera rotation. In order to manipulate the visualization you will need a browser with WebGL support. There are multiple ways to manipulate the visualization and to do so follow these steps:

1. Open a visualization by following the steps in 7.1.
2. Choose the manipulation that you want to do
    1. To stop cluster rotation, double click the mouse on the visualization
    2. To restart cluster rotation, double click the mouse on the visualization
    3. To move the camera, click and drag on the visualization to make it move

7.3. Searching for a dataset visualization

There could potentially be many visualizations currently stored in the dataset list. In this case you may want to filter out a set of datasets that more interest you. This can easily be done by performing the following:

1. Assuming you are on the landing page of the application, either login or click on the button labelled ‘Continue’
2. On the datasets list page, click on the text box labelled ‘Filter by Job Name’, as shown in Figure 4
3. Enter text pertaining to the datasets you are interested in, as you type the list will be updated on the fly to correspond to your query
4. Select the dataset(s) that you would like to view
5. Click on the button labelled ‘Clear Filters’ to reset the search and bring all of the datasets back to the table

Figure 4: Search bar will update list of datasets as you type your query

7.4. Logging out

Logging out of the ViMDa application will prevent access to administrator features until the user account is logged back in. In order to log out you must:

1. Click on the ‘hamburger’ icon for the sidebar to toggle the sidebar in and out, see Figure 5
2. If you are unable to toggle the sidebar in and out then proceed to the Troubleshooting section for further details
3. With the sidebar opened, click on the sidebar item labelled ‘Logout’
4. Successful logout will bring the user to the landing page and end the session

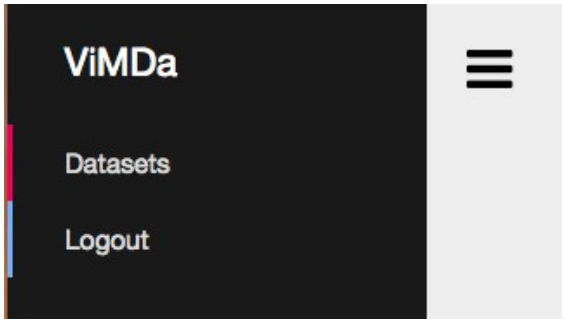

Figure 5: Sidebar when it has been toggled open by the toggle button (on right)

8. Administrator (Complex) Tasks

8.1. Submit a clustering job

To submit a job for clustering, user must be logged in with administrator privileges. An authorized user will then complete the following steps:

1. Click on the ‘hamburger’ icon for the sidebar to toggle the sidebar in and out, as shown in Figure 6
2. With the sidebar in an expanded state, click on the sidebar item labelled ‘Datasets’.
3. After the sidebar returns to a hidden state, click the blue button labelled ‘Create Cluster Dataset’
4. Enter a name for this dataset. Using a descriptive name will make it easy to find this dataset later.
5. Select two entities that will be used for clustering.
6. Select the time range of the dataset by selecting a start and end date.
7. Selecting the checkbox marked ‘Private’ will make the results of this dataset only visible to authorized users.
8. Additional parameters can be set to limit the scope of the dataset.

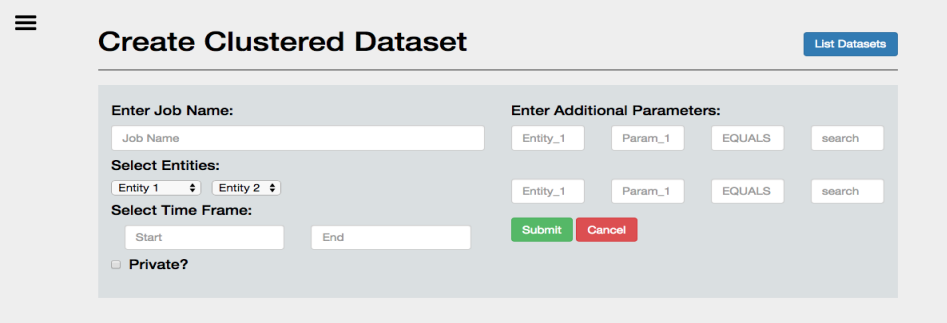

Figure 6: Create a new dataset by filling out the above form

9. Safety Precautions and Warnings

Not applicable.

10. Troubleshooting

In the event of an Internet problem, try these troubleshooting tips in attempt to alleviate the issues:

General Instructions:

1. Open Network Diagnostics by right-clicking the network icon in the notification area, and then clicking **Diagnose and repair**.
2. Make sure that all wires are connected (for example, make sure your modem is connected to a working phone jack or cable connection, either directly or through a router).
3. Reset your modem and router. Remove the power cord from the modem and/or router, wait at least 10 seconds, and then plug the modem and/or router back in.
4. Check your router. Because of the new networking features in Windows, some older network routers are not fully compatible with Windows and can cause problems.
5. If the issues are still not fixed, you can refer to your OS: Windows [1], Macintosh [2] and Gnu/Linux [3].
6. If none of the above steps alleviate the problem, restart the computer and try again.

11. Frequently Asked Questions

Q: Can I save my session results to review at a later time?

A: Due to security constraints and information sensitivity, all data and file I/O is done on the server-side, where you, the end-user only receives a temporary read-only format of the data which is terminated at the end of your session.

Q: How am I able to be registered to create clustering jobs?

A: Due to security constraints and information sensitivity, we are unable to assign a user account to you unless you are a member of the *Digital Music Lab* at McMaster University. These accounts are assigned on a person-by-person basis and there are no exceptions.

12. References

[1] Windows Troubleshooting:
http://windows.microsoft.com/en-ca/windows-vista/troubleshoot-internet-connection-problems

[2] Macintosh Troubleshooting:
http://support.apple.com/en-ca/HT202663

[3] Linux Troubleshooting:
http://www.greplinux.net/2012/10/internet-connection-troubleshooting.html

13. Appendix

Not applicable.

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