Application Description

This document contains the descriptions and legends for the application figures 1-20 which was developed during the internship program. The figures are located at http://maple.cs.umbc.edu/~nlozova/ under the "Project" tab, "Project Application in Java" sub-link. Descriptions of all of the created datasets and program packages are located on .my website under the "Project" tab. Thickness of an edge represents the weight of the edge. Each figure (1-20) represents the connected graph.

Fig. 1: Representation of the "CRA_W_DMP_dataset_N.xml" XML dataset in the XGMML format using Prefuse's demo "RadialGraph.java."

Fig. 2-3: Representation of the first draft of the program "GraphLayoutMAPLE_N.java" from the package "edu.umbc.cs.maple.graphlayout_N."

Fig 4-17: Different applications show motion of the graph only through clicking on a node. No dragging is involved.

Fig 4-20: A node becomes red when the user hovers over it.
Nodes which are connected to the hovered node by ingoing edges change color to purple; the edges turn yellow; a tool tip textbox appears with the node's text next to the node.

Fig 2: Representation of the "toygraph_N.xml" dataset from the created package "edu.umbc.cs.maple.data_generation_MAPLE_N"
n[i] = number of nodes;
All nodes are green.
The node becomes red when the user hovers over it.

Fig 3: The nodes contain text attributes.
All nodes are green.
A node becomes red when the user hovers over it.
Nodes which are connected to the hovered node by ingoing edges change color to purple; the edges turn yellow.

Fig 4-6

Legend:
Yellow – CRA-W DMP
Green – mentor
Lime – students
Light Pink – students' institutions
Pink – mentors' universities
Purple – mentor and student universities
Orange – centroid

Fig 7-10: Representation of the dataset “OSCAR_N.xml.”
Nodes contain an image attribute.
Contain same legend as Fig. 3.

Fig 11-14: Representation of the updated dataset “CRA_W_DMP_dataset_N.xml”.
Nodes with mentors contain an image.
Contain same legend as Fig. 4-6, except of the cut CRA-W DMP logo, which is red.

Fig 15-17, 20: Representation of the dataset “guass_centroid_N[2].xml” with five (5) clusters.

Fig 18, 19: Representation of the dataset “guass_centroid_N[1].xml” with two (2) clusters.

Fig 19, 20: Representation of the formed clusters by simple dragging of centroids away from the force-directed graph layout; therefore, separating the clusters and their nodes away from each other.

Fig 15-20: Legend:
Each color represents nodes which belong to a certain cluster.