**Analysis of Algorithm Group Assignment**

Chevaughn Gibson 1900396, Gail-Ann Archer 2002407, Lashea Beaton 2003885 Jermaine Graham1704263

Faculty of Engineering and Computing, University of Technology, Jamaica

CIT3003, Analysis of Algorithm

Mr. David White

November 18, 2022

Summarizing the problem in your own words and why its important.........3%

An application is needed to determine from a list of persons, similar interests that they may have to other present in the list. The application should suggest activities, in the event a closely related person has the same related attribute. However, this should be done only by request upon request. The degree of separation between two random persons and the average degree of separation for all the persons in the list should be computed.

For one to understand the problem that must be solve it must first be understood. If the problem is not understood one may create a solution that does output a desirable result. Therefore, each part of the problem statement must be analyzed thoroughly so the underline issue can be defined, then and only then can an appropriate solution be designed and implemented to solve it.

Stating the problem category this problem belongs to................................2%

After analyzing the presented passage, the problem category was found to be a Graphing problem. The nodes in the graph would be a representation of the users on the list. The user’s connection with close contacts, i.e. their related attributes, would be illustrated by the edges on the graph.

Complexity Class

The problem is P class complexity as we can randomly selected members of the list in order to check their connection to each other in polynomial time. This is case as Dijkstra’s algorithm gives use the ability to select the shortest path of graph structures from one node to the next. With the shortest possible traversal time to search the fix list the problem if solved properly will show the degree at which the selected persons are separated making the problem both solvable and verifiable in polynomial time.