Criterion A: Planning

The Scenario

My client **Mr. W** is a senior secondary school student. Through his school projects, he has expressed a desire for a more **streamlined and efficient** method of taking notes and **organizing** information than writing by hand. Being a visual learner, Mr. W appreciates the option of note-taking and studying with mind maps to, for example, **illustrate** a timeline of events or causes and effects; or to create universal outlines for his core studies. He has tried various software that can accomplish this, but none satisfied him due to **monetized proprietary licenses**, **convoluted functionality**, a **lack of Mac OS support**, and **sluggish performance**. Thus, in October 2018, I approached Mr. W and proposed a solution of a Java program for creating mind map diagrams. [1] He agreed to become my client as I am easily able to converse with him and freely adapt the program to his customs. As well, live feedback can be provided in person through running the program on a school computer. Mr. W is also my adviser; he stressed that since the program will be integrated into his education, he desires to provide consistent feedback and requests for customization and modified functionality during the program's development for its effectiveness.

Rationale for Proposed Solution

After testing various mind mapping programs that are freely available online, Mr. W stated that those were often not compatible with his operating system Mac OS, were convoluted to operate, had proprietary and monetized licenses, and that their user interfaces were not customizable. He described that my solution must be **elegant**, **open-source** and **simple**, with **cross-platform** support. According to these requirements, I decided to develop the program in Java with the **Eclipse IDE**. This is mainly because of Java being widely available on all operating systems; thus, I am able to satisfy his requirement of being cross-platform compatible. As well, I am currently learning Java at school using Eclipse, so it is practical for me to apply my experience with a GUI to the solution. Using either or both **Swing** and JavaFX, the program UI can be created to any degree of complexity. The program will be distributed with no user data, and Mr. W will be able to add his own data. Mr. W agreed that no aspects of security are pertinent to such a mind mapping program, but encryption of data files can be implemented in Java if Mr. W desires to.

Word count: 395 (excluding headings and footnotes)

[1] See appendix for consultation.

Success Criteria of the Program

1. Be **user-friendly** and **interactive**
    a. **Simple** to operate without convoluted instructions
    b. More advanced functionality should be supported by help text
2. Mind map elements should be able to be **dragged and dropped** to be placed wherever desired in the canvas
3. Allow **customization** of the mind map design, such as options for shape, font, size, colour, etc.
4. The canvas should be able to **pan freely** and allow the user to **zoom in/out**
5. Include functionality of **importing** a mind map file to continue editing and **exporting** to an image format for Mr. W's external use
6. Respond accordingly to user input **without any unresponsive or unintended behavior**, and not crash. Any possible combination of user input that may result in errors need to be properly handled and indicated to not confuse the user
7. Be **efficient** and **responsive** to operate. The program must not feel sluggish with large data sets