CS172 Summer ABOL Final Project Proposal - Travis Plunkett

I am a college student. I must pay for school. Additionally, I have aspirations: I would like to make Christian movies and music; I assist nonprofits and charities and would like to magnify efforts; etc. These factors pose numerous expenses which must be paid for.

Thus, I must acquire incomes. I am a photographer and videographer. I serve for weddings, senior photoshoots, non-profit videos, commercials, and more. I work at Silverwood Theme Park and acquire tips as a waiter. Some of these incomes pose their own expenses.

The problem presented is that I have expenses which must be paid for using my incomes. I seek to create a program which will allow me to create documents logging my financial progress. The program will also relate my incomes to my expenses and provide useful analytics.

For example, as a user, I may create the expenses of college and a short film over the course of three months. Then, I may create the incomes of Silverwood waiting and wedding photoshoots over the course of three months (Waiting may generate random tips with a chosen average which would present themselves, in addition to my hourly wage, according to the days/week I work over the three months. Weddings have various sizes, budgets, revenue for me, and costs on my end. I would create an invoice which would log my costs and revenue for each wedding). The program would write an expenses file, and costs file, an overall file, and any particular files relating to a particular expense or income, such as metadata for a job or wedding photoshoot. As a user, each of these files is useful for financial analysis.

This project would entail objects and object relationships. A Wedding is an income. Yet a wedding has an expense. A short film is an expense, though it may have an income as well. I expect to approach the problem with vectors, dynamic memory, templates, and objects. Vectors will hold either expenses or incomes, which will be created dynamically by the user. Templates will be necessary in order to pass different types of objects into the same functions - such as passing either a wedding or a senior photoshoot into a function which writes respective metadata to respective files. Object relationships may prove useful to me as well.

I anticipate that this project poses a level of complexity which suits the material of this class well and that it will be a challenge, therefore. Dynamic memory must be deleted correctly and involves pointers which must be used efficiently and correctly in order to solve problems without posing more problems, or errors. All of these things are great questions of practice, and I expect to further develop my understanding of the trappings of this project as I continue.