Daniel Blomdahl

CS-172-1 Final Project

System Requirements

Problem Definition: To create a listing of all of the trips and their intensity ratings for Whitworth Outdoors trips.

My project is to sort all of the different trips into the four intensity categories, and then display that nicely in an exported file. The user will input the type of trip (such as hiking, mountain biking or rock climbing), how many days the trip is, how many miles the trip is (if applicable) and other applicable information. My project will then rate the trip and store it in a vector of its class type. Once all of the trips are inputted to the program, the project will output the information of each trip sorted into the intensity categories.

There will be a trip class, with a backpackingtrip, hikingtrip, climbingtrip, iceclimbingtrip and bikingtrip classes underneath it. The trip class will have a CalculateRating function, but the CalculateRating function will be different for each specific kind of trip. For example, the hikingtrip CalculateRating function will take in the mileage of a hike, but the millage is not applicable to the climbingtrip CalculateRating function. Each class will also have GetDays and GetLocation functions (see UML diagram).

There will be 5 vectors, each of different trip class type. The user will select a trip, and then the trip will be added to the vector of its class.

The source.cpp will begin with a do-while loop where the user can input as many trips as they want until they enter ‘n’. Once the do-while loop is complete, all of the ratings are calculated by using a for loop to run through all of the vectors of different class types. Included in the for loop is a function CountRatings that adds values to easyCount, activeCount, adventurousCount and epicCount by passing them by reference into the function.

The program then reads out the trip type, location and rating to the terminal and then to a text file using the overloaded operator <<.

I will use fstream to output all of the trips to a txt file and display their type of trip, their location, and the trip’s rating. The fstream will also print out the amount of each trip rating by getting easyCount, activeCount, adventurousCount and epicCount.