

ECE 270



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Quiz #18
Final Project Proposal

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1. Statement of the Problem

The purpose of this program will be to recreate the mechanics, gameplay, and to some extent the story of the quintessential 90's Nintendo Gameboy game: Pokémon Yellow Version! I want to attempt this because this was my first Pokémon game as a kid and probably my second favorite game of all time.

2. Research

The original game was written in assembly language and I have no direct code references to start from. While that poses a challenge, I have been able to gain some insight into the actual structure and organization of the game's programming by reading through this rather interesting breakdown of the game ROM's internal structure: <http://aurellem.org/vba-closure/html/rom.html> .

3. Proposed Design

I am not as certain about how I will be able to implement this design, but my plan is to use the original game's sprite assets and underpin them with my own code to govern movement, random encounters, and the battle system of the original game. I will have to create a class that contains the structure for a Pokémon (stats, max health, current health, attacks 1-4), an attack (which will itself contain an object of a class that contains the effects of the attack). I will have to somehow conjure up all of the battle logic, but I'm confident I can figure it out. The master list of the 151 different species of Pokémon and their corresponding index # and base stats will be stored in a CSV file and read into the program to generate an array of 151 Pokémon-class objects which will act as an index. The list of attacks will be given their own CSV file containing attack name, attack strength, and an index # corresponding to what effect the attack has. I'll have to lean heavily on OpenFrameworks references to figure out the code for displaying the game UI and moving through the game, but that doesn't look like it'll be horribly difficult.

4. Testing

The testing process for this program will involve playing through what will amount to a short playable demo of the original to make sure it behaves as expected and reproduces the original game to a satisfactory level.

5. Addendum

Other project ideas involve a simple budget planner program that will let you input your income, expenses by category, and amount you'd like to save (if so desired), and try to help you identify

areas you may be overspending and display suggestions for bringing that spending down to where it needs to be.

Another idea would be a contractor's job estimating program that would allow a contractor to select what type of work they are doing and enter other metrics (square footage, material cost, overhead percentages) and build a quote based on that to be submitted to the customer.