AP Computer Science Principles 2023-24

Game Development Project

Our game development project is a great opportunity to put into practice much of what you have learned about JavaScript. In addition to just syntax, however, there are some algorithms and techniques we have covered specifically related to game development. You’ll likely use most of these, but they are just the beginning. You will need to modify them slightly to fit your needs and even come up with new approaches of your own.

The game need not be complicated, in fact, I’d rather have a completed simple game than a half-finished complex game. That said, I will take into account whether you have included complexity (higher-end graphics, etc.) as I evaluate your game.

The game need not be an action game – board games like battleship; connect four, etc. are acceptable. However, if it is not an action game, I will require you build it so that you can play against the computer, and that the computer exhibit some form of artificial intelligence in its choice of moves.

As with all our games, content must be “school appropriate”. If you question if something is appropriate, it probably is not. If you are still not sure, just ask me.

**Game grading rubric:**

% - Description

10 – Game Graphics – use of Sprites/Spritesheets and movement of them during game

10 - Use of mouse and/or keyboard controls to get input form the player

10 - Use of sound for event(s) – must have at least one sound in the game

\*\*\*30 – Use of an array to hold and manipulate multiple “objects”. This is a requirement of your artifact for the College Board. Use of array must clearly show use that simplifies the program development.

\*\*\*30 – Create a unique (of your own design) function to be used in your game. This function must have selection, sequencing, and iteration (coded, if statements, and looping) and take parameters that impact the control flow in the function.

10 – Determine Win/Loss and display credits at game end.

Originality of design or significant modification of existing game design expected. I will need to sign-off on your plan prior to you starting the project.

The Gameplan Excel sheet must be complete prior to beginning of coding.