

Purpose and Product

Students will develop their programming skills while creating an educational game similar to The Oregon Trail.

Directions

Students will research another famous journey or exploration to create an educational game that is fun and provides important information about the topic. Some examples students can choose are:

- Hernando de Soto's Exploration of North America: https://en.wikipedia.org/wiki/Hernando_de_Soto#De_Soto's_exploration_of_North_America
- Ernest Shackleton's Imperial Trans-Antarctic Expedition: https://en.wikipedia.org/wiki/Imperial_Trans-Antarctic_Expedition
- The ancient Silk Road trade route: https://en.wikipedia.org/wiki/Silk_Road
- Lewis and Clark Expedition: https://en.wikipedia.org/wiki/Lewis_and_Clark_Expedition
- Charles Darwin and the Galapagos Islands: <https://www.gogalapagos.com/charles-darwin-galapagos/>
- Magellan's Circumnavigation of the Globe: https://en.wikipedia.org/wiki/Magellan's_circumnavigation

Please note that these are NOT the only options you can choose for your game.

Students will then design and develop a game based on that journey or exploration. Take in to account the following:

- The game should start with a menu that gives the player some options such as: configuring controls, learning more about the journey, providing help for controls and game play, etc.
- The player will need to choose a starting role that impacts game play. For example, with the Oregon Trail players could be a banker, carpenter, or farmer. This choice affected the amount of starting money to purchase equipment and the score bonus at the end of the game.
- The player must be able to enter their name and the names of any other characters on the expedition.
- The player will need to purchase a starting inventory of supplies for the journey. This can include food, weapons, water, clothing, ships, wagons, horses / oxen, etc.
- The player should have access to a "world map" showing the entire game area. Players should have some choices in the "path" they take on the journey.
- The player should experience relevant hazards or disasters along the trip. These disasters should cause loss of health, inventory supplies, time, or a combination. These disasters should be randomly determined using player choices made in the game.

- The game should have at least six different “locations” between the starting point and ending point of the game. Each location should include some educational information related to the journey or exploration.
- Each location should offer the player the opportunity to perform actions such as resting, hunting or gathering for food, buying / selling / trading supplies, speaking with locals, etc.
- The game play should feature travel or exploration similar to that in The Oregon Trail. While exploring, players should have options similar to those available at the locations described above.
- The game should track the following: time and date, distance to next location or landmark, and total distance traveled.
- The game should have original graphics created by you. Graphics should be saved in the *gfx/* folder.
- The game should include sound effects or music that can be created by you or others but you must give proper credit to the creator. Music should be saved in the *music/* folder and sound effects in the *sfx/* folder.
- The game should have an “end game” screen when the player successfully completes the journey. This screen should show the player a score.
- The game should save high scores and the player name to a file in the *player_scores/* directory.

Students will learn different programming techniques to help create the game. This project will be submitted for a grade sometime during the 3rd quarter.

A specific points based rubric will be made available before winter break.