Architectural Design

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Option 1 - Instructions:

* When this option is clicked it will help the user understand how to play the game so they can be successful. This is close to how the instructions will look:
  + In our pygame project the objective of the game is for the user to play as an extraterrestrial being in a ship attempting to return home.
  + There are many obstacles, some being: the sun turning into a red giant, running out of fuel, and the asteroid belt.
  + There will be a timer that informs you how long you have before the sun turns into a red giant. You will have to be at Jupiter before the timer runs out or else you lose the game.
  + Additionally, there will be a timer that informs you how long you have before your fuel runs out. At the start of the game you start with fuel, to replenish your fuel timer you have to travel to the nearest planet. Each planet has a gas station, when you arrive at a planet you can click on the gas symbol to replenish your fuel timer. If your fuel timer runs out at any time you lose the game.
  + The controls in order to move will be WASD, the W key will be used to move upwards, the A key will be used to move to the left, the S key will be used to move downwards, and the D key will be used to move to the right.

Option 2 - Lesson:

* This option mainly teaches the user about the solar system. It teaches them about the planets and their features, the asteroid belt, star evolution, and solar nebula theory. The game implements this by showing the different stages of the sun as well as having obstacles which are taught in the lesson. The game takes place in our solar system so you can identify the different planets.

Option 3 - Game:

* Background information:
  + You are an extraterrestrial being from a different solar system. You came to our solar system to explore each of our 8 planets. You explored all the planets, but forgot a little fuel in each of the planets. You are currently at mercury. The problem is the sun is beginning to expand into a red giant. This causes it to consume planets in its path. Escape to the nearest planet to collect fuel, and move on to the next planet before the sun consumes you.
* Mercury:
* Venus:
* Earth:
* Mars:
* Planetary Nebula:
* Jupiter
* Saturn:
* Uranus:
* Neptune:

Option 4 - Quiz (Multiple Choice):

* When this option is chosen the user will take a short quiz. This quiz will be based on the information in the lesson. At the end of the quiz the user will receive their score in percentage.
  + Question 1: What happens to a Red Giant after a planetary nebula occurs?
  + Choices: White dwarf, black hole, neutron star, super red giant

Answer: White dwarf

* + Question 2: Where in the solar system is the asteroid belt located?
  + Choices: Between Mars and Jupiter, between Jupiter and Saturn, between Mercury and Venus, between Earth and Mars
  + Answer: Between Mars and Jupiter
  + Question 3: How do solar systems form and what is this theory called?
  + Choices: Solar Nebula Theory - Star forms from a stellar nebula and leftovers form planets, Solar Nebula Theory - Planets forms from a stellar nebula and leftovers form a star, Big Bang - Star forms from a stellar nebula and leftovers form planets
  + Answer: Solar Nebula Theory - Star forms from a stellar nebula and leftovers form planets
  + Question 4: What is the correct timeline for a massive star?
  + Choices: Massive star -> Super Red Giant -> Supernova -> Black hole or Neutron star, Massive star -> Red Giant -> Supernova -> Black hole or Neutron star, Massive star -> Super Red Giant -> Planetary nebula -> Black hole or Neutron star
  + Answer: Massive star -> Super Red Giant -> Supernova -> Black hole or Neutron star
  + Question 5: What’s another term for The Outer Planets and what are they?
  + Choices: Jovian Planets - Jupiter, Saturn, Uranus, and Neptune| Jovian Planets - Jupiter, Saturn, Uranus, Neptune, and Pluto| Terrestrial Planets - Jupiter, Saturn, Uranus, and Neptune| Terrestrial Planets - Mercury, Venus, Earth, and Mars
  + Answer: Jovian Planets - Jupiter, Saturn, Uranus, and Neptune

Option 5 - Quit:

* After finishing the game you will be redirected to the main menu where you can choose other options or quit. When the user chooses to quit the program will close. Before the program completely closes there will be a credit page showing anything we used from the internet. This can be code fragments, images, or sounds to list a few. After each ending you will also be redirected to the main menu where you can choose other options or quit.