

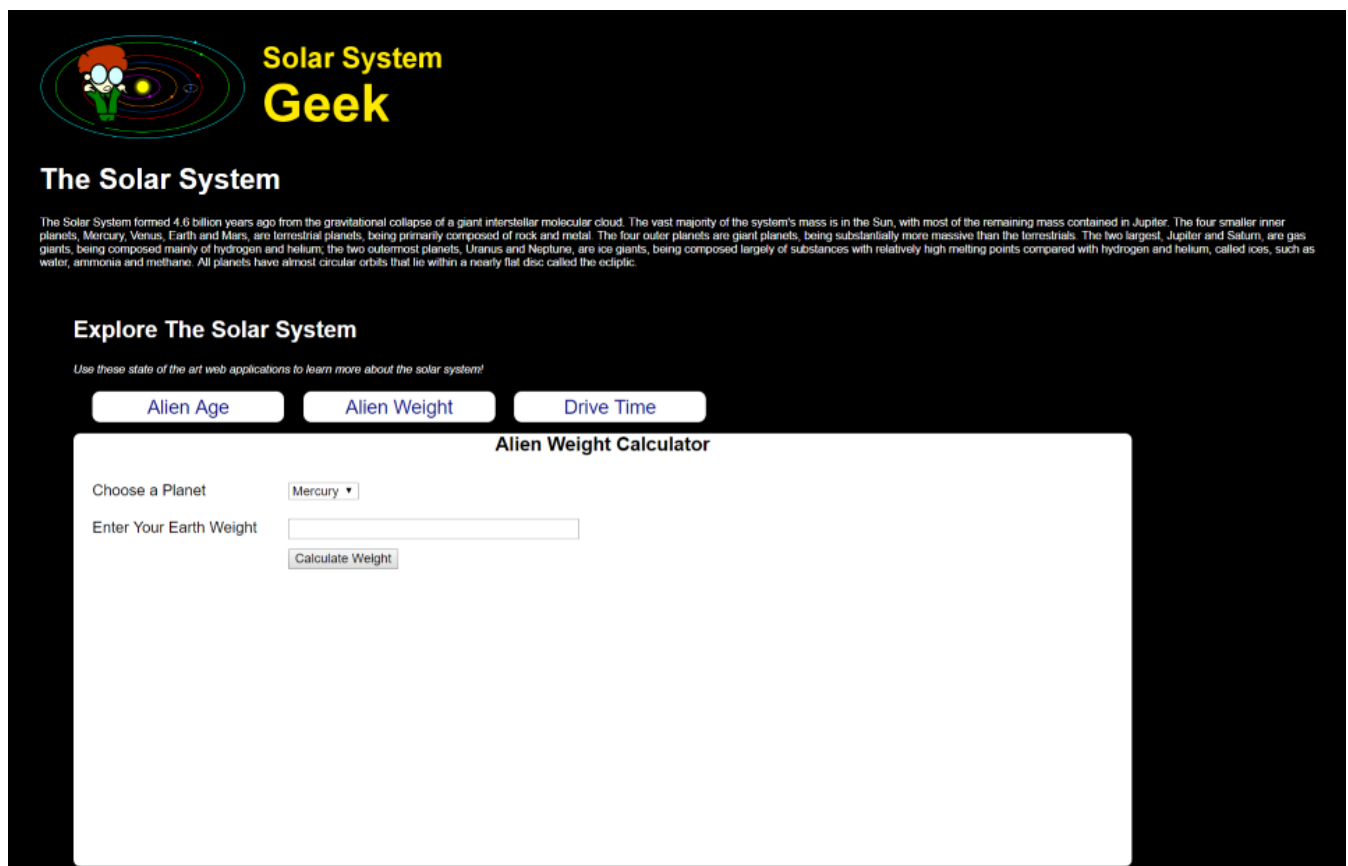
# Day 1 Solar System Geek Calculators (Pairs)

On the Solar System Geek home page there are links for three different calculation tools to "Explore the Solar System". Implement these calculators as specified below and modify the home page links to point to your implementations.

## Alien Weight Calculator

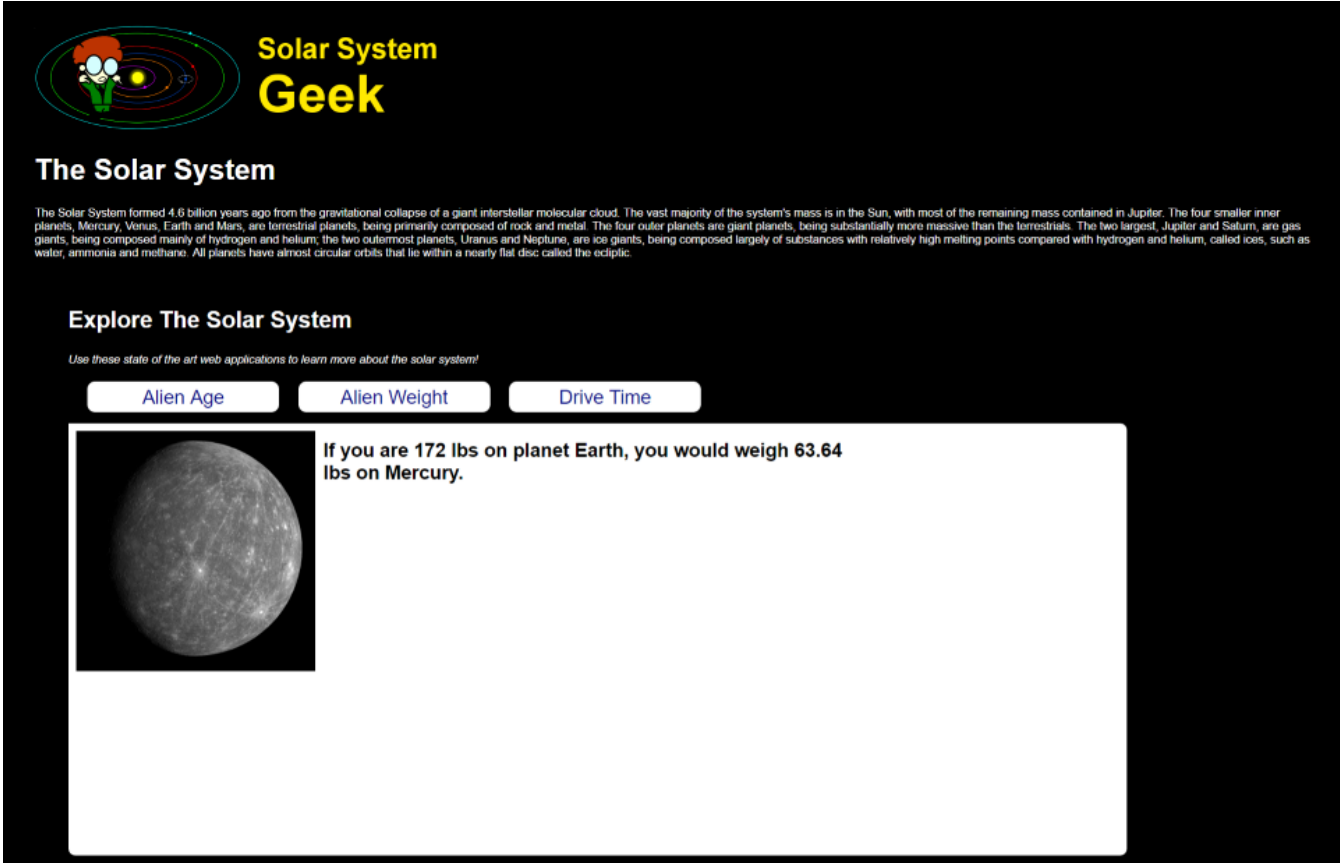
Given a weight on earth, this calculator should compute the equivalent weight on another planet in the solar system. Use the [gravity of the alien planet](#) compared to earth gravity to calculate the alien weight.

Input



The screenshot shows the 'Solar System Geek' website. At the top left is a logo featuring a cartoon alien with glasses and a red head, next to the text 'Solar System Geek'. Below this is the heading 'The Solar System' followed by a paragraph of text about the formation of the solar system. Underneath is the section 'Explore The Solar System' with a subtext 'Use these state of the art web applications to learn more about the solar system!'. There are three buttons: 'Alien Age', 'Alien Weight', and 'Drive Time'. The 'Alien Weight' button is highlighted, and a modal window titled 'Alien Weight Calculator' is open. Inside the modal, there is a 'Choose a Planet' dropdown menu with 'Mercury' selected, an 'Enter Your Earth Weight' input field, and a 'Calculate Weight' button.

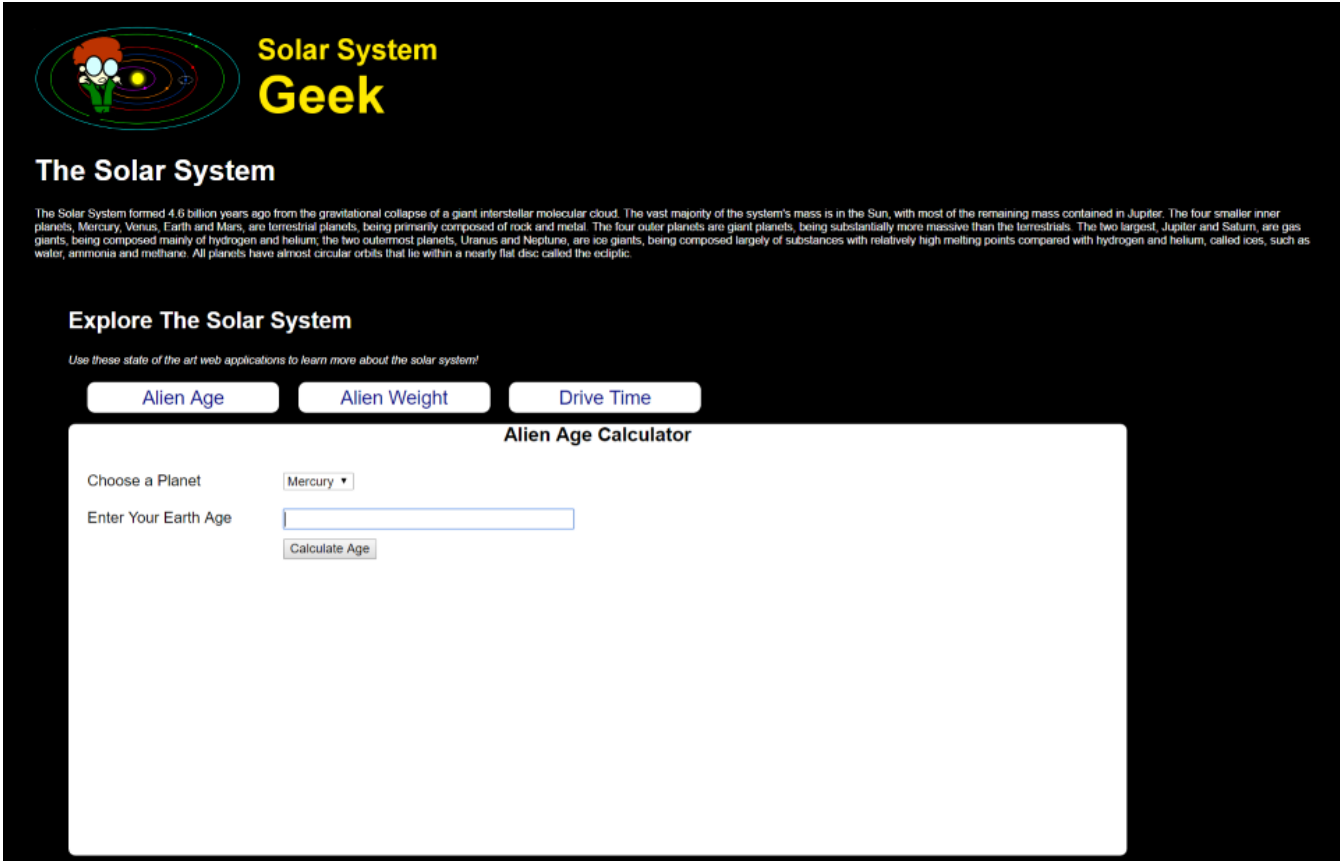
Output

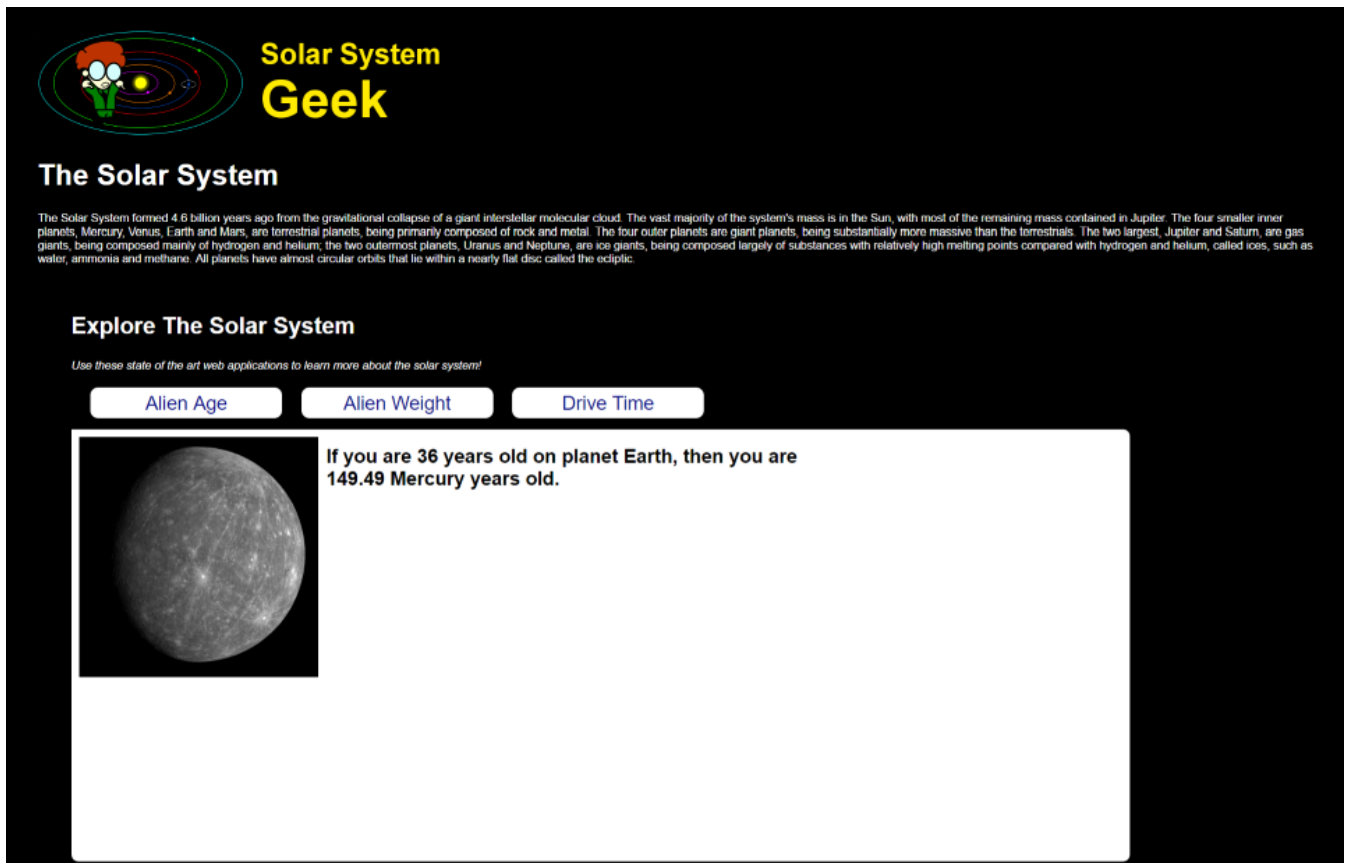


Alien Age Calculator

Given an age in Earth years, this calculator should compute the equivalent age in [years for another planet in the solar system](#).

Input





**Solar System Geek**

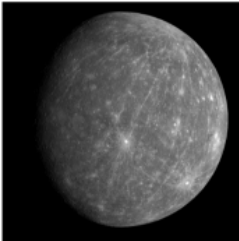
## The Solar System

The Solar System formed 4.6 billion years ago from the gravitational collapse of a giant interstellar molecular cloud. The vast majority of the system's mass is in the Sun, with most of the remaining mass contained in Jupiter. The four smaller inner planets, Mercury, Venus, Earth and Mars, are terrestrial planets, being primarily composed of rock and metal. The four outer planets are giant planets, being substantially more massive than the terrestrials. The two largest, Jupiter and Saturn, are gas giants, being composed mainly of hydrogen and helium; the two outermost planets, Uranus and Neptune, are ice giants, being composed largely of substances with relatively high melting points compared with hydrogen and helium, called ices, such as water, ammonia and methane. All planets have almost circular orbits that lie within a nearly flat disc called the ecliptic.

### Explore The Solar System

Use these state of the art web applications to learn more about the solar system!

[Alien Age](#) [Alien Weight](#) [Drive Time](#)




If you are 36 years old on planet Earth, then you are **149.49 Mercury years old.**

## Alien Travel Calculator

Given a destination planet, mode of transportation, and age of the traveler at the start of the journey, this calculator should compute the total travel time and age of the traveler upon arrival. The calculation should be based on the [average distance between planets in the solar system](#) and the following modes of transportation and their speeds:

- **Walking** (3mph)
- **Car** (100mph)
- **Bullet Train** (200mph)
- **Boeing 747** (570mph)
- **Concorde** (1350mph)

Input



# Solar System Geek

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### Explore The Solar System

Use these state of the art web applications to learn more about the solar system!

Alien Age

Alien Weight

Drive Time

Alien Travel Calculator

Choose a Planet

Mercury


Choose a Planet

Walking

Enter Your Earth Age

Calculate Travel Time

Output



# Solar System Geek

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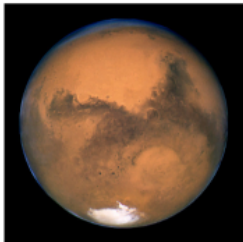
### Explore The Solar System

Use these state of the art web applications to learn more about the solar system!

Alien Age

Alien Weight

Drive Time



Traveling by bullet train you will reach Mars in 27.78 years. You will be 58.78 years old.

Day 2 Solar System Geek Online Forum (Pairs)

2019-03-03

You are developing an online bulletin board web component to SSGeek. Its a general forum posting, so anyone is welcome to join and post without needing to first login.

The application needs to support 2 core functionalities.

1. Provide a page that allows a site user to submit a new post to the bulletin board
2. View all posts on the bulletin board

**Your implementation must apply dependency injection and leverage a Test Double to ensure the controller logic is correct.**

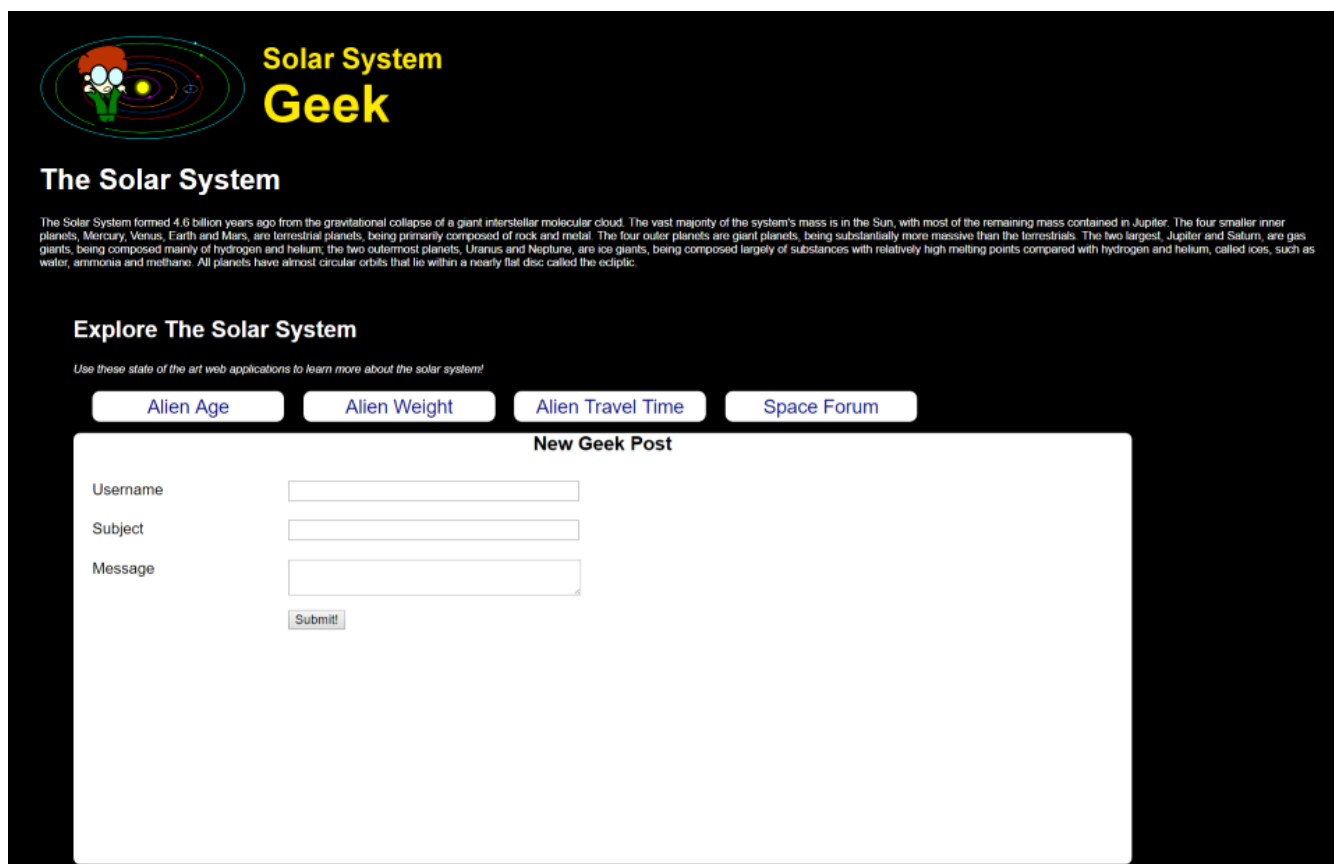
**A database script, an interface, and a data access object has been provided. You will need to implement the details.**

## Submitting a New Post

Users can navigate to a page on the web application that provides them with a form to submit a new post for a bulletin board.

The page will provide the user with the form to submit:

- Username (required)
- Subject (required)
- Message (required)

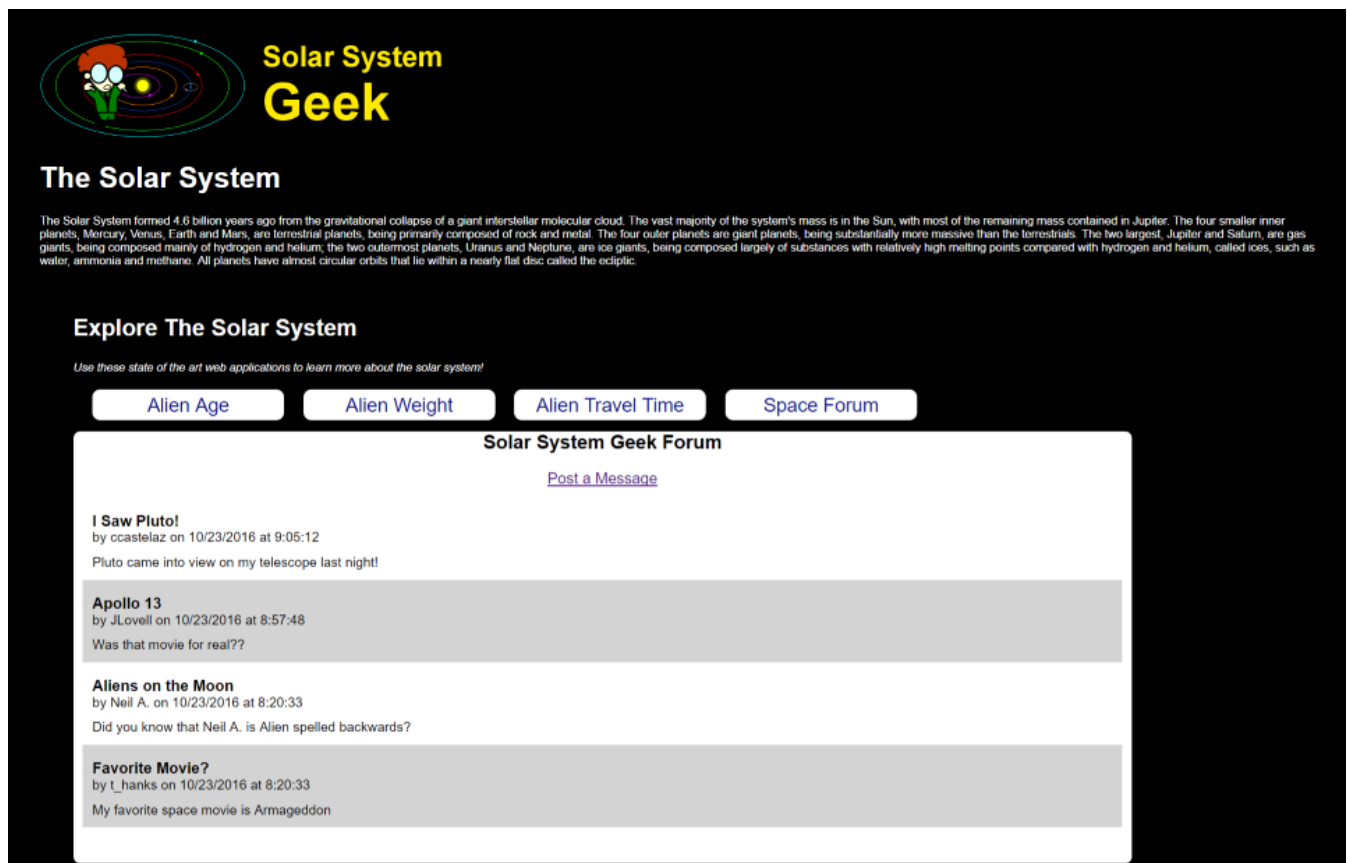


The screenshot shows a web application titled "Solar System Geek" with a logo of a person with glasses and a lightbulb. Below the logo is a section titled "The Solar System" with a paragraph of text about the solar system's formation. Below this is a section titled "Explore The Solar System" with a sub-header "Use these state of the art web applications to learn more about the solar system!". There are four buttons: "Alien Age", "Alien Weight", "Alien Travel Time", and "Space Forum". Below these buttons is a form titled "New Geek Post" with three input fields: "Username", "Subject", and "Message". A "Submit!" button is at the bottom of the form.

## Viewing a Post

The View Posts page allows users the ability to see any posts that were previously submitted to the web application.

The page should display to the user all of the prior posts. You can use any type of layout that you prefer.



Any new posts that are submitted from the Submit Post page should show up on the View a Post page.


## Day 2 Bonus

Create a form that allows website visitors to sign up to win a prize.

Each visitor needs to provide their name, and answer a space trivia question.

Leverage HTTP POST and the Post-Redirect-Get pattern to

1. Show the user the form
2. Have the user post their answer
3. Redirect the user to the correct action based on the input



## Solar System Geek

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### Explore The Solar System

Use these state of the art web applications to learn more about the solar system!


[Alien Age](#) [Alien Weight](#) [Alien Travel Time](#) [Space Forum](#)

#### Space Geek Trivia

Enter your name

Who first walked on the moon? ☐ Tom Hanks ☐ Jim Lovell ☐ Neil Armstrong

When the user answers it correctly, they see a Correct! page that confirms their answer.



## Solar System Geek

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### Explore The Solar System

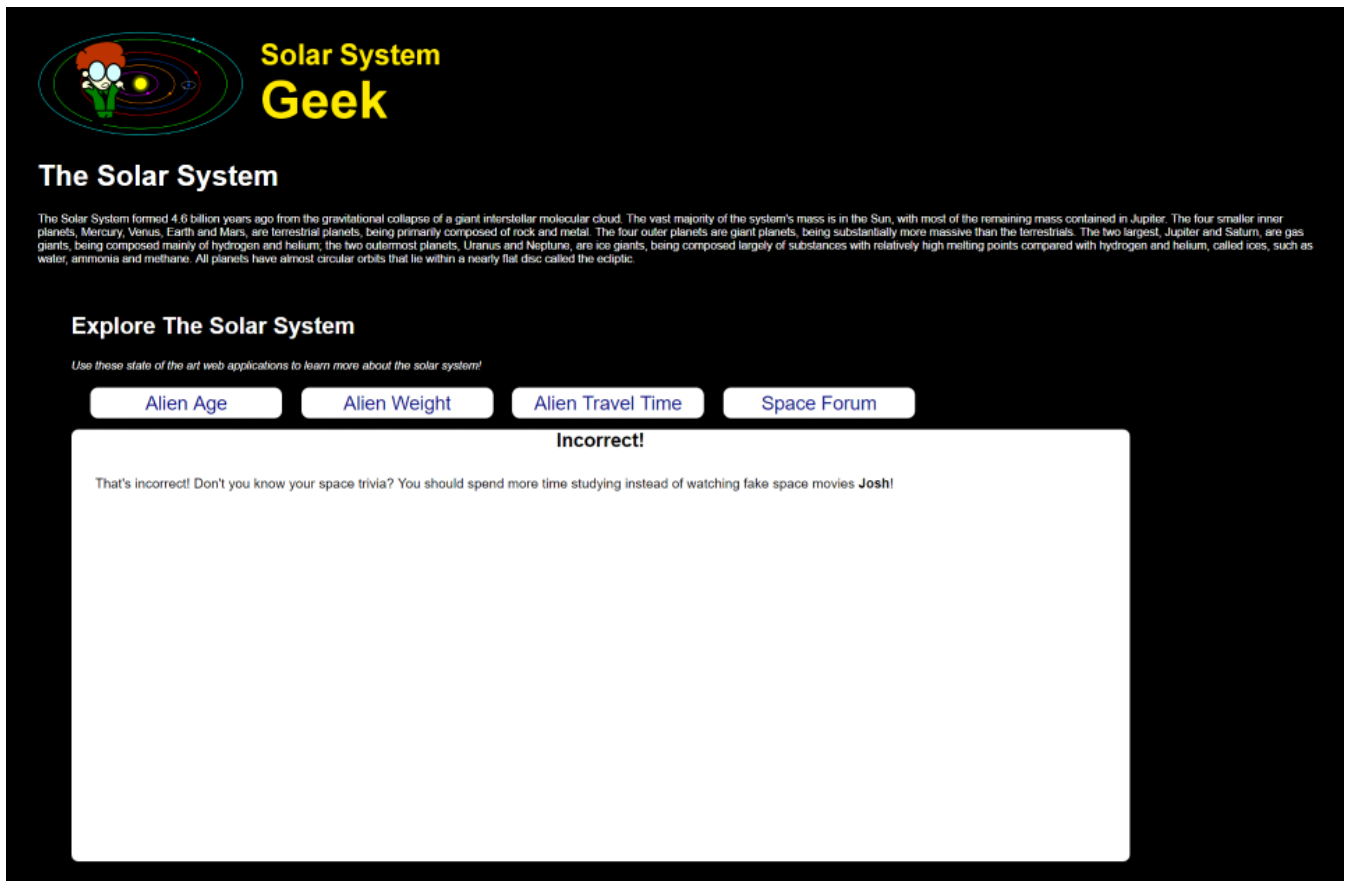
Use these state of the art web applications to learn more about the solar system!

[Alien Age](#) [Alien Weight](#) [Alien Travel Time](#) [Space Forum](#)

#### Correct!

That's right **Josh**! Neil Armstrong first stepped on the moon on July 20, 1969. You know your space history!

When the user answers incorrectly, they see an Incorrect! page telling them that they are incorrect.



## Day 3 Shopping Cart

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You'll be creating a shopping cart that allows your website visitor the ability to view products, select a product and add a user-specified quantity to the shopping cart.

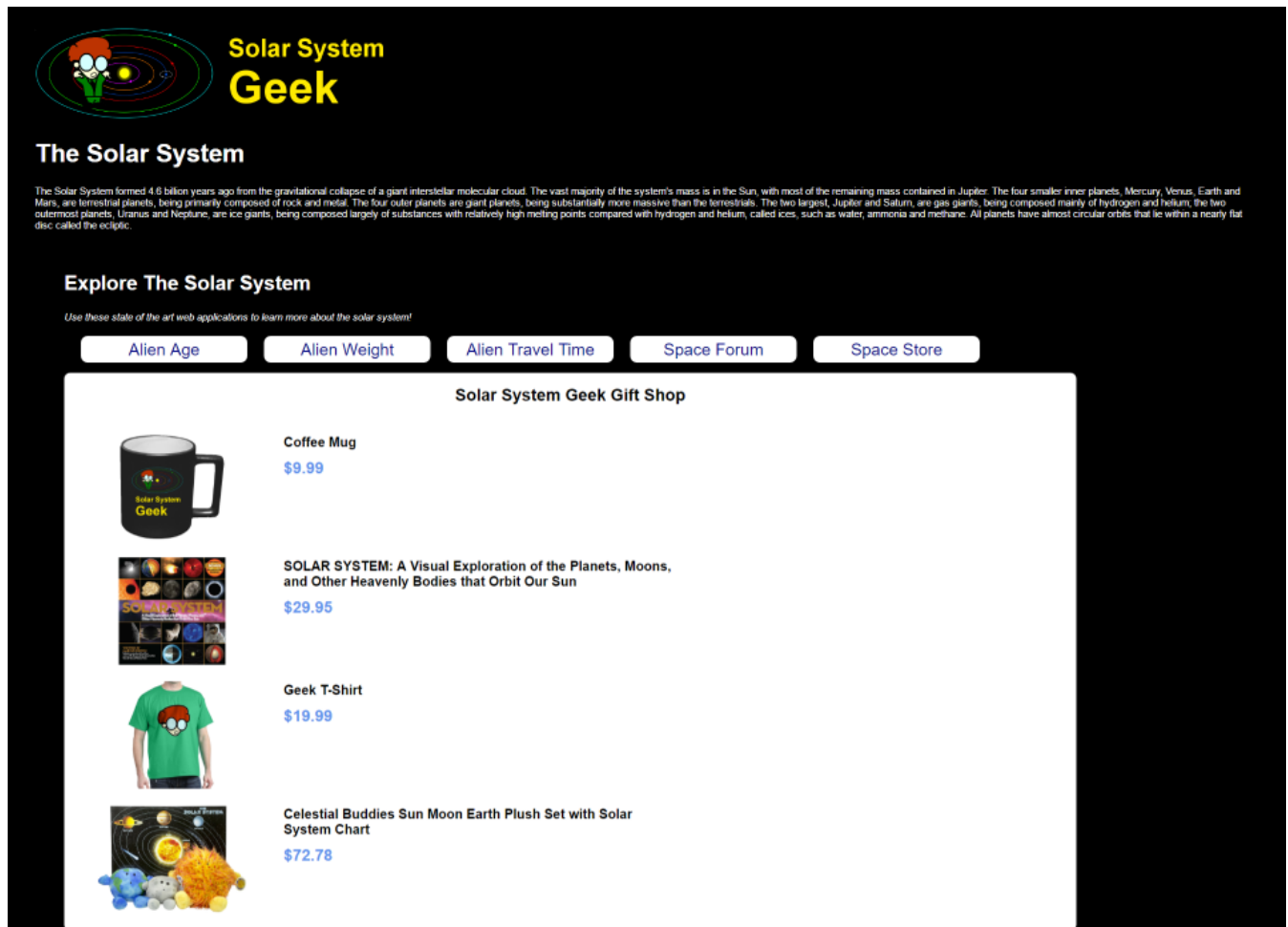
### Product List Page

The product listing page displays all of the inventory that the SSGeek shop contains.

#### Requirements

- When the user clicks on the image of a product they are navigated to the **Product Detail** page






## Product Detail Page

The product detail page displays the data for a specific product and allows users to add products to their shopping cart.

### Requirements

- When the user enters a quantity into the textbox and *presses Enter* or *presses Add to Cart* the product is added to their shopping cart
- After the user adds an item to their shopping cart, they are redirected to the View Cart page



**Solar System  
Geek**

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### Explore The Solar System

Use these state of the art web applications to learn more about the solar system!

[Alien Age](#)[Alien Weight](#)[Alien Travel Time](#)[Space Forum](#)[Space Store](#)

#### Solar System Geek Gift Shop



### Celestial Buddies Sun Moon Earth Plush Set with Solar System Chart

**\$72.78**

Celestial Buddies is an original line of plush characters each personifying a celestial body occupying our heavens. Each character comes with a tag showing the actual object it personifies and some fun facts to give the toy educational value. This collection contains the 3 celestial buddies we are most aware of - the sun (9 inches), moon (5 inches) and Earth (6 inches). Also included is a chart of the Solar System, to help your child identify where the buddies are located in our universe.

Quantity to buy

Add to Cart

## View Shopping Cart

The View Shopping Cart page displays all of the items that are in the visitor's shopping cart to purchase.

### Requirements

2019-03-03



Solar System  
Geek

The Solar System




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Explore The Solar System

Use these state of the art web applications to learn more about the solar system!

- Alien Age
- Alien Weight
- Alien Travel Time
- Space Forum
- Space Store

Solar System Geek Gift Shop

	Name	Price	Qty.	Total
	Celestial Buddies Sun Moon Earth Plush Set with Solar System Chart	\$72.78	2	\$145.56
	Coffee Mug	\$9.99	1	\$9.99
	Geek T-Shirt	\$19.99	1	\$19.99
Grand Total				\$175.54
				<a href="#">Check out</a>