


Day 1 - HTTP GET

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



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

Alien Weight Calculator


Choose a Planet

Mercury

Enter Your Earth Weight

Calculate Weight

Output



Solar System Geek

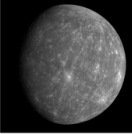
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Alien Age

Alien Weight

Drive Time




If you are 172 lbs on planet Earth, you would weigh 63.64 lbs on Mercury.

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

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Drive Time

Alien Age Calculator


Choose a Planet

Mercury

Enter Your Earth Age

Calculate Age

Output



Solar System

Geek

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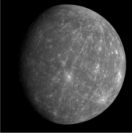
Explore The Solar System

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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 table of modes of transportation and their speeds:

Mode of Transport	Speed
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

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.


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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 - HTTP POST

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

The feature has two requirements:

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

A database script([scripts/ssgeek.sql](#)), an interface ([IForumPostDAL](#)), and a data access class (for you to implement) has been provided.

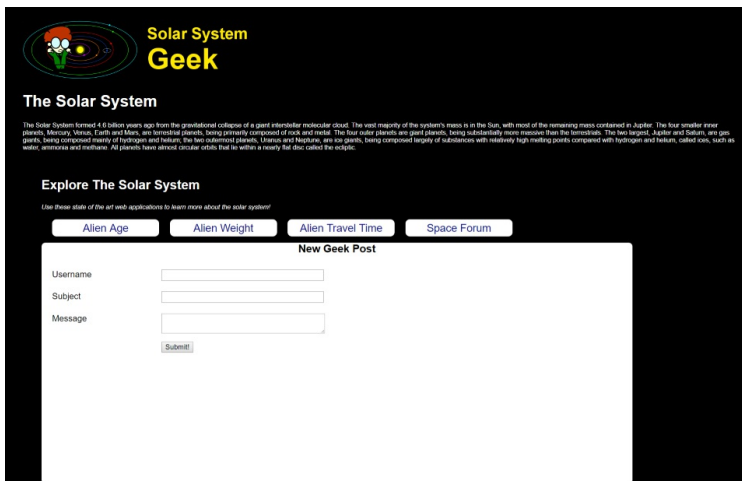
Your implementation must apply dependency injection and should be unit tested.

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
- Subject
- Message

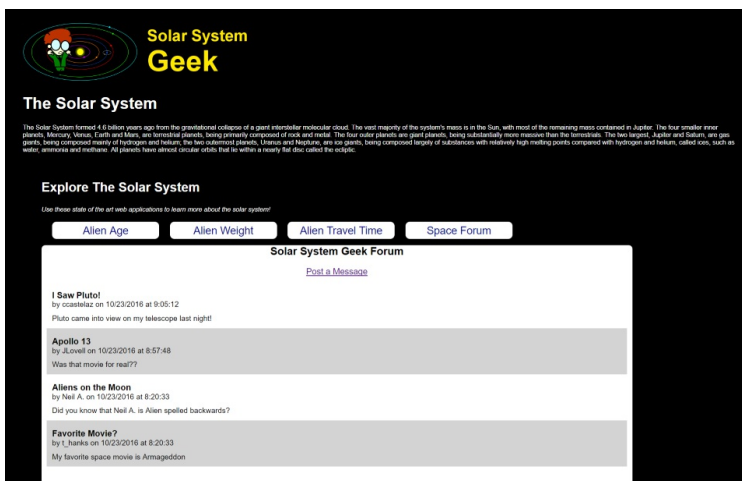


The screenshot shows the 'Solar System Geek' application interface. At the top, there's a logo and a title 'The Solar System'. Below it, a paragraph of text describes the solar system. A section titled 'Explore The Solar System' contains four buttons: 'Alien Age', 'Alien Weight', 'Alien Travel Time', 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 located 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.



The screenshot shows the 'Solar System Geek Forum' page. At the top, there's a logo and a title 'The Solar System'. Below it, a paragraph of text describes the solar system. A section titled 'Explore The Solar System' contains four buttons: 'Alien Age', 'Alien Weight', 'Alien Travel Time', and 'Space Forum'. Below these buttons is a section titled 'Solar System Geek Forum' with a link 'Post a Message'. The forum displays a list of posts:

- I Saw Pluto!**
by scottelaz on 10/23/2016 at 9:05:12
Pluto came into view on my telescope last night!
- Apollo 13**
by J.Crevel on 10/23/2016 at 8:57:48
Was that movie for real??
- Aliens on the Moon**
by Neil A. on 10/23/2016 at 8:20:33
Did you know that Neil A. is Alien spelled backwards?
- Favorite Movie?**
by J. Janks on 10/23/2016 at 8:20:33
My favorite space movie is Armageddon

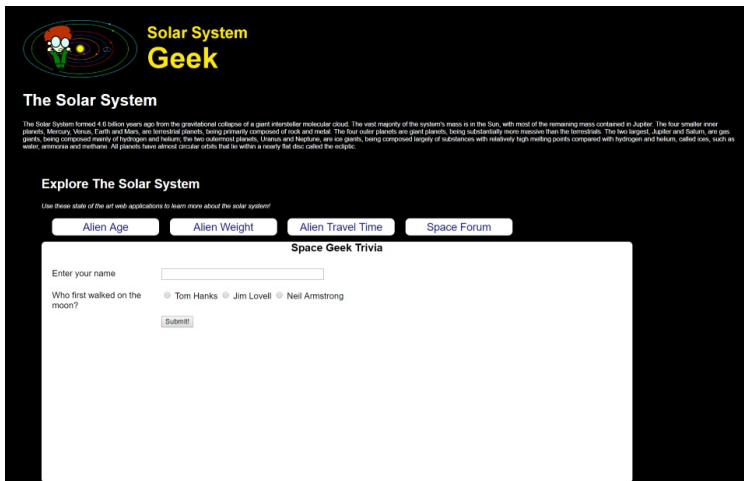
BONUS

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.

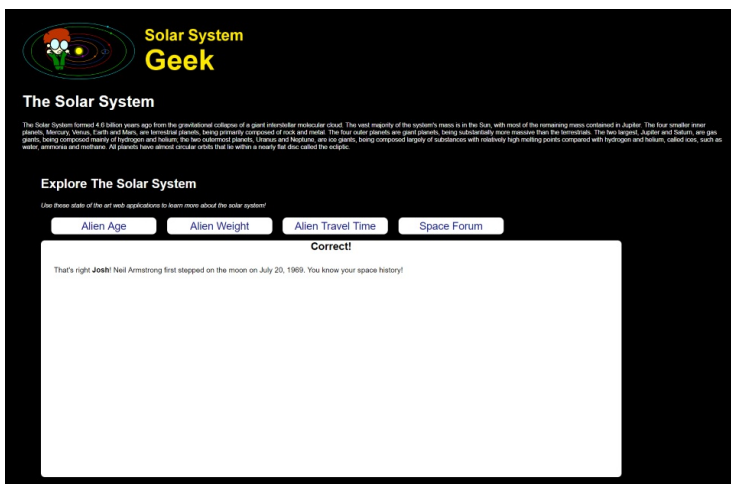
Leverage HTTP POST and the Post-Redirect-Get pattern to

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

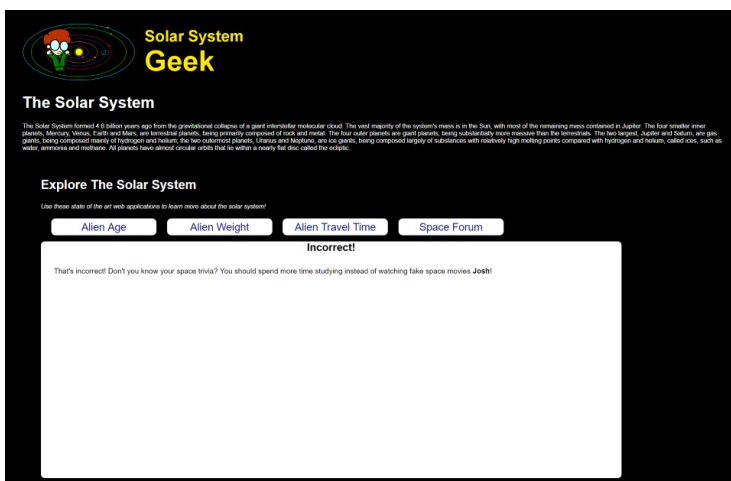


The screenshot shows the 'Solar System Geek' website. At the top is a logo with a cartoon alien and the text 'Solar System Geek'. Below the logo is a section titled 'The Solar System' with a paragraph of text about the solar system's formation. Underneath is a section titled 'Explore The Solar System' with a sub-header 'Use these stats of the 99 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 is a 'Space Geek Trivia' section. It contains a form with a label 'Enter your name' and a text input field. Below the input field is a question: 'Who first walked on the moon?'. There are three radio button options: 'Tom Hanks', 'Jim Lovell', and 'Neil Armstrong'. A 'Submit' button is at the bottom of the form.

Based on the user's answer, they will see a Correct or Incorrect page letting them know the outcome.



This screenshot shows the same website as the previous one, but the trivia form has been replaced by a message that says 'Correct!'. Below the message is a paragraph of text: 'That's right Josh! Neil Armstrong first stepped on the moon on July 20, 1969. You know your space history!'. The rest of the website layout remains the same.



This screenshot shows the same website as the previous ones, but the trivia form has been replaced by a message that says 'Incorrect!'. Below the message is a paragraph of text: 'That's incorrect! Don't you know your space trivia? You should spend more time studying instead of watching fake space movies Josh!'. The rest of the website layout remains the same.

Day 3 - SESSION

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

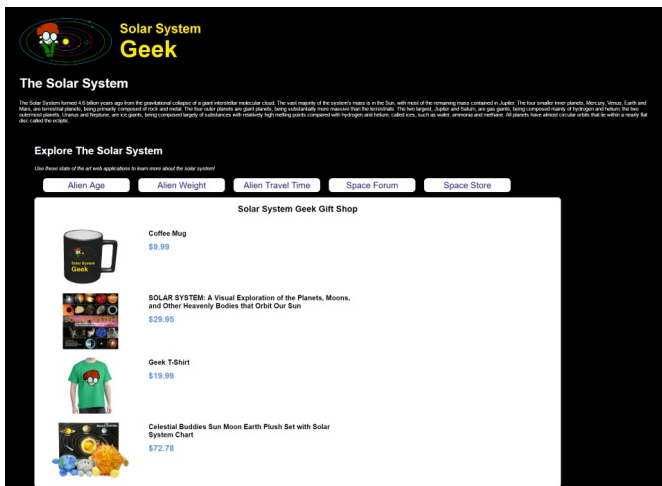
You should unit test when possible

Product List Page

The product listing page displays all of the inventory that the SSGeek shop contains (product data is available in `scripts/ssgeek-orders.sql`).

Requirements

- When the user clicks on the image of a product they are navigated to the **Product Detail** page
- Use the URL pattern `/ShoppingCart/Index`

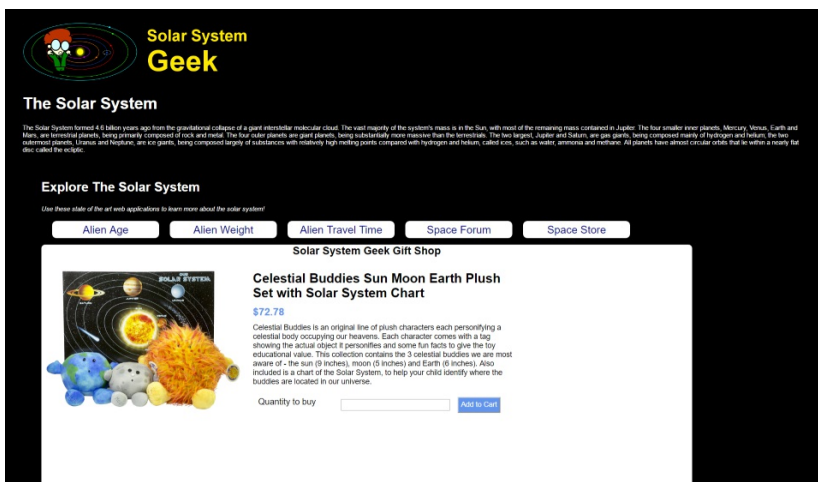


Product Detail Page

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
- Use the URL pattern `/ShoppingCart/Detail/{product-id}`



View Shopping Cart

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

Requirements

- Use the URL pattern `/ShoppingCart/ViewCart`

The Solar System Geek

The Solar System

The Solar System Geek has 4 million items up from the traditional reference of a part miniature solar system chart. The vast majority of the systems maps is in the form of wall art, with most of the remaining items contained in jewelry. The first smaller ones include: Mercury, Venus, Earth and Mars, are painted planets, being primarily composed of rock and metal. The four outer planets are giant planets, being substantially more water intensive than the terrestrials. The first largest - Jupiter and Saturn, are gas giants, being contained nearly of hydrogen and helium, the two additional planets are Uranus and Neptune, being composed primarily of hydrogen and helium, being less than the gas giants, but still being composed of hydrogen and helium. All planets have different colors due to the way they reflect light.

Explore The Solar System

(Use these links of the art wall 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	\$72.76	2	\$145.56
	Coffee Mug	\$9.99	1	\$9.99
	Geek T-Shirt	\$19.99	1	\$19.99
Grand Total				\$175.54
				Check out