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Project:

Sky gazing website

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Problem Statement

The sky is full of possibilities and experiences, why not chase them all? The sun, moon, stars, and planets have been a source of wonder for as long as humans have lived on earth. We are here looking at a website which will provide brief details about few facts and details about astronomy. The website is supposed to provide user friendly environment and navigation. The important menu must be stated in the top section of the webpage. Also, a decent look out and colour combination is expected. You are supposed to create a Single-Page-Application and responsive Website for them with the below mentioned requirement specifications. The website is to be developed for the Windows Platform using HTML5, JSON, Angular JS, JavaScript and Geolocation. The site should work well in all leading browsers including Chrome, IE, Firefox etc.

Hardware Requirements:

- Intel Core i3/i5 Processor or higher
- 8 GB RAM or above
- Colour SVGA
- 500 GB Hard Disk space
- Mouse
- Keyboard

Software Technologies to be used:

- Frontend: HTML5, CSS, Bootstrap, JavaScript, jQuery, AngularJS, XML
- Data Store: JSON files or TXT files

Other Requirements:

- Operating Portal: Windows
- Browsers: Edge, Chrome, Mozilla Firefox, Safari

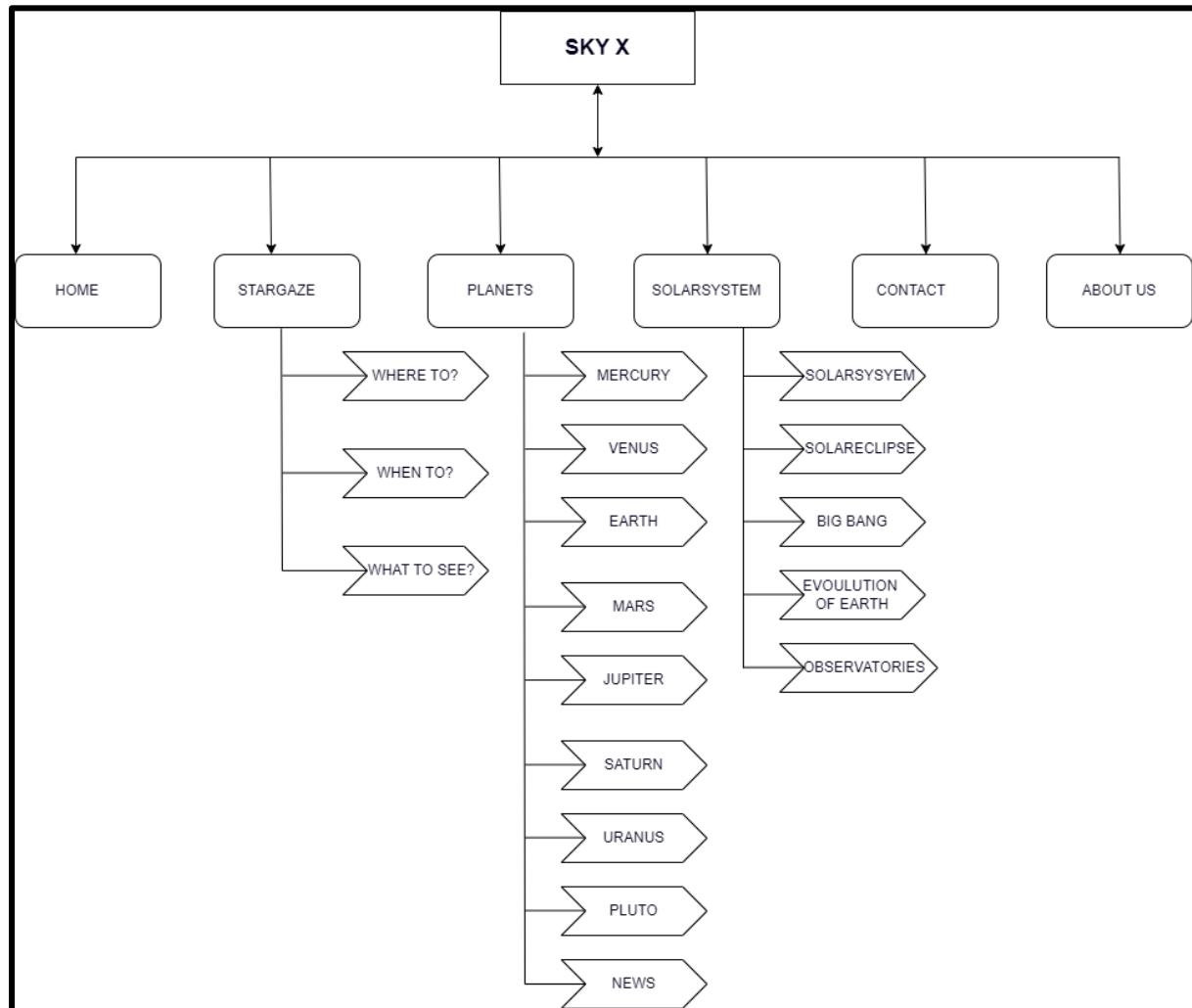
Project scope:

This website is user friendly and easy to use. This website gives you every possible detail about planets, solar system, stars, stargazing, etc. The website is developed for the Windows Platform using HTML5, JSON, Angular JS, JavaScript and Geolocation. The site should work well in all leading browsers including Chrome, IE, Firefox etc.

Project Duration:

- | | |
|-------------------|--------|
| 1. Analysis: | 5 Days |
| 2. Design: | 7 Days |
| 3. Development: | 8 Days |
| 4. Testing: | 4 Days |
| 5. Documentation: | 4 Days |

Site map:

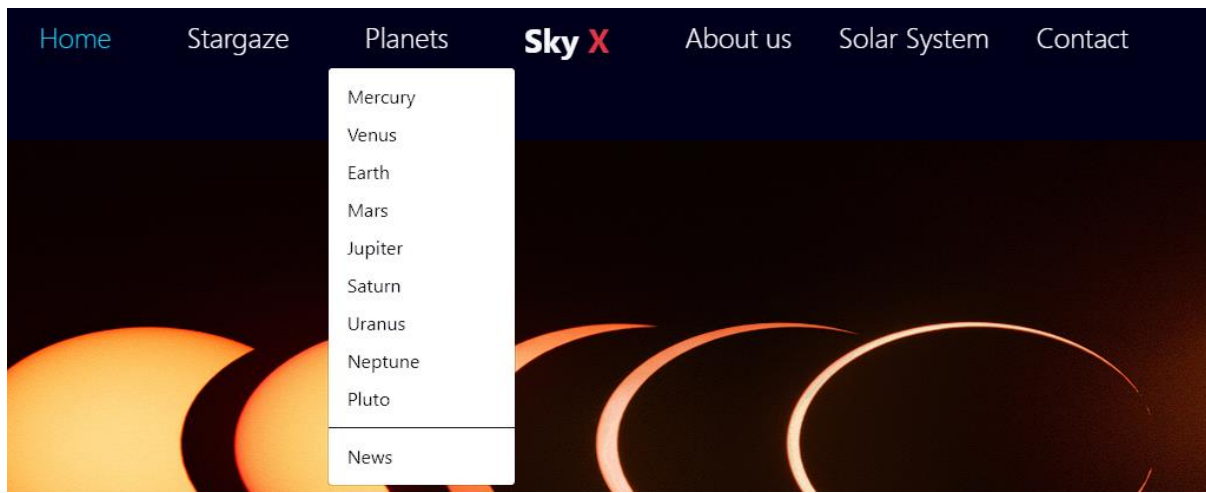


Screenshots:

NAVBAR:

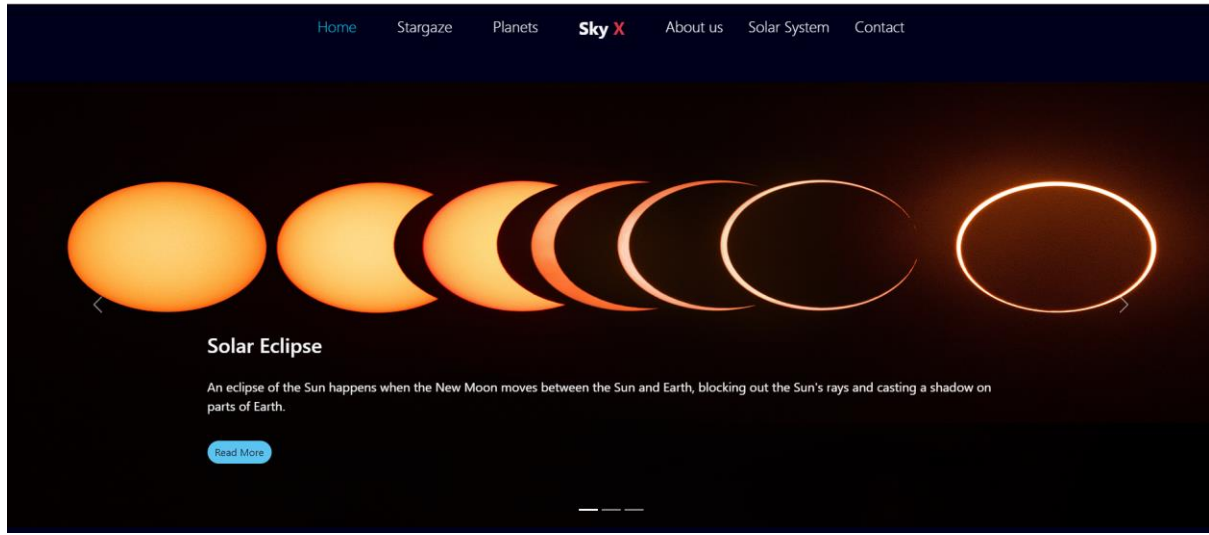


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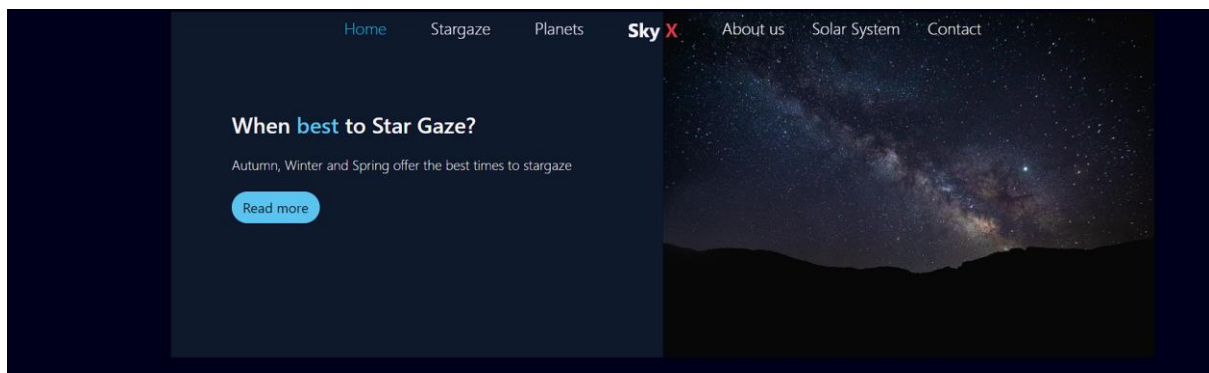
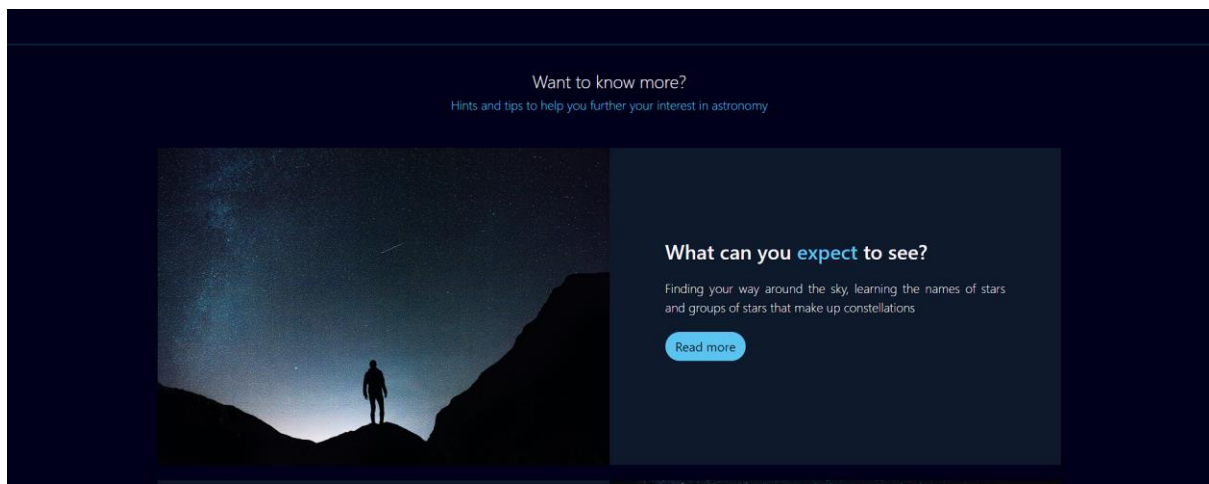


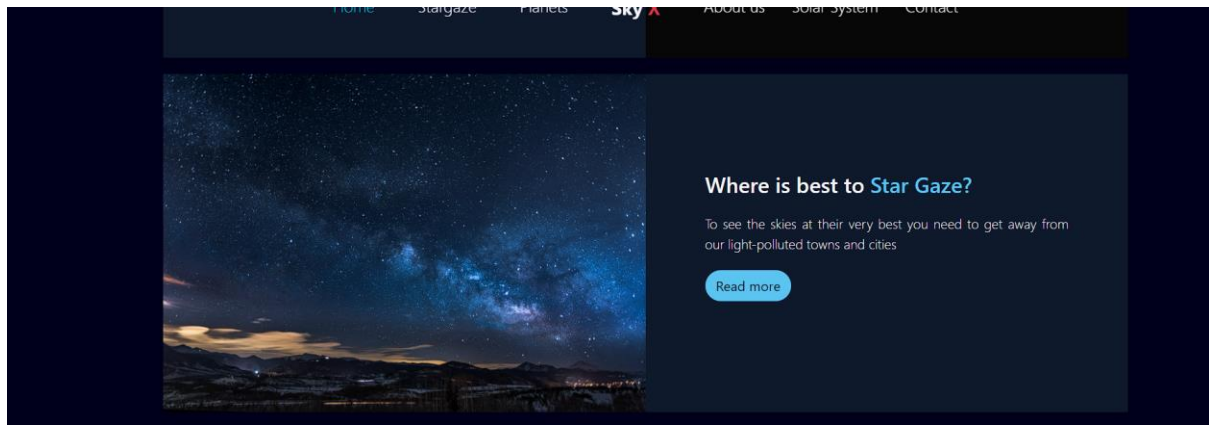
MAIN PAGE:

CAROUSEL WITH NAVIGATIONAL BUTTONS:

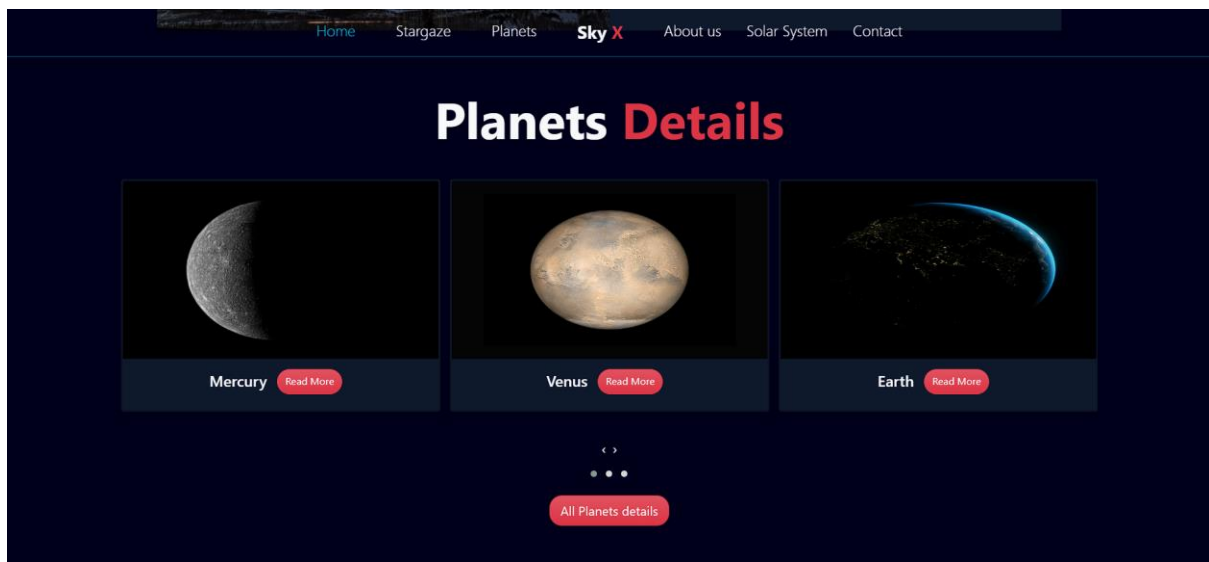


MORE 3 SECTIONS:

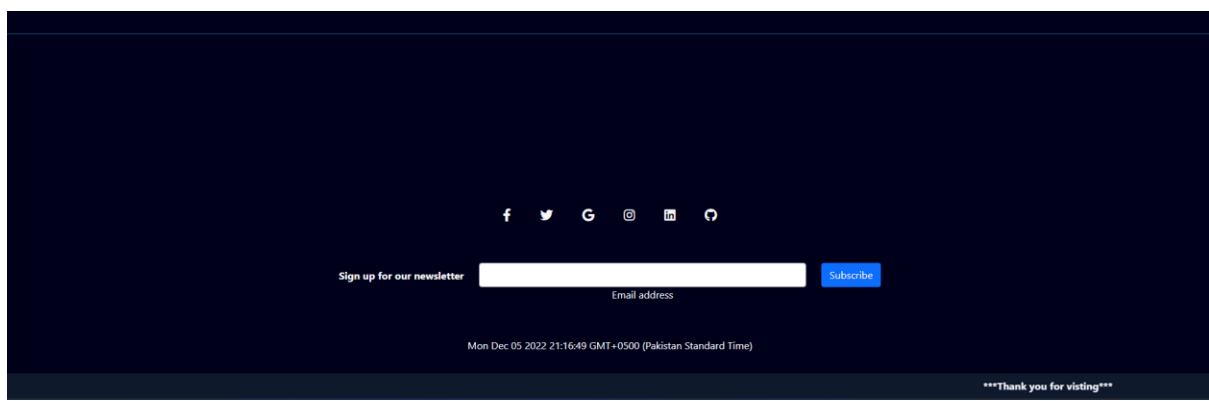




ANOTHER SECTION WITH CARDS:



FOOTER AND TICKER:




STARGAZE PAGE:

THIS PAGE IS ALSO DIVIDED IN 4 SECTIONS:

WHERE IS BEST TO STARGAZE:

[Home](#)
[Stargaze](#)
[Planets](#)
[Sky X](#)
[About us](#)
[Solar System](#)
[Contact](#)



Where is best to Stargaze?

There are a couple of things to consider when deciding where to stargaze from and this mainly depends on what you are hoping to see.


How far to [travel](#)

[Home](#)
[Stargaze](#)
[Planets](#)
[Sky X](#)
[About us](#)
[Solar System](#)
[Contact](#)

How far to [travel](#)

If you are hoping to see our Milky Way galaxy arching overhead or wanting to observe dim and distant objects through a telescope in any great detail you'll need to travel to a location that is reasonably dark, free from the worst light pollution and on a Moonless night outside of Summertime (bright Moonlight spoils the view of starry skies and it barely gets dark during mid-Summer!).

If however, you'd rather not travel too far, or if the weather is looking promising however there is going to be Moonlight illuminating the sky, the opportunity still exists from urban or suburban areas to observe the moon, planets and even some of the brighter deep-sky objects, all of which look fantastic through a telescope!



Escape from light pollution

To see the skies at their very best you need to get away from our light-polluted towns and cities, driving just a few miles out of town to semi-rural

Thank you for visiting

Escape from light pollution

To see the skies at their very best you need to get away from our light-polluted towns and cities, driving just a few miles out of town to semi-rural areas can make a huge difference. All of the locations we feature on our website have an estimate of the [local light pollution](#) levels and give an example of how the skies might look from that venue.

To get the best views of our star-filled Milky Way galaxy requires finding a really [dark sky site](#) and for most people that means travelling some distance.

Private venues

Finally, there are many stargazing venues that organise ad-hoc stargazing events and are accessible only during these events — these locations appear on the events map only when they have an event scheduled.

If you're set on where to go, how about some advice on [what to take with you?](#)

WHEN BEST TO STARGAZE:

When best to Stargaze?

Several factors will affect your stargazing experience. Here we share hints and tips on making your stargazing trip worthwhile and help you choose when is the best time to go stargazing.

Moonlight

Natural moonlight washes out the light from most stars leaving only the brightest visible and is most noticeable around the time of the full-Moon. When the Moon is at its brightest fewer stars can be seen. Therefore, the time during full Moon is the worst time to stargaze — at this time, even dark sky sites free from artificial light pollution are no darker than a city centre!

The best time to go stargazing is the days before, during and soon after each new Moon, when there is no Moon in the sky.



Summer twilight

Summer months mean long days and short nights and, therefore, significantly reduce stargazing opportunities. Hours of morning and evening twilight are longer during the summer. The skies take longer to get dark after sunset and get lighter earlier before sunrise leaving only a short period to view dark skies. Around the summer solstice (the longest day), it hardly gets dark at all!



Skies do not get dark until late through Summer

Planning a stargazing trip?

If you are thinking of travelling to a remote dark sky site or observatory, use our dark sky calendar to identify those dates which are going to be free of moonlight and twilight. Once you've identified the best dates have a look at where you might go stargazing for advice on locations and what you should take with you.



WHAT CAN YOU EXPECT TO SEE:

What can you expect to see?

There are many incredible sights to behold when you go stargazing! From a dark sky location, the human eye can see approximately 2,500 stars without any visual aid, this compared to perhaps only 100 from a town or city.

The Milky Way



When viewed from a dark site with just your eyes the Milky Way looks truly incredible! Indeed, the main reason we created this Go Stargazing website is to encourage as many of you as possible to get out there and see it for yourselves!

The Milky Way is the name given not only to the Galaxy that we live in but also to the band of light that stretches across the sky, formed by the collective light of billions of distant stars. It's a truly memorable experience, whenever you get to see it, and really gives a sense of our place in the Universe.

Meteor Showers



A meteor, also known as a shooting star, is a tiny piece of dust normally only about the size of a grain of sand. These particles disintegrate as they enter Earth's atmosphere, causing them to glow brightly as they encounter friction and disintegrate.

Meteors can be seen all year round, especially from dark sky sites, however, there are periods throughout the year where they are more prolific and many can be seen in a relatively short period of time. This is due to Earth's orbit around the Sun where it frequently encounters huge clouds of

CONSTELLATIONS:

Constellations

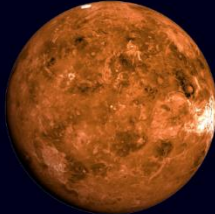
Finding your way around the sky, learning the names of stars and groups of stars that make up constellations, can be really good fun! Even in light-polluted areas, there are enough bright stars visible to make it possible to recognise a good number of constellations, this knowledge can come in really useful when you visit a dark sky site.

Most star names are Arabic — historically Arabs were amazing astronomers who benefited from the most amazing pre-light-pollution views of the skies. One famous star, Betelgeuse (pronounced "betel-gur-z" or if you prefer "beetle-juice"), is Arabic for "armpit". This bright orange star in the constellation of Orion (the Hunter) marks the location where he holds his club in the air!



PLANETS PAGE:

Planet Venus



Venus is the second planet from the Sun and is Earth's closest planetary neighbor. It's one of the four inner, terrestrial (or rocky) planets, and it's often called Earth's twin because it's similar in size and density.

Venus was the first planet to be explored by a spacecraft NASA's Mariner 2 successfully flew by and scanned the cloud-covered world on Dec. 14, 1962. Since then, numerous spacecraft from the U.S. and other space agencies have explored Venus, including NASA's Magellan, which mapped the planet's surface with radar.

The radius of Venus is 6,052 km. Double that and you get the diameter of Venus: 12,104 km.

At its nearest to Earth, Venus is some 38 million miles (about 61 million kilometers) distant.

Venus atmosphere is one of extremes. With the hottest surface in the solar system, apart from the Sun itself, Venus is hotter even than the innermost planet, charbroiled Mercury.

Venus Facts

- Venus has a hostile environment.
- Venus has volcanic features.
- Venus is showing mysterious life signals.
- Venus has two sunrises in a year.

Explore Venus [Click here](#)

Planet Mercury



The smallest planet in our solar system and nearest to the Sun, Mercury is only slightly larger than Earth's Moon.

With a radius of 1,516 miles (2,440 kilometers), Mercury is a little more than 1/3 the width of Earth.

It is not known exactly when the planet was first discovered - although it was first observed through telescopes in the seventeenth century by astronomers Galileo Galilei and Thomas Harriot.

Only two spacecraft, both robotic and launched by NASA, have visited Mercury so far, making it the least explored terrestrial planet.

Mercury has an extremely thin and non-protective atmosphere. For all practical purposes, the atmosphere is nearly a vacuum. The sparse atmosphere is primarily composed of oxygen, sodium and hydrogen. In reality, the average distance from the Sun to Mercury is roughly 58,000,000 km. The distance of Mercury from Earth is currently 215,581,145 kilometers, equivalent to 1.441071 Astronomical Units.

Mercury Facts

- Equator circumference: 15,329km
- Day length: 59 Earth days
- Average orbital speed: 170,500km/h (47km/s)
- Moons: 0

Explore Mercury [Click here](#)

Planet Earth



Earth is the third planet from the Sun and the only astronomical object known to harbor life

The earliest documented mention of the concept dates from around the 5th century BC, when it appears in the writings of Greek philosophers. In the 3rd century BC, Hellenistic astronomy established the roughly spherical shape of Earth as a physical fact and calculated the Earth's circumference

The shape of the earth is an oblate spheroid and its radius is 6,371 km. There are mainly two types of activity that are aphelion and perihelion seen on the earth.

Earth's atmosphere is composed of about 78% nitrogen, 21% oxygen, and one percent other gases.

The distance from sun to Earth is 147.82 million KM

The third planet from the sun, Earth is the only place in the known universe confirmed to host life. With a radius of 3,959 miles, Earth is the fifth largest planet in our solar system, and it's the only one known for sure to have liquid water on its surface

Earth Facts

- Earth is not flat, but it's not perfectly round either
- The days are getting longer
- The driest place on Earth.
- Earth's gravity isn't uniform

Explore Earth [Click here](#)

Planet Mars



Mars is the fourth planet from the Sun and the second-smallest planet in the Solar System, being larger than only Mercury

The first telescopic observation of Mars was by Galileo Galilei in 1610. Within a century, astronomers discovered distinct albedo features on the planet, including the dark patch Syrtis Major Planum and polar ice caps.

It has an equatorial radius of 3,396 km (2,110 miles) and a mean polar radius of 3,379 km (2,100 miles).

Mars' atmosphere however is 95% carbon dioxide, 3% nitrogen, 1.6% argon, and it has traces of oxygen, carbon monoxide, water, methane, and other gases, along with a lot of dust

Mars is 140 million miles from Earth and 143 million miles from the Sun.

Mars is also known as the Red Planet. This is because Mars is covered in soil, rock, and dust made from iron oxide which gives the surface a red rusty colour. As it's so close to Earth, Mars is the planet that humans will most likely step foot on and explore first.

Mars Facts

- Mars Had Water In The Ancient Past
- Mars Has Frozen Water Today
- We Have Pieces Of Mars On Earth:
- Mars Used To Have A Thicker Atmosphere

Explore Mars [Click here](#)

Planet Jupiter



Jupiter is the fifth planet from the Sun and the largest in the Solar System. It is a gas giant with a mass more than two and a half times that of all the other planets in the Solar System.

While Jupiter has been known since ancient times, the first detailed observations of this planet were made by Galileo Galilei in 1610 with a small telescope.

if you were to walk around the equator of Jupiter, you would travel 272,946 miles (439,264 km)

Atmosphere and Weather: Jupiter's extremely dense and relatively dry atmosphere is composed of a mixture of hydrogen, helium and much smaller amounts of methane and ammonia

Jupiter orbits about 484 million miles (778 million kilometers)

Jupiter's stripes and swirls are actually cold, windy clouds of ammonia and water, floating in an atmosphere of hydrogen and helium.

Jupiter Facts

- Jupiter Is Massive
- Jupiter Cannot Become A Star
- The Clouds On Jupiter Are Only 50 km Thick
- Jupiter Is The Fastest Spinning Planet In The Solar System

Explore Jupiter [Click here](#)

Planet **Uranus**



Uranus is the seventh planet from the Sun. Its name is a reference to the Greek god of the sky, Uranus (Caelus), who, according to Greek mythology, was the great-grandfather of Ares (Mars), grandfather of Zeus (Jupiter) and father of Cronus (Saturn).

It was the first planet found with the aid of a telescope, Uranus was discovered in 1781

With a radius of 15,759.2 miles (25,362 kilometers), Uranus is 4 times wider than Earth

Uranus' atmosphere is mostly hydrogen and helium, with a small amount of methane and traces of water and ammonia

Uranus lies 1.7 billion miles from Earth and 1.8 billion miles from the Sun.

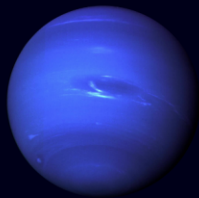
Uranus is made of water, methane, and ammonia fluids above a small rocky center. Its atmosphere is made of hydrogen and helium like Jupiter and Saturn, but it also has methane

Uranus Facts

- You could fit 63 Earths inside Uranus.
- Uranus is an 'Ice Giant'
- A Season on Uranus lasts one long day : 42 years
- Uranus has 27 moons

Explore **Uranus** [Click here](#)

Planet **Neptune**



Neptune is the eighth planet from the Sun and the farthest known planet in the Solar System. It is the fourth-largest planet in the Solar System by diameter, the third-most-massive planet

On September 23, 1846, Le Verrier informed Galle of his findings, and the same night Galle and his assistant Heinrich Louis d'Arrest identified Neptune at their observatory in Berlin.

With a radius of 15,299.4 miles (24,622 kilometers), Neptune is about four times wider than Earth.

Neptune's thick atmosphere is mostly hydrogen, with smaller amounts of helium and methane.

From an average distance of 2.8 billion miles (4.5 billion kilometers), Neptune is 30 astronomical units away from the Sun. Earth line up on the same side of the sun, at their closest, they are only 2.7 billion miles (4.3 billion kilometers) apart

Neptune is dark, cold, and very windy. It's the last of the planets in our solar system. It's more than 30 times as far from the Sun as Earth is. Neptune is very similar to Uranus.

Neptune Facts

- Giant. Neptune is about four times wider than Earth
- Short Day, Long Year
- Neptune is an 'Ice Giant'
- There are arguments over who discovered Neptune.

Explore **Neptune** [Click here](#)

Planet **Pluto**



Pluto is a dwarf planet in the Kuiper belt, a ring of bodies beyond the orbit of Neptune. It is the ninth-largest and tenth-most-massive known object to directly orbit the Sun

The object formerly known as the planet Pluto was discovered on February 18, 1930 at the Lowell Observatory

Mission scientists have found Pluto to be 1,473 miles (2,370 kilometers) in diameter, somewhat larger than many prior estimates.

Pluto has a thin, tenuous atmosphere that expands when it comes closer to the Sun and collapses as it moves farther away

(One AU is the mean distance between Earth and the Sun; about 93 million miles or 150 million kilometers.) But on average, Pluto is 3.7 billion miles (5.9 billion kilometers) away from the Sun, or 39 AU.

Pluto is a dwarf planet that lies in the Kuiper Belt, an area full of icy bodies and other dwarf planets out past Neptune. Pluto is very small, only about half the width of the United States and its biggest moon Charon is about half the size of Pluto.

Pluto Facts

- Pluto is smaller than Earth's moon but larger than previously thought.
- Pluto has a heart shape on its surface.
- An 11-year-old girl gave Pluto its name.
- Pluto is only about half the width of the United States.

Explore **Pluto** [Click here](#)

NEWS:



FOOTER AND TICKER:

Sign up for our newsletter

Email address

Wed Dec 07 2022 13:40:20 GMT+0500 (Pakistan Standard Time)

Thank you for visting

ABOUT US PAGE:

The Sky X story



About Us

Sky X is formed of a close-knit group of astronomers, all of whom are keen to encourage public interest in astronomy to as wide an audience as possible.

Our team has a diverse range of skills and experience, including professional and amateur astronomers, science communicators, instrument scientists, award-winning astrophotographers, professors and dark sky consultants. We have a wealth of experience running public outreach events.

We are keen to offer advice on issues of light pollution and dark sky conservation. We can also assist businesses and organisations develop and grow their Astro-tourism potential.

Our Aim

Our aim is to enthuse public interest in astronomy by helping people find amazing stargazing locations and attend awesome stargazing events!

We are enthusiastic in our support of the wider astronomical community and are happy to promote the activities of societies, clubs, observatories, and independent astronomers to all of our audiences.

FOOTER AND TICKER:

Sign up for our newsletter

Subscribe

Email address

Wed Dec 07 2022 13:41:37 GMT+0500 (Pakistan Standard Time)

Thank you for visiting

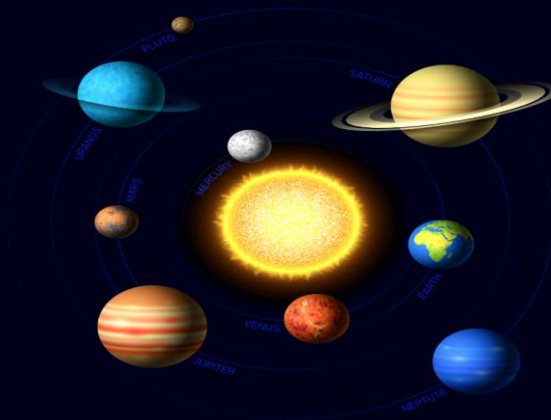
SOLAR SYSTEM PAGE:

THIS PAGE IS ALSO DIVIDED IN 4 SECTIONS:

Solar System

The Solar System is the gravitationally bound system of the Sun and the objects that orbit it. It formed 4.6 billion years ago from the gravitational collapse of a giant interstellar molecular cloud. The vast majority (99.86%) of the system's mass is in the Sun, with most of the remaining mass contained in the planet Jupiter. The four inner system planets—Mercury, Venus, Earth and Mars—are terrestrial planets, being composed primarily of rock and metal.

The four giant planets of the outer system are substantially larger and more massive than the terrestrials. The two largest, Jupiter and Saturn, are gas giants, being composed mainly of hydrogen and helium; the next two, Uranus and Neptune, are ice giants, being composed mostly of volatile substances with relatively high melting points compared with hydrogen and helium, such as water, ammonia, and methane. All eight planets have nearly circular orbits that lie near the plane of Earth's orbit, called the ecliptic.



Explore more about [Planets](#) [Click here](#)

SOLAR ECLIPSE:

Solar Eclipse

A solar eclipse occurs when the Moon passes between Earth and the Sun, thereby obscuring Earth's view of the Sun, totally or partially. Such an alignment coincides with a new moon, indicating the Moon is closest to the plane of the Earth's orbit. In a total eclipse, the disk of the Sun is fully obscured by the Moon. In partial and annular eclipses, only part of the Sun is obscured.

If the Moon were in a perfectly circular orbit and in the same orbital plane as Earth, there would be total solar eclipses every new moon. Instead, because the Moon's orbit is tilted at about 5 degrees to Earth's orbit, its shadow usually misses Earth. Solar (and lunar) eclipses therefore happen only during eclipse seasons, resulting in at least two, and up to five, solar eclipses each year, no more than two of which can be total. Total eclipses are more rare because they require a more precise alignment between the centers of the Sun and Moon, and because the Moon's apparent size in the sky is sometimes too small to fully cover the Sun. Total solar eclipses occur rarely at a given place on Earth, on average about every 360 to 410 years.

An eclipse is a natural phenomenon. In some ancient and modern cultures, solar eclipses were attributed to supernatural causes or regarded as bad omens. Astronomers' predictions of eclipses began in China as early as the 4th century BC; eclipses hundreds of years into the future may now be predicted with high accuracy. Looking directly at the Sun can lead to permanent eye damage, so special eye protection or indirect viewing techniques are used when viewing a solar eclipse. Only the total phase of a total solar eclipse is safe to view without protection. Enthusiasts known as eclipse chasers or umbraphiles travel to remote locations to see solar eclipses.

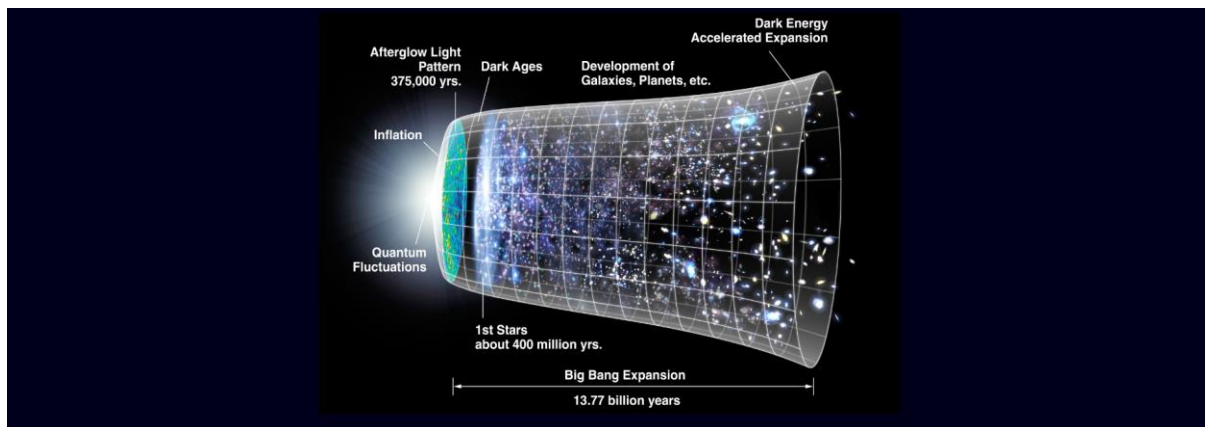


BIG BANG THEORY:

Big Bang Theory

The Big Bang event is a physical theory that describes how the universe expanded from an initial state of high density and temperature. Various cosmological models of the Big Bang explain the evolution of the observable universe from the earliest known periods through its subsequent large-scale form. These models offer a comprehensive explanation for a broad range of observed phenomena, including the abundance of light elements, the cosmic microwave background (CMB) radiation, and large-scale structure. The overall uniformity of the Universe, known as the flatness problem, is explained through cosmic inflation: a sudden and very rapid expansion of space during the earliest moments. However, physics currently lacks a widely accepted theory of quantum gravity that can successfully model the earliest conditions of the Big Bang.

Crucially, these models are compatible with the Hubble–Lemaître law—the observation that the farther away a galaxy is, the faster it is moving away from Earth. Extrapolating this cosmic expansion backwards in time using the known laws of physics, the models describe an increasingly concentrated cosmos preceded by a singularity in which space and time lose meaning (typically named “the Big Bang singularity”). [5] In 1964 the CMB was discovered, which convinced many cosmologists that the competing steady-state model of cosmic evolution was falsified. [6] since the Big Bang models predict a uniform background radiation caused by high temperatures and densities in the distant past. A wide range of empirical evidence strongly favors the Big Bang event, which is now essentially universally accepted. Detailed measurements of the expansion rate of the universe place the Big Bang singularity at an estimated 13.787 ± 0.020 billion years ago, which is considered the age of the universe.



EVOLUTION OF EARTH:

Evolution of Earth

The history of Earth concerns the development of planet Earth from its formation to the present day. Nearly all branches of natural science have contributed to understanding of the main events of Earth's past, characterized by constant geological change and biological evolution.

The geological time scale (GTS), as defined by international convention, [1] depicts the large spans of time from the beginning of the Earth to the present, and its divisions chronicle some definitive events of Earth history. (In the graphic, Ma means "million years ago.") Earth formed around 4.54 billion years ago, approximately one-third the age of the universe, by accretion from the solar nebula. Volcanic outgassing probably created the primordial atmosphere and then the ocean, but the early atmosphere contained almost no oxygen. Much of the Earth was molten because of frequent collisions with other bodies which led to extreme volcanism. While the Earth was in its earliest stage (Early Earth), a giant impact collision with a planet-sized body named Theia is thought to have formed the Moon. Over time, the Earth cooled, causing the formation of a solid crust, and allowing liquid water on the surface.



OBSERVATORIES:

Observatories

Royal Observatory, Greenwich

The Royal Observatory, Greenwich (ROG, known as the Old Royal Observatory from 1957 to 1998, when the working Royal Greenwich Observatory, ROG temporarily moved south from Greenwich to Herstmonceux) is an observatory situated on a hill in Greenwich Park in south east London, overlooking the River Thames to the north. It played a major role in the history of astronomy and navigation, and because the Prime Meridian passes through it, it gave its name to Greenwich Mean Time, the precursor to today's Coordinated Universal Time (UTC). The ROG has the IAU observatory code of 000, the first in the list. ROG, the National Maritime Museum, the Queen's House and the clipper ship Cutty Sark are collectively designated Royal Museums Greenwich.



Royal Observatory location



Paris Observatory

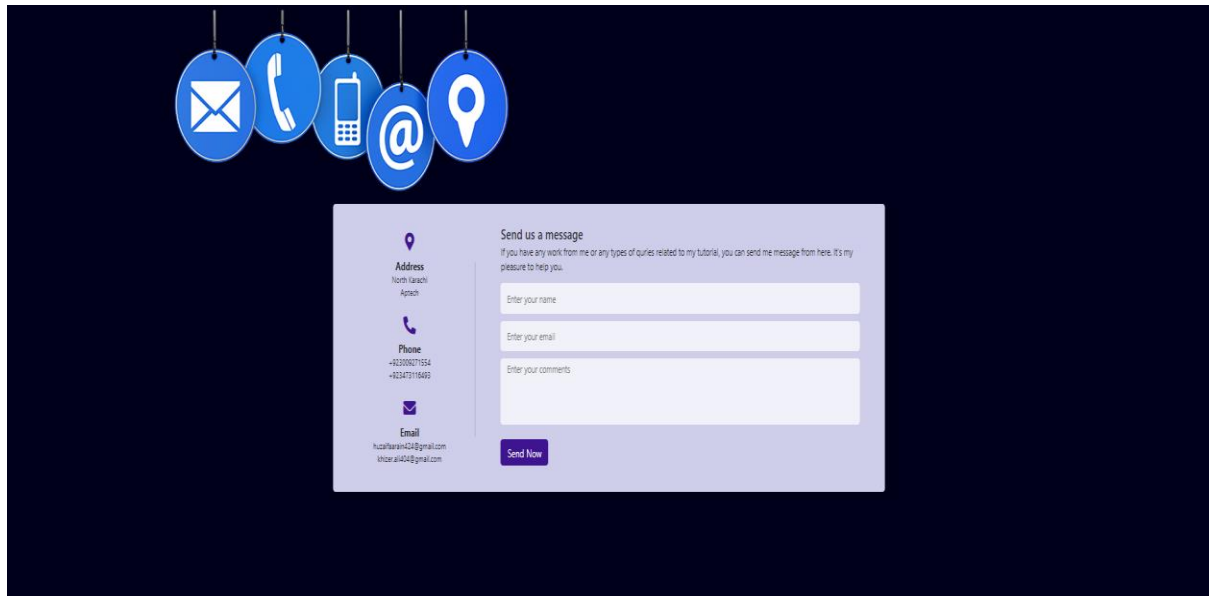
The Paris Observatory (French: Observatoire de Paris French pronunciation:), a research institution of the Paris Sciences et Lettres University, is the foremost astronomical observatory of France, and one of the largest astronomical centers in the world. Its historic building is on the Left Bank of the Seine in central Paris, but most of the staff work on a satellite campus in Meudon, a suburb southwest of Paris. The Paris Observatory was founded in 1667. Its construction was completed by the early 1670s and coincided with a major push for increased science, and the founding of the Royal Academy of Sciences (self-published source). King Louis XIV's minister of finance organized a "scientific powerhouse" to increase understanding of astronomy, maritime navigation, and science in general.



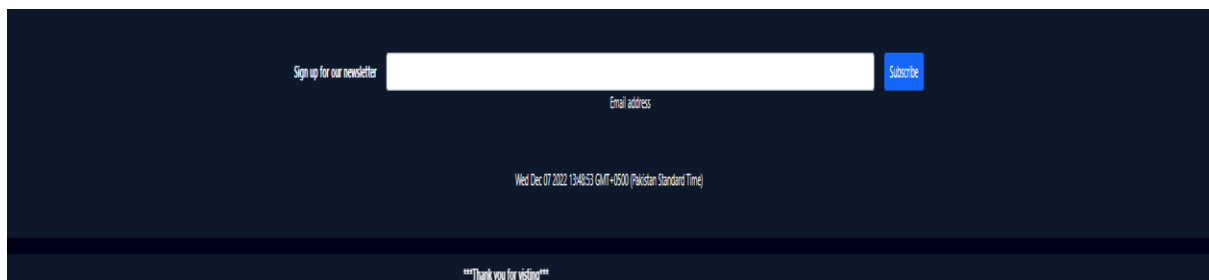
Paris Observatory location



CONTACT US:

The contact form is set against a dark blue background. At the top, five circular icons hang from thin lines: an envelope, a telephone handset, a mobile phone, an '@' symbol, and a location pin. The form itself is a light purple rectangle. On the left, it lists contact details: 'Address' (North Karachi, Ajmal), 'Phone' (+923006271534, +9247318499), and 'Email' (huzairan424@gmail.com, khizerali424@gmail.com). On the right, under the heading 'Send us a message', there is a short paragraph and three input fields for 'Enter your name', 'Enter your email', and 'Enter your comments'. A 'Send Now' button is at the bottom right of the form.

FOOTER AND TICKER:

The footer section is dark blue. It features a newsletter sign-up area with the text 'Sign up for our newsletter' on the left, a white input field in the center, and a blue 'Subscribe' button on the right. Below the input field is the placeholder text 'Email address'. At the bottom center, there is a timestamp: 'Wed, Dec 07 2022 13:48:53 GMT+0500 (Pakistan Standard Time)'. At the very bottom, a small line of text reads '***Thank you for visiting***'.

WEBSITE ENDS HERE