

**FPT ACADEMY INTERNATIONAL**

**FPT – APTECH COMPUTER EDUCATION**

**Centre Name: ACE-HCMC-2-FPT.**

**Address: 21Bis Hau Giang, Tan Son Nhat, Ho Chi Minh City, Viet Nam.**

## **Sky Gazing**

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<b>Semester:</b>	1	
<b>Batch No:</b>	T3.2502.E0	
<b>Group No:</b>	5	
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3.	Hong Tai Loi	Student1634674

Date: August - 2025

**This is to certify that**

**Mr. Doan Duy Thai**

**Mr. Hong Tai Loi**

**Mr. Mai Truong Quoc Hung**

**have successfully designed & developed:**

eProject: Sky Gazing

**Submitted by:**

Ms. Le Mong Thuy

**Date of issue:** 8/23/2025

**Authorized Signature:**

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## ACKNOWLEDGMENT

On behalf of team members. I would like to thank everyone who supported my team to successfully complete this eProject report. Especially, our teacher, she has supported us a lot since we started studying at FPT Aptech. With this eProject, she guided us very meticulously, enthusiastically and strictly. With her guidance, we were able to successfully complete this project. Besides, I also want to thank all the team members, each of whom worked hard to complete the eProject in earnest during the month of working together. Finally, our group would like to say thank you to my classmates and family for sharing and creating for the group the best environment to focus on the project, motivating the members to achieve their goals.

## SYNOPSIS

Astronomy is a scientific field that studies celestial objects and phenomena in the universe. It is one of the oldest sciences and includes many subfields, ranging from observing planets and stars to studying the structure and evolution of the universe.

Here is a summary of some key aspects of astronomy:

Celestial Objects: Stars, Planets, Galaxies, Nebulae.

Astronomical Phenomena: Supernova, Black Holes, Gravitational Lensing.

Research and Tools: Telescopes, Space Observatories.

Universe and Origins: Big Bang, Expanding Universe.

Modern Exploration and Research: Search for Exoplanets, Dark Matter and Dark Energy Research.

## ANALYSIS

### 1. Purpose of the Website.

The website aims to provide an informative and engaging platform for users to explore various aspects of astronomy. This website will serve as a comprehensive resource, offering detailed information on planets, constellations, comets, astronomical theories, and the latest developments in the field.

### 2. Design and Interface.

- o The website features a user-friendly environment and navigation. Key menus are positioned at the top for easy access to information.

- o The interface and color scheme are harmoniously combined to create a visually appealing and engaging experience for users.

### 3. Technical Requirements

- o The website must perform well across all major browsers including Chrome, IE, Firefox, etc., ensuring accessibility from various devices and platforms.
- o It utilizes a Single-Page-Application (SPA) approach to deliver a seamless and fast web browsing experience.
- o Features are designed to meet technical requirements, facilitating quick and accurate loading and display of information.

The space exploration website aims to become a valuable and engaging source of information for space enthusiasts, providing everything from basic knowledge to practical insights from researchers and major space research agencies around the world.

## CUSTOMER'S REQUIREMENTS SPECIFICATIONS

### Client: APT India Co.

#### 1. Business/Project Objective

The portal will be designed as a Single-Page-Application and responsive Website with a set of pages and menus that represent choice of activities to be performed. The pages, menus, and other visual elements must be designed in a visually appealing manner with attractive fonts, colors, and animations.

All of these should also be laid out in a responsive manner

The Web site is to be created based on the following requirements.

1. The web page should have the description/images about various planets. If user clicks on the same, navigational link must be available.
2. There should be categories providing details about Solar Eclipse, big bang theory, evolution of earth etc
3. Various sections such as –
  - When best to Star Gaze
  - Where is best to Star Gaze
  - What to expect to see in a Star Gaze

4. The site should also list and explain various planets available as well as details about them as
  - When discovered
  - Size
  - Atmosphere there
  - Distance from sun and earth
  - Other available important details about them.
5. There should be information on constellations as what is it/how it is formed and various constellations.
6. There should also be a section on comet giving information related.
7. Also include a section which will provide details on various latest developments in the field of astronomy related to planets and stars.
8. List of Few top Observatories with details and location displayed using GeoLocation API (eg. GoogleMaps).
9. Site map, Gallery, About us, Contact us link must be added.
10. About Us and Contact Us: This menu option should display Email id, address, and contact number of Sky Gazing Company.

Over and above this, the portal should implement the following functionalities:

- Display a continuous scrolling ticker at the bottom of the page with current date, time, and location (hint: Use geolocation features of HTML5).
- Display a visitor count at the top right corner of the page beside a logo image.
- The menu options should change color on hover and also after clicking.
- Fade in and fade out options can be used for the menus.

## Hardware/ Software Requirements

### Hardware

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

### Software

Technologies to be used:

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

Other Requirements:

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

## SCOPE OF THE WORK (IN BRIEF)

**1. Home:** Displays an overview of mountaineering and the website's logo.

**2. Astronomy Topics:**

- **Solar Eclipses:** Explanation of solar eclipses, viewing tips, and upcoming eclipse dates
- **Witnessing Planet Birth:** Insights into planet formation with examples from modern astronomical observations.
- **Big Bang Theory:** Information on the origin of the universe.
- **Evolution of Earth:** Detailed explanation of Earth's formation and development.
- **Planets:** Discovery date, Size, Atmosphere, Distance from the Sun and Earth, Other significant details.

**3. Constellations:** Explanation of constellations, their formation, and information on various known constellations.

**4. Comets:** Information on comets, including notable examples and their characteristics

**5. Star gazing:** Information on the best seasons, dates, and times for stargazing activities.

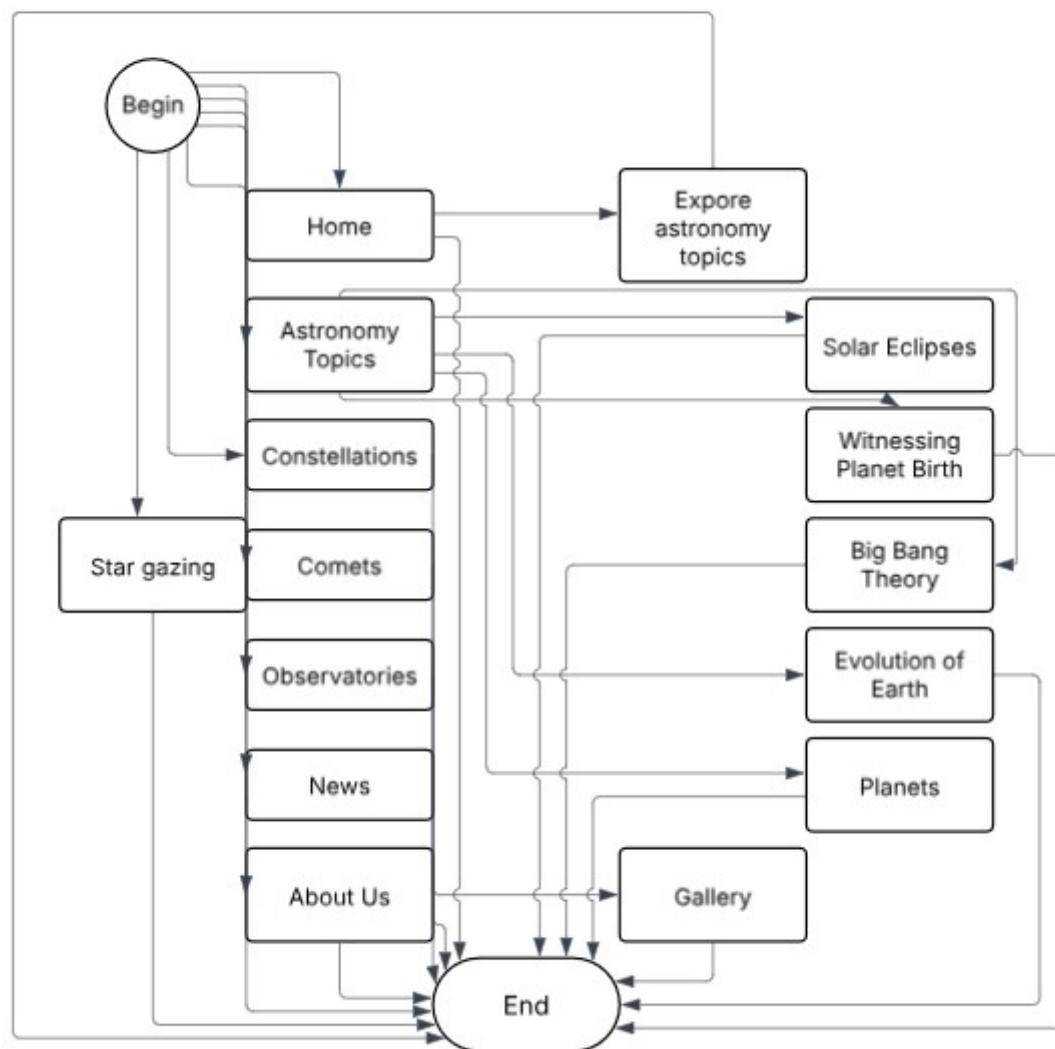
**6. Observatories:**

- Content: List of top observatories, including their details and locations.
- Feature: Display observatories on a map using the Geolocation API (e.g., Google Maps).
- Gallery: Videos, Images: A collection of informative and illustrative videos on galaxy, planets, stars, etc., optimized for quick loading and viewing.

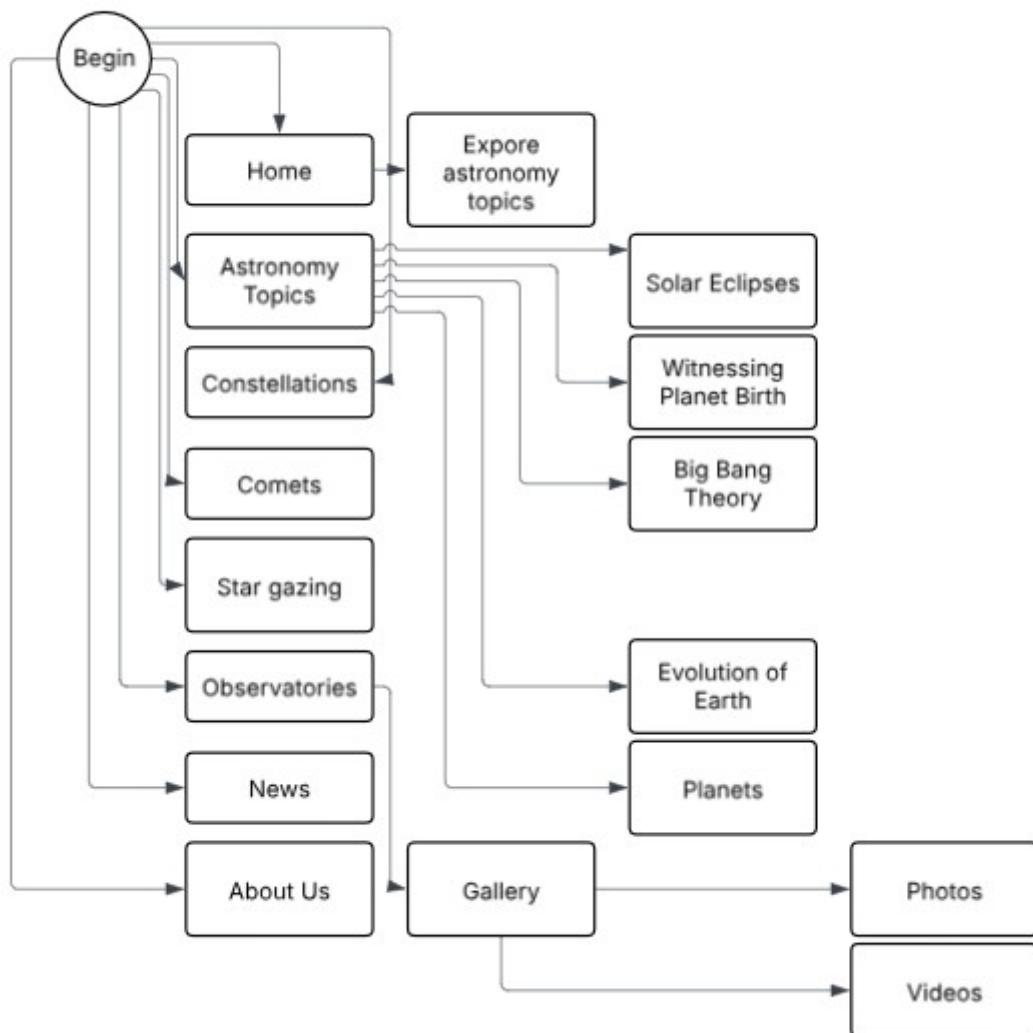
7. **News:** Updates on recent discoveries and advancements in the field of astronomy related to planets and stars.
8. **About Us:** Contact information for users to reach out or send feedback.

## ARCHITECTURE AND DESIGN OF THE SYSTEM

The Diagram of Sky Gazing



The Site Map of Sky Gazing



Project Ref. No.:		Project Title:	Activity Plan Prepared By:	Date of Preparation of Activity Plan:			
Sr.No	Task			Actual Start Date	Actual Days	Team Mate Names	Status
1	Synopsis	Sky Gazing	Thai	7/24/25	1	Thai	Completed
2	Analysis			7/24/25	1	Thai	Completed
3	The scope of the work (in brief)			7/25/25	1	Loi	Completed
4	Architecture and design of the system			7/25/25	1	Loi	Completed
5	Diagram of the website			7/25/25	2	Hung	Completed
6	Task Sheet Review			7/27/25	1	Loi	Completed

**Date:** 02/8/2025

Signature of Instructor:

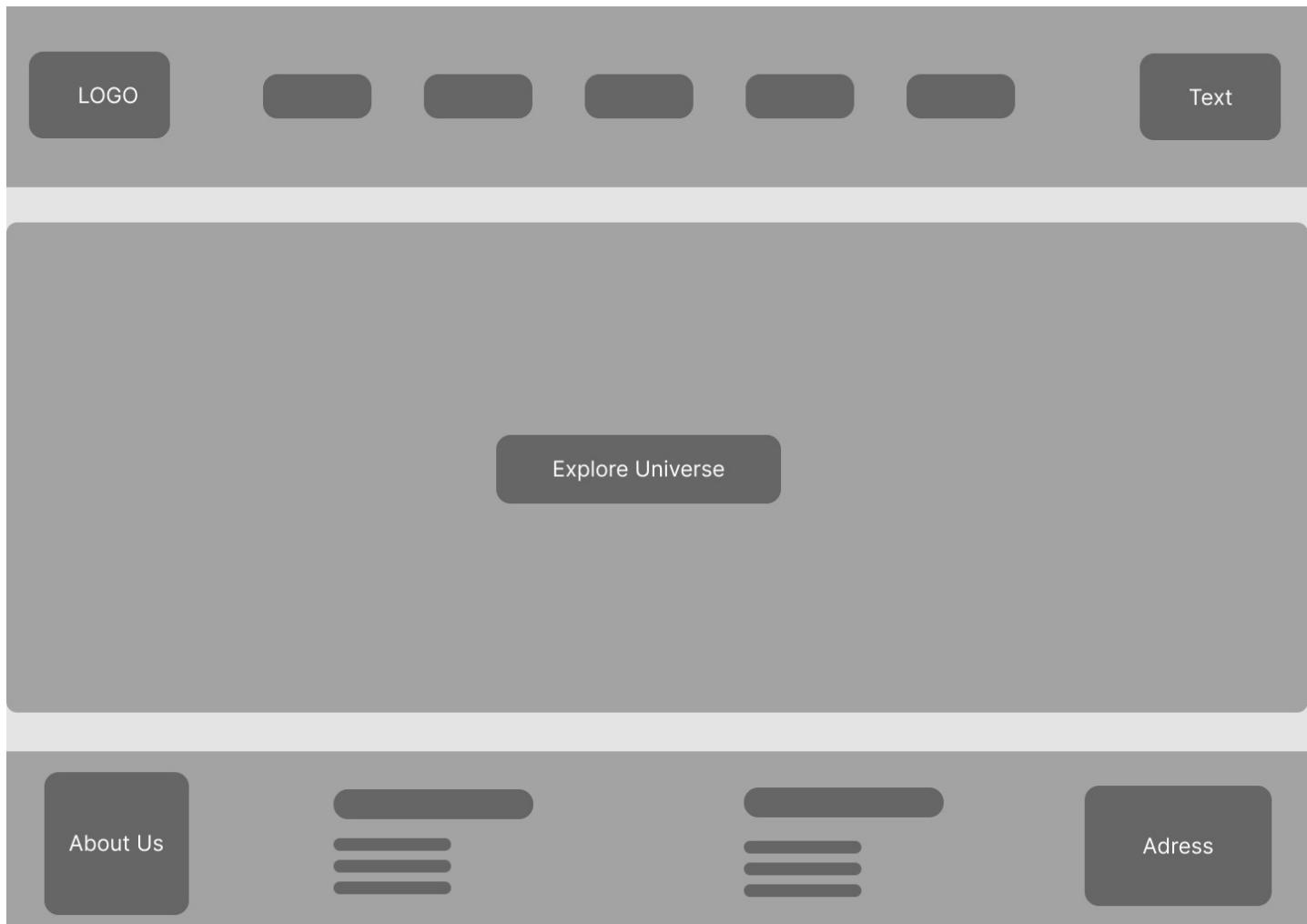
**Le Mong Thuy**

Signature of Team Leader:

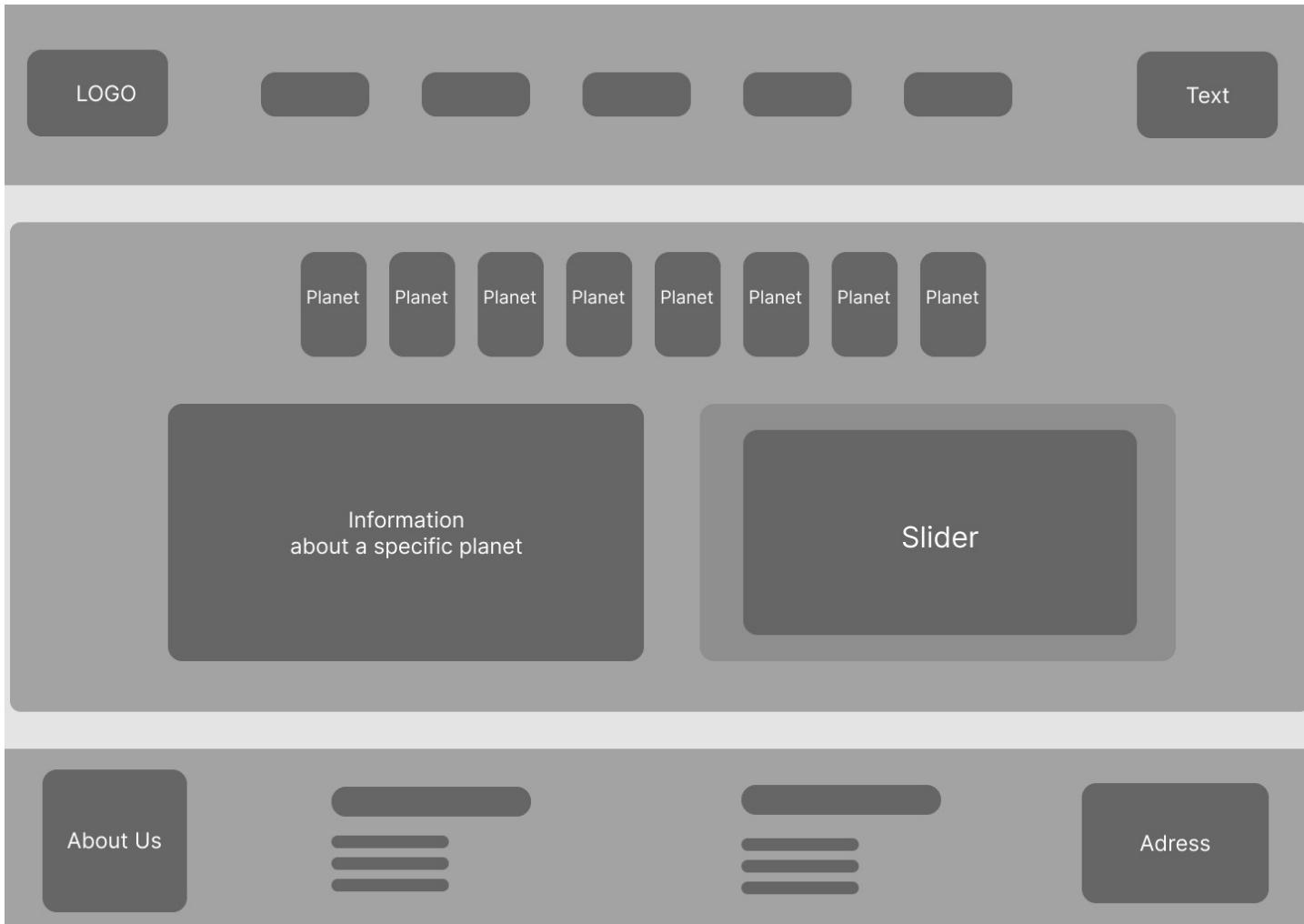
**Doan Duy Thai**

## MOCK OF THE WEBSITE

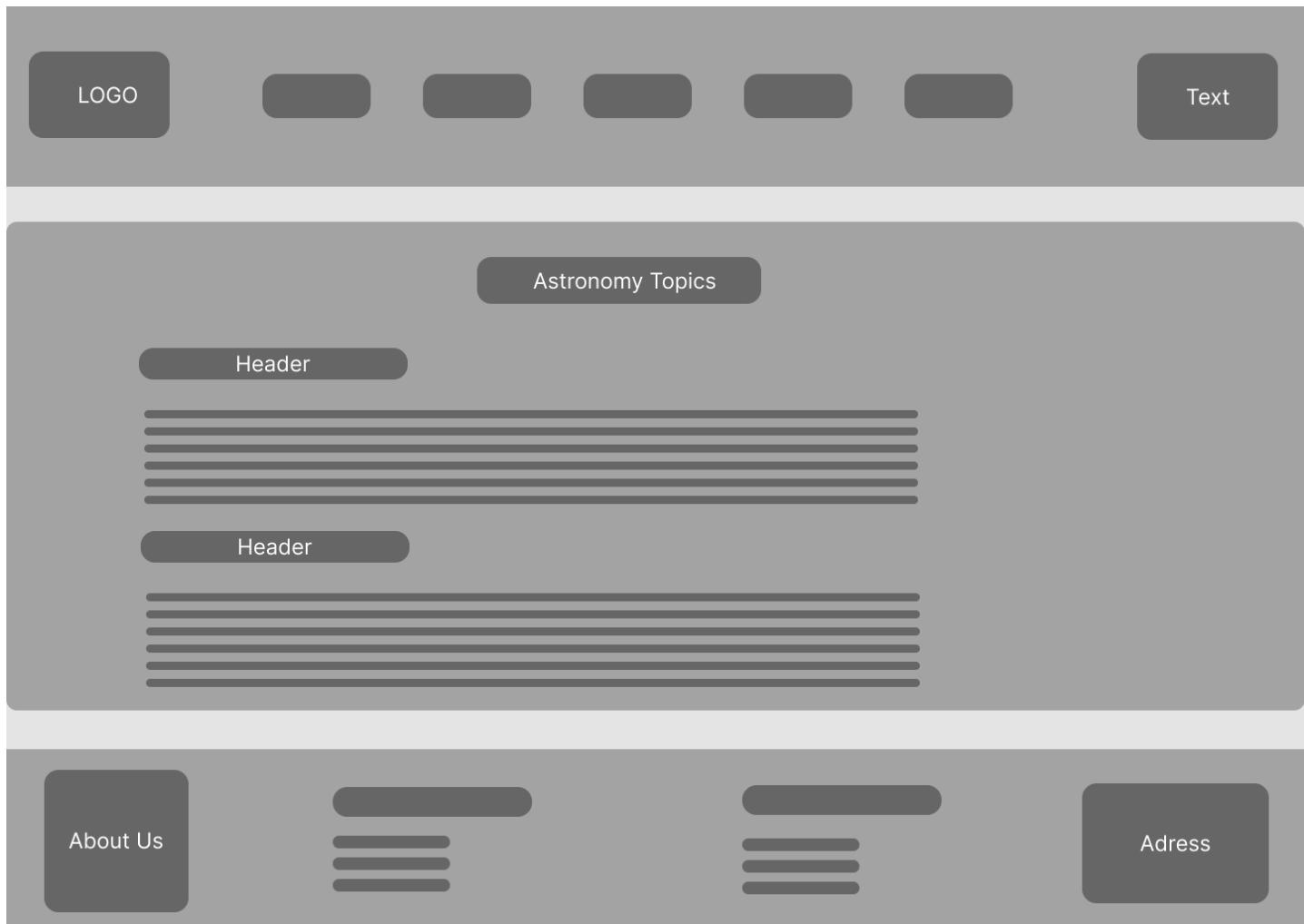
### 1/ HOME



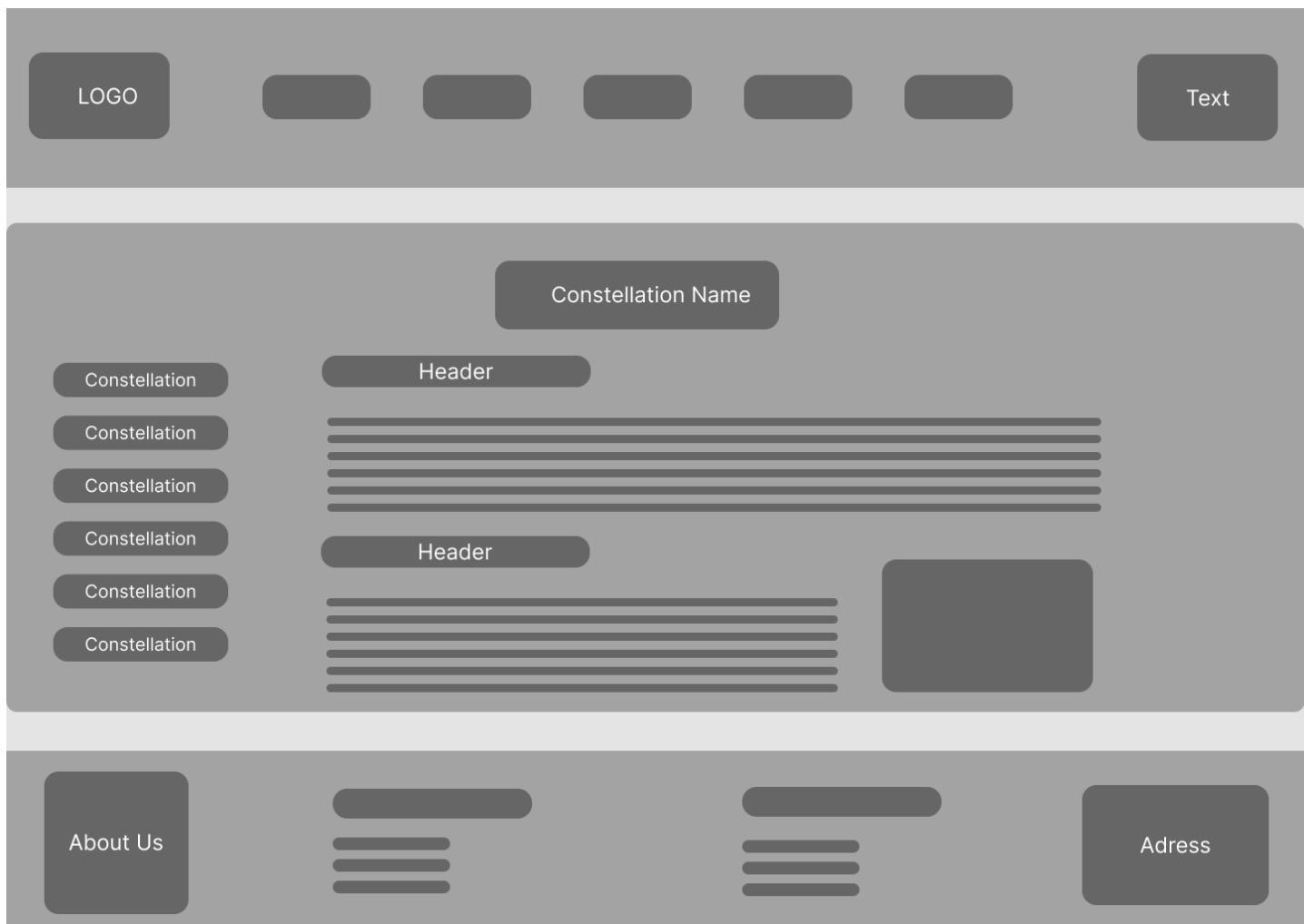
## 2/ Planets



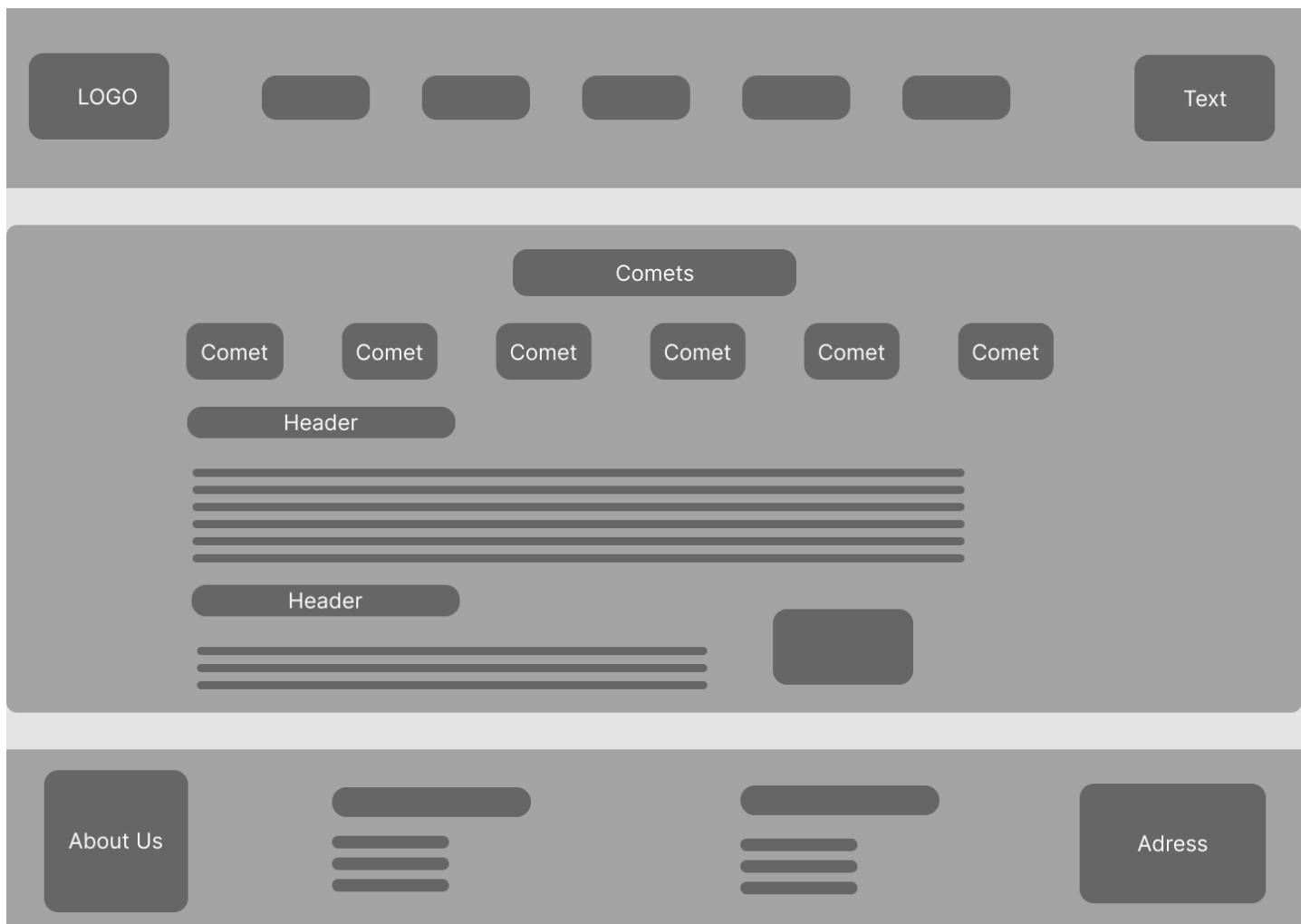
### 3/ Astronomy topics



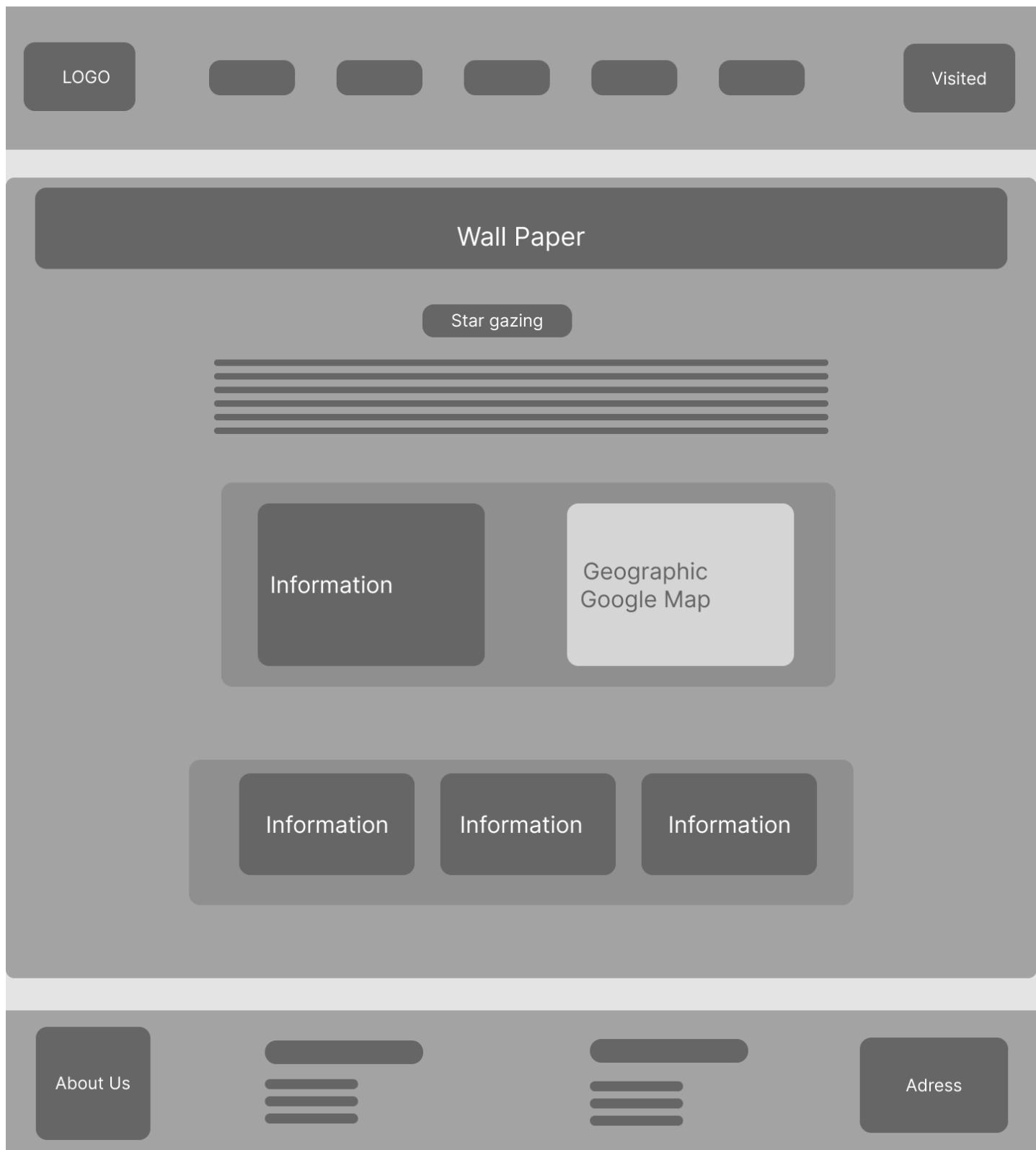
## 4/ Constellations



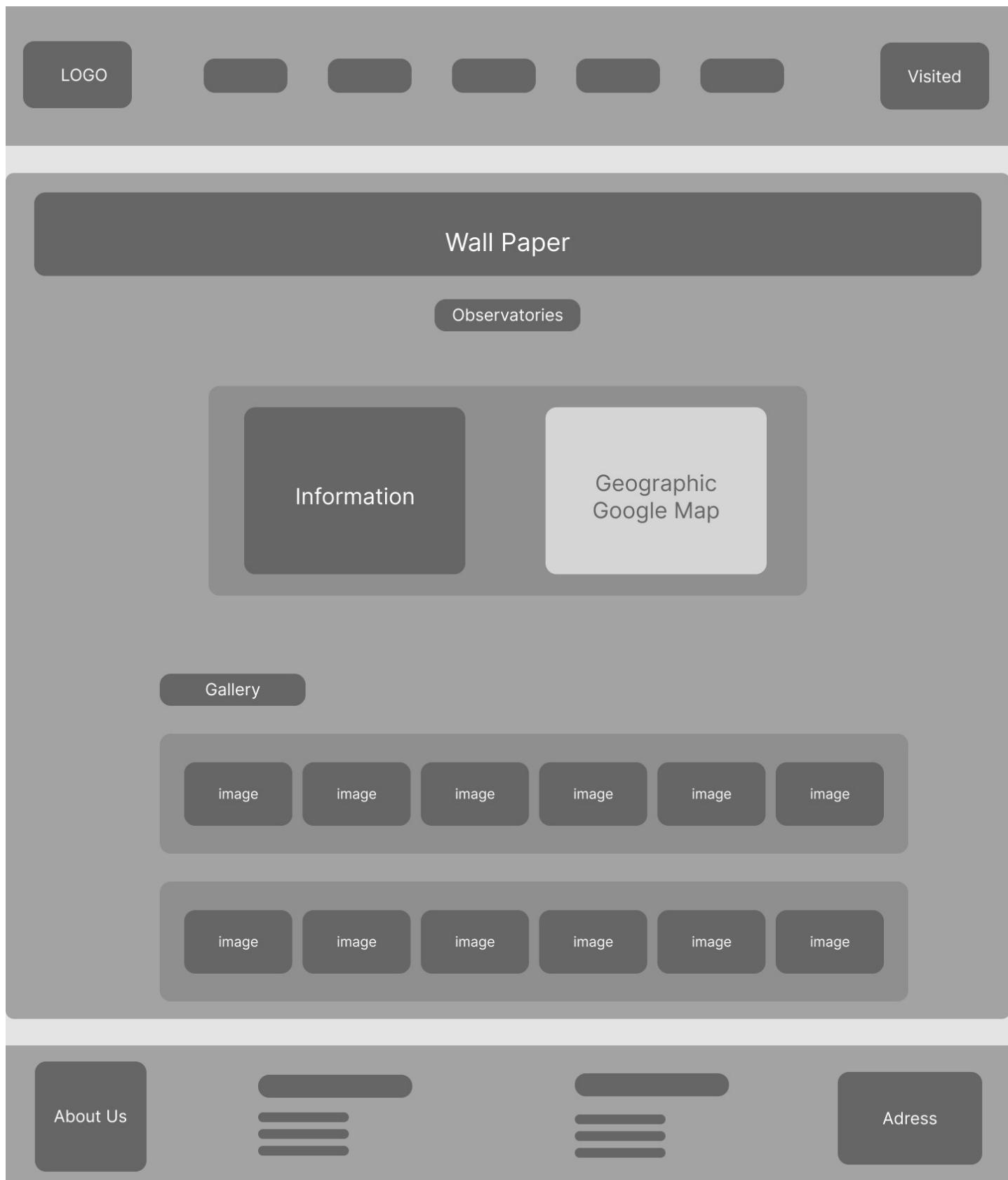
## 5/ Comets



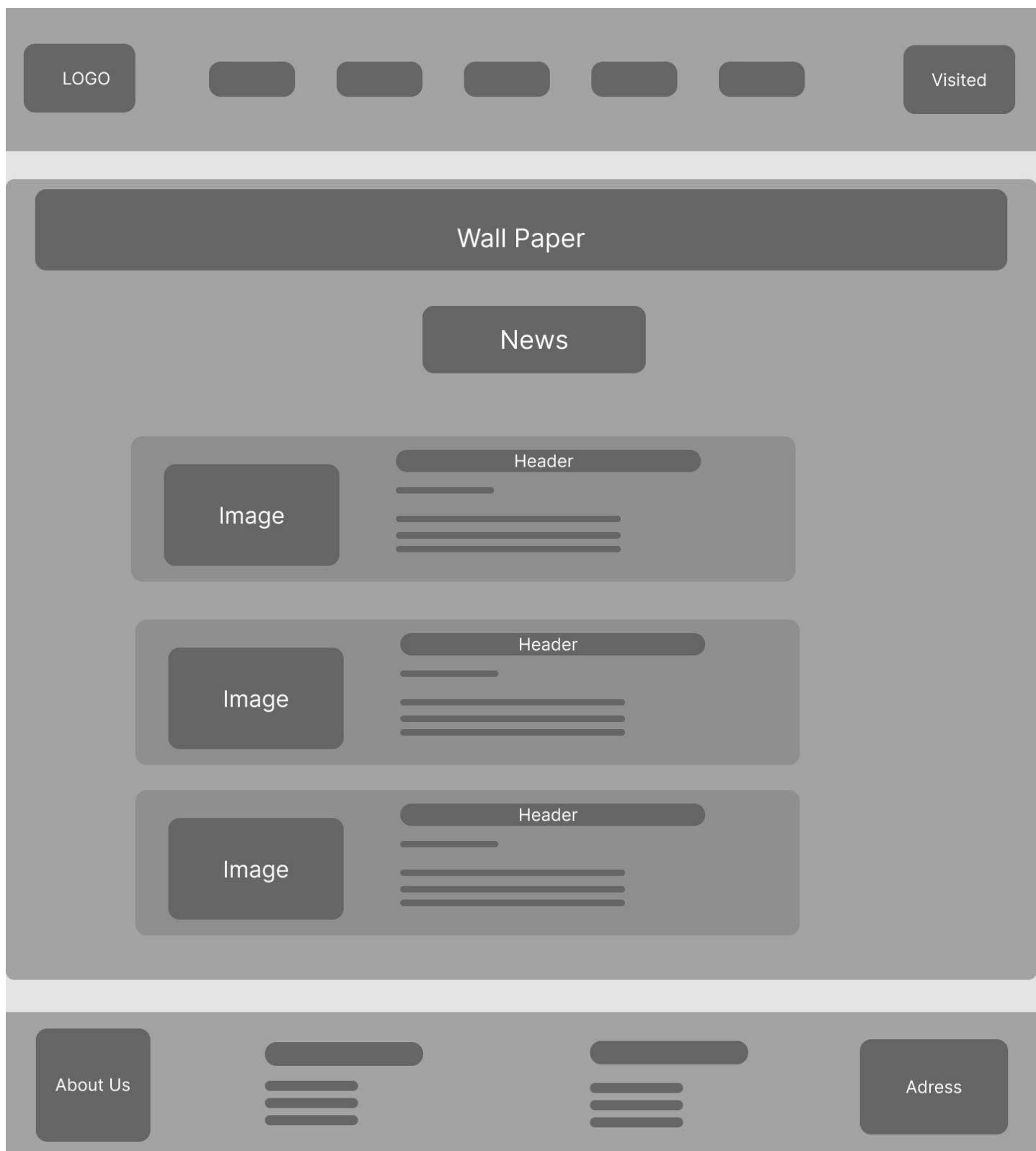
## 6/ Star Gazing



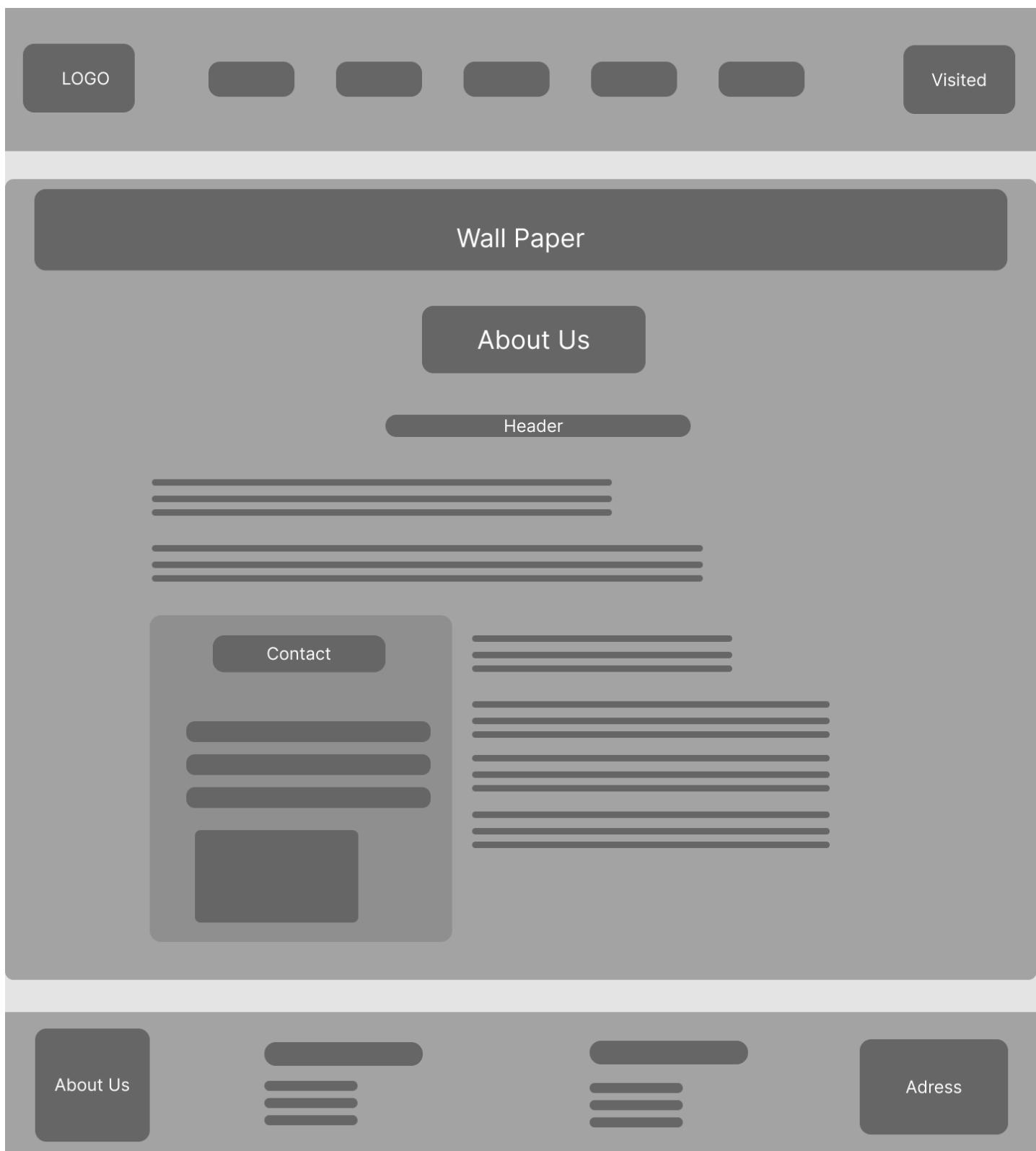
## 7/ Observatories



## 8/ News



## 9/ About Us



<b>Project Ref. No.:</b> <b>eProject</b>		<b>Project Title:</b>	<b>Activity Plan Prepared By:</b>	<b>Date of Preparation of Activity Plan:</b>			
<b>Sr.No.</b>	<b>Task</b>			<b>Actual Start Date</b>	<b>Actua l Days</b>	<b>Team Mate Names</b>	<b>Status</b>
1	Site map	Sky Gazing	Thai	7/31/2025	1	Thai	Completed
2	Mock of website			1/8/2025	1	Thai	Completed
3	Task sheet Review			2/8/2025	1	Loi	Completed

**Date: 8/02/2025**

Signature of Instructor:

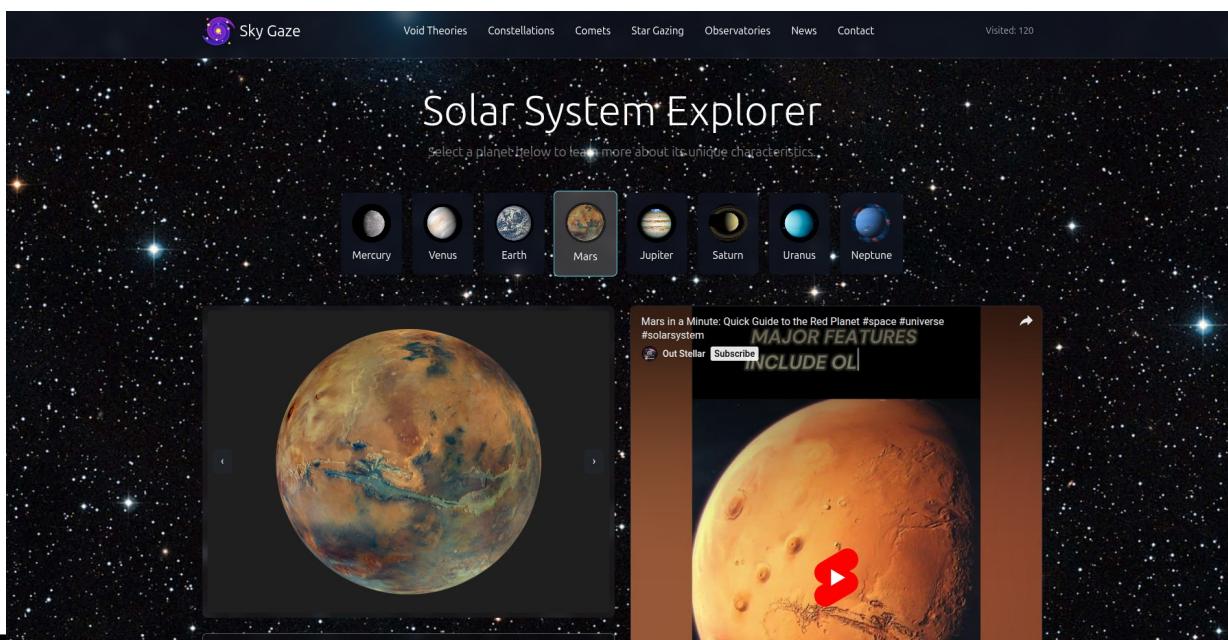
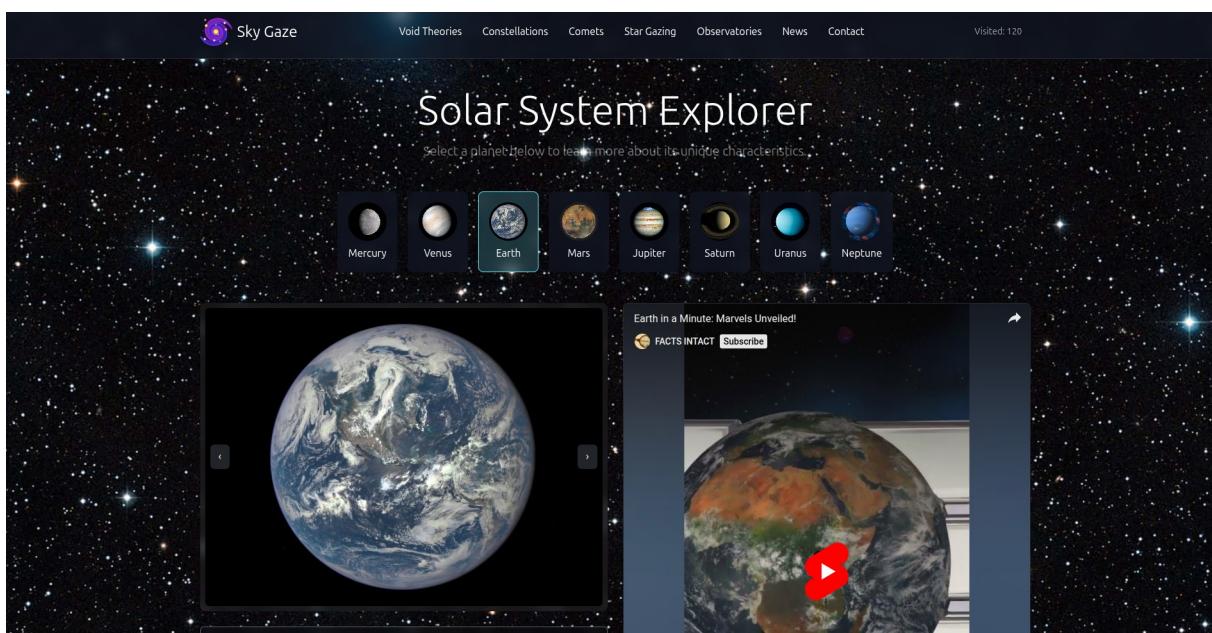
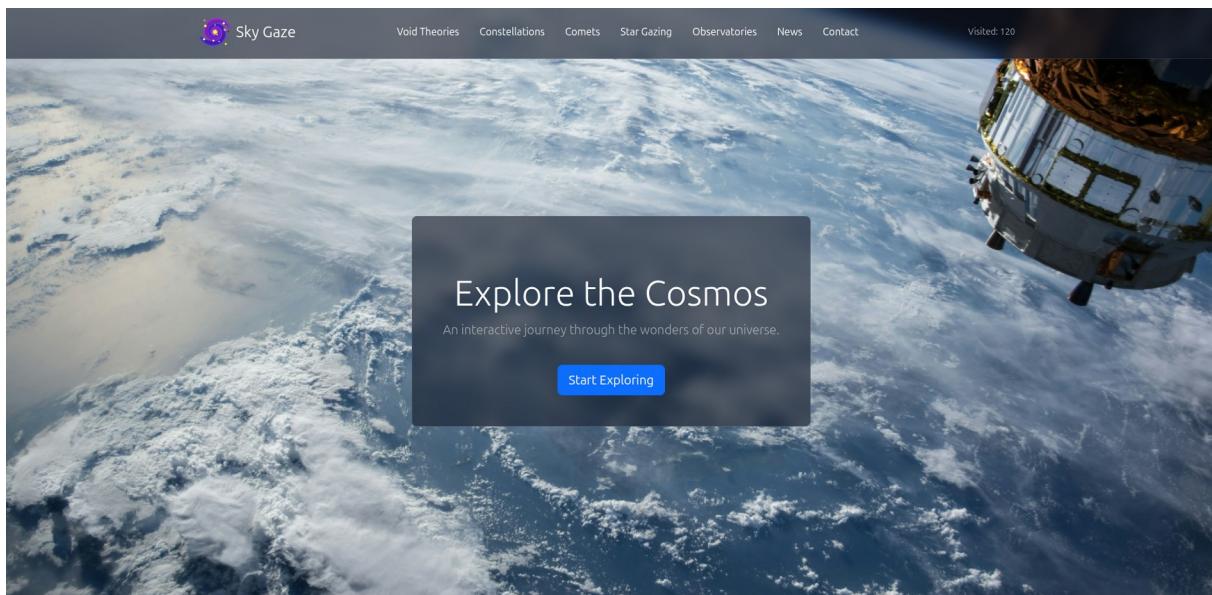
**Ms. Le Mong Thuy**

Signature of Team Leader:

**Doan Duy Thai**

# Problem definitions

- The web page should have the description/images about various planets. If user clicks on the same, navigational link must be available.



2. There should be categories providing details about Solar Eclipse, big bang theory, evolution of earth etc

The screenshot shows the 'Void Theories' section of the website. At the top, there's a navigation bar with links to Void Theories, Constellations, Comets, Star Gazing, Observatories, News, and Contact. A counter indicates 120 visits. Below the header, the title 'Void Theories' is displayed with a subtitle 'Explore theories about the structure of the cosmos.' Six thumbnail images are shown in a grid:

- The Big Bang Theory:** An image of a colorful, exploding star.
- Black Holes: Gravity's Ultimate Dominion:** An image of a black hole with a bright accretion disk.
- Dark Matter: The Unseen Universe:** An image of a complex, web-like structure representing dark matter filaments.
- Exoplanets: Worlds Beyond Our Sun:** An image showing several planets orbiting a central star.
- The Life Cycle of Stars:** An image of a nebula with a star forming in its center.
- Cosmic Nebulae: The Universe's Celestial Clouds:** An image of a large, luminous nebula with a bright central star.

This screenshot shows the 'Black Holes: Gravity's Ultimate Dominion' page. The title is prominently displayed at the top. Below it is a descriptive text: 'Black holes are regions of spacetime where gravity is so intense that nothing, not even light, can escape. They are cosmic objects of extreme density, warping space and time around them.' A large, detailed image of a black hole with a glowing accretion disk is centered on the page.

This screenshot shows the 'The Life Cycle of Stars' page. The title is at the top, followed by a subtitle: 'The process by which a star changes over billions of years. A star's destiny, from its birth in a dusty nebula to its final, dramatic end, is determined almost entirely by its mass.' A large, colorful image of a nebula with a star forming in its center is shown. Below the image, a detailed text explains the life cycle of stars based on their mass.

3. Various sections such as –

- When best to Star Gaze
- Where is best to Star Gaze
- What to expect to see in a Star Gaze

The screenshot shows a dark background image of a starry night sky. At the top, there's a navigation bar with links like Void Theories, Constellations, Comets, Star Gazing, Observatories, News, and Contact, along with a 'Visited: 120' counter. Below the navigation is a title 'Stargazing Guide' and a central button labeled 'When is Best to Stargaze'. This button is surrounded by four dark rectangular boxes containing text and small images:

- Time of Year**: Winter often offers clearer skies due to lower humidity and more stable air. Summer may have more haze or clouds.
- Time of Night**: Just after sunset or before dawn is ideal for observing planets and other celestial objects as the sky is still dark enough and temperatures are more stable.
- Moon Phase Impact**: Avoid nights with a full moon, as its bright light will wash out fainter stars and galaxies. New moon or crescent moon nights are best.
- Weather Conditions**: Clear, cloudless skies with low humidity and minimal air pollution are ideal. Always check the weather forecast before planning your stargazing trip.

This screenshot shows a similar layout to the previous one, with a starry background and a navigation bar at the top. It features a large image of the Southern Cross and the Milky Way over a mountain range. To the right, there's a detailed map of the Southern Alps region in New Zealand, specifically highlighting the Aoraki/Mount Cook National Park area. Below the map, another section is titled 'Atacama Desert, Chile', which includes a map and a photo of a person looking up at a very dark, star-filled sky.

4. The site should also list and explain various planets available as well as details about them as

- When discovered
- Size
- Atmosphere there
- Distance from sun and earth
- Other available important details about them.

**Uranus**

**Discovery:** Discovered by William Herschel in 1781.

**Atmosphere:** Hydrogen (83%), helium (15%), and methane (2.3%).

Uranus, the seventh planet from the Sun, is a unique and enigmatic world, often referred to as an "ice giant." It was the first planet to be discovered with a telescope, found by William Herschel in 1781, which doubled the known size of the solar system overnight. Unlike the gas giants Jupiter and Saturn, which are mostly hydrogen and helium, Uranus and its neighbor

**ABOUT US**    **ASTRONOMY TOPICS**    **EXPLORE THE UNIVERSE**    **CONTACT**

We are a team of passionate developers    Planets    Observatories    Email: aptech.fpt@f.e.edu.vn

5. There should be information on constellations as what is it/how it is formed and various constellations.

**The Constellations**

**Discover the Stars: Structure and Lifecycle**

Before we journey through the 88 constellations in the sky, let's learn about the very celestial bodies that create them. What exactly are stars, how are they structured, and what is their lifecycle?

**What is a Star? 🌟**

Stars are giant spheres of hot gas that produce their own light through nuclear fusion reactions in their core. Their immense gravity creates tremendous pressure and temperature at the center, enough to fuse light elements (mainly hydrogen) into heavier elements (like helium), releasing a vast amount of energy as light and heat. The primary components of stars are hydrogen (over 70%) and helium.

**The Lifecycle of a Star ✨**

Like everything in the universe, stars have a lifecycle: they are born, they live, and they die. A star's lifespan depends on its mass: \*\*the larger the star, the faster it burns, and the sooner it dies.\*\*

\*\*Formation:\*\* Stars are born from vast clouds of dust and gas called nebulae. Under the force of gravity, material in the nebula clumps together, heats up, and forms a protostar.

6. There should also be a section on comet giving information related.

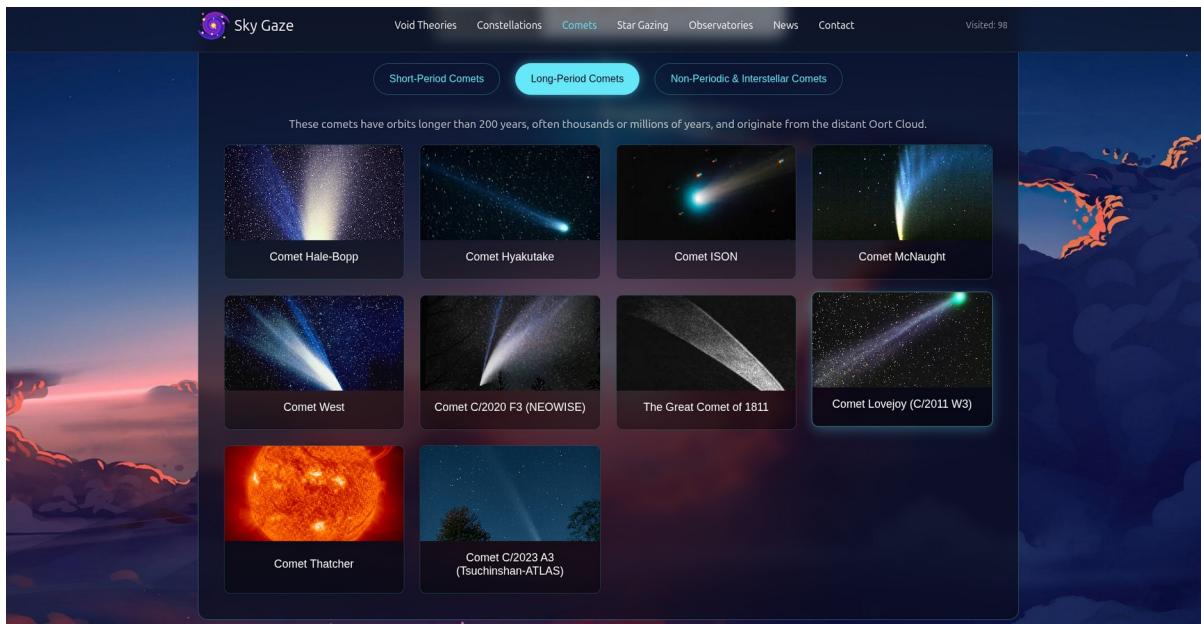
**Comets: The Wandering Snowballs**

**What is a Comet?**

Comets are cosmic snowballs of frozen gases, rock, and dust that orbit the Sun. When frozen, they are the size of a small town. When a comet's orbit brings it close to the Sun, it heats up and spews dust and gases into a giant glowing head larger than most planets. The dust and gases form a tail that stretches away from the Sun for millions of miles.

**Fun Fact: Comet Tails**

A comet's tail can be incredibly long, sometimes stretching over 150 million kilometers (about the distance from the Earth to the Sun). Despite their immense size, you could fly a spaceship right through one without noticing, as the particles are extremely spread out.



7. Also include a section which will provide details on various latest developments in the field of astronomy related to planets and stars.

8. List of Few top Observatories with details and location displayed using GeoLocation API (eg. GoogleMaps).

9. Site map, Gallery, About us, Contact us link must be added. About Us and Contact Us: This menu option should display Email id, address, and contact number of Sky Gazing Company.

The screenshot shows the 'Contact Us' page of the Sky Gaze website. At the top, there's a navigation bar with links to Void Theories, Constellations, Comets, Star Gazing, Observatories, News, and Contact. The 'Visited: 98' link is also present. Below the navigation is a section titled 'Contact Us' with the company's address and phone number. A form titled 'Get in touch' is provided for users to enter their full name, email address, phone number, and a message. Buttons for 'Send' and 'Cancel' are at the bottom of the form. At the very bottom of the page, there are links for 'ABOUT US', 'ASTRONOMY TOPICS', 'EXPLORE THE UNIVERSE', and 'CONTACT', along with the company's email and visit count.

The screenshot shows the 'Constellations' page. It features a search bar at the top labeled 'Search constellations...'. Below it are four seasonal tabs: Spring (highlighted), Summer, Autumn, and Winter. A checkbox for 'The Zodiacs' is also available. The main content area displays a grid of 12 constellation images, each with its name and a brief description. The constellations shown are Camelopardalis (The Giraffe), Lynx, Camelopardalis (The Giraffe) again, Leo (The Lion), Ursa Major, Ursa Minor, Crater, Coma Berenices, Corona Borealis, Lyra, Aquarius, and Pavo. A circular arrow icon is located in the bottom right corner of the grid.

The screenshot shows the 'Celestial Gallery' page. It has a header with tabs for All (118), Constellations, Comets, and Aurora. The 'All' tab is currently selected. The main area contains a grid of 16 images representing various celestial objects and phenomena. The images include: Indus, Pavo, Comet Swift-Tuttle, Aquarius, C/2019 Q4 (Borisov); Scutum, Coma Berenices, Dorado, Coma Berenices again; Crater, Microscopium, Bootes, Ara, and The Great Comet of 1811. Each image is accompanied by a small caption.

### Task Sheet Review 3

Project Ref. No.: eProject		Project Title:	Activity Plan Prepared By:	Date of Preparation of Activity Plan:				
Sr.No.	Task			Start Date	Actual Days	Name	Status	
1	Website Layout	Sky Gaze	Thai	08/13/25	1	Thai	Completed	
2	Report			08/14/25	1			
3	Task sheet Review 3			08/15/25	1			
4	Design			07/29/25	17	Hung		
5	Home			07/29/25	17			
6	Planets			07/29/25	17			
7	Astronomy topics			07/29/25	17			
8	Constellations			08/02/25	20	Loi		
9	Comets			08/02/25	20			
10	Star gazing			08/02/25	20			
11	News			08/05/25	18	Thai		
12	About us			08/05/25	18			
13	Navbar			08/05/25	19			
14	Footer			08/05/25	20			
15	Record video			08/05/25	21			

**Date: 8/15/2025**

Signature of Instructor:  <b>Ms. Le Mong Thuy</b>	Signature of Team Leader:  <b>Doan Duy Thai</b>
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