

Aether Space Hotel



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Acknowledgement

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INTRODUCTION –

What is Aether Hotel & why it is named so?

Aether is a space hotel meant for people to **explore space** and get to know how **space life is**. Aether is not just a hotel it is a **kingdom of fun and enjoyment**. Aether is the **primordial god of space**, the primordial titan of astronomy condemned by Jesus to carry the world on his back after the titans lost the war.

Benefits of Aether –

Getting to know how life works in space (It has been a dream for all of us to glimpse how space life works which our hotel is providing!)

Unimaginable experiences....(imaginable experiences will be unimaginable! Like no gravity experience, health clubs, etc.)

Complete comfort like home(We will build an atmosphere that is equally comfortable like our home earth .)

Services for PEOPLE WITH DISABILITIES (The people who are with disabilities will also feel completely comfortable and safe being in Aether hotel)

24/7 services(There will be all types of services from hospitality to transportation)

Robots' services (there will be robot staff to provide you with perfect service)

Purpose of Aether

Aether's primary purpose is to show humans how interesting space is!!!,

just as what we used to think in our dreams. It is gonna give you the best experience ever! You all might think **is safe** to go into space or not. But let me tell you we are providing you with a proper **Cctv camera, security alarms**, and **24/7 service** which will not make you feel unsafe or uncomfortable at all.

And trust us, our Aether team will not disappoint you at any cost! We'll be there with you at every circumstance taking place.

Location of Aether

What are Lagrange Points?

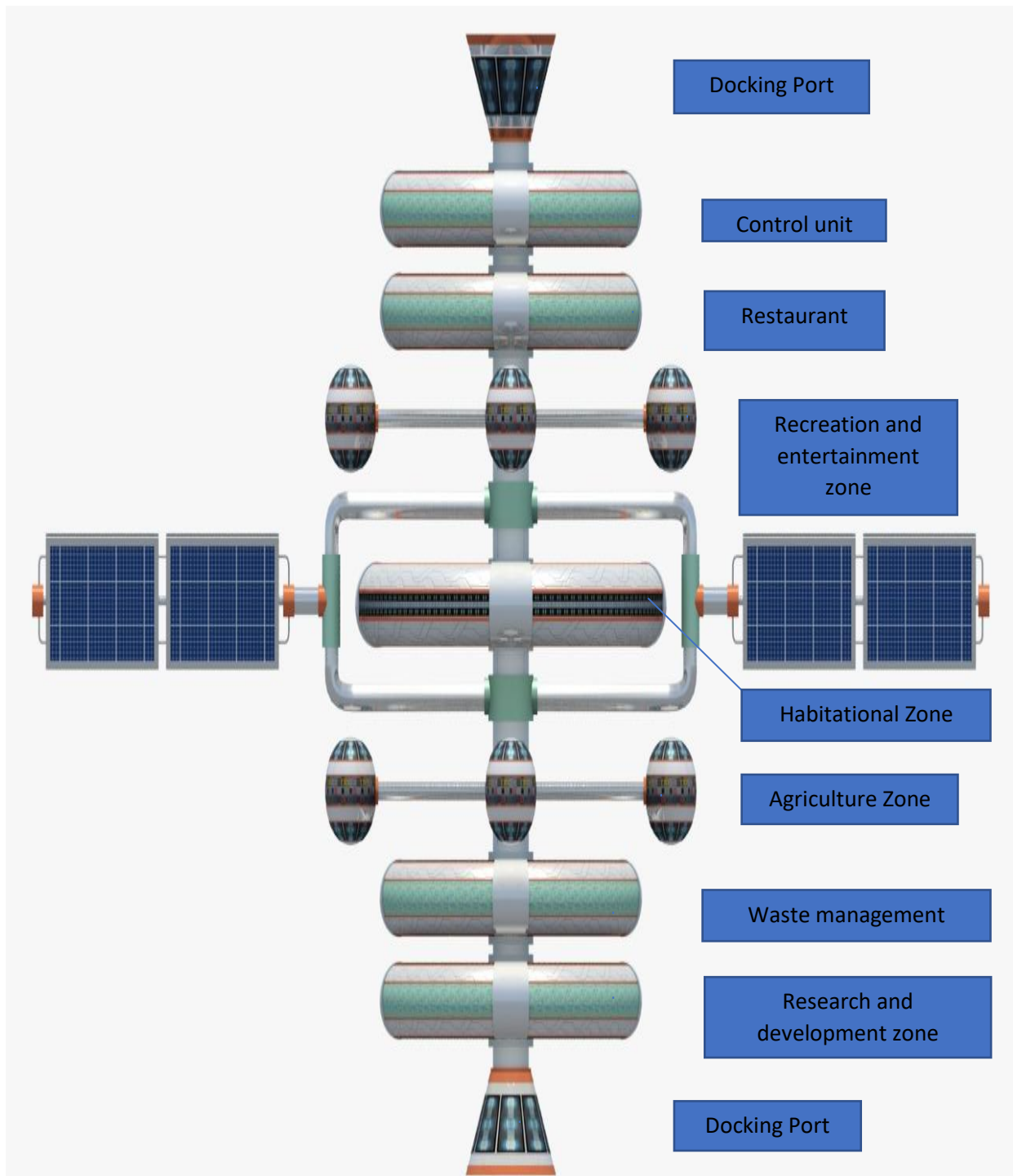
Lagrange points are positions in space where objects sent there tend to stay. At Lagrange points, the gravitational pull of two large masses precisely equals the centripetal force required for a small object to move with them.

Our hotel Aether is located on Lagrange point 4 because it is stable as newton's 3rd law says that **"For every action in nature there exists equal and opposite reaction"** with this we conclude that the **moon and earth cut down their gravitational force so there is no force acting on the object kept there.**

- **It is in GEO orbit**
- **The abbreviation of GEO is geo stationary orbit.**

Structure:

Labelling our parts –



Basic Shapes –

1) Sphere -



2) Cylinder –



3) Torus –

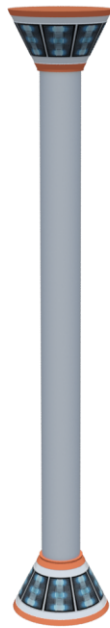


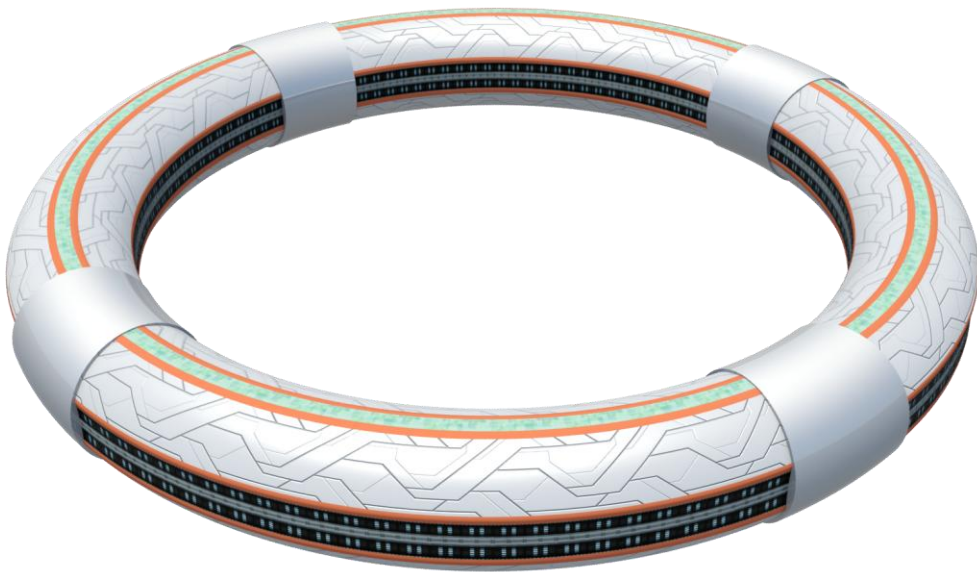
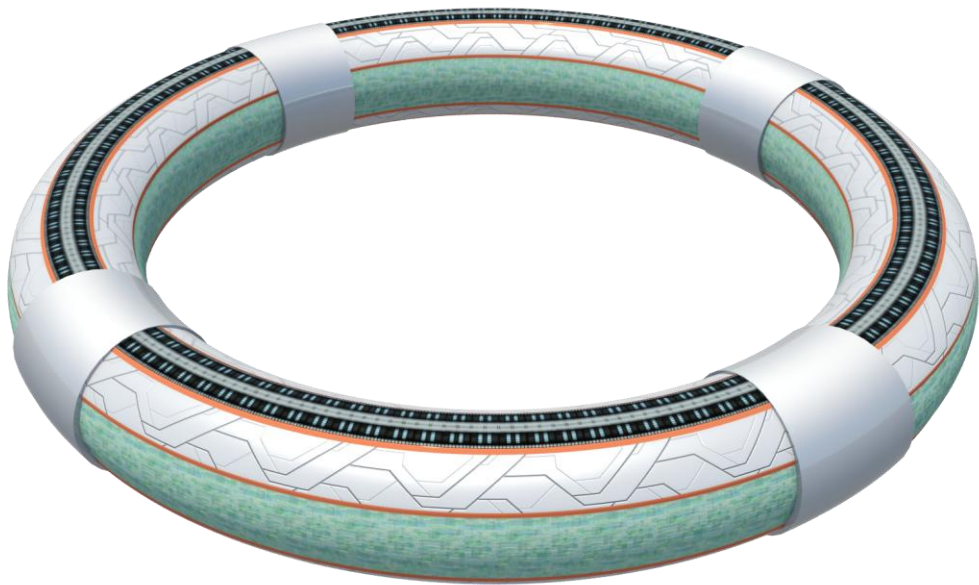
4) Inverted trapezium –

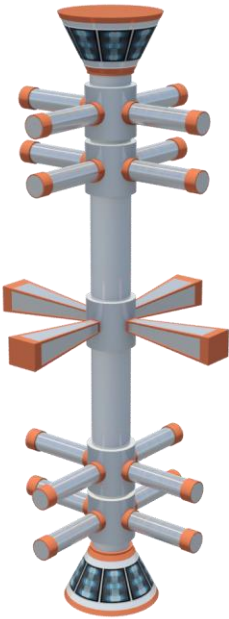
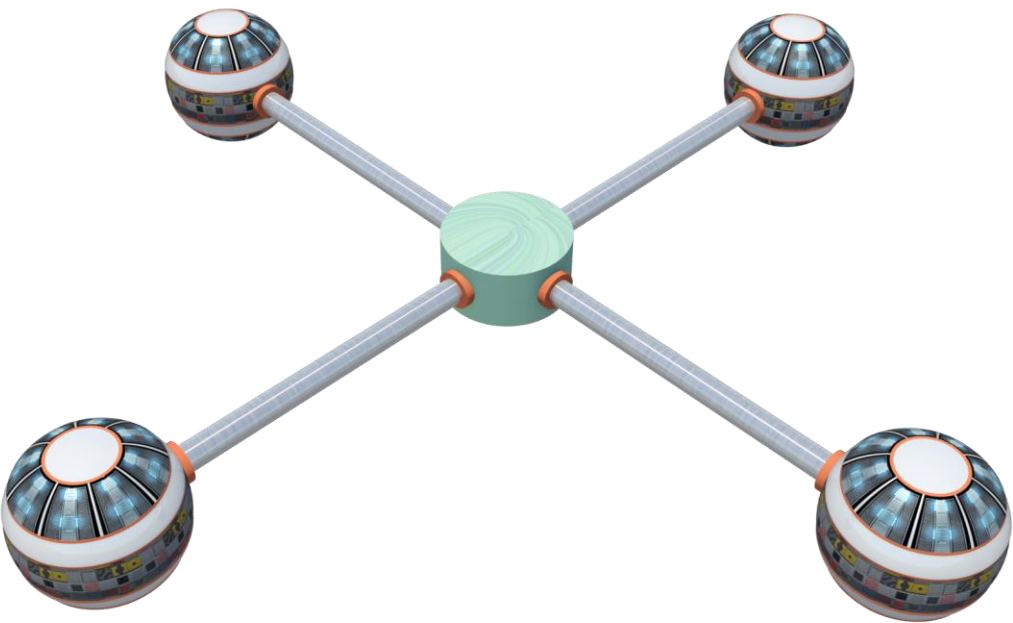


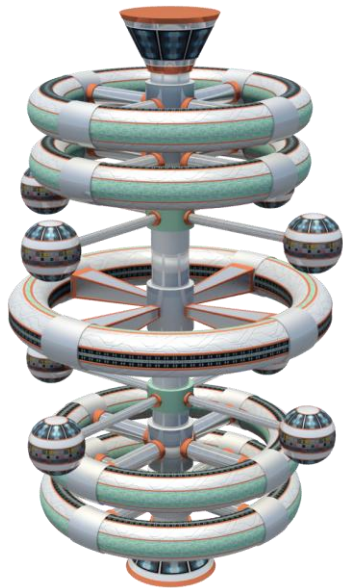
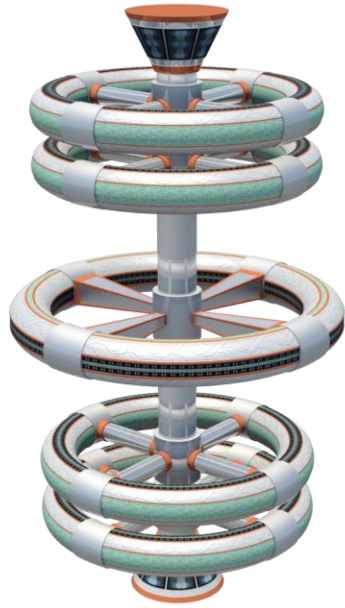
Basic Shapes	Location
Sphere	Recreation and entertainment zone, agriculture zone.
Inverted Trapezium	Docking port
Cylinder	Main bar
Torus	Control unit Restaurant Habitational zone Waste management Research and development

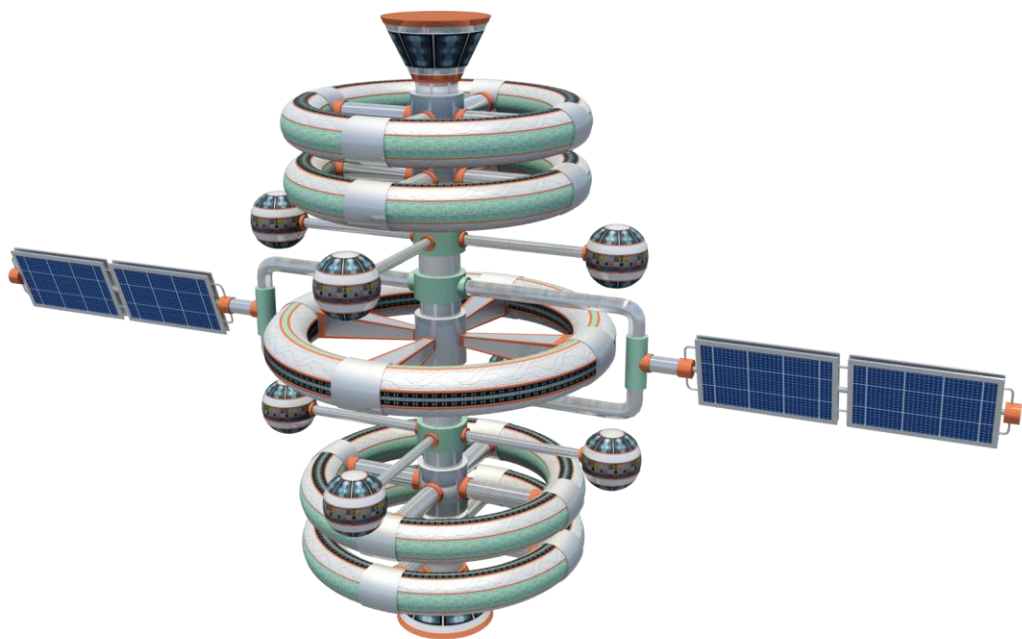
Constructional Sequence -



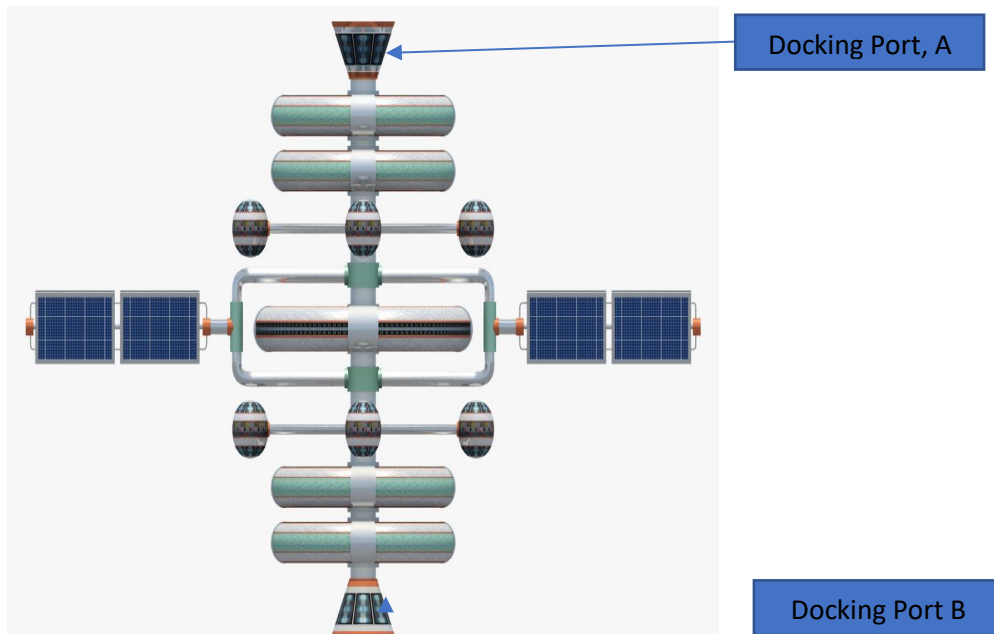




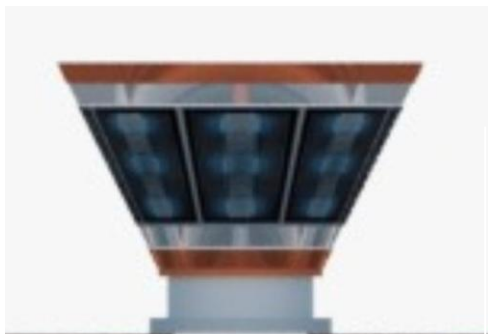




Ports-



There are 2 docking ports Port A and Port B. The main purpose of a docking port is “transportation”. The docking ports will be opened in 2 parts just like this



Port A will be used for transferring the goods

Port B will be used for the transportation of humans

There will be sensors on the gates of ports. There will be a platform on which the landing and take-off will happen, so we’ll activate the sensors when it is ready for departure and so the gates will open up. There will be sensors on the outer side also which will work similarly just as the inner sensors. The work of sensors is used to make the gate open and shut.

Solar Panels –

Solar panels are used for energy production. The energy of the sunlight is absorbed by the PV cells in the Panel. This energy creates electrical charges that move in response to an internal electrical field in the cell, causing electricity to flow. Now the question arises that how we will get energy at night. For this, we have a perfect solution. We can store the solar energy which is produced during the day in form of a battery.

Operating and Infrastructure

Security System and Control room:

Security System: - Security is in the state of being free from danger or threat. Either on earth or in space security is equally important to make a person feel secured. As most of our travelers are old age people. So, we should have a proper security system for them.

The security facilities are: -

- Security alarm
- Cctv cameras
- Emergency buttons

Security alarm -

Location- every zone of our hotel

There are speakers present in every zone with buttons, which is in the bottom right corner of every room. If a sudden emergency happens in that respective place. The people there can press the button. All our staff members will be alerted by alarms. We will check what kind of emergency it is through CCTV cameras, and we'll send staff to that particular place. If any kind of harmful body comes near our hotel just like a meteoroid or asteroid and will be detected by the sensors (Of the shutter).

CCTV Cameras –

Location – Every zone of our hotel

Cctv cameras will work 24/7 keeping an eye on all the zones. If something unexpected happens then the security alarms will go on, and the security cameras will help us to look at what type of situation it is.” No one is allowed to harm others for their own good” keeping in mind that there all doings are captured under the CCTV.

Control Room –

The control room is one of the main aspects of our hotel. Our hotel works completely in the control room. It is a top of a hotel. There will be 30 staff members working in the control room, including the humans and 20 robots. There are 4 main systems which are controlled by our control room.

Named as –

- Water system
- Oxygen system
- Cortex System
- Heat reduction system

Water System –

Our main tube is divided into 3 parts the left and right parts are for transportation while the middle part is for system and wiring. Our Water system is also located there. The water tank in the main bar is our main water source. With this, we also have 2 water tanks one in agriculture and the other in restaurants. For the agriculture tank, one side of the pipe is connected to the main tank and the other end goes from the joining spoke of sphere 4 of agriculture and is therefore connected to the agriculture in it. For the safety of pipes, we are passing them through hooks. For the Restaurant tank, the pipe is connected to one end of the main tank and the other end of the pipe goes through the platform of the lift system and then to the joining spokes of the restaurant.

Oxygen system –

Our main source to obtain oxygen is chlorella. It produces 50% – 80% oxygen and helps in recycling waste and uses carbon dioxide. Chlorella is a single-celled green alga. Chlorella Vulgaris converts carbon dioxide into a photobioreactor into biomass and oxygen with the life of photosynthesis. This extremely small aquatic organism inside the reactors thus regenerates fresh cabin air for us breathe. It is also known as space algae. It will be grown in a certain part of spheres 1 and 2. We will grow space algae in every to have enough oxygen.

Algae are aquatic plants that grow using the nutrients found in their water and energy from the sun. Many different species of algae are grown, and they have many uses in our lives. Different species of algae can be grown to be everything from a food source to a source of biodiesel for trucks. One of the benefits to growing algae is that the process is easy and straightforward.

Backup plan –

Oxygen is a natural gas that is made during the process of photosynthesis. It is another important factor that we need for living. We will provide oxygen in Aether hotel through the O2 system. Let's see how it works! A tank system will be located in our main bar and that system will be connected through O2 which will give oxygen. The composition of oxygen is 25%

Cortex layer –

So, this is a specialized layer made and named by us. Which is inspired by the ozone layer. So, it has 2 functions to be done –

1) Day and night Cycle –

As we know day and night cycle is important for us to do our work properly. We are making it possible through the cortex layer. The shutter will be opened for 12 hours and closed for another 12 hours to make a day complete. Whenever it is night will happen whenever it is opened day will there. There will be a blue button on the cortex system (present in the control room. Which when pressed, will shut down or open the shutter.

2) Repelling harmful body –

First going into this topic, we should know what exactly this is! So, this topic means that any kind of harmful body comes near to our hotel just like a meteoroid or asteroid. Cortex layer and our team will try its best to repel it. But if in some cases, it becomes unsuccessful then the first sirens will start. Everyone will have to go to their respective rooms. And stay there until we are not in danger. And, if some parts get damaged the Aether team will fix them as soon as possible

Heat Reduction System –

The system is a small vapor cycle that uses the temperature difference between the hot and cold ends of the tube as a pump to transport heat, taking full advantage of the heat of vaporization. With proper design, heat pipes are an appropriate and convenient tool for heat reduction systems. Coming to how it works, there will be a system in which heat pipes would be fitted, so whenever heat is produced at max level it will first give a warning, and then it will start. The main motto of this system is to reduce heat and too much heat is very harmful to us, especially for our hotel.

Transportation –

For the convenient traveling of our customers, we have a lift system for transportation. Our main bar is divided into 3 sections. The 2 sections which are on the right and left of the bar are connected all over the hotel. So that our customers through the hotel. The space in between the main bar, we'll be for all systems and electrical wiring

Materials -

Names	Materials used
Docking ports	Magnesium alloy
Control unit	Magnesium alloy
Restaurant	Silica glass
Habitational Zone	One way glass
Agricultural Zone	Magnesium alloy
Waste management	Magnesium alloy
Research and Development Zone	Magnesium alloy
Main Bar	Magnesium alloy
Joining Spokes	Silica glass
Systems	Silicon carbide
Recreation and entertainment zone	Silica glass

Waste and other Management -

waste management or waste disposal includes the procession of actions required to manage waste from its inception to its final disposal. The waste is basically coming from every part of our hotel. The main places from where the waste is coming is the habitational zone, agricultural zone, control unit and restaurant. The unveiling the West by keeping the scores they will be collecting waste from all the zones time to time and will drop it into the waste management. They are the ways will be served, sorted into 2 categories, recyclable and non-recyclable waste. The waste which can be recycled to Earth and will be recycled there. The waste which cannot be used again will be used as fuel for our hotel and docking ports.

If plastics can't be recycled, does that mean that they are just garbage after their use? Absolutely not! Non-recyclable plastics do have value beyond their initial use. They can be turned into multiple types of fuel and energy through a process called "Pyrolysis". Non-recyclable plastics are largely made of hydrogen and carbon, which makes them able to behave similarly to other hydrocarbon-based materials such as heating oil and gasoline. That makes them a good source of fuel and energy.

Pyrolysis has Greek roots, and the term can loosely be translated as “fire separating”. The process of Pyrolysis subjects any material to highly elevated temperatures in a relatively inert (mostly or completely void of oxygen and water) environment to promote thermal decomposition. It forces materials to chemically change from an initial composition into a different composition through a chemical decomposition reaction. Pyrolysis can generate solids, liquids, or gases that can be later used as energy and fuel. A separate Pyrolysis technique can be used to superheat plastics until they vaporize. This will produce hydrogen that can be used as a synthetic natural gas (also called Syngas). This synthetic natural gas can be used as a fuel to generate electricity in power plants and as a direct fuel for hydrogen-fuelled vehicles.

Robots and Automation –

Robots are machines which listen and work in perfect manner. These robots are worked by batteries and with this we have planned our 40% staff members to be robot to give you proper service . Automation describes a wide range of technologies that reduce human intervention in processes, namely by predetermining decision criteria, subprocess relationships, and related actions, as well as embodying those predeterminations in machines Automation describes a wide range of technologies that reduce human intervention in processes, namely by predetermining decision criteria, subprocess relationships, and related actions, as well as embodying those predeterminations in machines.

Communication –

There will be a mic system in a hotel will be in the research and development department and control unit. In case of a fire alert or any important case, we will announce to the people through this system.

Transportation –

For the convenient travelling of our customer, we have a lift system for transportation . Our main bar is divided into 3 sections . The 2 sections which are on the right and left of the bar are connected all over the hotel . So that our customer can travel through the hotel. In the joining spokes

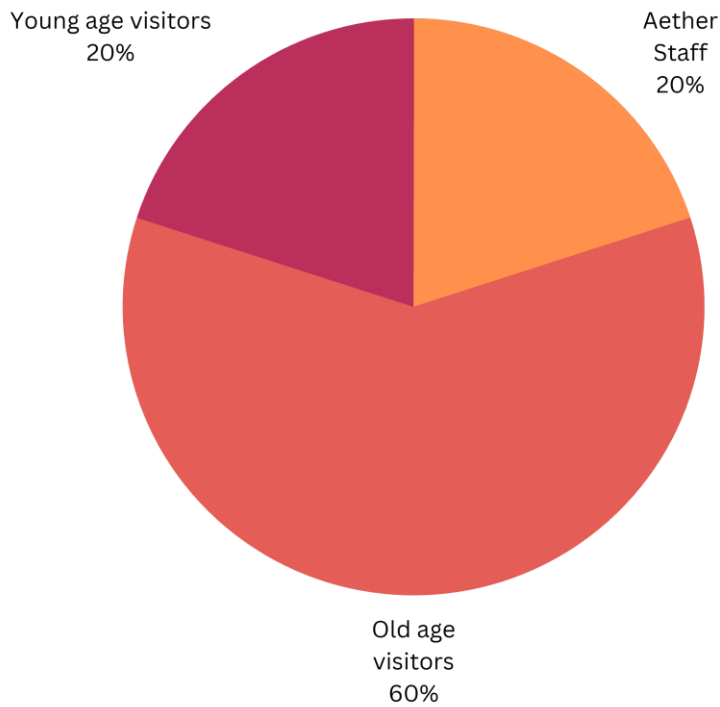
Gravity –

The force that attracts a body towards the centre of the earth, or towards any other physical body having mass. Artificial gravity is needed because without it we would lose our muscles and bones in 18 or so months. Gravity is possible in space by linear acceleration. Artificial gravity is the creation of an inertial force that mimics the effects of a gravitational force, usually by rotation. Artificial gravity, or rotational gravity, is thus the appearance of a centrifugal force in a rotating frame of reference (the transmission of centripetal acceleration via normal force in the non-rotating frame of reference), as opposed to the force experienced in linear acceleration, which by the equivalence principle is indistinguishable from gravity. In a more general sense, "artificial gravity" may also refer to the effect of linear acceleration, e.g. by means of a rocket engine.

Linear acceleration –

Linear acceleration is another method of generating artificial gravity, by using the thrust from a spacecraft's engines to create the illusion of being under a gravitational pull. A spacecraft under constant acceleration in a straight line would have the appearance of a gravitational pull in the direction opposite of the acceleration, as the thrust from the engines would cause the spacecraft to "push" itself up into the objects and persons inside of the vessel, thus creating the feeling of weight. This is because of Newton's third law: the weight that one would feel standing in a linearly accelerating spacecraft would not be a true gravitational pull, but simply the reaction of oneself pushing against the craft's hull as it pushes back.

Population –



Aether Staff –

Work	Human	Robot
Labourers	5	5
Doctors	10	0
Restaurant	10	20
Research and development zone	5	15
Control unit	10	20

Human Needs in Space –

Assistant for people with disabilities –

People which are disabled will be helped whenever they need. They would be given proper facilities . If they need, they would be given wheelchair with all facilities.

Agriculture –

In Agriculture zone,

- Sphere 1 will be for Growing space alga
- Sphere 2 will be for rearing of animals
- Sphere 3 & 4 will be for storage

We will only grow space alga in sphere 1. Or else other products will be brought from earth only.

Restaurant-

Restaurant is a place where you can enjoy every kind of delicious food. Our restaurant is providing you every kind of food from Chinese to Indian, Italian to French cuisine with a non-imaginable view of space.

As most of our visitors are old age, so they will provide most almost healthy food for them. However, we will also have a have. Counter of junk food. We have 6 counters in all.

- All vegetables with all types of roti
- Lot of fruits
- Pure veg food
- Nonveg food
- Junk food
- Desert

You can discuss about your experience in our space hotel with whoever you come with or anything you want to talk about. At least when you finish your food, there will be a suggestion from which you could feel it and give it in a suggestion box.

Habitational Zone –

It is the most comfortable place from a tiring day. You only and only needed if we talk about its best features, then will provide you with your personal assistant. Will do your work. Everything will be automatic. For your safety, we will provide you with the buzzer and if something happens. Our staff members come to your room and the best thing is that. If you

are like not in a mood. To go anywhere, you can sit and talk with your assistant or else you can see the view of space as your room wall will be of glass.

Medical Care-

The medical facilities provided by us are- We are providing them health safety by keeping them on watch by their personal robot which is present in their respective room. For any small injury, we will handle the situation in the medical room which is present in the habitation zone. Any kind of situation happens then that person can press the alarm present in the room and so our staff will rush to your room. We will take you in medical room and do your treatment by medical materials. In case of severe condition, if it can be handled by us, we will try our best, but if it is a severe condition, we will take you to the nearest space colony for better treatment with better facilities. We are also providing your health club. To help you stay fit.

Atmosphere –

Gases	Percentage
Nitrogen	74%
Oxygen	25%
Carbon dioxide with other gases	1%

Entertainment-

Health club –

It is a place where you can enjoy maintaining your body and a place to make yourself strong . We will provide you all necessary equipment's . Personal robot trainers will be there to help you out .

Now let us know why it is important –

- It's good for your health
- It's a great stress buster
- Access to knowledge about health care
- It keeps your motivated etc.

Indoor Games –

Everyone enjoys playing games. As most of our visitors are old age so we will keep indoor games. However not upsetting our young astrophile's we have a plain racetrack area where u can do various races. "Stay fit Keep enjoying!"

Indoor games include

- Chess
- Business
- Carrom
- Table Tennis

Dance and music area –

As you all know, dance and music room are the place where you can enjoy yourself with loud music and dance your heart out. This is the area where you can party with your friends and family.

Mystery of Space –

Now this is a room which is dark enough for you to enjoy. You can only and only see space. But then how is it Mystery space? So, we will provide you with speakers which will tell you enough information and which will make you visit it again and again in this room.

Spacewalk –

So, after you've visited whole hotel at last we will take you for space walk. Space Walk is a game introduced by our hotel. In it, we will make our visitor wear a space suit and will take them outside the hotel for a walk. To ensure their safety, we will send a professional person with them to guide them. there will be hooks on a hotel for that visitor, so he gets support.



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