

Orbital Suites

Adam Granger

Orbital Suites By Adam Graiser

Introduction:

This document is the result of month-long project that I had always wanted to take on. Since my only client was myself, I was able to accomplish a number of things with Orbital Suites:

- Explore dynamic document layouts and graphic designs
- Experiment with different visual art mediums for presentations
- Envision an entire environment in the presence of microgravity

Some of my visual communication experiments work better than others, but I truly believe that the ideas such as those presented here give an inspirational 'first look' into the future. "Space hotels" and "space tourism" are the logical next step in humankind's travel among the stars.

For myself, a consumer product designer by trade and a space exploration enthusiast since age two, consumers in orbit is a great design opportunity. Most product design takes advantage of gravity in some way or another; tables have four legs to push people off the floor, and bowls have a flat bottom to sit on tables. How does the lack of that downward pull affect the design of an environment? I had to walk the delicate balance of designing new and intriguing products and systems without designing a world so alien and unfamiliar that vacationers would find the place unsettling. After all, humans have been conditioned to view their surroundings with gravity in mind, and this bias doesn't change once you are lofted into orbit. But just what does a world without gravity look like?

Of course, gravity never really goes away; everything is just in a state of perpetual free-fall, called microgravity. I have tried to ground this project firmly in the laws of physics and have made reference to many living systems pioneered by NASA's Skylab, Space Shuttle, and the ISS. Items such as toilets, showers, docking mechanisms, and the extensive use of Velcro are not discussed in detail here, since they have been proven to work and are a little out of my scope.

Truly, Orbital Suites is more akin to a cruise ship than a hotel. All amenities and activities can only occur within the walls of the station. People will be able to live, laugh, and lounge in a plush, high-class environment while exploring life in microgravity. Someday this will be a reality, and we will all be able to share in the wonder and majesty that only trained professionals have experienced. Hundreds of miles up; a world in weightlessness.

This document takes the form of a brochure for the fictional orbiting space hotel/station. I hope the project serves to inspire and drive some thoughts about the potential for space tourism.

Adam Graiser, 2011



Hotel FAQ

- What should I bring?

For a full stay of five days, bring clothes, approved toiletries, a camera, and your cellphone

- Where am I allowed to go in the hotel?

Just like a hotel on Earth, you are free to go anywhere you like, but there are some areas for employees only

- Are there emergency ways to return to Earth safely?

Yes, Emergency Descent Vehicles are in place

- Is the food in space mostly dried paste?

This is a common misconception. We utilize freezers, refrigerators, ovens, and hydrators, so our dining areas can offer exotic foods from around the world

- How many visitors can the hotel accommodate?

We can hold up to thirty visitors, plus a full crew of support staff

- Do I have to undergo astronaut training?

No, but you will need to attend a 1-hour information session before launch

- What languages are spoken?

All staff members speak at least English, Spanish, and French, but you can request to have staff that speaks other languages

- What happens if I get sick?

Motion sickness can be mitigated with medicine. For other needs, we have a health clinic onboard

- Can I call/ videochat with Earth?

Yes. Most cell phones get service in the hotel. Additionally, your bedroom comes equipped with videochat equipment

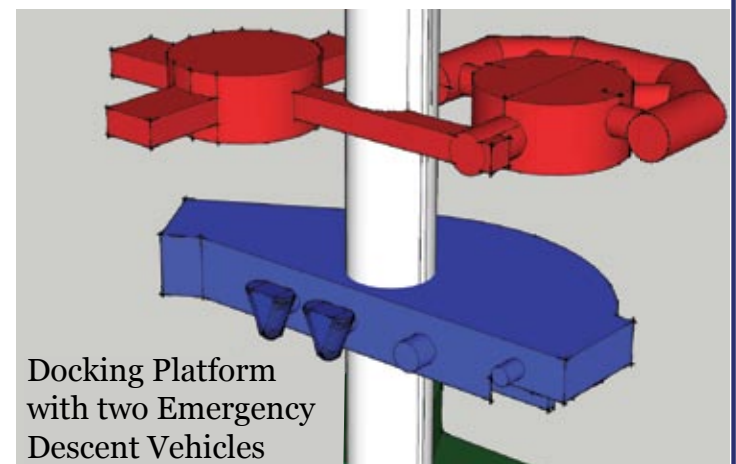
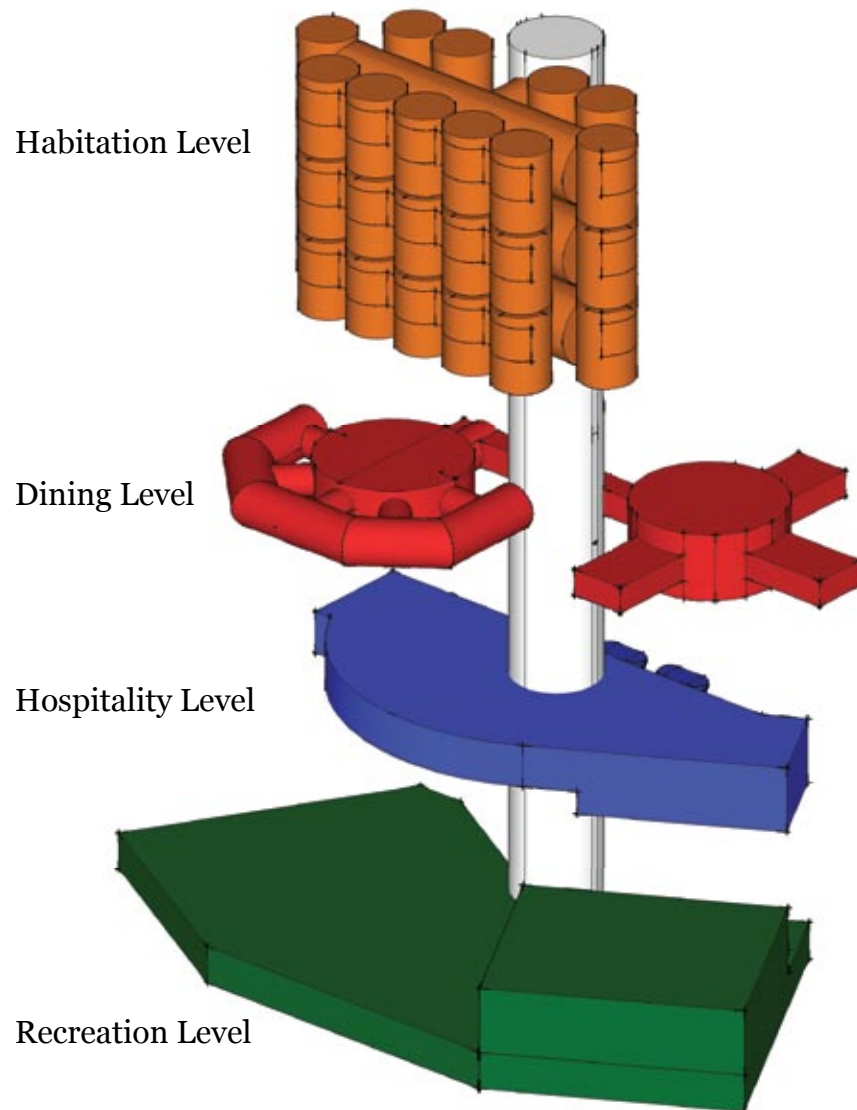
Facts about the Hotel

- Approx. 16 Sunrise/Sunsets every 24 hours in Low Orbit
- Waste is kept to a minimum, and water is recycled and filtered
- Radiation levels are slightly increased, but are safe and closely monitored
- Constant HVAC circulation causes a discernible hum, but can be cancelled out
- Without proper medication, it can take up to two days for the inner ear to recalibrate itself in weightlessness
- Many astronauts say that viewing the Earth from space is a life-changing experience
- Constant airflow is maintained to prevent “pools” of CO₂ from forming around people’s heads
- The longest any human has spent continuously in space is 447.7 days
- Without the pressure of weight, the human body can experience changes (stuffiness, bloating, bone and muscle loss). While these effects reverse quickly after returning to Earth, exercise will help to prevent them.
- Gravity is not absent in Earth-orbit; it keeps the hotel from flying off into space. Rather, the hotel is kept in a state of constant freefall, called microgravity.

Welcome to

Orbital Suites

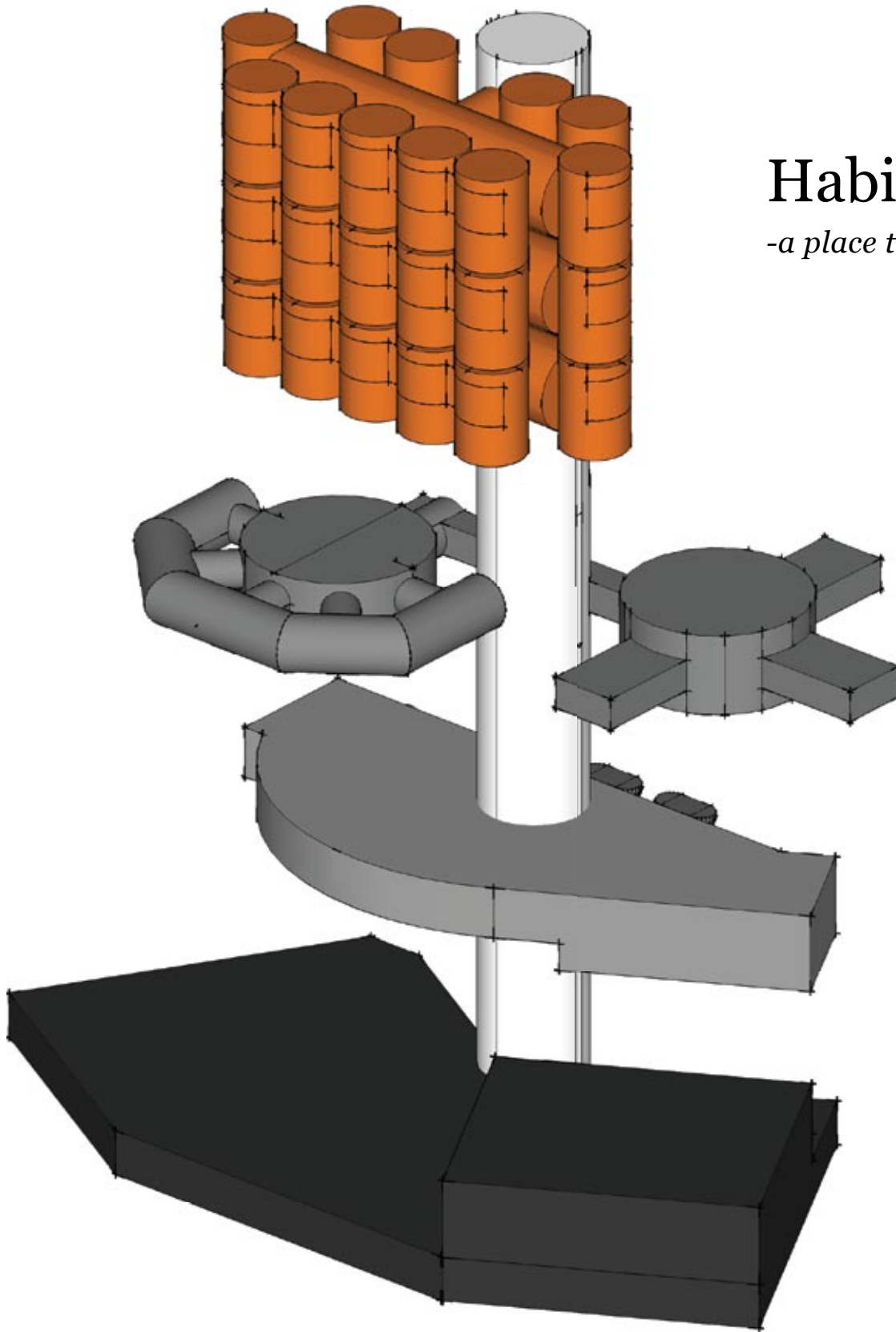
Hotel Map



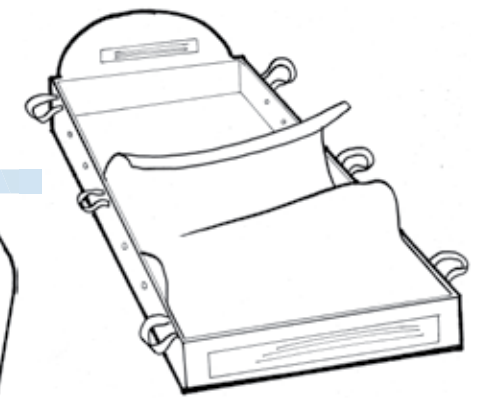
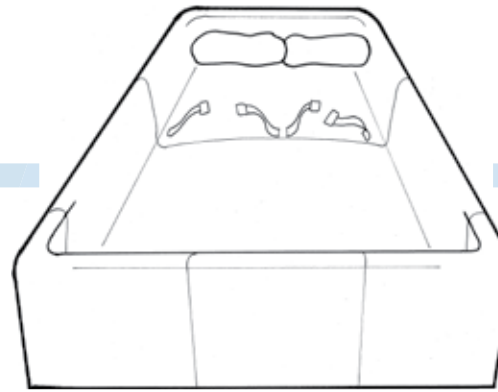
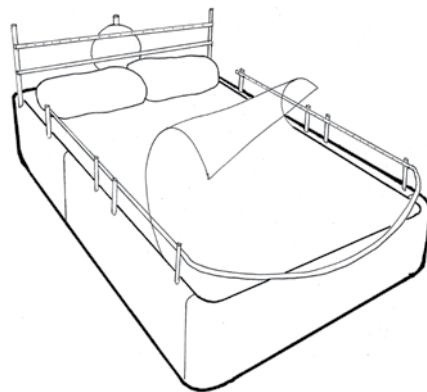
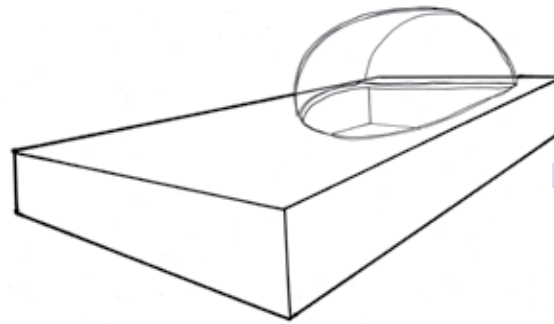
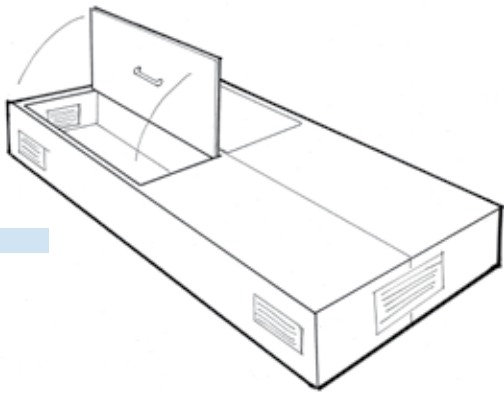
Guided Tour

Habitation Level

-a place to rest among the stars

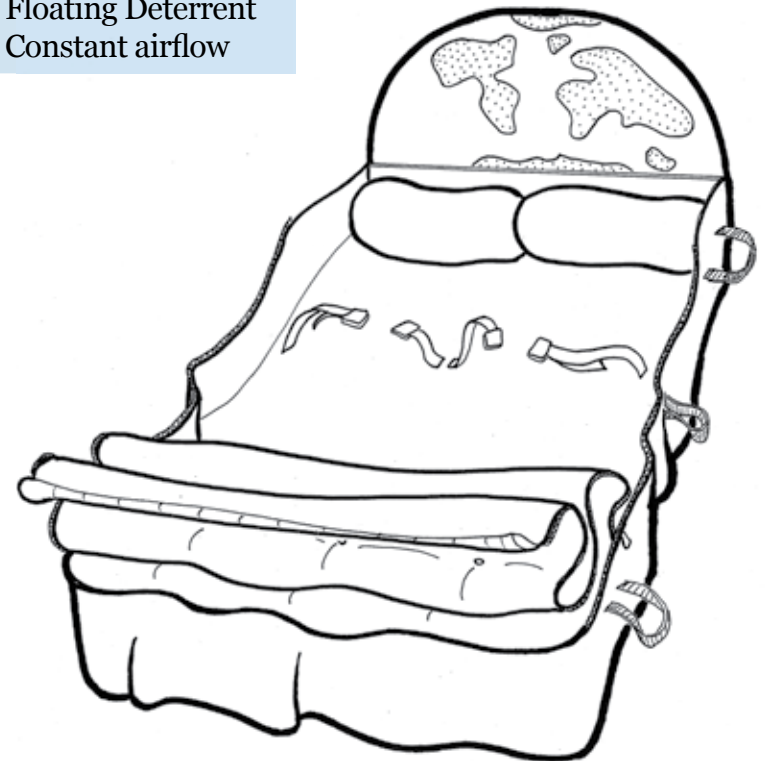
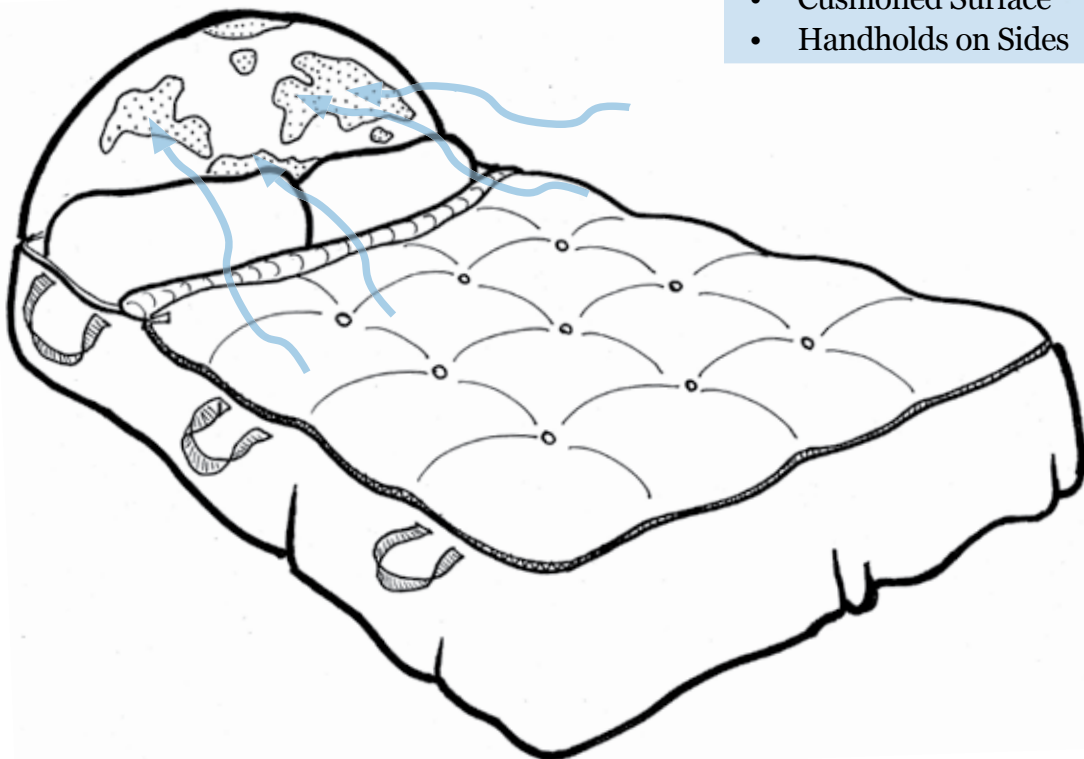


MicroG Bed Concept Iterations

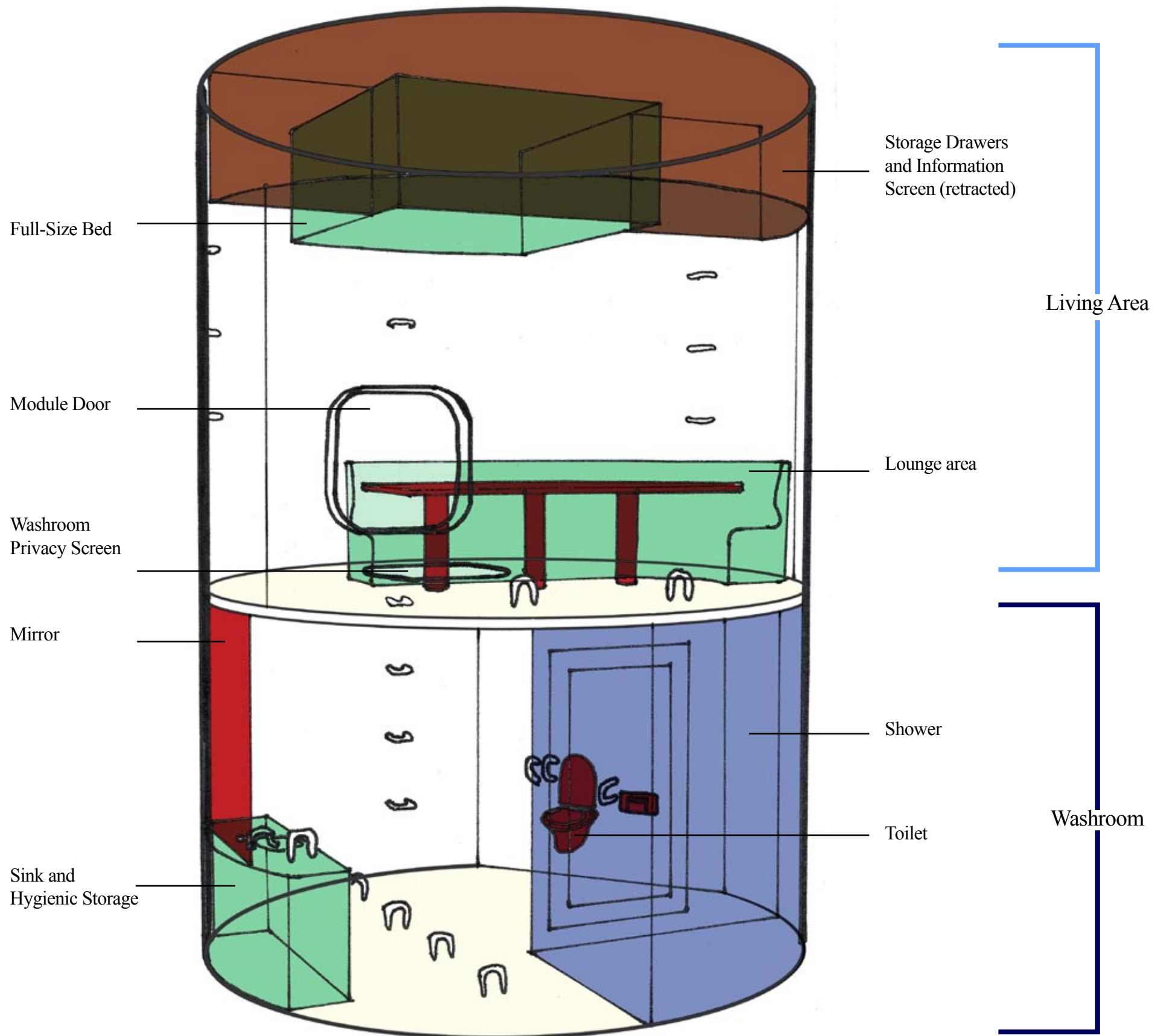


Needs:

- Cushioned Surface
- Handholds on Sides
- Full-Size Bed
- Floating Deterrent
- Constant airflow



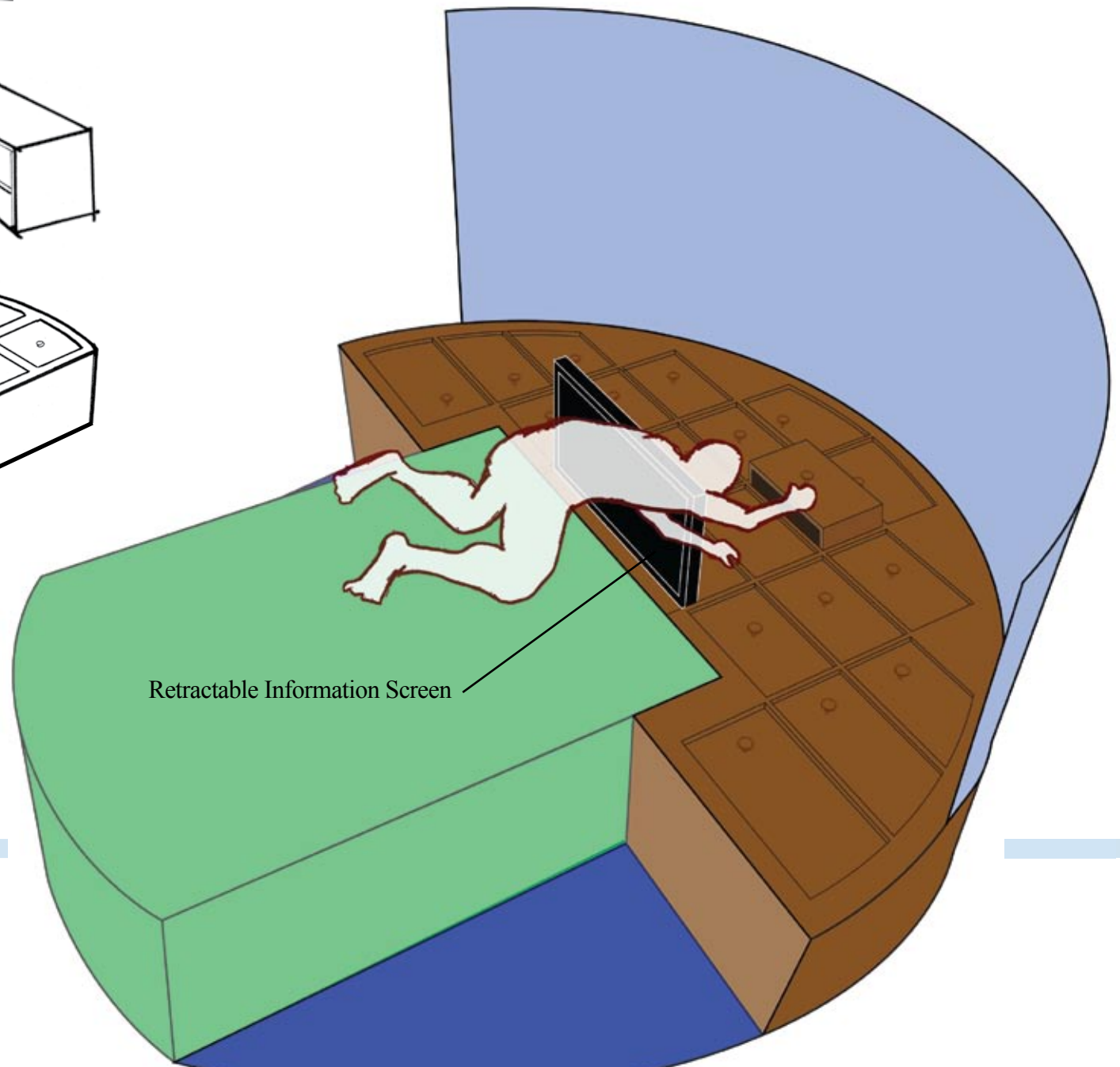
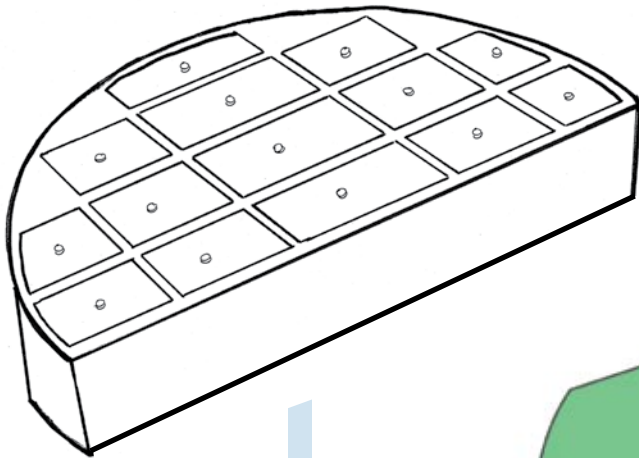
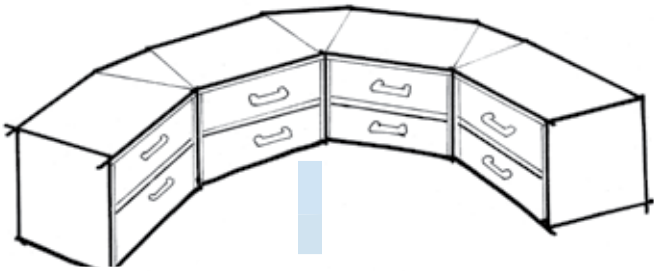
Habitation Module



MicroG Shelving Unit

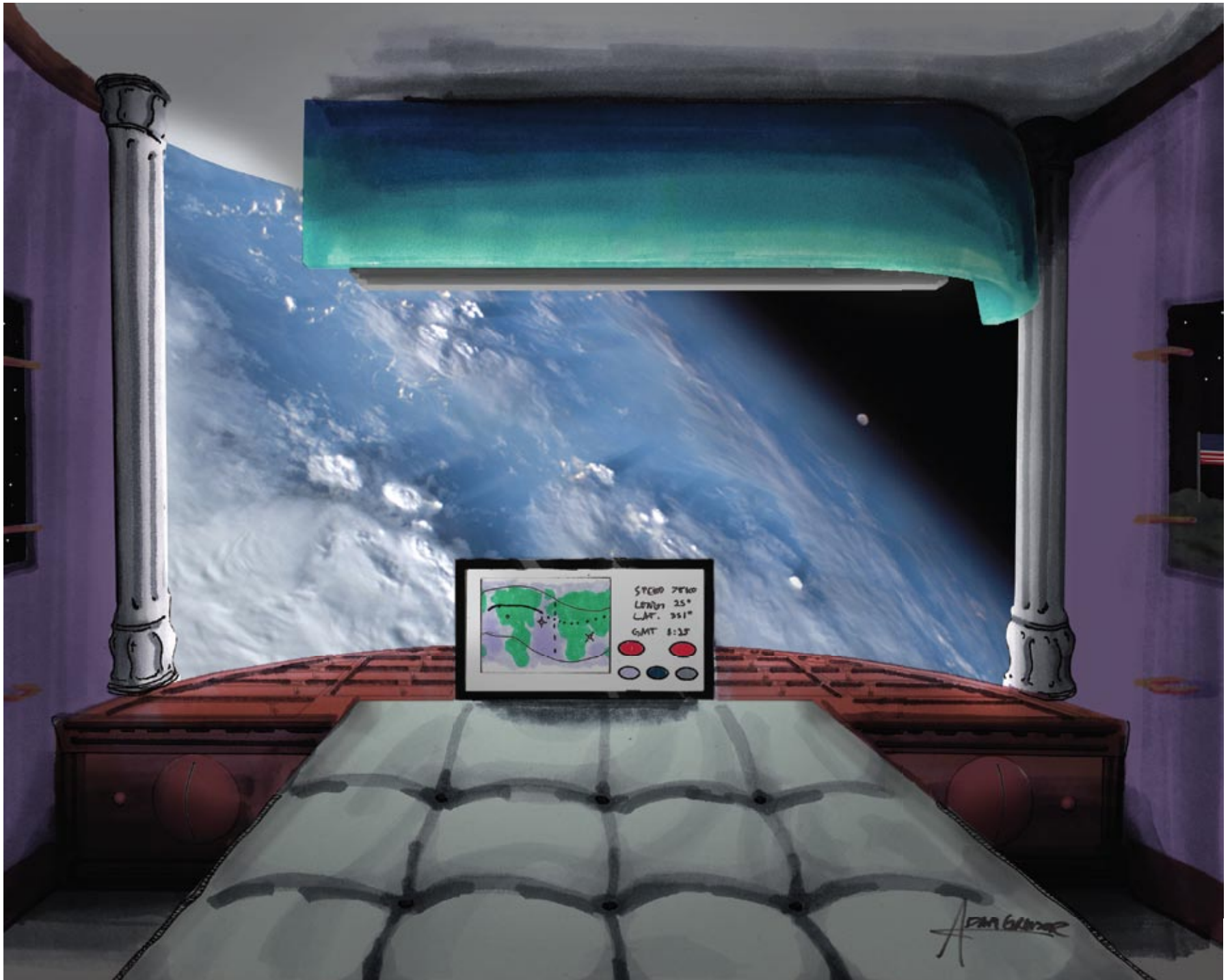
We hope that you will utilize our beautifully crafted wooden chest of drawers. Since it is hard to situate many articles inside a larger drawer without weight, we have provided many smaller drawers for you to store your belongings.

Additional storage for toiletries is located in your bathroom.



Retractable Information Screen

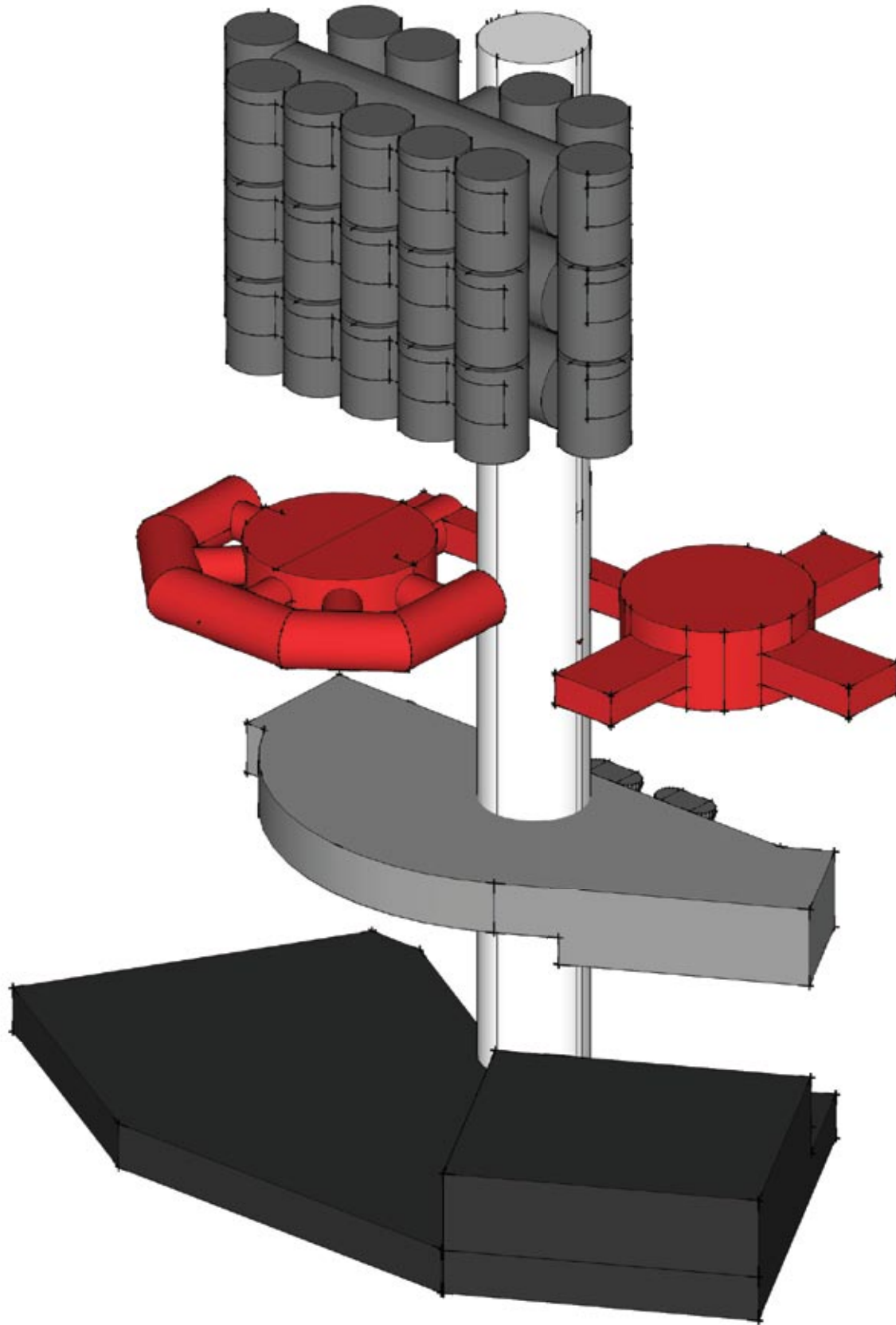
View from the Bed



The view from any window in the hotel is breathtaking, and the one from your room is no exception. It is a thrilling sight to awaken to, as many astronauts have confirmed.

Should you wish your room to be dark when you sleep, simply direct the self-tinting window to become opaque, using the touchscreen controls on your room's retractable information screen.

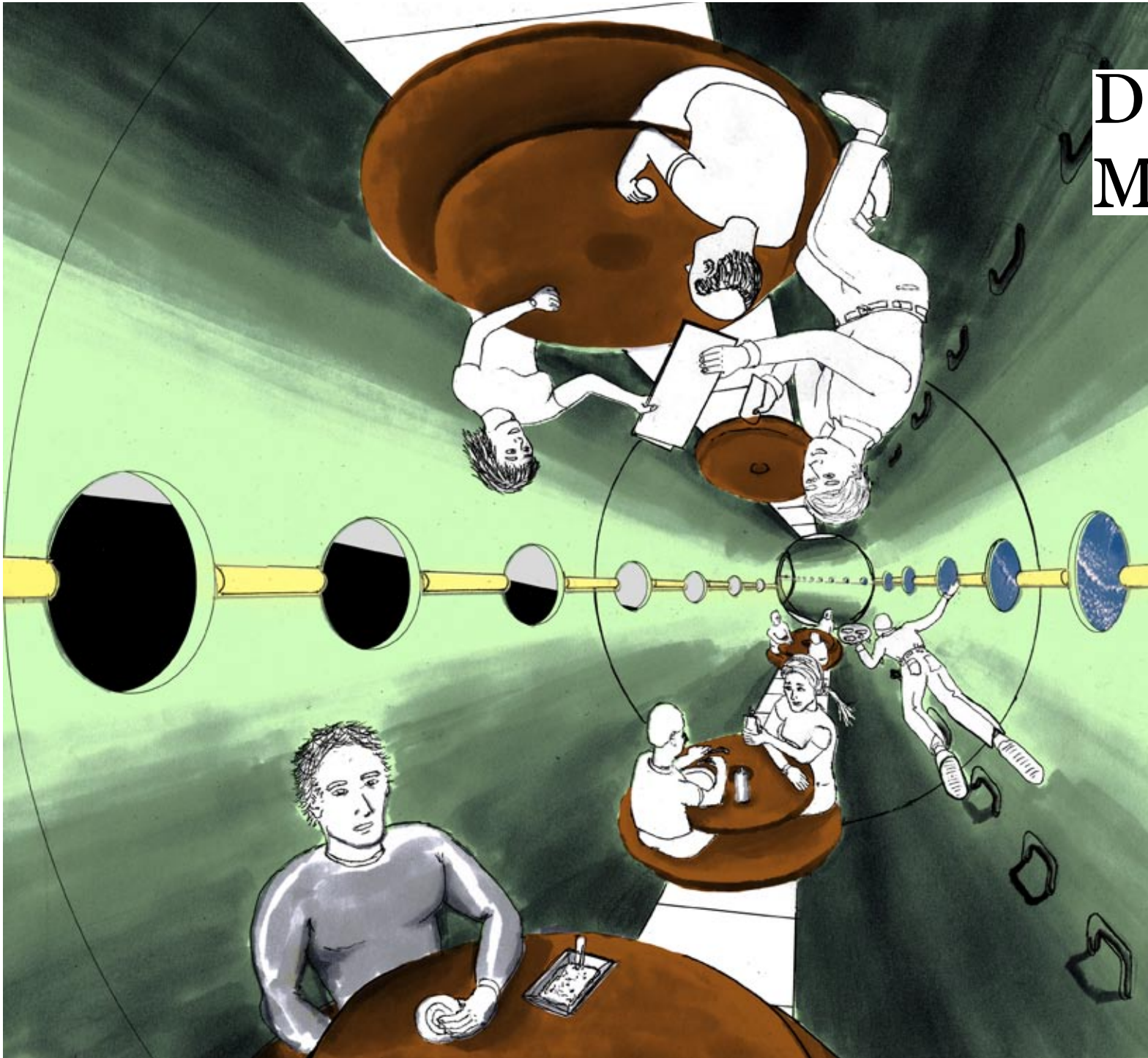
Guided Tour



Dining Level

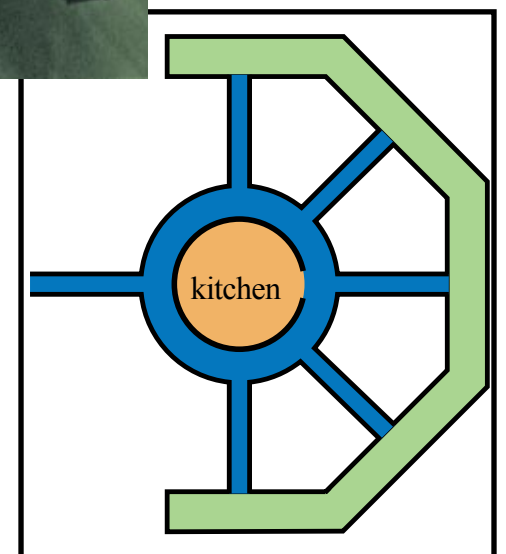
-fine cuisines at 240 miles up

Dining Module I

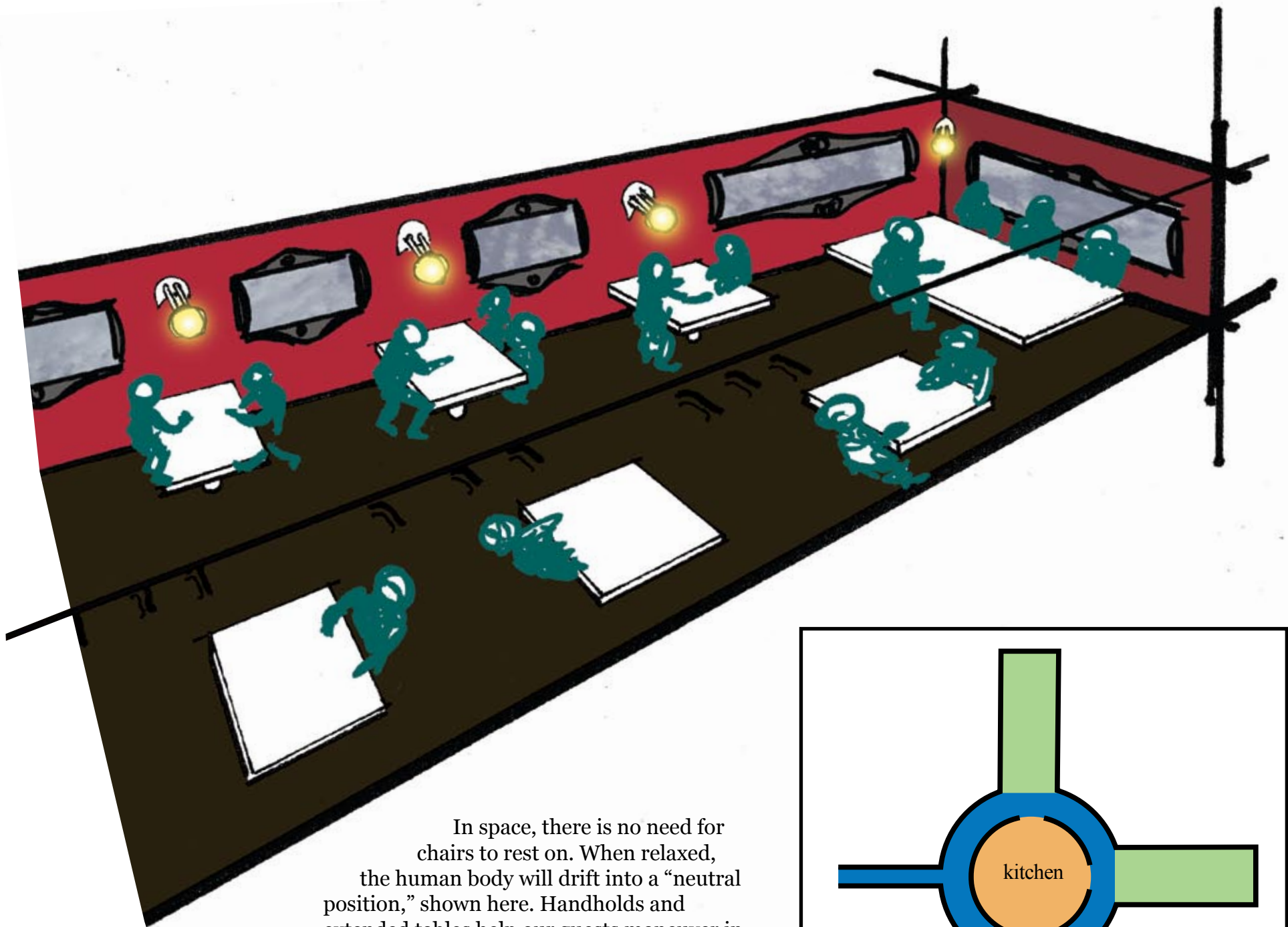


Astronauts enjoying a meal on the International Space Station

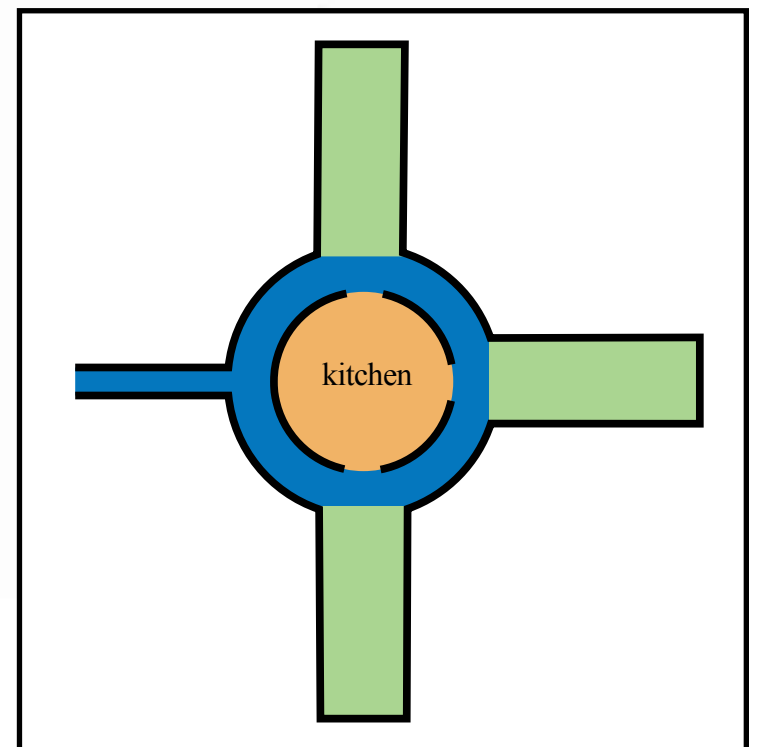
Enjoy a large menu of dishes from around the world in either of our restaurants. We can accommodate any diet or taste in our state-of-the-art kitchens.



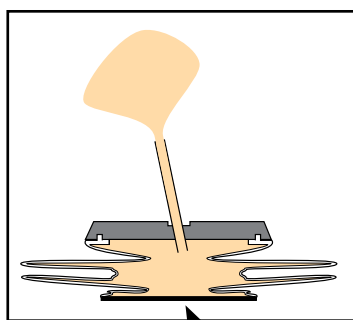
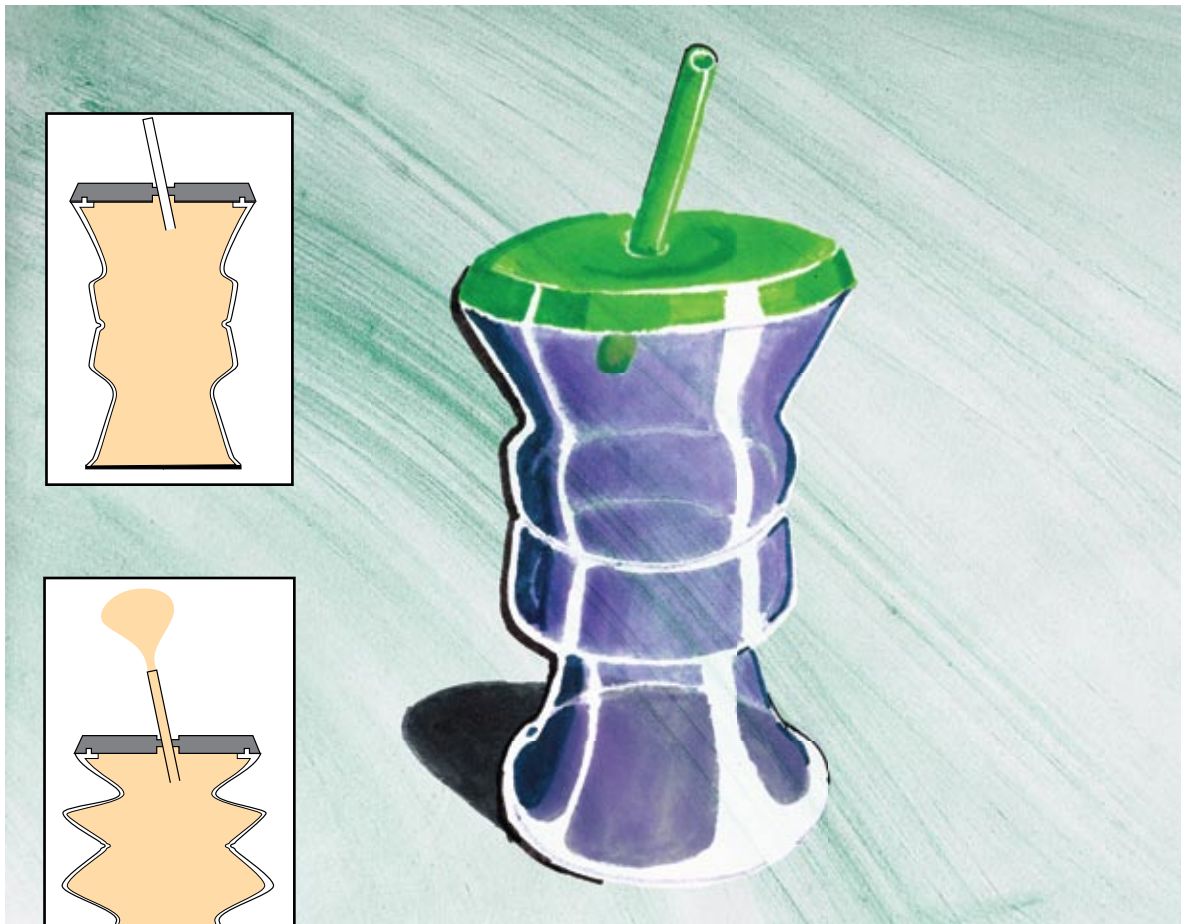
Dining Module II



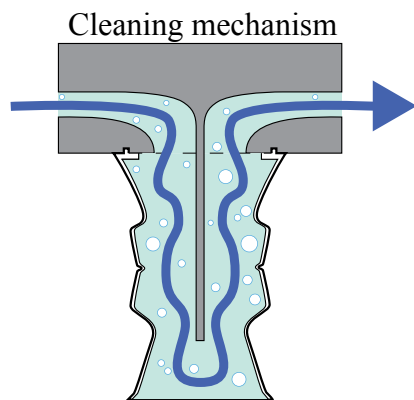
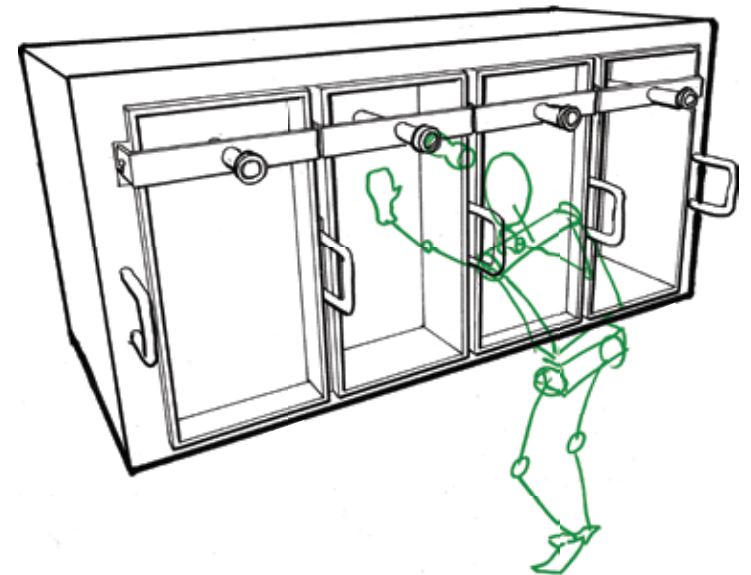
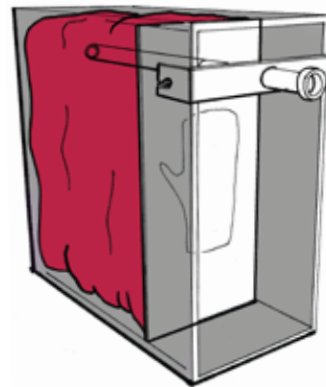
In space, there is no need for chairs to rest on. When relaxed, the human body will drift into a “neutral position,” shown here. Handholds and extended tables help our guests maneuver in space.



Sustainable Drinking System



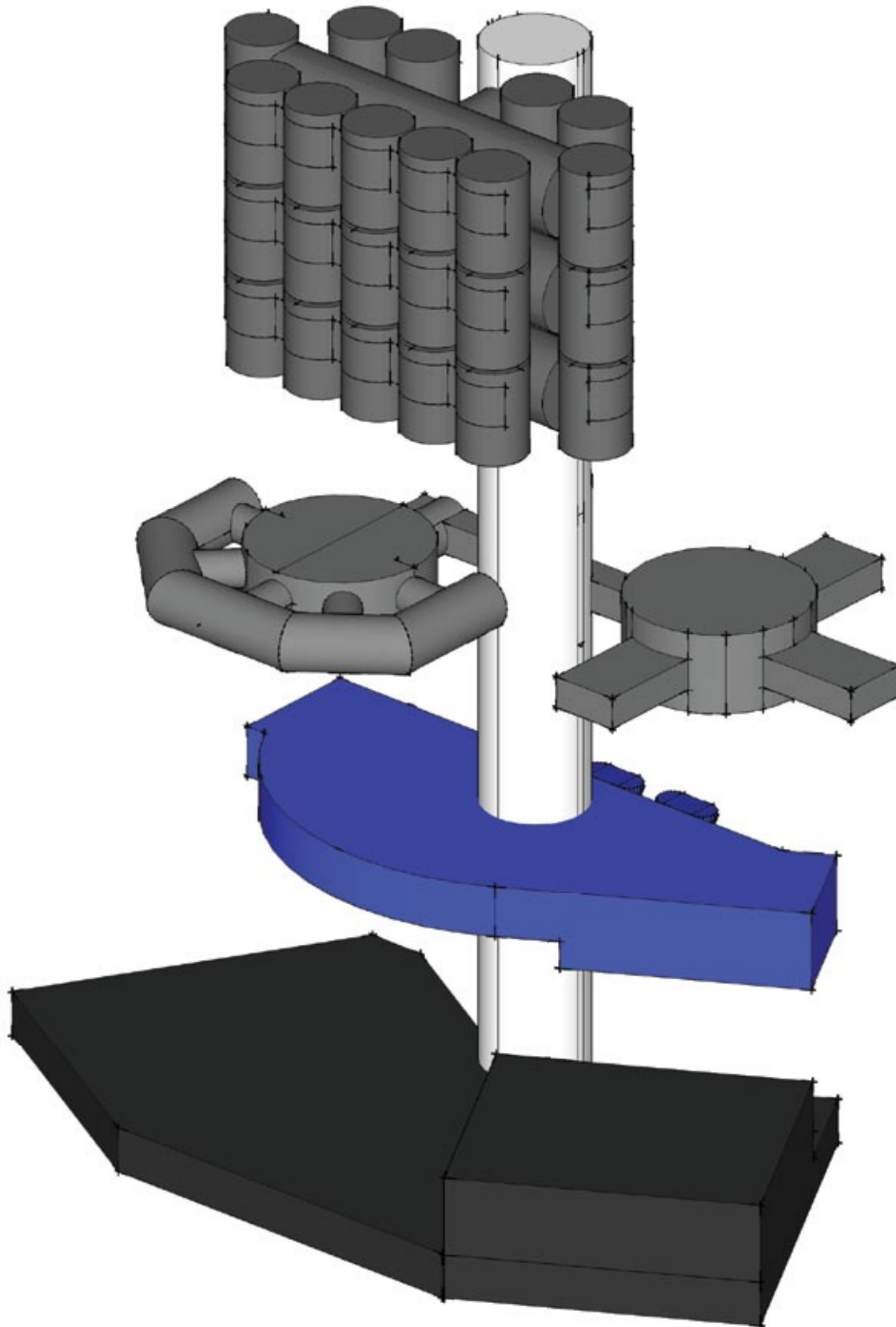
Magnetic
Bottom
Surface



You cannot drink out of an open cup in space like you can on Earth, since the liquid would not fall down into your mouth as you sip. Instead, our cups utilize the vacuum from sipping through a straw to draw liquid out of a flexible cup. To cut down on waste, our cups are washed and re-used.

Dispensing units for drinks have the servers literally push the liquid into an attached cup. To serve, the cup and liquid is carefully pulled off the dispensing unit (surface tensions keeps the liquid in the cup) and a top is screwed on.

Guided Tour

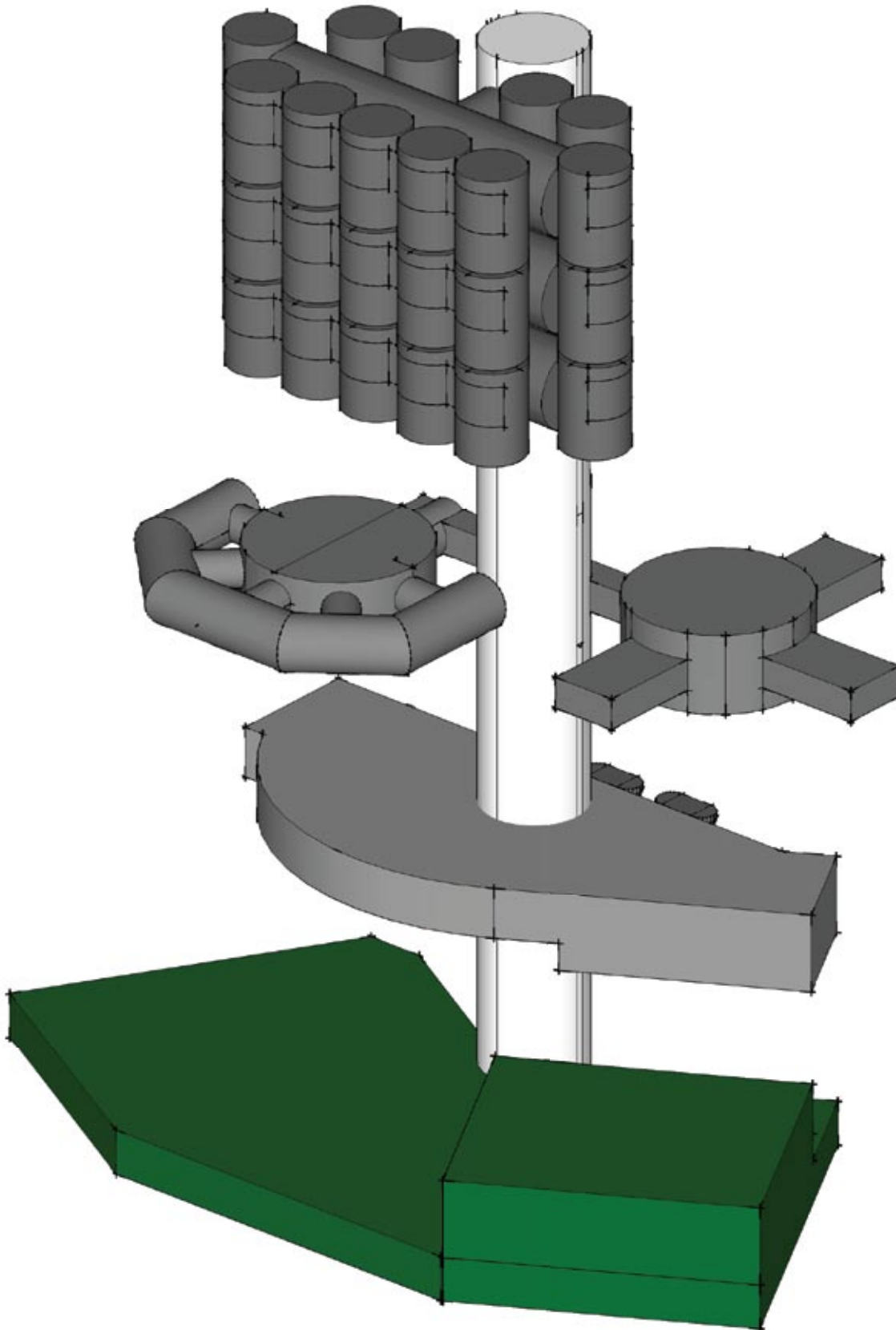


Hospitality Level

- *Gift Store*
- *Lobby/ Docks*
- *Auditorium*
- *Nurse's Station*
- *Front Desk*

Note: This level is not show in this document, as it is not complete yet.

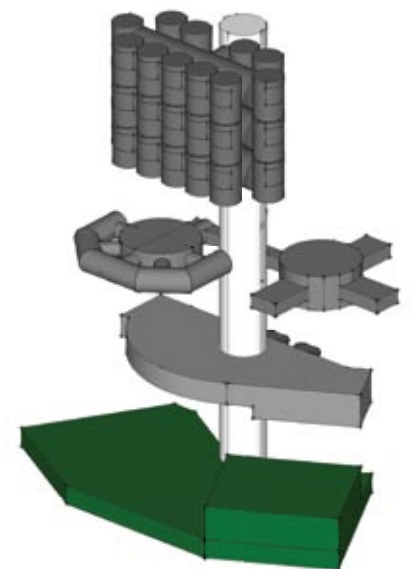
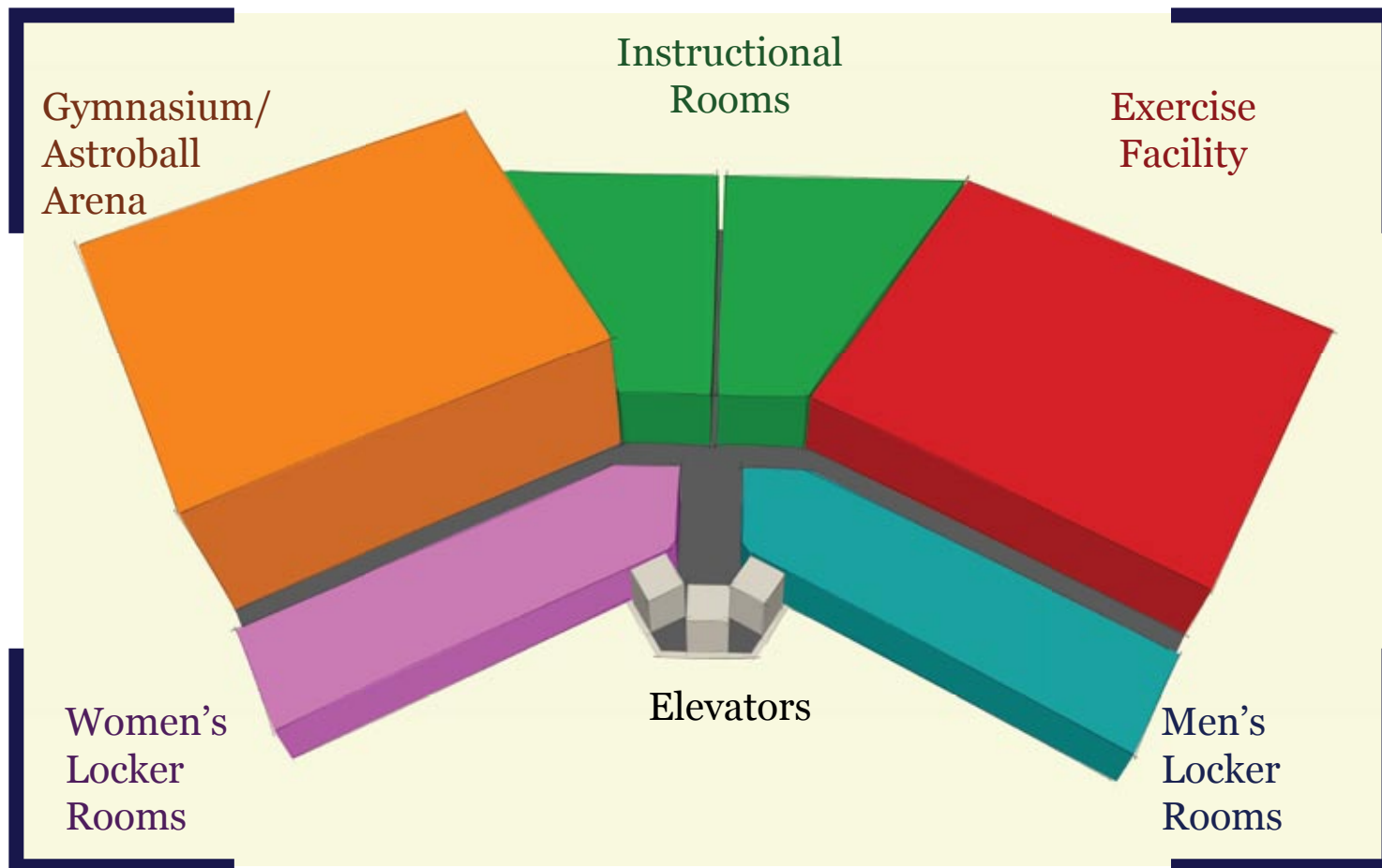
Guided Tour



Recreation Level

-activity you have to see to believe

Recreation Level



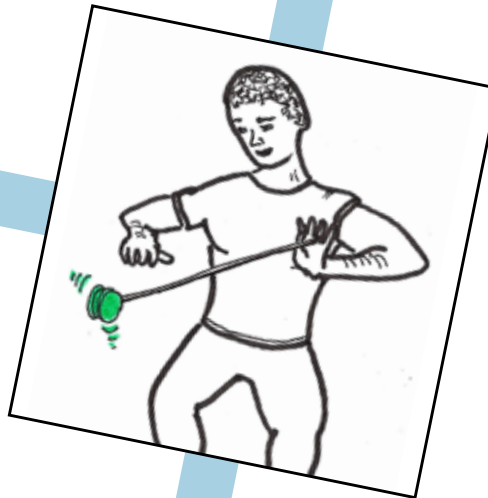
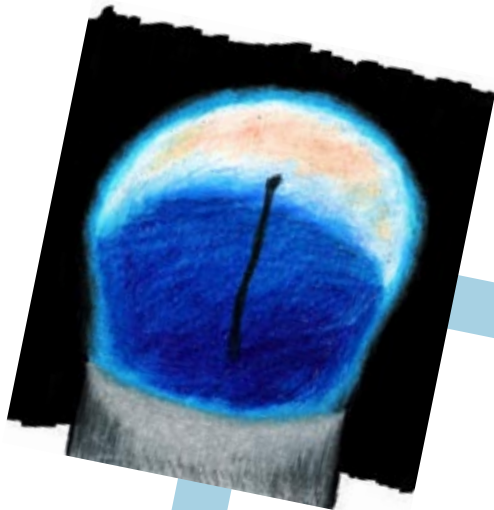
You can spend many hours admiring the stunning vistas on the other side of your window, but there are many other things to do during your stay here. Our recreation level boasts exercise equipment as well as a gym that doubles as the Astrobball arena, a sport that our staff plays every Monday, Wednesday, and Friday. You have the rare opportunity to watch this weightless blend of basketball and American football live in the gym.

Additionally, we hold daily classes in our instructional rooms that let you explore different activities that can only be performed in microgravity. These classes are taught by professional instructors, who provide a safe environment for your experimentation.

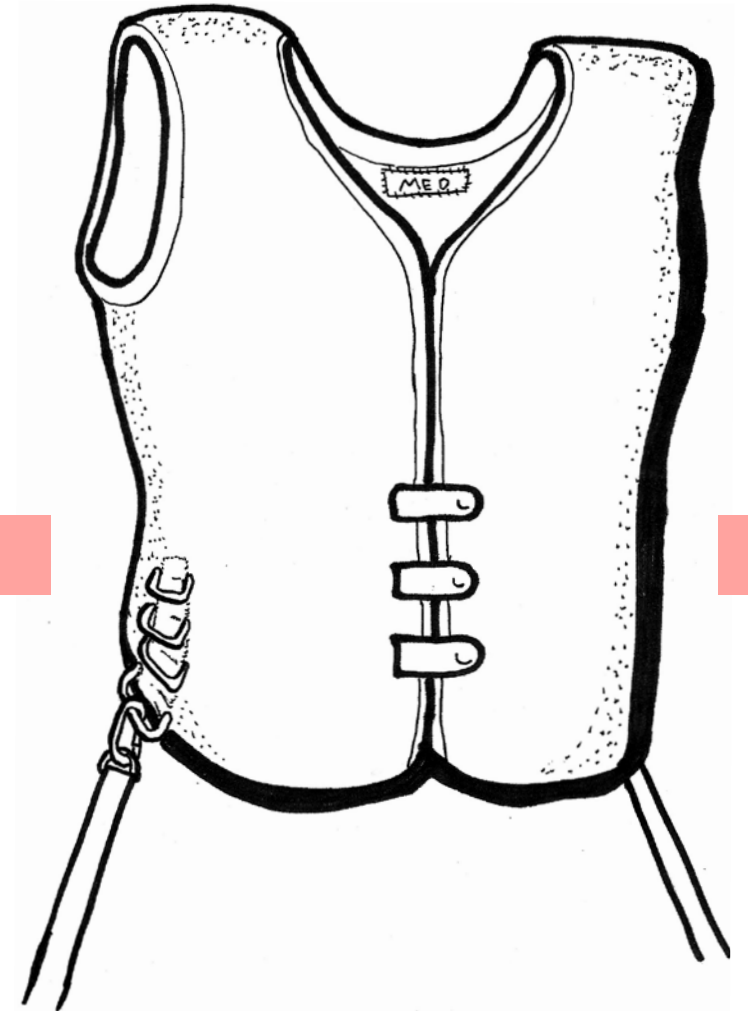
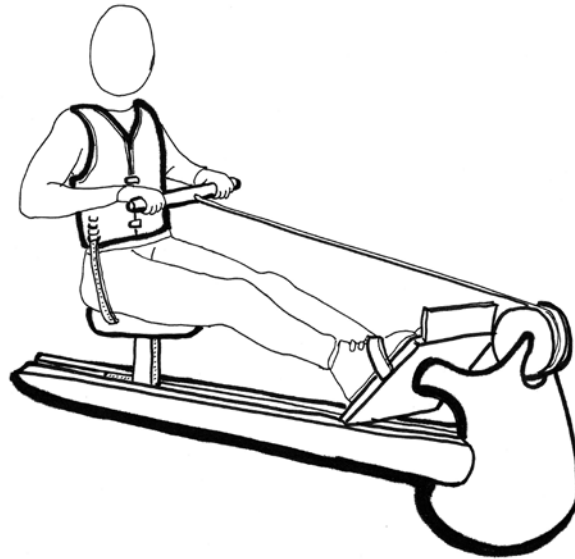
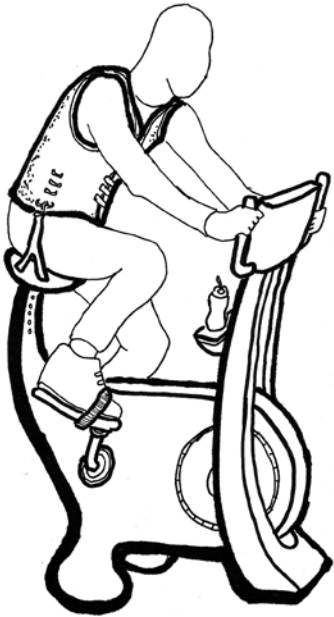
Instructional Room Activities

Some of the many classes that you can attend recreate experiments done by early astronauts. Our professional instructors will act as guides and enable you to safely explore just how much of an impact weight, or lack thereof, has on human life and activity.

Additionally, classes are regularly held on topics such Astronomy, Astrology, History of Space Travel, and Biology.

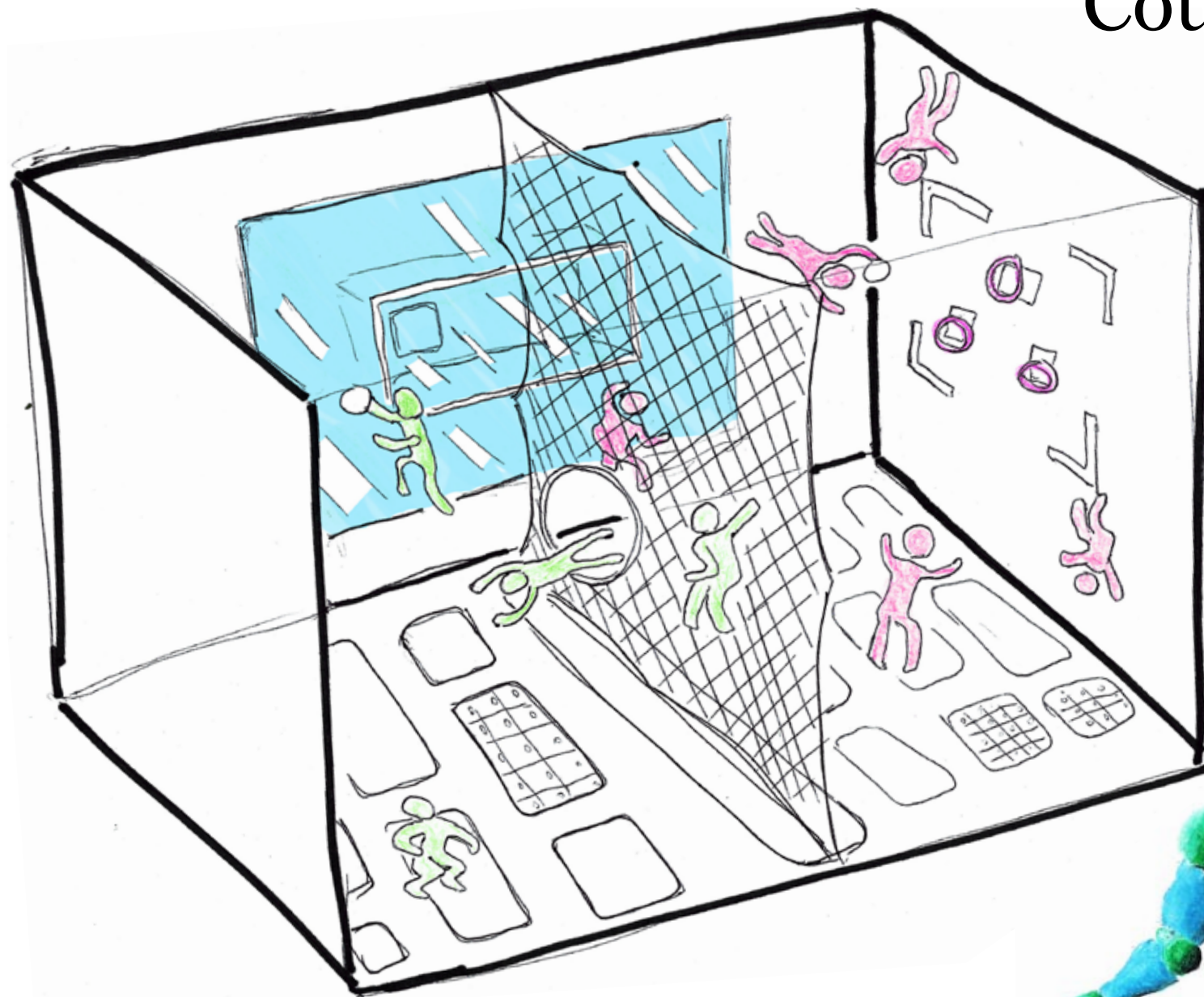


Exercise Equipment



We have plenty of G-Vests to keep you from floating off the exercise machines that you want to use. The vests are made of a breathable fabric mesh, and attach to elastic strips to simulate gravity's push. The vests are washed after each use.

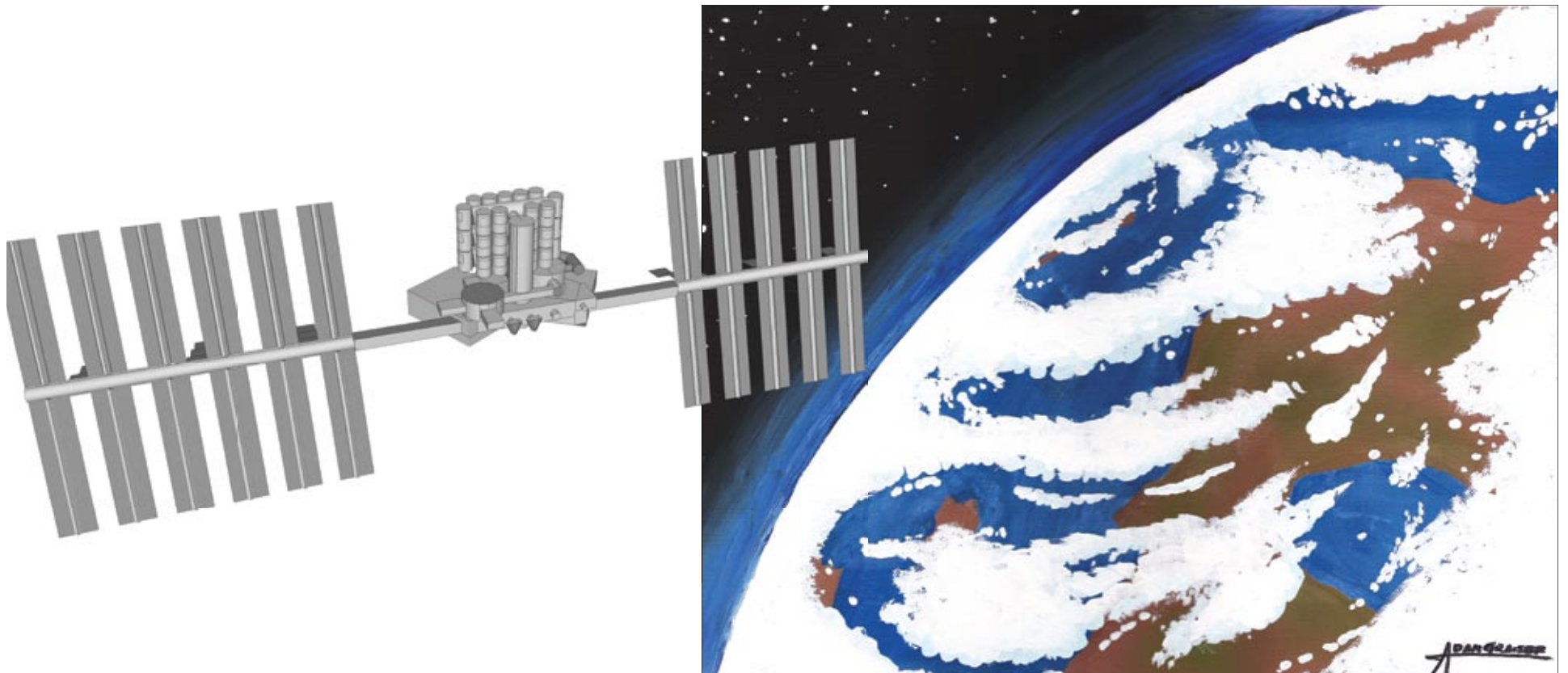
Astroball Court



Astroball is a sport viewed on Earth via television, but you get the chance to see it live. The sport is a three-dimensional game that draws from both Basketball and American Football. Because of the dangers of high-momentum collisions, proper safety equipment is necessary. When the court is not being used, it is open to guests, but proper safety equipment is still required.

Thanks for joining us on a
life changing experience!

We hope to see you among
the stars again soon!



Orbital Suites

By Adam Graiser

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