

SPACE RACE

To The Moon And Beyond

manetti shrem
museum

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Big Idea

The U.S.-Soviet rivalry led to great feats on both sides and to spectacular first steps in space exploration.

Phase 1
Exhibition Content and Development

Exhibition overview

“Space Race” is an exhibition that highlights the space exploration achievements of the U.S. and the Soviet Union in the 1960s, in the context of the Cold War. It aims to provide a more international and universal look at the beginning of space exploration, and to bring back interest in this awe-inspiring endeavor. Divided into four sections, the exhibit features actual spacecraft used during the Space Race as well as a number of replicas and smaller contextual objects, to create an immersive and informative experience. A moonwalker activity and a photo booth will engage the younger visitors, and a video tunnel will end their spatial journey on a high note by placing them at the heart of the action.

VENUE: Jan Shrem and Maria Manetti Shrem Museum of Art, Davis, CA

DATE: November 8, 2021 – February 20, 2022

AUDIENCE: space enthusiasts and families with children

LOCATION: temporary exhibition space (main cube gallery)

SIZE OF SPACE: 2,688 sq. ft. Main Cube Gallery + 2,112 sq. ft. Gallery 2

NUMBER OF OBJECTS: 66

RETAIL AREA: small area in lobby space

MERCHANDISE: postcards, books, model replicas, children’s games

Exhibition themes / sections

The exhibition will showcase space exploration chronologically, following a timeline that will include achievements from both countries.

Our First Space Steps (1950s)

The Space Race opposed two major countries in the years ensuing World War II: the United States and the Soviet Union. This informal competition began with the first announcements of space exploration projects, followed by the launch of the first satellites.

The Race is On (1960s)

Several programs, some successful and others not, were required to prepare for a human landing on the Moon. The most significant missions include Vostok, Voskhod and Soyuz for the U.S.S.R., and Mercury, Gemini, and Apollo for the U.S.

Journey to the Moon (1969-1972)

The most memorable achievement of the Space Race was sending humans to another celestial body. Visitors will learn about Apollo 11 through 17 and their twelve Moon walkers, while enjoying a recreation of the Moon’s surface and a simulation of its lower gravity for adventurous children.

The Finish Line and Beyond (1970s)

The end of the Space Race marks the beginning of international cooperation in space exploration with the first space stations, the iconic Soviet-American handshake on Apollo-Soyuz, and the beginning of international space law.

Exhibition object list

The object list covers the U.S. space exploration and the U.S.S.R. space exploration, as well as international efforts. Spacecrafts and replicas will be loaned from the following museums: Smithsonian National Air and Space Museum, Space Center Houston, Epcot Disney World, and Space Museum Cosmosphere. Smaller objects will be acquired from private sellers and collectors.



01
Luna Sphere Model, 1959
Metal, 6 in. diameter



02
Cover of Ogonyok, 1958
Magazine, 10 in. x 8 in.



03
Commemorative Mercury Stamp, 1962
Bureau of Engraving and Printing, 1 in. x 1 5/8 in.



04
The Right Stuff by Tom Wolfe, 1979
Farrar, Straus & Giroux, 8.7 in. x 5.5 in.



05
Gemini Program Patch, 1961
AB Emblem, 3 in. diameter



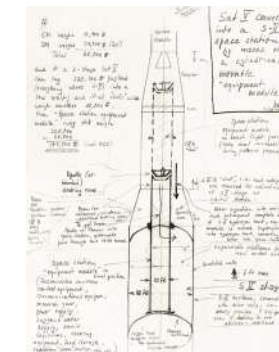
06
"The fairy tale became truth", 1961
Boris Staris, Poster



07
"Let's Conquer Space!", 1960
L. Golovanov, Poster



08
Spread in Ogonyok, 1961
Magazine, 10 in. x 16 in.



09
Von Braun's Sketch, 1964
Wernher von Braun



10-16
Launch Vehicle Models, 1:110
LEGO, 39 in. x 39 in. x 3 in. total



17
Russian Matchbox Label, 1960s
Matchbox, 2 in. x 1.5 in. x 0.6 in.



18-22
Space Flights Pins, 1980s
Approx. 1 in. diameter each



23
Watch Sturmskie Gagarin, 1980s
Sturmskie, Stainless Steel, 1.5 in. diameter



24
Soviet Figurine, 1960s
Porcelain, approx. 6 in. x 2.5 in.



25
Vostok Patch, 1960s
3.7 in. x 3.9 in.



26
John F. Kennedy at Rice University, 1962
Rice University, Video



27
Human Waste Disposal Unit, 1967
Aluminum, metal, 19 in. x 19 in. x 20 in.



28
Vostok Replica, 1961
192 in. x 96 in. diameter



29
Launch Vehicle, Soviet Lunar, N-1, 1:48
David P. Gianakos, 86.5 in. x 13 in. diameter



30
Launch Vehicle, Saturn V, 1:48
87 in. x 13 in. diameter



31
Apollo 11 Spacesuit, 1969
Int. Latex Corporation Dover, 75 in. x 26 in. x 12 in.



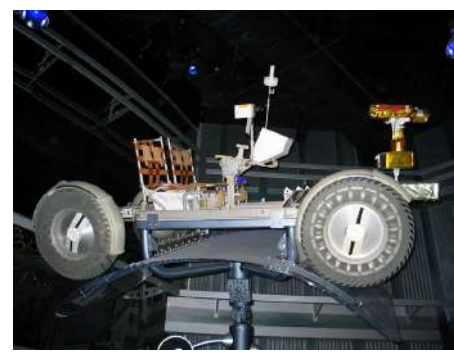
32
Soviet Space Suit, 1965
75 in. x 26 in. x 12 in.



33
Moon Rock, 1972
3 in. x 1 in.



34
Apollo 17 Command Module, 1972
North American Rockwell, 127 in. x 154 in. diameter



35
Lunar Roving Vehicle Replica
Boeing, General Motors, 90 in. x 120 in. x 43 in.



36
Fallen Astronaut Figurine Replica, 1971
Paul Van Hoeydonck, 40 in. x 9.6 in. x 7.2 in.



37
Apollo 11 Plaque Replica, 1969
Metal, 7 1/8 in. x 8 3/4 in. x 1/16 in.



38
NASA's Silver Astronaut Pin, 1963
Metal, 0.6 in. x 0.4 in.



39
The Blue Marble, by the Apollo 17 astronauts, 1972
Photograph



40
Internal projection of the Moon, 2010s
8 in. diameter



41
Apollo 11 Lunar Module Model, 1:48
Dragon Models, 10 in. x 6 in. x 5 in.



42-53
Apollo Mission Patch Emblems
AB Emblem, 3 in. diameter each



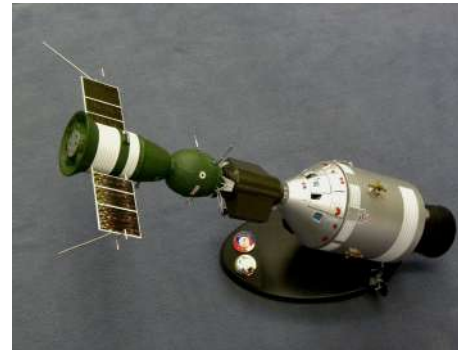
54
Apollo 11, 1969
NASA, Video



55
Outer Space Treaty, 1967
Photograph



56
Soyuz 11 Crew Commemorative Stamp, 1971
USSR Post, 1 in. x 1.5 in.



57
Apollo-Soyuz Project, 1:48,
4 in. x 15 in. x 5 in.



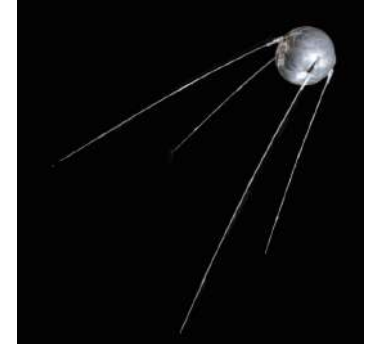
58
Apollo-Soyuz Handshake, 1975
Video



59
Ariel 1 UK Satellite Replica, 1962
23 in. x 20 in. diameter



60
Asterix French Satellite Replica, 1965
22 in. x 22 in. diameter



61
Sputnik 1 Replica, 1957
Metal, 98 in. x 23 in. diameter



62
Luna 1 Replica 1:2, 1959
OKB-1, 47 in. diameter



63
Mercury Capsule, 1962
McDonnell Aircraft Corp., 89 in. x 75 in. diameter



64
Mariner 10 Replica 1:2, 1973
27 in. x 106 in. x 19 in.



65
Gemini IV Capsule, 1965
McDonnell Aircraft Corp., 99 in. x 90 in. diameter



66
Salyut 1 Replica 1:8, 1971
98 in. x 19 in. diameter

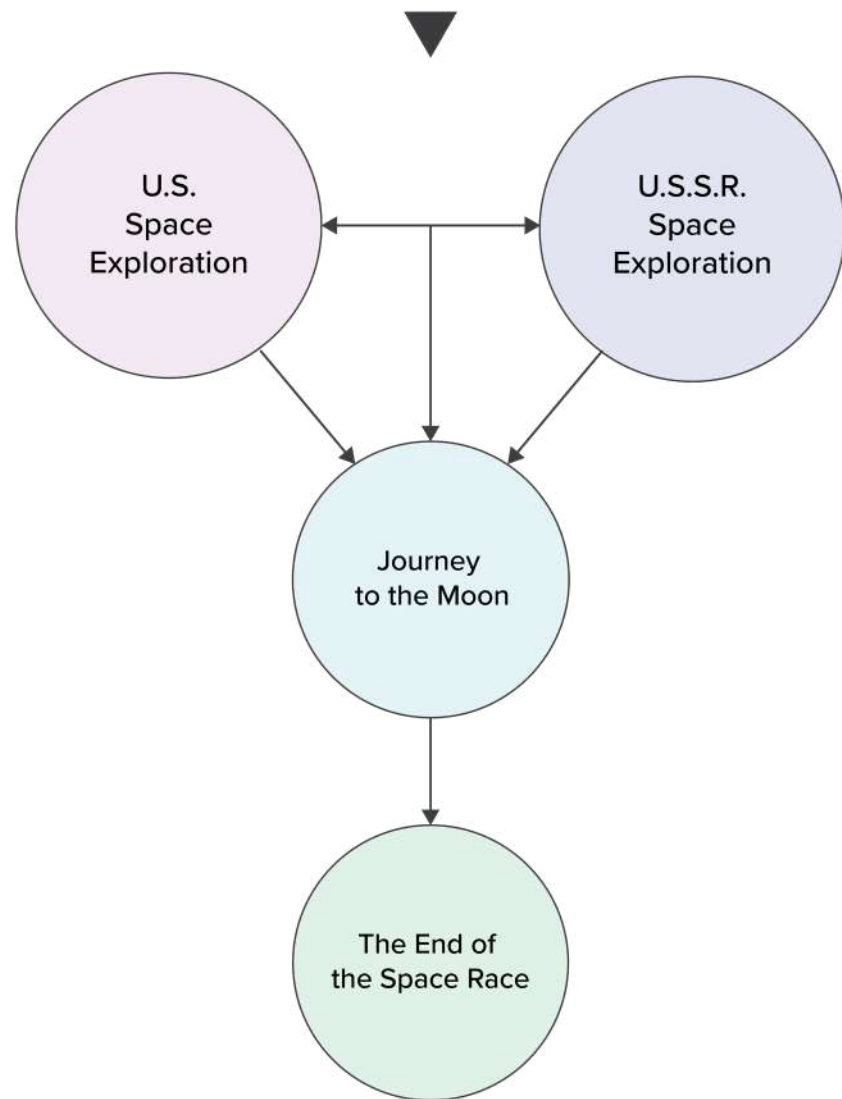


67
Skylab Model, 1:8
54 in. x 123 in. x 83 in.

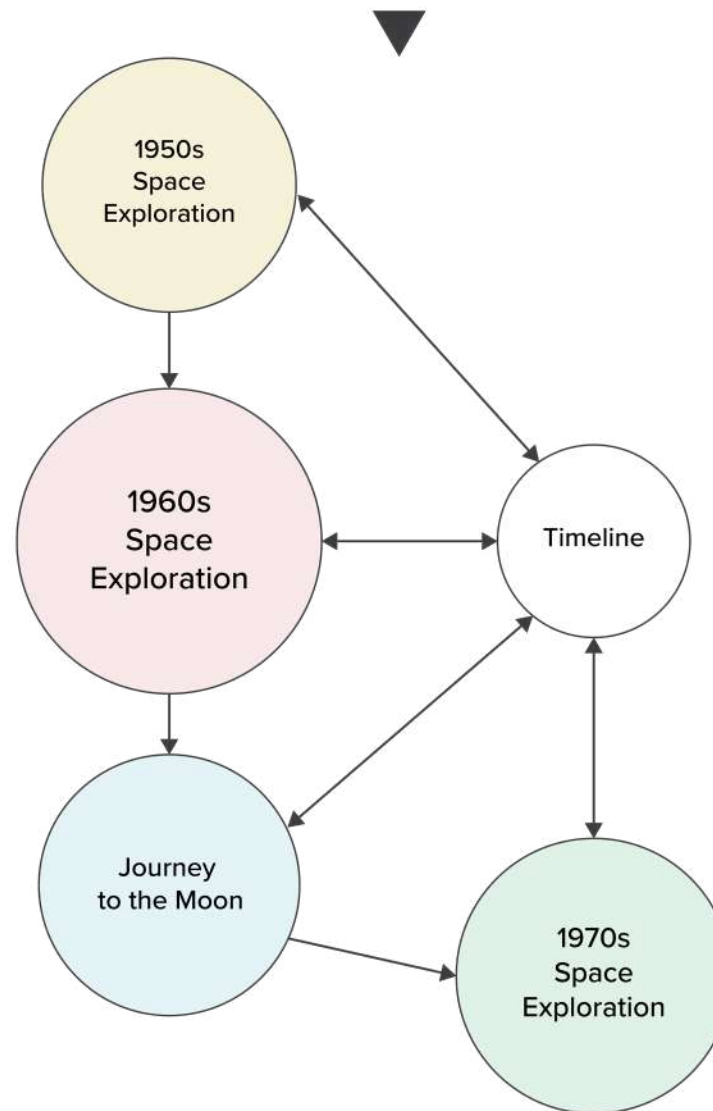


68
Apollo 11 Footage, 1969
Video

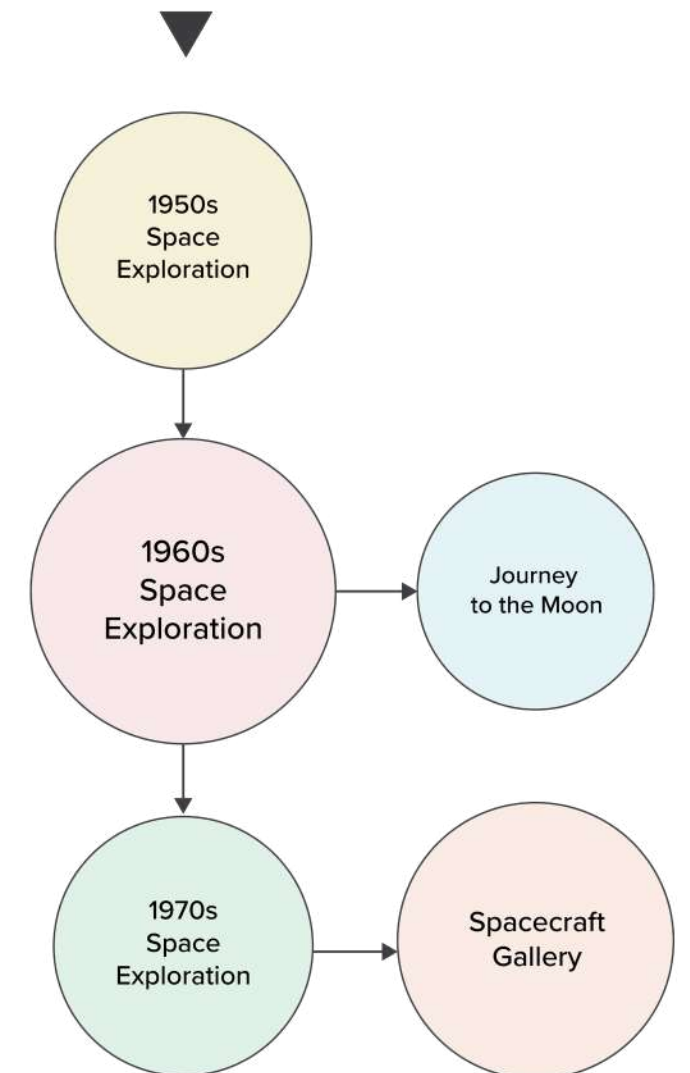
Exhibition concepts / narratives



MASSING STUDY A - The main hall is divided with the U.S. missions on one side, and the U.S.S.R. on the other. The visitors can explore their respective achievements before entering a smaller hall focused on the Moon, and finish their journey with the latest accomplishments of the Space Race.



MASSING STUDY B - The visitors follow the Space Race chronologically, starting in the 1950s, then the 1960s, followed by a focus on the Moon and Apollo missions, and ending with the 1970s. A giant timeline will list all of the main events and feature smaller artifacts.



MASSING STUDY C - The visitors follow the Space Race chronologically from the 1950s to the 1970s in the main hall, and can then access a smaller hall featuring the major spacecraft and large replicas.

Phase 2
Spatial Planning and Object Placement

Scale model documentation

SCALE MODEL

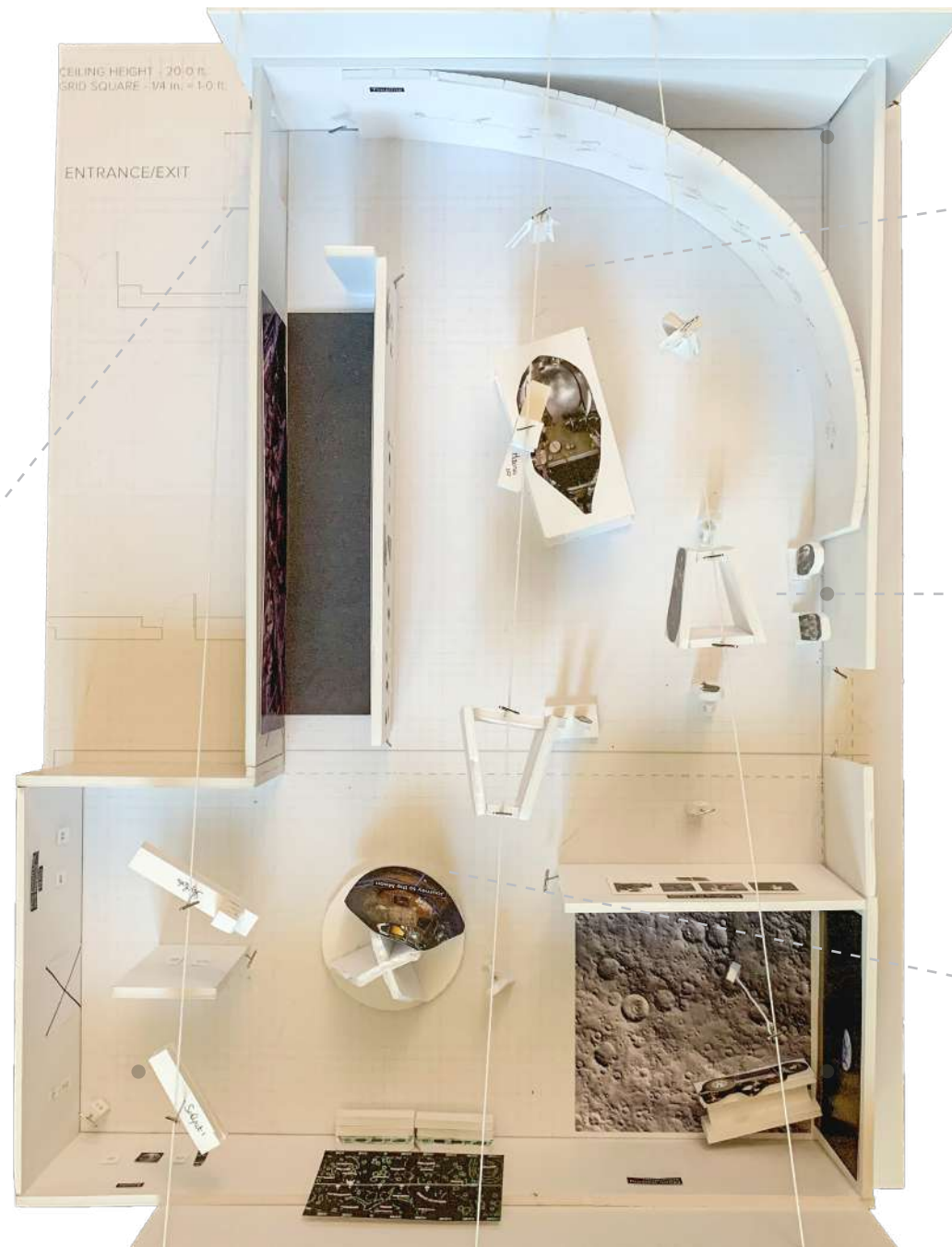
Space exploration began as a space race; it was important to include a timeline clearly indicating the major achievements of each country chronologically. The wall had to be quite long to ensure all of the necessary information was present; creating a curve got rid of unwanted corners in the middle of the timeline.

The main section, "The Race is On", occupies the majority of the space and aims at creating a feeling of grandeur and awe. The large size of the spacecraft featured called for a vertical organization, hanging some objects from the ceiling to liberate floor area - this call worked particularly well with the theme, placing satellites and capsules in their context ("up in space").

The second gallery focuses on the Moon and children activities, including a "Moonwalker" corner with a selfie station on a lunar rover and a Moon gravity simulation. Finally, a video projection tunnel leads to the exit, placing the visitors at the heart of the action with spectacular footage of Apollo launches.



EXHIBITION VIEW - View from the entrance, showing hanging spacecraft and the Space Race timeline.



EXHIBITION ABOVE VIEW - Upon entering, visitors are faced with a giant timeline featuring the main achievements of the space race. An actual Russian spacecraft is highlighted at the center of the first gallery, and American capsules hang from the ceiling. The second gallery focuses on the Moon and children activities. Visitors then exit through a tunnel with video projections.



EXHIBITION VIEW - Closer view of the main gallery.



EXHIBITION VIEW - View from the end of the timeline, facing the Moon-focused gallery.



EXHIBITION VIEW - Detail view of the Moon-focused area, with Moonwalker simulation and selfie station in the back.

Exhibition plan and object placement

FLOOR PLAN

After entering the exhibition, visitors are faced with a large timeline featuring major achievements of the Space Race from 1955 to 1975. The wall on their right will display relevant objects from the 1950s and 1960s. A Russian spacecraft is on the ground level, and other American spacecraft and probes are hanging from the ceiling.

Spacesuits from each country are displayed at the end of the timeline, leading to a "Sampling the Moon" corner featuring an actual Moon rock. A major spacecraft, the Apollo 17 Command Module, leads to "Journey to the Moon". Children activities and a Moonwalker experience can be seen on their left, and a focus on Apollo on the right.

Visitors can then continue to "The Finish Line and Beyond" and exit through a tunnel with video footage of spacecraft launches and space views..

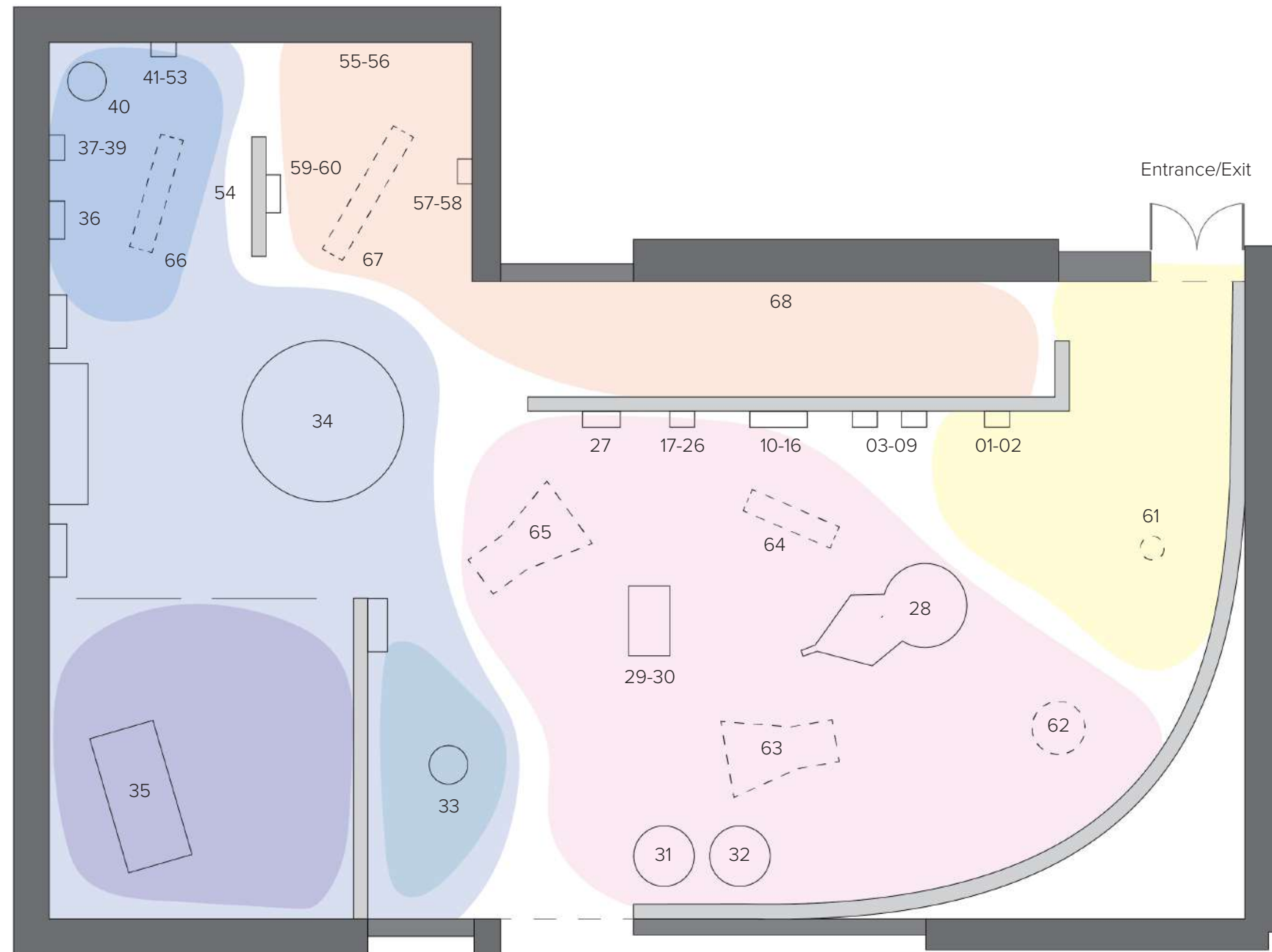
Our First Space Steps (1950s)

The Race is On (1960s)

Journey to the Moon (1969-1972)

- Moon rock
- Moonwalk simulation
- Apollo

The Finish Line and Beyond (1970s)



EXHIBITION PLAN - Approximate scale 1:123

Phase 3
Staging, Atmosphere and Interpretation

Exhibition materials, color and lighting

ATMOSPHERE PALETTE

The choice of materials, color and lighting aims at immersing the visitors into the world of space exploration. The dark theme replicates the conditions in space, while keeping the experience engaging through pops of color and activities.

MATERIAL PALETTE

The carpet and sound-absorbing materials create a relatively quiet area in the main gallery, adding to the imposing and grand aspect of the experience. The flooring for the Moonwalker activity is shock-absorbing for safety and comfort. The curtains and acoustic foam isolate the projection tunnel, that will feature video and audio content.

COLOR PALETTE

The darker theme relates to space and will be emphasized through the Space Black color. The shades of red and blue will add energy and rhythm while referencing the two main actors of the Space Race, the Soviet Union and the United States. White Wisp will be used in reference to the Apollo Mission Control Center and for the Moon Sampling area, creating a more laboratory feel.

M-1



CAD Cut Vinyl
Text and Graphics

M-2



Foam Board
Labels

M-3



Harnesses, Cables, Anchors
Moonwalker Activity

M-4



Carpet
Flooring

M-5



Paint and Primer
Wall Surfaces

M-6



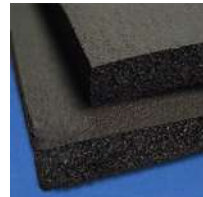
Acoustic Foam
Projection Tunnel

M-7



Sound-Absorbing Curtains
Projection Tunnel

M-8



Foam-Rubber Flooring
Moon Surface Scene

M-9



Heavy-Duty Cable System
Hanging Objects

P-1



Benjamin Moore
Million Dollar Red - 2003-10

P-2



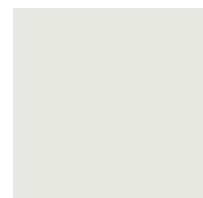
Benjamin Moore
Space Black - 2119-10

P-3



Benjamin Moore
Patriot Blue - 2064-20

P-4



Benjamin Moore
White Wisp - OC-54

Mission Control
Replica



M-3, M-8
Brighter area

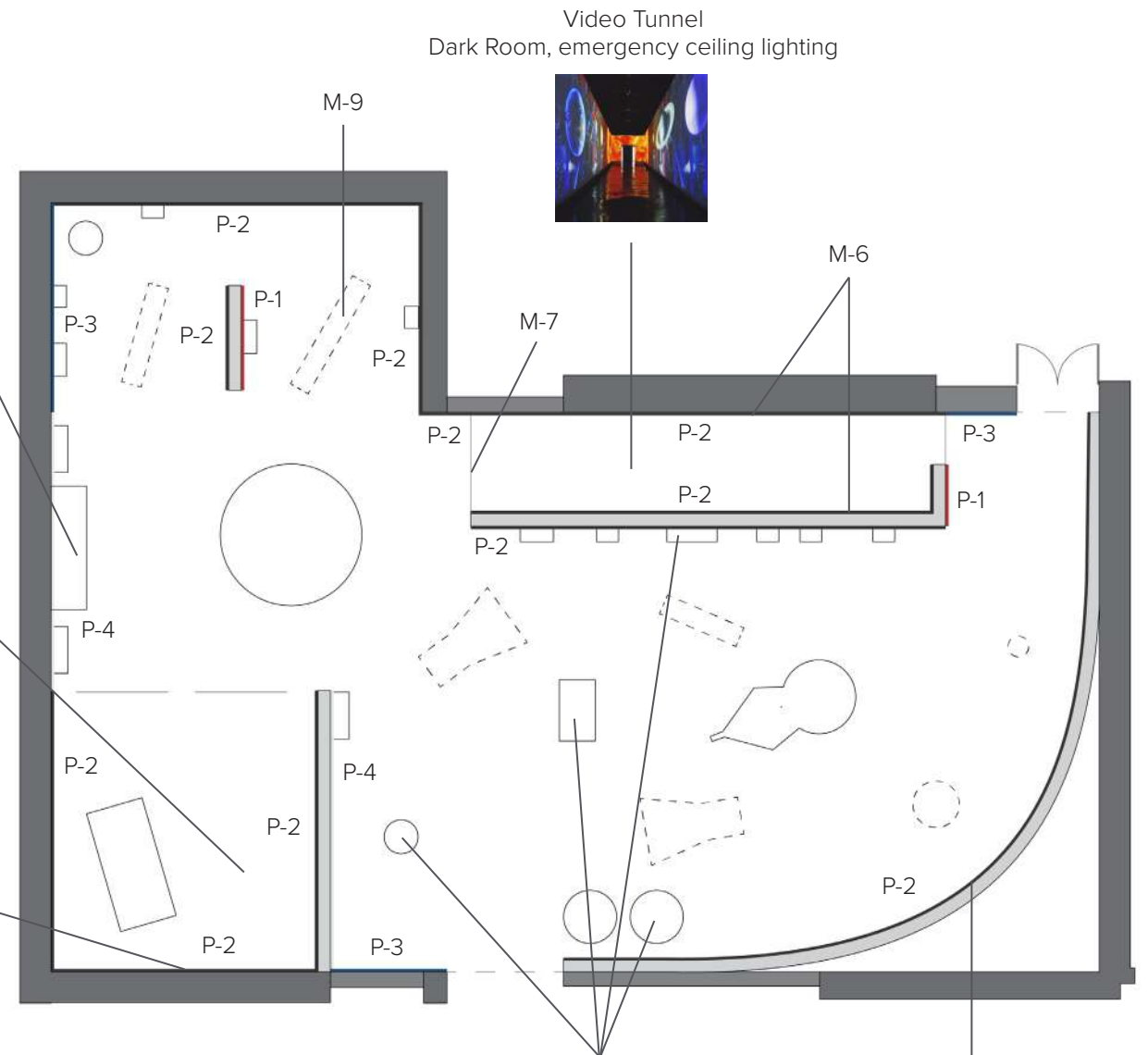


"Earthrise"
Photograph
Background



WALL COLOR, MATERIAL AND LIGHTING PLAN

The overall lighting will be dim, to recreate the darkness of space. There will be spotlights on the larger objects and information panels. Smaller objects will be displayed in illuminated cases. Lighting in the moon area will simulate the light and dark sides of the moon.



Video Tunnel
Dark Room, emergency ceiling lighting



Display cases with
internal illumination



Illuminated
Timeline



REFERENCE IMAGE
A dark theme with spotlights
and illuminated cases.

Exhibition furniture

FURNITURE TYPES

The furniture is mostly black and neutral, to not take away from the objects and fit in with the exhibition. A few screens will show video content while illuminated cases will display the smaller objects. Stanchions and posts will be used for crowd control in the activity area and benches will be available for sitting. Wall cases and poster displays vary colorwise, to differentiate between objects related to the Soviet Union vs. the United States.



SCREENS
Dimensions: 42 in.
Flatscreens, black, LED.
Quantity: 3
Sections: "The Race is On", "The Finish Line and Beyond"
Objects: 26, 54, 58

Dimensions: 120 x 240 in.
Quantity: 1
Section: "Journey to the Moon"

Dimensions: 144 x 468 in.
Quantity: 2
Section: Video Tunnel



BENCHES
Dimensions: 18 x 51 x 17 in.
Black, shallow button tufting.
Quantity: 3
Section: "Journey to the Moon"
Ivexhibitrentals.com



READER RAILS + POSTS
Dimensions: 39 x 42 x 10 in.
Modular, steel.
Quantity: 2
Section: "Journey to the Moon"
Objects: 28, 34
Gaylord.com



LARGE FREESTANDING CASE
Dimensions: 120 x 60 x 36 in.
Four-sided frameless non-reflective glass atop a pedestal base (P-2 color), opaque top with integrated LED lighting.
Quantity: 3
Section: "The Race is On"
Objects: 29, 30
CaseWerks.com



WALL DISPLAY CASES
Dimensions: 15 x 20 x 10 in.
Lift-off case with MDF deck, clear glass casing, integrated LED lighting.
Quantity: 7 (3 P-1 + 3 P-2 + 1 P-3)
Sections: "The Race is On", "Journey to the Moon"
Objects: 01-05, 08, 17-25, 37, 38, 41-53, 57
Displays2go.com



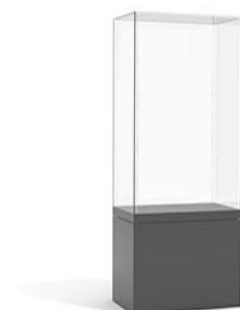
PEDESTALS
Dimensions: 30 x 12 x 12 in.
Pedestal base (P-2 color), no glass vitrine, integrated LED lighting.
Quantity: 2
Section: "Journey to the Moon"
Objects: 33, 40
CaseWerks.com



FLOOR SIGN + STANCHIONS
Dimensions: 36 x 12 x 12 in.
Weighted base, tubular upright, inclined sign deck, black.
Quantity: 2 sets
Section: "Journey to the Moon"
Object: 35
CaseWerks.com



FREESTANDING CASE 1
Dimensions: 80 x 45 x 12 in.
Four-sided frameless non-reflective glass atop a pedestal base (P-2 color), opaque top with integrated LED lighting.
Quantity: 2
Section: "The Race is On", "The Finish Line and Beyond"
Objects: 10-16, 27
CaseWerks.com



FREESTANDING CASE 2
Dimensions: 80 x 30 x 30 in.
Four-sided frameless non-reflective glass atop a pedestal base (P-2 color), opaque top with integrated LED lighting.
Quantity: 2
Section: "The Race is On", "Journey to the Moon"
Objects: 36, 59, 60
CaseWerks.com



POSTER DISPLAYS
Dimensions: 15 x 20 x 1 in.
Aluminum extrusions, tempered glass face, colored backdrop, LED illuminated.
Quantity: 5 (2 P-1 + 2 P-2 + 1 P-3)
Section: "The Race is On"
Objects: 06, 07, 09, 39, 55
CaseWerks.com



CONTROL ROOM STATIONS
Dimensions: 48 x 60 x 24 in.
Replicas, with screens, gaming area for children.
Quantity: 2
Section: "Journey to the Moon"

Typical exhibition views

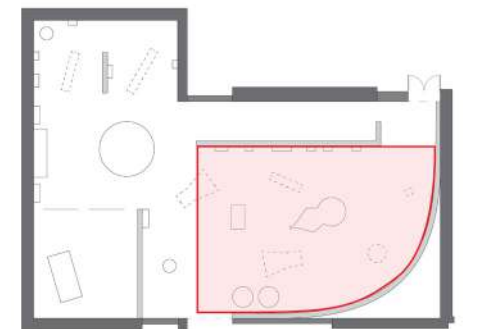
EXHIBITION VIEW

These renderings capture the main gallery, which focuses on the achievements of the 1960s in space exploration. A large timeline is featured on a curved wall. Spacecraft are on the floor and hanging from the ceiling, and smaller objects are displayed on the other wall.

Smaller objects are featured here, with descriptions and anecdotes.



The giant timeline covers the entire curved wall and ends with space suits from the U.S. and Soviet programs.

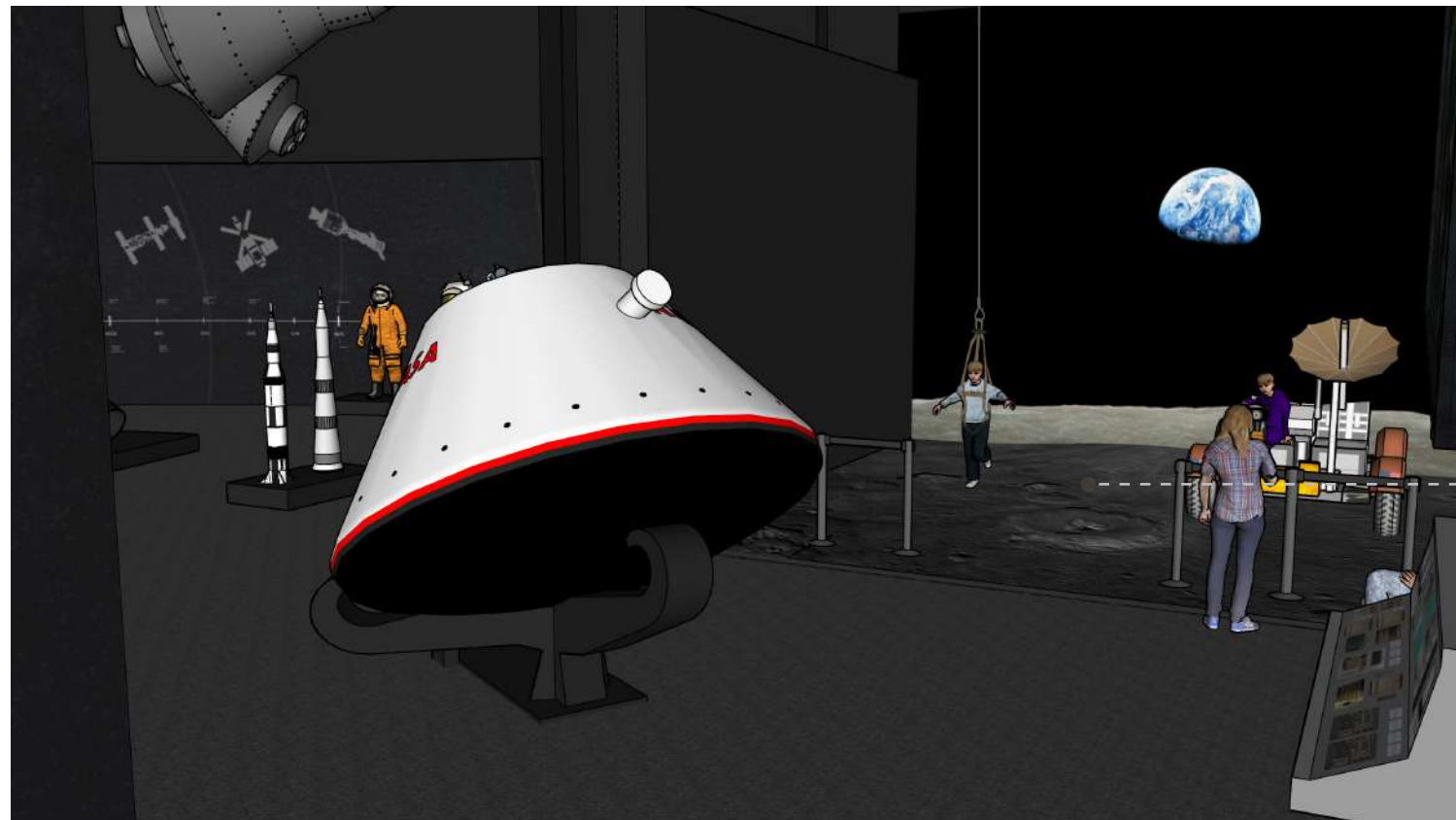
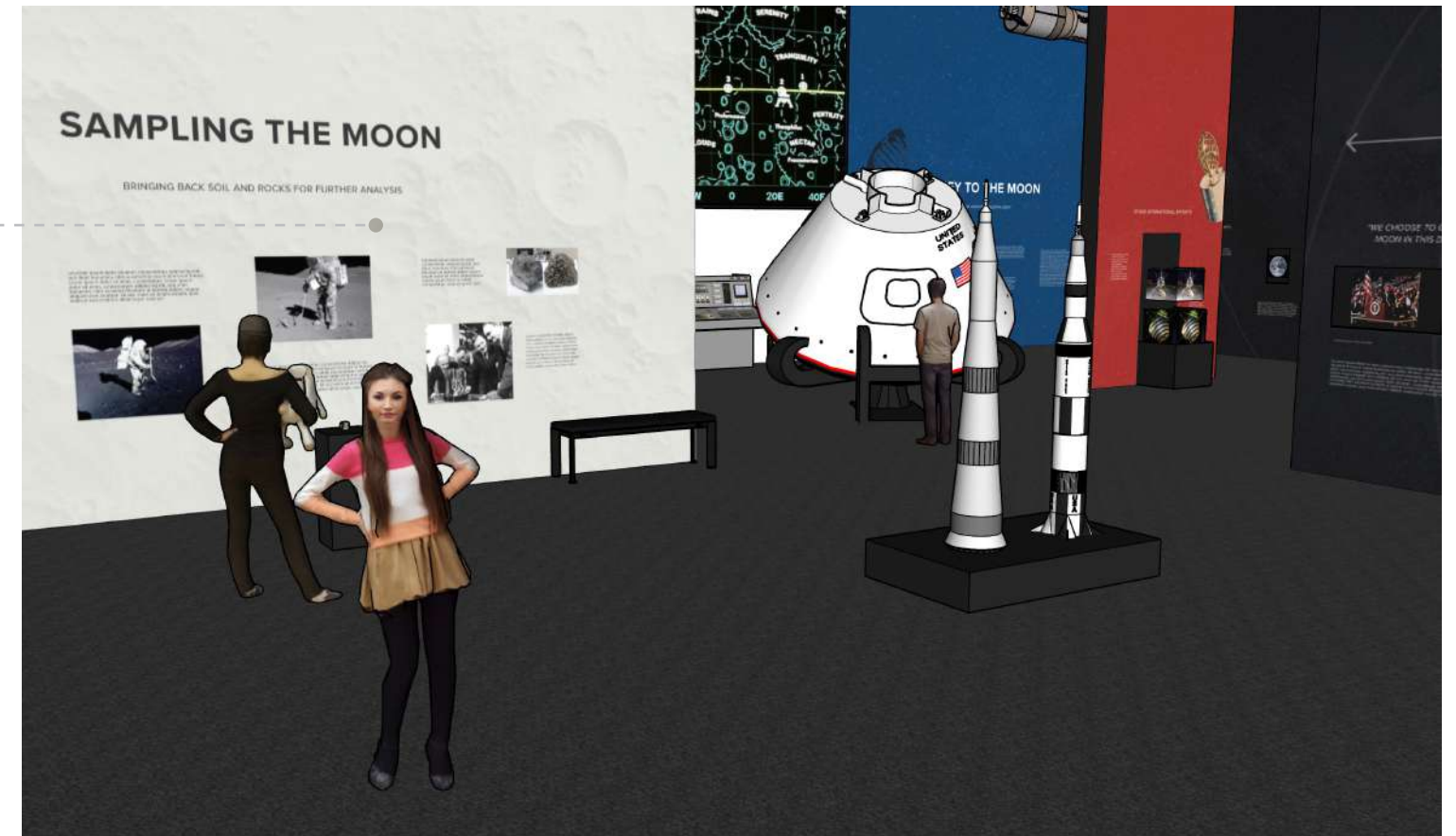


Typical exhibition views

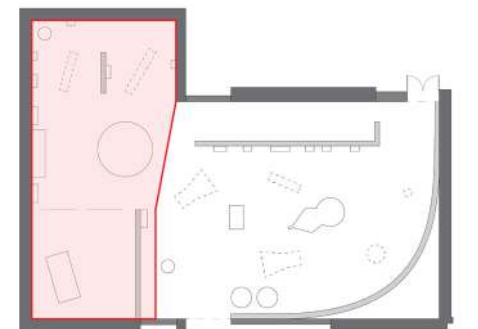
EXHIBITION VIEW

The second part of the exhibit is highlighted in these renderings, focusing on the Moon. Children can experience the feeling of walking in low gravity and pose for photos on the lunar rover. A replica of the mission control room console features space-related video games and fun facts. The Apollo 17 Command Module is displayed at the center and connects all the different areas.

This wall focuses on moon sample collection, complementing the moon rock displayed on a pedestal in front of it.



The activity area offers a moon walking experience, as well as a moon rover prop for memorable pictures.



Phase 4
Visual Language and Graphic Identity

Exhibition graphics palette

GRAPHICS PALETTE

The graphic palette is similar to the atmosphere created in the exhibition. Black is majoritively used to represent space, and the two colors reference the main competitors. An image of the moon is featured on the graphics, as most of the race focused on reaching it and being the first to bring humans on another celestial body.

PRIMARY COLORS

G-1



Pantone Black 6 C
CMYK 100 61 32 96
HEX 101820

G-2



Pantone 2388 C
CMYK 100 69 0 0
HEX 0050B5

G-3



Pantone 711 C
CMYK 0 94 84 5
HEX CB2C30

COLOR PALETTE

The palette is simple, to focus the attention on the objects and the story being told. Black is used predominantly to reference the darkness of space. Red and blue represent the Soviet Union and the United States, and will be used to identify their respective achievements.



KEY EXHIBITION PROMOTION IMAGE
NASA/GSFC/Arizona State University - Image of the Moon based on data from NASA's Lunar Reconnaissance Orbiter Spacecraft.

SPACE RACE To The Moon And Beyond

GRAPHIC TREATMENT FOR EXHIBITION TITLE

The exhibition title references display typefaces seen in visual ads from the 1960s. The colors represent the two countries racing, referencing the colors found in the exhibition itself.



EXISTING MUSEUM LOGO

UNIVERS ULTRA CONDENSED

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890!@#\$%*

UNIVERS LIGHT ULTRA CONDENSED

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890!@#\$%*

GARAMOND PREMIER PRO REGULAR

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890!@#\$%*

GARAMOND PREMIER PRO ITALIC

ABCDEFGHIJKLMNOPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

1234567890!@#\$%*

TYPOGRAPHIC PALETTE AND SPECIFICATIONS

Univers (Ultra Condensed and Light Ultra Condensed) will be used for the exhibition title, headers, and signage. Many advertisements from the 1960s about space exploration used a similar condensed, sans serif and all caps typeface in their titles. Designed by Adrian Frutiger and released in 1957, Univers is clear and legible. Garamond Premier Pro (Regular and Italic) will be used for body-text (introductory and focus texts, object labels). This typeface also references the visual materials of the 1960s, which featured serif typefaces in their copy. Designed by Robert Slimbach and published by Adobe in 2005, Garamond Premier Pro is more classic but remains clean.

Typical promotion graphics / exterior in-situ

PROMOTIONAL GRAPHICS

Both renderings show how the exhibit would be advertised. The appropriate hierarchy was used to bring attention to the title and subtitle. A large image of the moon sets the context right away and invites the viewer on this journey to the moon and beyond.



PROMOTIONAL BUS KIOSK POSTER
This poster is 60 x 42 inch, printed using UV resistant ink on a plastic backed paper. It is displayed at bus shelters to reach a large audience.

The information is organized according to importance, and placed appropriately for a balanced composition.



PROMOTIONAL STREET BANNERS
These banners are 96 x 36 inch and made of weatherproof, premium vinyl. Displayed around the city, they provide the necessary information at a glance to passerby.

The first panel highlights the title and theme and sets the context, while the second follows up with more specific information and focuses on the moon.

Typical exhibition graphics / interior in-situ

EXHIBITION GRAPHICS

The exhibition title and object label follow the identity in regards to typeface and color. The title wall invites the visitors to begin their exploration by displaying a textured moon replica that accurately represents its landforms. The object label is inspired by advertisements from the 1960s with a narrow display font at the top and a serif to describe the object.



EXHIBITION TITLE TREATMENT

The title wall is located right before the entrance to the exhibit, and features a model replica of the moon coming out of the wall, that can be touched to explore the various craters and highlands.

Dimensional letters



Textured surface



Command Module, Apollo 17

1972

Aluminum alloy, stainless steel, and titanium structures.

Outer shell-stainless steel honeycomb between stainless steel sheets.

Crew compartment inner shell-aluminum honeycomb between aluminum alloy sheets.

Epoxy-resin ablative heat shield covers outside.

Apollo 17, NASA's final lunar landing mission of the Apollo Program, was launched on December 7, 1972. Commander Eugene Cernan, Command Module Pilot Ron Evans, and Lunar Module Pilot Harrison Schmitt spent three days on the moon before returning home with 112 kg (243 lbs) of lunar samples, 13 days after launch.

This particular command module was dubbed "America" and splashed down in the Pacific Ocean at the end of the mission, bringing the astronauts safely back to Earth.

National Air and Space Museum Collection

EXHIBITION OBJECT LABEL

This 7 x 6 inch label provides the necessary information regarding the object featured. The colored line identifies whether the object was created by the Soviet Union (red) or the United States (blue).

**Appendix:
Best Precedence Inspiration
About the Designer
Peer Review Summary**

Best precedence inspiration

PROJECT REFERENCE



Ralph Appelbaum Associates (RAA), Space Chase, Adventure Science Center (Nashville, TN), 2008



Apollo Mission Control Center, NASA, Houston, TX, 1965



Destination Moon: The Apollo 11 Mission, National Air and Space Museum (traveling exhibition), 2019



Starship Gallery Timeline, Space Center Houston, TX, 1999



Sam Herman, The Space Race



Destination Moon: The Apollo 11 Mission, National Air and Space Museum (traveling exhibition), 2019



Hall of Space, Cosmosphere (Hutchinson, KS)



Astronaut Gallery, Space Center Houston, TX

About the designer

Chloe is a 5th-year Design student at UC Davis, with a focus on Graphic Design. She enjoys working with print, layout, and exhibition design to create meaningful experiences. She moved to the U.S. 10 years ago from France, and has since taken every opportunity to learn, explore, and go on adventures. She has a background in science and a strong interest in space exploration; she loves to share knowledge and educate through design.



CHLOE THEPENIER

Peer review summary

Phase 01

My peer group appreciated the diversity of my object selection and suggested a simpler way to organize it on the process book. They also said that massing studies A and B could work, with a preference for B that seemed to make the most sense.

Phase 02

My peers enjoyed my floor plan and model, pointing out good readability, appropriate use of space, and the appeal of hanging objects.

Phase 03

The group thought the renders conveyed my vision well, and noted the details and texture. They thought the design choices successfully placed the viewer in a space-like environment.

Phase 04

My peers liked the type and colors, commenting that they were appropriate for the theme. They also appreciated the texture and dimension of the title wall, but noted that the small type in the corner of the poster was not very legible and that the dates could be layed out better. In response, I removed the word “through” on the street banners and some of the optional text on the poster.



CHRISTINA LIN



NOAH JONES