



SPACE MEDAL OF HONOR

NATIONAL MEDAL OF HONOR HERITAGE CENTER



DESIGN CHALLENGE

SPRING
2024



MOHHC.ORG/DESIGNCHALLENGE

OVERVIEW

DESIGN CHALLENGE



Dick Scobee Space Medal of Honor Exhibit
National Medal of Honor Heritage Center
Chattanooga, Tennessee

The **National Medal of Honor Heritage Center** is launching a **design challenge** with the aim of engaging K-12 student teams (3-4 students per team) in the Design Engineering Process and connecting them to a real-world career, a **Museum Exhibit Designer**.

In this role, students will explore the history of the Challenger incident and the Space Medal of Honor and learn more about current and future space explorations to better guide the design of their exhibit prototypes.

This design challenge is competitive and includes a monetary prize. One student team will be selected from each category as the winning team. **The monetary prize will be awarded to the classroom/school of the winning student team from each category.**

CATEGORIES

ELEMENTARY SCHOOL | K-2ND GRADE | \$1000 (awarded to classroom of winning team)

ELEMENTARY SCHOOL | 3RD - 5TH GRADE | \$1000 (awarded to classroom of winning team)

MIDDLE SCHOOL | 6TH - 8TH GRADE | \$5000 (awarded to school of winning team)

HIGH SCHOOL | 9TH - 12TH GRADE | \$10000 (awarded to school of winning team)

BIG IDEA DESIGN CHALLENGE

Museums remind us of our shared history and can inspire us to live the best versions of ourselves while pursuing our dreams.

ESSENTIAL QUESTIONS

1. How can the past inspire the future?
2. What role do Museum Exhibit Designers play in communicating our nation's history?

CHALLENGE SCHEDULE

01 JAN.	Design Challenge Launch
12 FEB.	REGISTRATION CLOSES (LINK)
08 MAR.	Round 1 Video Proposal DUE
15 MAR.	Round 1 Announcement of Advancement
15 APR.	Round 2 Video Presentation Submission DUE
22 APR.	Round 2 Announcement of Advancement
18 MAY	Design Challenge Final Competition at the National Medal of Honor Heritage Center

THE MISSION

DESIGN CHALLENGE

GOAL

- Your task is to **design and prototype** (reduced-scale) an exhibit in the new Dick Scobee Space Medal of Honor Gallery at the National Medal of Honor Heritage Center in Chattanooga, Tennessee.
- The goal is to **Honor the Challenger Seven, Recognize all Space Medal of Honor Recipients, OR Inspire Future Generations** to continue exploring.
- The problem/challenge is that **1)** the previous Museum Exhibit Designer has other commitments and cannot work on this project and **2)** the gallery is less than 1000 square feet (with a workable ceiling of 9 feet). Each exhibit is only allocated 60 square feet. Designing multiple exhibits aimed at **Honoring, Recognizing, and Inspiring** in such a small gallery space with additional constraints of 60 square feet will require creativity and ingenuity.

ROLE

- You are now a **Museum Exhibit Designer** “hired” by the National Medal of Honor Heritage Center.
- You have been asked to **design and prototype** (reduced-scale) **ONE** exhibit for the Center’s new Dick Scobee Space Medal of Honor Gallery.
- Your job is to:
 - Research the history surrounding the Challenger Seven and the Space Medal of Honor and investigate the current pursuits of NASA and Blue Origin to better understand where we have been and where we are going regarding space exploration.
 - Develop a concept of an exhibit that either **1) Honors the Challenger Seven, 2) Recognizes all Space Medal of Honor Recipients, OR 3) Inspires Future Generations** to continue exploring. Consider what/who you will highlight. Design and prototype (reduced-scale) **ONE** exhibit for the new Dick Scobee Space Medal of Honor Gallery.

THE MISSION

DESIGN CHALLENGE

AUDIENCE

- Your **clients** are the National Medal of Honor Heritage Center's Board Members, Executive Director, Director of Education, and supporters and funders of the National Medal of Honor Heritage Center.
- Your **audience** will be teachers, students, and the general public visiting the Center once the Gallery has been designed and constructed.
- You will work to convince the National Medal of Honor Heritage Center's personnel that your exhibit prototype (reduced-scale) best captures their aim of including exhibits that **honor, recognize, and inspire**.

SITUATION

The **National Medal of Honor Heritage Center** is expanding the stories of Medal of Honor recipients it tells through the addition of its **Dick Scobee Space Medal of Honor Gallery**. This Gallery will focus on Space Medal of Honor recipients and future space exploration. The Center wants you, as a **Museum Exhibit Designer**, to **design and prototype** (reduced-scale) **ONE** exhibit for it to consider including in its gallery. Your design, or elements of it, may actually be incorporated in the gallery.

- What is the design engineering process?
 - Learn more here: [8 Great Videos to Teach the Design Engineering Process](#) by Eric Iverson
 - [Design Engineering Process Worksheet](#) by NASA

DESIGN APPROACH

DESIGN CHALLENGE

OPTION 1 HONORING THE CHALLENGER SEVEN

➔ What is a Museum Exhibit Designer?

- Learn more about this career here: [What does an exhibit designer do?](#) (article by Sonaku)

➔ What is the Space Medal of Honor?

- Learn more about the Medal here: [Congressional Space Medal of Honor](#) (article by NASA)
- Learn more about the Medal here: [Congressional Space Medals of Honor - Public Law](#)
- Learn more about the Medal here: [The Congressional Space Medal of Honor](#)

➔ How did Francis Richard “Dick” Scobee’s Space Medal of Honor end up on exhibit at the National Medal of Honor Heritage Center?

- Learn more here: [“CHALLENGER COMMANDER DICK SCOBEE’S SPACE MEDAL OF HONOR PRESENTED TO CHATTANOOGA’S NATIONAL MEDAL OF HONOR HERITAGE CENTER”](#) (article by National Medal of Honor Heritage Center)

➔ Who was Space Medal of Honor recipient Francis Richard “Dick” Scobee?

- Learn more about him here: [Francis Richard Scobee | Congressional Space Medal of Honor](#) (video by National Medal of Honor Heritage Center)

➔ What happened to the space Shuttle Challenger and her crew?

- Learn more about the incident here: [“35 Years Ago: Remember Challenger and Her Crew”](#) (article by NASA)
- Watch President Ronald Reagan’s address to the nation on the day of the incident here: [Challenger: President Reagan's Challenger Disaster Speech - 1/28/86](#) (video from the Reagan Foundation)

DESIGN APPROACH

DESIGN CHALLENGE

OPTION 1 HONORING THE CHALLENGER SEVEN

→ Why should this story be told through an exhibit?

- Watch this short interview with Mrs. June Scobee-Rodgers, the wife of deceased Francis Richard “Dick” Scobee who was Commander of the Space Shuttle Challenger.



JUNE
SCOBEE-RODGERS



→ What approach did the previous Museum Exhibit Designer take at the National Medal of Honor Heritage Center when designing and building out exhibits, and what is the current Executive Director looking for in these Dick Scobee Space Medal of Honor Gallery exhibits?

- Watch this short interview with David Currey, previous Museum Exhibit Designer and current interim Executive Director at the National Medal of Honor Heritage Center.



DAVID
CURREY



DESIGN APPROACH

DESIGN CHALLENGE

OPTION 2 RECOGNIZING ALL SPACE MEDAL OF HONOR RECIPIENTS

➔ What is a Museum Exhibit Designer?

- Learn more about this career here: [What does an exhibit designer do?](#) (article by Sonaku)

➔ What is the Space Medal of Honor?

- Learn more about the Medal here: [Congressional Space Medal of Honor](#) (article by NASA)
- Learn more about the Medal here: [Congressional Space Medals of Honor - Public Law](#)
- Learn more about the Medal here: [The Congressional Space Medal of Honor](#)

➔ Who has been awarded the Space Medal of Honor?

- Learn more here: [Congressional Space Medal of Honor](#)

➔ Where can one learn more about each Space Medal of Honor Recipient?

- Learn more here using the “Active” and “Former Astronauts” tabs: [Astronauts](#) (NASA database)

➔ Why should their stories be told through an exhibit?

- Watch this short interview with Mrs. June Scobee-Rodgers, the wife of deceased Francis Richard “Dick” Scobee who was Commander of the Space Shuttle Challenger.



JUNE
SCOBEE-RODGERS



DESIGN APPROACH

DESIGN CHALLENGE

OPTION 2 RECOGNIZING ALL SPACE MEDAL OF HONOR RECIPIENTS

- ➔ **What approach did the previous Museum Exhibit Designer take at the National Medal of Honor Heritage Center when designing and building out exhibits, and what is the current Executive Director looking for in these Dick Scobee Space Medal of Honor Gallery exhibits?**
- Watch this short interview with David Currey, previous Museum Exhibit Designer and current interim Executive Director at the National Medal of Honor Heritage Center.



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CURREY



DESIGN APPROACH

DESIGN CHALLENGE

OPTION 3 INSPIRING FUTURE GENERATIONS

- ➔ **What is a Museum Exhibit Designer?**
 - Learn more about this career here: [What does an exhibit designer do?](#) (article by Sonaku)
- ➔ **What missions is NASA currently working on, and which future ones is NASA planning to complete?**
 - Learn more about NASA's current and future missions via this database using the search filters: [Missions](#)
 - Learn more about NASA's missions here: [Missions](#)
- ➔ **What projects is Blue Origin currently working on?**
 - Learn more about Blue Origin's work here: [News](#)
- ➔ **What does a leader, in this case a Museum Exhibit Designer, need to infuse in an exhibit to inspire future generations to continue exploring?**
 - Watch this short clip with Simon Sinek: [Great Leaders INSPIRE Others to Do Great Things](#)
- ➔ **Why should we attempt to inspire the next generation through an exhibit?**
 - Watch this short interview with Mrs. June Scobee-Rodgers, the wife of deceased Francis Richard "Dick" Scobee who was Commander of the Space Shuttle Challenger.



JUNE
SCOBEE-RODGERS



DESIGN APPROACH

DESIGN CHALLENGE

OPTION 3 INSPIRING FUTURE GENERATIONS

- ➔ **What approach did the previous Museum Exhibit Designer take at the National Medal of Honor Heritage Center when designing and building out exhibits, and what is the current Executive Director looking for in these Dick Scobee Space Medal of Honor Gallery exhibits?**
- Watch this short interview with David Currey, previous Museum Exhibit Designer and current interim Executive Director at the National Medal of Honor Heritage Center.



DAVID
CURREY



PRODUCTS & PERFORMANCES

DESIGN CHALLENGE

→ Registration | Deadline February 12, 2024 | [Registration LINK](#)

- You (sponsoring teacher/educator) will submit a form that:
 - Lists your school
 - Lists your location
 - Lists your sponsoring teacher
 - Lists all team member names
 - Identifies which design approach option your team plans to pursue
 - Commitment to Design Challenge Integrity - team member, sponsoring teacher/educator, and principal signatures
 - Includes a rough draft exhibit design sketch

→ Video Proposal | Deadline March 8, 2024 (Round 1)

- You (student team) will need to submit a video 1-2 minutes in length (2 minutes MAX) that:
 - Introduces your team
 - Highlights the approach option (1, 2, OR 3) your team has selected
 - And introduces an early iteration of your exhibit prototype
 - *Prototype must be easily transportable/shippable
 - *Your team will be notified by March 15th if your proposal has been selected to advance to Round 2

→ Video Presentation | Deadline April 15, 2024 (Round 2)

- You (student team) will need to submit a video 1-2 minutes in length (2 minutes MAX) that:
 - Reintroduces your team
 - Identifies the approach option your team selected (1, 2, OR 3)
 - Provides a detailed overview of your exhibit prototype and how it either Honors the Challenger Seven, Recognizes all Space Medal of Honor Recipients, or Inspires Future Generations
 - *Prototype must be easily transportable/shippable
 - *Your team will be notified by April 22nd if your exhibit prototype has been selected to advance to the final round

→ Exhibit Prototype | May 18th (Final Round)

- You (student team) will showcase your exhibit prototype (reduced-scale) at the National Medal of Honor Heritage Center in the final round of the competition where a winning team will be selected from each grade-level category identified.

FAQ

DESIGN CHALLENGE

→ Who can participate?

- K-12 public and private school students may participate in this design challenge.

→ How much prize money is involved?

- K-2 | \$1,000 (Classroom of winning student team receives prize)
- 3-5 | \$1,000 (Classroom of winning student team receives prize)
- 6-8 | \$5,000 (School of winning student team receives prize)
- 9-12 | \$10,000 (School of winning student team receives prize)

→ Are students required to work in teams?

- Student teams of 3-4 students are strongly encouraged for collaboration purposes.

→ Are there any material requirements for the prototypes?

- There are no material requirements for the prototypes. The National Medal of Honor Heritage Center recognizes not all teams will have access to digital fabrication tools and/or a wide range of materials for prototype design and construction.

→ Can prototypes be interactive and/or digital?

- Prototypes can be interactive as well as digital. The sky's the limit. Whatever teams can dream, design, and prototype will be acceptable.

→ The Commitment Letter states, "Our expectation is that students complete all stages of the design engineering process without outside assistance (specifically work completed by anyone other than the students)." Does this mean we can receive absolutely no outside help on our design products?

- Essentially, we do not want adults and experts doing the work for you. This challenge is for you and your teammates. It is for you to dream up and create. If you are using equipment to fabricate and need help with that equipment, then, yes, outside assistance is acceptable. At the end of the day, you will know deep down if your team is being honest throughout the process. Integrity is important to us.

→ Do we really have to fill 60 square feet for this design challenge?

- You are allotted 60 square feet for your design, but please note as is mentioned in this challenge that a reduced scale is acceptable. Consider creating a diorama/think biome in a box if you prefer. These designs do not have to fill up 60 square feet and can be at a reduced scale.

COMMITMENT LETTER

DESIGN CHALLENGE

The National Medal of Honor Heritage Center is devoted to sharing our history and stories of ordinary individuals who did extraordinary things. Associated with our nation's highest award for military valor are six character values - courage, commitment, integrity, sacrifice, citizenship, and patriotism. These same values are exemplified by those who have been awarded the Space Medal of Honor.

Our expectation for this design challenge is that **student teams will be committed** to completing the full design engineering process on their own and with **integrity** under the direction of a sponsoring teacher/educator associated with the schools student teams represent. While we understand this design challenge is competitive and includes prizes of significance, a situation which may cause teams to toy with the idea of receiving outside assistance. Our expectation is that students complete all stages of the design engineering process without outside assistance (specifically work completed by anyone other than the students). The design challenge is for student teams.

By signing this commitment letter, student team members (up to four), the sponsoring teacher/educator, and principal of the school are indicating they will be committed to ensuring the student team completes the full design challenge on its own.

_____ Date _____
(student team member)

_____ Date _____
(student team member)

_____ Date _____
(student team member)

_____ Date _____
(student team member)

_____ Date _____
(sponsoring teacher/educator)

_____ Date _____
(school principal)

VIDEO PROPOSAL RUBRIC

DESIGN CHALLENGE

ROUND 1

	4	3	2	1
Introduction	All team members introduce themselves and the school they represent. The team's design approach option has been clearly identified.	Some team members introduce themselves and the school they represent.	Few team members introduce themselves and the school they represent. The team's design approach option has not been identified.	Team members do not introduce themselves or the school they represent. The team's design approach option has not been identified.
Design Option	The team's design approach option selection has been clearly identified, and the team provided a clear and brief overview of what it hopes to accomplish through its design vision.	The team's design approach option has been somewhat identified, and the team provided a brief overview of what it hopes to accomplish through its design vision.	The team's design approach option has been vaguely identified, and a brief overview of what the team hopes to accomplish through its design vision may be lacking.	The team's design approach option may lack in identification, and a brief overview of what the team hopes to accomplish through its design vision may be lacking.
Organization, Structure, and Delivery	Presentation has a clear and logical structure, and team members are highly engaging in delivery.	Presentation organization and structure is generally good, and team members are engaging in delivery.	Presentation organization and structure is somewhat unclear, and team members are somewhat monotone and lack energy in delivery.	Presentation organization and structure lacks clarity, and team members are flat and unengaging in delivery.
Time Management	The team's presentation adheres to the time limit of 2 MINUTES MAX.	The team's presentation is close to the time limit and only minorly exceeds the MAX time allowance of 2 MINUTES.	The team's presentation far exceeds the MAX time allowance of 2 MINUTES.	The time limit is not observed.

*Multiple video proposals submitted may score perfectly; however, a select number from each category will be identified by a panel of judges to advance. This rubric serves as a quantitative guide, and we reserve the right for our judges to use their professional judgement throughout the process beyond the quantitative.

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VIDEO PRESENTATION RUBRIC

ROUND 2

DESIGN CHALLENGE

	4	3	2	1
Introduction	All team members introduce themselves and the school they represent. The team's design approach option has been clearly identified.	Some team members introduce themselves and the school they represent.	Few team members introduce themselves and the school they represent. The team's design approach option has not been identified.	Team members do not introduce themselves or the school they represent. The team's design approach option has not been identified.
Design Option	The team's design approach option selection has been clearly identified, and the team provided a clear and brief overview of what it hopes to accomplish through its design vision.	The team's design approach option has been somewhat identified, and the team provided a brief overview of what it hopes to accomplish through its design vision.	The team's design approach option has been vaguely identified, and a brief overview of what the team hopes to accomplish through its design vision may be lacking.	The team's design approach option may lack in identification, and a brief overview of what the team hopes to accomplish through its design vision may be lacking.
Organization, Structure, and Delivery	Presentation has a clear and logical structure, and team members are highly engaging in delivery.	Presentation organization and structure is generally good, and team members are engaging in delivery.	Presentation organization and structure is somewhat unclear, and team members are somewhat monotone and lack energy in delivery.	Presentation organization and structure lacks clarity, and team members are flat and unengaging in delivery.
Time Management	The team's presentation adheres to the time limit of 2 MINUTES MAX.	The team's presentation is close to the time limit and only minorly exceeds the MAX time allowance of 2 MINUTES.	The team's presentation far exceeds the MAX time allowance of 2 MINUTES.	The time limit is not observed.

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DESIGN PRODUCT RUBRIC

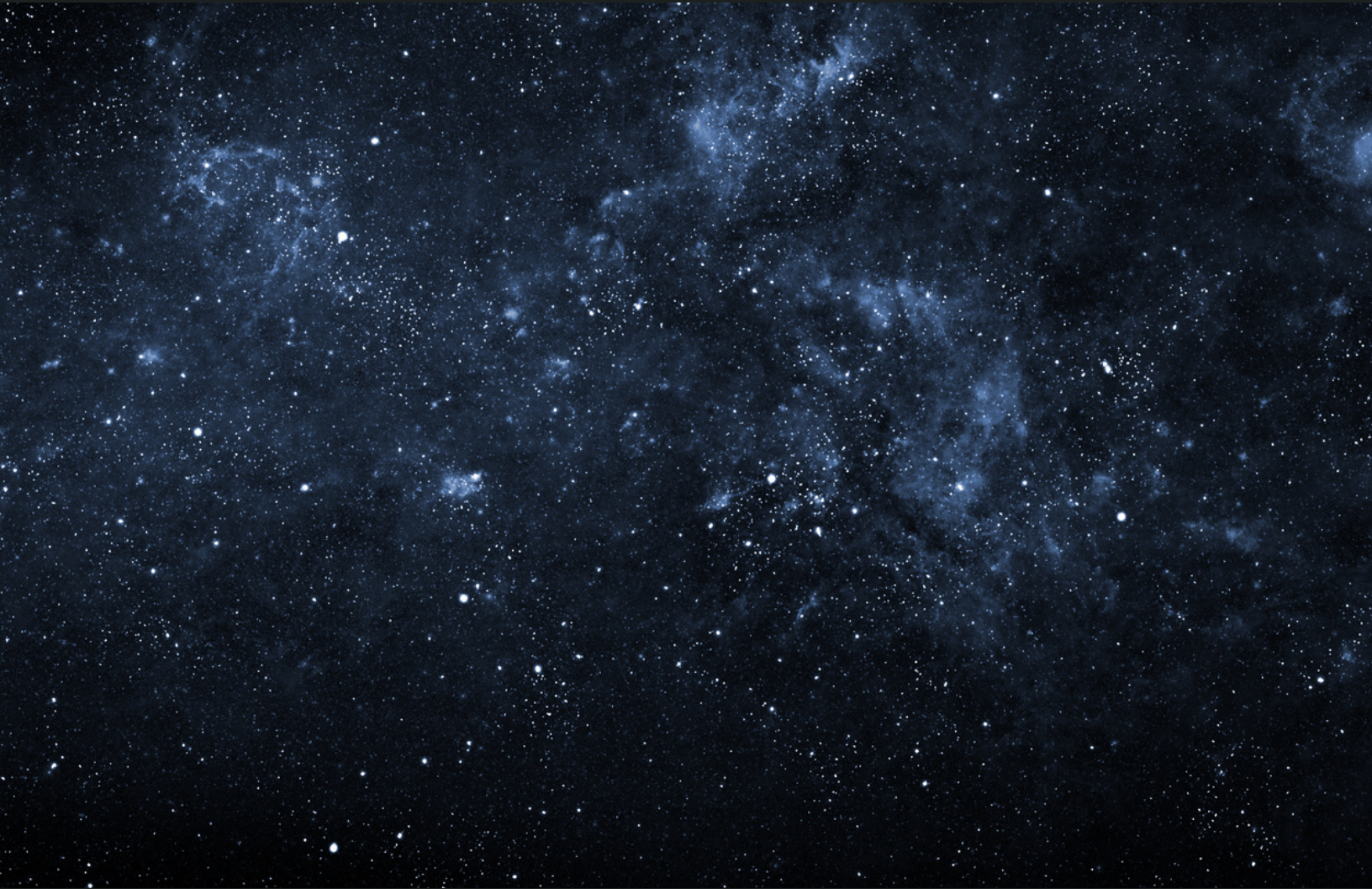
DESIGN CHALLENGE

FINAL ROUND

	4	3	2	1
Creativity & Innovation	Demonstrates a highly creative and innovative approach to exhibit storytelling. Design stands out in originality.	Shows creativity in approach to exhibit storytelling. Innovative elements are used to enhance the exhibit design.	Displays some creativity in approach to exhibit storytelling. Design may lack originality.	Lacks creativity in approach to exhibit storytelling. Design is conventional and may not stand out.
Audience-Centered Design	Design is clearly audience-centered and has been tailored to meet the Center's exhibit needs.	Design is somewhat audience-centered and displays some tailoring to meet the Center's exhibit needs.	Design shows slight consideration to audience and displays slight tailoring to meet the Center's exhibit needs.	Design lacks consideration to audience and may lack tailoring to meet the Center's exhibit needs.
Visual Appeal & Practicality	Design is visually appealing and the practicality of the design for use in the Center is highly considered.	Design is visually pleasing and the practicality of the design for use in the Center is considered.	Design may lack visual appeal and the practicality of the design for use in the Center is somewhat considered.	Design lacks visual appeal and the practicality of the design for use in the Center is somewhat considered.
Presentation	Presentation effectively communicates the design. Clear explanations of the design approach and compelling reasons why the design should be selected are provided.	Presentation communicates the design. Explanations of the design approach and reasons why the design should be selected are provided.	Presentation somewhat communicates the design. Explanations of the design approach and reasons why the design should be selected are somewhat provided.	Presentation may lack communication of the design. Explanations of the design approach and reasons why the design should be selected may be limited.

*Multiple exhibit designs submitted may score perfectly; however, one winner from each category will be selected by a panel of judges. This rubric serves as a quantitative guide, and we reserve the right for our judges to use their professional judgement throughout the process beyond the quantitative.

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SPRING
2024

NATIONAL MEDAL OF HONOR
HERITAGE CENTER
2 W Aquarium Way,
Chattanooga, TN 37402