

The background features a blue-tinted image of a student in a white lab coat working on a project. A Coca-Cola bottle is visible in the lower-left corner. On the right side, there are white technical diagrams consisting of lines and circles, resembling a circuit board or a network diagram. The text is overlaid on the left side of the image.

# 2019 National Engineering Design Challenge Pitch Judges Training



# Thank You!

---

Thank you for volunteering to score pitch presentations!

We created this slide deck to provide some information about scoring. Thanks for taking the time to review it!



# Agenda

---

- What is MESA?
- Things to keep in mind
- About the competition
- Rubric scale
- Rubric parts
- Logistics of scoring

Pro Tip:

Have a copy of the rubric in front of you while we go over it

[Pitch Rubric](#)

[Pitch Overview](#)

[Entire Competition Rules](#)

# What is MESA USA?

---

- Mathematics Engineering Science Achievement
- Classroom and After School programs
- Human Centered Design & STEM
- 10 States
- Focuses on students underrepresented in STEM
- Over 49,000 K-12 and college students are served annually



# Why Training?

---

1. Inter-rater reliability
  - The degree of agreement among raters.
  - Common understanding of expectation for each part of rubric
2. Consistency among states
3. Context of the Pitch within the scope of the entire National Competition
4. Familiarity with specifications and the rubric
5. Provide information about MESA students. Set expectations

# About the Competition

---

- Teams of 3-4 students
- Must be designed around the needs of a client.
- An Arduino microcontroller must be part of the solution
- Students will
  - Write a Product Report
  - Give a Product Pitch
  - Give a Technical Presentation and have an Interview
  - Create a Poster

# Competition

---

- Project Report - 100 points
- Prototype Pitch - 100 points
- Technical Presentation & Interview - 100 points
- Poster Symposium - 50 points

**Total: 350 points**

# The Pitch Presentation

---

## **Objective:**

Teams will creatively “sell” their solution to a group of “investors.” The pitch should introduce the client and their needs, discuss how current solutions do not meet those needs, and present and demonstrate the designed prototype.





# Pitch Components

---

**Client Intro and Problem Definition** *20 points*

**Product**

*15 points*

**Prototype Demo**

*20 points*

**Business Value**

*15 points*

**Presentation**

*30 points*



# Scale for all items

---

**No half points!**

- (5)-Exceptional - Exceeds all aspects of the standard when possible.
- (4)-Excellent - Meets all aspects of the standard very effectively.
- (3)-Met Criteria - Meets all aspects of the standard but no more.**
- (2)-Fair - Almost meets the standard. May be inaccurate or unclear.
- (1)-Poor/Lacking - Attempts to meet the standard but provides information which is irrelevant or unnecessary.
- (0)-Not Present - No attempt appears to have been made to meet this standard.

**Pro Tip: Judges may not award half points. Whole points only!**



# Client Intro and Problem Definition

---

## **Client Intro and Problem Definition (Total 20 Points)**

**Client description** - Client base is identified and an adequate profile, including information on population size and location is provided so that observers have few questions about the client base.

**Problem Description and Impact** - A clear and suitable description of the problem and its impact to the client is provided and some crucial aspects that need to be addressed have been explained.

**Human Centered Design** - While keeping the target user(s) in mind – teams adequately explain the design requirements needed for the solution to succeed.

**Current Market Solutions** - Some current solutions are listed and teams sufficiently articulate improvements over existing products.



# Product

---

## **Product (Total: 15 points)**

**Define Proposed Solution** - Team adequately defines their proposed solution through their prototype and is able to sufficiently articulate how their research, design, and testing led to the prototype.

**Originality and Creative Ability** - Team adequately explains how their design and approach to solving the problem is mostly original and/or somewhat innovative and are able to sufficiently explain how their research helped to design a solution in a creative way.

**Advantages of solutions** - Team suitably describes advantages of prototype over other solutions for client - citing a few reasons for being the best solution for client.



# Prototype Demo

---

## **Prototype Demo (Total: 20 points)**

**Demonstration** - Sufficiently explains key features and functions of the prototype.

**Product look, feel and functionality** - Teams adequately explain how their design met the client(s) criteria for functionality, elegance, aesthetics and cost effectiveness. The product is suitably safe to build, use, store and dispose of.

**Ease of use** - Team provided adequate evidence that the client was able to use it with no assistance from team. It was functional, mostly smooth, with few pauses or bugs.

**Potential of design** - Team sufficiently describes the next steps they need to undertake to bring prototype to the client and/or the market –Explaining their forward thinking of product scalability and design improvements.



# Business Value

---

**Business Value (Total: 15 points)**

**Market Analysis** - Provides assessment of the potential market for their product. Considering market size, buying patterns, competition and possible barriers.

**Price Point Considerations** - Teams identify a retail price for their product and explain their pricing strategy.

**Marketing Plan** - Teams are able to share a comprehensive plan for their marketing and advertising efforts.

# Presentation

---

<b>Presentation (Total: 30 points)</b>
<b>Speech organization</b> - Speech organization - Presents ideas and information effectively and includes an Intro, Body and Conclusion. Introduction is suitable and inviting, body is mostly focused and suitably arranged, closing is adequate in unifying entire presentation
<b>Delivery</b> - - Shows an appropriate degree of understanding of ideas, concepts, themes and information. Overall presentation shows sufficient evidence of creativity, enthusiasm, value and believability.
<b>Visual Aids/Creativity</b> - Adequately demonstrated the use of relevant and appropriate equipment, materials, and props to provide a solid, convincing and interesting presentation.
<b>Audience Interaction</b> - Team can adequately hold the audience's attention throughout most of the presentation. Audience is sufficiently interested, engaged, entertained and impressed with the teams approach to the problem.

# Presentation pt. 2

---

**Communication** - Presentation flows well with minimal distracting pauses, speakers are mostly clear and loud and not going too quickly or too slowly.

**Eye Contact and Body Language**-Most team members used natural movements and gestures, looks poised and confident. Keeps eye contact with audience most of the time & rarely uses notes or slides.

**Intro of team members** All team members introduced ; YES or NO

**Participation** - All team members should speak and present equally.

- All team members participated and spoke equally
- All team members participated and spoke but not equally
- Not all team members presented and spoke

**Time** 5 point deduction for every minute over the allotted 10 minutes.



# Watch a sample pitch (on video) and practice scoring

Video:

<https://youtu.be/FGIFRZzOuYE?t=11353>

(Links to sample presentation at start time: 3:09:30)

See our official scores on the next slides.

# Client Intro and Problem Definition

Pitch Presentation	Exceptional (5 points)	Excellent (4 points)	Good (3 points)	Fair (2 points)	Poor (1 point)	Not present (0 points)	Observation Notes
<b>Client Intro and Problem Definition (Total 20 Points)</b>							
<b>Client description</b> - Client base is clearly identified and a complete profile, including information on population size and location is provided so that observers have no questions about the client base.			x				Discusses the client, but does not provide an entire profile
<b>Problem Description and Impact</b> - A precise, clear and complete description of the problem and its impact to the client is provided and all crucial aspects that need to be addressed have been explained.			x				Summarizes the problem
<b>Human Centered Design</b> - While keeping the target user(s) in mind – teams explain the design requirements needed for the solution to succeed.		x					The requirements were discussed, along with designs implemented for the clients needs
<b>Current Market Solutions</b> - All current solutions are listed and teams articulate significant improvements over existing products.				x			Mentions that there are no solutions that are similar

# Product

Pitch Presentation	Exceptional (5 points)	Excellent (4 points)	Good (3 points)	Fair (2 points)	Poor (1 point)	Not present (0 points)	Observation Notes
<b>Product (Total: 15 points)</b>							
<b>Define Proposed Solution</b> - Team clearly defines their proposed solution through their prototype and is able to articulate how their research, design, and testing led to the prototype.		x					Discussed all options available to prototype; discussed constraints and requirements that helped develop their prototype
<b>Originality and Creative Ability</b> - Team explains how their design and approach to solving the problem is original and/or innovative and are able to explain how their research helped to design a solution in a creative way.			x				Describes how there are no items on the market. Does not discuss research in depth
<b>Advantages of solutions</b> - Team clearly describes advantages of prototype over other solutions for client - citing multiple reasons for being the best solution for client.		x					Advantages were well presented with facts to back up why the product should be used

# Prototype Demo

Pitch Presentation	Exceptional (5 points)	Excellent (4 points)	Good (3 points)	Fair (2 points)	Poor (1 point)	Not present (0 points)	Observation Notes
<b>Prototype Demo (Total: 20 points)</b>							
<b>Demonstration</b> - Explains all of the key features and functions of the prototype.			x				Covers components with visual aids on the screen. Demonstration was not able to be seen by entire audience
<b>Product look, feel and functionality</b> - Teams explain how their design met the client(s) criteria for functionality, elegance, aesthetics and cost effectiveness. The product is safe to build, use, store and dispose of.		x					Does explain how the product can be stored and used. Explained the clients requirements and how they were met
<b>Ease of use</b> - Client was able to use it with no assistance from team. It was fully functional, smooth, without pauses or bugs.						x	Does not discuss the client using the device, only the theory of use
<b>Potential of design</b> -Team clearly describes the next steps they need to undertake to bring prototype to the client and/or the market –Explaining their forward thinking of product scalability and design improvements.			x				The team describes the next steps to implement new items to detect.

# Business Value

---

Pitch Presentation	Exceptional (5 points)	Excellent (4 points)	Good (3 points)	Fair (2 points)	Poor (1 point)	Not present (0 points)	Observation Notes
<b>Business Value (Total: 15 points)</b>							
<b>Market Analysis</b> - Provides assessment of the potential market for their product. Considering market size, buying patterns, competition and possible barriers.			x				Discussed some of these elements, but does not go into detail in the buying patterns or market size.
<b>Price Point Considerations</b> - Teams identify a retail price for their product and explain their pricing strategy.					x		Discusses how cheap the product is, but does not provide a price point
<b>Marketing Plan</b> - Teams are able to share a comprehensive plan for their marketing and advertising efforts.						x	Does not discuss a marketing plan

# Presentation

Pitch Presentation	Exceptional (5 points)	Excellent (4 points)	Good (3 points)	Fair (2 points)	Poor (1 point)	Not present (0 points)	Observation Notes
<b>Presentation (Total: 40 points)</b>							
<b>Communication</b> - Presentation flows nicely with no distracting pauses, speakers are clear and loud and not going too quickly or too slowly.				X			The powerpoint slide did not flow well with their pitch. The students often had to flip through the slide. Some talked too fast.
<b>Speech organization</b> - Presents ideas and information with excellent effectiveness and includes an Intro, Body and Conclusion. Introduction is strong and inviting, body is focused and clearly manipulated, and closing is effective in unifying entire presentation			X				Has an opening question with facts. Presentation follows the rubric well, but no conclusion
<b>Delivery</b> - Shows an excellent degree of understanding of ideas, concepts, themes and information. Overall presentation shows excellent evidence of creativity, enthusiasm, value and believability.			X				all four understood the concepts behind the prototype.
<b>Visual Aids/Creativity</b> - Skillfully demonstrated the use of relevant and appropriate equipment, materials, and props to provide a masterful, compelling and provocative presentation.			X				Powerpoint slides had useful information. The slides were helpful to their pitch, but does not provide creative imaging.
<b>Eye Contact</b> - Keeps eye contact with audience most of the time & does not use notes or slides.			X				Two used the slides as an aide, all had eyes on the audience

# Presentation

Pitch Presentation	Exceptional (5 points)	Excellent (4 points)	Good (3 points)	Fair (2 points)	Poor (1 point)	Not present (0 points)	Observation Notes
<b>Audience Interaction</b> - Team is able to capture and hold the audience's attention throughout the entire presentation. Audience is interested, engaged, entertained and impressed with the teams approach to the problem.			x				The team did provide great information on their product, but it was not as enticing.
<b>Body Language</b> - All team members used natural movements and gestures, looks poised and confident.			x				Students were well posed, but rigid with the microphone
<b>Intro of team members</b> All team members introduced					YES	NO	
<b>Participation</b> All team members should speak and present equally.				All team members participated and spoke equally	All team members participated and spoke but not equally	Not all team members presented and spoke	
<b>Time</b> 5 point deduction for every minute over the allotted 10 minutes.							Went over by 1 minute

# Questions?

If you have any questions while scoring, please look back at these slides or reach out to your point of contact.

Thank you for serving as a judge for the National Engineering Design Competition.

We will see you at MESA Day!

# Thank you!