

OVERVIEW

Using leadership and 21st century skills, participants apply knowledge of cutting-edge technologies and algorithms to design, test, and document a software development project. The project should have educational or social value.

MANDATORY REQUIREMENTS

For participation in any digital event, chapter advisors are required to collect a completed TSA Student and Parent Consent and Release and Acceptable Use Policy form for each individual participating in a competitive event remotely, and sign off on this requirement upon affiliation. A link to the form can be found on the [TSA website](#).

ELIGIBILITY

One (1) team per chapter may participate.

ATTIRE

TSA competition attire is required for the semifinalist presentation/interview.

PREPARATION

- A. Participants concentrate their efforts on researching a societal need and developing a software project that addresses this need.
- B. Participants prepare for an online demonstration.

REGULATIONS AND REQUIREMENTS

Students will work to develop their leadership and 21st century skills in the process of preparing for and participating in this TSA competitive event. The development and application of those skills must be evident in their submission, demonstration, and/or communication pertaining to the entry.

- A. The Presentation/Interview
 1. Participant sign-up for a presentation/interview time via a submission link, which will be emailed to the chapter advisor.

2. Chapter advisors will be notified of the team's assigned time via email along with instructions and a link for the semifinal challenge.
3. Teams will designate one (1) representative to screen share and demonstrate the functionality of the software design to the judges
4. Participants are allotted a maximum of ten (10) minutes to present and respond to design questions.
5. Participants may refer to the display during the presentation/interview.

- B. Judges score the presentation/interviews.
- C. The top ten (10) finalists are announced via the TSA website.

EVALUATION

- A. The presentation/interview

Refer to the official rating form for more information.

STEM INTEGRATION

This event aligns with the STEM (Science, Technology, Engineering, and Mathematics) educational standards.

LEADERSHIP AND 21ST CENTURY SKILLS DEVELOPMENT

This event provides opportunity for students to build and develop leadership and 21st century skills including but not limited to:

- Communication
- Collaboration/Social Skills
- Initiative
- Problem Solving/Risk Taking
- Critical Thinking
- Perseverance/Grit
- Creativity
- Relationship Building/Teamwork
- Dependability/Integrity
- Flexibility/Adaptability

CAREERS RELATED TO THIS EVENT

This competition has connections to one (1) or more of the careers below:

- Graphic designer
- Software engineer
- Computer programmer

SOFTWARE DEVELOPMENT

2021 OFFICIAL RATING FORM

HIGH SCHOOL

Judges: Using minimal (1-4 points), adequate (5-8 points), or exemplary (9-10 points) performance levels as a guideline in the rating form, record the scores earned for the event criteria in the column spaces to the right. The X1 or X2 notation in the criteria column is a multiplier factor for determining the points earned. (Example: an "adequate" score of 7 for an X1 criterion = 7 points; an "adequate" score of 7 for an X2 criterion = 14 points.) A score of zero (0) is acceptable if the minimal performance for any criterion is not met.

Go/No Go Specifications

- Before judging the entry, ensure that the items below are present; indicate presence with a check mark in the box.
- If an item is missing, leave the box next to the item blank and place a check mark in the box labeled ENTRY NOT EVALUATED.
- If a check mark is placed in the ENTRY NOT EVALUATED box, the entry is not to be judged.

☐ ENTRY NOT EVALUATED

SOFTWARE DESIGN (70 points)				Record scores in the column spaces below.
CRITERIA	Minimal performance	Adequate performance	Exemplary performance	
	1-4 points	5-8 points	9-10 points	
Creativity (X2)	The work lacks creativity; it is evident there was little original thought in developing the project.	Some elements of creativity are expressed; the solution is somewhat original.	The work exudes creativity; the product is highly original.	
Software Coding Practices (X2)	The project is inadequately developed in terms of general software coding practices (requirements, design, implementation, and testing).	The project is developed following most general software coding practices (requirements, design, implementation, and testing).	The project is extremely well developed and follows general software coding practices (requirements, design, implementation and testing).	
Complexity (X2)	The software design exhibits little complexity.	The software design exhibits some degree of complexity.	The software design is complex, resulting in a highly functional product.	
Technical Skill (X1)	Little technical skill is exhibited in the software; the levels of software development are not fluid and/or are illogical.	Average technical skill is exhibited in the software's design and construction; the software flows somewhat effectively from level to level.	The software exhibits mastery of software design skill that few at this level possess; the software flow is constant and logical.	
SOFTWARE DESIGN SUBTOTAL (70 points)				

DEMONSTRATION (30 points)				Record scores in the column spaces below.
CRITERIA	Minimal performance	Adequate performance	Exemplary performance	
	1-4 points	5-8 points	9-10 points	
Organization and Knowledge (X1)	Participants seem unprepared and unorganized for the presentation and questions from judges; participants have very little understanding of the concepts in their project, and provide vague answers to judges' questions.	Participants are prepared for the presentation and answer questions adequately; all team members have a general understanding of the concepts discussed.	Participants' presentation is logical, organized, and effective; the team answers questions logically, thoughtfully, and with confidence; there is clear evidence that all team members have a thorough understanding of the concepts presented in their project.	
Articulation (X1)	Communication of the solution is unclear, unorganized, and or illogical; leadership and/or 21 st century skills are not evident.	Communication of the solution is somewhat logical and clear; leadership and/or 21 st century skills are somewhat evident.	The demonstration provides a clear, concise, and easy-to-follow analysis of the solution; leadership and/or 21 st century skills are clearly evident.	
Team Participation (X1)	Only one team member communicates with judges; there is no participation from other team members.	Team members participate somewhat equally and adequately understand the concepts of the project.	All team members fully understand the concepts of the project and share an equal role in answering judges' questions.	
DEMONSTRATION SUBTOTAL (30 points)				
Rules violations (a deduction of 20% of the total possible points for the above sections) must be initialed by the judge, coordinator, and manager of the event. Record the deduction in the space to the right. Indicate the rule violated: _____				
To arrive at the TOTAL score, subtract rules violation points, as necessary.				
TOTAL (100 points)				