OPEN SOURCE SOFTWARE DEVELOPMENT

OVERVIEW

Participants work as part of a team to participate in the development, debugging, and documentation of a new or existing open source software project. Through a multimedia presentation and entrant notebook, the team explains in detail how it has contributed to the project. The project should have educational or social value. Semifinalists demonstrate and promote their work in a timed presentation.

PURPOSE

Participants should utilize knowledge of cutting edge technologies, algorithm design, problem-solving principles, effective communication, and globally collaborative teamwork to create or improve upon an open source software project.

ELIGIBILITY

Participants are limited to one (1) team per chapter.

TIME LIMITS

A. Entries must be started and completed during the current school year.

B. Semifinalists are allowed up to ten (10) minutes for their presentation.

ATTIRE

Professional dress as described in Competitive Events Attire is the minimum requirement.

PROCEDURE

A. Teams submit their entries at the time and place stated in the conference program.

B. Entries are reviewed by evaluators. Neither students nor advisors are present at this time. A semifinalist list in random order is posted.

C. Semifinalist teams report to the event area at the time and place stated in the conference program.

D. Semifinalist teams give a presentation that showcases their team's work on their project and promotes the project both to expand end-user usage and attract future developers. Evaluators are free to ask questions.

E. No more than two (2) team members of the team pick up the entry from the display area at the time and place stated in the conference program.

REGULATIONS

A. A presentation CD/DVD and a three (3)-ring binder, with a clear front sleeve for a cover page, are required. The cover page must include the event title, the conference city and state, and the year. The inside of the binder must include following single-sided, 8½" x 11" pages, in this order:

1. Title page with the event title, the conference city and state, and the year; one (1) page
2. Table of contents; pages as needed
3. Research about the project and why the team felt it was important to be addressed; one (1) page
4. Description of the team's open source project, including the problem and the solution for the problem; one (1) page
5. Detailed explanation of the teams work; one (1) or more pages
6. Plan of Work log that indicates preparation for the event, as noted by date, task, time involved, team member(s) responsible, and comments (See Plan of Work log); one (1) page
7. Preview of the team's presentation (printout of screenshots or slides are recommended); one (1) or more pages
8. Team's evaluation of its work and the project's future prospects; one (1) page
9. List of references used for the project
10. The CD/DVD (in a CD/DVD sleeve) — attached to a sheet of paper in the notebook or slipped in the front inside pocket of the notebook. The team ID# must be indicated on the CD/DVD.

B. Participants must contribute to the design, development, debugging, and/or documentation of a completely open-sourced software project.

C. All notebooks and presentations become the property of TSA, Inc., and will not be returned after the event.

EVALUATION

Evaluation is based on the quality of work and overall benefit showcased in the participant notebook. Semifinalists will be judged on their multimedia presentation and their ability to promote their software project, both to expand end-user usage and attract future developers. See the official rating form for more information.

STEM INTEGRATION

This event aligns with the STEM educational standards noted below. Please refer to the STEM Integration section of this guide for more information.

Science, Technology, Engineering, Mathematics

PRIMARY LEADERSHIP SKILLS

Leadership skills promoted in this event:

- Communication — Students communicate with team members and other project developers, debuggers, and documenters. Suggested leadership lessons: *Fact Or Fiction* and *Promote It*
- Critical thinking — Students analyze and evaluate a problem in order to arrive at an acceptable solution. Suggested leadership lessons: *And the Answer Is* and *Figure It Out*
- Problem solving — Students design solutions to problems within open source software. Suggested leadership lessons: *Debate It* and *Effective Brainstorming*

Additional leadership skills promoted in this event: self-esteem, teamwork, organization, decision making, ethics, creative thinking, evaluation

TSA AND CAREERS

This competition connects to one or more of the career areas featured in the TSA AND CAREERS section of this guide. Use *The 16 Career Clusters* chart and the *TSA Competitions and The 16 Career Clusters* grid as resources for information about careers.

CAREERS RELATED TO THIS EVENT

Graphic designer
Software engineer
Technical writer

TECHNOLOGY STUDENT ASSOCIATION
PLAN OF WORK

Date	Task	Time involved	Team member responsible	Comments
1				
2				
3				
4				
5				
6				

Advisor signature _____

OPEN SOURCE SOFTWARE DEVELOPMENT
EVENT COORDINATOR INSTRUCTIONS

PERSONNEL

A. Event coordinator

B. Evaluators for notebooks, two (2) or more

C. Evaluators for semifinalist presentations, two (2) or more

MATERIALS

A. Coordinator's notebook, containing:
   1. Event guidelines, one (1) copy for the coordinator and for each evaluator
   2. Official rating forms
   3. List of entries with finalist report
   4. List of evaluators/assistants
   5. Pens for evaluators
   6. Semifinalist list for posting
   7. Results envelope

B. Chairs, one (1) per participant

C. Stopwatch for timing semifinalist presentations

D. Computer (laptop) for the semifinalist presentation

RESPONSIBILITIES

A. Upon arrival at the conference, report to the CRC room and check the contents of the coordinator's notebook. Review the event guidelines and check to see that enough evaluators/assistants have been scheduled.

B. Inspect the area(s) in which the event is being held for appropriate set-up, including room size, chairs, tables, outlets, etc. Notify the event manager of any potential problems.

C. One (1) hour before the event is scheduled to begin, meet with your evaluators/assistants to review time limits, procedures, and regulations If questions arise that cannot be answered, speak to the event manager before the event begins.

D. Check in the entries at the time stated in the conference program. Anyone reporting who is not on the entry list may check in only

after official notification is received from the CRC chairperson. Late entries are considered on a case-by-case basis and only when the lateness is caused by events beyond the participant's control. Requirements for attire do NOT apply during check-in.

E. Place an entry number on each presentation CD/DVD, and notebook. Position entries for evaluation and viewing by judges. Secure the entries in the designated area.

F. Evaluators independently review each entry and complete the official rating form.

G. For participants who violate the rules, the decision either to deduct 20% of the total possible points or to disqualify the entry must be discussed and verified with the evaluators, event coordinator, and a CRC manager; all must initial either of these actions on the rating form.

H. Evaluators average their scores to determine the twelve (12) semifinalists.

I. Prepare a list of the twelve (12) semifinalists in random order and submit it to the CRC chairperson for posting.

J. Inspect the area in which the semifinalist presentations are to be held. There must be seating for at least five (5) people at a table that has been set up with a computer and display.

K. Meet with your semifinalist evaluators to review time limits, procedures, and regulations. If questions arise that cannot be answered, speak to the event manager before the event begins.

L. Conduct semifinalist presentations/interviews. Evaluators should be sure to ask questions.

M. Evaluators average their scores to determine the ranking of the ten (10) finalists. Evaluators discuss and break any ties.

N. Complete and submit the finalist report, which includes a ranking of the ten (10) finalists, and all related forms in the results envelope to the CRC room.

O. Manage security and the removal of materials from the area.

Participant/Team ID# _____

OPEN SOURCE SOFTWARE DEVELOPMENT

2013 & 2014 OFFICIAL RATING FORM — **HIGH SCHOOL**

Documentation (50 points)

CRITERIA	Minimal performance 1-4 points	Adequate performance 5-8 points	Exemplary performance 9-10 points	Record scores in the column spaces below.
Evaluators: Using minimal (1-4 points), adequate (5-8 points) or exemplary (9-10 points) performance levels as a guideline, record the scores earned for the event criteria in the column spaces to the far 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.)				
Notebook components See Regulation A (X1)	The notebook is unorganized and/or is missing three or more components.	The notebook is somewhat organized, but it is missing one or two components.	The notebook is organized and complete and includes all required components.	
Research (X1)	The research is inadequate, and/or very few credible sources are referenced.	The research is adequate, but it includes only a few credible sources.	The research is comprehensive, and credible resources are included.	
Description of project (X1)	A description of the project, including an explanation of the problem and the solution for the problem, is poorly presented; many grammatical errors are present.	A description of the project, with an explanation about the problem and its solution, are over generalized, and/or not concise; some grammatical errors are present.	The description of the project is clear and concise and fully addresses the problem and solution; there are no or few grammatical errors present.	
Plan of Work log and self-evaluation (X1)	The Plan of Work log and the self-evaluation are incomplete and/or missing key components; there are a number of grammatical errors.	The Plan of Work log and self-evaluation are mostly complete, but they may be over generalized; there are some grammatical errors.	The Plan of Work log and the self-evaluation are complete and concisely written; they include the reflections of all team members.	
Multimedia presentation (X1)	The multimedia presentation adds little understanding to the project.	The multimedia presentation somewhat enhances the understanding of the project.	The multimedia presentation is effective and significantly enhances understanding of the project.	
			SUBTOTAL (50 points)	

Software Design (60 points)

CRITERIA	Minimal performance 1-4 points	Adequate performance 5-8 points	Exemplary performance 9-10 points	
Incorporation of design principles (X1)	The design does not incorporate, or considers as an afterthought, these design principles: alignment, consistency, contrast, unity, white space, balance, proportion.	The design is missing two or fewer design principles, but the overall design and layout are somewhat aesthetically pleasing.	All elements of design principles are included, resulting in an aesthetically pleasing design and layout.	
Complexity (X1)	The software design exhibits little original thought; it appears as a "bare bones" effort.	The software design exhibits some degree of original thought and complexity.	The software design is authentic and complex, resulting in a highly useful product.	
Aesthetics and artisanship (X1)	The work (layout) is sloppy and unorganized, with little or no attention given to aesthetics.	The work (layout) is somewhat organized, with some attention given to aesthetic details.	The layout/design is well organized and logical and communicates important information.	
Creativity (X1)	The work lacks creativity; very few design principles are integrated in the software design.	Some elements of creativity are expressed, but essential design principles are missing or are not used effectively.	The work exudes creativity; essential design principles and elements are integrated.	

OPEN SOURCE SOFTWARE DEVELOPMENT (continued)				
Software Design (60 points) (continued)				
Technical Skill (X1)	Little technical skill is exhibited in the software; levels of software development are not fluid and/or are illogical.	A beyond basic degree of technical skill is exhibited in the software's design and construction; the software flows somewhat effectively from level to level.	The software exhibits a level of mastery of open-source design skill that few at this level possess; the software flow is constant and logical.	
Effectiveness (X1)	The software design does not appropriately provide a solution to the intended problem.	The design loosely provides a solution to the intended problem, but it doesn't fully address the problem presented.	The solution to the problem is clear in the software design; the solution is at the forefront of software creation.	
			SUBTOTAL (60 points)	
Presentation (50 points)				
CRITERIA	Minimal performance 1-4 points	Adequate performance 5-8 points	Exemplary performance 9-10 points	
Organization (X1)	The team seems unprepared and unorganized for the presentation and interview.	The team is prepared but somewhat disorganized in its presentation to judges.	The team's presentation and interview with judges are logically organized and effectively presented.	
Clarity (X1)	The team's presentation is full of illogical thoughts that lack understanding and clarity.	The team's presentation is logical, though some points are confusing.	The team provides a concise, logical and clear explanation of the thesis and pertinent issues.	
Articulation (X1)	The presenters are verbose and illogical in the interview; many "uhs, ums, hmms," etc., are used.	Logical and well-spoken interview responses are evident, with few "uhs, ums, hmms," etc.	Team members are well spoken and distinct; clear interview responses are given, with very few, if any, "uhs, ums, hmms," etc.	
Team participation (X1)	Only one team member communicates with judges; there is no participation from other team members.	Team members participate equally, but only one member seems to fully understand the concepts.	All team members seem to fully understand the concepts and share an equal role in the interview.	
Knowledge (X1)	Team members seem to have very little understanding of the concepts in their project; they provide vague interview answers.	All team members have a general understanding of the concepts discussed and answer questions adequately.	There is clear evidence that all team members have a thorough understanding of the concepts presented in their project.	
			SUBTOTAL (50 points)	
OPEN SOURCE SOFTWARE DEVELOPMENT (continued)				

Rules violations (a deduction of 20% of the total possible points) must be initialed by the evaluator, coordinator and manager of the event. Record the deduction in the space to the right.

(To arrive at TOTAL score, add any subtotals and subtract rules violation points, as necessary. Check your math twice!) **TOTAL (160 points)**

Comments:

I certify these results to be true and accurate to the best of my knowledge.

Evaluator

Printed name: _____ Signature: _____