IEEE Region 3 SoutheastCon Student Software Competition

Guidelines

1. About the Competition

The Region 3 Student Software competition is held annually in conjunction with SoutheastCon. Student teams are presented with programming problems and asked to code solutions. The solution codes are judged according to the defined metrics of the problem. The goal of the competition is for students to demonstrate general programming skills while learning new skills and having fun in a competitive environment.

1.1. Overview

The IEEE SoutheastCon 2024 Software Competition is open to student teams from universities within Region 3. Each student branch is allowed to send one team to the main competition bracket, but universities can also send additional teams to the open bracket. All team members must be registered for SoutheastCon by the start of the competition.

1.2. Purpose/Objectives

Allow students to demonstrate general programming skills while learning new skills and having fun in a competitive environment.

1.3. Format

Students can compete in teams of up to 3 undergrad students or 2 grad students. There is a finite number of resources and spots available for this competition. Each Region 3 branch is entitled to send one team for the main competition, securing a guaranteed spot. Additionally, branches have the opportunity to send extra teams to participate in an open bracket. Open bracket teams will be eligible to compete based on the availability of resources.

2. Rules and Regulations

2.1. Eligibility

- This competition falls under the Region 3 Student Activities Committee Student Competition Policy.
- Students can compete in teams of up to 3 undergrad students or 2 grad students.

2.2. Guidelines

- Discord will be used for responses to questions and clarifications to participants. A Discord for the 2024 competition will be available just after the end of the year's SoutheastCon conference.
- The use of any online AI tools such as ChatGPT or others is prohibited and will result in immediate disqualification from the competition.

2.3. Submission Requirements

Please include the following with your submission to receive full credit for all parts of your design process.

- System block diagram
- Hardware diagram
- Table with the following:
  - Functional requirement
  - Measurable variable
  - Threshold
  - Test result
  - Pass / Fail
- Code
  - Provide well-commented Arduino code
- Video Demonstration
  - Record a short video demonstrating your system in action

2.4. Timeline

Differs each year.

2.5. Judging Criteria

The judging rubric may be defined based on the theme of the competition each year.

Disqualifications may be made by mutual consent of the judging panel and Head Judge. Causes include but are not limited to, unethical behavior during the competition and academic dishonesty.

All judge decisions are final. Due to time constraints of the conference, there will be no opportunity for debate on rulings.

- Requirements (10) - The alignment of the chosen requirements with the stated project goal
- Measurable Variables (10) - How well the selected measurable variables prove that the chosen requirements are met
- Functionality (10) - The overall extent to which the project functionally performs its stated goal

2.5. Judging Criteria

- System Design and Complexity (10) - The ingenuity and engineering proficiency displayed in designing the project to solve a specific problem
- Test Data (10) - Proof of Meeting Requirements
- Clarity and Intuitiveness (5) - The effectiveness and user-friendliness of the system
- System Efficiency (4) - Effective use of components to achieve optimal functionality with minimal complexity
- System Creativity (4) - Innovative software design that enhances the system's capabilities beyond basic requirements
- Build Quality (4) - The physical durability and reliability of the project
- Assembly (4) - Neatness and robustness of the physical prototype, including software coding format and readability, sensor placement, wire management, and component layout
- Design Aesthetics (4) - Visual appeal of the system, including the enclosure and arrangement of interface elements like sensors, switches, and indicators
- Cybersecurity (Up to 10 Bonus Points) - The bonus points for cybersecurity are discretionary and awarded for exceptional features that significantly enhance cybersecurity of the system

3. Logistics

3.1. Registration Process

Competition registrations happen through a Google form in the format of this Team Registration Form.

There are two registrations that students need to be aware of; conference registration and competition registration. All students competing in student competitions must register for both the conference and the competition. Information for both registrations is as follows:

- Conference registration (i.e. IEEE SoutheastCon registration)
  - Each member must register for the conference registration.
- Student Hardware Competition Registration
  - There are no fees for students to register for this competition (aside from the costs for students to register for the conference).

3.2. Location

The competition will be held on-site at the SoutheastCon.

Onsite Student Competition participant (one per branch) at $50/day, 2.5 days maximum. Further details on funding support can be found at https://ieeesoutheastcon.org/travel-and-funding-support/.

3.3. Requirements

-

3.4. Awards

This competition will have a first--, second-, and third-place winner.


IEEE
CHALLENGE
SPHERE