Computer Game & Simulation Programming

Interactive computer games and simulations have achieved broad acceptance and implementation in a wide variety of business and educational disciplines. Buried within many of these programs is a message that advances the player's experience from simple entertainment to edutainment. This event tests the programmer's skill in designing a functional interactive simulation/game that will both entertain and educate/inform the player.

Competencies

This event consists of two (2) parts:
- a pre-judged program
- performance component

Project Competencies
- program addresses the topic and is appropriate for the audience
- required information is effectively communicated
- user interface is intuitive and responsive to program operations
- navigation is logical and designed to lead the player to the intended objective
- program demonstrates a finished and well-tuned product free of artifacts and glitches
- gameplay incorporates both entertainment and edutainment play within topic specifications
- game world graphics, text treatment, and special effects show creativity and cohesiveness of design
- artistry, character, overall layout, color choice, and design is creative and appealing to the target audience
- program contains some element of skill, chance, competition or random actions that will inspire replay more than once
- player interactions with other characters, objects, obstacles, and iconic graphics are appropriate to the topic and create a feeling of immersion within the game world
- storyline is sufficient to engage player and communicate a clear thought process and an intended, planned direction with formulation and execution of a firm idea
- player tasks are non-trivial and receive appropriate rewards
- copyright laws are followed
- programming code is adequately commented and follows a logical order. Each module can be identified and understood.

Performance Competencies
- explain content logically and systematically
- understanding of the programming logic and coding is evident
- design process is effectively communicated
- tips, techniques, and tools used are presented including identifying the most difficult programming task(s) completed and explanation of the scenario/logic used to overcome and implement these tasks
- presentation is professionally presented
- self-confidence apparent through knowledge of the content and articulation of ideas
- answer questions effectively

Business Education Curriculum Standard(s):
Information Technology; Management

2018 Topic

A sandbox is a style of game in which minimal character limitations are placed on the gamer, allowing the gamer to roam and change a virtual world at will. In contrast to a progression-style game, a sandbox game emphasizes roaming and allows a gamer to select tasks. Instead of featuring segmented areas or numbered levels, a sandbox game usually occurs in a "world" to which the gamer has full access from start to finish. Create an original sandbox-style game that revolves around a year in the life of a typical FBLA member and the varied activities that he/she can become involved in; such as competitive events, fundraising, community service, national membership programs, and national recognition programs. The game must:

♦ Run on a PC using Windows 7 or newer
♦ Be virus and malware free
♦ Run solely by keyboard stroke
♦ Qualify for a maximum ESRB rating of E10+

State Eligibility

Each local chapter may enter two (2) programs. One member or a team of up to 3 members may create the program. The local chapter must be on record in the Pennsylvania state and the FBLA-PBL national offices as having paid dues by January 31 of the current school year. **Members participating in this event may not compete in another competitive event at a Region Leadership Conference.**

In the event of a team entry, no more than one (1) member may have submitted a project for judging at a previous State Leadership Conference. A member who has competed as an individual in an individual/team event (1-3) may compete again in the same event as a team member the following year, not as an individual. If a member is competing as part of a team and members withdraw from the team leaving that member as the only remaining competitor, he/she may not compete/advance to the next level if the member competed as an individual in prior years.

The top 10 rated programs from among those submitted will be required to give an oral presentation at the SLC.

The Statement of Assurance and event entry form must be submitted with the pre-judged program.

At the State Leadership Conference, the chapter adviser must confirm students' participation in the event. Participants who are not confirmed will be disqualified.

State Regulations

Prejudged Program

1. The participant may choose any programming language or game/animation engine to create a stand alone executable program that will display creativity, programming skill, and convey the message of the topic.

2. The program must contain minimally the following:
   a. Minimum of five missions/tasks/levels to be completed before winning or completing the game.
   b. Must be graphical in nature, not text based.
   c. An initial title page with the game title, user interface control instructions and active buttons for Play and Quit.
   d. A quit command programmed to the escape key. This is needed if the player wants to end the game before completing.

3. The upload must contain the executable object, data, or support files needed to run the executable file, and files showing the programming code (can be text or flowchart files that can be opened using Microsoft Office 2007), must be received by the due date along with the Statement of Assurance and event entry form.

4. All data and programs should be contained in a master folder named STATE_SCHOOL where your state and school are listed in that folder name format. Outside of the master folder, create a shortcut to the executable file. If the program requires a runtime player, create a shortcut outside the master folder to launch the runtime player installer.

5. Program must run on Windows XP or higher computer.

6. Data must be free of viruses/malware. Any entry with contaminated data will not be judged.

7. Program produced for this event must be prepared by the participant(s) without help.

State Procedure
1. The event consists of two parts: (1) submission of a program, and (2) performance.

2. At the State Leadership Conference, the chapter adviser must confirm students' participation in the event. Participants who are not confirmed will be disqualified.

3. Participants are required to complete both parts to be eligible to win an award.

Preconference Requirements
1. The participant(s) must submit the following items:
   a. An event entry form, which is posted on the PA FBLA web site, certified by the local chapter adviser.
   b. Statement of Assurance.
   d. Programs must be uploaded by the chapter adviser and received by the deadline posted on the www.pafbla.org website. Chapter advisers must request Dropbox access from the PA FBLA Executive Director prior to the deadline; specific instructions regarding the upload will be sent directly to the chapter adviser.

2. **The materials must be received by the PA FBLA Executive Director/State Chairman by the deadline date published at www.pafbla.org/importantdates.php, which is posted on the PA FBLA web site. Failure to submit these documents by the received by date will result in the participants being disqualified**.

Oral Presentation
1. The top ten (10) individuals or teams will be scheduled for a final presentation at the SLC.

2. Presentation of the entry must be conducted by participants who authored the event. In the case of a team event, at least one author must give the presentation. However, all team members who wish to be recognized as state winners must register for the SLC. No replacements or substitutes will be allowed.

3. Five (5) minutes will be allowed to set up and remove equipment or presentation items.

4. The chapter must provide the computer for the event. A LCD projector, screen, table, and electrical power will be provided on-site. Participants that will be utilizing Apple products or other devices that do not have a VGA port will need to provide their own adapters.

5. The participant(s) is responsible for bringing a copy of the program.

6. Visual aids related to the project may be used; however, no items may be left with the judges or audience.

7. The individual or team members must perform all aspects of the presentation (e.g., speaking, set-up, operating audiovisual equipment). Other representatives of the chapter may not provide assistance.

8. All individuals or team members are expected to actively participate in the performance.

9. Teams will have seven (7) minutes to present the program.

10. At the end of six (6) minutes, a timekeeper will stand until noticed and hold up a colored time card indicating one minute is left, and at seven (7) minutes the timekeeper will stand and hold up a colored time card indicating time is up. When the presentation is finished, the timekeeper will record the time used, noting a deduction of five (5) points for any time over seven (7) minutes.

11. Following each presentation, the judges will conduct a three-minute (3) question-and-answer period.

12. The performance is open to all conference attendees, except performing participants of this event. If participants of the event view other presentations before or after their scheduled presentation time, they (or their team if they are part of one) will be disqualified.

13. **The participant must comply with the PA FBLA Dress Code which can be found at www.pafbla.org/dresscode.php. If the participant does not comply, he or she will not be admitted to the oral presentation areas until he or she is in compliance.**

State Judging

Reports will be screened to determine if chapters have complied with event eligibility and regulations. A panel of judges will then select the winners, and all decisions of the judges are final.

If there is a tie after the pre-judged program in order to determine the top 10 finalists for the SLC, ties will be broken based on the following:

First Tiebreaker
- Total points of the *Game Play Evaluation* section on the Production Rating Sheet.

Second Tiebreaker
- Total points of the *Game Concept and Design Evaluation* section on the Production Rating Sheet.

Third Tiebreaker
- Total points of the "Storage media, uploaded folder, and shortcuts formatted properly" category within the *Program Usability and Support* section on the Production Rating Sheet.

If there is a tie after the pre-judged program portion and the oral presentation portion of the event, ties will be broken based on the following:

First Tiebreaker
- Total points of the *Production* Rating Sheet.

Second Tiebreaker
- Total points of the *Content* section on the Performance Rating Sheet.

Third Tiebreaker
- Total points of the "Demonstrates the ability to effectively answer questions" section within the *Delivery* section on the Performance Rating Sheet.

Tiebreaker implementation examples can be found in this handbook or at www.pafbla.org/tiebreakers.php.

State Awards

The state will present a maximum of ten (10) awards at the State Leadership Conference.

National Conference Eligibility

The first-, second-, third-, and fourth-place award winning projects at the State Leadership Conference are eligible for entry at the National Leadership Conference. All NLC qualifiers will be expected to present a seven-minute (7) oral presentation of the program at the NLC. Advisers and participants should refer to the latest edition of the National Chapter Management Handbook for official National Leadership Conference event guidelines.

In the event that the local chapter of the first-, second-, third-, or fourth-place winning program cannot attend the National Leadership Conference or does not wish to have its program submitted for competition at the National Leadership Conference, it is the responsibility of the:

local chapter adviser
- to contact the PA FBLA Executive Director/State Chairman about not participating at the National Leadership Conference.

PA FBLA Executive Director/State Chairman
- to contact the next eligible award winner about participating at the National Leadership Conference.

COMPUTER GAME & SIMULATION PROGRAMMING
Production Rating Sheet
Revised 2017-18

	Not Demonstrated	Below Expectations	Meets Expectations	Exceeds Expectations	Points Earned
Program Usability and Support					
Storage media, uploaded folder, and shortcuts formatted properly	0	1-7	8-14	15-20	
Instructions clear and executable launches from shortcuts without modifications	0	1-7	8-14	15-20	
User Interface and navigation	0	1-7	8-14	15-20	
Errors did not crash the project or prevent use	0 Errors prevented use of program	10 Contains errors, but did not prevent execution of program		20 No errors existed	
Project Concept & Design					
Fully address the concept and/or topic	0	1–3	4–7	8–10	
Color, backgrounds, font, and sounds are appropriate for the concept/topic	0	1–3	4–7	8–10	
Graphics appropriate for concept and/or topic	0	1–3	4–7	8–10	
Title slide functions and provides working instructions	0	1–3	4–7	8–10	
Code is written correctly	0	1-7	8-14	15-20	
Project Evaluation					
Quality of rules and accuracy of code identifying rules	0	1–7	8-14	15-20	
The game is challenging but can be completed	0	1-7	8-14	15-20	
Player immersion and experience	0	1-7	8-14	15-20	
Subtotal					**/200 max.**
Penalty Points Deduct five (5) points for not adhering to Guidelines					
Total Points					**/200 max**

Name(s): _____

School: _____   Region: _____

Judge's Signature: _____   Date: _____

Judge's Comments:

COMPUTER GAME & SIMULATION PROGRAMMING
Performance Rating Sheet
Revised 2017-18

Expectation Item	Not Demonstrated	Below Expectations	Meets Expectations	Exceeds Expectations	Points Earned
Demonstrates understanding of the event topic	0	1	2-3	4-5	
Describes design software selection and identifies reasons for selecting that software	0	1-7	8-14	15-20	
Explains the planning process used to design the game through planning documents such as storyboards, flowcharts, etc.	0	1-5	6-10	11-15	
Explains program modules, structures, and commenting	0	1–3	4–7	8–10	
Describes user interface (input/output parameters)	0	1-3	4-7	8-10	
Describes the game flow, the user experience, and the end result	0	1-7	8-14	15-20	
Delivery Skills					
Statements are well-organized and clearly stated	0	1	2-3	4-5	
Demonstrates self-confidence, poise, assertiveness, and good voice projection	0	1	2-3	4-5	
Demonstrates the ability to effectively answer questions	0	1–3	4–7	8–10	

Subtotal	**/100 max.**

Time Penalty Deduct five (5) points for presentation over seven (7) minutes. Time:

Dress Code Penalty Deduct five (5) points when dress code is not followed.

Penalty Deduct five (5) points for leaving materials.

Total Points	**/100 max.**
Prejudged Score	**/200 max.**
Final Score (add total points and prejudged score)	**/300 max.**

Name(s): _____

School: _____ Region: _____

Judge's Signature: _____ Date: _____

Judge's Comments: