

3-D Visualization and Animation NYS



PURPOSE

To evaluate each contestant's preparation for employment and to recognize outstanding students for excellence and professionalism in the field of 3-D visualization and animation.

ELIGIBILITY (Team of 2)

Open to a team of two active SkillsUSA members enrolled in programs utilizing 3-D imaging and animation as a career objective.

CLOTHING REQUIREMENT

Men: Black dress slacks; white dress shirt; plain black tie with no pattern or a SkillsUSA black tie. Black socks and black shoes

Women: Black dress slacks or skirt (knee length), with businesslike white, collarless blouse or white blouse with small, plain collar that may not extend onto the lapels of the blazer; black sheer or skin-tone hose and black low heel shoes, that are not backless or open toe.

Note: Contestants must wear their contest clothing to the contest orientation meeting. Also bring #2 pencil, resume, and safety assurance form.

EQUIPMENT AND MATERIALS

1. Supplied by the NY chair/committee:
 - a. Space for practical development including table space for two personal computers, and two chairs.
 - b. 110-volt electrical outlet
 - c. Three 24" x 36" sheets for concept art and storyboard layout.
 - d. 64 GB USB3 drives to be available for contest practical submissions.
2. Supplied by the contestants:
 - a. Two complete graphics stations including personal computers, monitors, and input devices. Contestants may use any brand or type of personal computer from any source. Software must be preloaded and configured. Contestants should test the system carefully prior to

the competition. Limited on-site technical assistance will be available at set-up and on contest day. The computer hardware must meet or exceed the minimum recommended system requirements from the manufacturer of the software of choice.

We strongly recommend that the minimum requirements are exceeded and recommend configuration are used whenever possible. For example, Autodesk's 3ds Max minimum requirements are found at this link: <http://tinyurl.com/3ds-MAXrequirements-SkillsUSA>

- b. Contestants may bring the software of their choice. Software package(s) must be capable of producing both 2-D and 3-D renderings and animation
Note: Proof of licensing for software programs installed on the contestants' computers must be provided to the contest committee at the orientation meeting.
- c. Two 8' multiple-outlet surge protectors and 25 ft. extension cord
USB drives with acceptable capacity to hold the stills and animations that are to be turned in for judging. Other media storage devices such as ZIP drives and DVDs are acceptable, but USB drives are preferred.
- d. Paper and art supplies for storyboard development to include colored pencils, two 11"x17" tablets, chalk, glue stick, charcoal and regular pencils. These supplies are subject to approval of the contest chair committee.
- e. Contestants may bring published reference books and software manuals. Reference materials may not take up more than 1/2 cubic foot of space per team member (total of 1 cubic foot).
- f. All competitors must create a one-page résumé and submit a hard copy to the technical committee chair at orientation. Failure to do so will result in a 10-point penalty.

Note: Your contest may also require a hard copy of your résumé as part of the actual contest. Check the

Contest Guidelines and/or the updates page on the NYS SkillsUSA Web site:
<http://www.nysskillsusa.org/>

SCOPE OF THE CONTEST

The contest is defined by industry standards as set by the current technical standards within the industry. The **contest is a two-person team event** and tests technical knowledge, production skills, creative/artistic abilities and storyboarding.

Knowledge Performance

The contest will include a written exam assessing technical knowledge, production skills and creative/artistic abilities.

Skill Performance

The contest is a two-person event assessing the ability of the team to produce high-quality images and an animated short subject using 3-D computerized images. A practical visual design problem will be given, the scope of which should be viable within the seven-hour practical competition period. The problem will consist of a topic to communicate, its context and target audience, a rough script to follow, and an emotion or graphical effect that should be illuminated in the still and animated output.

Contest Guidelines

1. Preparation of the animation must include the development of a storyboard. However, in the real world the final output is of paramount importance and the storyboard only a means to that end. So, the storyboarding process will be used to judge contestants on:
 - a. Teamwork skills
 - b. Ability to creatively reach consensus on a design solution
 - c. Ability to organize their efforts
Ability to verbally and visually express ideas between team members and to the client (in this case, the judges)
2. Three to five still images from varied scenes and perspectives must be rendered with and without wireframe in 1080p resolution (1920x1080 pixels) and true color (24, 32 or 64 bits per pixel) and submitted to the judges' station on a

USB drive or other acceptable media at the completion of the practical competition. Still images must be output to either: TIF(F), TGA, PNG or JPG. These images should clearly show superiority in modeling, texturing, lighting and composition.

3. Render animation at 720p resolution (1280x720 pixels) and medium color depth (16 bit) for playback (with a minimum length of 15-second/450 frames or as specified in practical instructions). Animation must be output to either Microsoft Movie (AVI) or Macintosh QuickTime (MOV) files or MPEG-4 (MP4, M4A) and submitted to the judges' station on a USB drive or other acceptable media at the completion of the practical competition. The animation should clearly show superiority in composition, staging and the use of motion and object manipulation over time. Anticipation and scene transitions, object stretching and squashing and/or other techniques should be employed to create a sense of realism or graphic impact as defined by the visual design practical problem.
4. During the contest, the contestants will work as a team. No assistance will be given by other teams, instructors or observers. Limited technical assistance for computer or software malfunction may be given by appropriate manufacturers' representatives.
5. Teams will each be given the same amount of time to accomplish the problem. Everyone will begin at the same time and take a required lunch break, and no one will be allowed to work past the contest conclusion.
6. The chair committee reserves the right to videotape the animation.
7. The technical committee will be responsible for not only developing the practical for the competition, but also for developing the evaluation tool by which to objectively measure competitors' performance. Judging criteria will be general in nature and will be done from the completed storyboard, still images and animation. Specific criteria will be based on the demonstration of competency in those elements of design, animation and clearly depicting the theme. Emphasis in judging

will be placed on the graphical impact and effectiveness in addressing the design problem. Some areas for consideration include:

- a. Planning—The storyboarding process, the degree to which the output images/animation clearly and creatively communicates the solution to the problem without the benefit of support materials
 - b. Modeling—Creation of 3-D objects. The degree to which the animation realistically and accurately portrays something about the problem
 - c. Animating—Defined motion of objects
 - d. Rendering—Final rendered output. A quality measured in terms of how well directions are followed in telling the story, the visual impact of the problem solution and the judges assessment of the design, revision, final editing and presentation of the design problem's solution
 - e. Originality—Creative techniques
 - f. Illustration of the theme—An overall measurement of the distinctiveness of submitted output, including the degree to which the use of technology, aesthetics, lighting and composition demonstrate development of a superior product
8. The setup, configuration and tear-down of all contestant-provided equipment will be the responsibility of the team.

Standards and Competencies

VA 1.0 — Solve a problem or tell a story in a two-dimensional format

- 1.1 Identify previsualization and/or storyboard design techniques
 - 1.1.1 Define how a problem will be solved or how a story will be told without the benefit of support materials
 - 1.1.2 Describe the concept with enough artistic depth visually and verbally to allow the viewer to accurately visualize the final 3-D output.

VA 2.0 — Model a computer-generated object

- 2.1 Create three-dimensional objects using

the appropriate technology

- 2.1.1 Apply geometry-deforming methods to create computer-generated models that possess shape, color, materials and surface maps
- 2.1.2 Create models that are photo-realistic, artistic and/or graphically pleasing

VA 3.0 — Create a three-dimensional scene

- 3.1 Light, animate and render a scene, including created model(s)
 - 3.1.1 Apply appropriate light and shadow to models and surfaces in a scene to convey the proper level of realism
 - 3.1.2 Assign motion to objects and/or cameras in a scene
 - 3.1.3 Use bones, links and other forward and inverse kinematics to create complex animation of created objects
 - 3.1.4 Create cameras, with or without motion attached, to properly view a scene
 - 3.1.5 Create the final rendered output of a high-quality scene to a still image or animation using appropriate rendering technology

VA 4.0 — Demonstrate originality and creativity in telling the story

- 4.1 Create a final product that has an emotional impact on the viewer
 - 4.1.1 Select aesthetically pleasing elements
 - 4.1.2 Select elements that will evoke an appropriate emotional response from the viewer

VA 5.0 — Demonstrate the ability to work in a team environment

- 5.1 Cooperate with others to achieve the solution to a problem or convey a story
 - 5.1.1 Demonstrate consensus-building skills
 - 5.1.2 Apply verbal and visual communication skills to convey ideas between team members and to a client