APRIL 10, 2025
27th ANNUAL SKILLS MANITOBA COMPETITION
CONTEST DESCRIPTION

CONTEST NAME: 3D Game Art

CONTEST NO: 50

CONTEST LOCATION:
Sisler High School
1360 Redwood Avenue
Winnipeg, Manitoba
Room 58

CONTEST START TIME AND DURATION:

Time	Task
8:00 am - 12:00 pm	Orientation 8:00-8:15AM 8:15AM Hand in concept art model sheets. (Created prior to contest and submitted at beginning of contest as PNGs. Production time – modelling modules due at 12:00pm
12:00 pm - 12:30 pm	Lunch (provided)
12:30 pm - 2:30 pm	Competition 2 hours Production time UV mapping and Model Surfacing
2:30 pm -3:30 pm	Judging

PURPOSE OF CHALLENGE:
To provide competitors with the opportunity to experience the 3D Game Art production process and demonstrate their knowledge and skill. The 3D Digital Game Artist takes a designer's brief and, through a combination of conceptualization, creativity, selectivity, technical, and specialist skills, completes the brief to the satisfaction of the client.

Competitors will be given 6 hours to develop and present assets including models, UV maps, and surfaces. Concept art will be prepared **prior** to the contest start. All models will be presented in Sketchfab for final presentation.

Your models should follow the design aesthetic detailed in this document. The individual models should use no more than 6,000 polygons (tris) each. Individual texture maps should be no more than 2K (2048 x2048) pixels each.

Task:

You will model, UV map and texture the assets as described in this document. The intention of this competition is to create original artwork. All assets must be created on site during the competition except for the model sheets (concept art) which should be done before the competition but must be submitted as digital PNG files at the beginning of the competition. All concept models must be clearly labeled and have 3 views (2 orthographic and 1 perspective), on the same page. **No AI tools are to be used for any asset, drawing, material, texture, or models created for this contest.**

Your concept art, surface materials, and models can be created in any 3D and 2D software combination you are familiar with but must be exported into Sketchfab for judging. Note: You should be familiar with uploading files Sketchfab and ensuring your model, textures, and lighting are optimized.

OVERVIEW

During this competition, you will be challenged with **5** modules to demonstrate your skills. Each module will be judged independently. Each module will have a distinct submission requirement. For the final module, you will combine your results from each of the modules to create a final scene. These separated modules will allow you to demonstrate your skills in each area.

MODULES

1. **CONCEPT ART**-Your ability to create concept art based on a design brief.
2. **MODELLING**-Your ability to model a hard surface object and a sculpted organic object.
3. **UV MAPPING and SURFACING -**Your skill with UV unwrapping. Your ability to texture models.
4. **EXPORT AND PRESENTATION**-Your skill to publish your files onto an online platform.

Competitors will be given **6** hours to model, UV map, surface, and combine all created and provided assets into a completed Sketchfab scene.

Design Brief:

Chinese Cultural Icons

This year's theme draws style inspiration from the game **Black Myth: Wukong**. You will create a small scene with Eastern aesthetics depicting two models that are representative of Chinese Culture.

Assets:

1. **The Wealth Bowl**, also known as a Prosperity Bowl, is a traditional symbol of prosperity and abundance in Chinese culture. Competitors should design the bowl with cultural authenticity while allowing room for creative detailing and interpretation.

Design Elements:

- The bowl should have a wide, round shape with an ornate, flared rim.
- It should appear nearly overflowing with coins and Sycees (gold ingots used in ancient China).
- The exterior surface must feature raised relief patterns of symbolic motifs, while the interior should remain smooth.

Symbolic Motifs (Choose from the following):

- Coins with square holes – Representing wealth and prosperity.
- Chinese characters for wealth and good fortune, such as:
- “福” (Fú) – Meaning fortune.
- “财” (Cái) – Meaning wealth.
- Stylized cloud patterns, symbolizing good fortune and continuity.
- Dragon or phoenix motifs, representing power, harmony, and balance.
- Floral elements, such as peonies, which symbolize prosperity and nobility.

2. **Pagoda Model Brief:**

Competitors will create a miniature Chinese pagoda, a revered symbol of enlightenment and protection in Chinese culture. The pagoda should be designed as a decorative piece, traditionally crafted from gold, silver, or jade, and intended for display on a desk or in a cabinet. The model should consist of a primary material for the structure and a contrasting material for the base, representing materials such as stone, wood, or metal.

The pagoda should follow traditional multi-tiered Chinese architecture.

Structural Elements:

1. Base:

- The base should be **square or octagonal,** providing a stable foundation.
- It must include **stepped levels** leading to the main structure, using a contrasting material such as:
  - **Stone:** For a traditional, grounded aesthetic.
  - **Wood:** Offering a warm, authentic appearance.
  - **Metal:** Providing a more ornate, reflective quality.

2. Body (Levels/Tiers):

- The pagoda should feature **3 to 5 tiers,** each progressively smaller as they ascend, maintaining proper proportions.
- Each tier must incorporate the following architectural elements:
  - **Eaves with upturned corners,** characteristic of traditional pagodas.
  - **Small bells,** delicately positioned at each eave corner to enhance visual interest.
  - **Pillars and railings** between levels, contributing to the overall complexity and realism of the model.

3. Roof:

- The roof should feature **layered, tiled sections** that define the multi-tiered aesthetic.
- Competitors must incorporate a **spire at the top,** commonly found in traditional pagoda designs.
- Additional decorative elements such as **finials or ornaments** may be added to enhance authenticity and detail.

Technical Considerations:

- **Model Complexity:** Maintain balanced polygon distribution, focusing on efficient topology for clarity and detail.

- **Scale Considerations:** Ensure the proportions remain appropriate for a **miniature display piece** (e.g., desk-sized).
- **Materials:** Competitors should apply simple materials without textures, relying on surface properties such as reflectivity and roughness to define the materials visually.

MODULE 1 - Concept Art:

Create two full-color model sheets displaying front, side, and ¾ views of the **Wealth Bowl** and the **Pagoda**. The model sheets should include proportions, perspectives, and any color schemes to be used. The model sheets must be submitted as a PNG at the beginning of the competition.

Concept Art: You will arrive at the contest with your completed digital images displaying your model designs. See the model design brief below for visual direction for the concept art. All concept models sheets must be clearly labeled and have 3 views (2 orthographic and 1 perspective), rendered on the same page. Demonstrate your skills with proportions and shading to illustrate the models. Details, relative sizes, and colours should be represented. Concept Art Model sheets should be 4K (3840 x 2160 pixels) and submitted as PNGs.

MODULE 2 - Modeling:

Competitors will create a two 3D models. The model must aim to adhere to the style and technical specifications in the design brief. Competitors will be judged on polycount, geometry, and adherence to the design brief. Neither of your models may exceed the polygon budgets listed. *While the polycount limit is 150,000 tris per model, competitors are encouraged to optimize their models to achieve a balance between detail and performance. Excessive polygon use may not result in a better outcome. Game-ready assets often need to strike a balance between visual quality and performance. Consider edge flow, silhouette, and overall readability when deciding on polycount usage.*

Modelling

Model 1: Sculpture – Wealth/Prosperity Bowl
You are not tasked or given time to UV map this model. All components should materials but not a texture. Polycount budget is 150,000 Triangles.

Model 2: Hard Surface – Miniature Pagoda Model
You are not tasked or given time to UV map this model. All components should materials but not a texture. Polycount budget is 150,000 Triangles.

MODULE 3 - UV Mapping and Surfacing:

UV unwrap and surface ONLY the model provided for the competition. Ensure the UV shells are clean, even, and logically arranged. Seams should be hidden as much as possible, and texel density should be even. Judges will review the UV layout for proper alignment and minimal distortion.

UV Mapping

All competitors will be provided with the same unmapped model. Each competitor will demonstrate their ability to create a suitable UV map for the model. Each competitor will be

provided with the same UV Checker texture to apply to their mapped model to demonstrate texel density. See the last page of this document for a copy of the UV checker texture. Once mapped, submit a screenshot of the UV maps and a link to the published Sketchfab model displaying the UV Checker texture for judging.

Surfacing:

Competitors will add texture and surface details to the provided model according to a design brief provided during the event. All texture maps should be 2048x2048 resolution, and multiple maps (e.g., diffuse, normal, roughness) should be utilized to achieve a complete look. Each competitor will upload their surfaced model to Sketchfab and submit the link for judging.

MODULE 4 - File Management and Presentation:

Competitors must assemble their final files and organize them according to best practices. Competitors should ensure files are properly named and organized for submission.

Export and Presentation

Competitors will assemble a complete scene using their own models along with the surfaced model from Module 3. The final scene must be uploaded to Sketchfab, where competitors should optimize the visual presentation by applying appropriate materials, lighting, and rendering effects.

Key requirements for submission:

- Utilize proper lighting, camera placement, and presentation techniques to enhance the scene's visual appeal.
- Upload the final scene to Sketchfab and ensure it is publicly accessible.
- Submit the Sketchfab link for judging.

SKILLS AND KNOWLEDGE TO BE TESTED:

Employability Skills:	Preproduction:	Production:
Reading, problem solving, Critical thinking	Interpretation of a Design Brief	Preproduction, Planning
Time management	Creation of Concept Art	Asset Construction
Planning		Texture mapping & UV Unwrapping

Attention to detail		Exporting
		File Management
		Appeal of Final Product

POINT BREAKDOWN / 100 TOTAL:

POINT BREAKDOWN	/100
Design Brief Follow design brief specifications. Creative interpretation of the Design Brief.	10
Concept Art Create detailed and labelled model sheets with 3 views for each of the 2 models (One model sheet for each of the assets). These model sheets should be created prior to contest and submitted at beginning of contest as PNGs.	15
Modeling: You are asked to model separate 2 items. Model 1: mechanical firefly Model 2: steampunk leather hat	30
UV Map and Surfacing UV map and texture your models using your chosen workflow. 15 for UV maps 15 for textures	30
File Management Organisation of your folder, files, and textures	5
Presentation Upload your files to Sketchfab 15 minutes prior to the end of competition. Modify materials and lighting to enhance the presentation. Provide link to judges	10

Total	**100**

NATIONAL COMPETITION ELIGIBILITY:

A mark of **70% or higher** must be scored by the gold medalist in order to attend the National Skills Competition

EQUIPMENT, TOOLS, MATERIALS TO BE PROVIDED BY COMMITTEE:

The 3D Game Art competition will be BYOD, (Bring Your Own Device for each competitor.) No equipment will be supplied.

EQUIPMENT, TOOLS, MATERIALS TO BE SUPPLIED BY COMPETITOR:

Minimum suggested Hardware Requirements:
Desktop or laptop
• Intel Graphics Workstation i7 Quad Core Processors
• 1 TB HD • 16Gb RAM
• Dedicated video card (suggested 4GB) as approved by Autodesk
• Flat Panel Display 1920 X 1080
• Sound card
• Operating System –Windows 10 or Mac OSX
• WiFi enabled computer system.

Suggested software:
• 3D Software: 3D Studio Max, Maya, Blender.
• 2D Software: Adobe Photoshop or Illustrator. Autodesk Sketchbook. Krita, Clip Studio or GIMP, Zbrush, Substance painter.
• **Additional Equipment and material suggested.**
    • Tablet and driver (Driver compatible with your system)
    • Headphones
    • Pencils and erasers
• Required clothing (Provided by competitor)
    • No special requirements

WORKSITE SAFETY RULES / REQUIREMENTS:

No personal protective equipment required.

SPECIAL CONDITIONS / ADDITIONAL INFORMATION:

Consecutive translation If consecutive translation is required on site, the Skills/Compétences Canada Provincial/Territorial offices must advise Skills/Compétences Canada National Secretariat a minimum of 1 month prior to the competition or this service might not be guaranteed.

FAQ:

What do I design?
3D models and surfaces. Competitors will be given written descriptions of game assets.

How much time do I have?
During the 6-hour competition, all tasks must be completed by the end of the competition.

Can I use my own files?
Competitors are not permitted to bring their own files, rigs, materials, or maps for use during the competition.

Can I use the Internet as a resource?
Competitors can use the internet for general help or reference during the competition but may not receive online coaching.

Can I use my own tools?
Digital Drawing tools such as tablets are permitted. Contestants will be responsible for installation and troubleshooting their devices.

Can I use my cell phone during the competition:
During the competition you may use your cell only for listening to music or as an emergency resource.

What software should I use?
Remember you are providing your own computer and software. It is suggested t you use 3D software t you are licenced to use such as Maya, Blender, 3DS Max. Competitors need 2D software such as Adobe Photoshop or Krita. Competitors are responsible for their own IT support so ensure t everything works in advance.

Do I need to stay in the competition area the whole time?
Yes, during the competition all competitors must remain within the proximity of the competition area, as specified by the Technical Committee.

Can I communicate with my coaches, friends, and family during the competition?
Communication with non-competitors is not permitted during the competition through any means. (i.e. Cell phones, text, email)

THE IMPORTANCE OF THE SKILLS FOR SUCCESS FOR CAREERS IN THE SKILLED TRADES AND TECHNOLOGY:

In response to the evolving labour market and changing skill needs, the Government of Canada has launched the new Skills for Success (former Essential Skills) model defining nine key skills needed by Canadians to participate in work, in education and training, and in modern society more broadly. SCC is currently working with Employment and Social Development Canada (ESDC) to bring awareness of the importance of these skills that are absolutely crucial for success in Trade and Technology careers. Part of this ongoing initiative requires the integration and identification of the Skills for Success in contest descriptions, projects, and project documents. The following 9 skills have been identified and validated as key skills for success for the workplace: 1.Numeracy, 2.Communication, 3.Collaboration,

4.Adaptability, 5.Reading, 6.Writing, 7.Problem Solving, 8.Creativity and Innovation, 9.Digital

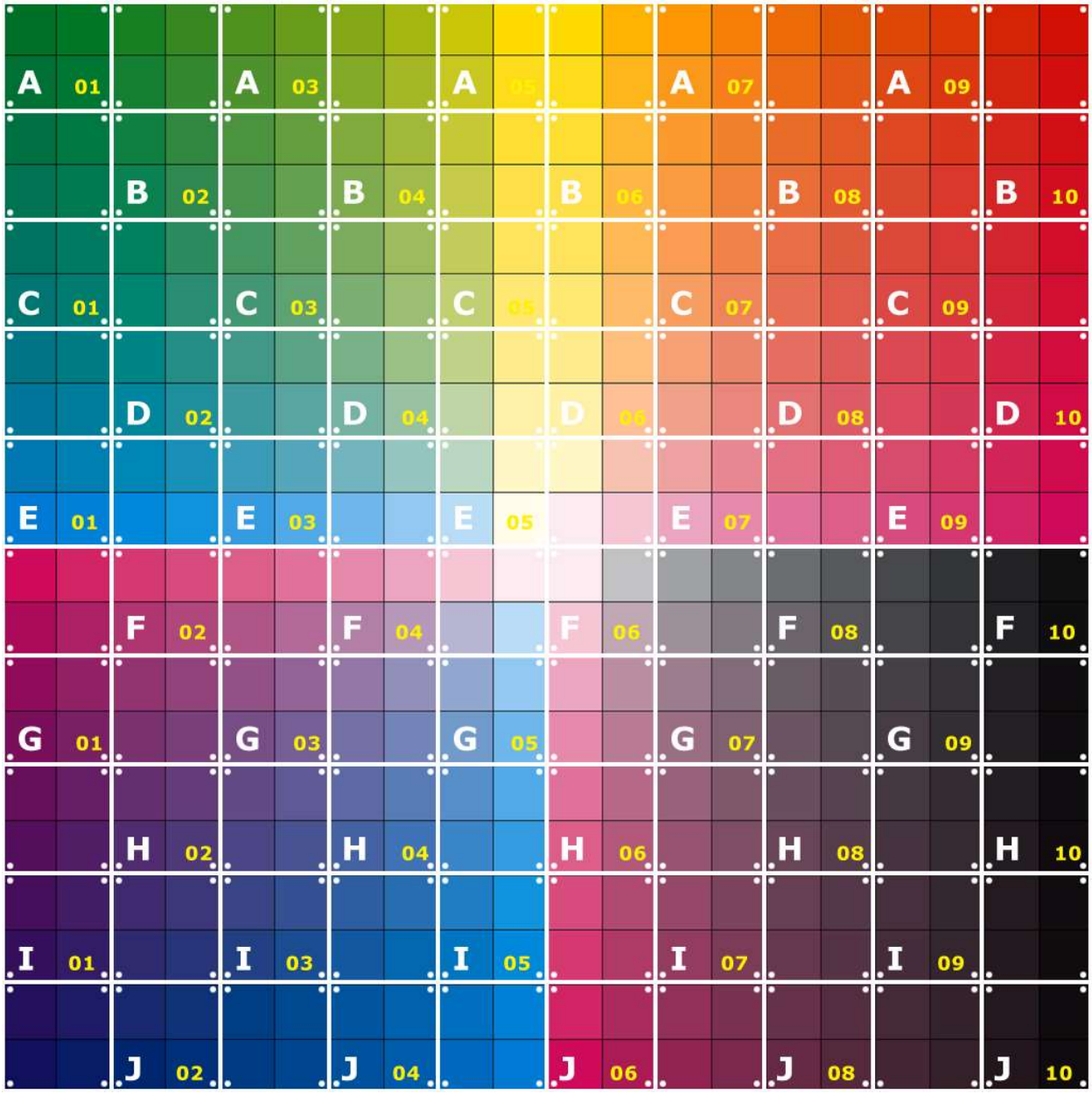
FOR MORE INFORMATION CONTACT TECHNICAL COMMITTEE MEMBER:

Derek Ford fordd@assiniboine.net

SCORESHEET:

A) Design Brief Follow Design Brief specifications	10%
Models, surfaces, and concept art follow design brief specifications. Creative interpretation of the design brief.	1 2 3 4 5
B) Concept Art Model Sheet (submitted at beginning)	15%
Model 1 sheet • Digital sketch is clearly labelled and illustrates the model in 3 views • Digital painting demonstrates perspective and proper proportion. • The final concept features blending/smoothing to represent form of the object • Shading techniques employed	1 2 3 4 5
Model 2 sheet • Digital sketch is clearly labelled and illustrates the model in 3 views • Digital painting demonstrates perspective and proper proportion. • The final concept features blending/smoothing to represent form of the object • Shading techniques employed	1 2 3 4 5
C-1) Modelling – Model 1	15%
Similar to model sheet Meets triangle budget. No N-Gons present Chamfered edges on any 90-degree edge Model's distribution of triangles is even across fixed areas and concentrated for areas of deformation and detail. Edgeflow follows the topology of the object.	1 2 3 4 5

C-2) Modelling - Model 2	15%
Similar to model sheet Meets triangle budget. No N-Gons present Chamfered edges on any 90-degree edge Model's distribution of triangles is even across fixed areas and concentrated for areas of deformation and detail. Edgeflow follows the topology of the object.	1 2 3 4 5
D-1) UV Unwrapping	15%
Model UV unwrapping Demonstration of UV unwrap tools: model has been unwrapped logically. Smooth and even UV shells: major asset has separate UV shells that represent understandable elements of the model Use of UV spacing to maximized texture sheet use without bleeding or overlapping.	1 2 3 4 5
D-2) Surfacing	15%
Model Surfacing Materials represent the model effectively. Surfaces describe materials realistically. The appropriate materials have been created for the surfaces. Textures look seamless on models, no obvious joins or breaks in texture. Surfaces are consistent with model sheets, surfaces conform to the overall requested art style. An appropriate variety of physical materials have been represented. Multiple surface maps have been used (normal, roughness, colour, etc.)	1 2 3 4 5
E) File Management	5%
Ability to follow instructions and deliver assets & files as directed. Files, folders, layers, and assets are clearly names and organised.	1 2 3 4 5
F) Presentation Uploading to Sketchfab & file management	10%
Models open and view without errors. Final product is enhanced with Sketchfab lighting to match design brief File is properly submitted on time to competition.	1 2 3 4 5
TOTAL	100%



Updated: December, 2024