



Skill India

कौशल भारत - कुशल भारत



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National
Skill Development
Corporation

Transforming the skill landscape



India **skills**

Test project: 3D Game Art

Category: Creative Arts and Fashion

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OBJECTIVE

The objective of this competition is to create asset (concept art, Sculpt, Game model, Texture, Rig and animate) like the given references.

BACKGROUND

The art direction of the world is stylized, cartoony look and feel with soft shading and a vibrant color palette. It is the fantasy world with humans and dragons somewhat parallel to Viking age. The Dragons have exaggerated features and proportions. Some of the dragon are gentle and consider humans as friends. Some of the humans also use them to ride in the sky.



THE BRIEF

During the course of this competition, you will be creating two asset that can be used in the game, in which player rides the dragon.

- A new Dragon
- A Saddle

DELIVERABLES OVERVIEW

Deliverables for this competition will include the following:

Concept art for the Dragon and Saddle

- A minimum of two digital sketches
- Final art 3840 x 2160px
- Assets list

Saddle Model

- Model with maximum of 10,000 triangles
- 1024 x 1024px texture map
- Ambient occlusion, normal and opacity maps
- Diffuse/Metal/Rough PBR

Dragon (feel free to give it a name)

- Model with maximum of 50,000 triangles
- 4096 x 4096px texture map
- Ambient occlusion, normal and opacity maps
- Diffuse/Metal/Rough PBR

Dragon Animation

- At least one animation for the tail and one for the head with a minimum of 3 bones, 1 for neck and 2 for the tail.

NOTE - ALL ASSETS ARE TO BE PLACED IN FOLDERS ON YOUR DESKTOP

DELIVERABLES SCHEDULE

DAY	DELIVERABLE	DESCRIPTION
1	Concept art and modelling	<ul style="list-style-type: none">• Concept art for the Saddle• Concept art for the Dragon• Assets list• Initial dragon modelling (not deliverable)
2	Modelling	<ul style="list-style-type: none">• Finish Dragon and saddle modelling• Start model game model.
3	UV mapping and textures	<ul style="list-style-type: none">• Refine the game models.• Unwrapping and texture maps of Saddle• Unwrapping and texture maps of the Dragon (Continued day 4)
4	Animation and engine	<ul style="list-style-type: none">• Finalize the Dragon texture• Animate some component and export to engine. Set up the materials and create a basic lighting rig

DAY 1 – CONCEPT ART AND MODELLING

DAY 1 OVERVIEW

The focus for the first day of the competition is to create the concept art for the Dragon and then the Saddle, and to start modelling it.

DAY 1 BRIEF

You will be creating both a *Dragon* and a *Saddle* during the competition, and **today you need to create the concept for the Saddle, the Dragon and start the modelling process**. Following this, you will need to create an Assets list for the competition, which should include:

- Names of Assets/Elements to be created
- Estimated Texture and triangle budgets for various elements (parts of the dragon, parts of the saddle)

Be adventurous in your designs. Get some inspiration from the images provided in this document. Mix your materials and textures to tell the story of the models and make sure you conform to the following guidelines:

- The Saddle and the Dragon should have a unique design and cannot be a copy of any of the images provided
- The saddle must show aged materials and wear and tear
- The design must belong to the given references and its general Art Direction and Style

Your concept must consist of:

1. 2 variation digital sketches, and
2. One final art piece (digital) at 3840 x 2160px

You should also begin modelling the Saddle,

In addition, you may wish to create a “place holder” dragon in the form of a cylinder, which will be refined on Day

DAY 1 DELIVERABLES

By the end of today, you will need to deliver:

1. Concept for the Saddle consisting of:
 - (a) At least 2 variation digital sketches
 - (b) Final art 3840 x 2160px
2. Concept for the Dragon consisting of:
 - (a) At least 2 variation digital sketches
 - (b) Final art 3840 x 2160px
3. Asset List with triangle and texture budgets for various elements of both the *Saddle and the Dragon*

NOTE – ALL ASSETS ARE TO BE PLACED IN FOLDERS ON YOUR DESKTOP



DAY 1 GENERAL GUIDELINES

DESCRIPTION
PSD tidiness - Named layers and sensible folder structure
Asset list written...
Including poly budgets and texture sizes
Digital sketch explores more than 2 ideas
Digital painting demonstrates shading
Digital painting demonstrates perspective
Digital painting indicates proportion
Consistent colour palette and lighting
1 selected design turned into a piece of art.
The final concept art features blending/smoothing to indicate form

DAY 2 – MODELLING (CONTINUED)

DAY 2 OVERVIEW

Day 2 is an intensive modelling day. You should finish modelling the Saddle, and build the base model for the Dragon

DAY 2 BRIEF

By the end of today, both the Saddle and the base model for the Dragon need to be modelled.

It is not important in which order you complete the models, as long as they are both ready for marking by the end of today. The Saddle should be sculpted and then retopologised, and must remain within the 10,000 triangle limit. Make sure you consider edge loops, and ensure you have enough topology where additional detail or possible deformation is required.

The base model of the Dragon has to be completed today and you may wish to start sculpting it but you will only be marked for the base mesh today.

UV unwrapping and texturing will take place on Day 3 but can also start today if you finish early.

DAY 2 DELIVERABLES

1. Model of Saddle – Maximum 10,000 triangles
2. Sculpt of Saddle – should be exported as a normal map
3. Base mesh of Dragon – Maximum 50,000 triangles

NOTE – ALL ASSETS ARE TO BE PLACED IN FOLDERS ON YOUR DESKTOP

DAY 2 GENERAL GUIDELINES

DESCRIPTION
Max/Maya scene organisation - only relevant assets in scene
Saddle sculpted then retopologised if needed
Topology and edge loop distribution for the Dragon. Consider areas that require deformation (+ same for Saddle)
Both 3d models conform to edge flow that accentuates the represented object (+ same for Saddle)
Dragon can be understood in silhouette only (+ same for Saddle)
Dragon is consistent with art style (+ same for Saddle)
No N-gons present on the major asset (+ same for Saddle)
No flipped normal present on the major asset (+ same for Saddle)
Chamfered edges on any 90 degree edge (+ same for Saddle)
Models utilise 90+% of the triangle budget (+ same for Saddle)
Models are within triangle budgets

DAY 3 – UV MAPPING AND TEXTURES

DAY 3 OVERVIEW

Today you will finish sculpting the Dragon, unwrap the UVs and texture both the Saddle and the Dragon.

DAY 3 BRIEF

Unwrap the Dragon and the Saddle onto separate texture sheets of 1024 x 1024px and 4096 x 4096px. Do not make the assets share 1 sheet.

Make the most out of each sheet – note that marks are awarded for the effective use of texture sheets.

Create stylized textures for each asset, though you may also paint details and create maps in Photoshop. Think about the variety of materials that may be used, for example neoprene rubber, plastic, metal, skin, teeth, make sure to follow the look and feel of the reference images.

DAY 3 DELIVERABLES

1. Texture maps for Saddle, Diffuse/Metal/Rough/Ambient Occlusion/Normal/Opacity maps
2. Texture maps for Dragon, Diffuse/Metal/Rough/Ambient Occlusion/Normal/Opacity maps
3. 2 Texture sheets – 1024 x 1024px and 4096 x 4096px
4. Dragon sculpt and Ingame model

NOTE – ALL ASSETS ARE TO BE PLACED IN FOLDERS ON YOUR DESKTOP



DAY 3 GENERAL GUIDELINES

DESCRIPTION
Aspect Ratio of texture sheets are correct - 4096x4096 & 1024x1024
PSD saved as PNG format and applied to model
UV Tidiness and Efficiency - Dragon
Smooth and even UV shells
Texel density – size of polygons relative to the pixel resolution - Dragon
Group shells with similar colours together
UV coordinates exported to PS or Substance
UV Tidiness and Efficiency - Saddle
Texel density – size of polygons relative to the pixel resolution - Saddle
No overlapping UVs (except for mirror/repeat)
UVs utilize rotation to maximize space
No obvious pixilation on the surface
No obvious stretching of textures on the surface
Colour and Tone represents base colour of material
Surface Textures - describes materials correctly
Texture looks seamless on model
Texture is consistent with art style
Specular or Metal map created
Normal map created
Roughness or smoothness map created
A variety of physical materials have been represented
Appropriate use of Opacity map created for transparency
Ambient Occlusion map created
2 or more base colours have been used on the texture sheet
Height or Displacement map created
Smart masks used in Substance Painter
Evidence of variation in PBR textures (settings)

DAY 4 – ANIMATION AND ENGINE

DAY 4 OVERVIEW

Today you will animate the Dragon at least one animation for the tail and one for the Head with a minimum of 3 bones, 1 for neck and 2 for the tail, and then export the Dragon and the Saddle into the one of the Game Engines. You will pose and light the Dragon and Saddle in the Engine to show it off at its best.

DAY 4 BRIEF

Place some bones (at least 2) inside the tail of the Dragon and one inside the neck.

Use FK or IK and key frames to create a simple animation loop that gives your Dragon life.

Export your Dragon, complete with Saddle, into a Game Engine, pose it and light it.

The finished lit and animated model will be examined in-game.

DAY 4 DELIVERABLES

- Lit Dragon and Saddle in game engine
- At least one animation for the tail and one for the neck with a minimum of 3 bones, 1 for head and 2 for the tail.

NOTE – ALL ASSETS ARE TO BE PLACED IN FOLDERS ON YOUR DESKTOP

Day 4 GENERAL GuideLINES

DESCRIPTION
All tasks completed on time
Art style consistent through all assets
Bones created to form structure of moveable asset
FK or IK structure set up
Relevant mesh skinned
Animation keys set up in Max/Maya to test motion
Animation exported as FBX
The Animation loops without popping
The bones have been adjusted to be hidden inside the mesh
Models' materials and textured are visible in engine viewport
Model posed and appropriate lighting settings to show the best qualities of the assets
Engine shows no UV errors
Engine shows no deformation errors

Instructions to the Competitor

Save your files in your working directory using this format "XX_AssetName_A", where XX is your country code.

Save all your files to be assessed into a suitable directory structure and naming inside the directory mentioned above. Save all your work files (those that will/should not be assessed – if any) into a subdirectory called "work".

REMEMBER THE STANDARDS SPECIFICATION



Good Luck!