

# TEST PROJECT 3D DIGITAL GAME ART

WSC2017\_TPD1\_actual

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Assessment Engine(s):

Unreal or Unity





# CONTENT

<b>CONTENT.....</b>	<b>2</b>
<i>Objective .....</i>	<i>3</i>
<i>GAME BACKGROUND .....</i>	<i>3</i>
<i>The Brief.....</i>	<i>3</i>
<i>Deliverables Overview .....</i>	<i>4</i>
<i>Deliverables Schedule .....</i>	<i>5</i>
<b>DAY 1 – CONCEPT ART AND MODELLING .....</b>	<b>6</b>
<i>Day 1 Overview .....</i>	<i>6</i>
<i>Day 1 Brief .....</i>	<i>6</i>
<i>Day 1 Deliverables .....</i>	<i>7</i>
<i>Day 1 GENERAL GuideLINES .....</i>	<i>7</i>
<b>DAY 2 – MODELLING (CONTINUED).....</b>	<b>8</b>
<i>Day 2 Overview .....</i>	<i>8</i>
<i>Day 2 Brief .....</i>	<i>8</i>
<i>Day 2 Deliverables .....</i>	<i>8</i>
<i>Day 2 GENERAL GuideLINES .....</i>	<i>9</i>
<b>DAY 3 – UV MAPPING AND TEXTURES .....</b>	<b>10</b>
<i>Day 3 Overview .....</i>	<i>10</i>
<i>Day 3 Brief .....</i>	<i>10</i>
<i>Day 3 Deliverables .....</i>	<i>10</i>
<i>Day 3 GENERAL GuideLINES .....</i>	<i>11</i>
<b>DAY 4 – ANIMATION AND ENGINE .....</b>	<b>13</b>
<i>Day 4 Overview .....</i>	<i>13</i>
<i>Day 4 Brief .....</i>	<i>13</i>
<i>Day 4 Deliverables .....</i>	<i>13</i>
<i>Day 4 GENERAL GuideLINES .....</i>	<i>14</i>
<b>Instructions to the Competitor .....</b>	<b>15</b>
<b>Internet Access.....</b>	<b>15</b>
<b>remember THE STANDARDS SPECIFICATION .....</b>	<b>15</b>



## OBJECTIVE

The objective of this competition is to create assets for the next version of the hit game, Hungry Shark



## GAME BACKGROUND

Hungry Shark is an aquatic adventure where the player controls a shark with a goal to eat as much prey as possible to earn gold and points. The game has a stylized, cartoony look and feel with soft shading and a vibrant color palette. The Sharks have exaggerated features and proportions. They are almost grotesque with larger than life personalities.

The shark-infested environment has an abandoned Diving Helmet. Over time, nature blended it with the seabed.

## THE BRIEF

During the course of this competition, you will be creating two Assets for the game:

- A new shark to add to the HS family, and
- A diving helmet





## DELIVERABLES OVERVIEW

Deliverables for this competition will include the following:

### Concept art for the diving helmet and shark

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

### Diving Helmet Model

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

### Shark (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

### Shark Animation

- At least one animation for the tail with a minimum of 2 bones, lit and presented in a game engine

**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"><li>• Concept art for the Diving Helmet</li><li>• Concept art for the Shark</li><li>• Assets list</li><li>• Initial Diving Helmet modelling (not deliverable)</li></ul>
2	Modelling	<ul style="list-style-type: none"><li>• Finish Diving Helmet modelling</li><li>• Shark rough model</li></ul>
3	UV mapping and textures	<ul style="list-style-type: none"><li>• Refine/sculpt the Shark model</li><li>• Unwrapping and texture maps of Diving Helmet</li><li>• Unwrapping and texture maps of the Shark (Continued on day 4)</li></ul>
4	Animation and engine	<ul style="list-style-type: none"><li>• Finalize the shark texture</li><li>• Animate some component and export to engine. Set up the materials and create a basic lighting rig</li></ul>







## 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 Shark and then the Diving Helmet, and to start modelling it.

#### DAY 1 BRIEF

You will be creating both a *Shark* and a *Diving Helmet* during the competition, and **today you need to create the concept for the Diving Helmet, the Shark 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 shark, parts of the Diving Helmet)

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 Diving Helmet and the Shark should have a unique design and cannot be a copy of any of the images provided
- The helmet must show aged materials and wear and tear
- The design must belong to the Hungry Shark universe of 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 Diving Helmet, remembering to remain within the 15,000-triangle limit (the concept art will be marked today, but the model will not be marked until the end of Day 2).

In addition, you may wish to create a “place holder” shark 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 Diving Helmet consisting of:
  - (a) At least 2 variation digital sketches
  - (b) Final art 3840 x 2160px
2. Concept for the Shark 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 *Diving Helmet* and the *Shark*

**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 that informs the look of the minor asset
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 Diving Helmet, and build the base model for the Shark.

### DAY 2 BRIEF

By the end of today, both the Diving Helmet and the base model for the Shark 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 Diving Bell 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.

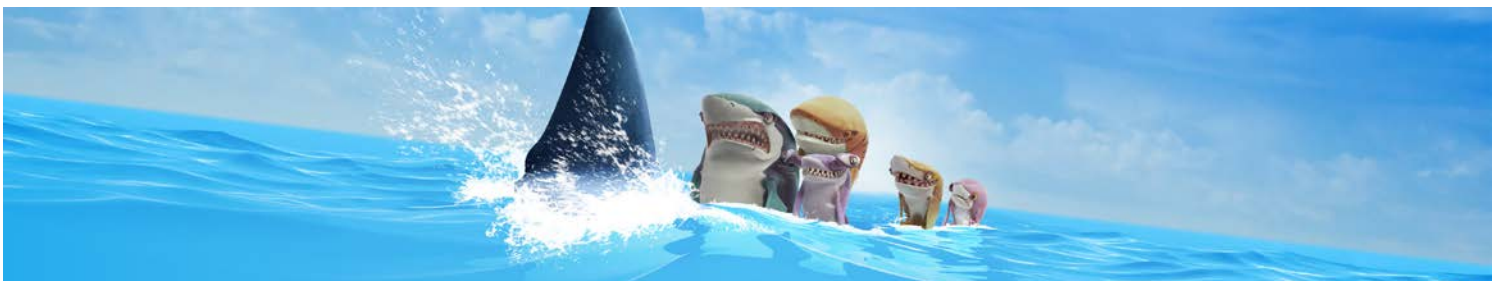
The base model of the Shark has to be completed today and you may wish to start sculpting it but you will only be marked for the base mesh today.

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 Diving Helmet – Maximum 10,000 triangles
2. Sculpt of Diving Helmet – should be exported as a normal map
3. Base mesh of Shark – 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
Helmet sculpted then retopologised if needed
Topology and edge loop distribution for the shark. Consider areas that require deformation (+ same for Diving Helmet)
Both 3d models conform to edge flow that accentuates the represented object (+ same for Diving Helmet)
Shark can be understood in silhouette only (+ same for Diving Helmet)
Shark is consistent with art style (+ same for Diving Helmet)
No N-gons present on the major asset (+ same for Diving Helmet)
No flipped normal present on the major asset (+ same for Diving Helmet)
Chamfered edges on any 90 degree edge (+ same for Diving Helmet)
Models utilise 90+% of the triangle budget (+ same for Diving Helmet)
Models are within triangle budgets





## DAY 3 – UV MAPPING AND TEXTURES

### DAY 3 OVERVIEW

Today you will finish sculpting the Shark, unwrap the UVs and texture both the Diving Helmet and the Shark.

### DAY 3 BRIEF

Unwrap the Shark and the Diving Helmet 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 Diving Helmet, Diffuse/Metal/Rough/Ambient Occlusion/Normal/Opacity maps
2. Texture maps for Shark, Diffuse/Metal/Rough/Ambient Occlusion/Normal/Opacity maps
3. 2 Texture sheets – 1024 x 1024px and 4096 x 4096px
4. Shark sculpt

**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 - Shark
Smooth and even UV shells
Texel density – size of polygons relative to the pixel resolution - Shark
Group shells with similar colours together
UV coordinates exported to PS or Substance
UV Tidiness and Efficiency - Helmet
Texel density – size of polygons relative to the pixel resolution - Helmet
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 Shark's tail with a couple of bones, and then export the Shark and the Diving Helmet into the one of the Game Engines. You will pose and light the Shark and Diving Helmet in the Engine to show it off at its best.

### DAY 4 BRIEF

Place some bones (at least 2) inside the tail of the Shark.

Use FK or IK and keyframes to create a simple animation loop that gives your Shark life.

Export your Shark, complete with Diving Helmet, into a Game Engine, pose it and light it.

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

### DAY 4 DELIVERABLES

- Lit Shark and Diving Helmet in game engine
- Animation with at least 2 bones

**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".

## INTERNET ACCESS

- No internet access

## REMEMBER THE STANDARDS SPECIFICATION



Good Luck!