Graphics

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Today’s topics - Graphics

- Why are graphics important?
- Beauty in video games
- Art preparations
- Modern 3D graphics creation
- Simple ways to make good looking graphics
The secret sauce

Graphics don’t have to be beautiful but they have to be **interesting** and **memorable**!

Will your graphics stand out?
Graphics are your main marketing tool

6 screenshots from Steam new releases, which games would you play?
Graphics are your main marketing tool

6 screenshots from popular indie games.
It helps if you know how to stand out!
Artists don’t draw the best picture on their first try!

Even the best artists sometimes draw ugly pictures, they just don’t show them to you!
Good art needs multiple iterations!
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Stardew Valley character art over time: [https://boards.fireden.net/v/last/50/424223059/](https://boards.fireden.net/v/last/50/424223059/)
Beauty in video games

GDC video Analyzing Beauty in Video Games: https://www.youtube.com/watch?v=BqZzxAmIKP4
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Quality of execution

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Quality of execution - makes it look bad if it is not present

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Preparations

- Finding reference materials - **what kind of material?**
- Choosing color palette
- Material design
- ect.

![Artistic workspace image]

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Finding reference materials

Famous paintings:  

Historical images:
Finding reference materials
The goal of concept art is to visually convey ideas!

Concept art doesn’t have to look good, unless you want to use it in your Kickstarter campaign!

Author: Raido Kikas
Concept art

This is not concept art, it is illustration:
Concept art
Making concept art
Choosing color palette
Puzzle
Puzzle
Puzzle
Puzzle
Puzzle
Puzzle
Puzzle
Choosing a color palette

- Hue change
- Intersection points

Less is more
The meaning of colors

Is there a meaning?
The meaning of colors
Graphics workflow design

- Graphics making process
- Materials
- Post-processing

Blackthornprod: [https://www.youtube.com/watch?v=nMquxE6ywpg](https://www.youtube.com/watch?v=nMquxE6ywpg)
Workflow automation in Ground Forge

Explore open world
one big map
Workflow automation in Ground Forge

Custom Unity editor script

xBRZ scale
Material design

PBR materials
Post processing
Post processing

Should be used deliberately!
Would awesome 3D games sell better?

Probably, but...
Modern 3D workflow

AAA quality Tombstone

1. Reference images:
2. Lowpoly modelling

Do not be afraid of triangles!
Modern 3D workflow

3. Make your model optimal

![Comparison of models: BAD with 68 tris vs. GOOD with 28 tris](image)
Modern 3D workflow

4. Sculpting

Millions of polygons!
Modern 3D workflow

5. Retopology (sometimes necessary)

1,116,326 tris > 532 tris
Modern 3D workflow

6. UV unwrap
Modern 3D workflow

7. Baking

Ambient Occlusion Map  Cavity Map  Normal Map
Modern 3D workflow

8. Texturing

Modern tools:
- DDO-painter
- Substance-painter
Making 3D graphics takes time!

Making this dude while learning Blender took me 90h.

-> not feasible for an indie game

But there are alternatives!
Different approach: Texture first model later
Different approach: Texture first model later

Different approach: Texture first model later

1. Analyze what textures you will need
2. Find those textures and make a texture sheet
3. Model your environment

Benefits

- Can see the result while modelling (more fun)
- Can reuse the textures
Photogrammetry

AAA graphics take too much time even for AAA industry! Newer pipelines are taking over!

Star Wars Battlefront pipeline: https://www.youtube.com/watch?v=U_WaqCBp9zo&t=577s
3D scanning / photogrammetry

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3D scanning / photogrammetry

1. Blurred surface textures
2. Reduces texture memory
3D scanning / photogrammetry

1. Blurred surface textures
2. Reduces texture memory

Tiling textures on top
3D scanning / photogrammetry
“In the future, 3D modeler job will become automated”

Tor Frick
We don’t have to wait for it!

Diana Algma - Edge Chamfering Algorithm
How to stand out!

Want to stand out? make your own workflow!

Example: Hardland workflow

Easy way to make unique looking games

Low poly flat shaded art

Some examples: https://forums.tigsource.com/index.php?topic=42034.0
Easy way to make unique looking games

Low poly flat shaded art + atmospheric effects
Easy way to make unique looking games

Pixelart

Easy way to make unique looking games

Photographed or scanned art

Lumino city: http://www.thisiscolossal.com/2014/12/lumino-city/
Easy way to make unique looking games

Geometry based games -> less if often more

Manifold garden: http://manifold.garden/
Conclusion

- Graphics are your main marketing tool
- Good graphics needs iterations
- Don’t skip the preparations
- Choose an easier way to create graphics
Next week

- **User Interface Design**
  - Design rules
  - Readability
  - Different UI styles