Graphics

Jaanus Jaggo
The secret sauce

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

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!
Artists don’t draw the best picture on their first try!
Good art needs multiple iterations!

Stardew Valley character art over time: https://boards.fireden.net/v/last/50/424223059/
Preparations

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

- Hue change
- Intersection points

Less is more
The meaning of your colors

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

- Graphics making process
- Materials
- Post-processing

Blackthornprod: 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

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

Probably, but...
Modern 3D workflow

AAA quality Tombstone

1. Reference images:
Modern 3D workflow

2. Lowpoly modelling

Do not be afraid of triangles!
Modern 3D workflow

3. Make your model optimal

BAD

GOOD

68 tris

28 tris
Modern 3D workflow

4. Sculpting

Millions of polygons!
5. Retopology (sometimes necessary)

1,116,326 \textit{tris} > 532 \textit{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 alternative workflows!
Different approach: Texture first model later
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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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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

Corresponding Tools
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

1. PIXEL ART CONCEPT
   ADOBE PHOTOSHOP
2. VOXEL ASSET
   QUBICLE CONSTRUCTOR
3. CLAY LOOK
   BLENDER
4. FINAL CONCEPT ART
   ADOBE PHOTOSHOP
5. FINAL IN-GAME MODEL
   BLENDER

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/](http://manifold.garden/)
Conclusion

● Pick your style
● Do your preparations
● Iterate