Artist's View

Computer Graphics Seminar
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Background

• Hobby programmer and game developer
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• Teacher at Tartu Art School
  • Low-poly modeling and rigging
  • Analytical geometry

• Member of Tinkido team
  • www.tinkido.com

• Scientist at IMCB and Estonian Biocentre
Artists vs. Programmers

- Two different kinds of people:
  - algorithmic people
  - feeling people
- Different approach, not necessarily different skills
- Good artists are rare species
  - Can communicate with programmers
  - Work organized way
- Most artists do not solve your art pipeline problems
- Artists like beautiful things
Character Designs

- Winner of Tinkido character design contest
- Very easy to model/animate
Character Designs

- Winner of Tinkido pet design contest
- No-one has been able to animate it convincingly
Why analytical geometry?

- Any artist has to know his tools and materials
  - The tool and material of 3D artist is computer
  - Basic knowledge, how numbers become image
  - Helps to understand limitations of the medium
- Do you know the size of your scene?
  - 200,000 vertices
    - Cascaded shadow map x 2
    - Reflections x 2
    - Pointlights, spotlights...
    - AO etc.
Why analytical geometry?

• What is the difference between transforming object and transforming vertices?
  • Why my modifiers do not work as expected?
• Why is the teacher such horrible pedant?
  • Red and blue things lower grade
• Make sense out of this
Environment Design
Environment Design
Code versus Art

- Art is Data
  - Code is reusable
  - Most art is not
    - The only exception are realistic models given that you have MANY of them
- In any serious project art is >90% of budget
Low-poly vs High-poly

- Modeling styles, not polygon counts
- Low poly models
  - Every vertex and polygon has been touched by human hand
- High poly models
  - Human only touches overall shape, most vertices and faces are generated by mesh modifiers
Low-poly vs High-poly

- Everything real-time is low-poly
  - May still be 100 000s of vertices
  - Animation requires controlled vertex/face placement
  - High-poly sculpting for normal-maps (nice and artsy stuff)
  - Still excellent low-poly skills needed for retopo
The root of all evil

- is subsurf modifier

- Other smaller evils
  - Procedural materials, ambient lighting...
How to survive?

- Communication, communication...
- Outsourcing works only if somebody in team knows exactly what is needed
- Shared meetings
- Having established pipeline helps
How to survive?

- Realism is the easiest visual style
  - Also most uninteresting
Some rendered homeworks
How about prebuilt models?

- TurboSquid
  - Unity Asset Store
  - UE marketplace
  - etc.
- Usually waste of time
- One big exception
  - Poser community (mostly virtual photography stuff)
- Also architectural stuff
Tartu Art School

- 3D modeler-visualizer
  - Started on 2011
  - On average 8 students per year
- 95% Blender, some SolidWorks
- Are looking for internship positions