



The Game Development Process: The Game Art Pipeline



Introduction: Remember the Constraints

- Year 2098, Macrosoft will release FunStation 3000, 14 million terabytes of RAM, quantum-holographic drive with near infinite storage, processors at the speed of light
 - Game developers complain not fast enough
- Game artists must be creative *inside confines of technology*
 - All disciplines: engineering, design, sound
 - But often constraints biggest on artist

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What's a Pipeline?

- For our purposes
 - The sequence of operations required to move art assets from concept to the finished product
- The Art pipeline
 - Concept
 - Creation (modeling, texturing, lighting)
 - Conversion
 - Asset management

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Pipeline – *Concept*

- Napkin-style
- Detailed design treatments
- Prototypes
- Maquettes (a small scale model)
- Animation sketches / flipbooks
- Mockup models
- Texture mockups
- Architectural layout

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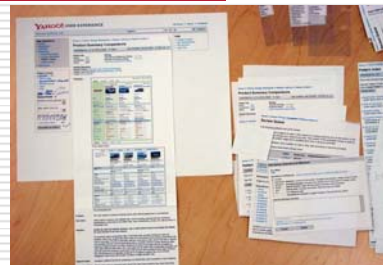
"Napkin-style" Concept Art



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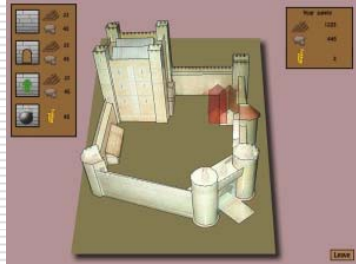
Paper UI Prototype



boxesandarrows.com

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Digital UI Prototype

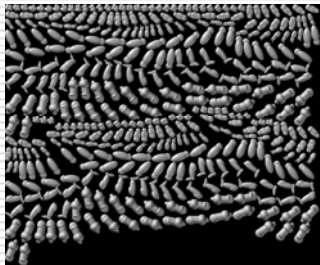


designersnotebook.com

Pipeline - *Creation*

- Commercial / third party tools:
 - 2D tools: Photoshop, The Gimp, sprite editors, HTML/browsers, Flash...
 - 3D tools: 3D Studio Max, Maya, Lightwave, Blender
- Homegrown tools
 - Specialized animation systems
 - Tools that simulate key game features (UI layout tool, etc.)
 - The game engine

Assets for 2D Animation (1 of 3)



eberlein.org/euphoria

Assets for 2D Animation (2 of 3)



cvrpg.com

Assets for 2D Animation (3 of 3)



aniway.com

3D Studio Max



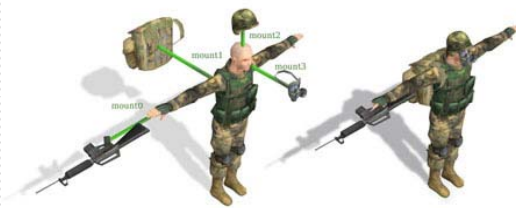
gamedev.net

Stages of a Model



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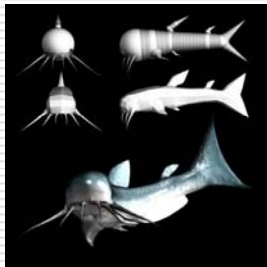
Texturing and Accessories



garagegames.com

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A Model, Textured



zbrush

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Character and a Skin (1 of 2)



secretlair.com

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Character and a Skin (2 of 2)



cresswells.com

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Pipeline - Conversion

- Putting the assets into the final form
- Export from modeling to custom formats
- File type conversion
 - PSD to TGA / JPG, for example
 - Compression
 - Collection (zip files, pak files, etc.)
- Testing in the game
- Debug / fix

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Asset Management

- How do you share the production process across time, space, and content creators?
 - Source code has many tools -- "solved"
 - Data/Art is harder
 - Not easily merged
 - Dependencies not obvious
 - Relationships complex
 - Some commercial systems are trying
 - Typically a combination of:
 - Homegrown tools
 - Convention and process