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

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

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

"Napkin-style" Concept Art

Paper UI Prototype
boxesandarrows.com
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)
aniday.com

3D Studio Max
gamedev.net
**Stages of a Model**

**Texturing and Accessories**

- garagegames.com

**A Model, Textured**

**Character and a Skin (1 of 2)**

- secretlair.com

**Character and a Skin (2 of 2)**

**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
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