Ten years, Twenty Lead Designers, No Money

The technical hurdles of WorldForge

The WorldForge Project

- A community Open Source MMO project.
- Born when Open Source was making big press.
- First major attempt to mimic emerging MMORPG.
- Open Source rivaled many proprietary products.
- Why not MMOs?

Why not?

- Not just a software project.
- Content is king!
- Programmers are motivated by the hacker ethic.
- What motivates everyone else?

Game Design

- Everyone is a Game Designer!
- Whose design will we choose?
- Focus on design neutral development.
- Meritocracy influences direction.
- The hardest workers have the most say.

Network Communication

- Most games use a bespoke protocol.
- How do we handle game specific data?
  - One client per game?
  - Pluggable protocols?

World Data

- To many "Massive" means world size.
- Games at the time had static maps.
- Many games, each with a massive map?
- Massive worlds with small downloads.
- Represent the world as a dynamic graph.
- Only download what is visible.
- Compress everything.

Graphics

- Isometric was standard.
- 3D emerging fast, but looks terrible.
- Open Source purists have no 3D.
- 2D artists want their work to look great.
- 3D allows more flexibility.
- The core system had to support both.
- 3D artists motivated by bleeding edge.

More than ...

- 10 years of development
- 100 contributors
- 1000 package files released
- 10000 files of source code
- 100000 package files downloaded
- 1000000 lines of C++
- 10000000 dollars of value
- 10000000000 bytes of content

Game Design - Mason

- The current phase of a series of designs.
- A game about world building.
- Game starts with a virgin natural world.
- Settlements are built by players.
- The concept is appealing to programmers.

World Data - Mercator

- A different game world in every server.
- Quasi-random terrain.
  - Small download from server
  - Same terrain on every client
  - Natural looking height fields
  - Procedural texturing
- Height modifiers.
- Texture patches.
- Procedural vegetation distribution.

Network Communication - Atlas

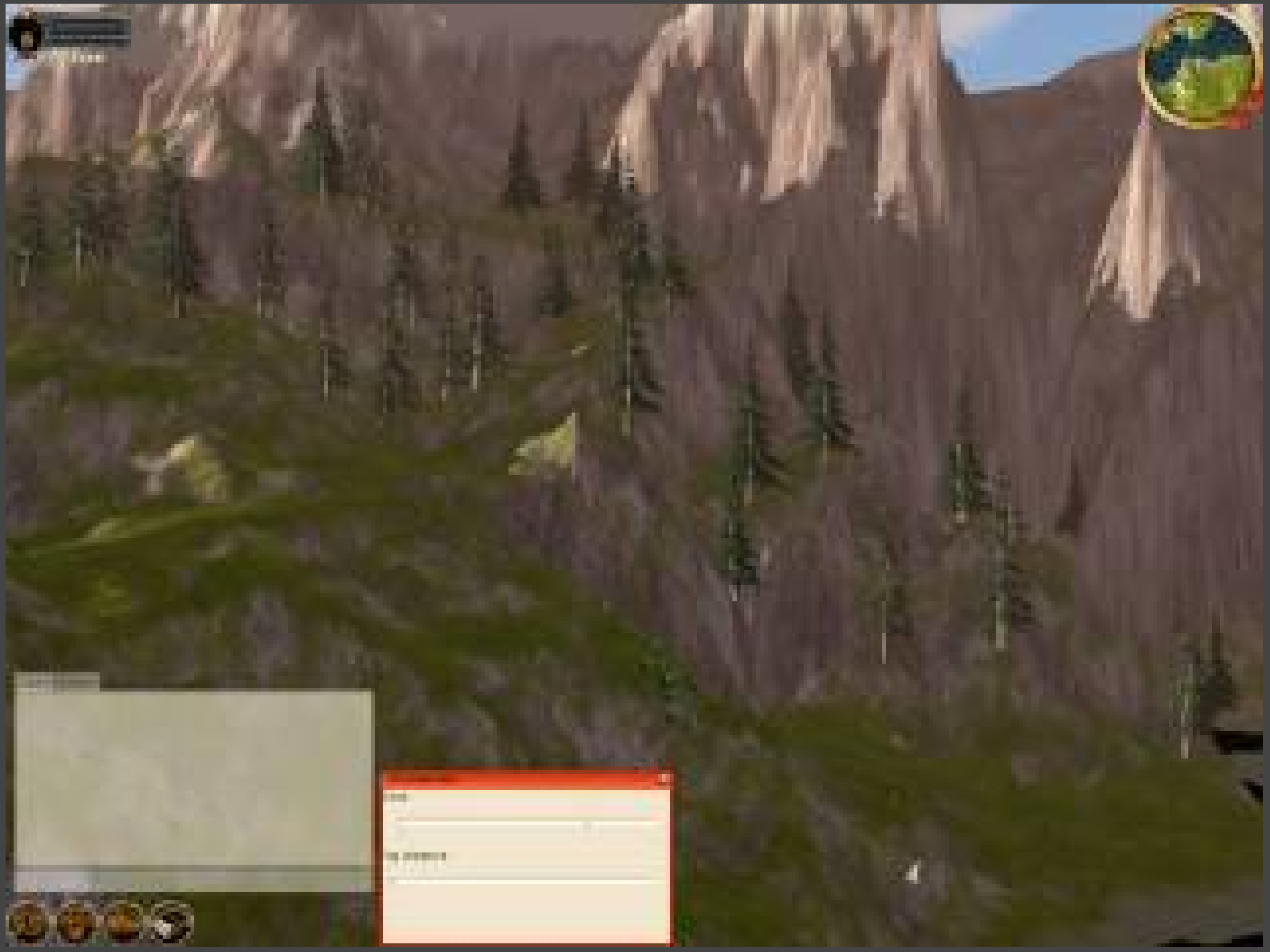
- An interface indepedent protocol.
  - Simple low cost data format.
  - Object based messaging.
  - Core object model.
  - Convention for interaction.
- Represents the world in abstract form.
- Easy to extend at the right level.
- Changes needed have been minimal.
- Survived 6 client iterations.

Modeling Tools - Blender

- Everquest made 3D relevant from the start.
- Which format and tool.
  - Tool specific, interchange or engine format
  - Similar to source and binary code.
- Proprietary tool specific formats are not Open.
- Artists are very attached to their own tools.

The Blender Foundation

- Blender written as a proprietary modeller.
- Not a Number went bankrupt in 2002.
- Creditors agreed to sell software assets for $100000.
- Sometimes money is the only solution.
- The Blender Foundation aggregated our donations.
- WorldForge became a silver sponsor.

Graphics - OGRE 3D

- Two isometric engines.
- Three custom rendering engines.
- Two third party scene graphs.
- OGRE 3D takes the burden away from us.
- Powerful renderer.
- Huge quantity of third party modules.