# Licensing Middleware
## *Is Totally Awesome!!*

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# Introduction

- Quick Epic overview
- My role at Epic
- I'm not just the President, I'm also a client!
  - Licensed Unreal Engine 2 for America's Army
  - Using Unreal Engine 3 for Gears and Unreal

- I'm *not* here to sell you the Unreal Engine
  - (But Mark Rein is)

# Unreal Engine 3 Customers

A few licensees:

- Activision
- Atari
- Bethesda Softworks
- Bioware
- Capcom
- Disney Interactive
- Electronic Arts
- EIDOS
- Gearbox Software
- Microsoft Game Studios
- Midway

- NCsoft
- Real Time Worlds
- Sony Online
- Square Enix
- Take Two
- THQ
- Ubisoft
- US Army
- Vivendi
- Webzen

# Shared tech yields better games

- All about abstracting away details
  - We avoid machine language when we can
- Shared infrastructure like Windows, DirectX, etc. let us focus on games instead of base technology
- Middleware libraries and game engines let us abstract away platform details

# Don't have an engine?

- Cost-savings argument is simple
- License tech for less than it costs to build
  - even amortized across multiple titles
- Content is the most expensive part of any next-gen game
- With licensed tech, content development starts immediately
  - And less engine tech revision means less content revision / cutting

# Have an engine already?

- The majority of development teams have free access to some engine technology

- But we find that about half our customers are in this situation – already have tech, but choose to license ours. Why?

- That tech probably needs modification for the next title, but so would an off-the-shelf engine

# Replacing your in-house engine

- Cost savings aren't the only reason to license
- Often you'll find middleware is
  - Battle tested
  - More stable
    - Has your team ever cut a few corners during ship crunch?
  - More usable, more emphasis on tools and interface
  - Better documented and supported
  - More feature rich
  - More modern
  - Better optimized

# Middleware beyond engines

- Even when "rolling your own" engine tech it's smart to license a few components
- Physics is a great example – not many teams can write a good physics solver
- Epic's games have many major dependencies on external middleware

# Integrated Partners Program

Morpheme (NaturalMotion)

* **SpeedTree (IDV)**

* **GameSpy**

Beast (Illuminate Labs)

AI Implant (Presagis)

Digimask (Digimask Ltd.)

Kynapse (Kynogon)

IMPULSE (PhaseSpace)

ProFX (Allegorithmic)

Umbra

* **FaceFX (OC3 Entertainment)**

* **VoiceIn (Fonix Speech)**

* **Bink (RAD Game Tools)**

Game-Link (MÄK Technologies)

Rendez-Vouz and Spark! (Quazal)

FMOD (Firelight Technologies)

Enlighten (Geomerics)

Scaleform: GFx (Scaleform)
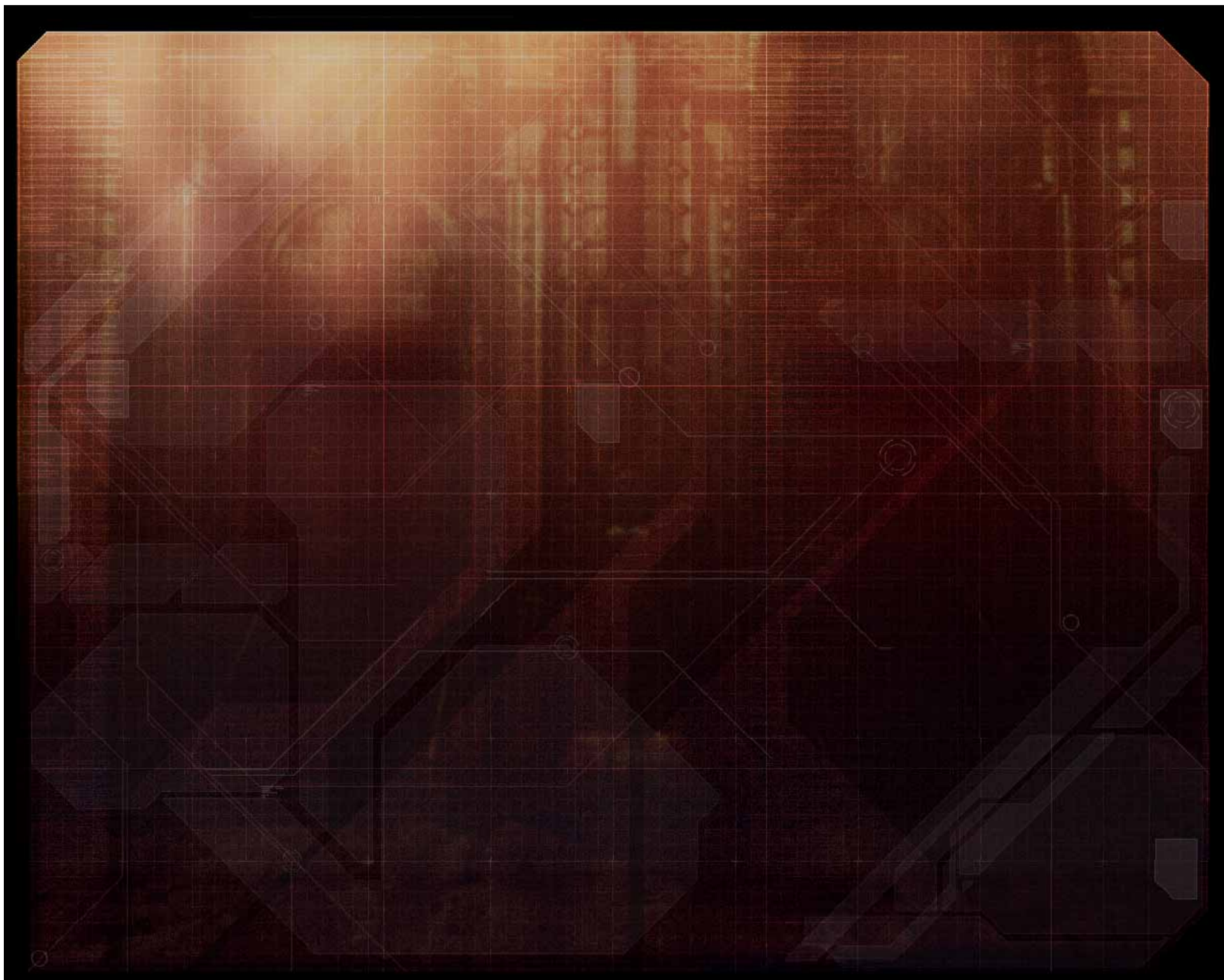
* **Visual Assist (Whole Tomato)**
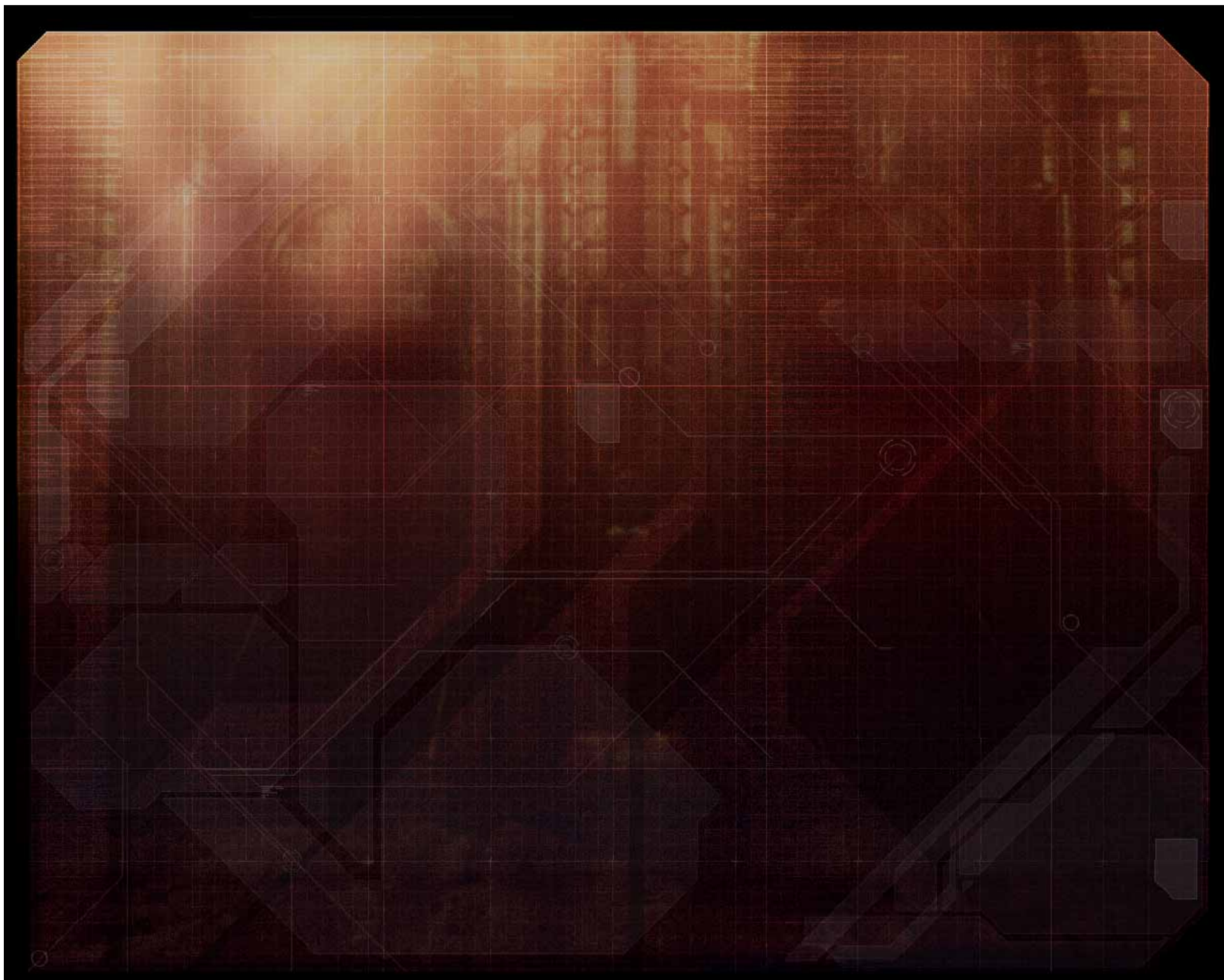
Gameface Studio & SDK (Anark)

# Smart licensing

- Managing risks is key to game development
- Any external dependency is a risk, so manage it:
  - Has the tech been shipped before?  Shipping is where reality sets in.
  - Can you ship if they close their doors?  Fail to make promised updates?  Fail to support you?
- We push for (and give) source code access, so there's always the option to fix the ship-blocking bugs ourselves.

# Questions?

- Feel free to reach me at
  – Mike.Capps@epicgames.com

# Epic Games

- Founded 16 years ago by CEO Tim Sweeney
- 96 employees at Cary, NC headquarters
- External studios in Poland and Shanghai
- Creator of Unreal Engine technology
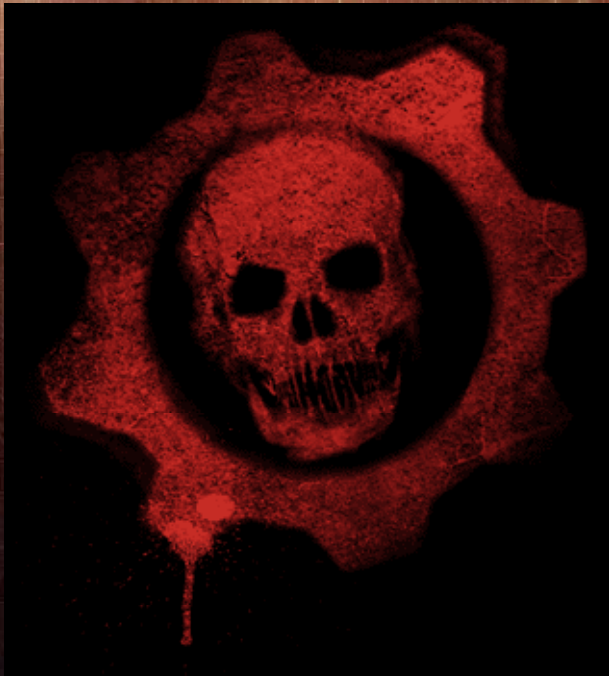- Multiple million-selling, award-winning hits in the *Unreal* series

# Epic Games

- More than 4 million copies of *Gears of War* sold worldwide; voted "Game of the Year" by over half a dozen leading media outlets and the Academy
- Spike TV's 2006 "Studio of the Year"
- Official Xbox Magazine's 2006 "Developer of the Year"
- NCTA's 2007 "Large Company of the Year"

# Epic's Latest Games



**Gears of War**
**Xbox 360, PC**

**Unreal Tournament 3**
**PC, PS3, Xbox 360**

# What is the Unreal Engine?

- Runtime and tools for making and shipping a game
  - World-building tools
  - Particles, terrain, animation, physics, etc.
  - UnrealScript and compiler
  - Visual programming language
  - Lip synching, voice recognition, etc.