

How Valve Connects Art Direction to Gameplay

Moby Francke

Randy Lundeen



Introduction

- Team Fortress 2
 - Distinctive Silhouettes
 - Stylized shading
- Left 4 Dead
 - Creating a Dark, Gritty Horror experience
 - Applying lessons learned from TF2
 - Utilizing “Filmic” effects



Team Fortress Mod



Initial Team Fortress 2



Initial Team Fortress 2



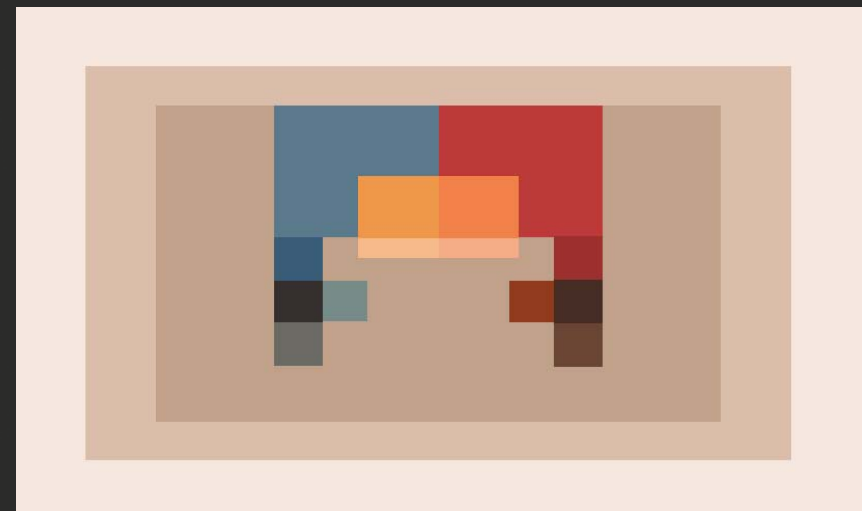
Why The Unique Visual Style?

- Gameplay
- Readability
- Branding



Read Hierarchy

- Team - *Friend or Foe?*
 - Color
- Class - *Run or Attack?*
 - Distinctive silhouettes
 - Body proportions
 - Weapons
 - Shoes, hats and clothing folds
- Selected weapon - *What's he packin'?*
 - Highest contrast at chest level, where weapon is held
 - Gradient from dark feet to light chest



Color Swatch



Early 20th Century Commercial Illustration



Dean Cornwell



J. C. Leyendecker



Norman Rockwell



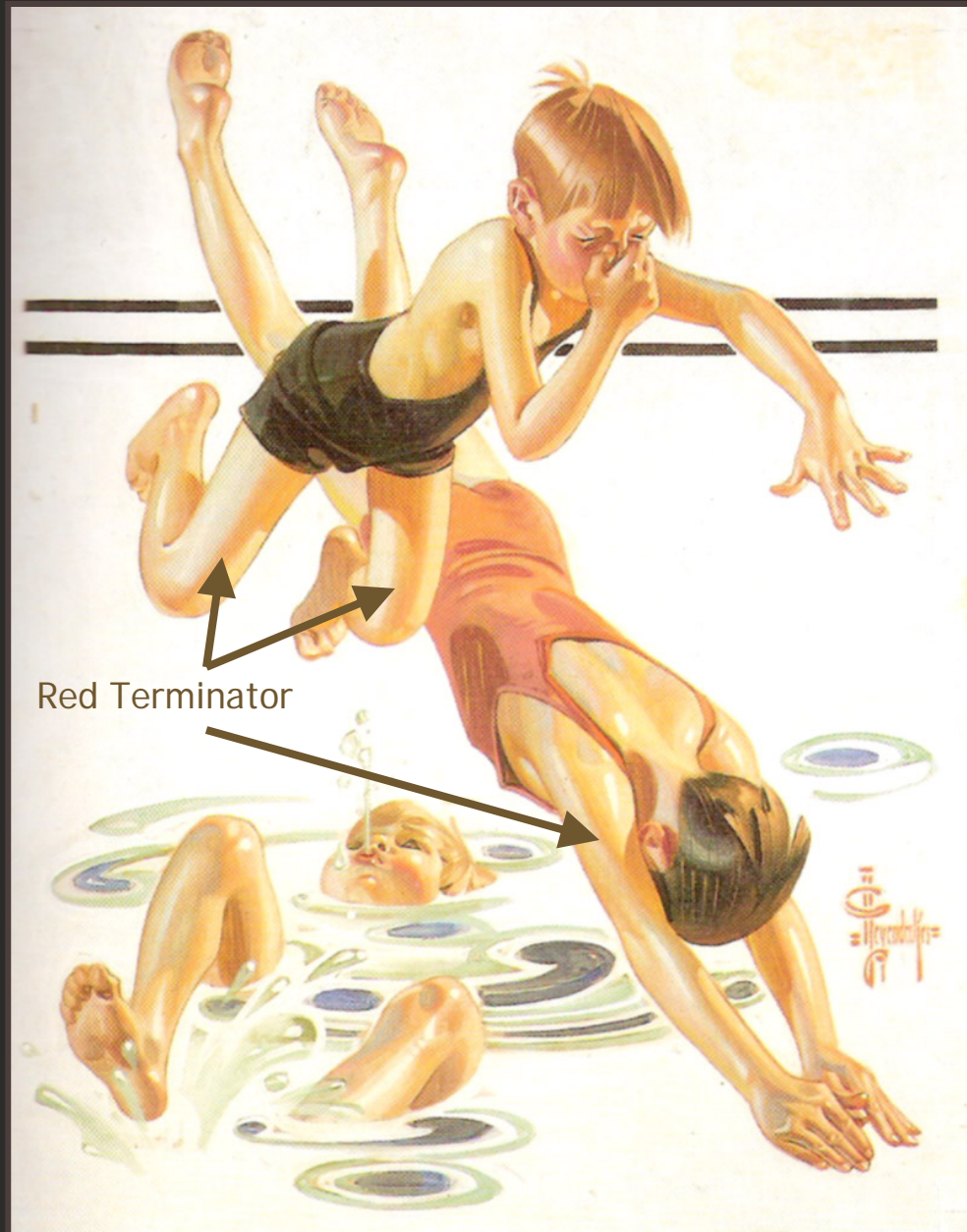
J.C. Leyendecker
Thanksgiving 1628-1928



J.C. Leyendecker
Tally-Ho, 1930



J.C. Leyendecker
Arrow collar advertisement, 1929



Red Terminator

J.C. Leyendecker
Swimmin' Hole, 1935

Before Rim Highlighting

Early Production Still
from *Meet the Heavy*



2D Rim Highlighting Paintover

Early Production Still
from *Meet the Heavy*



Character Creation

1. Character silhouette
2. Interior shapes
3. Model sheet
4. 3D Model
5. Character Skin
6. Final Character in game



Character Silhouette

- Building block of character design
- Identifiable at first read



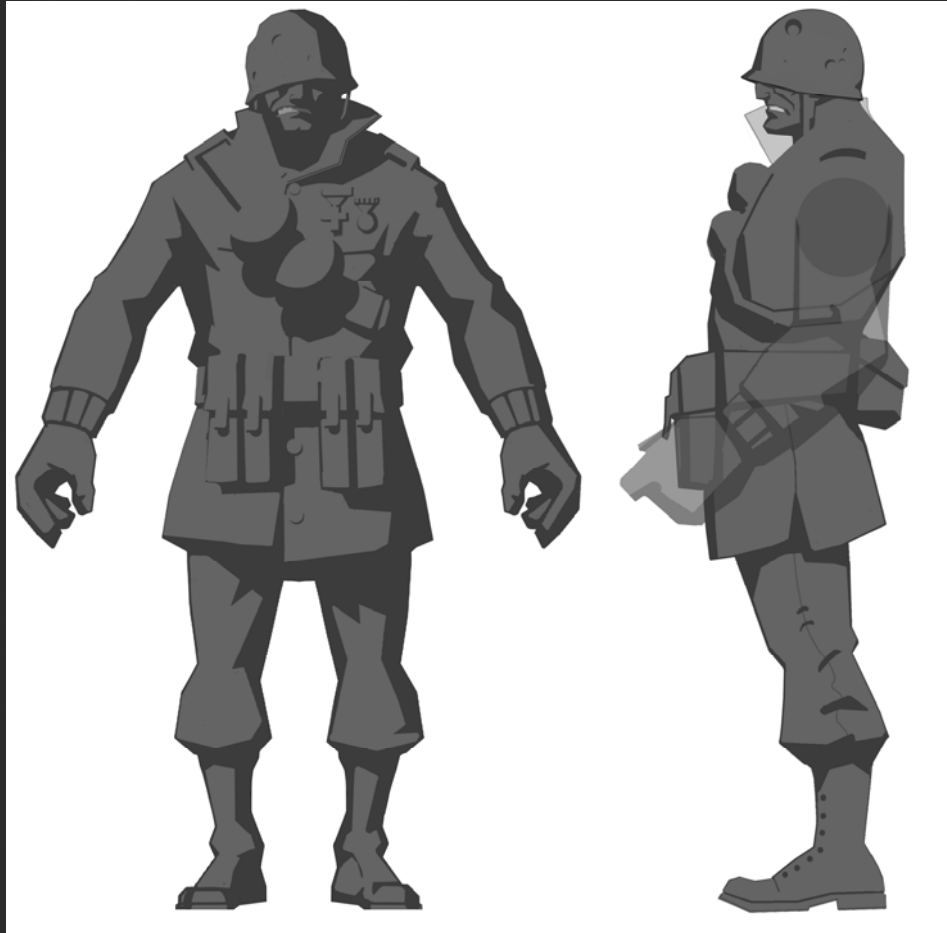
Interior Shapes

- Solving interior character design with shadow shapes
- Keep it iconic
- Work out design in three quarter pose



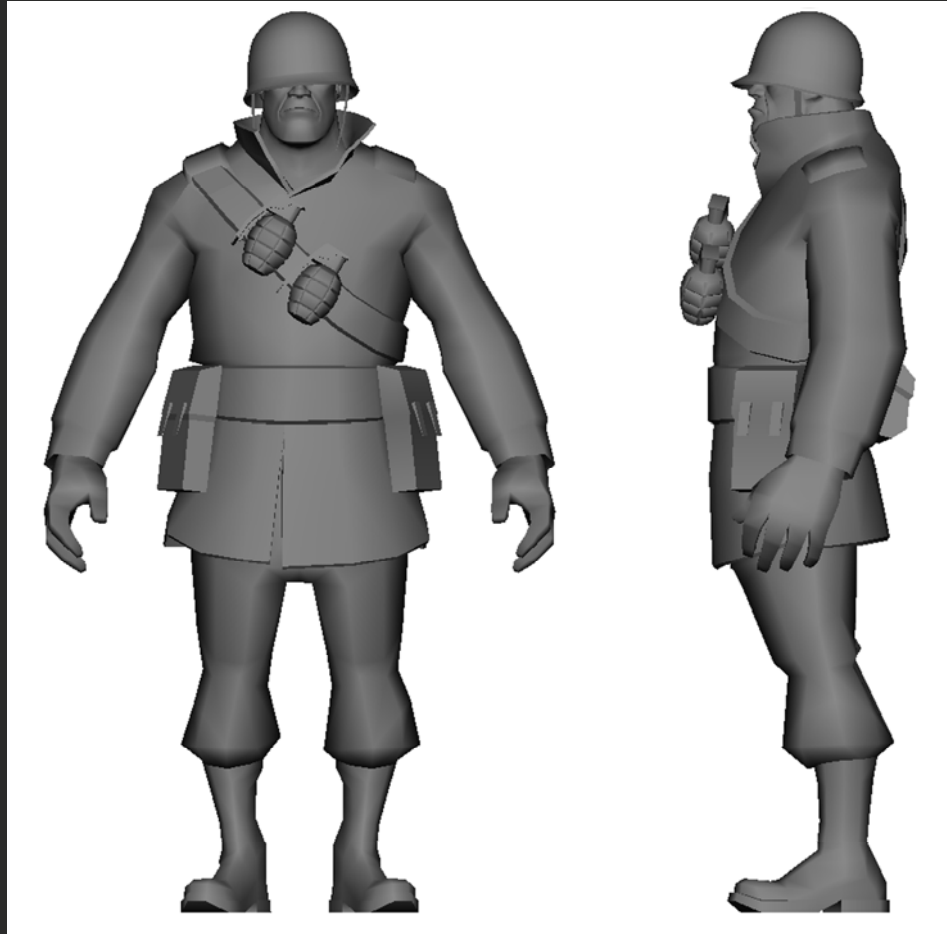
Model Sheet

- Use concept painting as guide
- Solve design problems using silhouette only
- Solve interior design with shadow shapes

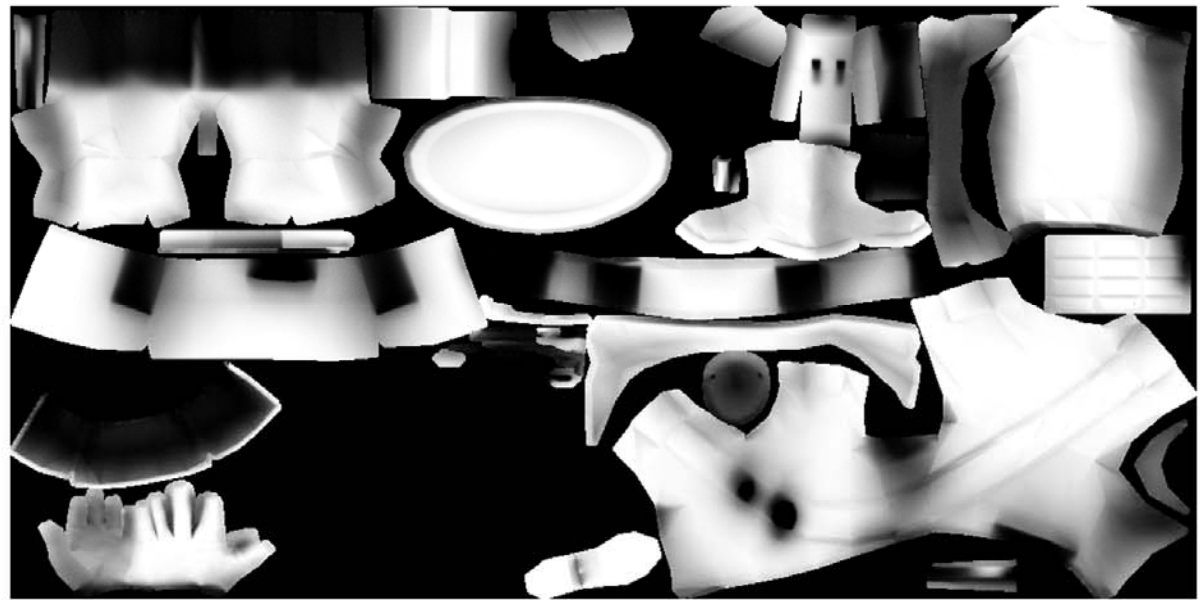
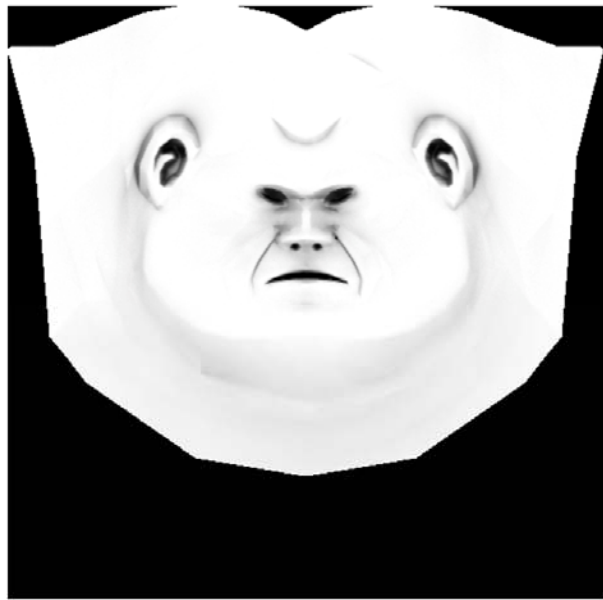


3D Model

- Match silhouette to model sheet
- Solve 3 quarter design with screenshots / paintovers
- Model with character in mind



Base Ambient Occlusion map

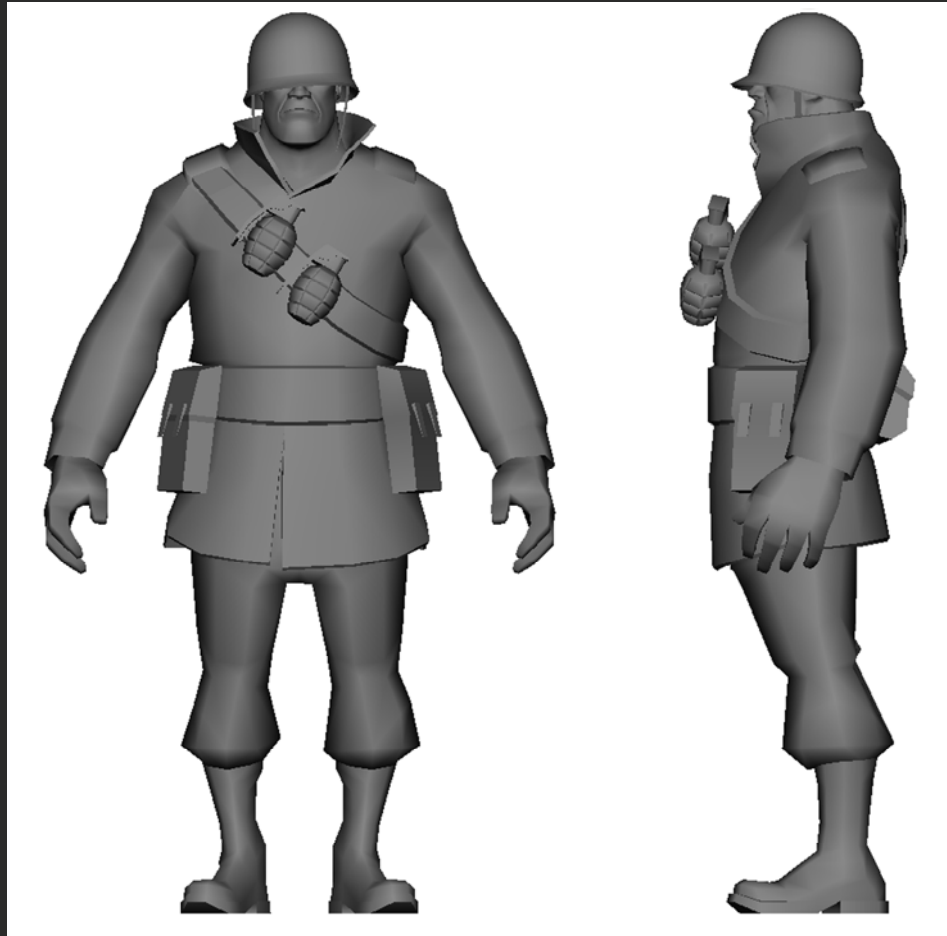


Character Skin

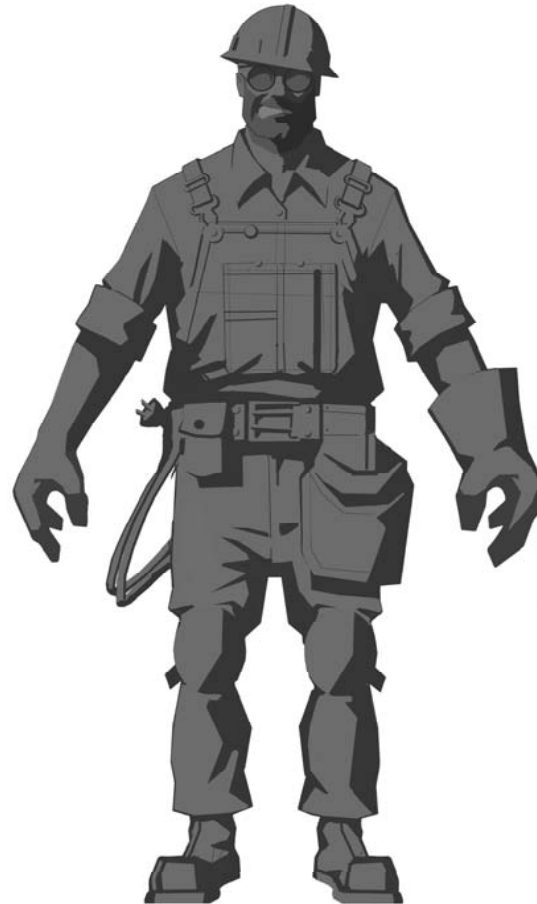


Final Character

- 3D model with texture and basic shading



Engineer Concept



Engineer model



Pyro Concept



Pyro model



Environment Design

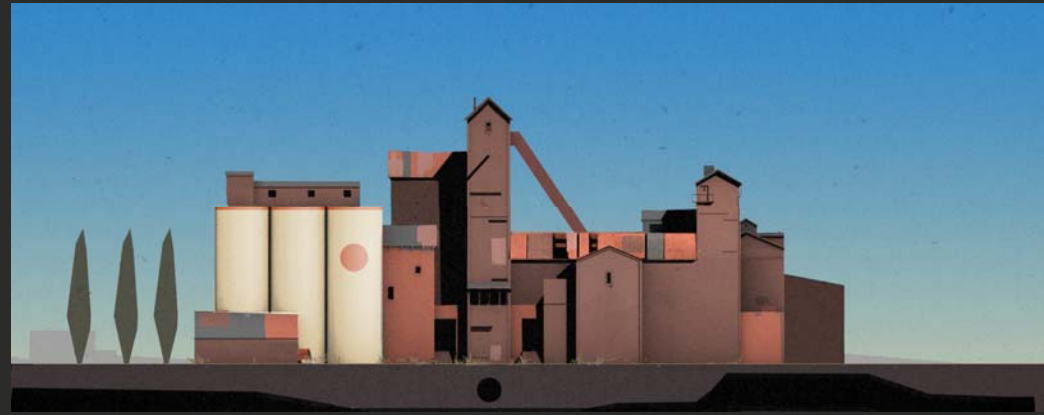
- Creating a compelling, immersive world
- Team distinction through material hue/value/saturation.
- Impressionistic painterly look



Contrasting Team Properties

- Red

- Warm colors
- Natural materials
- Angular geometry



- Blue

- Cool colors
- Industrial materials
- Orthogonal forms



World texturing



Texture map



In-game Screenshot

World texturing

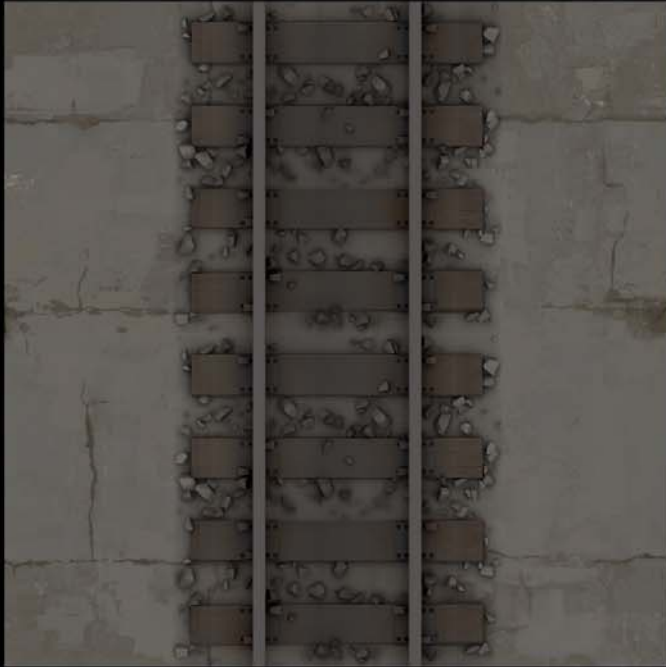


Texture map



In-game Screenshot

World texturing



Texture map



In-game Screenshot

World texturing



Texture map



In-game Screenshot

Model texturing



Texture map



In-game Screenshot

LEFT 4 DEAD



Introduction

- Co-op, first-person horror game
- Dynamic shared narrative
 - Experience a scary action movie with your friends
- AI Director
 - Procedurally generated character performance, pacing, effects and music
- Available this Fall



Art Direction and Gameplay

- Creating a dark, scary cinematic environment
- Applying lessons learned from TF2
- Utilizing “Filmic” Effects
- Incorporating shaders that enhance a dark setting

Filmic effects

- Color Correction
- Grain
- Vignette
- Local Contrast Enhancement
- Dynamically communicate game state

No Post-processing



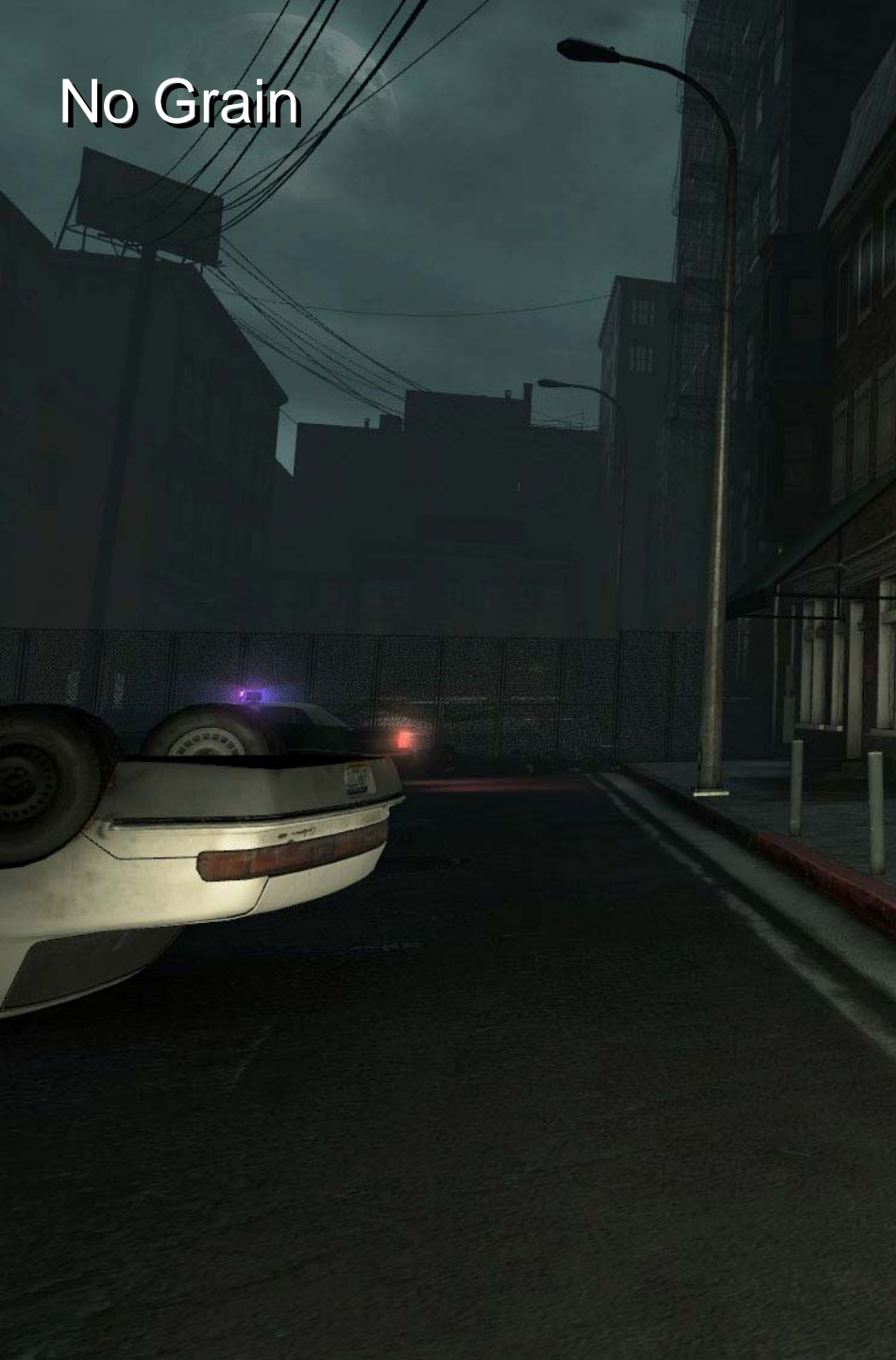
Color Correction



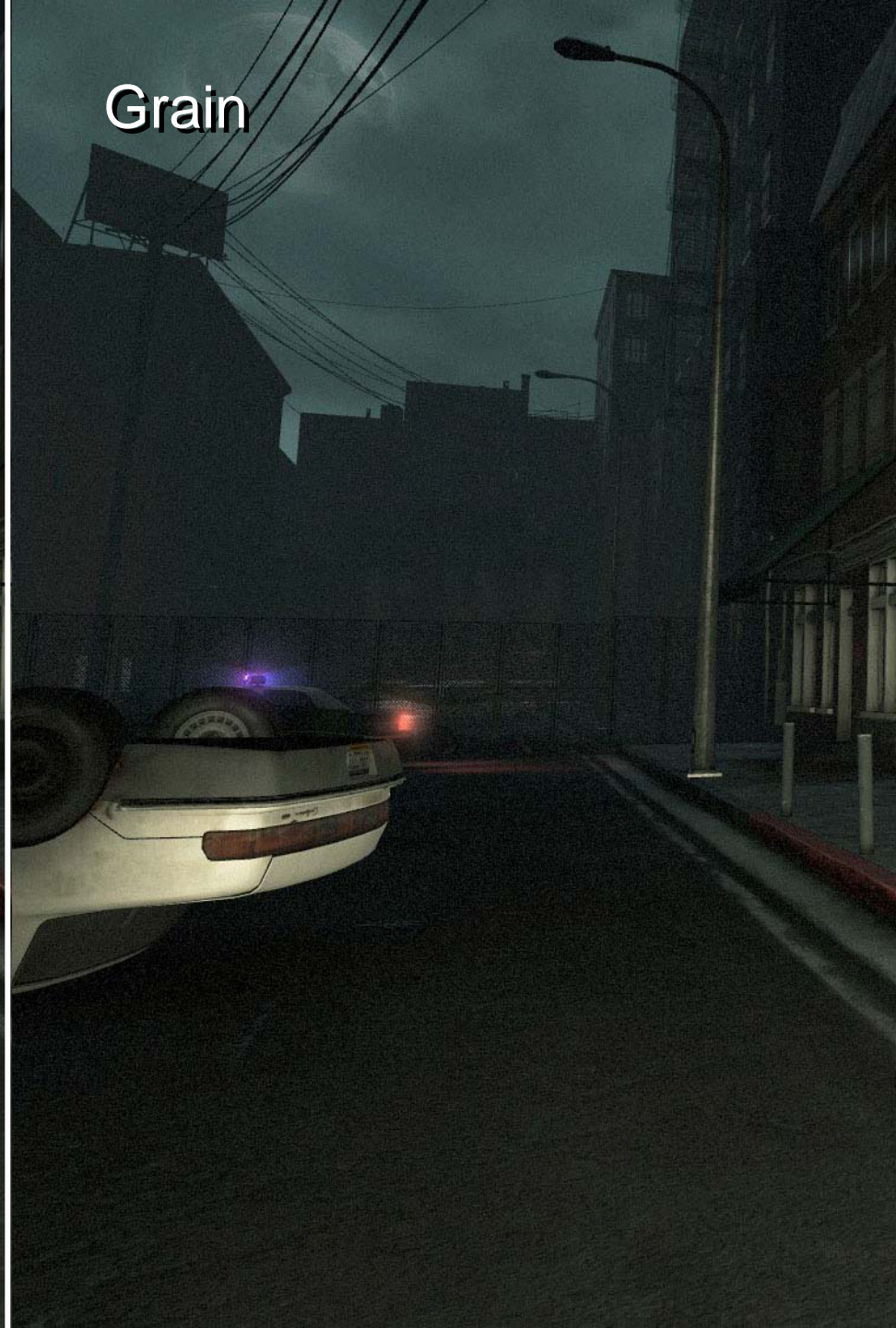
Grain



No Grain



Grain



Before Vignette



Vignette



Local Contrast



Filmic Effects OFF



Filmic Effects ON



Normal State



Third Strike



Hunter Pounce



Normal Stress



High Stress



Lighting for Darkness

- Horror/suspense theme
- Lighting that supports fiction/navigation
- Importance of Silhouette
- Player as light source

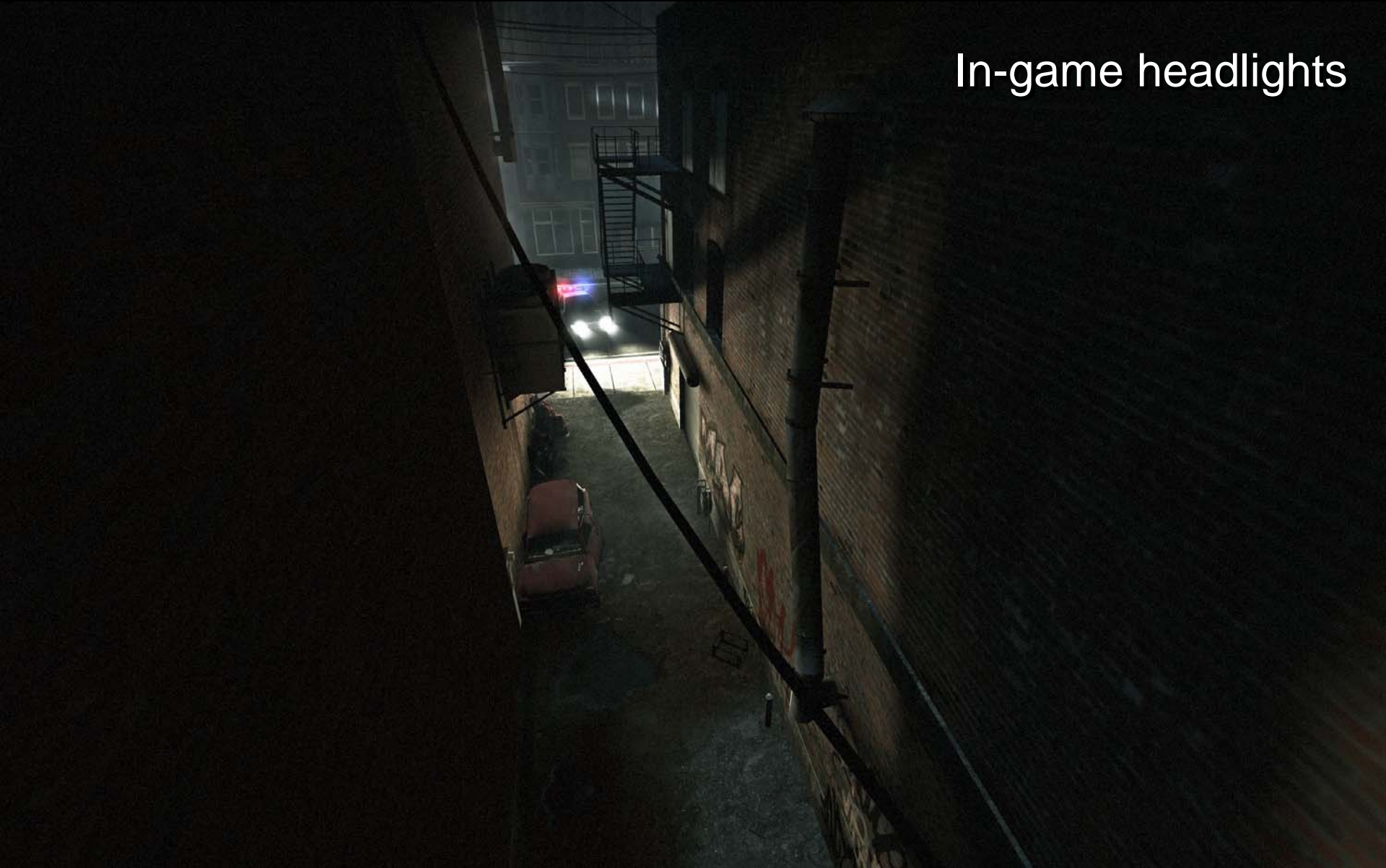
Too many areas of contrast



Simplified lighting



In-game headlights



In-game headlights



Smoking the Set

- Separate foreground from background
 - Fog
 - Light colored fog in dark areas to contrast with silhouettes of infected in mid-ground
 - Particles
 - Adds atmosphere and helps accentuate silhouettes of infected against lighter particles

Black Fog



Light Fog



Without particles



With particles

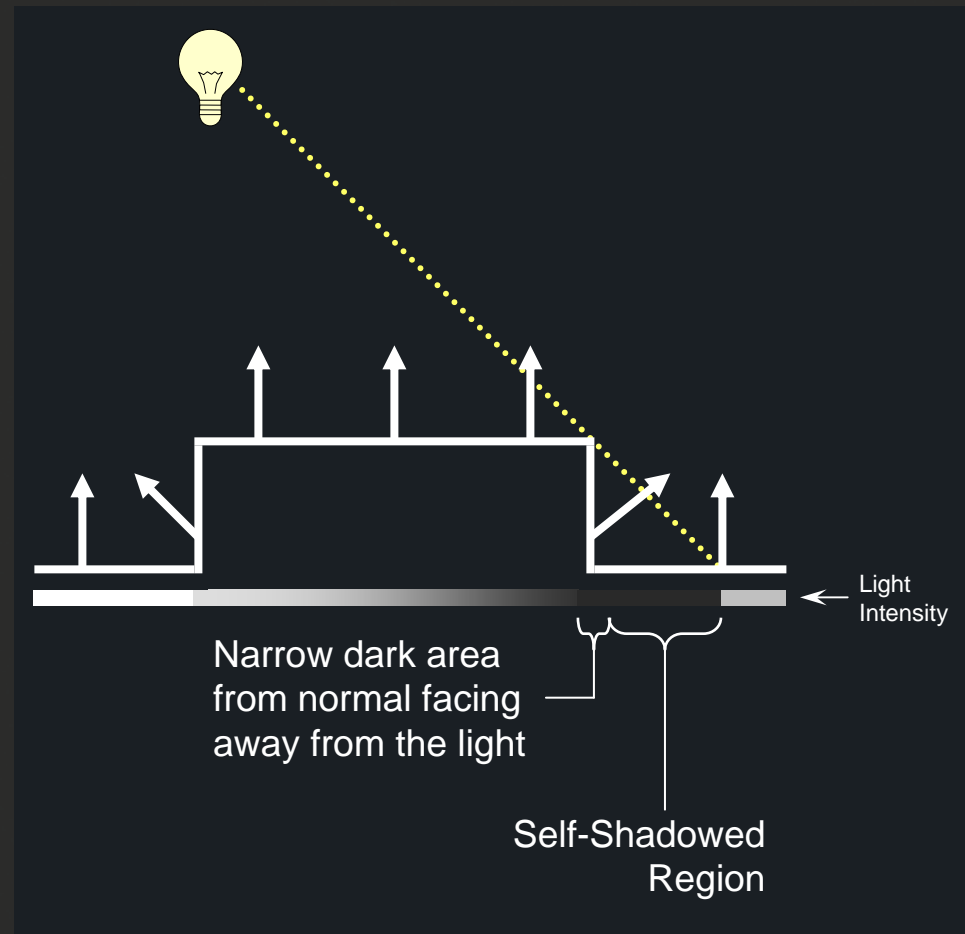


Reload, Shove & Muzzle Flash

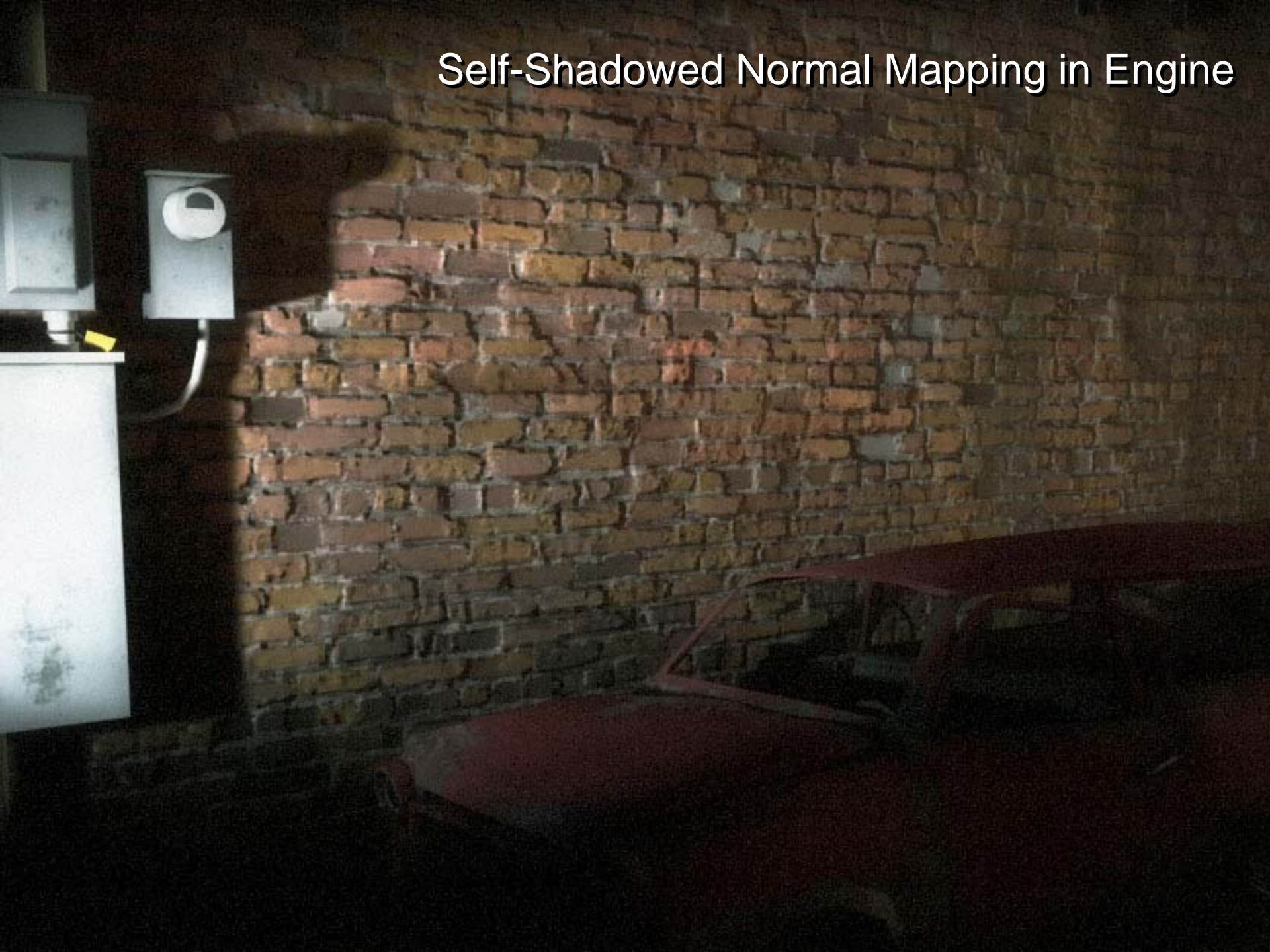
- Player is the light source
- Increases drama and immersion
- Flashlight is attached to the weapons
 - Reloading
 - Shoving
 - Muzzle flash
- Encourages players to coordinate actions

Self Shadowed Normal Mapping

- Normal mapping locally alters surface orientation, causing detailed lighting effects
- SSNM incorporates local self-shadowing information for greater surface richness
- Reacts to lighting from radiosity as well as dynamic lights in the scene, such as the player's flashlight
- Refactoring our shader code, this turns out to be free

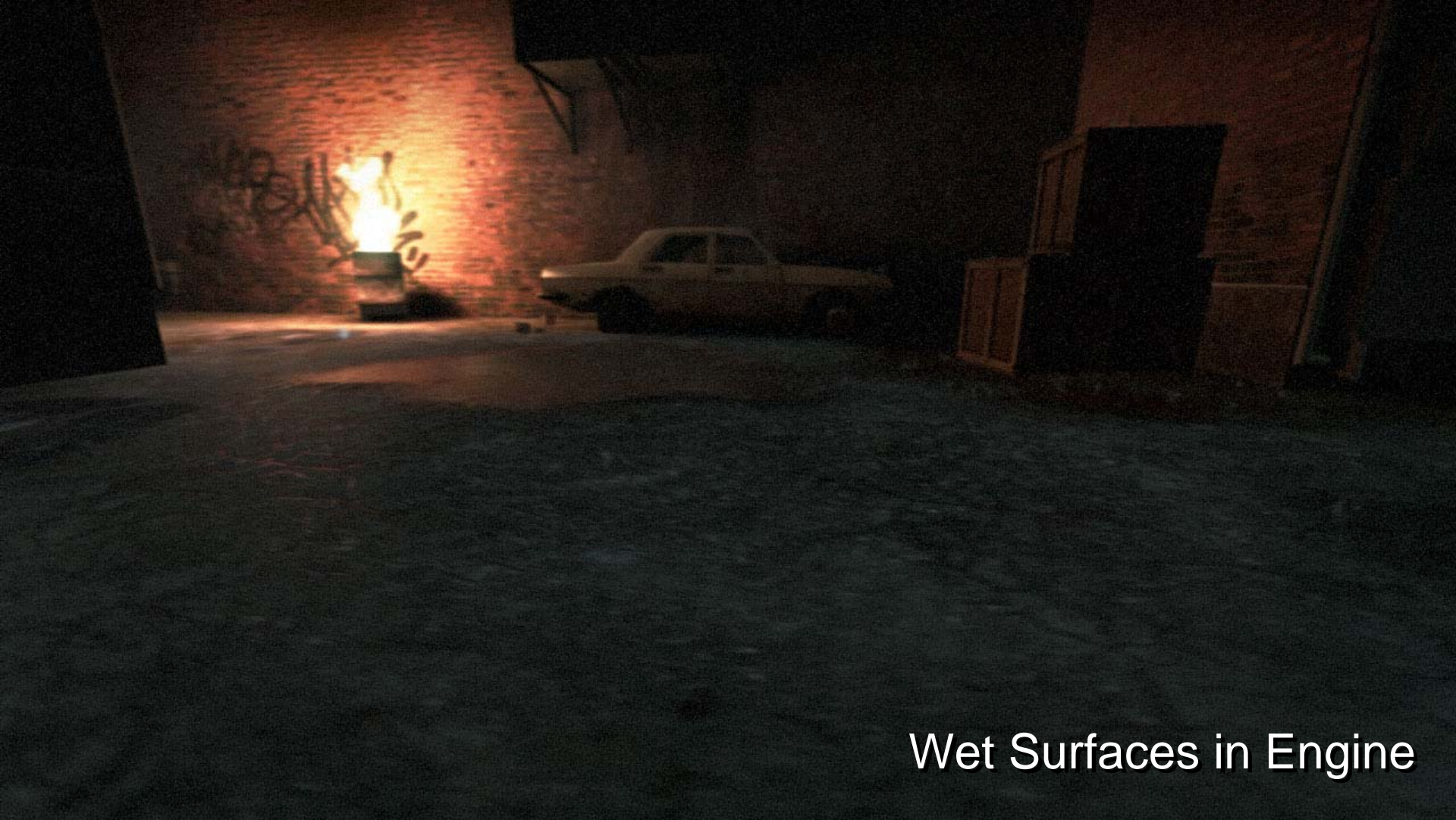


Self-Shadowed Normal Mapping in Engine



Wetness / Puddles

- Film technique
- Adds details to dark settings
- Enhances moodiness



Wet Surfaces in Engine

Summary

- Team Fortress 2
 - Distinctive Silhouettes
 - Stylized shading
- Left 4 Dead
 - Creating a Dark, Gritty Horror experience
 - Applying lessons learned from TF2
 - Utilizing “Filmic” effects