

Cut Scene System Design Document, v8

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Introduction

The cut scene system is an encapsulated movie player that is capable of taking whatever format of audio/video format we create for the game and seamlessly playing it on the current screen. We will be using DirectShow for Windows, and Quicktime 4 for the Mac.

Requirements

This system must be able to stream audio and video simultaneously from the CD for the intro and outro movies.

This module will be used by the main game loop. It may require access with the input system, if we wish to interrupt the movies.

Other assumptions include: the display buffer with the current screen image will be available to this system; This system must use current display buffers only (peacefully coexist with and not require access to the rest of video memory); No other CD reads will be going on during the playing of cut scenes.

Structures/Classes

MPEG2 file format structures

Functions/Methods

CutScene Constructor – Finds out display/audio info that could affect its behavior.

CutScene Destructor – Cleans up.

Play – Plays CutScene based on passed file name

Diagrams

Schedule Task List

System Tasks	Duration	Dependent
Design cut scene engine	1 Day	Design Document, Display Class Designed, Audio Class Designed
Code Win32 cut scene engine	1 Day	Cut Scene Class Designed
Test & Revise Win32 Cut Scene Class	1 Day	Win32 Cut Scene Class finished
Code Mac cut scene engine	1 Day	Cut Scene Class Designed
Test & Revise Mac Cut Scene Class	1 Day	Mac Cut Scene Class finished
Rework #1 Cut Scene Class	1 Day	As Needed
Test & Revise Cut Scene Rework #1	1 Day	Cut Scene Class Reworked #1
Rework #2 Cut Scene Class	1 Day	As Needed
Test & Revise Cut Scene Rework #2	1 Day	Cut Scene Class Reworked #2
Total	9 Days	

Memory

Video memory is used from display system. Decompressor should be able to go straight to buffer (assumption).

Memory may be used for audio buffer this size depends on the sampling rate of the audio in the cut scene.

Temp buffer for CD to memory compressed image read depends on codec and key framing used.

Risk Assessment

If the Quicktime/Direct show versions of the software do not play well with our buffer setup or file format, we will need to write our own movie players for the hardware. Based upon our research, this is not a high probability risk, but would impact the schedule by about 2 weeks.

QA & Test

Multiple cut scenes should be played on the minimum and target machines to verify synchronization and correct video playback. If the audio clicks or pops during playback, or the video is jumbled or jumps drastically between frames while a cut scene is being played, it is likely a problem in this module.

