

# GAMESOUND

## A PROTOTYPE LUDOMUSICOLOGICAL DATABASE

### PROJECT OVERVIEW

GameSound is a prototype database that reveals the music and sound effects present within video games in an effort to facilitate academic study. Using an interdisciplinary approach for categorization and display, GameSound allows online access to a meaningful dataset of technical and musicological data using dynamic search capabilities. Our goal is to develop GameSound into an indispensable resource for game scholars, ludomusicologists, and independent researchers.

Built using Sydney University's data management system HEURIST, our current dataset includes over two thousand audio entries extracted from the 2005 computer game *Civilization IV*. HEURIST is a free platform for scholars in the digital humanities that facilitates online database construction, mixed-media assets, and dynamic data visualization.

### INITIAL DATASET

GameSound's initial dataset consists of 2178 audio files sourced from a Windows installation of *Civilization IV*. Using the metadata software MediaInfo we have automated the extraction of technical information with a high degree of accuracy. File durations are represented in a HH:MM.DDD format and range from a miniscule 00:00.010 to an enormous 21:28.280 in length. File sizes are precisely measured using Mebibytes (MiB) and range from 0.0003 MiB to 19.6574 MiB.

*Civilization IV* is an ideal pilot study for our prototype because of its open programming architecture. Developers have enabled transparent access to the game's assets, making both data extraction and interpretation simpler than in comparable titles. Furthermore, *Civilization IV* was the first computer game to be nominated for (and win) a Grammy, granting it a special place in the history of ludomusicology and affirming its cultural significance.

### WHAT IS LUDOMUSICOLOGY?

Ludomusicology is an emerging sub-discipline of musicology that focuses on the academic study of the audio experienced in video games. Ludomusicology is interdisciplinary: fostering collaborations with computer science, film, media studies, and communications. Our goal is to promote further growth in the field through the development of an online database that provides scholars with accessible tools to explore new research methodologies such as integrated technical analysis and data analytics. GameSound includes both technical and musicological data and features a growing collection of audio files, video clips, and gameplay screenshots.

### SAMPLE ENTRY

In addition to faceted search functionality - which can be accessed via the GameSound website - administrators can publish a collection of entries using HTML or Javascript reports. Below is an example of how a single database entry can be embedded on a web page, complete with an accompanying screenshot and a simple audio player.

#### Bank.wav



#### Technical Information

**Game Source:** Civilization IV

**File Type:** WAV

**File Size:** 0.0659 MiB

**Duration:** 00:03.111

**Sample Rate:** 22050 Hz

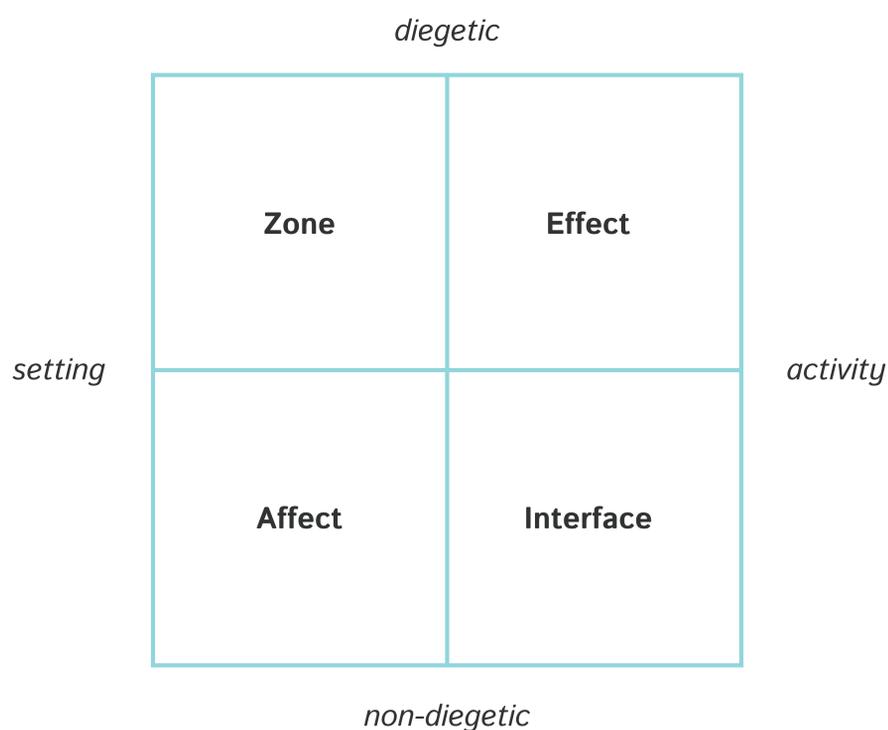
#### Ludological Classification

**Sound Type:** Sound Effect

**IEZA Classification:** Affect

### THE IEZA FRAMEWORK

GameSound utilizes the IEZA framework, a two dimensional method of describing sound in computer games. Designed by Sander Huijberts and Richard van Tol at the Utrecht School of the Arts, the IEZA framework provides ludologists with a customized vocabulary for audio classification.



IEZA's first dimension makes a distinction between diegetic and non-diegetic sound and is conceptualised by categorizing audio as either experienced within the pure game environment (as related to the storyline) or beyond (breaking the "fourth wall," so to speak). The second dimension makes a distinction between sound related to the activity and setting within the game. Four domains are formed across these two axes: Interface, Effect, Zone and Affect.