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DR RICHARD STEVENS

DYNAMIC MUSIC IN VIDEO GAMES

KNOWLEDGE EXCHANGE FRAMEWORK
DATA COLLECTION
February 2023

The University's Research & Enterprise Service has requested information on knowledge exchange and engagement with the public and communities. Please complete the form below and return it to Professor Simon Morris (S.DC.Morris@leedsbeckett.ac.uk) *and* Dr Tina Conkar (t.conkar@leedsbeckett.ac.uk) by **21 February 2023.** Many thanks for your support with information gathering for this submission.

Name:	Richard Stevens
Job Title:	Course Director: Postgraduate (Music, Sound & Performing Arts subject group)
Email:	r.c.stevens@leedsbeckett.ac.uk
School:	Leeds School of Arts

Please use the template below to detail information on all projects you have undertaken since 1 January 2019 that involved public and community engagement. Please use one form per project.

Project Title:	Dynamic Music in Video Games
Project Date(s):	11th December 2021 – 28th April 2022
URL Link to Project:	https://www.aloudverona.it/game-audio-deconstructed-2021/ https://www.youtube.com/watch?v=qNXmDuFmjLc https://dev.epicgames.com/community/learning/courses/XAw/quartz-music-system/EbdY/introduction-to-quartz-music-system

Brief Description of Project (250-1000 words max.)
In the field below please give a brief outline of the project and what it entailed.

This project involved researching and developing new methods and systems for implementing dynamic music in games using Unreal Engine. Based upon the theoretical ideas articulated in the 2021 book chapter 'The inherent conflicts of Musical interactivity in video games (Stevens, 2021) a series of systems were developed using the newly released 'Quartz' functionality in the video game engine, enabling time-accurate music interactions for the first time.

Given their reputation in the field Richard Stevens and Dave Raybould were invited by Game Programmer and co-conference chair Igor Dall'avantzi and Aloud college to give a presentation at the Game Audio Deconstructed in Vernoa, Italy on 11th December 2021. This presentation consisted of a live coding

demonstration of how to implement new systems for music implementation in the engine (https://www.aloudverona.it/game-audio-deconstructed-2021/). The initial conference had 50 attendees and then the video of the presentation was uploaded where it has had 549 views, "Dynamic and Interactive Music using Unreal Engine's Quartz System" https://www.youtube.com/watch?v=qNXmDuFmjLc.

Alongside the conference Richard Stevens and Dave Raybould were also invited to develop a series of tutorial materials and associated game files and systems by the developers of the software, Epic Games. This was published as an official course 'Quartz Music System' on the Epic Online Learning site, https://dev.epicgames.com/community/learning/courses/XAw/quartz-music-system/EbdY/introduction-to-quartz-music-system. The course has been viewed 3,676 times and recommended by Dan Reynolds, Senior Technical Audio Designer, Epic Games (https://twitter.com/dannthr/status/1503414824889249792)

Stevens, R. (2021) "The Inherent Conflicts of Musical Interactivity in Video Games," in Fritsch, M. and Summers, T. (eds) The Cambridge Companion to Video Game Music. Cambridge: Cambridge University Press (Cambridge Companions to Music), pp. 74–93. doi: 10.1017/9781108670289.007. April 2021

Organisations Engaged with: Please list the names of any organisations engaged with, such as Schools or Community Groups.	Game Audio Deconstructed Epic Games	Total participants: Please give an approximate figure for the number of people who engaged with your project.	Game Audio Deconstructed: 50 Recorded lecture views 549 Epic Games Online Learning views 3,600 Total 4,199
Knowledge Exchange Outcomes: If relevant, in brief, please describe any knowledge exchange outcomes such as new approaches to working with a community.	Sharing research around the concept of integrated music design. An event with live coding examples of innovative systems for dynamic music, and a documented recording of that event that is publicly available. A 4 hour course and downloadable video game level that demonstrates these approaches and containing original and innovative systems for dynamic music implementation, using the quartz sub-system for the first time in this context. The course has been viewed over 3, 600 times.		
Quotes In the field below please include any relevant quotes that you would like to share which evidence the knowledge exchange and engagement your project received.			
"The conference was great and your talk super well received! Are we ok to put it online then? I think it will be great for people looking for a quickstart guide on how to make interactive music in UE." Igor Dall'avanzi conference co-organiser.			

Youtube comment on the presentation recording "So awesome, Thank you for sharing!"

"Reminder for those of you who just heard about Quartz after its shout out during the Fortnite lofi vibe event, that @billystupid and @TheNewTeed wrote a whole course on music implementation concepts and approaches in Unreal which you can take for free."
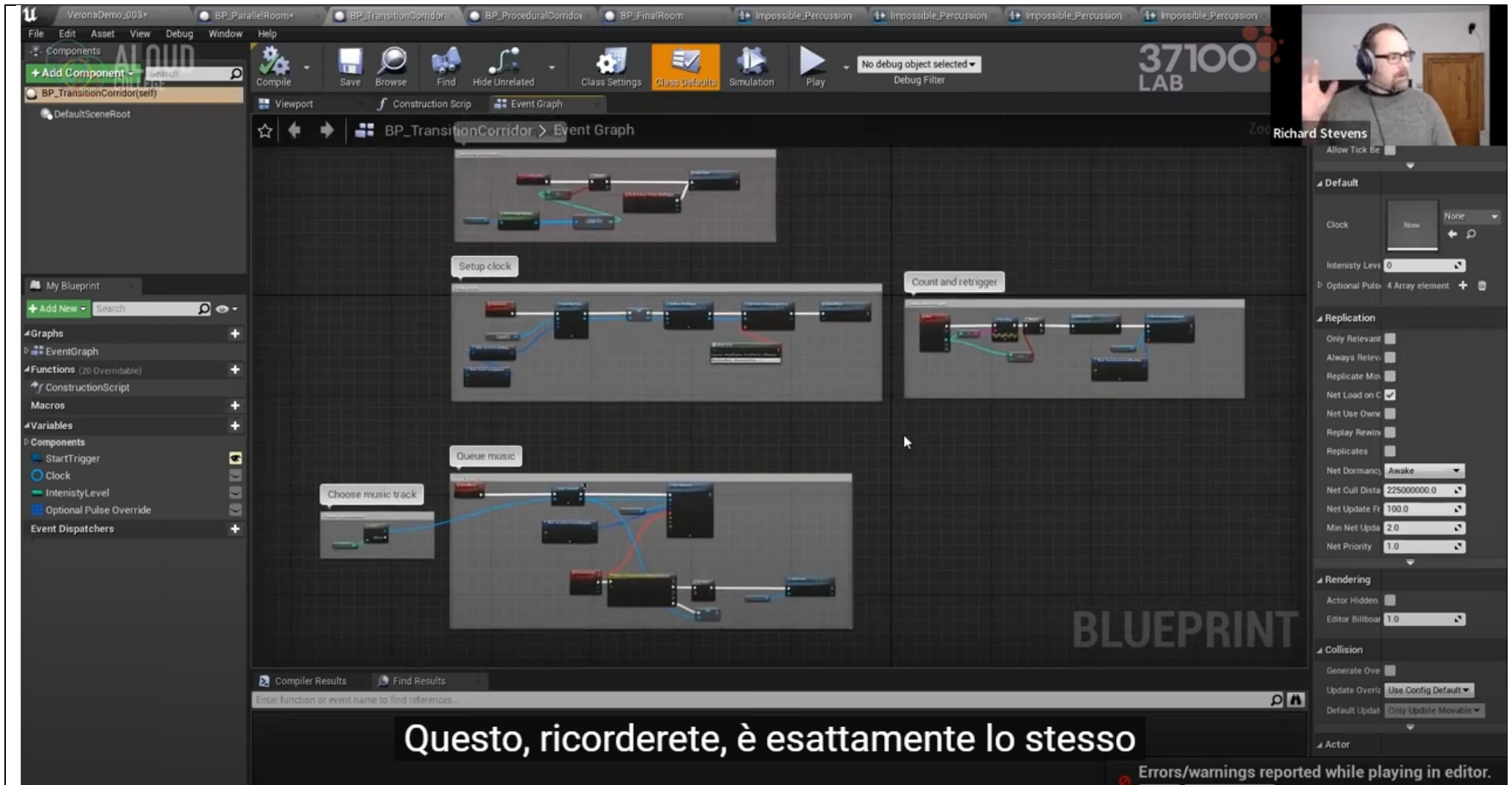(https://twitter.com/dannthr/status/1534059202703896579)

Images
In the field below please include any relevant images you would like to share.

Questo, ricorderete, è esattamente lo stesso

Published: Apr 28, 2022   Last Updated: Jan 22, 2023   Application: ⓤ **Unreal Engine 4.27**

EPIC DEV OFFICIAL COURSE

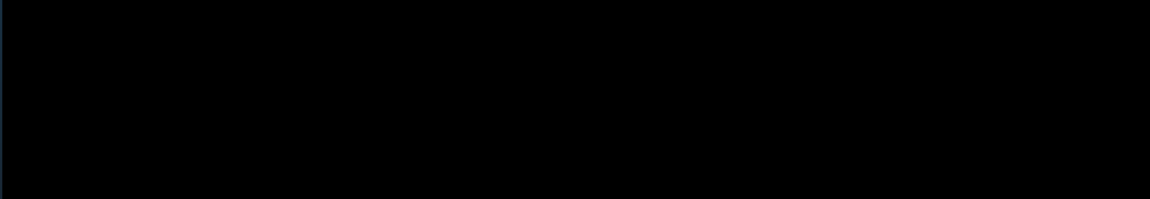## Quartz Music System: Introduction
by **Epic Games**

👍 10   👎   💬 **0 comments**   👁 **3,676 views**

Author Richard Stevens takes you through everything you need to be successful as you complete the "Quartz Music System" course.

Categories: Audio, Programming & Scripting   **Industries:** Games   blueprint

ON THIS PAGE ⌄

Quartz Music System

This course covers a variety of approaches to dynamic music in video games and how to implement them in Unreal Engine. The techniques will be based around Quartz -...

Show more ⌄

Course outline
Module **1** of **20**

Introduction to Music with Quartz ⌄

Quartz Music System: Introduction

Looping Background Music

Music Playlists

Musical One-shots: Triggered by Overlap

Musical One-shots: Triggered by Looking At

Parallel and Transitional Approaches to Mu... ⌃