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| MTU Kerry |
| Capturing, Editing and Merging Gaussian Splats to Create Novel 3D Environments |
| Academic Year:2023/2024  Programme Title: Computing with Games Development – MT804  Module Title: Final Year Project  Module Code: PROJ 81003  Lecturer’s Name: Claire Horgan |

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# Abstract:

Gaussian Splatting, a point cloud rendering technique originating in the 1990s, has recently seen significant advancements, making it a compelling alternative to traditional photogrammetry methods. This paper explores the potential, and limitations, of Gaussian Splatting for creating novel environments in various applications, including game development. The exploration of techniques for editing and merging splats to generate unique and visually impressive 3D scenes. This paper examines the process of Gaussian Splat editing and merging, and compares it with other emerging methods, such as Neural Radiance Fields (NeRF) and SMERF. This research demonstrates how Gaussian Splatting can contribute to the creation of highly detailed and dynamic virtual environments.

Test addition

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# Introduction

# Methodology

## 1.1 Research Question

How can Gaussian Splats be edited and merged to create novel and visually impressive 3D environments for use in game development and beyond?

## 1.2 Research Area

Computer Graphics, Photogrammetry, 3D Rendering, and Game Development, with a specific focus on the editing, merging, and rendering of point cloud data using game engines.