Supplemental Material for the Web3d 2022 Paper "A Framework for Safe Execution of User-Uploaded Algorithms"

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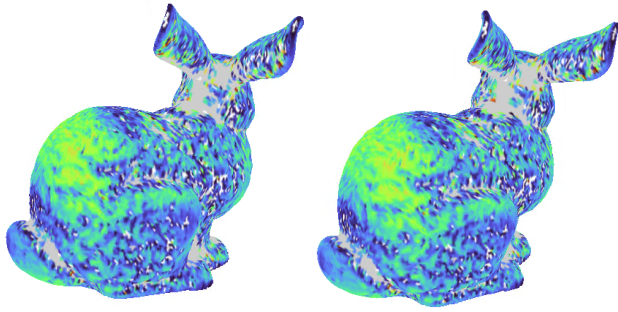University of Bremen
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Figure 1: Average collision query time heatmap for the object Bunny in native (left) and virtualization environment (right) using boxtree algorithm on Intel CPU (i7 7900x). The heatmaps are very similar.
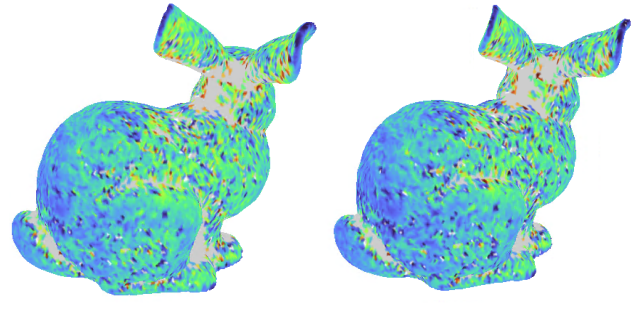

Figure 3: Average collision query time heatmap for the object Bunny in native (left) and virtualization environment (right) using vcollide algorithm on Intel CPU (i7 7900x). The heatmaps are very similar.
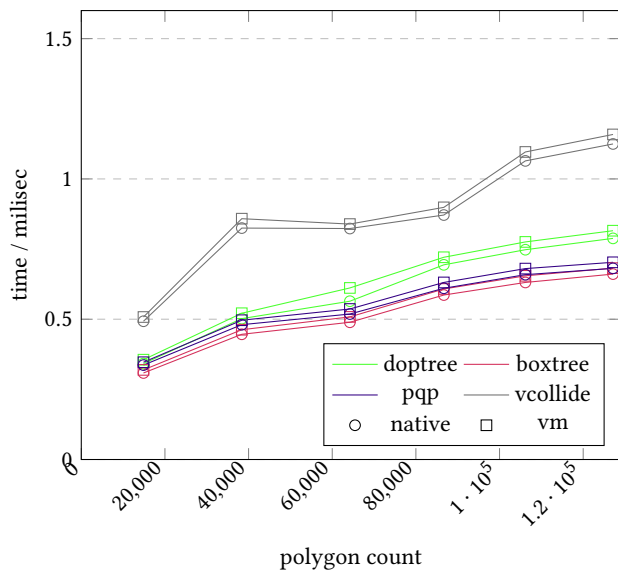

Figure 2: Average collision query time for the object Castle in native (○) and virtualization (□) environment for various CD algorithms using AMD CPU (Ryzen 9 3900X). The delta are very similar across different algorithms, object shapes and complexity.
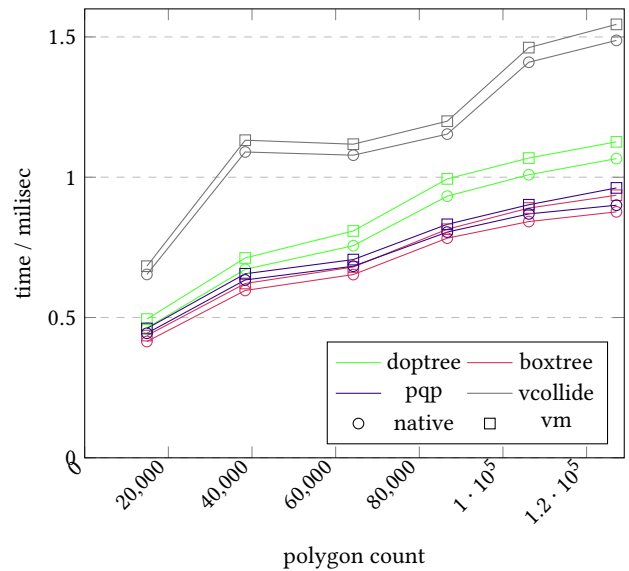

Figure 4: Average collision query time for the object Castle in native (○) and virtualization (□) environment for various CD algorithms using Intel CPU (i7 7900x). The delta are very similar across different algorithms, object shapes and complexity.

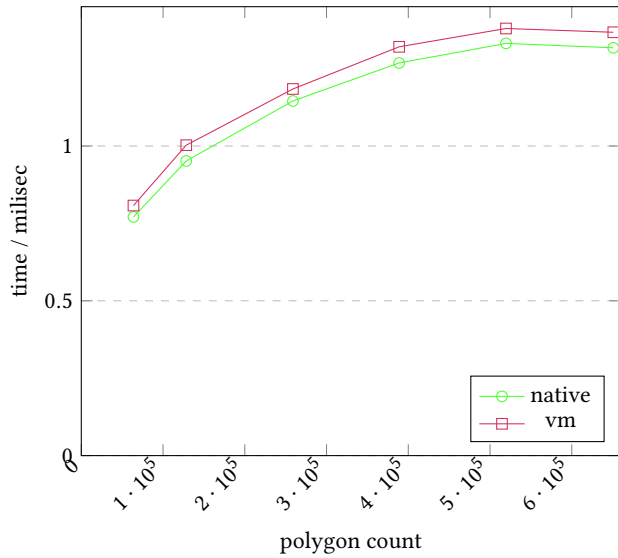Toni Tan, René Weller, and Gabriel Zachmann

Figure 5: Average collision query time for the object Hand in native (○) and virtualization (□) environment using SIMDop CD algorithms for intel CPU (i7 7900x). The delta are similar across different object complexity.
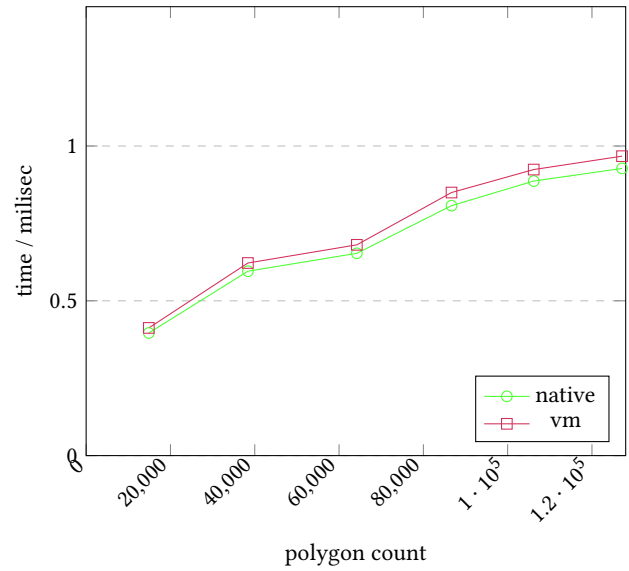

Figure 6: Average collision query time for the object Castle in native (○) and virtualization (□) environment using SIMDop CD algorithms for intel CPU (i7 7900x). The delta are similar across different object complexity.