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Summary

This article evaluates the capabilities of GPUs with the rendering and display of forest vegetation within flight simulators. Due to the vast number of trees and varying complexities of their patterns, the generation of them within programs such as a flight simulator, where locations and ecosystems are displayed in great detail, can require a good amount of stress on the GPU to accomplish. On top of this, projects such as flight simulators require such items to be displayed at fast paces, in order to effectively emulate the flying experience for the user. To deal with the problems caused by generating so many detailed trees from forests, the authors developed an algorithm that significantly reduces the size of data transfer needed to accomplish such a large task. As a result, those using the simulator can change direction fluently, having various sections of forest and other objects viewable in great detail despite the sometimes sudden manuevor.