ABSTRACT

Online learning is one of the distance learning methods that is currently starting to be implemented in almost all educational institutions, due to the directive to limit face-to-face teaching and learning activities, caused by the corona virus pandemic (COVID-19). One of the most frequently used methods in online learning is using video conferencing, with teachers conducting video conferencing with students or students who are considered less interactive. Therefore, an interactive online learning in the form of a virtual classroom video game application can be an alternative solution, that uses Unity3D platform with the Telkom University K Building class model, in which there is a projector display feature so that students can display the desired video via the link, this virtual classroom will also have an email sending feature, .

Based on the results of analysis and testing, which focused on developing the videoplayer and email features, it was found that the implementation of the videoplayer and email features in the virtual classroom game in accordance with the design objectives of these features. Meanwhile, for the device test results, the percentage of CPU and GPU usage, RAM usage, and CPU and GPU temperatures, obtained in testing the videoplayer feature, the average FPS for virtual classroom games is 60FPS, with CPU usage percent around 50%, GPU 34%. With the use of RAM at 700MB. For temperature measurements in testing the videoplayer feature, the temperature for the CPU is at an average of 75 degrees Celsius and the temperature for the GPU is on an average of 63 degrees Celsius. As for the email feature, FPS is at 60fps, CPU usage is 30%, GPU is 35%, RAM is 701MB, CPU temperature is 69 degrees Celsius, GPU temperature is 59 degrees Celsius.

Keywords: Unity3D, Video games, Virtual Classroom