Thesis Defense

Computer Science Master's Program

"VIDEO GAME HACKING, A GENERAL PROBLEM WITH GENERALIZED SOLUTIONS"

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Abstract:

As video games continue to get more popular and lucrative, the number of malicious actors seeking to exploit them grows with it. As this industry expands, so does the importance of securing games against cheating and abuse. This thesis aims to educate developers to help mitigate the abuse of video games by these malicious actors. The goal of this thesis is to provide a foundational framework for thinking like a hacker and how to make games harder to abuse once a hacker bypasses conventional anti-cheat software.

This thesis outlines some of the most common cheating methods and provides general context to what hacking is like, what it is used for, and the reasons why people cheat. Additionally, it discusses options for dealing with cheaters upon detection from these systems.

Included in this thesis is a case study that implements these systems along with code samples of what the actual usage of these systems may look like. The implementation is done in Roblox Studio, a beginner-friendly game development environment, along with its easy-to-understand scripting language, Luau. While the case study is specific to Roblox, the topics discussed are relevant to almost all popular game engines.

Date: Monday, June 2nd, 2025
Time: 9:00 AM – 11:00 AM
Location: 14-232b
Zoom: https://calpoly.zoom.us/j/3785699931
Committee: Dr. Beard, Dr. Grow, and Dr. DeBruhl