COMP 7615 FINAL ASSIGNMENT
PROJECT PROPOSAL

Tehrani Parsa, Peyman
A00922386

Project Overview

WASM vs Javascript vs C++ Benchmark

Goal of this project is figuring out the performance benefit and negatives of using Webassembly as your platform target. I've been very interested in playing around with webassembly and learning how to use it. This assignment will help me understand inner workings of how wasm works.

WebAssembly or wasm is a new binary format that runs on all modern browsers. Since it's release multiple videos have come out showcasing how wasm out performs Javascript in embedded applications like unity, autocad and, face-detection.

The testing metrics for this benchmark is CPU time and peak memory usage of the program. Javascript, Webassembly and, C++ will all have programs containing the algorithms for merge-sort, radix-sort and, Fibonacci each. For testing

Timeline and Task Breakdown

The deadline of this project is presented as November 28th, giving me a total of three weeks to complete this project. The table below will break down the specific milestones I want to achieve along with its corresponding duration in hours.

Milestone	Duration (Hours)
Programing the algorithms 1. Programing in C++ 2. Programing in Javascript	1 ● .7 ● .3
Compiling to working Webassembly	6
Benchmarking memory and CPU time of 1. C++ 2. Javascript 3. Wasm	2 ● .6 ● .6 ● .67
Writing report on my findings	1