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# Improving the Readability of Open Broadcaster Software

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# Background

- Software used to record or livestream content
- Written in C/C++
- Originally parallelized using pthreads
- Uses processor to encode and export video

# The Plan

- Increase readability of source code
- Utilize OpenMP for its readability
- Maintain performance if possible

# Parallelized Sections

- Utilized Vtune to find high load sections
- Video encoding primary high load section

# Testing Environment/Materials

- Intel Core i5-2500k 3.3GHz
- AMD Radeon HD 6950 1GB
- 8 GB Dual Channel DDR3-1600
- Dota 2 (Computer game used for testing)
- Autohotkey (Scripting software)

# Testing Procedure

- Utilize autohotkey to put stress on the GFX
- Run script for 1 minute
- Rest for 5 minutes
- Analyze framerate of different scenarios/versions
- Compare before/after fps to determine speedup

# Results

	Pre-runtime (Fps)	During runtime (Fps)	Speedup Idle	Speedup Running
No OBS	90	31	-	-
Base OBS	74	18	-	-
My version 1	57	3	.77x	.16x
My version 2	49	1	.66x	.05x
My version 3	66	11	.89x	.61x

Note: All frame rates are  $\pm 2$  fps

# What I would do if i started over

- Choose a different project or open source program