

# Greenlee 560 Summary 8

Elliot Greenlee

April 6, 2017

## 1 Introduction

A File Is Not a File: Understanding the I/O Behavior of Apple Desktop Applications

## 2 Problems

What problems does this paper try to solve? Why are such problems important?

There has been a shift in the way computer systems are used away from the typical Linux assumptions. New users are primarily home based, want to sync between multiple devices, and use large monolithic applications with new data storage systems. By performing an analysis of these systems, new operating system design choices can be made that improve future computer performance.

## 3 Assumptions

What are assumptions made by this paper? Are they verifiable? Are there logical holes in such assumptions?

This paper assumes that future OS design considerations from Mac applications can be applied to all future operating systems. They do not provide any logic for why this is true. It does not seem to be verifiable based on this paper, and I think in general most would argue against the claim.

## 4 Solutions

What are the major solutions of this paper? Do you think the solutions in this paper will work for the problem? Do you think the paper evaluates the solutions in a convincing manner? List two limitations of the solutions proposed in this paper, and outline your method to fix them.

The paper writers created a general tracing framework for benchmarks based on interactive tasks, and then applied that iBench framework to quantify I/O behavior. They create 34 different traces that are now publicly accessible,

and described how these new changes in I/O behavior discovered from their analysis can be used in the design of future systems.

This paper only performs analysis on Mac applications on macOS. In the future, it would be very different to analyze the results of Windows systems, and since those are mentioned in the paper, it would seem they are missing from the analysis.

This paper notes that operating systems must adjust to the way users are operating computers, yet they do perform such a study. Instead, they classify I/O behavior under controlled workload tasks. Future study would benefit from doing analysis of in progress workloads from these typical users.