

# Publicity Center Computer Utilization Analysis

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## Summary

The Publicity Center and AS Review have requested funding from the Associated Students to convert their workstations from Dell PC Desktop Computers to Apple iMac Desktop Computers. I endorse this change for two reasons:

1. Apple computers are better equipped to for graphic design and production. Both the hardware of the machines and the software ecosystem are more specifically tailored to design, especially the large video/motion graphics pieces, as have become standard in our digital signage portfolio. Even though Adobe Software is available for both Macs and PCs, because the professional design community so predominately uses Apple, any security updates or bug fixes for Adobe products become available for Apple users first.
2. Apple computers are the primary teaching tool for Graphic Design courses at WWU. In order to accurately mirror the student academic experience in the Publicity Center, we should follow the Design Department's lead on the tools of the trade.
3. Private sector design firms use Apple products almost exclusively. In order to replicate the professional designer experience most accurately, we should supply the same tools to our student employee designers that professional designers use. When possible.

The purpose of this document **is not** to endorse the proposal for purchasing Apple computers for the Publicity Center (although I do endorse it), but to provide data and context to the conversation. This report will analyze the use of existing computers in the PC/AS Review, to determine what the peak usage is for the different business functions of the PC. With this data in mind, the AS can make a more informed decision as to how many Apple computers to purchase, and where to allocate them.

## Methodology

Using Logon/Logoff data from the Security Logs of the 17 computers in the PC/Review office, I have produced a Logon Duration Report that tells me, within a small margin of error, what time of day each computer was used (and for how long).

I have divided the 17 computers of the PC/Review into the following groups, based on Business Function:

**Table 1: Publicity Center Business Functions and Computer Count**

<b>Business Function</b>	<b>Number of Computers</b>
<b>Account Executives</b>	4
<b>Lead Designer</b>	1
<b>Distribution Coordinator</b>	1
<b>Graphic Designers (The “Cave”)</b>	6
<b>Graphics Production</b>	1
<b>AS Review (inc. Photographer)</b>	3
<b>Digital Signage Content Manager</b>	1
<b>PC Staff Manager (Jeff Bates)</b>	1

The primary purpose of this report is to analyze the utilization rates and usage patterns of the 6 Graphic Designer computers (the Design Cave) and the 3 AS Review/Photographer computers. The Account Executives and Distribution Coordinator are excluded from analysis because they are not part of the Apple computer proposal. The Lead Designer, Graphics Production Coordinator, Digital Signage Content Manager, and PC Staff Manager computers are also excluded from analysis because the job responsibilities of those positions dictate that they be single-user machines, available to their dedicated user when needed. Utilization rate is therefore an unnecessary criterion for determining whether and when to convert them from Dell to Apple.

The 6 Design Cave and 3 AS Review computers, however, are all identical in terms of their requirements. Any AS Review editor/photographer and PC Graphic Designer should technically be able to use any of those 9 computers to do their jobs. The only barriers between the 6 Design Cave machines and the 3 AS Review machines are organizational and physical – they are located in different parts of the PC office suite, and there is an organizational expectation that designers will use the Cave computers, and Review employees will use the Review computers. From a technical standpoint, these distinctions do not matter.

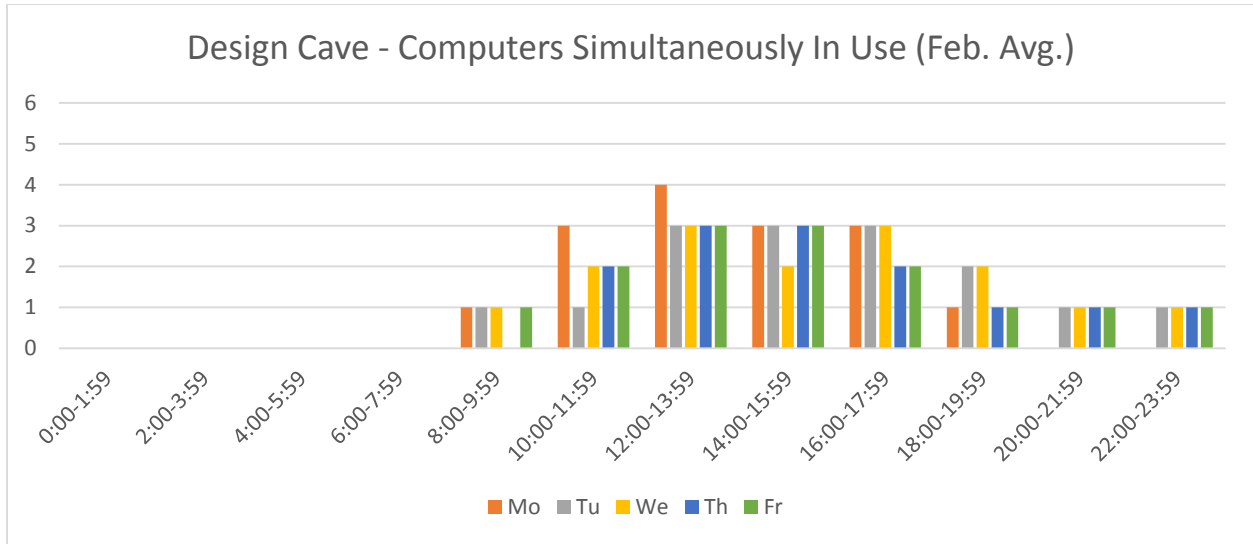
Usage data was collected for the month of February 2015. Each day was divided into two-hour increments, and from the usage data I have collated a frequency distribution showing how many computers were simultaneously in use in any given two-hour block. I calculated the average number of computers in use for each weekday by adding up all computers in use for each two-hour segment of each weekday and taking the mean of each segment, rounding up. Monday, February 16<sup>th</sup> is excluded from the calculation because it was a Federal Holiday.

This usage analysis should tell us whether the Design Cave and AS Review computer pools can be consolidated in a way that still meets peak demand, but would allow us to buy fewer computers.

## Results

Table 2 and Table 3 show the average number of simultaneous computers in use for each weekday in February 2015, for the 6 Design Cave computers:

**Table 2: Utilization Rate of Design Cave (Graphical)**



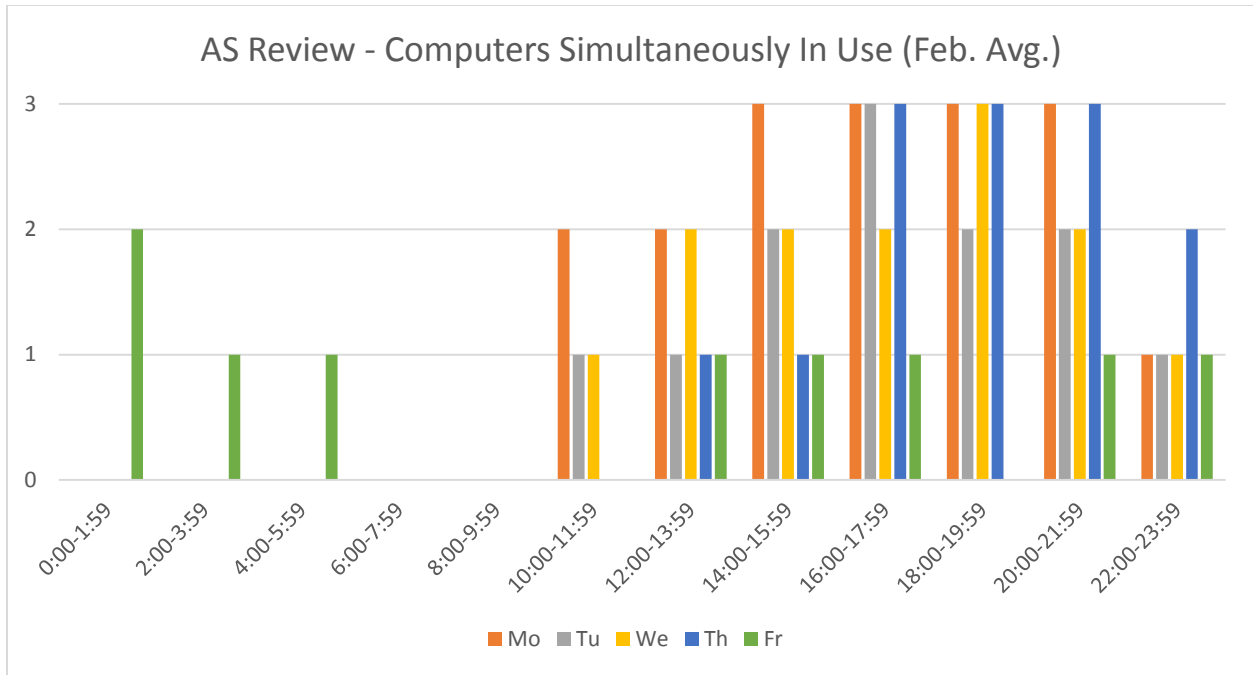
**Table 3: Utilization Rate of Design Cave (Numerical)**

Time Intervals (2 Hours)	Monday	Tuesday	Wednesday	Thursday	Friday
0:00-1:59	0	0	0	0	0
2:00-3:59	0	0	0	0	0
4:00-5:59	0	0	0	0	0
6:00-7:59	0	0	0	0	0
8:00-9:59	1	1	1	0	1
10:00-11:59	3	1	2	2	2
12:00-13:59	4	3	3	3	3
14:00-15:59	3	3	2	3	3
16:00-17:59	3	3	3	2	2
18:00-19:59	1	2	2	1	1
20:00-21:59	0	1	1	1	1
22:00-23:59	0	1	1	1	1

Peak usage of the Design Cave occurs on Monday between noon and 2:00 PM, when four computers are in use simultaneously. There are at least three computers in use on Mondays from 10AM-6PM, Tuesdays from 12P-6P, Thursdays from 12P-4P, and Fridays from 12P-4P. At no point in the week are all six computers in use simultaneously.

Tables 4 and 5 show the average number of simultaneous computers in use for the AS Review

**Table 4: Utilization Rate of AS Review (Graphical)**



**Table 5: Utilization Rate of AS Review (Numerical)**

Time Interval	Monday	Tuesday	Wednesday	Thursday	Friday
0:00-1:59	0	0	0	0	2
2:00-3:59	0	0	0	0	1
4:00-5:59	0	0	0	0	1
6:00-7:59	0	0	0	0	0
8:00-9:59	0	0	0	0	0
10:00-11:59	2	1	1	0	0
12:00-13:59	2	1	2	1	1
14:00-15:59	3	2	2	1	1
16:00-17:59	3	3	2	3	1
18:00-19:59	3	2	3	3	0
20:00-21:59	3	2	2	3	1
22:00-23:59	1	1	1	2	1

The three AS Review computers are all in use simultaneously at several times during the week: most notably Mondays from 2PM-10PM and Thursdays from 4PM-10PM.

The Design Cave requires a minimum of 4 computers to meet peak demand. The AS Review requires 3 computers to meet peak demand. While the AS Review peak demand period is later in the day than the peak Design Cave usage period, the two periods overlap enough that they could not be consolidated.