HEIF Idea Paper: “PADD”

Author: Daniel Evans - dme197@humboldt.edu

Daniel Evans is a student in the Environmental Resources Engineering program at HSU. He is expected to graduate in Spring of 2021.

Abstract: The goal of this idea is to put into motion an exploration of the quantitative and qualitative costs and benefits of shifting Humboldt State University to a virtually paper-free institution through the widespread use of widely available digital technology, i.e. cellphones, tablets, personal computers and the internet.

This satisfies HEIF’s mission of reducing the impact of HSU’s energy use, in this case, with respect to the energy associated with the manufacture and transportation of paper resources. Implementation of this idea would also meet two of HEIF’s five primary goals. The project’s success can easily be quantified by students and economic analyses of projects is fundamental to any major on campus. Furthermore, conservation of natural resources is an integral part of curricula in multiple disciplines within the College of Natural Resources.

PADD is the acronym, Personal Access Display Device, given to the personal computers seen in numerous episodes of Star Trek. Thankfully, we do not have to wait until the 22nd century (MojSvetJeVidiek 2019) for that amazing technology. In our society tablets are becoming as ubiquitous as cell phones and personal computers. I would like to propose that HEIF research the feasibility of transforming HSU into a nearly paper-free institution through the use of personal electronic devices.

I believe that Humboldt State is more than capable of performing the vast majority of its tasks without paper. To achieve this goal, I propose that HSU provide each new student, freshman or transfer, with a small tablet. The tablet does not need to be top of the line. One that functions as a simple e-reader with the ability to access Canvas would do just fine. The purpose of the tablets would be to replace any and all paper handouts. A tablet is ideal for this purpose as they are much lighter and less unwieldy than a personal computer and easier to read from for extended periods of time than a cell phone. These devices could also be used in lieu of paper textbooks by offering electronic versions of required texts at the HSU bookstore.

Many professors and instructors at HSU already require papers, essays and reports to be submitted electronically via Canvas. To really achieve a significant reduction in paper consumption, motivated by top-down policy changes, some instructors will need to make what may be considered drastic changes to the way they teach their classes and the ways they grade the work of their students. Luckily, Canvas is an excellent portal for such tasks. I believe that faculty can be convinced to come around to requiring only electronic submissions from their pupils given a sufficient transition time and possibly tutorials provided by HSU and the developers of Canvas. Of course, printing something wouldn't be forbidden. If a student wanted to print out a handout downloaded from Canvas they would be able to but they would have to print it out at home or pay to have it printed on campus.

The tablet could be paid for through a relatively small additional fee tacked on to the fees and tuition that students already pay. Ideally, the program would be paid for with grant money. Tablets might also be returned after students graduate or continue their education somewhere else so that new students could make use of the old tablets. After initial implementation of the project the savings gained could potentially pay for the tablets, thereby not increasing the financial burden on students. Electronic versions of textbooks are generally cheaper so using the tablets for that purpose would further reduce students' semester costs and potentially the University's as well.

Humboldt State University uses roughly 2900 cases of 100% post-consumer recycled paper a year (HSU 2019). Since I do not have access to HSU's Office Max

Business account I am unable to see what HSU pays for a case of paper. As such, I had to extrapolate the cost by multiplying the cost of a case of paper from Amazon Basics by 2900. That total comes out to approximately $203,000 with flat pricing. Applying a bulk discount of 30% yields an annual cost of paper around $142,000. A link to the page where the cost per case was determined, as well as sample calculations, is listed in the Appendix. A brief perusing of the internet found that Walmart.com sells a basic tablet that would meet the aforementioned requirements for only $40. Seeing approximately 2100 new students, both freshman and transfers, a year (HSU 2017), the total cost of providing tablets to each student annually would amount to roughly $84,000 with flat pricing. Again, sample calculations and a link to the webpage with the tablet price are available in the Appendix. At first glance, the benefit of utilizing electronic media in lieu of paper would be approximately $58,000.

Of course, the above totals are merely rough estimates made with my limited knowledge of HSU's expenditures and contractual obligations. The bulk paper discount provided to our institution may exceed 30% or may be less (hopefully not). Also, undoubtedly, HSU would be able to receive some sort of bulk discount on the tablets as well. There may also be cheaper tablets that I did not find that would also meet students anticipated requirements. The environmental impact of the manufacture of the tablets must also be taken into account and compared with that of the recycled paper. Also, while achieving a totally paper-free campus would be ideal, it is very unlikely that 100% reduction could be achieved, meaning that we would still have to purchase some amount of paper. Taking into account all of the above limitations on calculating costs it becomes apparent that a much deeper and more thorough analysis of the potential costs and benefits must be made in order to accurately gauge the feasibility of this proposal.

Using personal electronics instead of paper could result in several benefits; reduced environmental impact from the manufacture and shipping of paper, less weight for students and instructors to carry, fewer papers to keep track of, greater organization, monetary savings and potentially many more. The technology is widely available and affordable and I think the will is there as well. Consuming less energy and fewer natural resources is at the core of so much that is done at HSU. The future is here and it's time we made more use of it.

References

HSU. (2017). *We Are Here: A Snapshot of HSU's Current Conditions, Circumstances and Influences*. *We Are Here: A Snapshot of HSU's Current Conditions, Circumstances and Influences*, rep., Humboldt State University, Arcata, CA, 8–8.

HSU. (n.d.). “Benefits of This Policy.” *100% Recycled Paper Policy*, Humboldt State University, <http://www2.humboldt.edu/paperpolicy/benefits.html> (Mar. 24, 2019).

MojSvetJeVidiek, et al. (2019). “PADD.” *Memory Alpha*, <https://memory-alpha.fandom.com/wiki/PADD> (Mar. 23, 2019).

Appendix

Link to paper cost and associated sample calculations

https://www.amazon.com/AmazonBasics-100-Recycled-Multipurpose-Paper/dp/B073H7Z8CX/ref=sr_1_5?keywords=case+of+100%25+recycled+printer+paper&qid=1553031381&s=gateway&sr=8-5

2900 cases x $70/case = $203,000

$203,000 x .70 = $142,100

$203,000 x .50 = $101,500

Link to tablet cost and associated calculations

https://www.walmart.com/ip/Lenovo-Tab-E7-7-Android-Tablet-Quad-Core-Processor-8GB-Storage-Slate-Black/944200933?wmlspartner=wlpa&selectedSellerId=0&adid=22222222227255468332&wl0=&wl1=g&wl2=c&wl3=301345213843&wl4=pla-539187219281&wl5=9032376&wl6=&wl7=&wl8=&wl9=pla&wl10=8175035&wl11=online&wl12=944200933&wl13=&veh=sem&gclid=CjwKCAjw-OHkBRBkEiwAoOZql1ccpg3TJFM9n1c7PVdDccQ2JhaEqqGsuLtkWB4ZPRNSXjt-cV6tvhoCtIAQAvD_BwE

2,106 students x $40/student = $84,240