**Computer Budget Proposal**

**Public Library**

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SUMMARY

The Public Library is a suburban public library in need of new computers to eventually replace aging computers and to keep up with the demand for technology resources to serve patrons. The following table presents the items proposed to fill the library’s need and the cost associated with each item:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Computer Purchase Proposal | | | | |
| Item | Unit Price | Number of Units | Cost | Cost After Discount |
| Dell OptiPlex 5050 Desktop Computer | $849.00 | 4 | $3,396.00 | $2,954.52 |
| Dell 20-inch Monitor | $149.99 | 4 | $599.96 | $521.97 |
| Dell XPS 13-inch Laptop Computer | $1,199.99 | 2 | $2,399.98 | $2,087.98 |
| Apple iPad Pro 10.5-inch Wi-Fi 256GB – Space Gray | $799.00 | 1 | $799.00 | $695.13 |
| Office 2016 Productivity Suite | $149.99 | 6 | $899.94 | $899.94 |
| Dell 3-yr warranty | $239.00 | 2 | $478.00 | $478.00 |
| ESET 2-yr Internet Security and Antivirus protection software | $27.50 | 6 | $164.99 | $164.99 |
| AppleCare+ 2-yr warranty for iPad Pro | $99.00 | 1 | $99.00 | $99.00 |
| Apple Smart Cover for iPad Pro 10.5-inch | $49.00 | 1 | $49.00 | $49.00 |
| Lab Tech Support | $11.00 | 4 | $44.00 | $44.00 |
|  |  |  | **Total** | **$7994.53** |

The new desktop and laptop computers will be used in the same manner as the existing library computers but will have faster processing power and updated office productivity software which will meet the technology needs of patrons and staff. The total one-time cost of this proposal is $7,994.5 3

Background and Scope

The Public Library, located in Anywhere, MI with a population of 41,863 serves all ages of patrons from homeless to white collar professionals and from students to the elderly. The library currently maintains a collection of 12 desktop and 12 laptop computers with Windows 7 or 8 operating system (OS). Patrons use the desktop and laptop computers inside the library to check email, browse the internet, play games, and use office productivity software. Library personnel use the laptop computers during computer training classes to teach patrons computer technology. Each patron is allowed 75 minutes of desktop computing time per day. Patrons may check out the laptops inside the library for a period of 1 hour free then $2.50 for each additional hour.

Proposal Justification

The existing desktops and laptops at the library will eventually need to be replaced because they are not upgradable to the Windows 10 operating system because there isn’t enough open hard drive space. Due to the high-volume usage of computing devices, adding 4 desktops and 2 laptops will spread the wear and tear among more machines until the older systems are too expensive to repair. The new systems will allow for 2 more patrons to participate in the popular computer training classes, and allow 4 more patrons to use the desktops.

Consumer Reports stated, “desktops typically offer more performance for the money than laptops and are less expensive to repair” (“Choosing the Perfect Computer,” 2016). A compact desktop and an all-in-one computer were considered for the library for their space savings and convenience, respectively, but full-sized desktops are less expensive and easier to upgrade and repair according to CNET (“What kind of desktop should I buy?”, 2017). Even though Dell ranks 3rd after HP and Lenovo in terms of market share of sales of computers worldwide (Dunn, 2017), Dell had a reasonably priced desktop and laptop with Solid State Drive technology, longest warranty and tech support, and the website was very user friendly when compared to HP and Lenovo.

The Dell OptiPlex 5050 desktop from dell.com has a top performing central processing unit (CPU) to process information fast which is important to provide a positive user experience for patrons at the library. The technical specifications of the OptiPlex are:



an Intel® CoreTM i5-7500 multicore processor (4)



3.4 GHz clock speed

8 GB RAM





64-bit word size



6 MB cache

With the OptiPlex’s 3.4 GHz clock speed, 8 GB memory, and 4-core processor, information will be processed more quickly at the same time. The 6 MB cache and 64-bit word size will also increase the processing performance. The OptiPlex 5050 has Solid-State Drive (SSD) storage technology with 256 GB capacity. Since patrons mainly use the desktop computers to search the internet, email, catch up on work using office productivity software, and some gaming, there is no need for a large amount of file storage. In fact, any files stored on the library desktop computers are cleared daily. Consumer Reports (“All About Drives and the Battery,” 2016) advised “SSDs don’t have the spinning disk of a conventional hard drive, so they use less power, work more quietly, and should be more resistant to damage-and less likely to fail mechanically. And because there are no moving parts, they promise quicker access to data.” Another noteworthy feature of the Dell OptiPlex is the 3-year warranty included in the purchase price.

The Dell UltraSharp 27-inch monitor was CNET editor’s choice and recommended by Consumer Reports but was too much for the budget, therefore a 20-inch model with similar features was identified as a good alternative. The 20-inch model from dell.com has a widescreen (16:9 aspect ratio), adjustable height, rotatable display, HDMI video output for crisper images, and DP connectors and 1 USB 3.0 port like the larger more expensive version. A 3-year warranty is included in the cost per monitor that covers dead pixels. Dell (“The Dell Premium Panel Guarantee,” 2017) states that “if only one dead pixel is found, a free monitor exchange is guaranteed during the Limited Warranty period.”

Although the patrons must pay to use the laptop computers after 1 hour, they are usually all checked out on any given day due to the longer time that they can be used and their mobility benefits. Library staff use laptop computers to provide computer training classes and the patrons that take the computer classes use the laptops in the class. One of the reasons more laptop computers are needed is due to the popularity of the computer classes taught at the library. The Dell XPS 13-inch laptop from dell.com rated high in the Consumer Reports recommendations for being one of the fastest laptops tested due to the 1.8 GHz clock speed, 8 GB memory, and 4-core processor. The 8 MB cache and 64-bit word size also helps to increase the processing performance. Consumer Reports commented that the Dell XPS 13 has one of the best displays they tested for that size and noted the low-glare screen. Patrons and library staff will appreciate the lightweight, thin form factor and the long battery life. Library staff will appreciate the USB-C port that can be used to connect to an external monitor or TV for presentations and computer training classes. The Dell XPS laptop has SSD storage with 256 GB capacity. Since laptops are more expensive to repair than desktops, the budget includes the addition of a 3-year warranty which is the longest warranty possible.

To provide the ultimate in portability and efficiency within the library, quick access to social media apps to publicize the library, books, and library events, the library staff need a tablet. A multifunctional tablet will provide web browsing, e-book reader, video camera, and music player at a minimum to staff. For example, library staff could play music from the tablet during maker space workshops for youth and take photos and video to post on social media to publicize an upcoming event. One advantage of the library obtaining an Apple iPad Pro tablet from Apple.com is for the staff to train patrons (that have their own iPad) on using the iPad apps such as Skype, FaceTime, and accessibility features that help people with disabilities. Another reason for the library to get an iPad is that Apple products are less frequently the target of cyberattacks than Windows PCs. The iPad Pro has a 12-megapixel camera, 4K video recording at 30 fps, and the battery life is greater than 15 hours in a CNET test (Stein, 2017). The Apple iPad Pro 10.5 inch is highly rated in both Consumer Reports and CNET. It has an A10X Fusion chip with 64-bit architecture embedded M10 coprocessor that processes information fast. CNET (“A10X chip brings serious speed”, 2017) reported that “in the tests we threw at [iPad Pro], it comes out as one of the fastest tablets ever seen.” The iPad Pro comes with iOS 11 which is the latest version of the operating system. Some advantages of iOS 11 are new storage compression for videos which takes up less space, redesigned app store and control center.

To protect the iPad Pro from scratches and the screen from breaking if dropped, a protective case was added to the budget.

The Dell OptiPlex desktop and XPS laptop come with Windows 10 OS which has a similar look to what the patrons are used to from using older versions of Windows OS on the older desktops and laptops at the library. Ralph of CNET commented “Windows 10 is the Goldilocks version of Microsoft’s venerable PC operating system – a ‘just right’ compromise between the familiar dependability of Window 7, and the forward-looking touchscreen vision of Windows 8” (2016). One benefit of Windows 10 OS is the automatic downloads and install updates which provide important security patches and bug fixes to the device. Another benefit especially for libraries is Storage sense which when “enabled, Windows [10] will automatically delete unused temporary files, as well as files that have been in the Recycle Bin for more than 30 days”, (Elliott, 2017).

The budget includes the latest in office productivity software from Microsoft.com. The Home & Student version that has Word, Excel, PowerPoint, OneNote, and OneDrive will be sufficient. The Professional version with the additional Access, Outlook, and Publisher is too expensive to justify the use of the extra applications. “Office 2016 isn't just a fresh coat of paint -- it's a significant upgrade to Microsoft's iconic productivity software”, stated in CNET review (Mitroff, 2015). Some of the productivity tools that patrons and library staff will appreciate are “Pick up where you left off” which lets you jump to the place where you left off with one click, “Tell me what you want to do” on the main menu bar which will find and display what you need without having to search for it, and Smart Lookup which is a new research tool powered by Bing search engine to get more information contextually specific to the topic. CNET (Mitroff, 2015) advises that while “[Office 2016] has a bigger up-front cost, it can be cheaper in the long run. If you plan to use Office for more than two years and do not want extra storage space in OneDrive, a one-time purchase will ultimately be cheaper than a subscription.”

Since patrons engage in web browsing and email, the library computers are vulnerable to malware. The XPS laptop comes with a free trial version of antivirus software, but the OptiPlex desktop does not. Consumer Reports stated, “an advantage of a pay antivirus suite is that it simplifies your security regimen”, (“Shopping Tips and Safety Measures”, 2017). With free security software, technical support is often limited to online forums and frequently asked questions. To plan for long term protection of the new computers, the budget allows for 2 years antivirus and internet security protection from ESET. ESET from ESET.com is one of the recommended security suites from Consumer Reports. Some security software can be a memory drain on the computer, but ESET has low memory usage. Consumer Reports scorecard ranked ESET excellent at threat blocking, malware scan and very easy to use. ESET’s “control panel is good, and the help system is quite useful”, (“CRs Take”, 2017).

Proposed Timeline

The items listed in the table above will be ordered as soon as funds are available. When the items arrive, there will be no more than a two-week delay to format the desktops and laptops and catalog them for circulation so that they can be loaned out to patrons. A part-time experienced computer tech will be employed for 4 hours to install the 4 desktop computers. Library staff will be involved in the install process to make the most efficient use of the computer tech’s time.

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