Personal Multimedia Devices for Capturing and Consuming

Abstract

Many libraries are trying to get involved with the current explosion of self-produced media, in terms of creating media, consuming it, and helping patrons create it. This chapter of "Gadgets and Gizmos: Personal Electronics and the Library" will outline popular devices for capturing and consuming video, audio, and other media types.

Video

Over the last decade, no media type has been more democratized than video. The cost of producing a video has gone from thousands of dollars for poor-quality pictures to less than $200 for a camera that will take high-definition video and can also double as a still camera. With the decline in the price of producing video has come the ability to publish your video at no cost online, through services like YouTube, Vimeo, Blip.tv, and others. These two factors have led to the largest explosion of video production the world has ever seen, with YouTube alone having 20 hours of video uploaded to it every minute of every day.[1]

Many libraries are trying to get involved with this video explosion in terms of creating video, consuming it, and helping patrons create it. Libraries are producing their own videos, as well as purchasing the equipment necessary for patrons to create their own videos. It is slowly becoming a common pedagogical technique to assign students to create video rather than write or present in front of a class, and patrons of all sorts are interested in borrowing these gadgets from libraries. This chapter will outline popular video cameras and help you choose among them for both internal and external use.

Flip

While video cameras have been steadily dropping in price for years, it wasn't until 2006 when the Flip company began selling its eponymous camera (see figure 8) that the landscape changed significantly.[2] The Flip was the first all-in-one camera that was everything the consumer needed, and nothing else.

Cameras—video cameras in particular—had maintained complexity of their operations, assuming that someone who was shooting video wanted the manual control to make sure it was the best it could be. Flip changed that formula by offering consumers a camera that was just barely good enough—it wasn't high definition, it gave you effectively no control over the picture, it had mediocre lenses. What it did have was massive simplicity, with only two or three buttons on the entire camera: an On/Off switch, a big red Record button, and a rocker to use the digital zoom. The other huge advantage that Flip brought was that the camera itself had a switchblade-style USB plug that you could insert directly

Figure 8
A Flip video camera, one of the easiest to use video cameras ever made

into your computer: no keeping up with proprietary cables, nothing to take with you if you took the Flip on vacation. It even had simple editing software right on the camera that launched when you plugged the camera into your system.

The Flip is the poster child for good-enough devices. It gives you the ability to take a video, edit it easily, and upload it to the Web, and no other complicating factors. It's the perfect camera for the librarian who wants to check it out to patrons, as well as the perfect video camera for libraries to use internally. You turn the thing on, hit the big red button, and you're recording video.

Flip started the revolution in simple, inexpensive video cameras and then went on to diversify its devices a bit. There is a range of Flip video cameras available now at a number of different price points. The interesting thing is that you don't actually get a fancier camera as you pay more money; instead, you get more memory and higher resolution. The controls and the ease of use are the same on nearly every camera that Flip makes. The current lineup of Flip cameras ranges from the Flip Ultra, which captures standard-resolution video, records for 120 minutes, and retails for $149, all the way to the Flip MinoHD, with 120-minute recording time, high-definition capture, and a retail price of $229.[3] For libraries, the 60-minute Mino at $149 is a good deal, and you can get them printed with a custom logo, which makes them great for circulating.

Kodak

Kodak was a latecomer to the inexpensive video camera game, but it nearly perfected the inexpensive camera with the introduction of the Kodak Zi8. The Zi8 does full high-definition video (1080p) at a cost of $199.[4] For higher resolution video at a low price, the Kodak is a very, very good camera. It's one of the best options under $200 for capturing video.

Sony Bloggie

At CES 2010, Sony launched another amazing camera that would be a good addition to any library's tech toy-box. The unfortunately named Bloggie (see figure 9) has features that set it apart from the Kodak and the Flip families of cameras in ways that benefit the average blogger who wants to capture and post video. It has the standard high-definition video capture of 1080p, but at a lower price than either the Kodak or the Flip, retailing for $169.[5] It's the other features that make it stand out, however.

My favorite feature is the 270 degree swiveling lens, which flips from forward-facing to backward-facing with the flick of a thumb, allowing the user to swap quickly from being in the picture to shooting forward without changing the grip on the camera. This is perfect for lifeblogging and narrating a scene live and makes it very easy to prepare a narrative to be used with students. My second-favorite feature is actually an additional lens that clips onto the camera and allows for full 360 degree shooting. With the lens on, the camera captures a complete circle on a plane perpendicular to the lens, in full video. Software that comes with the camera allows you to flatten the circular video into a full-motion 360 degree panorama.

Figure 9
The Sony Bloggie

Handling Video

There are a lot of options when it comes to libraries editing video internally, but for my money there are two great choices, one for Windows-based systems and one for Macintosh OS X–based systems. There are dozens of choices, running all the way up to professional-level applications like Adobe Premiere. For most library applications, you won't need them.

For Windows machines, especially with the rise of Windows 7, the free Microsoft Movie Maker is more than adequate for most people. It's available for free from Microsoft, and it will do all the basic edits that you might need. It's a little light on "special effects," so if you're looking for complicated effects it might not be perfect for you, but if you are clipping, editing, rearranging clips, or fixing audio, it works great.

On Macintosh OS X–based machines, there's really nothing better than iMovie, which comes free with any new Apple computer. iMovie is a bit more powerful than Movie Maker, with more flexibility in the editing process, and for my money, Macs handle video in a slightly easier-to-understand way in general. But iMovie is a great tool for edits and integrates with the rest of the iLife suite (GarageBand, iPhoto, iDVD) in a seamless way that allows you to pull things from one of the programs to the other with absolutely no effort. If you are doing a lot of video, you could do worse than to have a dedicated Mac organizing and running the effort.

How Is Video Useful in a Library?

For patrons who might not have the ability to take video in any other way, checking out an inexpensive camera from the library can keep them coming back again and again. Literacy with video is a growing concern among educators. The same way that textual literacy was an educational triumph of the twentieth century, I believe that video literacy will be a triumph of the twenty-first. Students will love the ability to create video, so this concern is most pronounced in academic and school libraries. A library may provide some patrons their only opportunity to experiment with video.

For librarians, video can be a powerful instructional tool. Many libraries are using video tours to introduce new patrons to the physical layout of the building and to the services that the library offers. Video can also be used in an evaluative manner through taking video and then reviewing it for patron behaviors, from how they use a space to whether or not your signage is working.

Audio

Like video, audio has become inexpensive and easy to capture, largely because of the ease with which it can be shared. There are several things to keep in mind when capturing audio, but the most important are how you are going to use the audio and what type of audio you are trying to record. The best audio recorders will let you do either voice for distribution on the Web or a recording of a musical instrument that you need to burn to CD.

I'm going to highlight two different options for audio capture, and both are suitable for either internal library use or for checking out to patrons. Neither are the lowest end of the pricing spectrum, but for good reasons that I'll highlight. There are digital audio recorders that are perfectly serviceable for recording meetings, if all you do is play back and transcribe the audio. But try doing anything else with the audio, and you'll need the special software that came with the player. You'll have to export the audio into a standard form and out of the proprietary format that it uses, which can be a huge, time-consuming headache. The two that I'll suggest record to standard file types (either MP3 or WAV) and are incredibly flexible, not to mention the fact that they are both high-quality audio capture devices.

The Zoom H2

My favorite audio recorders are made by the Zoom company, and the Zoom H2 (see figure 10) does everything that a library might need and more. The Zoom H2 has two different modes. It can be used a stand-alone recorder, or it can be attached to a computer and used as a USB microphone.

Figure 10
The Zoom H2, shown next to a coin to illustrate its compact size

As a recorder, the Zoom H2 can be either battery-powered or plugged into the wall. It will record in a variety of formats and qualities, from low-quality 64 Kbps MP3 all the way up to lossless WAV, and it takes a standard SD card for storage, so that you'll never run out of space. It has four microphone capsules inside and can be set anywhere from standard stereo recording all the way up to 360 degree capture, which allows for the files to be converted to 5.1 Surround. The microphones in the Zoom H2 sound great, capturing voices and instruments equally well. It can run for hours on a single set of batteries, and operating it is simple—you just use a directional pad on the front of the H2. Recording is even easier, once you've got your settings the way you like them, as there's a big red button on the front that starts and stops recording.

The other option for recording with the Zoom H2 utilizes the USB interface. Plug it into any computer, and it shows up as a USB sound source that can be used with any recording software. This completely bypasses the software of the device itself and allows you to use the hardware to drive a digital recording via Audacity or any other software program. This means that whether you're recording in the

field or using your desktop or laptop, the Zoom H2 just works. For $149, it's an awesome piece of equipment.[6]

Blue Mikey

One of the most respected manufacturers of microphones in the business, Blue has an innovative range of digital microphones that you really can't go wrong using. Its Snowball microphone has been my go-to USB mic for years now. But Blue has just released an interesting new product that I think may be really useful for libraries interested in podcasting or potentially even for patron checkout: the Blue Mikey.

The Mikey is an iPod-specific microphone that uses the dock connector on the iPod or iPhone to route the audio signal to be recorded. It uses really high-quality mic capsules to deliver rich sound and is perfect for recording on the go. Just plug it in, and suddenly you've got a real microphone capturing to your device instead of the pinhole mic that the iPhone or iPod Nano has.

If you're already circulating iPods, adding the Mikey to your gadget garage gives you the ability to get your patrons into the podcast game cheaply and easily. The Mikey can be found online for around $50.[7]

Personal Scanners/Text Capture Devices

With recent advances in microprocessors and sensors, a number of really interesting devices have come onto the market over the last few years that solve one of the more difficult problems with text—how to convert hardcopy printed material into digital files in a form that can be used, searched, indexed, and reused in a variety of formats. We've been using flatbed scanners for years and have moved past them for the processing of large amounts of text. As one example, large-scale book digitization processes usually use camera-based rigs that take high-resolution photographs of the pages in question, and then use very complicated mathematics to flatten and eschew them and use a process called optical character recognition (OCR) to convert the images of the letters into digital characters. But what if you don't want to do a whole book and you need to scan just a business card? Or you like taking notes at meetings by hand, but dread typing them up later? This chapter will give you a few ideas about how to make your life a little easier.

Livescribe

The Livescribe pen (see figure 11) is a unique device, and like a lot of unique digital devices, it's pretty hard to wrap your head around at first. At first glance, it's a pen with a thin digital display on the side, but what it does is completely not obvious—it's much, much more than a

pen. The Livescribe has a camera in the tip alongside the nib, as well as a microphone on the top. Inside is a computer that tracks pretty much everything you do with the pen, and the digital display walks you through various settings.

The Livescribe Pulse is used with special paper that has a microdot pattern printed on it. You can purchase said paper in a variety of styles (notebook, notepad, Moleskine, etc.), or you can print your own using a laser printer. The microdots are used to track the position of the pen as it writes. At the same time, the pen can be recording, capturing the audio in the room and time-stamping it to the writing.

Here's the use case for the Livescribe: a student is taking notes in class. The Pulse is recording the lecture while the student writes her notes. When reviewing for the test, she can touch her notes with the pen at any point, and the Pulse will play back the recording of the lecture at that point, letting her make sure that she understands exactly what the instructor said. It syncs the recording and the time-stamps on the text and allows you to access either by referring to the paper with the pen. This is a great tool for individuals who need multiple learning styles (auditory, visual, etc) in order to process information.

The Pulse also has a desktop application that syncs your notes from the pen to your desktop or laptop. The desktop application maintains all of the functionality of the pen itself, syncing the audio and notes together and allowing you to rewind and recall any moment that was recorded. In addition, the desktop also does character recognition on your notes and allows you to search them just as you would search a regular word-processed file. Write "IMPORTANT" beside any note you want to come back to and then just search the desktop application for "important." It indexes your handwriting and allows for full text searching. It's not perfect, as even the best OCR isn't 100 percent, but it is surprising how good it has become in the last few years.

Because it really is just a computer, albeit a computer with a somewhat unique interface, the possibilities for the Livescribe are just now starting to be fully realized. The camera is capable of recognizing what you are drawing on the paper, so if you draw an interface, it should be able to interact with it. This is exactly the way that the manufacturer is starting to expand the capabilities. For instance,
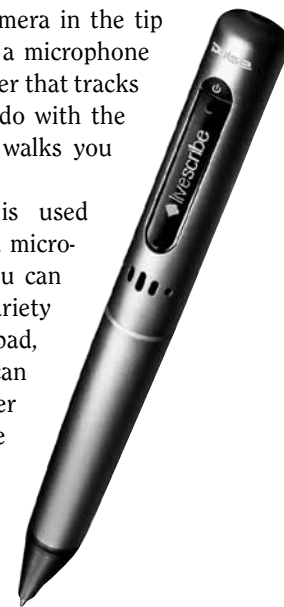

Figure 11
The Livescribe Pulse

if you need a calculator, you simply draw one. Draw a regular grid of numbers on a sheet of paper, and the pen recognizes that you've drawn a calculator, and you can tap numbers and symbols to perform mathematical operations. Draw a musical scale and notes on said scale, and the pen will play the notes back for you.

Another feature of the Livescribe Pulse is in its 3D sound capability. The Pulse has a set of headphones with it that include built-in microphones. If you use these instead of the single microphone in the pen itself, the Pulse can capture full stereo sound in a simulated 3D manner, so that when you play back the sound later it will actually be "located" where it was recorded originally. This aids in the isolation of speech, as well as making it easier to pick out the specific parts of a soundscape that you are actually interested in.

Livescribe recently opened its development up so that outside programmers can write apps, which should launch a number of interesting new applications for the device. While it's a young development platform, there are already interesting things being written for it. My favorite is a conversion utility that will do length, volume, and other measurement conversions for you if you write them down. For instance, write "6 ft → cm" and the Pulse with the application loaded will give you the appropriate answer.

In a library, it's easy to imagine both internal uses and patron-focused uses for these devices. Checking these out for student use seems obvious, especially around midterms and finals. Internally, I can't tell you the number of times that I wished I could go back and listen to a library meeting while looking back over my notes. It's just a neat gadget, with a ton of uses. You can get a 2 gigabyte Pulse for about $140 on Amazon, while one with 4 gigabytes of memory will run you about $180.[8] It's not cheap, but it gives you an absolutely unique group of features.

NeatReceipts

A number of companies claim to make "portable scanners," some with incredible form factors (one looks much like a long pen that you swipe over the page by hand). The current market leader for personal portable scanners is Neat and its NeatReceipts product (see figure 12). Not planned for workhorse applications like interlibrary loan, the Neat mobile scanner and NeatReceipts software are designed to allow you to digitize receipts, business cards, and other small sheets of paper, while maintaining the ability to scan individual sheets of letter-size paper. The scanner itself, a marvel of industrial design, gets its power from the single USB plug. The whole scanner is just barely wider than a sheet of paper and just over 1.5 inches square.[9]

The software that drives the scanner is designed to scan, OCR, and organize the information on the result-

Figure 12
This device makes digitizing receipts and records easy.

ing image. Scanning receipts will allow you to categorize them, extract the amounts into a spreadsheet, and archive the images just in case the IRS comes knocking. Scanning full pages of text will result in a searchable PDF of the page, and while no OCR program is perfect, the Neat software is very good at what it does.

This system is nowhere near a replacement for a traditional flatbed scanner. But it is also one tenth the size and far easier to use and might just fill a set of needs for the patrons in your library. One thing that is important to remember with gadgets is that it's not necessarily important that they fulfill 100 percent of a need. Maybe they only really get at 80 percent of a need, but do so in an easier and faster way. That's a tradeoff I'd make every time, as those patrons will be much happier than being shoehorned into that 100 percent solution that makes their lives more difficult.

Personal Multimedia Players

There are hundreds of different gadgets on the market that will play audio and video for individuals these days. These are normally lumped into a category called personal media players, or PMPs. Some form of PMP is a valuable thing in the modern library arsenal of gadgets, especially if your library can afford to utilize them to offload some parts of your patron interaction. The classic use case for checking out PMPs in a library setting is that they are preloaded with library content, usually video tutorials or tours of the building. Some libraries use them for library instruction, loading them up with database tutorials and how-to pieces that walk students through particularly tricky interfaces. Others have used them to make multiple language tours available, thus making the library qua building less obtuse to those who may not speak the same language as the library staff.

One of my great hopes is that we can soon begin to use these devices, and whatever the future may bring in the same vein, to begin circulating library content directly.

My library has thirty first-generation iPod Touch devices that we circulate to students for library tours, but I would love to use them as a form of electronic reserve. For example, a music professor needs a specific set of tracks that his students will need to listen to over the course of the semester, so he turns them in to our Reserves department, they digitize those tracks, and we create a playlist for the class that is synced to all of the iPods. When a student needs to listen to something, she just checks one out, and all the music will be there ready for her, along with lyrics or notes that the professor wanted included. The same thing could be done for film or other video that we had in the library that was necessary for classes.

So why can't we do this? Because of the vagaries and technicalities of copyright law in the United States. As an individual, I have the right to digitize a purchased

Figure 13
The iPod Touch

CD and sync it to my PMP. For a library, that right is far less evident, and it becomes very fuzzy indeed when you realize that we would, in effect, be making thirty copies of the song or movie in question as we synced them to the iPods. Great for patrons, and clearly the modern way to deal with the content, but until copyright law catches up to the modern realities of content fluidity, we're stuck.

These are still very much worth playing with, and perhaps your library can find some amazing ways to use them with content that you do own the copyright for, such as your archives or special collections.

The iPod Touch

The market leader for PMPs is the same as the market leader for MP3 players: Apple, and its ubiquitous iPod Touch (see figure 13). The iPod Touch is currently available in 8 gigabyte, 32 gigabyte, and 64 gigabyte models, for $199, $299, and $399 respectively.[10]

While other PMPs have better support for different file types, and some even have higher quality screens for higher quality video output, the Touch defines the category for the time being, and it does so on the back of the App Store, a cornucopia of possibility that has arisen as the best reason to invest in a Touch. The iPod Touch runs the same operating system as the Apple iPhone and thus can share applications with it. Currently over 135,000 different apps are available in the App Store,[11] which make the Touch capable of acting as anything from a GPS device to a satellite radio receiver.

Not every app that works on the iPhone will have value on a Touch, as they do have different hardware specifications. The Touch doesn't have a built-in microphone (although it can use a microphone/headphone combination), and it doesn't have a camera built in, as the iPhone does. So apps that use either of those pieces of hardware may be sub par on the Touch. There are thousands and thousands of apps that will work, however, and just the availability of such a variety makes the iPod Touch more like a computer in your pocket than just a PMP.

The Touch excels as a PMP. It does rely on the Apple iTunes software to manage the loading of audio, video, and apps onto the device, but iTunes gives you a centralized place to manage your content, convert your content, and work on metadata if needed. The Touch has a very good screen and allows for high-quality video to be viewed, and the audio quality produced by the device is very high as well (within the ranges of the compression of the audio files, at least).

One thing that I appreciate about the Touch as a circulating device is that you can load Web shortcuts or bookmarks to the home screen, ensuring that your users are always just a touch away from your website or other Web-based content. In addition, the Touch works as a fully fledged personal digital assistant, with calendar and con-

Figure 14
The Zune HD

tact syncing. If you're going to check them out, preload them with a calendar of library activities and with the library staff contact information, adding yet more value to having them in the hands of your patrons.

The Zune

On the other side of the consumer computer divide is Microsoft, with its flagship PMP, the Zune HD (see figure 14). Like the Touch, it's a multifunction device that does audio and video, but it has a set of unique features that differentiate it from Apple's products. For one, the Zune HD uses an Organic LED (OLED) screen instead of the more traditional LCD that Apple uses in its Touch. OLED is brighter, with a crisper display that looks amazing when compared to the Touch. Another feature of the Zune is HD radio, the ability to tune in to digital radio signals in addition to traditional FM, neither of which the Touch has.

The Zune HD connects to the Internet via standard 802.11 wireless connectivity, just like the Touch, although the general consensus seems to be that the Web browser on the Zune HD isn't quite as good as Mobile Safari on the Touch.[12] Nonetheless, it does have a browser and the

ability to surf the Web as long as you're in range of a WiFi signal.

The Zune is also missing things that the Touch does well, primarily the vitality of the App Store. There are a few apps available for the Zune, but we're talking about dozens, and not the tens of thousands available for the Apple product. For its syncing and media management, Zune HD uses the Zune desktop software, which isn't available for anything besides Microsoft operating systems, which means that you can't use a Zune easily if you prefer Macintosh computers (at least, without booting your Apple into Windows or using an emulator of some type). The Touch works well on either OS X or Windows-based machines.

The Zune HD is available in a 16 gigabyte version for $219 and a 32 gigabyte version for $289.[13] The Zune HD works well as solely a method for distributing audio or video to patrons, but is overall far less flexible and brings less added value to the proposition, than the iPod Touch. If you want to have a different option for patrons or just want to present the best screen you possibly can to your patrons, the Zune HD might be for you. Otherwise, I'd stick with the Touch.

Archos Tablet

A recent addition to the PMP world, Archos has a very interesting product in its Archos 5 Internet Tablet. It's a fully capable media consumption device and has a larger-than-average screen for the category, measuring 5 inches diagonally (both the Touch and the Zune HD come in around the 3.5-inch mark).[14] What sets the Archos 5 apart more than its ability to play videos on a larger screen is that it is running the open source Android operating system by Google.

What this means to the end user is that the Archos provides a much wider variety of file type support than either the Touch or the Zune, which gives more flexibility in what you can load and watch on the device. The stand-out file types supported seem to be the MKV format, often found in video online, and on the audio front, the open source Ogg Vorbis audio CODEC. Because it runs a variety of the Android operating system, it has a world-class mobile browser built in, and it does support standard 802.11 WiFi access. In addition, the Archos can access the Android Marketplace, the Google version of the App Store, and has the ability to run the standard Android/Google apps like the native Gmail and Google Maps applications.

This integration with Google gives the Archos an interesting set of capabilities, and the Android Marketplace is second to the Apple App Store as a repository for adding functionality to your PMP. I think the Archos has a lot of potential and is indicative of the sorts of devices that will become popular over the next few years.

Apple iPad

On January 27th, 2010, Apple held a press event at the Yerba Buena Center for the Arts in San Francisco announcing their take on what is commonly called a tablet computer, the iPad (see figure 15).[15] The hallmark of this particular type of computer is that it is all screen: no keyboard, no hinge. At the time that this is being written, the iPad hasn't yet been released, as the first retail versions of the product are expected to be available in late March of 2010. But it's almost guaranteed to be the tech gadget of 2010, and as such, I want to discuss what's known about it so far, and how I think it might impact libraries.

First up, the specs: the iPad is roughly a 9.5 x 7.5 inch slab of glass and aluminum, .5 inch thick, and weighs in an 1.5 pounds. The 9.7 inch LCD screen is LED back-lit, and has a 1024-by-768-pixel resolution at 132 pixels per inch. This should make for excellent crispness and a display that is easily read. Apple is producing 6 unique versions of the iPad, 3 different storage capacities with 2 different wireless connectivity options. Here's a table summarizing the different options:[16]

The iPad runs a version of the iPhone operating system, and does indeed look a great deal like an oversized iPod Touch. It will run all of the existing Apps that are available for the iPhone/iPod touch, at either the original resolution (windowed on the iPad screen) or something that Steve Jobs referred to as "pixel doubled" at full screen. Apple claims that the iPad will have 10 hours of bat-

Figure 15
The Apple iPad

	16GB	32GB	64GB
Wi-Fi	$499	$599	$699
Wi-Fi + 3G	$629	$729	$829

Table 1
Apple iPad pricing options

tery life on Wi-Fi. Reports from those that have used the device are that it's incredibly fast, and that the feel of it is unlike anything we've seen before on the technology front.

3G connectivity for the iPad is being delivered, in the US at least, by AT&T, the same company that provides coverage for the iPhone. The difference between the two is that 3G connectivity for the iPad isn't going to require a contract, and will instead be available for purchase month-to-month at a charge of $14.99 for 250MB of data, or $29.99 for unlimited data.[17] This could be a really good deal for the occasional traveler, since theoretically you could activate/deactivate the 3G coverage only when you needed it. Details on how this will work are still unclear, however, and in the case of dealing with telecom providers, the devil truly is in the details.

The iPad also represents Apple's initial foray into books, with a new iBook store and corresponding application on the iPad, putting the device squarely in the eReader category. Apple verified that it will use the EPUB format, but unfortunately Abode also verified that it won't be using Adobe DRM.[18] This almost certainly means that the iBook application won't play nicely with existing library ebook providers like Overdrive, which use the Adobe DRM standard and are compatible with any reader that does the same. Apple will most likely be using their own DRM, which will further limit the use of purchased iBook titles to just the iPad (plus, perhaps, other Apple devices, although there has been no details at all on this front). Publishers have come out of the woodwork in announcing support for the iPad, and you can expect everything from Comic Books to medical textbooks to be available for purchase and consumption on it.

The iBook application looks incredible, and the reports from those who actually used it via the demo units at the launch announcement were that it was very much like a physical book in feel, complete with color and page turn. They've got 5 or 6 major publishers already signed up to produce content, and in the screenshots of the iBookstore, you'll notice that they've done something else—moved the price point for an ebook up. Books on the iBookstore look to be in the $12.99 range, instead of the $9.99 range as on the Kindle.[19] Indeed, the launch of the iPad gave teeth to publishers willing to push Amazon on the pricing for their books, and it looks like across the various retail stores that ebook prices will be heading up because of the iPad and the iBookstore.

Apple's iPad has the opportunity to change not only the way we interact with media, but also our understanding of computing interfaces and interactions. The iPad has the potential to be the first true computer appliance, something that you can give to anyone and not worry about if their level of technical expertise. Imagine a computer that can browse the web, do email, twitter, browse photos on Flickr, type up basic documents, and play games ,but won't catch viruses and can be navigated simply by touching the screen. Give one to your grandmother, and she'll never have to worry about anti-virus updates and such again. That aspect of the iPad has the potential to really change the way that we interact with computing, and as such has the potential to be a very interesting tool for libraries.

Notes

1. "YouTube Fact Sheet" under heading "Traffic and Stats," www.youtube.com/t/fact_sheet (accessed Dec. 5, 2010).
2. "Flip Video" under heading "History," Wikipedia, http://en.wikipedia.org/wiki/Flip_Video#History (accessed Dec. 7, 2009).
3. Flip Video Store, http://store.theflip.com (accessed Jan. 27, 2010).
4. "KODAK Zi8 Pocket Video Camera / Black," http://store.kodak.com/store/ekconsus/en_US/pd/Zi8_Pocket_Video_Camera/productID.156585800 (accessed Jan. 27, 2010).
5. "bloggie Camera," www.sonystyle.com/webapp/wcs/stores/servlet/ProductDisplay?catalogId=10551&storeId=10151&langId=-1&productId=8198552921666073219 (accessed Jan. 27, 2010).
6. "Zoom H2 Handy Portable Stereo Recorder," Amazon.com, www.amazon.com/Zoom-H2-Portable-Stereo-Recorder/dp/B000VBH2IG (accessed Jan. 28, 2010).
7. "Blue Microphones Mikey - Professional iPod Recorder," Amazon.com, www.amazon.com/Blue-Microphones-Mikey-Professional-Recorder/dp/B001FBL2SW (accessed Jan. 28, 2010).
8. "Livescribe 2 GB Pulse Smartpen," Amazon.com, www.amazon.com/Livescribe-2-GB-Pulse-Smartpen/dp/B002DJV83Y (accessed Jan. 20, 2010)
9. "NeatReceipts," NeatStore website, http://store.neatco.com/index/page/product/product_id/26/product_name/NeatReceipts (accessed Jan. 20, 2010).
10. "Select Your iPod Touch," Apple Store website, http://store.apple.com/us/browse/home/shop_ipod/family/ipod_touch (accessed Jan. 20, 2010).
11. "App Store" under heading "Number of Launched Applications," Wikipedia, http://en.wikipedia.org/wiki/App_Store#Number_of_launched_applications (accessed Jan. 20, 2010).

Gadgets and Gizmos: Personal Electronics and the Library **Jason Griffey**

12. Joshua Topolsky, "Zune HD Review," Sept. 17, 2009, Engadget website, www.engadget.com/2009/09/17/zune-hd-review (accessed Jan. 20, 2010).

13. Zune Store website, https://zunestore.net/us/catalog/index.aspx (accessed Jan. 20, 2010).

14. "ARCHOS 5 Internet Tablet,' Archos website, http://www.archos.com/products/imt/archos_5it/specs.html?country=us&lang=en (accessed Jan. 20, 2010).

15. Wikipedia, "iPad". http://en.wikipedia.org/wiki/IPad#History (Last Accessed March 2nd, 2010)

16. Apple Website, www.apple.com/ipad/specs/ (Last Accessed March 2nd, 2010)

17. Apple website, video of iPad announcement. http://events.apple.com.edgesuite.net/1001q3f8hhr/event/index.html (Last Accessed March 2nd, 2010)

18. Adobe Flash Platform Blog, http://blogs.adobe.com/flash-platform/2010/01/apples_ipad_—_a_broken_link.html (Last Accessed March 2nd, 2010)

19. Engadget, Apple reveals iBook Store and app for the iPad www.engadget.com/2010/01/27/apple-reveals-ibooks-store-and-app-for-the-ipad/ (Last Accessed March 2nd, 2010)