

Introduction to Tablets

A table computer, or a tablet, is a mobile computer. It is larger than a cell phone and has a flat touch screen. Typically it is operated by touching the screen, rather than using a physical keyboard. In 2010 Apple released the iPad which became the first tablet to achieve worldwide success. Today tablets are competitively priced with versions also produced by Samsung, HTC, Motorola, Sony, HP, Microsoft, and many others. Weight of these devices is usually one to two pounds and battery life is three to 12 hours, depending on usage.

I. Typical Functions of Tablet Computers

- Web browsing (internet access)
- Email and social media connectivity
- Cell phone like voice communication (Skype, Google Voice)
- GPS satellite navigation (Maps, Google Earth)
- Take, view, and edit photos and video
- Video conferencing
- E-book reading
- Downloadable apps (games, education, utilities, weather)
- Portable Video and Audio player (Netflix, Hulu, YouTube, Pandora)
- Accepts credit card payments (Intuit, Paypal, Square)
- Calculator, clock, flashlight

II. Key Terminology:

- **2G, 3G, 4G** – refers to progressively newer and faster mobile wireless internet connection services used by cell phone networks.
- **Accelerometer** – a device that detects the physical movement of the tablet in regards to both acceleration and orientation relative to the horizontal plane. Used in many map/navigation apps and many games.
- **Android** – operating system for tables developed by Google.
- **App store** – online store for software purchasing, installation, and updates. Usually only takes one click!
- **Blue tooth** – allows for wireless connection of peripherals, such as keyboard or printer
- **Multitouch** – The ability to use multiple fingers at once to perform complex interactions beyond point and click (zoom, rotate, highlight, etc.)
- **Tethering** – allows a tablet to access the internet wirelessly by using a cell phone to change a cell phone connection into a Wi-Fi connection for use by devices that do not have 2G/3G/4G capabilities.
- **Wi-Fi** –Refers to wireless networks connectivity using wireless router technology to communicate with traditional broadband networks.

III. Comparison with Laptops

A. Advantages of Tablets

- Ideal for use in environments not conducive to keyboard and mouse, such as standing, travelling, lying in bed
- Lighter weight
- Touchscreen interface preferred by many
- Digital painting or image editing are more precise and intuitive than painting w or sketching with a mouse
- Longer battery life
- Virtual keyboard easily used in the dark (on an airplane, for example)

B. Disadvantages of Tablets

- Less computing power
- Slower input speed than typing on keyboard
- Less user friendly ergonomics (no wrist rest, for example)
- Higher risk of dropping and damaging
- Not compatible with Flash (many interactive websites will not work)
- Limited software for certain content creation and editing

IV. Uses for Municipal Court

- Access and edit court documents (Wichita Falls)
- Videoconferencing for magistrates and staff meetings
- Track legislation when Texas Legislature is in session
- Download TMCEC Judges Book and read it when time permits
- Download TMCEC Bench Book and use on the bench
- Download court cost chart and juvenile chart for quick reference
- Watch TMCEC webinars
- Watch TMCEC You Tube videos
- Participate in the TMCEC listservs
- Follow TMCEC Twitter and Facebook
- Note taking at TMCEC seminars, departmental meetings, and council meetings
- Download TMCEC course materials and take notes while at a seminar
- Use GPS and mapping function when serving warrants

Tablets Help Court Go Paperless in Texas

BY: [Brian Heaton](#) | June 12, 2012

Managing dense legal files is now a [paperless](#) affair at the Wichita Falls Municipal Court in Texas.

A set of four iPads was introduced to the court in April. Combined with a document management application, the system allows Municipal Judge Larry Gillen and his staff to access and make changes to legal documents in real time. The move has increased efficiency in the courtroom and has helped save a few trees, as case materials are no longer printed out.

Access and editing of documents is done through Laserfiche, a program the court had been using for the last couple of years to help scan and store digital copies of paper-based case files. The mobile version of the application for the iPad was released in May, and Wichita Falls city staff jumped on the opportunity to use it on tablets in the court.

Patrick Gray, business systems analyst with the city of Wichita Falls, called the use of tablets an “experiment.” The four devices are used by Gillen; Stan Horton, the court administrator; Horton’s assistant; and the Municipal Court prosecutor. The tablets were purchased using budget funds allotted to the court.

Before the mobile technology was available, Gray said court clerks could go to desktop computers and pull up cases for Gillen. But once the judge had access to the court’s document management capabilities on his iPad, he hasn’t looked back.

“When I introduced the iPad app to him, it was almost zero training,” Gray said. “He was already using Laserfiche. I had to train him on the security stuff we have in place with VPN, but it wasn’t a two-hour sitdown.”

Driving Change

The ability to manage documents on a tablet required the court to go wireless. Prior to the introduction of the iPad, no wireless network existed, so one was created. The iPads don’t have a data plan associated with them, so they only operate using established Wi-Fi. Use of the network is restricted to court personnel, and as a further security measure, any employee wanting to access case documents must have separate authorization on the Laserfiche application.

In addition, while some of Laserfiche’s resellers offer remote document storage, court documents such as a case’s originally filed complaint, memos filed by counsel and administrative files associated with a legal proceeding are maintained on a server in the Wichita Falls IT department.

Gray also mentioned he’d like to see the application incorporate a [video-conferencing](#) function in

the future. He said that would be a feature the court would be interested in, so that the judge may be able to administer court from remote locations, and two people can remotely collaborate on a document together. Currently users have to switch back and forth between Apple's FaceTime app and Laserfiche in order to do that.

The Wichita Falls Municipal Court is also in the midst of procuring a new records management system, which Gray believed would be online this fall. He also felt the upgrade would show the full value of operating a paperless courtroom on a tablet.

"The jury is still out," Gray said. "The judge is a power user, I've been a power user and his court clerks ... haven't really found a complete use for it yet. Until I can find a use to integrate it into their everyday process, I don't think [they'll be] as good with it as the judge."

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The future of tablets

Reuters, July 16, 2012

Tablets with paper-thin screens that can be folded and tucked into your back pocket, artificial intelligence and augmented reality -- the stuff of science fiction may be coming to a store near you.

It's been two years since Apple Inc launched the iPad and spawned rival tablets from the likes of Samsung Electronics Co, Amazon.com Inc , Sony Corp, and now Google Inc and Microsoft Corp .

Much of the competition so far has centered on making smartphone and tablets lighter, slimmer, faster and longer-running than their predecessors, and the trend shows no signs of slowing. The increasingly crowded marketplace is also galvanizing hardware designers and software engineers to explore new technologies that may revolutionize the look and feel of mobile devices in coming years.

"We should think beyond just the touch-screen device," said Lin Zhong, a professor at Rice University who does research on mobile systems. "Why do we have to hold tablets, carry many displays? We should think about wearable computers."

Some researchers are experimenting with wearable devices, such as Google Glass, a stamp-sized electronic screen mounted on eyeglass frames to record video, access email and surf the Web. Others, like Microsoft, are investigating the use of 3-D cameras to create images that pop up when a person calls. Samsung has a concept video that shows a bendable, transparent 3-D smartphone-hybrid tablet that can also be used as a real-time interpreter.

Few of these new technologies will hit store shelves any time soon - companies and researchers are more actively working on touchscreen innovations in the near term.

In particular, organic-light-emitting diodes, or OLED, is widely touted as the successor to liquid crystal displays. OLED displays, such as in Samsung's Galaxy Note smartphone, are lighter, thinner and tougher than current displays.

The main attraction of OLED at first are their ruggedness, but the technology could one day allow tablets to be folded or rolled up like a newspaper. Reaching that point poses challenges like making the delicate chips and components inside them more flexible and resistant to damage.

"Flexible and foldable displays will first be implemented on smaller sizes like smartphones," said Rhoda Alexander, IHS iSuppli's tablet analyst. "Tablets may follow in a later progression, once manufacturing costs and yields have been tested."

An unfolding NewSSlate concept developed by Innovation+Bermer Labs shows a foldable tablet that one can use to read news and watch videos. These are not expected to be ready for prime time for another few years.

Next up: Wraparound glass

Apart from experimenting with various materials in their own labs, manufacturers are partnering with premier academic institutions in their quest for the most interactive screens. Samsung is working with Stanford University's chemical engineering department, and Microsoft is working with Rice University.

Professor Zhenan Bao's team at Stanford has developed stretchable, super-sensitive and solar-powered "electronic skin," or sensors that can feel a touch as light as that of a fly. One of its obvious applications is in touchscreens, and Bao said the research has generated a lot of inquiries from companies.

"Right now there is a lot of interest in having sensors in the screen that can have pressure input for the touchscreen," Bao said. "Companies are also basically looking for replacement material for the current silicon that is cheaper and compatible with plastic substrate but has the same performance level."

Specialty glass company Corning Inc, famous for its "gorilla glass" used in Apple devices, has an ultra-slim flexible glass called "willow glass" that has the potential to enable displays to be wrapped around a device. Corning said it is currently shipping samples of willow glass, which is compatible with OLED displays, to companies.

Size matters, for now

Each new generation of tablets boasts big improvements in pixel density and image quality, making photos, games and movies more life-like. Manufacturers and software designers have made less progress finding ways to let computers give physical, tactile feedback -- but they're working on it.

The stakes are high as tablets become more and more integrated with smartphones and other devices at home. Betting on the right technology and features is imperative, since the still-new category has already claimed many victims, including Hewlett Packard's Touchpad tablet that was killed last year after only a few months on the market.

With many companies entering the fray, vying to take share away from Apple's iPad, those who get it right may end up influencing the way people communicate and consume all media.

For now, size and price is where most manufacturers are competing as they try to break the dominance of Apple in the tablet market. Six out of 10 tablets sold are iPads.

"The big open area that is left to tackle is truly great input," said Tony Fadell, co-founder and chief executive officer of Nest Thermostat, who previously led the team at Apple that created 18 generations of iPods and three generations of the iPhone.

"There is tactile input as well as voice input. Those are the two inputs that still need to be addressed in tablets," Fadell said.

In a recent patent application related to tactile, or haptic, technology, Apple in May outlined how features could be added to a screen that would make it possible to alter the feel of its surface.

Manufacturers are also working to improve gesture recognition, augmented reality and voice controls like Apple's Siri.

IBM Fellow Bernie Meyerson expects major breakthroughs in artificial intelligence in the next several years. He envisions people having real, spoken conversations with their devices, which will boast technology much more advanced than IBM's Watson computer that defeated two champions on the Jeopardy gameshow last year.

"You hand it to your grandmother and it just works. It will adapt, tune itself to your voice," Meyerson said. "You'll have something that you carry around in your pocket and it listens to you when you want it to."

Laser projection keyboard devices that connect to mobile devices by Bluetooth are already available, although some say the technology is still buggy. In June, Microsoft unveiled its Surface tablet, with a 10.6 inch display and a protective cover that doubles as a keyboard.

Other new and upcoming improvements in tablet hardware are seen as attractive but less important differentiators. At an industry event in Madrid earlier this year, manufacturers dunked tablets and smartphones in aquariums to show off new waterproof coatings.

Intel Corp recently showed off "ultrabook" laptops with screens that swivel from their keyboards or detach completely to act as tablets.

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