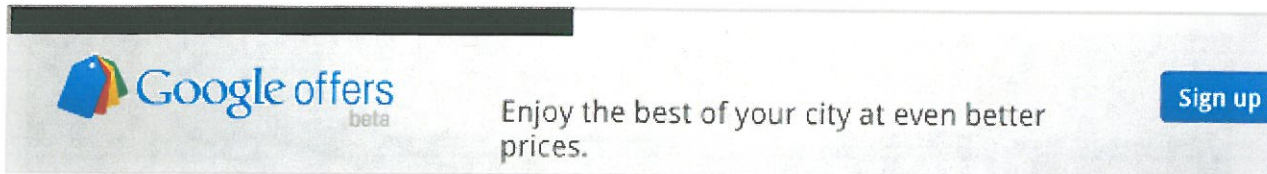


EXHIBIT J-1



Google offers beta Enjoy the best of your city at even better prices. [Sign up](#)

Network:

Like 11K

145

Subscribe to RSS

[Ubergizmo](#) [Reviews](#) [Mobile](#) [Gaming](#) [Android](#) [Apple](#) [Computers](#) [Gadgets](#) [Concepts](#) [Photo](#)

[Home](#) > [Featured](#) > Galaxy Tab 10.1 Review

Galaxy Tab 10.1 Review

Eliane Fiolet 05/21/2011 13:15 PDT

Digg 0

0

29

Like

2

Toshiba's Thrive™ Tablet

Preorder the new Thrive™ Tablet from the Official Toshiba site.
ToshibaDirect.com/Tablet

Reporter: Lorrie L. Marchant, RPR CRR, CCRR, CLR, CS' : O. 10523

EXHIBIT: 176

Witness: Wagner

Date: 9-14-2011 # pages: 30



Samsung Galaxy Tab 10.1 - Home screen

I have to admit that I was noticeably surprised when I discovered the Samsung Galaxy Tab 10.1 for the first time – the device is sleek, elegant and its materials do not look cheap. This device is so different than the one I first saw at MWC, the hardware has really improved! Except for the proportions ratio, the Galaxy Tab 10.1 looks very similar to the iPad 2, it is lighter (1.31 lbs vs. 1.33 lbs) and at 8.6 mm, it is now the thinnest tablet in the World! (iPad 2: 8.8 mm).

Out of the box, I immediately noticed the great quality of the display, alongside performance, one of the most important feature for tablets. As secondary communication and computing devices, they are mostly used for entertainment consumption, and the display is at the core of the experience.

Similar to the Xoom, the Galaxy Tab 10.1 runs a Tegra 2 1GHz dual-core System-on-Chip, and we can expect powerful performance as well.

The downside is its lack of a standard USB port and HDMI out connectivity, which is offered by the Xoom. You get a proprietary USB cable to plug the device to your computer, which is more difficult to replace immediately in case of damage or loss. Samsung might plan to sell adapters for connecting to big screens via HDMI, but we do not have the information yet.

The unit we have tested is the WiFi only Limited Edition, with no 3G and no SD card slot. The Galaxy Tab 10.1 that will ship on June 8th will feature the customized user experience “Samsung TouchWiz UX” that enables customization of the home screen with a Live panel to display content selected by users, additionally it will be

possible to launch frequently used app such as task manager, calendar and music player from the Mini Apps Tray while other applications are also in use. TouchWiz UX was not available in the unit we got at Google I/O.

Specifications

Processor: NVIDIA Tegra 2 1GHz dual-core processor

OS: Android 3.0 software (Honeycomb)

Apps: GoogleTalk Video Chat, Google Maps, Books, Android market, Quick office HD Editor

Samsung UI: Samsung TouchWiz UX, Samsung mini App tray, Social Hub, Music Hub, Readers Hub

Display: 10.1" WXGA 1280x800, capacitive touch screen, pinch to zoom

Connectivity: 3.5mm jack, WiFi a/b/g/n. Bluetooth 2.1 + EDR

Network: HSPA+ 21Mbps 850/900/1900/2100, EDGE/GPRS 850/900/1800/1900

Camera: backside 3 MP camera AF with LED flash – frontside 2 MP camera (webcam)

Video: 720p HD video capture – 1080p full HD video playback @ 30 fps -

Flash support: Adobe Flash Player 10.2 in web browser

Memory: 16 / 32 /63 GB built-in, 1GB DDR2 RAM, microSD (up to 32GB)

Sensors: Gyroscope, Accelerometer, Digital Compass, Ambient Light sensor

Battery: 6800mAh

Weight: 595 g – 1.31 lbs

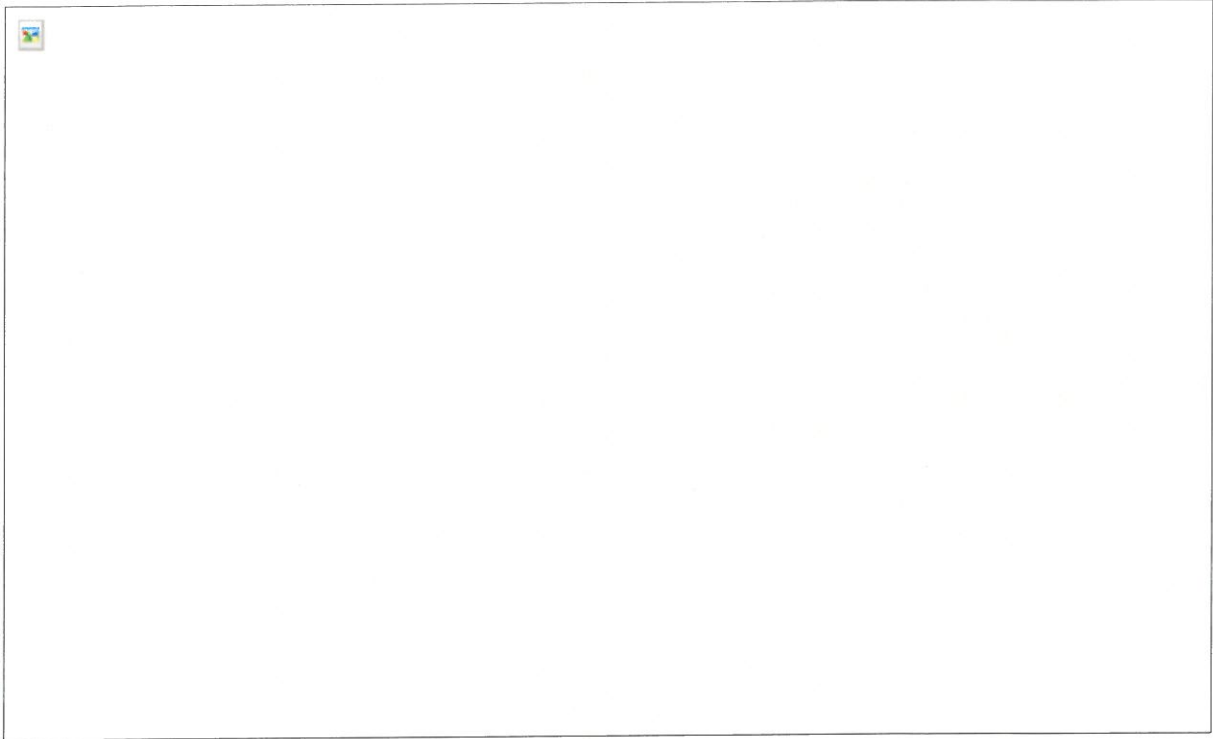
Size: 256.6 mm x 172.9 mm x 8.6 mm

Thinness comparison: Xoom: 12.9 mm – iPad 2: 8.8 mm

Context

We always have a hard time ensuring objectivity in our reviews, since different people use electronic devices in drastically different ways depending on their needs and lifestyle. By telling you how I use a tablet, it will be easier for you to decide which aspects of this review will be useful for you to help make up your mind. I have used the Samsung Galaxy Tab 10.1 for a few days as an additional device to my [desktop computer](#), my MacBook Pro (running Windows), my Macbook Air (running Windows) and my Smartphone. Since I have bought the Macbook Air, I do not use a tablet for meetings as much any more, it has become more of an entertainment device from which I watch movies in my bed or in the plane, read news and books, play with apps (ie Angry Birds, Music apps), Skype/chat with friends, check Facebook updates, play music on a mini Bluetooth speaker.

External design (very good)



As I wrote in the introduction, the Samsung Galaxy Tab looks very similar to the iPad 2, featuring high end materials in a elegantly designed chassis. Its 8.6 mm thinness is the most notable feature, making it the thinnest tablet in the world, something we never expected to happen since the device we saw at MWC was so bulky and looked so cheap in comparison. The review unit I received is the limited edition, it displays a pattern of Android mascots printed on top of the shiny white backside, making it a billboard for the Google OS. to continue

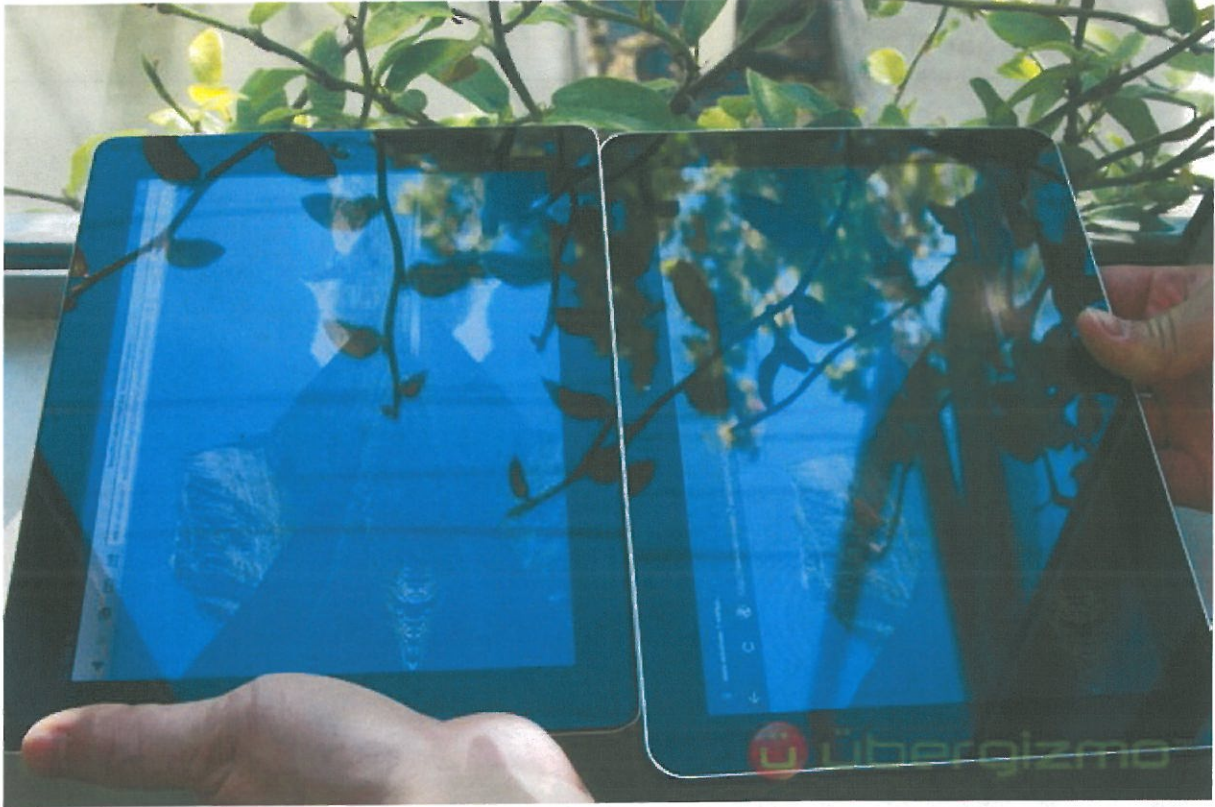
Display (very good)



Galaxy Tab 10.1 (top) and iPad 2 (bottom) display comparison

The 10.1 inch display has the same resolution as the Motorola Xoom, 1280×800, however the quality is much better. We could not expect less from Samsung knowing that it is one of the top providers of LCD panels worldwide.

Compared to the iPad 2, at maximum brightness, the Galaxy Tab 10.1 display offers a similar image quality. As usual, Samsung's screen provides more saturated colors that are a little bit darker, which personally I like, please note that the display does not make use of AMOLED technology. As you may know if you have read my Xoom review, the Motorola device features a lower quality display.



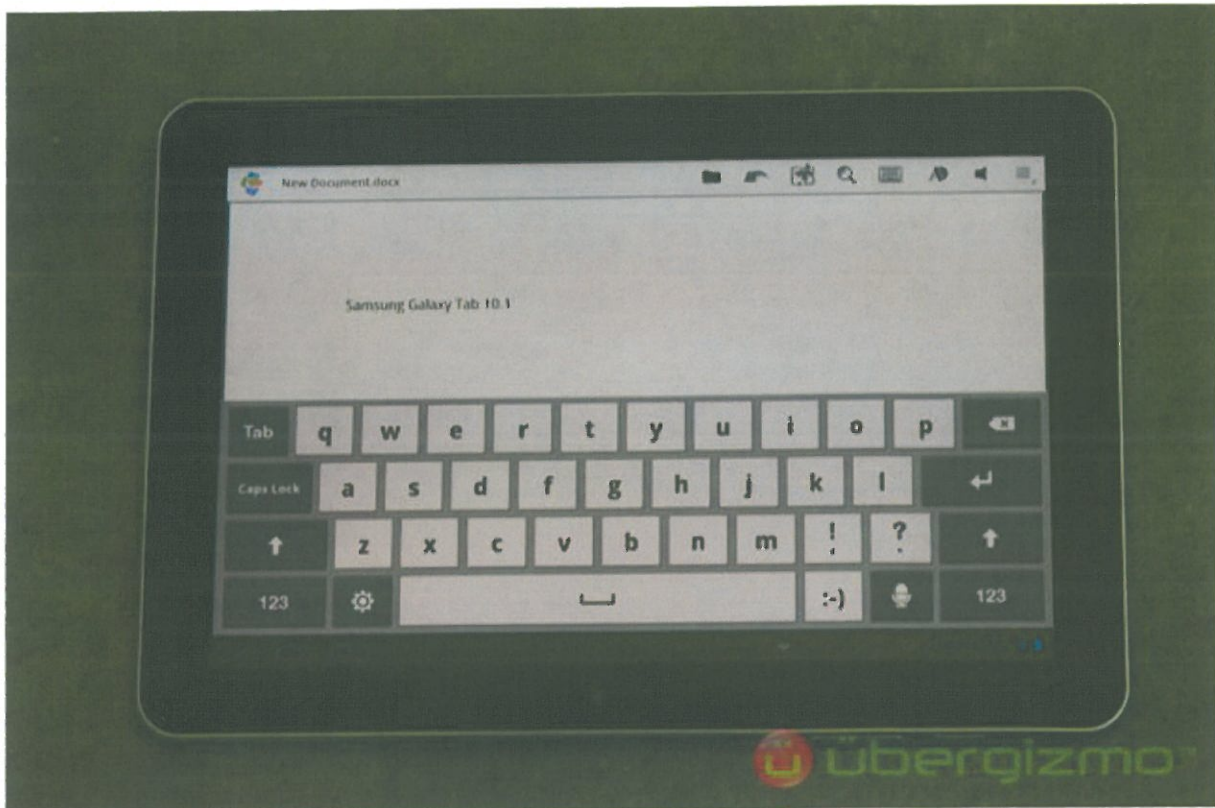
iPad 2 (left) and Galaxy Tab 10.1 (right) in direct sunlight

In direct sunlight the galaxy Tab 10.1 is similar to the iPad 2, it has the same level of reflection. (see picture above)



iPad 2(left) - Galaxy Tab 10.1 (right) - View angle comparison

Virtual Keyboards – Samsung and Android versions – (very good)

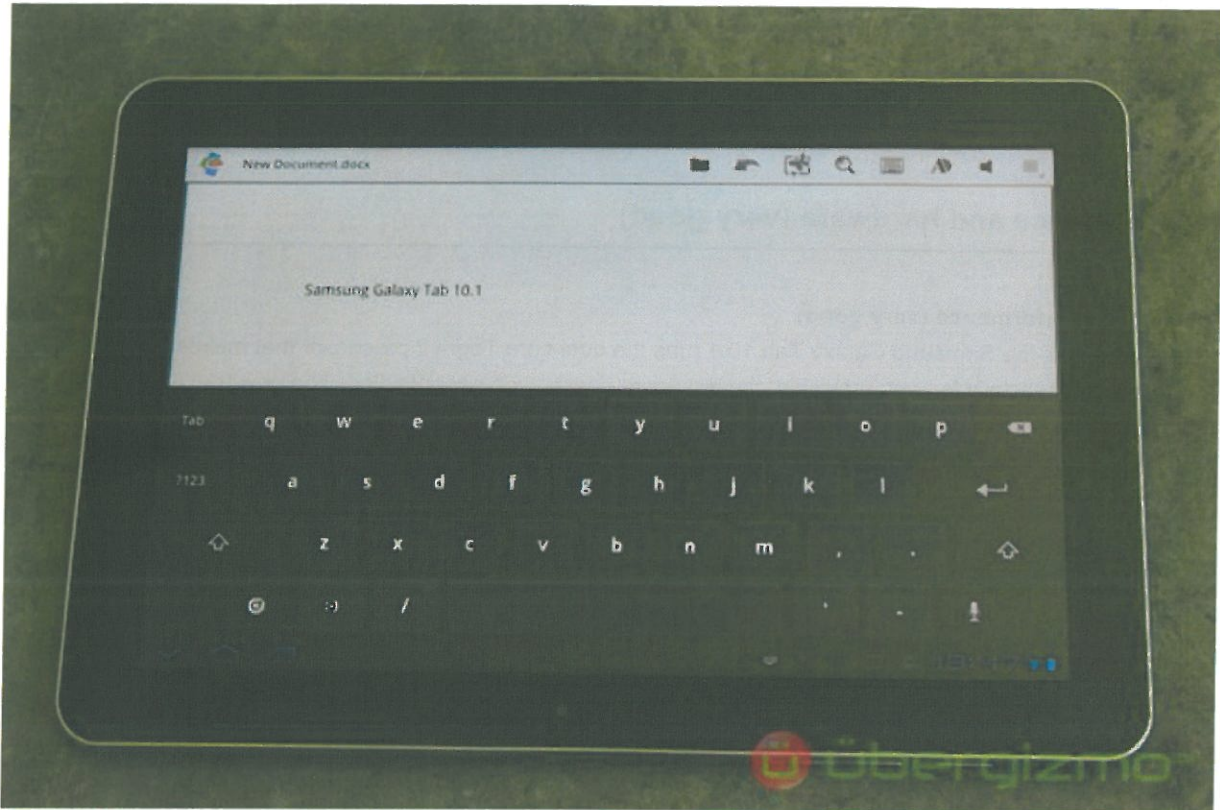


Galaxy Tab 10.1 - Samsung keyboard

You have the choice between the custom keyboard from Samsung accessible by default from all applications when you start typing in an edit box, and if you prefer the original Android 3.0 keyboard (as I do) you need to go to the settings app in the “language & input” menu, Keyboard Settings sub-menu, then select “Current input method” - what a drill down!

Samsung keyboard: I am not sure why Samsung designed its own custom keyboard, the responsiveness is similar to the Android keyboard but sometimes it can be a little buggy when used in the browser, and it does not react immediately when you tap in an edit box.

I can say that both keyboards offer similar performance, both are easy to type on and responsive, one is black the other is white, so it is a matter of tastes and lighting condition whether you select one over the other.



Galaxy Tab 10.1 Android 3.0 Keyboard

The differences are in the placement of the keys and some keys are made accessible depending on the situation and the application you are in: the `www` key is displayed when you start typing in the address bar in the browser, then this key is replaced by `.com` when you are typing the url. The `www` key is not available in the Android 3.0 keyboard, only the `.com` appears when you type an url in the address bar.

On the Samsung version, the `@` sign is not accessible in the first keyboard screen when you type in an edit box of the google search bar in `google.com`, Android 3.0 makes it available with caps lock.

There may be other differences in behavior when you use both keyboards in different applications, I have not checked, but other than that you can see the two different layouts in the picture.

Audio (good)

Speakers

The speakers audio quality for a tablet is good. I have compared the Samsung galaxy tab 10.1 with the iPad 2, the Xoom and the Playbook using the same song. All tablets offer a comparable audio quality, the iPad 2 being slightly better with a deeper sound texture, the Samsung sounding more acute and slightly more "metallic". The Playbook provides the most powerful sound volume with a good audio quality, which is surprising given its smaller size.

Headphones

With headphones, the audio quality is good, better than with the built-in speakers, and I could not notice any differences.

Performance and hardware (very good)

Perceived Performance (very good)

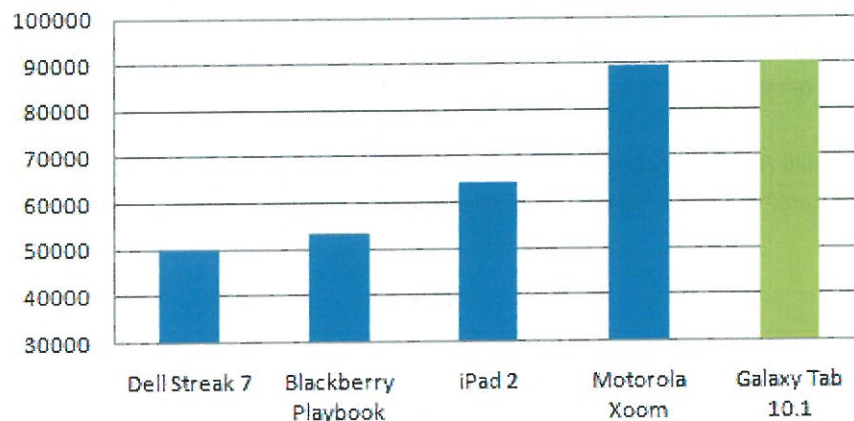
Like the Xoom, the Samsung Galaxy Tab 10.1 runs the dual-core Tegra 2 processor that makes the device very responsive, especially for web browsing: the dual-core boosts web page loading. The powerful GPU integrated in the SoC delivers a smooth interface, allows fast scrolling of web pages loaded with graphics and enables a fluid full HD video playback experience.

Tested against the iPad2, Xoom and the Playbook, overall the overall system's perceived performance was similar on all tablets.

Measured Performance (very good)

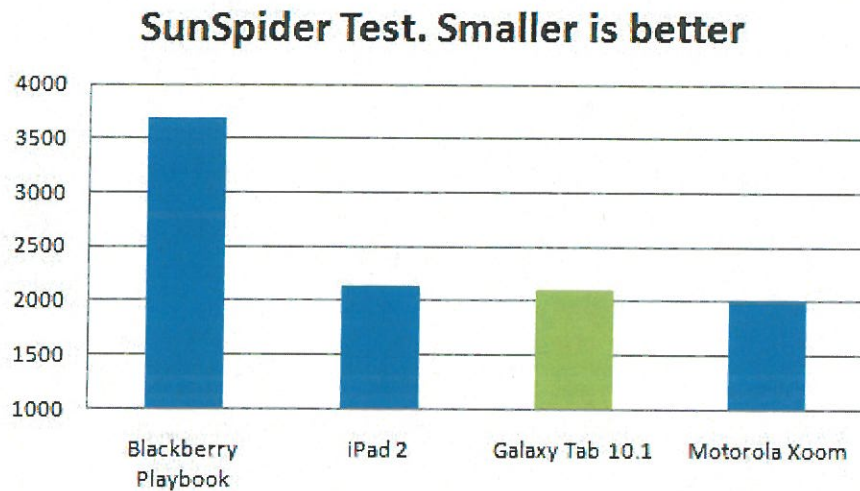
Thanks to its Tegra 2 system on a chip (SoC), the Galaxy Tab 10.1 is very fast, and is logically on-par with other Android 3.0 tablets based on the same chip. However, when we compare the Tegra2-class tablets with the iPad 2, or the Playbook, they do very well too. For instance, Tegra 2 + Android 3.0 is a winning combination for Javascript performance. It is due mainly due to Google's javascript engine optimization, but also to the dual-core nature of Tegra 2.

BrowserMark. Higher is better



Browsermark benchmark

Both Browsermark and SunSpider measure Javascript performance, a key language used in the most interactive websites. We wish that there were more tests to measure productivity and overall system performance in a relevant way, but we'll have to wait a little more for that.



Sunspider benchmark

Android 3.0 aka Honeycomb user interface (good)

I have already written extensively about the new Android 3.0 OS (Honeycomb) featured in the Galaxy Tab 10.1 in my Motorola Xoom review. I am going to give a shorter overview of the main features, for those who would like more details, read the Android 3.0 paragraph in the [Xoom review here](#).

The most notable new feature of Honeycomb is the higher resolution support, which allowed manufacturers such as Samsung to build a device larger than 7-inch. Google has completely redesigned the Android user interface to adapt it to the extra screen real estate, overall, the navigation is efficient and the system is very responsive. See below for an overview of the new features.

OS design – look and feel (could be better)

Although some efforts have been done to unify the interface, to make it more subtle and a bit more intuitive than the previous versions. Design-wise, Android is my least favorite OS compared to iOS, Windows Phone 7 and QNX (Playbook).



Galaxy Tab 10.1 system icons

The severe lack of consistency in the shapes used across the OS, without commenting on the Tron-like graphic style, is the main reason why Honeycomb's look and feel is not as appealing as iOS or Windows Phone 7. The most notable example is the huge difference in form factor and graphic style between the system icons – back, home, recent apps, menu- (picture above) and the contextual icons displayed in the action bar at the top in various applications. (see picture below) For more info, read my review of WP7 in the [Samsung Focus review](#) and my review of the [BlackBerry PlayBook](#).



The contextual icons in the action bar - the design style is different from the system icons

I am not going to debate here about the advantages of Android as a more open system than iOS, as some people have argued in the comments of my previous review, when I pointed out that the Android user interface is not as good looking and as intuitive as iOS or Windows Phone 7.

It may be true that some people do not care that much about intuitive user interfaces and aesthetics, however, given the overwhelming success of the iPhone and the iPad, I am comfortable to state that both matter a lot to a majority of users.

With Honeycomb running in a powerful tablet such as the Samsung Galaxy Tab 10.1 and an app store providing a lot of the most popular apps available in iTunes, including the long awaited and recently released Netflix app, users can get a lot done efficiently. However, designer Matias Duarte has more work to do to make the user experience better.

See below a short overview of the new features:

Home screens and virtual buttons



Galaxy Tab 10.1 customization screen with carousel

The most notable change in Android user interface the replacement of the 4 physical buttons home, menu, back and search, with virtual versions and the ability to customize the five home screens in one place via a 3D carousel (see picture above).

Users now have access to navigation icons from all four corners of the device, the design team has conceptually categorized them in two main zones:

- **the System Bar at the bottom** - on the left corner users access back, home, recent apps virtual buttons and, on the right corner, various notifications including new emails, apps updates, new tweets, time, WiFi or 3G connection status, and battery life status.

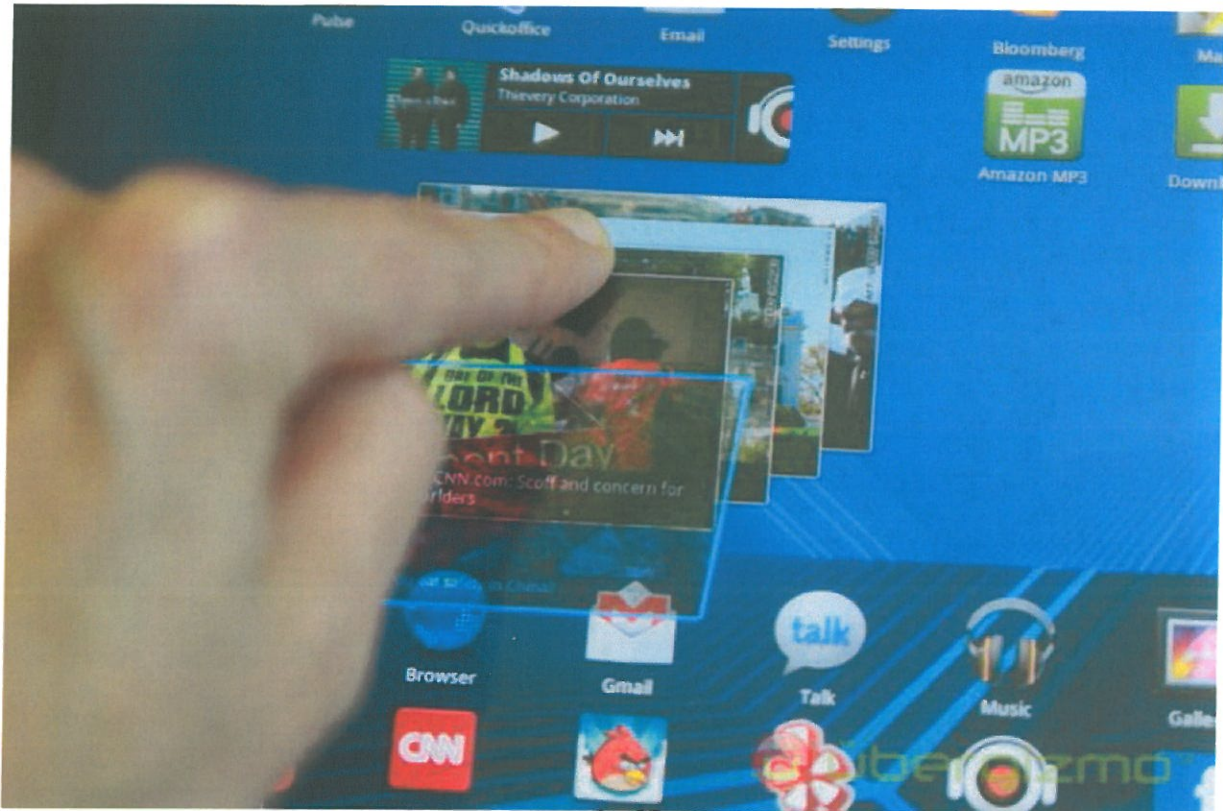
These functions are accessible across the system and in all applications, an additional menu icon appears when needed in some applications (on the left corner). (see picture of the system icons in previous paragraph)

- **the Action Bar at the top** – It gives access to contextual options, navigation or widgets. On the home screen, from the top left corner, users have access to search and they can use text or voice input. From the top right corner, they can go to the all apps screen by tapping on the multiple squares icon or they can access the customization screen with the 3-D carousel – from the + icon (picture of the customization screen)

An information window appears when you tap on the connectivity and battery icons, at the bottom right. It displays the latest notifications, the time and the connectivity and battery status, from there, after pressing on the settings icon, users access the basic settings including screen brightness.

Customizable Home Screens and Widgets (good)

Android 3.0 like the previous versions offers five home screens to browse by swiping the display horizontally. On the customization screen, accessible by tapping the + icon , you can simply drag and drop any elements (Widgets, Apps, Wallpapers...) from the sections displayed in the middle to the screen of your choice in the 3-D carousel at the top (see picture below the subtitle "screen and virtual buttons). It is easy to move around icons and widgets to organize the home screen the way you want, unlike the iPad. Simply press and hold on any element, then you can drag it to a new spot.



Galaxy Tab 10.1 CNN widget

Android 3.0 now offers a Gmail widget, an email widget, a revamped calendar widget that allows you to scroll through events, a contact widget and more. The calendar widget is visible on the home screen in the first picture of this review. The CNN widget is very cool you can shuffle through the breaking news' images in 3D (see picture above).

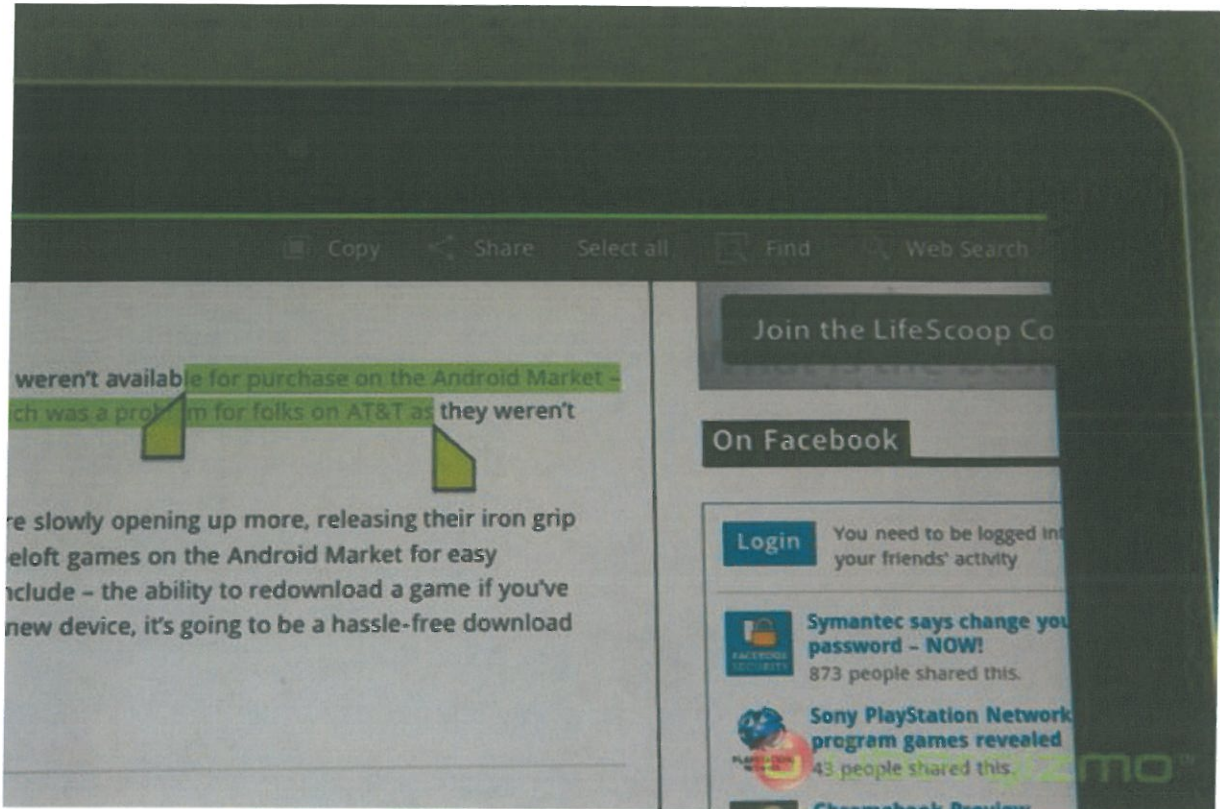
Recent Apps for multitasking (could be better)



Galaxy Tab 10.1 Recent apps feature

The Recent Apps feature was a smart addition to Android 3.0, unfortunately its implementation is not that good compared to other OS offering a similar feature: accessible from the System bar (bottom left, third icon) across all applications, it displays the five most recent applications opened, and from there, users can switch rapidly from one application to another. Unfortunately, it is not possible to scroll in the list to access all the running applications unlike in the Playbook. More strangely, it is not even possible to close the apps from there! In the PlayBook you can close the running apps from the carousel on the home screen two different ways: by clicking on the little cross below the app's thumbnail or by dragging the thumbnail away. iOS also gives a quick access to running apps via a double click on the home button. With Android 3.0, closing applications is a whole different adventure: you need to drill down in the Settings, which will take 4 to 5 clicks, depending on whether or not you placed a shortcut for the Settings app on the home screen.

Improved text selection and copy and paste (very good)



Galaxy Tab 10.1 Copy/Paste with advanced functions such as "Share" or "Find"

We have seen this improvement with **Android 2.3** (Gingerbread) in the Nexus S, the selection and copy paste looks similar in Honeycomb, except for the color, it is green here and orange in 2.3. The ability to apply other actions than just copy/paste to the selected sentence is new: now you can share, perform a web search or find. All these functions are accessible from the action bar.

Android 3.0 Updated Standard Applications

The applications featured by default on the start screen on the Samsung Galaxy Tab 10.1 are different from the one in the Xoom:

Xoom: Browser, Gmail, Google Talk, Music, Books, Android Market

Galaxy Tab10.1: Browser, Gmail, GoogleTalk, Gallery, Android market

The Google Books app is not pre-loaded in the Galaxy Tab 10.1, if you need it you have to download it from the Android market (free), the Kindle app is pre-loaded in the Tab, but is not featured on the Start screen.

Browser with Flash Support (very good)