

A Survey of Resources available for Possible use in Classroom Teaching

How & Why Design Criteria



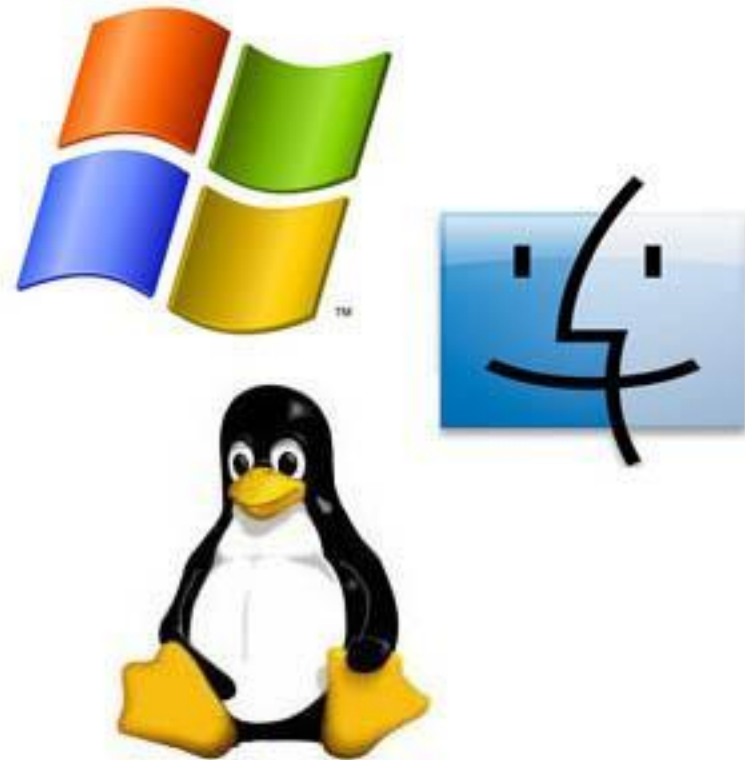
Factors to Consider

- “One size does NOT fit all”
Identify your specific needs.
- Operating systems: How & why this matters
- Form Factor = size, ear to mouth spacing, etc.
- Screen Type : Capacitive, resistive Touch screens.
- Battery life



What is an Operating System(OS)?

- A Mobile operating system is the **operating system** that controls a **mobile device** — similar in principle to an operating system such as **Linux** or **Windows** that controls a desktop computer
- And there are many OS . Which one works for you is what matters ?



List of Mobile Operating Systems

- **Symbian OS** developed by Symbian Foundation , still the largest market in the mobile OS but not for long.
- **RIM BlackBerry OS**- designed for business use.
- **iPhone OS** - Apple Inc & derived from MAC OS X.
- **Windows CE**- Microsoft & has Windows Mobile 6 especially for touch screen devices.
- **Android** - Google Inc a Linux based platform & the one which will rule the Mobile Desktop space
- **Linux** OS used by Motorola & DoCoMo in China & Japan.
- **Palmweb** OS developed by Palm Inc.
- **Bada** by Samsung developed especially for touch screen & many others which don't count



Windows - 8

- Support for both x86 PCs and ARM tablets
- The Metro Unique Interface
- A touch-friendly keyboard.
- Gestures all around!
- Smarter connectivity options.
- Improved power efficiency.
- SkyDrive saves your data.



Android 4.0 (Ice-cream Sandwich)

- Android 4.0 makes common actions more visible and lets users navigate with simple, intuitive gestures.
- Multitasking is a key strength of Android and it's made even easier and more visual on Android 4.0.
- Home screen folders and favorites tray
- Live Effects for transforming video
- Android 4.0 makes it easier for applications to manage authentication and secure sessions.



Some thoughts on O.S.

- The mobile & handheld space is dominated by Apple iOS (Apple) & Google's Android.
- Enterprise space has Blackberry's RIM OS.
- iOS is "Walled Garden" proprietary.
- Android is Open Source
- Majority of future "Apps" will be on iOS & Droid
- For education : UI (User Interface) & UX(User Experience) are key factors.
- Cost: important factor; Android devices & apps cheaper
- Don't even look at devices which are not iOS or Android!

Form Factor : Important UX Consideration

- “Size matters” Ear to mouth distance etc. (For Mobile specially)
- Blue Tooth headsets/wired earphones address the this & recommended for multi tasking!
- Screen size: Matters for easier reading & less scrolling.
- 1,2,3 Rule: 1 button, 2 pages & 3 clicks should get you what you want.



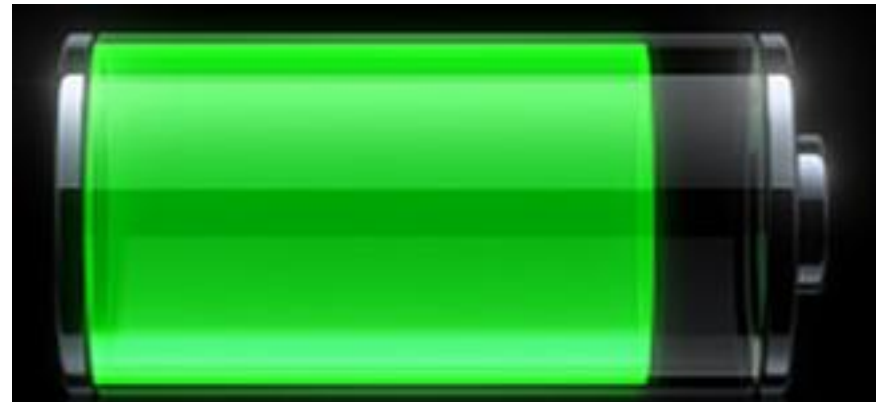
Screen Types

- **Resistive screens:** Old technology. Cheaper Screen needs to be pressed. Not good.
- **Capacitive Screen:** Gives a “fluid “ experience . Essential for making education a good, feel experience. Turning pages is like in physical world .
- Easy to use by all ages
- Go for capacitive screen
- New breed are Super **AMOLED**
Great visual/ display



Battery Life : Important Factor

- Measured in: mAh = milli Ampere Hours. Higher the better.
- Determines the time one can use between recharging.
- Multi tasking uses higher battery.
- Minimize the number of applications running on your device same time Specially for Mobiles where mAh is smaller.
- Higher the Battery life = larger battery & hence device size.
- Tips to extend battery life :
Select options on screen time out, brightness settings, Vibrate mode etc.



Connectivity

- Network: Quad band GSM/EDGE/GPRS , Penta band UMTS (3G)
- GPRS
- EDGE Wi-Fi 802.11 b/g/n
- Wi-Fi hotspot , DLNA , Wi-Fi direct
- 3G :
- HSDPA – 21 Mbps
- HSUPA – 5.76 Mbps
- Bluetooth v3.0
- microUSB v2.0
- GPS with A-GPS support 3.5mm jack



2G/3G vs. Wi-fi only

- All mobiles have “telephony” functions i.e. they will have a SIM card .
- Tablets come with or without telephony capability .
- Generally for teaching Wi-Fi only devices are way to go Cheaper
- Less distractions



Learning with iPad

- An incredibly responsive Multi-Touch screen.
- A large, high-resolution LED-backlit IPS display.
- A design that's thin and light enough to take anywhere.
- iPad isn't just the best device of its kind — it's a whole new kind of device.
- And it's poised to change the learning landscape



Components



■ Apps for iPad

■ iTunes U



■ iBooks



Specifications of Samsung Galaxy Note

- **Operating System:**
Android OS v2.3
(Gingerbread)
- **Processor :** Dual-core
1.4GHz ARM Cortex-A9
processor, Mali-400MP GPU,
Exynos chipset
- **Display :** 5.3-inch Super
AMOLED display , 1280×800
pixel WXGA resolution



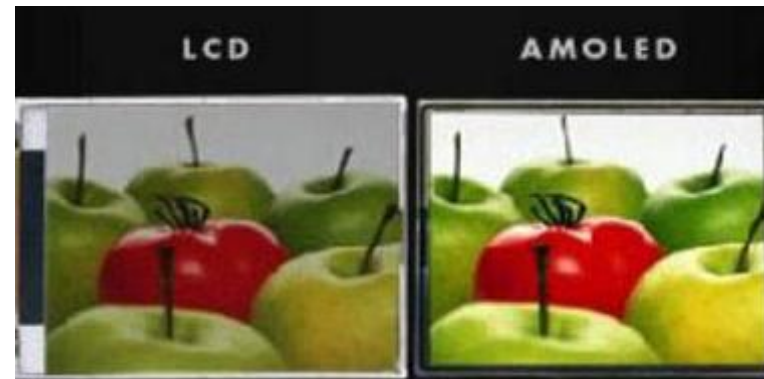
Samsung Galaxy SIII

- A 4.8-inch full HD Super AMOLED Screen
- It will be powered by a 1.4GHz quad-core Samsung Exynos processor.
- Features a front facing 2 MP camera for video calling and an 8 MP rear camera.
- Supports 4G LTE connectivity.
- Runs on Android 4.0 Ice Cream Sandwich.
- Sources indicate that the smartphone will have a brand new ceramic case.
- Samsung Galaxy S3 comes in models with 16GB, 32GB and 64GB internal memory



What is AMOLED?

- AMOLED is known as (Active-Matrix Organic Light-Emitting Diode)
- Generate light upon electrical activation that have been deposited or integrated Onto a thin film transistor (TFT) array, which functions as a series of switches to control the current flowing to each individual pixel.
- Typically, this continuous current flow is controlled by at least two TFTs at each pixel, one to start and stop the charging of a storage capacitor and the second to provide a voltage source at the level needed to create a constant current to the pixel and eliminating need for the very high currents required for passive matrix OLEDAMOLED displays provide higher refresh rates than their passive-matrix OLED counter parts [Not specific enough to verify], improving response time often to under a millisecond, and they consume significantly less power.



Some specification required

- For drawing , note-making and screen captures
Stowaway pen is provided

Camera :

- Rear- 8 MP with LED flash
- Front – 2MP camera in front for video calling
- Features : Geo-tagging, touch focus, face & smile detection ,image stabilization

Memory :

- RAM : 1GB RAM
- Internal storage : 16GB / 32GB
- External storage up to 32GB

Some more specifications

Sensors :

- Accelerometer sensor → UI auto-rotate
- Proximity sensor → auto turn-off
- Gyroscope sensor
- **Color** : Black,White
- **Battery** : Li-Ion 2,500mAh standard battery
- **Dimensions**: 146.9x83x9.7 mm
- **Weight** : 178 gm

Mobile & Handheld Devices:

The Platforms, Operating Systems, Devices & Educational Apps

- Does it matter what devices we use? **Yes.**
- Does it matter to know the platform & operating system we use? **Yes again.**

Why does it matter?

- Mobile devices: The Last Mile & Final Frontier
- Mobile's outnumber PC's by many times and this rising faster than before
- Some applications & how to choose your Mobile

The Platforms, Operating Systems, devices & Educational Apps

- First generation computers were huge & required whole buildings to house them.
- Later came the desk tops smaller but fixed .
- Evolved into laptops: Portability added great benefits & efficiency multiplier.
- Quest for size brought Netbooks ; smaller, portable but with reduced functionalities.
- Mobiles for “voice & SMS ” started.
- Evolved into Smartphones: Power packed .
- iPad brought the Tablet format :
- Hand held devices: Smart phones & tablets are today's weapons of choice

Dominated Operating Systems

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Aakash Tablets

(Rs. 2,999)

- Aakash is an Android-based tablet computer designed and developed by DataWind, a British firm in alliance with IIT.
- Powered by Android 2.2 (Froyo) and a 366 Mhz processor the 7-inch tablet has a resistive touch screen.
- A keyboard portfolio case for the tablet will also be made available during the commercial launch at an additional cost of Rs 300.



Stamp

(Rs. 5,000)

- The Allgo Stamp tablet is supposedly full-featured device, sporting a 7-inch display with an 800x480 resolution, and a resistive touchscreen that's built for stylus action, perfect for the classroom will run either the Android or Linux operating system.
- The device has been bundled with Wi-Fi, USB and Ethernet ports.



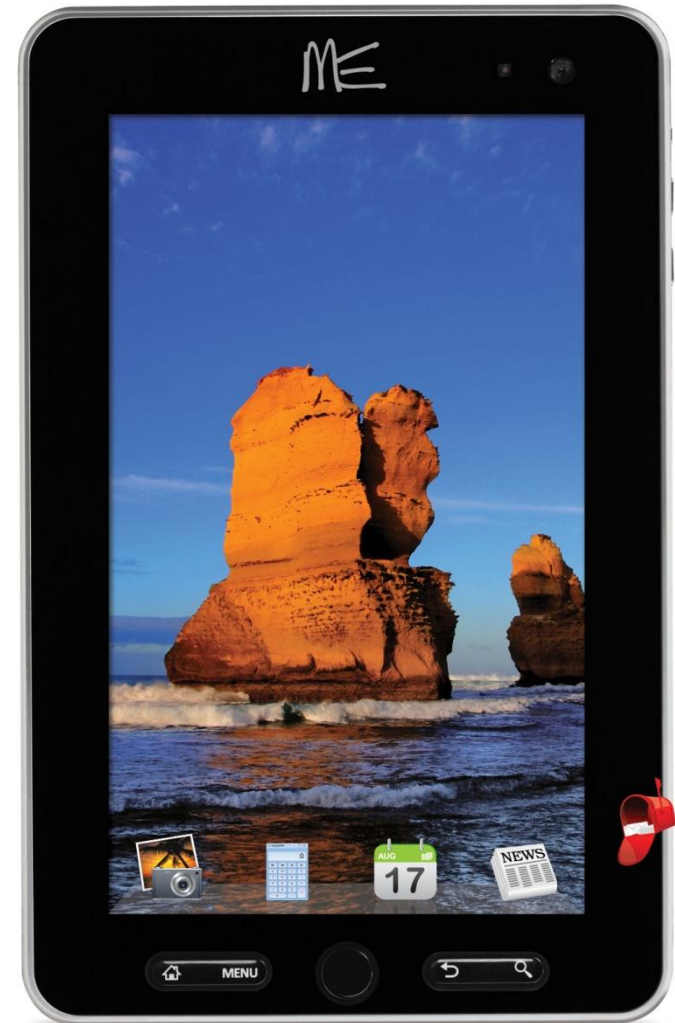
Micromax FunBook (Rs. 6,499)

- Micromax's FunBook tablet is surprisingly well-featured considering it's the cheapest Android 4.0 tablet in India.
- It has a 1.2Ghz processor, 512MB RAM and comes with 4GB internal storage (expandable upto 32 GB via microSD slot).
- In addition, Micromax also preloads a plethora of apps across various categories - educational (Vriti), multimedia, games, entertainment and even Zenga TV for live TV streaming.



HCL Me (Rs. 7,999)

- Android 4.0.3 (Ice Cream Sandwich)
- High-performance Cortex A8 1GHz Processor
- Multiple Connectivity options – USB port, Wifi and 3G USB Dongle
- Capacitive Touch Display, 7 inches 800x480 pixels
- 24x7 HCL Touch Support



Beetel Magic

(Rs. 9,999)

- Beetel Magiq is powered by 1GHz Qualcomm snapdragon processor, comes with 800×480 resolution on 7-inch LCD, 2 megapixel camera, VGA front-facing camera.
- This 3G Tablet runs on Android 2.2 and has 7 inch TFT touchscreen and powered by a 1 GHz processor.
- Airtel is packing in a 2GB free data per month for 2 months.



Amazon Kindle Fire

(\$199)

- 7-inch multi-touch display with IPS (in-plane switching) technology and anti-reflective treatment, 1024 x 600 pixel resolution.
- 1 GHz dual core processor with 8 GB internal memory.
- Supports public and private Wi-Fi networks
- Battery life up to 8 hours of continuous reading or 7.5 hours of video playback
- Weighing just 413 grams, the Kindle Fire is the lightest tablet available on the tablet market.
- Free cloud storage for all Amazon content.



Reliance 3G Tab

(Rs. 12,999)

- Reliance 3G Tab runs on Android 2.3 Gingerbread Operating System.
- 7 inch sensitive capacitive multi-touch screen, 480 x 800 pixels resolution, weighs a mere 389g
- Highly Impressive battery life of upto 9 hours talktime and 300 hours of standby time.
- Dual Camera (2 MP rear & VGA front) & video recording features



Mercury mTab

(Rs. 9,499)

- Mercury, one of the leading computer peripheral manufacturers, has announced the release of its tablet – the mTab – in India.
- Featuring a triple core processor, the mTab is capable of a variety of infotainment services from web access, email, videos, music, to games and e-books.
- The mTab runs on Android 2.3 Gingerbread platform with 512MB RAM, and comes with 4GB built-in storage along with microSD slot, expandable up to 32GB.



Spice Mi-Tab

(Rs. 16,490)

- Mi-Tab comes with 17.75 cm capacitive screen which offers a high and superior resolution of 800 x 480. Just swipe left or right to move through various screens and access your favorite utilities effortlessly.
- Mi-720 is powered by Qualcomm Snapdragon 800 MHz Turbo Processor which can powerfully handle multitasking and load applications faster. MiTab has Wi-Fi embedded into it.
- The device is endowed with a 2 MP camera at rear & VGA at front and camcorder



iBall Slider

(Rs. 13,995)

- iBall has launched its Android 2.3 powered tablet, iBall Slide
- It comes with a 7-inch capacitive touch screen, 1 GHz ARM Cortex A8 processor, 2 megapixel camera, 8 GB internal memory (expandable to 32 GB), WiFi, Bluetooth and HDMI output.
- iBall Slide has a 4400 mAh battery which provides 6.5 hours of music and 5 hours of video.



MSI WindPad Enjoy 7

(Rs. 12,999)

- The gadget has a 7-inch capacitive touchscreen display and a 1GHz Cortex A8 processor.
- The MSI WindPad Enjoy 7 runs on the Google Android 2.3 OS and features a 512MB of RAM, a 4GB of storage space, Bluetooth 2.1, WiFi, a 3.5mm headphone jack and a microSD card slot(up to 32GB).
- The tablet also has an HDMI port, so you can enjoy your favorite movies on the bigger screen.



Asus PadFone

- Android 4.0 (Ice Cream Sandwich)
- Qualcomm Snapdragon S4 8260A Dual-Core 1.5 GHz
- 4.3inches, qHD 960x540, Super AMOLED with Capacitive Multi touch panel
- Scratch Resistant Corning® Gorilla® Glass with HCLR Film
- Rear Camera : 8 MP, Front Camera: VGA
- G-Sensor/E-Compass/Gyroscope/Proximity/Light Sensor/Motion Sensor/Vibration Sensor (PadFone Station)
- Memory: 16GB, 32GB and 64 GB
- Connectivity: 2G, 3G, Wi-fi, Bluetooth



PadFone Station

- 10.1 inches, WXGA 1280x800, TFT with Capacitive Multi touch panel
- Scratch Resistant Corning® Gorilla® Glass with HCLR Film
- Front 1.3 Mega-Pixel
- Android 4.0 (Ice Cream Sandwich)



PadFone: Seamless Transition between Devices

Dynamic Display

- This ASUS exclusive technology automatically adjusts the PadFone's display layout when it is placed into the PadFone Station to enable you to view and enjoy more.
- The intelligent DynamicDisplay technology will also ensure that the app remembers where you stopped so that you can immediately continue playing that new game without having to start all over again when switching from PadFone to PadFone Station and vice versa.



Samsung Galaxy Tab

(Rs. 26,149)

- With its mobile phone usability and responsive screen, the Galaxy Tab was the pick of the 7 inch tabs until the PlayBook arrived.
- In that company, its single-core CPU and reliance on Android 2.2 leave it looking sluggish.
- It doesn't cost as much, mind.



HTC Flyer 3G

(Rs. 39,890)

- For watching videos and gaming, the 7 in Flyer's size and power put it up there with the best, but an outdated version of Android means its clunkier in operation than the others.
- At this price it's impossible to recommend over a Honeycomb powered rival.



Acer Iconia Tab W500

(Rs. 34,499)

- If you don't mind using the tablet version of Windows 7, the W500 is a decent option.
- It lacks app variety, but the ease of use and familiarity of Windows gives it plenty of versatility.
- The Android-running A501 is a better option, though.



Apple iPad 2 Wi-Fi

(Rs. 24,500)

- It may look as though Apple's second-gen tablet merely tweaks the formula that made the original a genre-defining monster, but the changes are significant enough to keep it well clear of the Android pack.
- ON the outside it's been slimmed down to a smartphone-thin 8.8 mm, shed 70 g of weight and gained two cameras.
- On the inside it's had a major power boost, its new dual core A5 processor keeping it faster and more responsive than any rival.
- Add to that the best screen going and the unparalleled riches of the App Store and you're left wondering how it's also one of the cheapest in its class.



Apple iPad-3

- 2048×1536 LED Backlit IPS Display is 3.1 Retina Display feature
- The new iPad has an amazing sound impact
- 5 Megapixel iSight Camera
- A5X Dual Core Processor With Quad Core GPU
- Operating System iOS5



iPad 3 - Price Chart

iPad-3 (WiFi):

- 16 GB – \$499
- 32 GB – \$599
- 64 GB – \$699

iPad-3 (WiFi + 4G):

- 16 GB – \$629
- 32 GB – \$729
- 64 GB – \$829



BenQ GP2 Mini Projector

- Portable, all-in-one entertainment system
- Touch-sensitive control panel and user interface
- Rich connectivity options including HDMI, SD Card and USB
- Plug and play dock for your iPhone or iPod
- Do it anytime and anywhere — with movies, photos, videos, music or apps.



Using AirPlay for Projection

- AirPlay Broadcast live to your HDTV and Speakers.
- With AirPlay, you can wirelessly stream what's on your iPhone (or iPad or iPod touch) to your HDTV and speakers via Apple TV.
- Or mirror your iPad or iPhone 4S screen. That's gonna go over big.



GoFlex Media (for data Storage)

- Stream to almost any device that has Wi-Fi connectivity and a web browser—including laptops, most smartphones and tablets
- up to 7 hours* of continuous streaming
- Stream media over Wi-Fi to 8 devices at the same time
- Storage Capacity 500 GB.



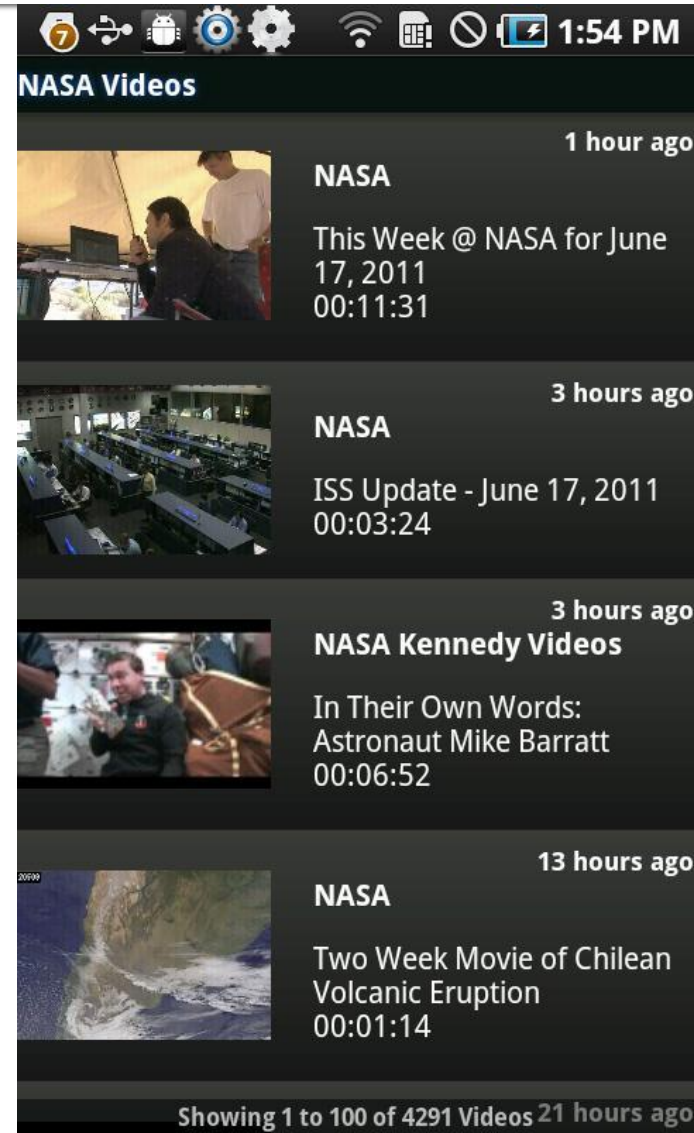
Apps for Learning

- Apps is an abbreviation for application.
- An app is a piece of software.
- It can run on the Internet, on your computer, or on your phone or other electronic device.



NASA App HD (Free)

- The app is packed full of information from NASA's proud history of space travel.
- One of the best features is the ability to check mission paths via Google Maps.
- The amount of content on offer here is incredible.



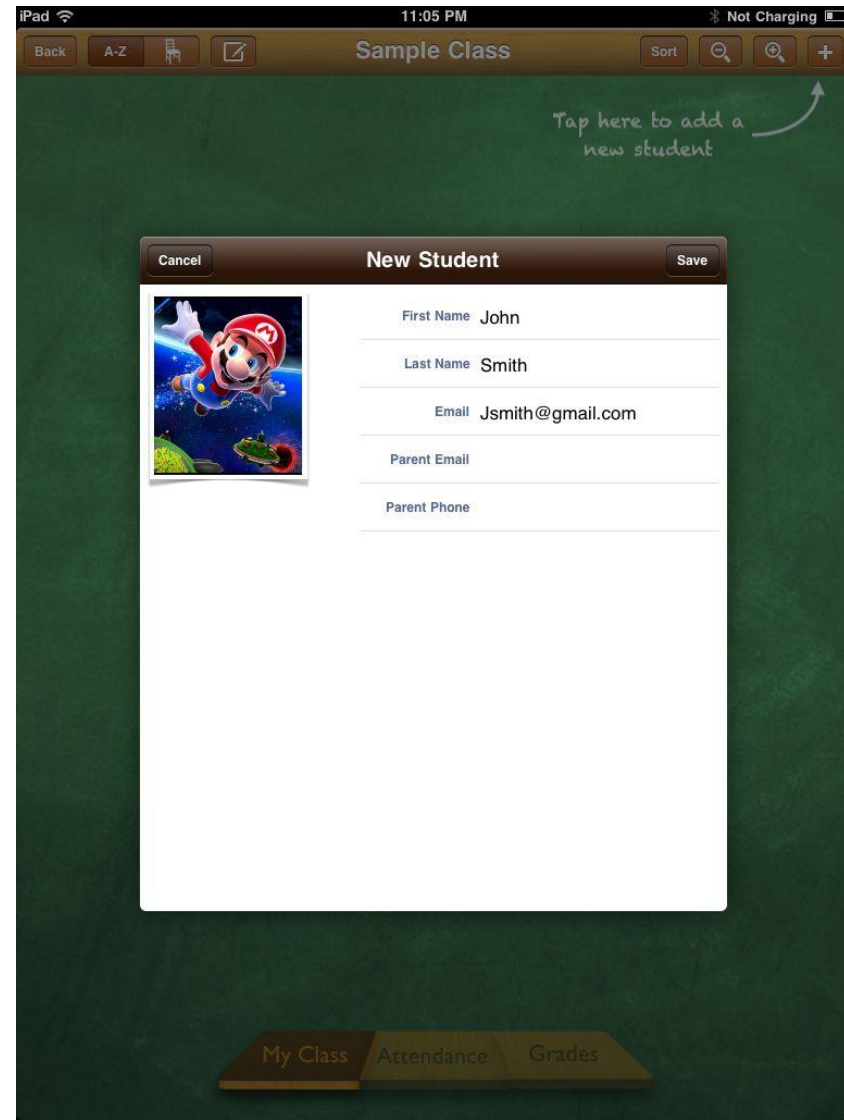
TED (Free)

- This app allows you to search through TED's catalogue and watch talks and seminars from a range of different speakers for instant inspiration.
- There are more than 900 videos to view.
- You can even stream the videos onto the big screen via AirPlay – which is handy for the boardroom or the classroom when attempting to inspire young and impressionable minds.



TeacherPal (Free)

- Creating classed is easy: one tap, add a name, choose an icon and the first class is added.
- Adding grades, creating attendance records and noting behaviour is easy, although the attendance option is not so obvious, and creation and population is a time-consuming task just for one class.



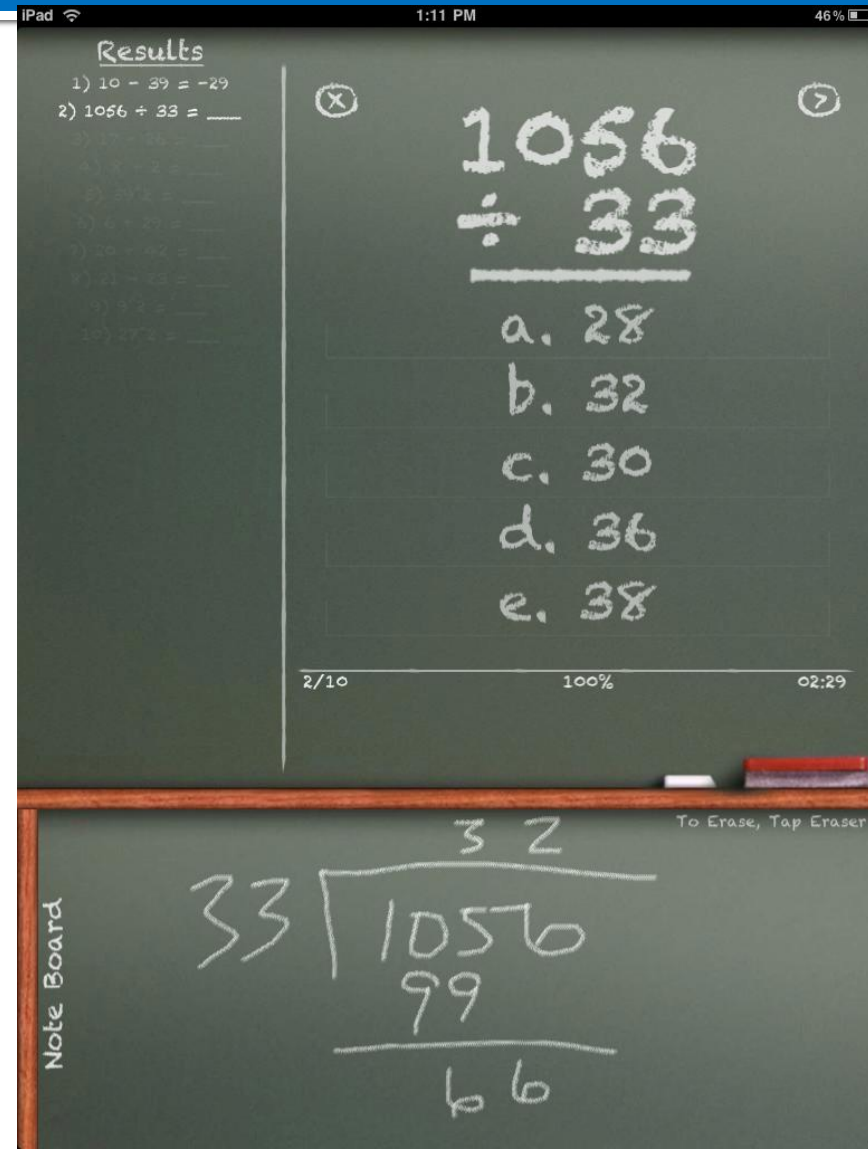
My Translator UK (\$0.99)

- Enter words or phrases, and the text will instantly translate as you type thanks to the auto-complete system, which is invaluable when you need result fast.
- Your translated text will be read aloud by a native speaker, giving you the option to either practice until you've got the pronunciation perfect, or use the app to do the speaking for you.



Mathboard (\$0.99)

- It offers addition, subtraction, multiplication, division, squares, cube and square root.
- It's all presented on an old-school style chalkboard format and you have enough space on the board to do your working out.
- The timed element enables students to compete against each other, even if the questions are easy.
- For more complex questions there's a neat bit of chalkboard for working out.



Math Bingo (0.99)

- Children simply love practising addition, subtraction, multiplication and division with this fun app.
- With three different difficulty levels, it can help any child learn to love maths.
- Now you can view high scores by individual player



Math Reference (\$0.99)

- Useful for quick and easy access to math formulas.
- Includes basic and advanced math.
- Basic math covers arithmetic, algebra, geometry, & measurement. Advanced math covers trigonometry, derivatives, integration, statistics, series and sequences, conversions and probability.

Geometry/Surfaces

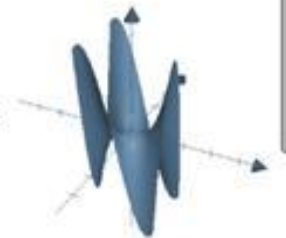
Elliptic Paraboloid

$$z = \frac{x^2}{a^2} + \frac{y^2}{b^2}$$



Monkey Saddle

$$z = x^3 - 3xy^2$$



Hyperbolic Paraboloid

$$z = \frac{x^2}{a^2} - \frac{y^2}{b^2}$$



Hyperboloid

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} - \frac{z^2}{c^2} = \begin{cases} 1 & \text{One Sheet} \\ -1 & \text{Two Sheets} \end{cases}$$

Bird Encyclopedia+ (\$4.99)

- Bird Encyclopedia+ is a searchable database of birds around the globe.
- The information on offer is decent enough, but the overall quality of the app is sadly lacking.
- It's very easy to use, simply type in the name of the breed to be presented with its vital statistics.



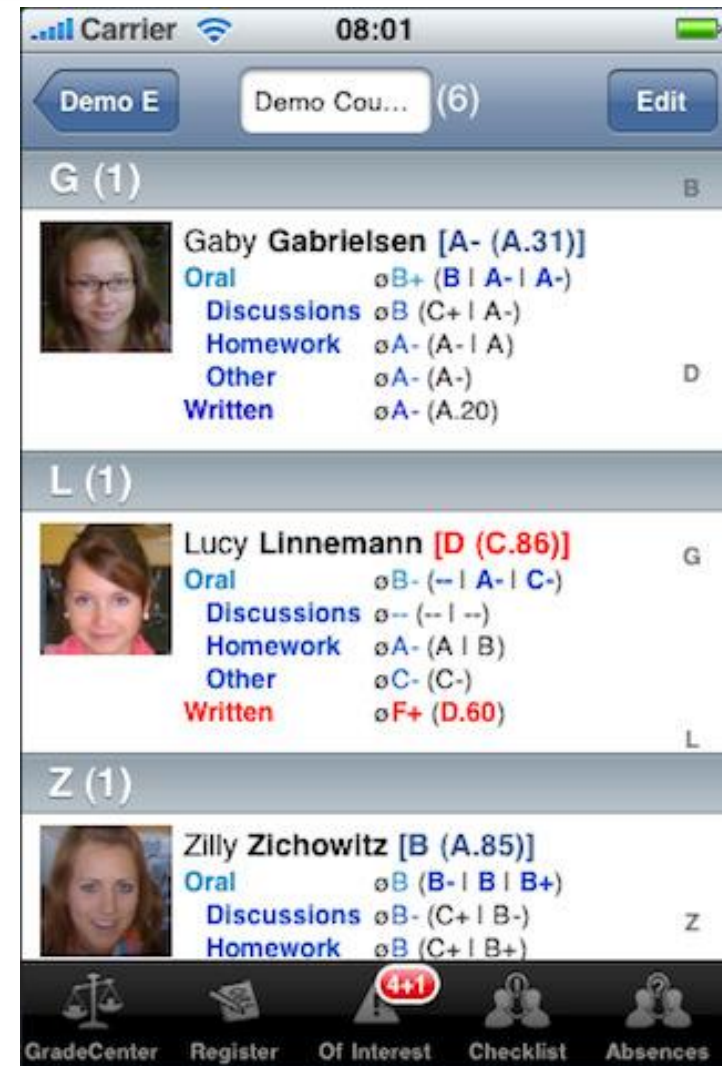
Solar Walk (\$2.99)

- A melancholy flow of notes immerses you into the solar system and you realize that this application is like no other.
- Solar Walk pieces together each planet in real time and real location to give a fully accurate view of where things are, where things have been and where things are going in space.
- The various moons are supported and the best feature is the graphics with a 3D option



TeacherTool (Free)

- TeacherTool saves grades and makes suggestions for grades.
- TeacherTool saves your remarks about students and presents them to you in the upcoming lesson.
- It remembers the date of any grade and lets you store comments along with it.
- TeacherTool keeps track of your students' absences.
- It is much safer than your traditional mark-book, as with every synchronization on your Mac, you save an up-to-date backup copy of all your data.



GradePad (\$2.99)





- The GradePad application allows you to grade your students' performance directly from your mobile device.
- The documentation from the application's website explains that with this app you can Manage Groups, Create GradePads, Do Assessments, Track Performance, and Share Data.

Person **Willie Fremont** Clear

Interpersonal

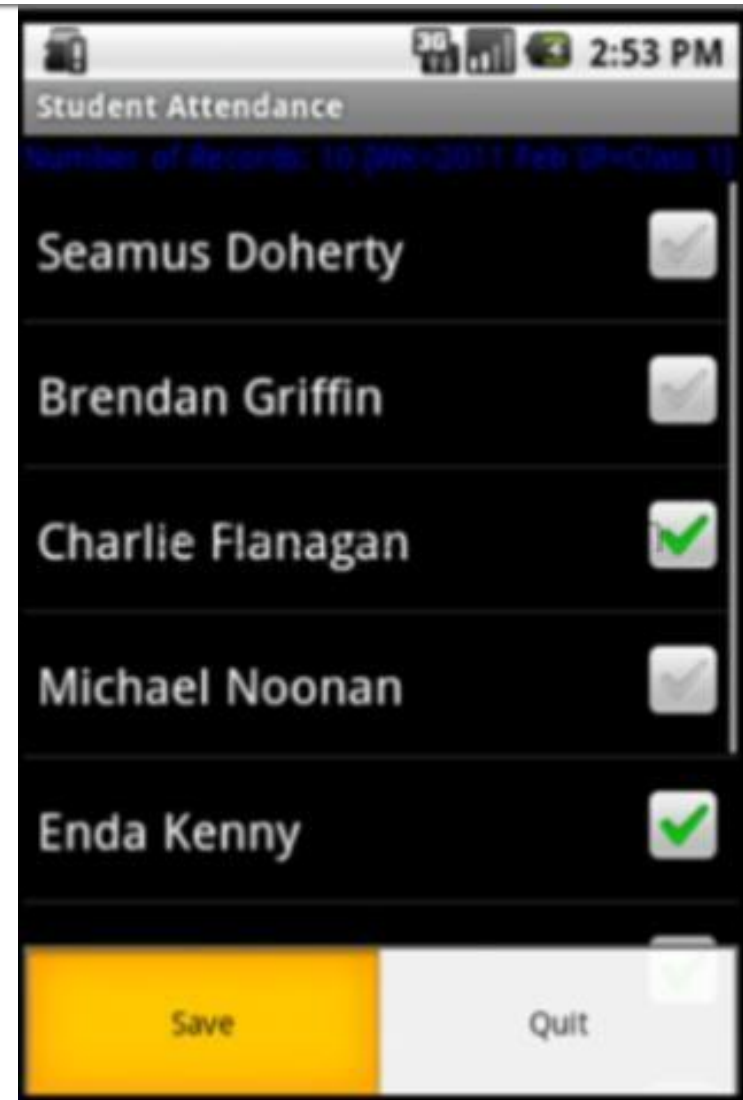
Teamwork

Project

	4	3	2	1	0
Listens					
Respects					
Reacts					
Responds					
<i>Comments:</i>					

Attendance (\$5.99)

- Attendance is a universal iOS touchscreen application.
- It allows you to take and keep attendance records.
- Its main intended use is for teachers to keep track of records for their classes, but it can also be used for meetings and group gatherings.
- Features include; unlimited courses, move students from one class to another, photo recognition, customisable attendance statuses.



TeacherPal (Free)

- TeacherPal is a personal organizer for the teacher.
- It enables the teacher to organize classes, and students.
- Its simple and intuitive interface enables teachers to track the attendance, grades and behavior of their students.
- Features include; simple tap attendance, grade books, enter grade with an intuitive touchpad, import, export data files from and to CSV files.



Edmodo (Free)

- Here's an app for use outside of the classroom, to reinforce the lessons you've taught.
- Edmodo.com is a social networking site designed for teachers and students to interact, as well as for teachers to network with one another.
- The free, universal app makes it easy for teachers and students to interact in real time with their iDevices. Give out, manage, and grade student assignments.
- It's something like Facebook, but designed specifically for use by educators and students.



Essay Grader (\$ 5.99)

- Whether you are an English teacher or not, many courses have writing requirements and essay-style homework assignments.
- The app provides criteria checkboxes to quickly evaluate essays and writing assignments, which generate a graded evaluation form.
- The app then allows for exporting to your computer and emailing to the student.
- If you teach a subject with serious writing assignments, Essay Grader for iPad could save you time and enhance the feedback to your students.



Games based Learning

- Game based learning is a branch of serious games that deals with applications that have defined learning outcomes.
- Generally they are designed in order to balance the subject matter with the gameplay and the ability of the player to retain and apply said subject matter to the real world.
- Games often have a fantasy element that engages players in a learning activity through narrative or storylines.
- Educational video games can be motivating to children and allow them to develop an awareness to consequentiality.
- Children are allowed to express themselves as individuals while learning and engaging in social issues.



Animal Baby Match

- Animal Baby Match is the perfect educational game for your preschooler or toddler.
- Your child will love sliding the pictures to match the adult with its baby, and hearing the sounds each one makes.
- When the adult and baby pictures match, the app shows a new photo of the adult with its baby, along with their names

Animal Baby Match



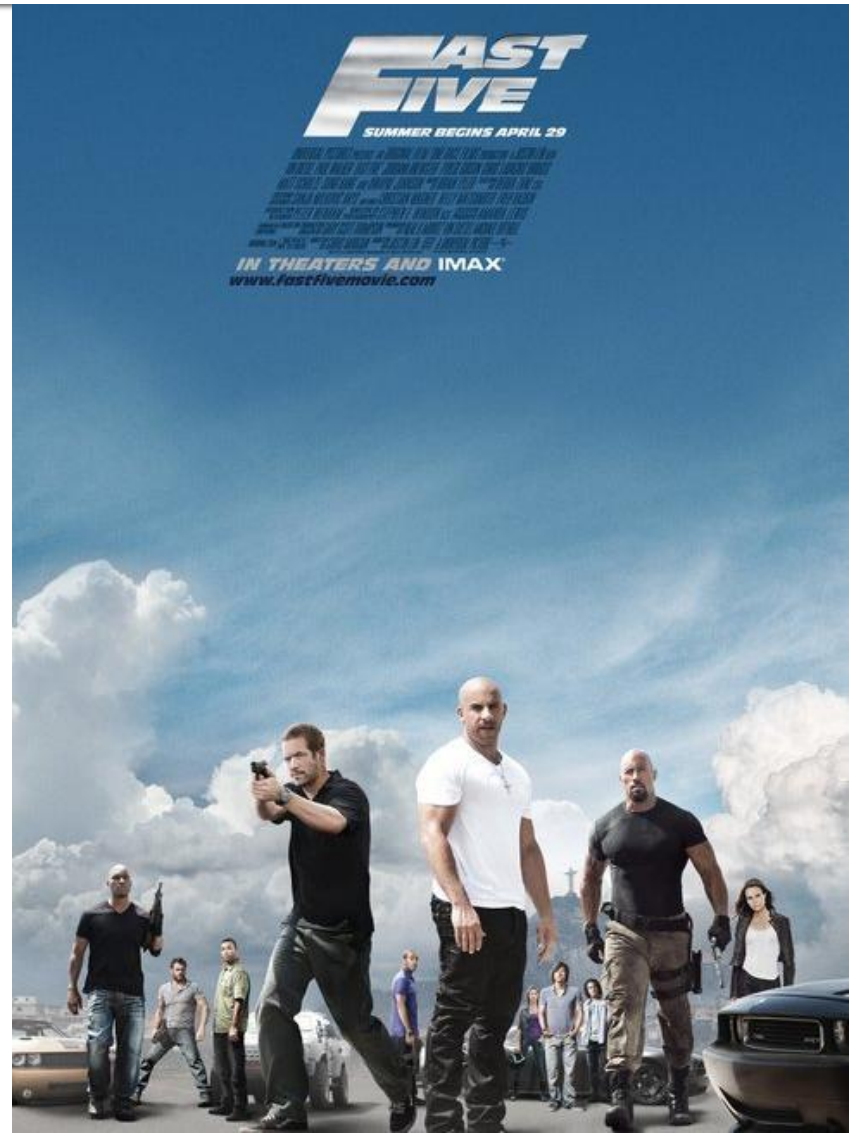
Froggy Math

- Freddy the Frog sits in the garden watching the flowers grow. But bugs keep eating the flowers!
- Froggy Math, children (and adults) can have fun while improving their math skills
- Easy to learn gameplay.... a math equation appears on the blackboard, you simply touch the bug with the right answer!



Fast Five (\$4.99)

- Fast Five is purely a racing game, so all of the on-foot action and shooting from the movies are nowhere to be seen, and only mentioned in mid-chapter conversations between O'conner and other characters.
- The Graphical filters are pretty cool, and aren't something that you'd expect in a game at this price point.



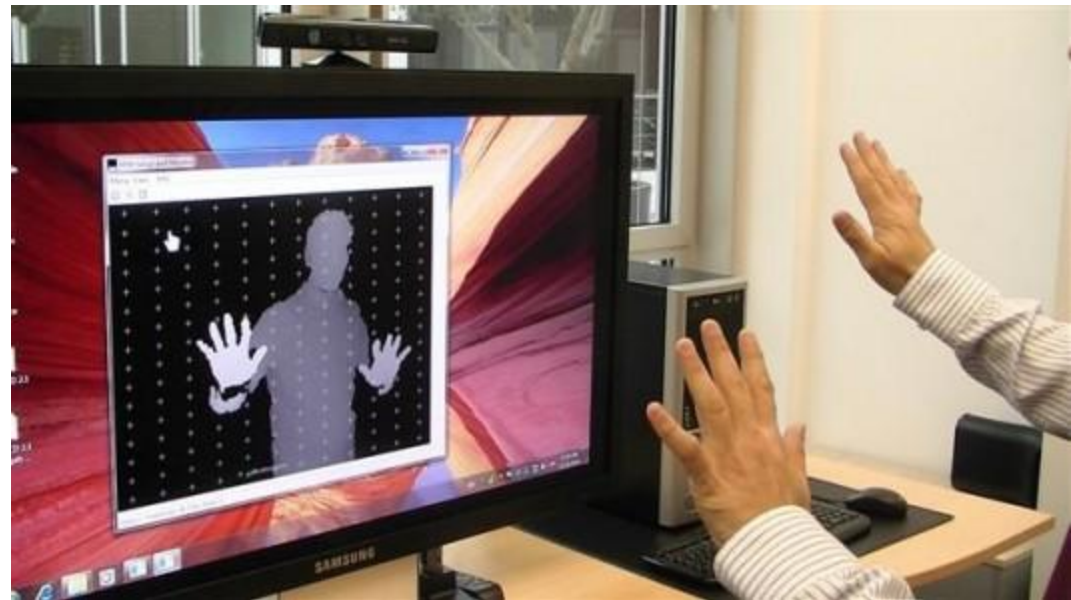
Fruit Juice Tycoon 2 (\$0.99)

- Here, the juice industry is defined by hostile takeovers, political backstabbing, dirty tricks and even kidnapping.
- The match-three gameplay is slightly disappointing compared the business dide.



Educational Applications of Gesture Based Computing

- Gesture-based computing as a means for interacting with a computer.
- The proliferation of games and devices that incorporate easy and intuitive gestural interactions will certainly continue, bringing with it a new era of user interface design that moves well beyond the keyboard and mouse.



Learning Analytics

- **Learning analytics** is the measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimising learning.
- Learning analytics is the use of intelligent data, learner-produced data, and analysis models to discover information and social connections for predicting and advising people's learning.



Augmented Reality

- Augmented reality is a live, direct or indirect, view of a physical, real-world environment whose elements are augmented by computer-generated sensory input such as sound, video, graphics or GPS data.
- It is related to a more general concept called mediated reality, in which a view of reality is modified (possibly even diminished rather than augmented) by a computer.
- As a result, the technology functions by enhancing one's current perception of reality. By contrast, virtual reality replaces the real world with a simulated one.
- Augmentation is conventionally in real-time and in semantic context with environmental elements, such as sports scores on TV during a match.



Virtual Reality

- Virtual reality is a term that applies to computer-simulated environments that can simulate physical presence in places in the real world, as well as in imaginary worlds.
- Most current virtual reality environments are primarily visual experiences, displayed either on a computer screen or through special stereoscopic displays, but some simulations include additional sensory information, such as sound through speakers or headphones.
- Some advanced, haptic systems now include tactile information, generally known as force feedback, in medical and gaming applications.
- Virtual reality is often used to describe a wide variety of applications commonly associated with immersive, highly visual, 3D environments.



Thank you !

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Linked in



<http://mmpant.wordpress.com/>

