



Just-In-Time  
Instructional  
Design  
for the iPad

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### Executive Summary

According to industry analysts, the iPad is the fastest selling electronic device ever, with tens of millions forecast for corporate use by 2015.

The excitement of the Information Technology innovations of the past thirty years obscures the reality that there is a long history of disruptive technologies impacting societies and commerce, with lessons for us today:

- In every information technology revolution, from Gutenberg to today, a brief period of technological focus is followed by a reversion to business basics, with standardized technologies allow efficiencies previous impossible.
- Successful technologies automate routine work, allowing more time and resources for higher level activities.

The iPad's rapid sales are driven by its game-changing ease of use as an *Information Consuming* device.

The iPad will have high ROI for corporate eLearning, particularly for informal learning and performance-based training.

We are entering the Post Bloat-ware Age of eLearning. A Just-in-Time philosophy to training is now viable, with easy to construct courses, quick turnaround on content availability and delivery of the right content to the right person, at the right time.

One promising eLearning platform iQpakk ([www.iqpakk.com](http://www.iqpakk.com)), from Minneapolis based MentorMate ([www.mentormate.com](http://www.mentormate.com)).

- One of the first learning content management systems architected for mobile delivery in 2001, iQpakk is now a dedicated iPad eLearning native delivery platform, enabling the full potential of iQpakk's architecture.
- iQpakk's Just-in-Time Instructional Design focuses on delivering a series of high value training modules for specific business goals, focused less on technology and more on eliminating constraints to performance.

### **Revolutionary Impact of iPad as Corporate eLearning Platform**

Less than a year since its launch, Apple's iPad is on a short list of the most impactful personal IT devices ever, joining the IBM PC, Netscape, and an impressive list of other Apple products, spanning over thirty years: the Apple II, Macintosh, and the iPhone.

The iPad has sold over fifteen million units in the nine months since its release in April 2010<sup>i</sup>, with sales of as many as 44 million units forecast for 2011, according to the Financial Times.<sup>ii</sup> It is the fastest selling electronic device ever, according to Colin McGranahan, retail analyst with Bernstein Research.<sup>iii</sup>

Corporate iPad sales in particular have far exceeded expectations. As described in a January 11, 2011 Bloomberg News article<sup>iv</sup>, "Employee demand for iPad in the corporate environment continues to be significant," Apple Chief Financial Officer Peter Oppenheimer said yesterday. "Enterprise CIOs are adding iPads to their approved device list at an amazing rate...Companies are using the iPad for product demonstrations, approving shipping orders and calling up finance options to help sell products ranging from cars to loans, customers such as Wells Fargo, SAP AG and Tellabs Inc. said after its introduction last year."

Ted Schadler of Forrester Research forecasts that tens of millions of tablets will be used in corporate settings by 2015: "It will be the fastest uptake of any device in the enterprise ever. Faster than PCs, faster than laptops and faster than smartphones."<sup>v</sup>

What is driving this rapid corporate adaptation of what was primarily intended by Apple as a consumer product?

1. **Apple's User Friendly Customer Experience** - The iPad is intuitive to use, with no user manual. Though a revolutionary device, it is remarkably mature and reliable because of its roots in Apple's proven product line.
2. **Classic Form Factor** – The iPad's 9.7 inch (25 cm) display has the surface area of a large book, a form factor proven over hundreds of years as optimal for learning. iPhone screens are the size of a business card, Blackberry screens even smaller. Books the size of a business card are novelties, not textbooks.

Critics who point out that smartphones and “netbooks” have the same functionality as the iPad are missing the users’ forest for the technical trees. The point was made succinctly at the time of the iPad’s introduction by David Pogue, the New York Times technology critic. Pogue wrote separate reviews of the iPad, one for technologists, one for users<sup>vi</sup>.

For the techies, Pogue wrote: “The Apple iPad is basically a gigantic iPod Touch...the bottom line is that you can get a laptop for much less money — with a full keyboard, DVD drive, U.S.B. jacks, camera-card slot, camera, the works. Besides: If you’ve already got a laptop and a smartphone, who’s going to carry around a third machine?”

In his “Review for Everyone Else”, Pogue wrote: “The Apple iPad is basically a gigantic iPod Touch...The simple act of making the multitouch screen bigger changes the whole experience...The iPad is so fast and light, the multitouch screen so bright and responsive, the software so easy to navigate, that it really does qualify as a new category of gadget. Some have suggested that it might make a good goof-proof computer for technophobes, the aged and the young; they’re absolutely right. And the techies are right about another thing: the iPad is not a laptop. It’s not nearly as good for creating stuff. On the other hand, *it’s infinitely more convenient for consuming it* — books, music, video, photos, Web, e-mail and so on. For most people, manipulating these digital materials directly by touching them is *a completely new experience — and a deeply satisfying one.*”

3. **Gamechangers Have Time To Grow** – A device that is as intuitive and robust as the iPad, and is rapidly gaining market share, will have the luxury of time to enhance features currently missing, such as Adobe Flash or multitasking.

When the World Wide Web became wildly popular fifteen years ago, critics pointed out its lack of security, bandwidth and reliability compared to the best corporate IT products. They were right, but the momentum of the Internet as a global platform for business inevitably drove the strengthening of technologies originally built for academic collaboration. Similarly, the power of the iPad as a replacement for paper brochures, and eventually, notebook computers, suggest that it will gain missing features sooner than later.

### **“The Ultimate Cassette”**

In a 1973 essay, the polymath Isaac Asimov (science fiction author, futurist and biochemistry professor), was asked to describe the ideal content delivery device of the future, which would replace books. “The Ultimate Cassette” (the pinnacle of personal technology in the early 70’s), would have several critical attributes, Asimov wrote<sup>vii</sup>:

- “The controls [are] operated, as far as possible, by the will” – i.e., intuitively, as opposed to with physical knobs and switches.
- The amount of energy required would decrease to the point that the device is entirely mobile, so “it can be carried with you wherever you feel most comfortable viewing it – in bed, in the bathroom, in a tree, in the attic.”
- The device has a net positive effect on the environment.
- All its functionality (signal processing, imaging, sound) would be embedded in the actual device, without the need for auxiliary equipment).

Asimov impishly concluded by admitting he was describing a five hundred year old technology, not a futuristic one – the mass produced book pioneered by Guttenberg in the 15<sup>th</sup> Century. His point was that from the standpoint of the user experience, the most advanced technologies were nowhere near as useful as a book, and would not be so in the foreseeable future.

It took till 2010 for a device to be introduced that met all of Asimov’s criteria for a device that is more user-friendly than books, not less so. Building on technology introduced over the past thirty years (PC’s, wireless networks, graphical interfaces, the Internet, the browser, etc.), the iPad circumvents most of the problems of previously electronic content delivery devices.

**Corporations are leveraging the iPad as a game-changing platform for knowledge acquisition and learning.**

### **Historical Trends in Technology Adaptation**

The excitement of the Information Technology innovations of the past thirty years obscures the reality that there is a long history of disruptive technologies impacting societies and commerce, with lessons for us today. Relevant cases include:

#### **Gutenberg's IT Evolution**

In a 1998 Forbes article, The Next Information Revolution, management pioneer Peter Drucker forecast the evolution in IT from a technology value proposition to an information based one.

Drucker so clearly envisioned this transformation based partly on his analysis of the printing industry revolution of the early 1500's, fifty years after Johannes Gutenberg's invention of the printing press and movable type. For most of that century, the new gurus of printing technology became fabulously wealthy and famous, the Mark Zuckerberg's of their day.

Drucker explains what happened next, "By 1580 or so, the printers, with their focus on technology, had become ordinary craftsmen...their place was soon taken by what we now call publishers...people and firms whose focus was no longer on the 'T' in IT but on the 'I'."

#### **Theoretical Innovations May Precede Enabling Technology by Decades**

Advances in scientific theory or even process innovation often stall for decades before they are enabled by technology advancements. For example, Charles Babbage's 1822 invention of the "Difference Engine", the first programmable computer, was a curiosity for nearly 150 years before the appropriate technologies launched the Information Age.

Similarly, the moon landing of 1969 used German rocket technology from World War Two, but would not have been possible without the guidance of mainframe computers, unavailable before the 1960's.

In a business context, the global weekly news magazines of the 20<sup>th</sup> century like Time and Life, delivered by airplane, would have been too complex to plan and manage without utilizing Gantt charts, innovated for Statistical Process Control in manufacturing several decades before.

### **Successful Killer Apps Automate Rather Than Eliminate**

Successful technologies automate routine work, allowing more time and resources for higher level activities. The classic "killer app," the spreadsheet, was not sold as an automated replacement for human financial analysts. Rather, the spreadsheet addressed the reality that financial analysts spent 80% of their time entering numbers into a mechanical calculator, and freed their time to do much more of the financial analysis they had been trained to do.

### **Standardized Technologies Allow Efficiencies Previous Impossible**

A historical comparison is that of a company in the 1990's seeking to build a content management system for employees:

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In 1980, it would have been impossible to build a mainframe system that would allow business users to enter and retrieve information.

In 1985, it would have been impossible for a company to build a PC solution by which information could be easily updated and distributed across the organization.

In 1992, an early adapter Fortune 500 would have spent tens of millions of dollars to build an elaborate client/server network by which to share and distribute information. The complexity of these networks at the networking, database and user interface levels led to most of them failing in production environments.

In 2000, a company would have spent hundreds of thousands of dollars to roll out a corporate intranet with standardized messaging, data structures and browser interface.

In 2011, a company would have incremental costs of building an internal wiki or Facebook page for employee collaboration.

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### Trends in Corporate eLearning

What will be the impact of the iPad on corporate eLearning? The classic attributes of a high value learning platform will remain constant regardless of technology. For Learning Content Management Systems (LCMS): content delivery and access, user experience learning retention, ROI, and content creation that follow best practices in adult learning principles. For Learning Management Systems (LMS), Automating administrative efficiencies, security, and a compliance audit trail.

That said, several strategic goals will be enabled by intuitive information consuming devices like the iPad.

#### ➤ **Learning for the Gaming Generation**

As Jay Cross (originator of the term eLearning) suggests in his 2006 book Informal Learning<sup>viii</sup>, companies need to balance rigor of instructional design with the reality that most workers prefer to acquire information informally, rather than in structured settings. According to Cross, over 80% of actual workplace training is derived from informal learning, reflecting people's natural desire to learn intuitively from interacting with their environment. He advocates companies focus on "Meta-Learning", teaching employees to learn, and treating them as "free range learners", rather than force feeding them information on a tightly controlled schedule.

Interactive learning will continue to reflect advances in gaming technologies and simulations. This will have particular benefit for sales training. Reflecting the rise of directed yet informal learning, instructional designers will define the goals and methodology of knowledge acquisition, not its linear path, taking advantage of the iPad's strengths as a gaming delivery platform.

- **Performance Based Training** – eLearning delivered to knowledge workers in the field, particularly salespeople, has critically high ROI for corporations. It is complementary but not identical to the longer term development of competencies, or compliance/certification. For the sales force, winning a specific sale often depends not just on comprehensive knowledge of one's own product line, but the ability to dynamically acquire new knowledge about customers, competitors and market trends.

In the words of Peter Drucker, “collecting outside information is going to be the next frontier”<sup>ix</sup>.

- **Learning versus Delivery** – Stable, transparent information delivery devices will allow corporate training organizations to allocate more resources to Learning and Development rather than to expensive and complex technologies. Just as standardized technologies at every level of IT are enabling a focus on Information (the I, not the T), eLearning will be able to treat the E as tactical, and focus on the strategic L.
- **Just in Time Instructional Design** – Applying Lean process optimization to a knowledge based discipline like eLearning is not yet viable in the same sense that one can quantify the variance in a manufacturing process. Nevertheless, much progress has been made in quantifying and optimizing service functions, and these efficiencies are relevant to and impact corporate training.

A Just-in-Time philosophy to training is now viable, with easy to construct courses, quick turnaround on content availability and delivery of the right content to the right person, at the right time.

### **The Post-Bloatware Age**

One aspect of a Just-in-Time approach to training is a modular approach of “tailored training streams”, each targeted for a specific outcome, and obviating the need for monolithic systems.

This will inevitably have an impact on “all-in-one” vendors, their role as middlemen for training content and delivery, and the high “switching costs” that are encountered when attempting to leave the embrace of proprietary or semi-proprietary applications.

### **iQpakk's Vision of Next Generation Instructional Design**

One promising software platform is iQpakk ([www.iqpakk.com](http://www.iqpakk.com)), from Minneapolis based MentorMate ([www.mentormate.com](http://www.mentormate.com)). iQpakk incorporates many of the critical elements for the next generation of eLearning:

1. **Ease of Use** – iQpakk is optimized for the iPad as an *information consuming* device'
2. **Driven by Business Case ROI** – iQpakk's Just-in-Time Instructional Design focuses on delivering a series of high value training modules for specific business goals, focused less on technology and more on eliminating constraints to performance.
3. **Architected for Mobile** - One of the first learning content management systems architected for mobile delivery in 2001, iQpakk is now a dedicated iPad eLearning native delivery platform, enabling the full potential of iQpakk's architecture.

In contrast, most eLearning products were originally designed for PC's, web services, or attempt to run universally on every platform, with the inherent compromises in a "Swiss army knife"-like approach.

- **Educational Soundness** – Based on the Revised Bloom's Taxonomy, iQpakk is rooted in the most current best practices in instructional design.
- **Innovative IP** – iQpakk is based on several innovations in Learning technology patents pioneered by MentorMate founder Björn Stansvik:
  - **iQpakk Right Challenge™** – A patented semantic/cognitive engine that enables dynamic learner adaptivity, as questions keep changing forms reflecting real world situations.
  - **iQpakk Right Taxonomy™** - A metadata framework of taxonomic competency profile maps for individual learners (patent pending), a critical enabler for embedding continuous improvement in an eLearning platform.

## Conclusion

Corporations are leveraging the iPad as a game-changing platform for knowledge acquisition and learning. The iPad's rapid sales are driven by its game-changing ease of use as an *Information Consuming* device.

The iPad will have high ROI for corporate eLearning, particularly for informal learning and performance-based training.

We are entering the Post Bloat-ware Age of eLearning. One aspect of a Just-in-Time approach to training is a modular approach of "tailored training streams", each targeted for a specific outcome, and obviating the need for monolithic systems.

This will inevitably have an impact on "all-in-one" vendors, their role as middlemen for training content and delivery, and the high "switching costs" that are encountered when attempting to leave the embrace of proprietary or semi-proprietary applications.

iQpakk's is a dedicated iPad eLearning native delivery platform. iQpakk's Just-in-Time Instructional Design focuses on delivering a series of high value training modules for specific business goals, focused less on technology and more on eliminating constraints to performance.

### About the Author

Isaac Cheifetz has over twenty years experience consulting to advanced technology new ventures (both startups and “green field” initiatives within established firms) on business strategy, executive search and talent strategy. His focus is on business models that seek to transform the “Commerce Chain” of traditional industries. He has strong change agent and communicative skills, as well as depth of understanding at the intersection of data management, business intelligence, process optimization and the growth of IT as an engineering discipline.

Isaac is the author of *Hiring Secrets of the NFL* (Davies Black, 2007) and writes a monthly column for the *Minneapolis Star Tribune*, the *Commerce Chain*, on trends and best practices in the global economy. He edited *The Intranet Data Warehouse*, by Richard Tanler, (1997, Wiley Press), and has written strategic White Papers for SaaS (Software as a Service) vendors in industries including graphic arts, logistics and human capital. He is a past member of Financial Executive International's National Committee on Finance & Information Technology (CFIT), where he co-authored the White Paper “Everything You Wanted to Know About XBRL But Were Afraid to Ask”.

He received a BA in History from Yeshiva University and an MA in Organizational Psychology from Columbia University.

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