

The Fine Print:
Redesigning Legal Contracts
for the Digital Environment

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By

Gregg Robert Bernstein

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Abstract

The application of the principles of graphic and information design to the presentation of legal agreements in the digital environment could promote usability, comprehension, and communication. This paper dissects the Click-Through Agreement (CTA), a component of the typical software installation process wherein a user is bound to an agreement with a vendor by assenting to the terms via a “click.” The CTA often takes the form of a small box containing many lines of legal language, which the user may scroll through before clicking to agree to the terms of the agreement.

With the advisement of a legal scholar and using principles from various design disciplines—foundations, web, information, usability, accessibility, and experience—this paper explores the current state of the CTA and how it might be improved for the sake of both the user and the vendor. The design findings are reconciled with research into human behavior, the decision-making process, and how the human eye receives information displayed on screen.

From this study a proposed model for the CTA is presented, which divides the contractual terms into a series of screens. Each screen presents a summary, or chunk, of the agreement, which must be assented to via initialing before moving on to the next screen. The full agreement, as well as the opportunity to download or print each page, is always available via hyperlinked text and icons.

Introduction: I Agree to... Something

A few years ago, to prove a point, a software company made an offer to buyers of one of its software titles.¹ The offer was a cash prize. To claim it, the user needed to send a message to a specific e-mail address at the company. The prize went unclaimed for four months (and 3000 product sales) before someone finally wrote in and earned a cool \$1,000. The typical direct mail piece garners a response rate of 3.42%.² This offer's response rate was .0003%.³ A possible reason why? The prize offer was hidden at the end of the company's End User License Agreement, commonly called the EULA. The lesson? No one reads software license agreements.

And why would they? Typically, the EULA fills a small, text-filled box that appears in the course of installing software. Written in legalese and presented in an uninviting manner, users rarely justify the time and effort required to parse the information contained therein. Yet the information that users casually gloss over or outright ignore constitutes a binding legal agreement between the consumer and the software developer. The agreement defines not only how the consumer might use the software, but for how long, to what end, and in what context. For instance, purchasers of software do not actually purchase software; they purchase a license to use the software.⁴ Copying the software to multiple computers might or might not be legal, depending on the license terms. And those who no longer use a software title might or might not be

¹ Larry Magid, *It Pays to Read License Agreements*, February, 2005, <http://www.pcpitstop.com> (accessed June 28, 2010).

² Direct Marketing Association, *DMA Releases 2010 Response Rate Trend Report*, June 15, 2010, <http://www.the-dma.org/cgi/dispanouncements?article=1451> (accessed September 5, 2010).

³ Sue Nail, "It Pays to Read the End User License Agreement (EULA)," *Press Release* (Dakota Dunes: PC Pitstop, March 1, 2005).

⁴ Joe Mullin, *Do You Own Your Software or Just 'License' It?*, June 11, 2010, <http://www.law.com/jsp/lawtechnologynews/PubArticleLTN.jsp?id=1202462605257> (accessed September 5, 2010).

permitted to resell or even donate it to another user. The details are hidden within the contract that was agreed to upon installation of the software.

Though blame for the lack of consumer comprehension of such agreements cannot be placed entirely on aesthetics, the application of graphic design principles could foster improved understanding. Nutrition labels (Fig. 1) and credit card bills (Fig. 2) now apply tenets of visual communication to more clearly present important information, yet the domain of legal agreements in the digital environment largely remains design-free. As it stands, these dense, complex agreements, in tandem with a lack of forethought into presentation, put consumers at a decided disadvantage in knowing their rights and responsibilities.

Wittingly or not, consumers accept contractual agreements merely by browsing websites and using software. Visitors to eBay, for instance, are free to peruse the millions of pages of content on the site. They do so, however, under the terms of eBay's User Agreement and Privacy Policy (Fig. 3). Agreeing to these terms does not require action on the part of the user, as the contract is agreed to simply by visiting the site. This type of contract is referred to as "browsewrap."⁵ "Clickwrap," on the other hand, does require user action in order to enter a contract agreement, often by clicking to agree to the terms provided by the issuing business.⁶ The focus of this paper is on legal agreements in the form of clickwrap, also known as click-through agreements (CTAs).

Most computer users have encountered clickwrap. Whether launching a download of Apple's iTunes (Fig. 4) or installing Microsoft's Office suite (Fig. 5), computer users encounter a checkpoint before being allowed to continue. This checkpoint is the legal

⁵ Robert A. Hillman and Jeffrey J. Rachlinski, "Standard Form Contracting in the Electronic Age," *New York University Law Review*, 2002.

⁶ Ibid.

agreement between the end user and the software licensor, and it ends with the user clicking “I agree.” This is clickwrap, and the information is presented in a format that—from a graphic and information design perspective—is unintuitive and borderline unreadable. Would consumers knowingly agree to share personal data with Apple if this information was communicated more clearly? Would a consumer purchase a Microsoft software application, knowing the company limits its liability even in cases where “Microsoft knew or should have known about the possibility of the damages[?]”⁷ Regardless the implication, most users—rather than trudge through the difficult presentation of legal information within the EULA—click “agree” and get on with their lives.⁸ This is where design comes in.

The application of the principles of graphic and information design to the presentation of legal agreements in the digital environment could promote usability, comprehension, and communication. After decades of evolution in how information is best presented and shared, digital legal agreements—a no man’s land between lawyers and the vendors who hire them—have been content to remain obtuse and cumbersome. The time has come to translate the legalese into something comprehensible, readable, and perhaps even attractive.

Click-Through Agreements and the Consumer

The state of CTAs today is not markedly different from where it was five or ten years ago. A user wants to install a program. The user agrees to the terms by clicking.

⁷ Microsoft Corporation, “Office for Mac Home and Student_2008_English.pdf,” *Microsoft Corporation*, January 22, 2008, <http://www.microsoft.com/about/legal/en/us/IntellectualProperty/UseTerms/Default.aspx> (accessed October 9, 2009), 3.

⁸ Robert P. Bartlett III and Victoria C. Plaut, “Blind Consent? A Social Psychological Investigation of the Non-Readership of Contracts,” (UC Berkeley: Berkeley Program in Law and Economics) 2009, 3.

The user gains access to the program. The critical missing step in this process is the reading and consideration of the terms before clicking. As technology columnist Larry Magid summarized, “People don't read EULAs. When we download and install software, we're usually in a hurry to take advantage of whatever it offers. That EULA is just one more thing to spend time on, and we're not just talking about a couple of minutes.”⁹

While EULAs are just one more thing to spend time on, the presentation of the EULA warrants scrutiny as a factor in readers skipping past the details. Legal scholar Robert Gomulkiewicz posits, “The unfriendly format of the EULA strongly suggests that the format was not chosen with readability in mind.”¹⁰ The format, of course, is nothing more than a box filled with a sea of small, seemingly infinite lines of text. While technically legible, the information is not displayed with the comfort of the reader in mind. Why present a binding contract in an unreadable format? The answer might be chalked up to a lack of ownership over this particular domain. Software vendors look to the EULA solely as a legal document, with little regard for the customer's point of view.¹¹ So long as the legal rights and responsibilities of the software vendor are covered and customers continue to click “I agree”, the shape of the EULA—even one that is less friendly and lengthier than necessary—is of little concern.¹² That the EULA is written in legal code to cover business arrangements about techno-centric terms serves all but the intended reader of the document. Gomulkiewicz proposes that the use of “illustrations,

⁹ Magid.

¹⁰ Robert W. Gomulkiewicz, “Getting Serious about User-Friendly Mass Market Licensing for Software,” *George Mason Law Review*, 2004, 4.

¹¹ *Ibid.*, 5-6.

¹² *Ibid.*, 6.

examples, and elaborations in the EULA can shed crucial light on these complicated subjects.”¹³

As of today there is not a uniform presentation model to ensure readability or comprehension on the part of the end user. Whereas the financial terms and ramifications for credit card holders in the United States are presented for both clarity and comprehension (as dictated by the Credit CARD Act of 2009), no such model exists for contracts.¹⁴ Lawyer and psychologist Dennis Stolle notes that the very premise of a binding contract is a matter for debate. Stolle states, “In response to the academic commentary and their own recognition of the limitations of traditional contract doctrine, both courts and legislatures have struggled with developing a fair and coherent body of rules tailored to form contract situations.”¹⁵ That said, law professor Robert Bartlett and psychologist Victoria Plaut, in their joint study of CTAs, point out that *assent*, regardless of whether a contract is read or comprehended, forms the basis of a contract.¹⁶ So despite a lack of understanding of the terms and a presentation that hinders usability, the hurried decision to “click to agree” locks the end user into a binding agreement with the vendor.

When faced with a CTA—the form most EULAs take—most users accept the agreement without reading first, thus “blindly consenting to their terms,” as Bartlett and Plaut found in their study of user behavior.¹⁷ Blind consent is the path of least resistance; among Bartlett and Plaut’s study subjects, many believed that CTAs “are too long and time-consuming, they are all the same, they give one no choice but to agree, they are

¹³ Ibid., 5.

¹⁴ The White House, “Fact Sheet: Reforms to Protect American Credit Card Holders,” *Press Release* (Washington, DC: Office of the Press Secretary, May 22, 2009).

¹⁵ Dennis P. Stolle, “A Social Scientific Look at the Effects and Effectiveness of Plain Language Contract Drafting,” *The University of Nebraska - Lincoln*, 1998, 4.

¹⁶ Bartlett and Plaut, 3-4.

¹⁷ Ibid., 3.

unimportant, they are irrelevant, and vendors are generally reputable.”¹⁸ Taken collectively, these beliefs portray dysfunction with both the format of the presentation and the relationship between vendor and user.

Click-Through Agreements, Learning, and Good Business Practice

After encountering sufficient CTAs, the habit of clicking “I agree” may become engrained in tandem with any beliefs about the contents of the CTA. This aligns with the information-processing approach to cognitive development, which holds that subjects take in information and focus on it selectively according to the task at hand.¹⁹ When the task is to get past the CTA to install software, the user most likely recalls prior experiences with CTAs, blindly consents, and moves on.

But does the expectation of blind consent—or faith—on the part of the consumer constitute a good business practice? Branding and communication expert Alan Siegel disagrees, declaring “there is no way we should do business with companies that have agreements with stealth provisions and that are unintelligible.”²⁰ By presenting terms in an unreadable format, CTAs appear to violate Siegel’s demand for clarity. Dennis Stolle seems to affirm Siegel’s position, citing fairness and enforceability as key components in fostering goodwill between companies and consumers.²¹ If contract terms are not presented clearly, then it is unlikely that fairness or enforceability will follow.

¹⁸ Ibid., 2.

¹⁹ Encyclopedia of Psychology, “Cognitive Development,” *FindArticles.com*, 2001, http://findarticles.com/p/articles/mi_g2699/is_0004/ai_2699000417/ (accessed August 28, 2010).

²⁰ Alan Siegel, “Let’s Simplify Legal Jargon!,” *TED: Ideas Worth Spreading* (TED, February, 2010).

²¹ Stolle, 11.

To be sure, standardized contracts make economic sense versus drafting individual contracts.²² Yet a standardized contract that is effectively ignored benefits neither the consumer nor the vendor. Stolle explains, “perhaps more than any other area of law, the costs resulting from a failure to effectively communicate legal rights and duties are likely to arise in the context of contractual transactions, where a mutual understanding of legal language is critical.”²³ With so much at stake, clear and readable contract design seems tantamount to good business.

Realizing this, Google recently took the unusual step of simplifying its privacy policy to serve its customers. Such policies relate to EULAs and CTAs, in that they prioritize legal protection over ease of use. Google counsel Mike Yang explained, “Even taking into account that they’re legal documents, most privacy policies are still too hard to understand.”²⁴ To alleviate the burden of deciphering the policy, Yang described that Google was “simplifying our main Google Privacy Policy to make it more user-friendly by cutting down the parts that are redundant and rewriting the more legalistic bits so people can understand them more easily.”²⁵ Though such a move will not directly lead to profits, Google may believe that an informed clientele reduces the potential for misunderstandings and costly lawsuits. It also portrays Google as recognizing the value in communicating clearly and effectively with its customers.

This would not mark the first time an industry leader took a pioneering stance on an issue that potentially benefits both the consumer and the bottom line. In early 2010, Walmart announced a series of sustainability initiatives, ranging from partnerships with

²² E. A. Farnsworth, *Contracts* (Boston: Little, Brown and Company, 1990).

²³ Stolle, 1.

²⁴ Mike Yang, *Trimming Our Privacy Policies*, September 3, 2010, <http://gmailblog.blogspot.com/2010/09/trimming-our-privacy-policies.html> (accessed September 3, 2010).

²⁵ *Ibid.*

local produce growers to investing in solar panels and high-efficiency refrigeration units.²⁶ Such initiatives allow Walmart to position itself to consumers and investors as environmentally conscious (or “green”) while reducing its cost of doing business. By the nature of their respective market shares, the actions of Google and Walmart gain widespread attention and might serve to influence how other industries balance consumer experience with economics.

Emerging Themes About CTAs, Presentation, and Behavior

As seemingly few read license agreements, and as most users believe that they are all the same, Robert Bartlett and Victoria Plaut manipulated dominant conventions of CTAs to experiment with changing reading behavior. Variables such as the contract length and the inclusion of more “skimmable” passages and bulleted lists were tested against existing beliefs about CTAs and readership. Their findings point to the presentation and design of CTAs as an opportunity to reduce blind consent and increase comprehension.

Bartlett and Plaut, in researching CTAs and user behavior, learned that the self-identified “readers” in their study “indicated that their typical reading behavior was to ‘skim looking mainly at headings and maybe read a little...’”²⁷ Yet these same subjects harbored the belief that all CTAs are effectively the same and thus failed to read closely.²⁸ By replacing the small, scrollable window typical of most CTA interfaces with a shorter bulleted list with hyperlinks to further details, Bartlett and Plaut demonstrated

²⁶ Ariel Schwartz, *11 Ways that Walmart is Changing Retail—for Good*, January 26, 2010, <http://www.fastcompany.com/pics/11-ways-walmart-changing-retail-good#0> (accessed October 16, 2010).

²⁷ Bartlett and Plaut, 20.

²⁸ *Ibid.*, 21.

that “participants spent significantly more time reading the CTA....”²⁹ Such a change transformed self-described “non-readers” into CTA readers.³⁰ Not only did readership increase with the shorter format, but so too did comprehension.³¹ Bartlett and Plaut make a convincing case for further study in the presentation of CTAs to increase readership and comprehension.

Similarly, legal scholar Robert Gomulkiewicz advocates for shorter, hyperlinked EULAs in order to promote user engagement. As he sees it, the same rich content of the internet can be applied to “go deeper” into the meanings of contract terms, to link to graphical content, and to put elaboration “easily within reach.”³² What Gomulkiewicz proposed in 2004 is echoed in Bartlett and Plaut’s findings: enhanced presentations improve readability and comprehension. Law professor Omri Ben-Shahar goes further, advocating for a labeling regime that would “develop easily readable formats through which this essential information will be summarized and uniformly presented, available for review prior to purchase.”³³ He cites nutrition labeling as a model for such a construct.

In addition to communicating more effectively, recent research points to clear presentation correlating with user trust. Information systems professors David Gefen, Elena Karahanna, and Detmar Straub found that using a standardized, easy-to-use interface promotes trust on the part of consumers and mitigates concerns about online

²⁹ Ibid., 40.

³⁰ Ibid., 40-41.

³¹ Ibid., 41.

³² Gomulkiewicz, 8.

³³ Omri Ben-Shahar, “The Myth of the ‘Opportunity to Read’ in Contract Law,” *John M. Olin Law & Economics Working Paper No. 415* (The Law School - The University of Chicago), July 2008, 31-32.

safety or unfair practices.³⁴ Their study indicates that attention to the interface signals an investment into the vendor-consumer relationship.

Going further, David Berman, in his book *Do Good Design*, advocates for universal design. As he states, “designing for the extremes results in benefits for all.”³⁵ If a product or interface is designed to accommodate the disabled, chances are it will communicate effectively to all. This notion is echoed by the Corporate Design Foundation, which advocates for products that “communicate necessary information clearly to the user, regardless of ambient conditions or the user’s sensory abilities.”³⁶

On the financial side of things, communications expert Maria Boos expands on the benefits of keeping customers educated and informed, stating that “when customers understand their communications, they make payments faster, complete forms correctly, happily serve themselves online, and make fewer calls to service centers—all of which add up to big savings.”³⁷ Not only does presentation contribute to comprehension and trust, but also to the bottom line.

Graphic Design to the Rescue

With so much evidence supporting the importance of presentation to effective communication, the tenets of graphic design have much to contribute to digital legal agreements such as CTAs. Graphic design is a process and a system of visual organization. The charge of the graphic designer is to combine disparate elements into a

³⁴ David Gefen, Elena Karahanna and Detmar W. Straub, “Trust and TAM in Online Shopping: An Integrated Model,” *MIS Quarterly* 27, no. 1 (2003): 51-90.

³⁵ David B. Berman, *Do Good Design: How Designers Can Change the World* (Berkeley: New Riders, 2009), 28.

³⁶ Corporate Design Foundation, “Baby Boomers and Seven Universal Design Principles,” *@Issue: The Journal of Business and Design* 12, no. 1 (2009), 25.

³⁷ Sullivan, Inc., *Sullivan—Our Firm/ Maria Boos, Director of Functional Communications*, 2009, <http://sullivannyc.com/> (accessed October 23, 2009).

cohesive unit. As famed graphic designer Paul Rand so concisely stated, “it is the coming together of form and content that is the realization of design.”³⁸ How to achieve this union depends on the project objective, the needs of the client, and the targeted audience.

Graphic design has been applied before in similar consumer-based contexts to promote readability and usability. Take, for example, designer Deborah Adler’s redesign of the Target pharmacy bottle (Fig. 6). Most generic pharmacy bottles wrap important prescription and dosage information around a cylindrical bottle (Fig. 7) that hinders readability by using small text on an uneven plane. Moreover, most medications include a poorly considered “information sheet” that fights against being informative. As Adler explains, “the average line length that people are willing to read is about nine to 10 words; your eyes get tired after that. The type on a typical information sheet is more than double the length. No one would want to read that.”³⁹ Adler worked with Target’s design, pharmacy, and marketing teams to develop ClearRx.⁴⁰ This system of packages and labels uses design elements such as color, hierarchy, information design, and iconography to communicate effectively.

As stated earlier, credit card bills were revised recently via legislative action to more clearly elucidate interest rates, payment due dates, and payoff scenarios.⁴¹ Where consumers once found a document lacking in hierarchy and misguided emphasis (Fig. 8), such as on minimum payments due versus total balance, they now receive a more detailed bill presentation that relies on typography and information design. While this is a start, the nonprofit group Design for Democracy advocates for a simple chart presentation of

³⁸ Michael Kroger, *Paul Rand: Conversations with Students* (New York: Princeton Architectural Press, 2006), 32.

³⁹ Corporate Design Foundation, “Clarity is the Best Medicine,” *@Issue: The Journal of Business and Design* 12, no. 1 (2009), 30.

⁴⁰ Deborah Adler, *Case Study: Target’s ClearRx*, 2009, <http://deborahadlerdesign.com/casestudy/?id=target> (accessed August 30, 2010).

⁴¹ The White House.

credit card disclosures along the lines of the Nutrition Facts label that clearly defines fees, terms, and interest rates (Fig. 9). Describing the benefits of their “Credit Card Facts” chart, the American Institute of Graphic Arts (AIGA) Design for Democracy’s David Gibson, Carla Hall, and Sylvia Harris explain, “Everything the consumer needs to know is presented in a bold, straightforward layout. Simple language describes charges and payment activity as well as the consequences of late payment. The essential facts are not buried in a thicket of dense fine print.”⁴²

Along the same lines, Ecolect, a website database of “green” products, appropriated the look of the FDA’s Nutrition Facts label as a means of disclosing the environmental bona fides for products it represents (Fig. 10). Using the familiar conventions of the Nutrition Facts label, Ecolect’s version describes recycled material percentages, the contribution of renewable energy to a product’s construction, and the number of trees planted annually by the manufacturer.⁴³

To be sure, the role of graphic design in the community is important. Design fulfills a social responsibility to communicate essential information as effectively as possible. No event signifies this as clearly as the Palm Beach County, Florida ballot fiasco of the 2000 United States presidential election.⁴⁴ Here, ignorance of simple design principles like alignment and hierarchy resulted in votes for Reform candidate Pat Buchanan that were intended for Democratic candidate Al Gore (Fig. 11). These mistaken votes swung the election to Republican candidate George W. Bush. Design is consequential. In reaffirming this, AIGA, the professional association for design, formed

⁴² David Gibson, Carla Hall and Sylvia Harris, *Healthy Credit*, May 23, 2009, <http://www.nytimes.com> (accessed June 28, 2010).

⁴³ Karl Burkart, *Ecolect Launches Nutrition Label for Green Materials*, March 2, 2009, <http://www.mnn.com/green-tech/computers/blogs/ecolect-launches-nutrition-label-for-green-materials> (accessed September 1, 2010).

⁴⁴ Berman, 9.

a task force within its Design for Democracy initiative with the specific intent of improving ballot and election design. Since 2000, Design for Democracy has worked on ballot solutions across the country and with the U.S. Election Assistance Commission (EAC) to develop a set of national guidelines.⁴⁵

Further recognizing the importance of graphic design to effective government, the AIGA seized on the election of President Barack Obama in 2008 as an opportunity to seek implementation of a number of graphic design initiatives. As they stated, “AIGA urges the Obama Administration to recognize that communication design is the means to achieve some of its most significant goals: to improve the transparency and accountability of government to its citizens, by making the relationship clearer; and by raising the clarity and consistency of the United States’ image and communication around the world.”⁴⁶ Building on the advocacy work performed by Design for Democracy, the AIGA sought improved user experience in myriad government communications, from tax documents to Medicare filings to immigration forms. Among the reasons mentioned for such an endeavor, the AIGA cited improved comprehension and a reduction in mistakes.⁴⁷

Compared to reshaping the look of government, redesigning digital legal documents does not seem too lofty a goal. In the case of the typical CTA—a small box stuffed with too much text (Fig. 12)—the task of the designer is to promote usability, comprehension, and readability. To satisfy this requires applications from all facets of design practice. General graphic and information design theories provide a roadmap for

⁴⁵ AIGA, *Ballot and Election Design*, 2010, <http://www.aiga.org/content.cfm/election-project> (accessed September 5, 2010).

⁴⁶ AIGA, *AIGA Recommendations for Government Support of Design*, 2009, <http://www.aiga.org/content.cfm/government-support> (accessed March 2010).

⁴⁷ Ibid.

creating a more accessible document, and will allow for implementation of Bartlett and Plaut's suggestion of skimmable text.⁴⁸ The burgeoning fields of web, usability, and experience design suggest new ways of considering how users approach the contract interface. Finally, an understanding of how users process information and make decisions allows for more intelligent design decisions.

Graphic Design Process and Principles

To start, the problem must be defined: the problem is the wholesale presentation of the CTA. While this encapsulates the problem at large, esteemed computer scientist Frederick Brooks argues that limits must be set before exploration can begin. As he states in his book *The Design of Design*, "The first task is to narrow the design space. The more constrained the assigned goal, the more of this task has already been accomplished."⁴⁹ Applying Brooks' advice to the CTA, the objective shifts to redesigning the CTA within the usable space. As CTAs must be accessible on desktop and mobile screens, the design should focus on maximizing the experience on the smallest of screens. This also relates to David Berman's call for universal design: keeping the most extreme users in mind ensures that all users benefit.

Brooks' advice applies to content as well as format. To protect the interests of both the vendor and the consumer, certain and specific legal language must be included in any CTA. However, as Google made clear in its revised privacy policy, repetition, dense clauses, and overly complex writing may be replaced or excised for the benefit of the user.

⁴⁸ Bartlett and Plaut, 29.

⁴⁹ Frederick P. Brooks, Jr., *The Design of Design* (Boston: Pearson Education, 2010), 133.

With the format and content established, the imposition of a visual hierarchy allows information to be presented in sequence. Interface designer and author Joshua Porter elaborates on hierarchy on his website, where he writes, “The best visual hierarchies lead users to take the action confidently. They have a clear, obvious order in which to view and act on things, with the most important things first.”⁵⁰ Of course, the alternative is the hierarchy-less rolling paragraphs already used in CTAs. Satirical website *The Onion* referenced such text in an article that highlights how readers expect to see information, and the ramifications of violating those expectations. The article recounts, “Unable to rest their eyes on a colorful photograph or boldface heading that could be easily skimmed and forgotten about, Americans collectively recoiled Monday when confronted with a solid block of uninterrupted text.”⁵¹ The passage concludes, “Some have speculated that the never-ending flood of sentences may be a news article, medical study, urgent product recall notice, letter, *user agreement*, or even a *binding contract of some kind* [emphasis added].”⁵² What *The Onion* describes is captured by information designer David McCandless, who concludes, “All of us now are being blasted by information design. It's being poured into our eyes through the Web, and we're all visualizers now; we're all demanding a visual aspect to our information.”⁵³

Information hierarchy benefits both the graphic designer and the end user. For the designer, the hierarchy presents a roadmap of information to convey and the sequence in which to present that information. Kim Baer, in her *Information Design Workbook*, explains, “To create a good piece of information design, a designer needs to understand

⁵⁰ Joshua Porter, *Visual Hierarchy*, March 12, 2010, <http://52weeksofux.com> (accessed June 28, 2010).

⁵¹ The Onion, *Nation Shudders At Large Block Of Uninterrupted Text*, March 9, 2010, <http://www.theonion.com> (accessed June 28, 2010).

⁵² Ibid.

⁵³ David McCandless, “The Beauty of Data Visualization,” *TEDGlobal 2010* (Oxford: TED: Ideas Worth Spreading, July 2010).

the goal of the piece and be able to get to the essential story or set of messages.”⁵⁴ With the designer fully cognizant of the messages, the better she is able to pass along that information to the user.

Information Design

Like its parent graphic design, information design brings disparate elements together into a cohesive piece. The challenge of information design, however, is to use the practice of graphic design to translate potentially confusing matter for clarity and meaning. Information designer David McCandless simplifies the challenge to one of solving information problems, ranging from overload and saturation to a lack of transparency.⁵⁵ Annual reports (Fig. 13), travel schedules (Fig. 14), and directories (Fig. 15), for example, all make extensive use of information design to bring potentially dense information into clearer focus, usually through such devices as charts, diagrams, graphs, and tables. In his *History of Graphic Design*, Philip Meggs describes information design as “a synthesis of function, flow, and form,” where function is the purpose, flow is the sequence, and form is the method of information delivery.⁵⁶ With Meggs in mind, the challenge of faithfully translating information while imposing structure and sequence requires a multidisciplinary approach to the design problem. Kim Baer, again from her *Information Design Workbook*, explains, “Designers must use numerous tactics and

⁵⁴ Kim Baer, *Information Design Workbook: Graphic Approaches, Solutions, and Inspirations + 30 Case Studies* (Beverly, Massachusetts: Rockport Publishers, 2008), 23.

⁵⁵ McCandless.

⁵⁶ Philip B. Meggs and Alston W. Purvis, *Meggs' History of Graphic Design*, 4th Edition (Hoboken: John Wiley & Sons, Inc., 2006), 350.

methods to make information meaningful.”⁵⁷ Baer cites writing, editing, and graphics among these tactics.

While graphics are squarely in the domain of the designer, writing and editing are a bit more nuanced in terms of information design. Borrowing from the arena of web design, writing for information graphics requires the creation of “content chunks.” In *Information Architecture for the World Wide Web*, Louis Rosenfeld and Peter Morville explain, “a content chunk isn’t necessarily a sentence or a paragraph or a page. Rather, it is the most finely grained portion of content that merits or requires individual treatment.”⁵⁸ Robert Bartlett and Victoria Plaut’s successful use of bulleted lists in their CTA experiments validates content chunks to convey information.

Considering the typical CTA, information design could be used to allow readers to choose how the information is received. For the hurried consumer, more interested in using the product than evaluating the legal underpinnings, tables and charts could allow for a quick—albeit educational—skim. For the critical consumer interested in specific legal rights and disclaimers, the same information provides a method of comparing terms and formulating conclusions. Information designer David Tufte expands on this when he states, “Visual displays of information encourage a diversity of individual viewer styles and rates of editing, personalizing, reasoning, and understanding. Unlike speech, visual displays are simultaneously a wideband and a perceiver-controllable channel.”⁵⁹

Where Tufte diverges from Rosenfeld and Morville is in his advocacy for more detail. As he puts it, “to clarify, add detail.”⁶⁰ In the context of information design, such

⁵⁷ Baer, 13.

⁵⁸ Louis Rosenfeld and Peter Morville, *Information Architecture for the World Wide Web*, 2nd Edition (Sebastopol, California: O’Reilly Media, Inc., 2002), 209.

⁵⁹ Edward R. Tufte, *Envisioning Information* (Cheshire, Connecticut: Graphics Press LLC, 1990), 31.

⁶⁰ *Ibid.*, 37.

details could include illustrations, graphs, or any number of tools that elucidate and enrich the content. One such detail, as simple as it is effective, is the use of color. Beyond adding aesthetic qualities to a design, color is an effective organizational and wayfinding tool. In his *Graphic Design School*, author David Dabner explains, “Color can be a powerful tool in the realm of information design, where it is used to help the viewer organize data into various structures. Psychologists have proved that we see the color of an object before its shapes and details. Because it works at this basic level, color is very good at keeping things delineated, and guiding the eye through systems.”⁶¹ Applying color, in tandem with content chunks, could increase the hierarchy and flow of information within the typical CTA.

Web and Usability Design

As the CTA is encountered in the digital environment, it is pertinent to review the dominant method of digital interaction: the World Wide Web. Designing for the web requires a combination of graphic and information design techniques that allow the user to both view and interact with the presented materials. The web interface not only presents information to the user, but also requires the user to make choices and navigate within and across pages. Echoing Frederick Brooks’ advice to narrow the design space, interface expert and author Jesse James Garrett advocates asking two simple questions before the act of web design begins: what does the site’s creator hope to achieve, and

⁶¹ David Dabner, *Graphic Design School: A Foundation Course in the Principles and Practices of Graphic Design*, 3rd Edition (Hoboken: John Wiley & Sons, Inc., 2005), 38.

what do users want to achieve?⁶² Only by answering both questions can the site's objectives be imposed and the design space narrowed.

In terms of the CTA, the objectives of the software vendor are to protect its legal and commercial rights. Terms of use, reproduction, and distribution are paramount to the vendor's interests and as such must be clearly defined and presented. The user's objective, in encountering the same information, is to quickly fulfill the requirements of the CTA and move on.

With the objectives imposed, the designer can focus on the task of guiding the user through the page, ensuring that the intended communication is presented clearly and—as in information design—concisely. In his web usability book *Don't Make Me Think*, author Steve Krug declares, “We don't read pages. We scan them.”⁶³ He explains that users look for key words and phrases that align to their interests or tasks, and that everything else is irrelevant. He concludes, “Scanning is how we find the relevant bits.”⁶⁴ Usability expert Jakob Nielsen mirrors Krug's thoughts when he surmises, “Although it's important to be grammatically correct, it's also important to present the content in a manner that draws in readers.”⁶⁵ Nielsen lists three guidelines for writing on the web:

1. Be succinct;
2. Write for scannability, and
3. Split long information across multiple pages.

Chunked, succinct, scannable text appears central to conveying important information to a goal-oriented and task-focused set of users. In fact, such a model aligns to the

⁶² Jesse James Garrett, *The Elements of User Experience: User-Centered Design for the Web* (Berkeley: New Riders, 2003), 40.

⁶³ Steve Krug, *Don't Make Me Think*, 2nd Edition (Berkeley: New Riders, 2006), 22.

⁶⁴ Ibid.

⁶⁵ Jakob Nielsen, *Designing Web Usability* (Berkeley: New Riders, 2000), 100-101.

information-processing theory of cognitive development conceptualized by George Miller. The theory holds that in taking in information, children focus selectively on the parts relevant to their current task.⁶⁶ In this case, providing an abbreviated version of the CTA allows for more efficient reading and comprehension.

An abbreviated version might also improve visual accessibility. In studying how users read on a computer screen, neuroscientist Brad Motter discovered that crowded objects “limit our ability to find targets in the visual scene.”⁶⁷ Motter and his colleague Diglio Simoni found that the density of objects on a screen inversely correlates to the speed at which a viewer can find objects on screen. Ample space for text in a revised CTA lends itself to a more usable document.

Web usability expert and author Luke Wroblewski’s first two principles of web form design are to “minimize the pain” and to “illuminate a path to completion.”⁶⁸ While these principles were written in the context of the forms users complete to register for a website or make a purchase, they certainly apply to the presentation of the CTA. Eliminating the excess verbiage and redundant clauses of the CTA would minimize the pain of reading a small box filled with legalese and would allow for users to comprehend, rather than to merely complete, the CTA process. One method of illuminating a path to completion, as mentioned in the discussions of graphic and information design, is through the use of color. Author David Dabner explains, “Color can help identify the moves needed to execute whatever operation is intended.”⁶⁹ Potentially, color could be used to painlessly guide the user through the CTA’s information chunks to the point of

⁶⁶ Encyclopedia of Psychology.

⁶⁷ Corey Binns, *Slow Down: Speed Reading is Bunk*, March 20, 2007, <http://www.msnbc.msn.com/id/17705002/> (accessed October 16, 2010).

⁶⁸ Luke Wroblewski, *Web Form Design: Filling in the Blanks* (Brooklyn: Rosenfeld Media, LLC, 2008), 19.

⁶⁹ Dabner, 39.

comprehension and completion. However, in considering David Berman's recommendation to design for the extremes, color has the potential to exclude the visually impaired. User interface consultant Paul Hoffman advises against relying on color-coding exclusively, and to ensure that any used colors have a high degree of contrast.⁷⁰

Another tactic to allow for easier CTA presentation is Jakob Nielsen's recommendation of splitting long text across multiple pages. As Nielsen states, "Each page can be brief and yet the full hyperspace can contain much more information than would be feasible in a printed article."⁷¹ He advocates for using the hyperlinks inherent to the web to link from chunked content to more detailed explanations. This would allow users more interested in skimming through the agreement to do so quickly, while granting close readers the opportunity to delve into the details by following a provided link.

Experience Design

A website's accommodation of different reading and viewing styles fits into the larger framework of experience design. Whereas graphic, information, and web design originate with content and its effective communication, experience design adopts the perspective of the user. Communication objectives and content are subservient to the seamless and serene user experience. In thinking of users, author Jesse James Garrett explains, "you must set out to provide them with an experience that is coherent, intuitive, and maybe even pleasurable—an experience in which everything works the way it should."⁷²

⁷⁰ Paul Hoffman, *Accommodating Color Blindness*, October 1, 1999, <http://www.stcsig.org/usability/newsletter/9910-color-blindness.html> (accessed October 16, 2010).

⁷¹ Nielsen, 112.

⁷² Garrett, 19.

The experience requires consideration of everything from presentation to navigation to language. David Butler, Coca-Cola's vice-president of design, sums up the philosophy of user experience as "the shift from designing things to designing systems."⁷³ Usability expert Russell Branaghan makes a similar point when he states, "Forget about designing things. You are designing an experience, an event, a mood, a feeling."⁷⁴ Clearly, the presentation of the CTA was conceived less as an experience than an obligation or chore. Every facet of the CTA focuses on the legal and commercial objectives of the vendor with little regard for how the content is delivered.

Google, in revising its privacy policy to enhance the user experience, demonstrates the possibility of balancing experience design with communication objectives. This is both good for the consumer and business. Jessie James Garrett explains, "Businesses have now come to realize that providing a quality user experience is an essential, sustainable competitive advantage."⁷⁵ Extrapolating from Garrett's point, a CTA that is viewed as a part of the overall user experience, rather than "something to get through," could represent a compelling reason to choose one software title over another.

The Corporate Design Foundation advocates for user-friendliness because "it makes things easy to understand regardless of the user's experience, knowledge, language skills and cognitive ability."⁷⁶ Though visual elements go a long way toward an effective user experience, so too does language. In reviewing standard form contracts, attorney and psychologist Dennis Stolle notes, "the meaning of the language contained in

⁷³ David Butler, "Redesigning Design" (Memphis: Make/Think: AIGA Design Conference, October 10, 2009).

⁷⁴ in *Design by People for People: Essays on Usability* (Chicago: Usability Professionals' Association, 2001), 35.

⁷⁵ Garrett, 13.

⁷⁶ Corporate Design Foundation, "Baby Boomers and Seven Universal Design Principles," 25.

such contracts has the potential to elude not only the legally naïve but legal experts as well.”⁷⁷ To improve the user experience, a controlled vocabulary—written in the vernacular and nomenclature of the intended audience—can reduce confusion and improve comprehension.⁷⁸ The translation of legal terms to plain language, presented in an intuitive format, could potentially rescue the CTA from an afterthought to a seamless part of the software installation process.

Mental Processes, Decisions, and Design

Of course, the presentation of information is useless without an understanding of how users generally encounter new information and act upon it. French psychologist Jean Piaget’s theory of cognitive development holds that humans are born with innate schemas that represent the world around them.⁷⁹ These schemas are edited throughout life through the processes of assimilation and accommodation. In the former, new information is evaluated and applied to existing schemas. In the latter, the schema itself is revised to reflect the incoming information. Ostensibly, these processes work in tandem and result in equilibrium, or understanding.

An alternative to Piaget is the information-processing approach to cognitive development. Here, information is accepted in chunks of small pieces of information, where a chunk is any meaningful unit. The information is received, stored, retrieved, and used.⁸⁰ Whereas Piaget’s theory posits that cognitive development occurs in stages over time, information processing likens development to the workings of a computer: humans

⁷⁷ Stolle, 3.

⁷⁸ Garrett, 104.

⁷⁹ W. Huitt and J. Hummel, "Piaget's Theory of Cognitive Development," *Educational Psychology Interactive*, 2003, <http://www.edpsycinteractive.org/topics/cogsys/piaget.html> (accessed September 21, 2010).

⁸⁰ Raul Thadani, *Information Processing Theory*, May 29, 2010, <http://www.buzzle.com/articles/information-processing-theory.html> (accessed September 21, 2010).

become better at memorization strategies and techniques, such as repetition or categorization.

When making decisions, such as to read or to click to agree, users require information that is digestible in order to receive and evaluate it. Gary Klein, a research psychologist who specializes in how humans make decisions, explains, “We see the world as patterns. Many of these patterns seem to be built into the way our eyes work. We have detectors to notice lines and boundaries. The world is organized in our eyes to highlight contrasts, before any information reaches our brains. We have other powerful organizers to frame the visual world into Gestalts, so we naturally group things together that are close to each other.”⁸¹

The takeaway from Klein, Piaget, and the information-processing approach is that new information either must reconcile with a schema or be granular enough to be received in chunks. In terms of the typical CTA, the legalese alone prohibits accommodation (unless the reader has legal training), and reception via chunking is prohibitive in the small box presentation.

Across various offshoots of graphic design, from web usability to information design, the recurring themes of information chunks, hierarchy, and structure appear. To align the CTA with human learning behavior, graphic design can be employed to increase readability and comprehension.

The Plan to Fix the CTA

Legal scholar Robert Gomulkiewicz, in discussing the potential for a user-friendly EULA, recommends that software publishers and their lawyers “take advantage of state

⁸¹ Gary Klein, *Sources of Power: How People Make Decisions* (Cambridge, Massachusetts: MIT Press, 1998), 177.

of the art techniques for effective presentation of information....”⁸² With a thorough understanding of CTAs, the principles of graphic design, and how users process information, Gomulkiewicz’s recommendation is ready for experimentation. A CTA that presents chunked content in a hierarchical, readable, skimmable, and accessible manner should allow for easier reading and comprehension. Moreover, the digital nature of the CTA allows for Jakob Nielsen’s advocacy for hyperlinked details.

To this end, a proposed CTA model of Apple’s iTunes software application was designed for further research and exploration (Figs. 16–21). Additionally, a website was created as an outlet for CTA demonstration and education on usable design (<http://www.iagree.to.org>). The CTA model was created for presentation on both desktop and mobile computing platforms, using a screen resolution of 800x600 pixels. The maximum width of a mobile screen is 980 pixels, while most computer displays use a setting of 1024x768 pixels.⁸³ To ensure that the small percentage of users with 800x600 pixel displays is able to view the content, the CTA is presented at that size.

Based on the research of Robert Bartlett and Victoria Plaut, the legal language was translated into plain English and abbreviated for scannability. Moreover, redundancies were eliminated per law professor Omri Ben-Shahar, who notes that standard form contracts will ideally contain “no more than a handful of categories (warranty term, return policy, DRMs, choice of forum), each summarized with standard meaning phrases.”⁸⁴ Hyperlinks to the full Terms of Use, as well as to print or save the agreement, empower the curious to click to read more closely yet allow for skimmers to

⁸² Gomulkiewicz, 7.

⁸³ Thomas Baekdal, *Browser Sizes Revisited*, November 15, 2008, <http://www.baekdal.com/publishing/browser-sizes-revisited> (accessed September 25, 2010).

⁸⁴ Ben-Shahar, 33.

take in the necessary information. Based on interface designer Luke Wroblewski's suggestion to let users know of their progress toward completion of a task, page numbers and a progress indicator appear on every page.⁸⁵ Moreover, in keeping with current colorblindness theory, a single highlight color was incorporated to emphasize the abbreviated nature of the CTA contents.

To promote interactivity beyond repetitive clicking, the proposed CTA requires users to virtually initial each page before moving on to the subsequent page. This has two benefits: first, it would, in the words of designer and attorney Thomas O'Donnell, "further the argument that the document/contract is whole and unaltered."⁸⁶ Second, according to attorney Jack Frierson, is that it strengthens evidence of the agreement.⁸⁷ Frierson points out that the initials signify comprehension and mitigate any user claims of misunderstanding or ignorance of the terms.

The linked Terms of Use document was redesigned in the same manner as the CTA; namely, the format, typography, and composition of the document were updated to promote readability. A table of contents was added, which uses links that allow users to jump directly to specific sections.

Further Research

The study of how consumers read standard form contracts is limited. As Robert Bartlett and Victoria Plaut state, "the empirical examination of consumer reading behavior remains in its earliest stages."⁸⁸ As such, to determine the effectiveness of the

⁸⁵ Wroblewski, 46.

⁸⁶ Thomas O'Donnell, e-mail message to author, October 22, 2010.

⁸⁷ Jack Frierson, telephone conversation with author, October 22, 2010.

⁸⁸ Bartlett and Plaut, 5.

redesigned CTA, further research into contract reading habits must be undertaken.

Nevertheless, the proposed CTA redesign is a step toward improved consumer usability.

To determine its actual effectiveness, extensive testing must be conducted across a broad range of demographics. Not only must the usability of the new CTA be gauged, but also its readability and effect on comprehension. Testing must also account for mobile and desktop computing platforms.

Furthermore, the CTA example herein is limited to a specific software title from a single company. To clearly measure this new format, legal agreements from other vendors for various products should be translated to human-readable terms in the same manner as the iTunes Terms of Service. In fact, such translation from legalese to “plain language” is growing in popularity among businesses and governments. As author Kim Baer notes, “The written word is a key component of information design. There is a movement afoot toward ensuring that written information is clear, concise, and meaningful for readers. It’s called plain language.”⁸⁹

The Plain Language movement seeks to simplify public communications by eliminating unnecessarily complex language.⁹⁰ The U.S. Securities and Exchange Commission, in the spirit of plain language and in the interests of investors, published a “Plain English Handbook” to advise companies on the difference between communication and “mere disclosure.”⁹¹ The handbook explains that “a plain English document uses words economically and at a level the audience can understand. Its sentence structure is tight. Its tone is welcoming and direct. Its design is visually

⁸⁹ Baer, 42.

⁹⁰ Robert Leon Cooper, *Language Planning and Social Change* (Cambridge: Cambridge University Press, 1989), 60.

⁹¹ Stolle, 7.

appealing. A plain English document is easy to read and looks like it's meant to be read.”⁹²

In the legal domain, such measures are recommended by psychologist Michael Masson and law professor Mary Anne Waldron in their study of plain language contracts. Working with standard legal contracts, Masson and Waldron first replaced or removed archaic terms, then simplified words and sentence structure, and finally simplified or defined legal terms. They found that “by using more familiar words we made more concepts accessible to readers, and by using shorter sentences fewer demands were placed on working memory capacity.”⁹³ Though accessibility is not tantamount to comprehension, an accessible document at least allows for the opportunity to understand.

Accessibility testing beyond language must also be undertaken to ensure the revised CTA is usable to the visually impaired. Though recommendations for creating a visually accessible document were followed in the proposed redesign (Figs. 22–24), the success of the design cannot be adequately measured without formal testing for a range of vision impairments.

Proposed Directions

The redesigned CTA is based on the Apple iTunes Terms of Use, but the concept is applicable to other software vendors and to other industries. In *The Design of Everyday Things*, psychologist Donald Norman advocates for standardization. He writes, “When something can’t be designed without arbitrary mappings and difficulties, there is one last

⁹² Office of Investor Education and Assistance - U.S. Securities and Exchange Commission, “A Plain English Handbook: How to Create Clear SEC Disclosure Documents,” *U.S. Securities and Exchange Commission*, August 20, 1998, <http://www.sec.gov> (accessed June 22, 2010), 5.

⁹³ Michael E. J. Masson and Mary Anne Waldron, “Comprehension of Legal Contracts by Non-Experts: Effectiveness of Plain Language Redrafting,” *Applied Cognitive Psychology* 8 (1994), 78.

route: standardize. Standardize the actions, outcomes, layout, displays. Make related actions work in the same way. Standardize the system, the problem; create an international standard.”⁹⁴ With this in mind, the proposed CTA design could serve as a template for like companies, replete with stock human readable or plain language translations of common legal terms. Much like a web-based Content Management System (CMS), which uses a visual interface to allow users to author and manage websites without knowledge of programming or coding, a modular CTA platform would allow users to customize content within a standardized system without knowledge of legal terms. For example, using the same platform a software vendor and a type foundry could build nearly identical CTAs, with the exception of specific, plain language clauses that speak to their unique products.

Such a system is applicable to a variety of vendors, but might also extend to other domains. Deborah Adler’s ClearRx system demonstrates the importance of design to the usability of pharmaceutical goods. Another medical area to which design might be applied is the Personal Health Record (PHR). These records are created and updated by individuals as a means of documenting all healthcare related information. The format for a PHR ranges from handwriting on paper to a text document to a web-based platform.⁹⁵ The latter varies according to the vendor providing the web-based PHR service. Referring again to Donald Norman’s call for standardization, a CTA-derived PHR system could assist in the collection, management, and disclosure policies of each unique vendor with regard to personal medical information.

⁹⁴ Donald A. Norman, *The Design of Everyday Things* (New York: Basic Books, 1988), 200.

⁹⁵ Shawn E. Davis, "Managing Health Online: Developing a Personal Health Record," *Interface: The Journal of Education, Community, and Values* 8, no. 4 (September 2008).

Conclusion

As demonstrated by election ballots and medication labeling, design matters. Design brings content into focus and displays meaning beyond the written word. For the consumer, design equals empowerment: knowledge of terms and conditions allows for informed decision making. For business and government, that same increase in consumer knowledge reduces the likelihood of misunderstandings or—worse—litigation. Legislative action for clarified credit disclosures and Google’s plain language revision of its privacy policy validate consumer-focused design as a necessary and effective form of communication.

In his *Do Good Design*, David Berman states that “making law more accessible is a communications challenge that can enhance the quality of a democracy: imagine a land where everyone has equal access to the law.”⁹⁶ Accessible law requires accessible design. Considering the click-through agreement, a multidisciplinary approach to the presentation of legal agreements that encompasses usable design and plain language could contribute to a positive and educational user experience.

⁹⁶ Berman, 119.

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Visual Aids

Nutrition Facts			
Serving Size 1 cup (228g)			
Servings Per Container 2			
Amount Per Serving			
Calories 250		Calories from Fat 110	
		% Daily Value*	
Total Fat	12g		18%
Saturated Fat	3g		15%
Trans Fat	1.5g		
Cholesterol	30mg		10%
Sodium	470mg		20%
Total Carbohydrate	31g		10%
Dietary Fiber	0g		0%
Sugars	5g		
Protein	5g		
Vitamin A			4%
Vitamin C			2%
Calcium			20%
Iron			4%
* Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs:			
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Fig. 1. Nutrition Facts Label, (<http://graphics8.nytimes.com/images/2009/05/24/opinion/23docuBLARGE.jpg>).

CREDIT CARD STATEMENT					
Minimum Payment Due	Past Due Amount	Required Payment	Payment Due Date	New Balance	DCU Account
\$15.00	\$0.00	\$15.00	9/5/2010		

VIAIANAND THIRNAGESWARAM
10219 RIDERDALE PARK LN
HOUSTON TX 77070

CARD NUMBER _____

DUE DATE: 09-05-2010 MINIMUM PAYMENT DUE: 15.00 ENDING BALANCE:

***** LATE PAYMENT WARNING ***** IF WE DO NOT RECEIVE YOUR MINIMUM PAYMENT BY THE DATE LISTED ABOVE, YOU MAY HAVE TO PAY A LATE FEE OF \$ 30.00

***** MINIMUM PAYMENT WARNING ***** IF YOU MAKE ONLY THE MINIMUM PAYMENT EACH PERIOD, YOU WILL PAY MORE IN INTEREST AND IT WILL TAKE YOU LONGER TO PAY OFF YOUR BALANCE. FOR EXAMPLE:

IF YOU MAKE NO ADDITIONAL CHARGES USING THIS CARD AND EACH MONTH YOU PAY...	YOU WILL PAY OFF THE BALANCE SHOWN ON THIS STATEMENT IN ABOUT...	AND YOU WILL END UP PAYING AN ESTIMATED TOTAL OF...
ONLY THE MINIMUM PAYMENT	10 YEARS	\$1,326
\$30	3 YEARS	\$1,080 (SAVINGS=\$246)

IF YOU WOULD LIKE INFORMATION ABOUT CREDIT COUNSELING SERVICES, CALL 866-853-2227

**** SUMMARY OF ACCOUNT ACTIVITY ****		VISA GOLD	LN# 141
STARTING BALANCE		CREDIT LIMIT	
PAYMENTS		AVAILABLE CREDIT	
OTHER CREDITS		STATEMENT DATE	
PURCHASES		DAYS IN PERIOD	
CASH ADVANCES			
OTHER DEBITS			
FEES CHARGED			
INTEREST CHARGED			
NEW BALANCE	=====		

***** PAYMENT INFORMATION *****			
MINIMUM PAYMENT DUE:		15.00	
PAST DUE AMOUNT:		0.00	
REQUIRED PAYMENT DUE:		15.00	
DUE DATE:		09/05/10	

TRANSACTIONS			
POST	TRANS	DESCRIPTION	
		PURCHASES	PAYMENTS

Fig. 2. New credit card statement, (http://www.moneyreallymatters.com/sites/default/files/images/dcucc_new.jpg).

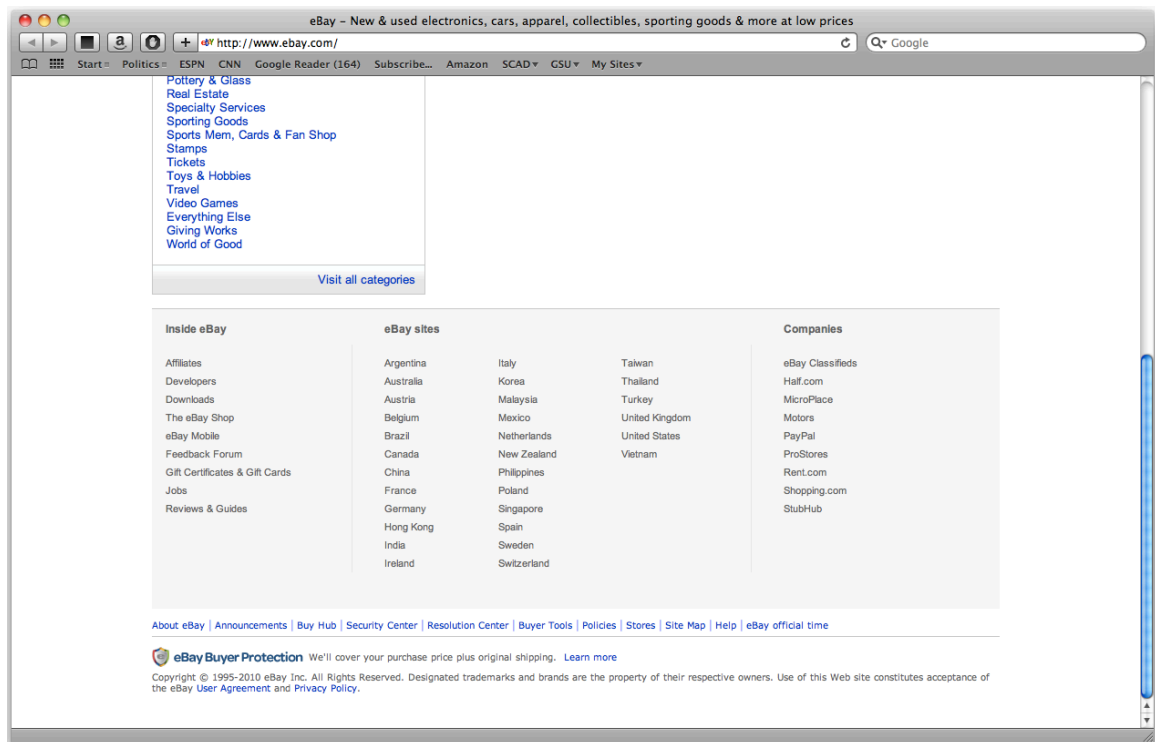


Fig. 3. eBay browsewrap agreement at bottom of page, (<http://www.ebay.com>).

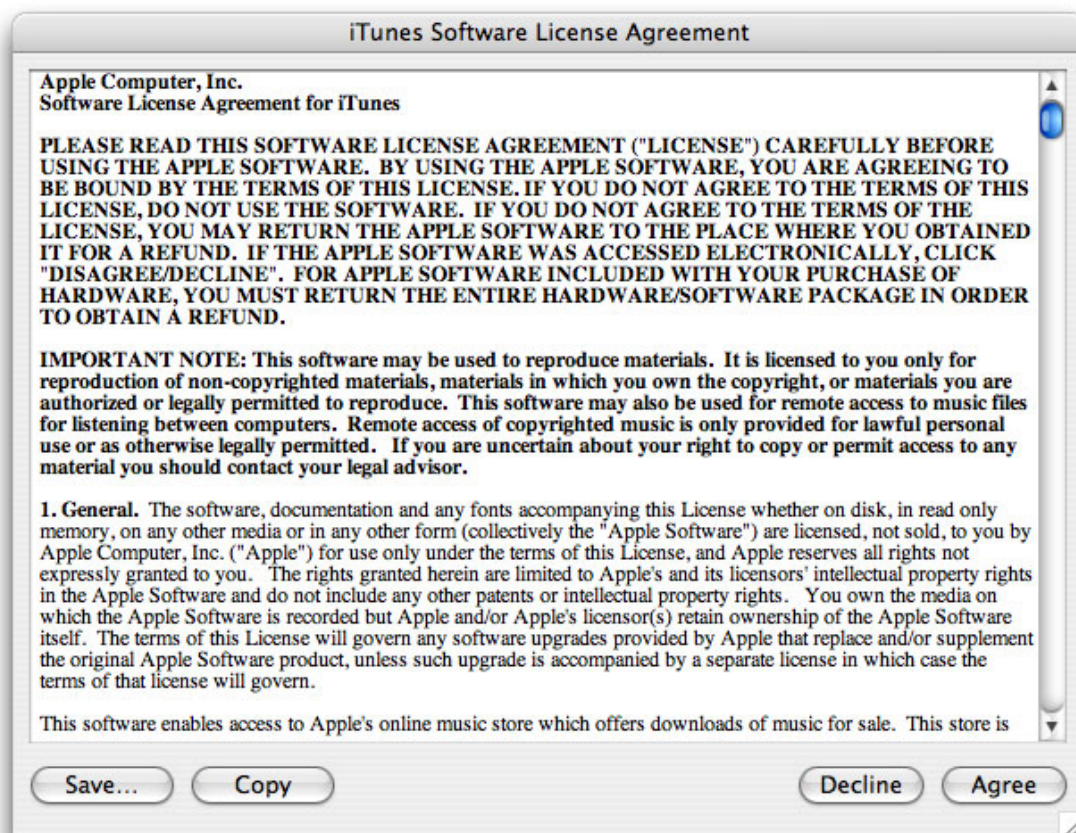


Fig. 4. Apple iTunes Software License Agreement screen, (<http://www.tinotopia.com/log/itunes-license.jpg>).

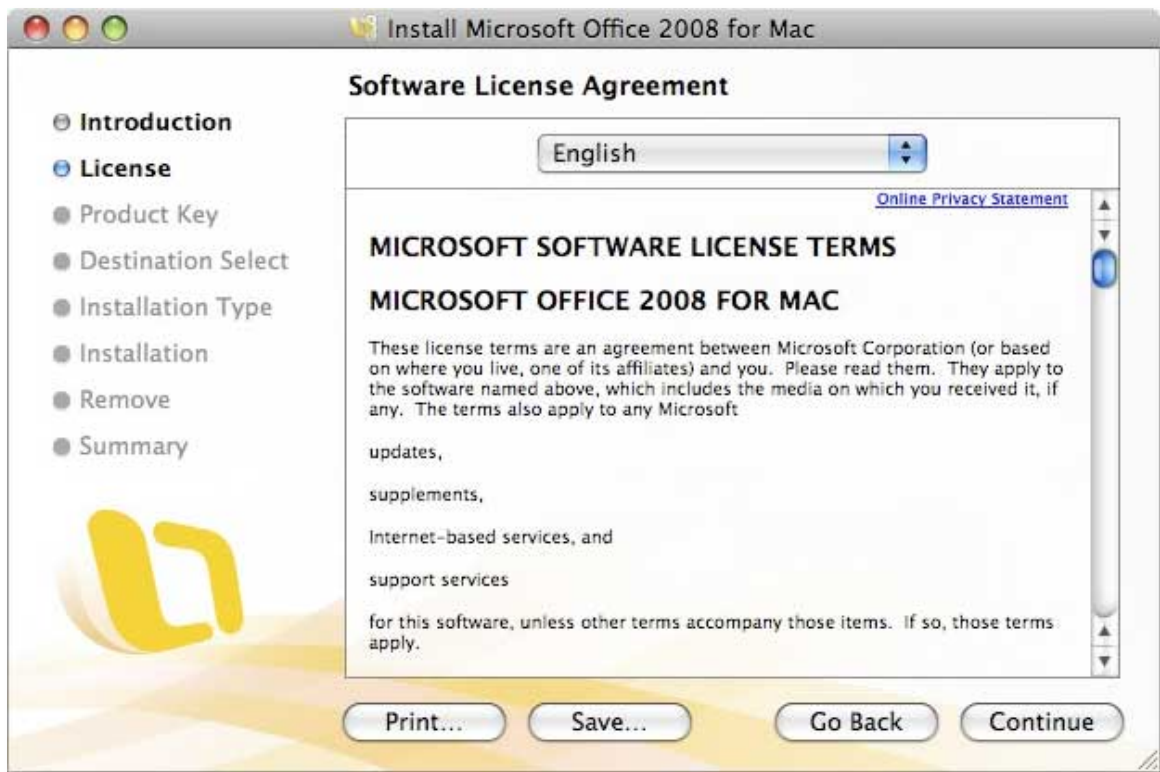


Fig. 5. Microsoft Office Mac 2008 Software License Agreement, (<http://www.uwyo.edu/askitimages/2001-7.jpg>).



Fig. 6. Target ClearRx pharmacy bottle, (<http://deborahadlerdesign.com/images/case/target/12.jpg>).



Fig. 7. Generic pharmacy bottle, (<http://deborahadlerdesign.com/images/case/target/2.jpg>).

My E-Statements | Profile | Privacy | Newsletters | Log Off

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Credit Card Statements History

01/11/2010 1

Return to My Statements

CREDIT CARD STATEMENT

New Payment Amount	Past Due Amount	Total Minimum Payment	Payment Due Date	Ending Statement Balance	DCU Account
\$26.00	\$0.00	\$26.00	2/5/2010		

[REDACTED]

Card Number	Days in Billing Cycle	Billing Cycle Closing Date	Payment Due Date
	32	1/11/2010	2/5/2010

Credit Limit	Available Credit	Total Finance Charge Due	Minimum Payment Due	Lost or Stolen Cards
		\$0.00	\$26.00	1.800.453.4270

Transactions details deleted

	Previous Balance	Purchases & Advances	Payments Received	Credits	Other Advances & Fees
Purchases Advances ACCOUNT TOTALS				\$67.00	\$0.00

	Average Balance	Current Finance Charge Due	ANNUAL PERCENTAGE RATE (Periodic Rate)	ENDING STATEMENT BALANCE*
	\$0.00	\$0.00	8.500%	

DCU
BANKING - THE DCU WAY

Digital Federal Credit Union
220 Donald Lynch Boulevard
PO Box 9130
Marlborough, MA 01752-9130
508.263.6700 • 800.328.8797

LENDER **NCUA**
Nationally Chartered by FDIC

© 2010, Digital Federal Credit Union

Fig. 8. Older credit card statement, pre-legislation,
(http://www.moneyreallymatters.com/sites/default/files/images/dcucc_Old.jpg).

Credit Card Facts	
Here is a summary of the terms of this credit card account	
Interest Rates	
Purchases	First year: 0% fixed rate After first year: Prime rate (can vary monthly) + 7.74%
Balance Transfers	First year: 0% fixed rate After first year: Prime rate (can vary monthly) + 7.74%
Cash Advances	Prime rate (can vary monthly) + 20.74%
Late Payments	After one late payment 0% fixed rate is revoked, and may rise to 29.99% based on credit and payment history
Minimum Interest	\$.50
Fees	
Foreign Currency Purchases	2% of dollar amount per purchase
Balance Transfers	3% of total balance transferred, per transfer
Cash Advances	3% of total cash advanced, per advance
Late Payments	\$19 on balances up to \$250 \$39 on balances over \$250
Exceeding Credit Limit	\$15 on over-limit transactions up to \$500 \$39 on over-limit transactions over \$500
Payment Options	
In Full by Due Date	No interest due if paid within the 25 day grace period
Minimum Balance by Due Date	Includes principal and interest based on above Interest Rates for purchases, balance transfers and cash advances
Warnings	
Late Payments	May affect your credit score May increase your interest rates

See below for other important credit card terms and conditions

Fig. 9. AIGA Design for Democracy, "Credit Card Facts,"
(<http://graphics8.nytimes.com/images/2009/05/24/opinion/23docuCLARGE.jpg>).

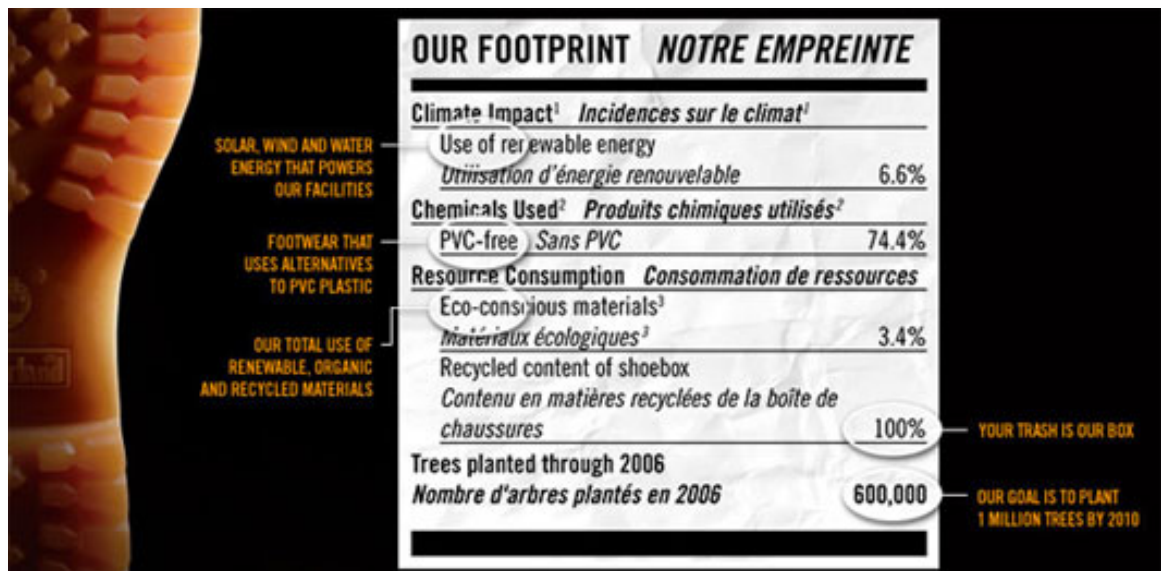


Fig. 10. Ecolect, "Our Footprint," (<http://www.mnn.com/sites/default/files/ecolect-1.jpg>).

1 OFFICIAL BALLOT, GENERAL ELECTION PALM BEACH COUNTY, FLORIDA NOVEMBER 7, 2000		A OFFICIAL BALLOT, GENERAL ELECTION PALM BEACH COUNTY, FLORIDA NOVEMBER 7, 2000	
ELECTORS FOR PRESIDENT AND VICE PRESIDENT (A vote for the candidates will actually be a vote for their electors.) (Vote for Group)	(REPUBLICAN) GEORGE W. BUSH - PRESIDENT DICK CHENEY - VICE PRESIDENT	3 ➤	➤ 4
	(DEMOCRATIC) AL GORE - PRESIDENT JOE LIEBERMAN - VICE PRESIDENT	5 ➤	➤ 6
	(LIBERTARIAN) HARRY BROWNE - PRESIDENT ART OLIVIER - VICE PRESIDENT	7 ➤	➤ 8
	(GREEN) RALPH NADER - PRESIDENT WINONA LaDUKE - VICE PRESIDENT	9 ➤	➤ 10
	(SOCIALIST WORKERS) JAMES HARRIS - PRESIDENT MARGARET TROWE - VICE PRESIDENT	11 ➤	
	(NATURAL LAW) JOHN HAGELIN - PRESIDENT NAT GOLDHABER - VICE PRESIDENT	13 ➤	
	(REFORM) PAT BUCHANAN - PRESIDENT EZOLA FOSTER - VICE PRESIDENT		
	(SOCIALIST) DAVID McREYNOLDS - PRESIDENT MARY CAL HOLLIS - VICE PRESIDENT		
	(CONSTITUTION) HOWARD PHILLIPS - PRESIDENT J. CURTIS FRAZIER - VICE PRESIDENT		
	(WORKERS WORLD) MONICA MOOREHEAD - PRESIDENT GLORIA La RIVA - VICE PRESIDENT		
	WRITE-IN CANDIDATE To vote for a write-in candidate, follow the directions on the long stub of your ballot card.		

Fig. 11. Palm Beach Butterfly Ballot, (<http://www.aiga.org/resources/content/7/4/9/7/documents/PalmBeach2000.pdf>).

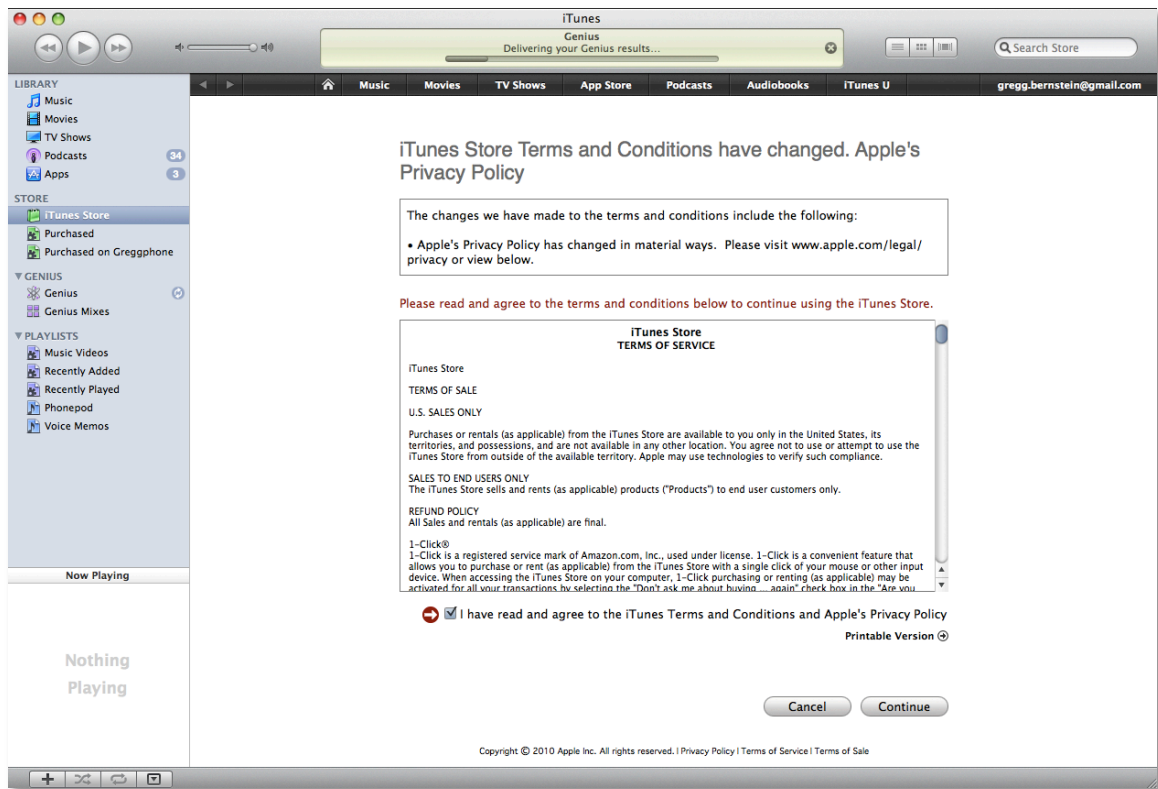


Fig. 12. Apple iTunes CTA for Terms of Service. Photo via computer screen during installation process.

Fig. 13. Page from the *Feltron Annual Report*, (http://feltron.com/index.php?/content/2007_annual_report/P1/).

The Smart Way Bus Schedule

	Leave Campbell Court	Higher Ed. Center Hotel Roanoke	Roanoke Regional Airport	Park and Ride I-81 Exit 140	Falling Branch Park and Ride I-81 Exit 118A	Christiansburg K-Mart	Corporate Research Center	Arrive Squires Student Center	Leave Squires Student Center	Corporate Research Center	Christiansburg K-Mart	Falling Branch Park and Ride I-81 Exit 118A	Park and Ride I-81 Exit 140	Roanoke Regional Airport	Higher Ed. Center Hotel Roanoke	Arrive Campbell Court	Connects with Valley Metro
DAYS	These columns from Roanoke to Blacksburg								These columns from Blacksburg to Roanoke								
M-F	5:15A	5:17A	5:35A	6:00A	6:05A	6:13A	6:20A	6:20A	6:28A	6:35A	6:45A	7:15A	7:25A	7:33A	7:40A	7:45A	
M-F	5:50A	5:52A		6:10A	6:35A	6:40A	6:48A	7:00A	7:05A	7:13A	7:25A	7:30A	7:55A	8:13A	8:15A	8:15A	
M-Sa	6:20A	6:22A	6:35A	6:45A	7:15A	7:20A	7:32A	7:40A	7:50A	7:58A	8:05A	8:15A	8:45A	8:55A	9:08A	9:10A	9:15A
M-F	7:20A	7:22A	7:35A	7:45A	8:15A	8:20A	8:32A	8:40A	8:50A	8:58A	9:05A	9:15A	9:45A	9:55A	10:08A	10:10A	10:15A
M-Sa	7:50A	7:52A	8:05A	8:15A	8:45A	8:50A	9:02A	9:10A	9:20A	9:28A	9:35A	9:45A	10:15A	10:25A	10:38A	10:40A	11:15A
M-Sa	9:50A	9:52A	10:05A	10:15A	10:45A	10:50A	11:02A	11:10A	11:20A	11:28A	11:35A	11:45A	12:15P	12:25P	12:38P	12:40P	1:15P
M-Sa	11:20A	11:22A	11:35A	11:45A	12:15P	12:20P	12:32P	12:40P	12:50P	12:58P	1:05P	1:15P	1:45P	1:55P	2:08P	2:10P	2:15P
M-Sa	12:50P	12:52P	1:05P	1:15P	1:45P	1:50P	2:02P	2:10P	2:20P	2:28P	2:35P	2:45P	3:15P	3:25P	3:38P	3:40P	3:45P
M-Sa	2:20P	2:22P	2:35P	2:45P	3:15P	3:20P	3:32P	3:40P	3:50P	3:58P	4:05P	4:15P	4:45P	4:55P	5:08P	5:10P	5:15P
M-F	3:50P	3:52P	4:05P	4:15P	4:45P	4:50P	5:02P	5:10P	5:20P	5:28P	5:35P	5:45P	6:15P	6:25P	6:38P	6:40P	7:15P
M-F	4:35P	4:37P	4:55P	5:20P	5:25P	5:33P	5:45P	5:50P	5:58P	6:10P	6:15P	6:40P	6:55P	7:05P	7:15P	7:00P	7:15P
M-Sa	5:20P	5:22P	5:35P	5:45P	6:15P	6:20P	6:32P	6:40P	6:50P	6:58P	7:05P	7:15P	7:45P	7:55P	8:08P	8:10P	8:15P
M-Sa	6:50P	6:52P	7:05P	7:15P	7:45P	7:50P	8:02P	8:10P	8:20P	8:28P	8:35P	8:45P	9:15P	9:25P	9:38P	9:40P	
Times listed below are ONLY for Friday & Saturday!																	
F-Sa	8:20P	8:22P	8:35P	8:45P	9:15P	9:20P	9:32P	9:40P									

Effective: January 2009

Fig. 14. Bus Schedule, (<http://www.smartwaybus.com/imgs/schedule-1-09.gif>).



Fig. 15. Wayfinding directory, (<http://www.torontoartscape.on.ca/system/files/images/Barn+5+wayfinding+photo.jpg>).

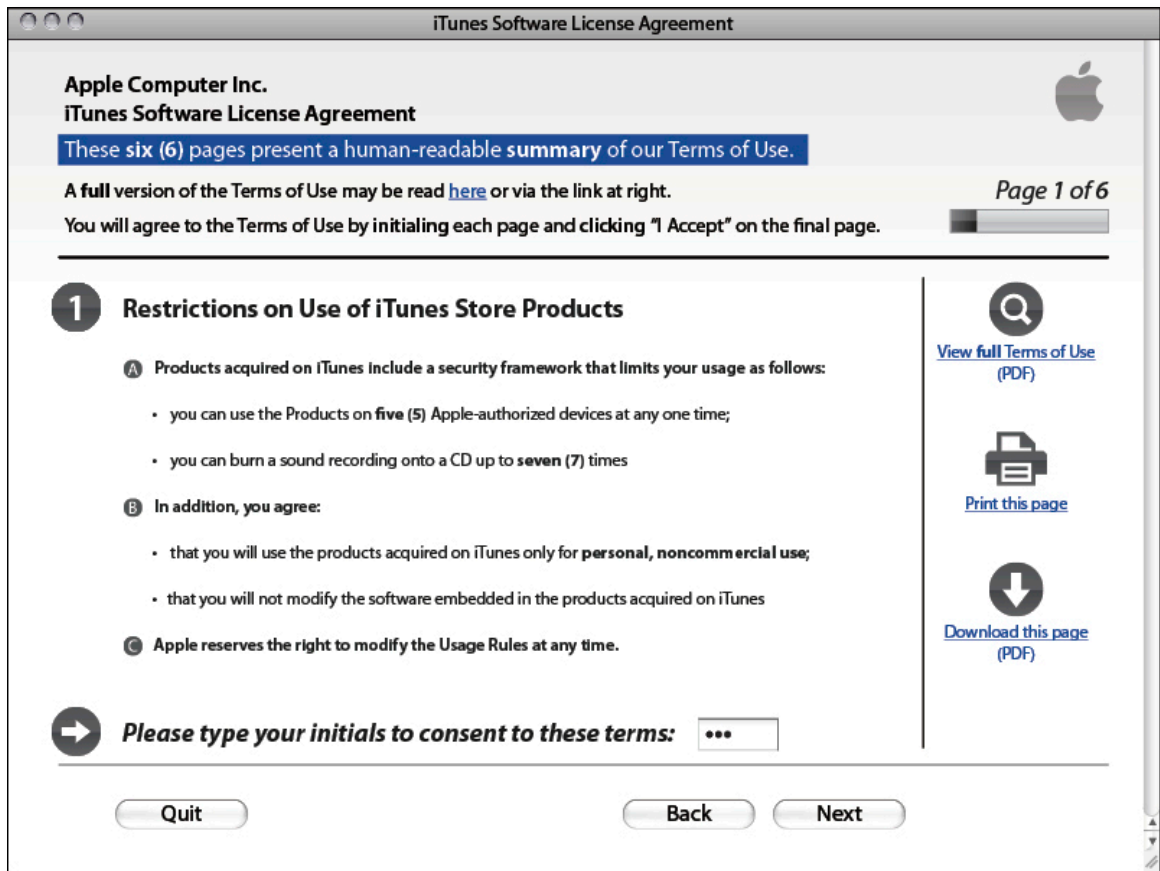


Fig. 16. Proposed CTA Model, Page 1.

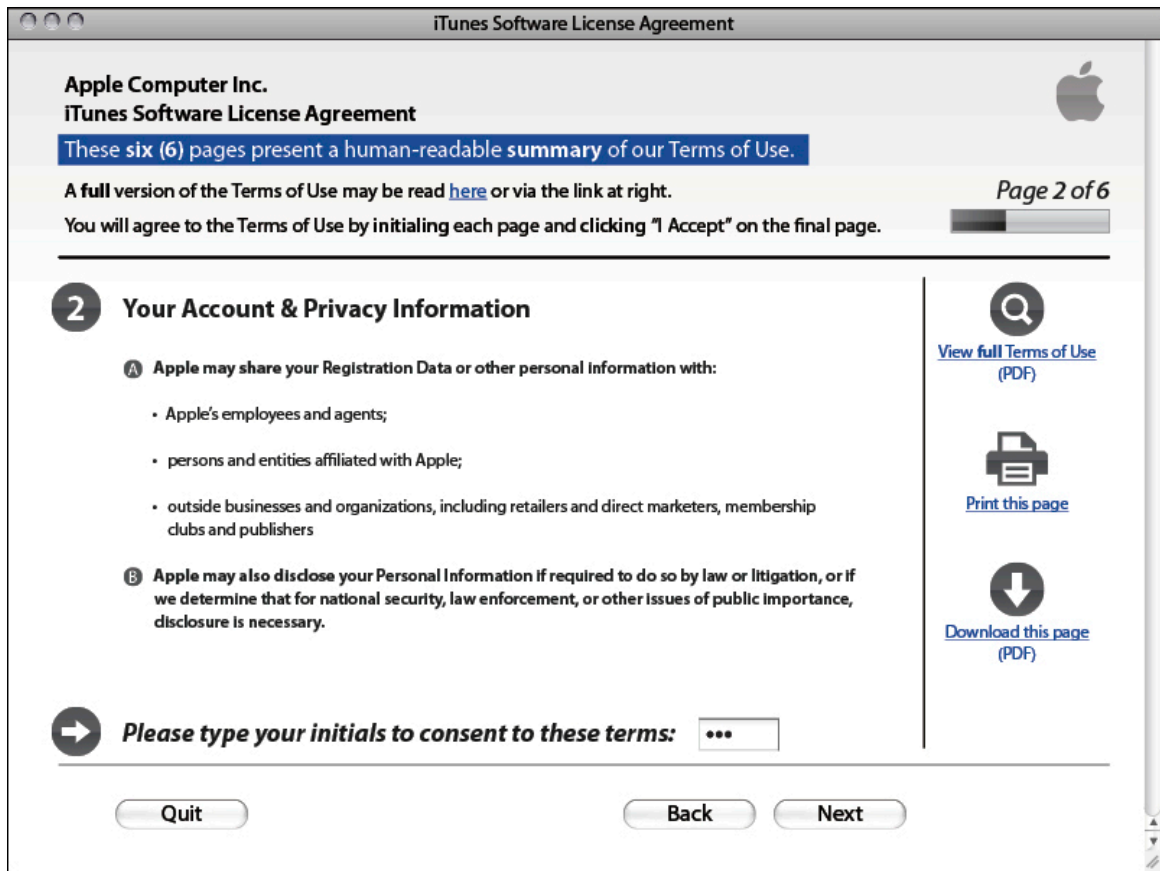


Fig. 17. Proposed CTA Model, Page 2.

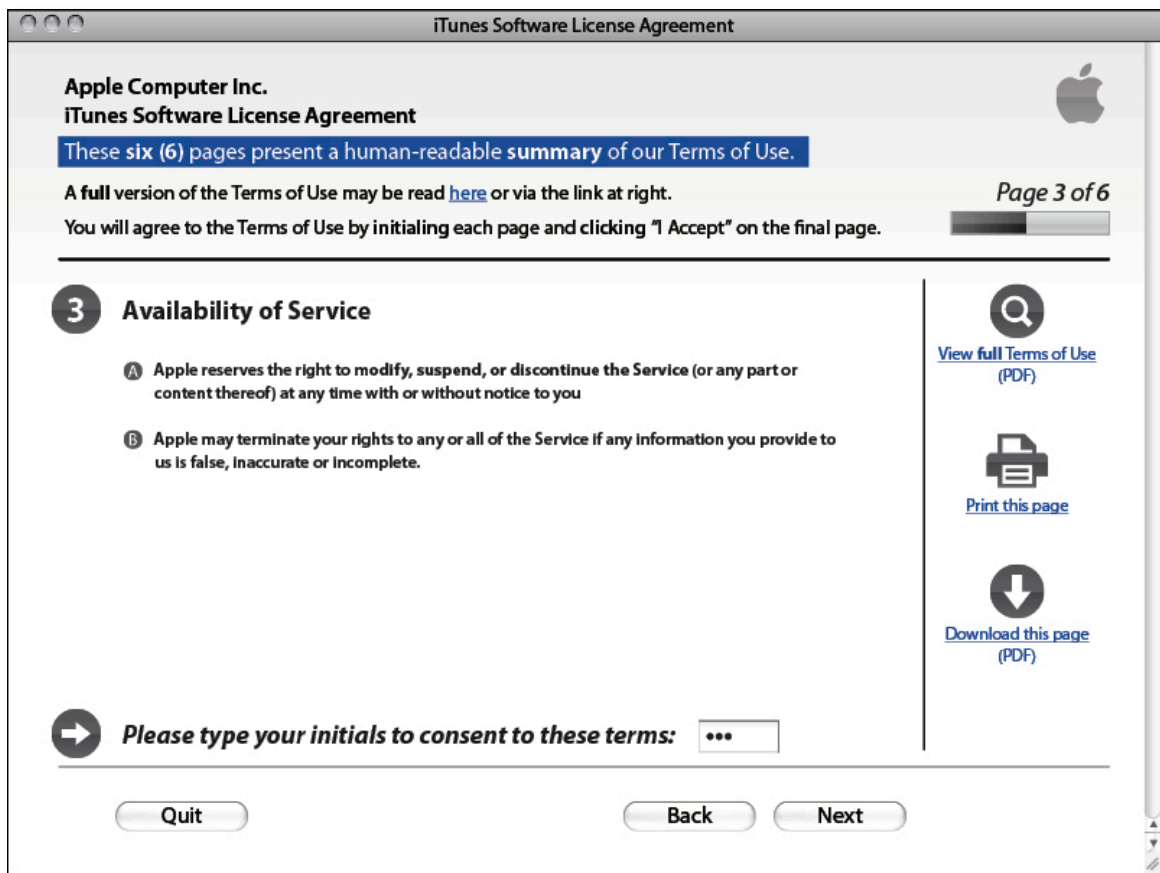


Fig. 18. Proposed CTA Model, Page 3.

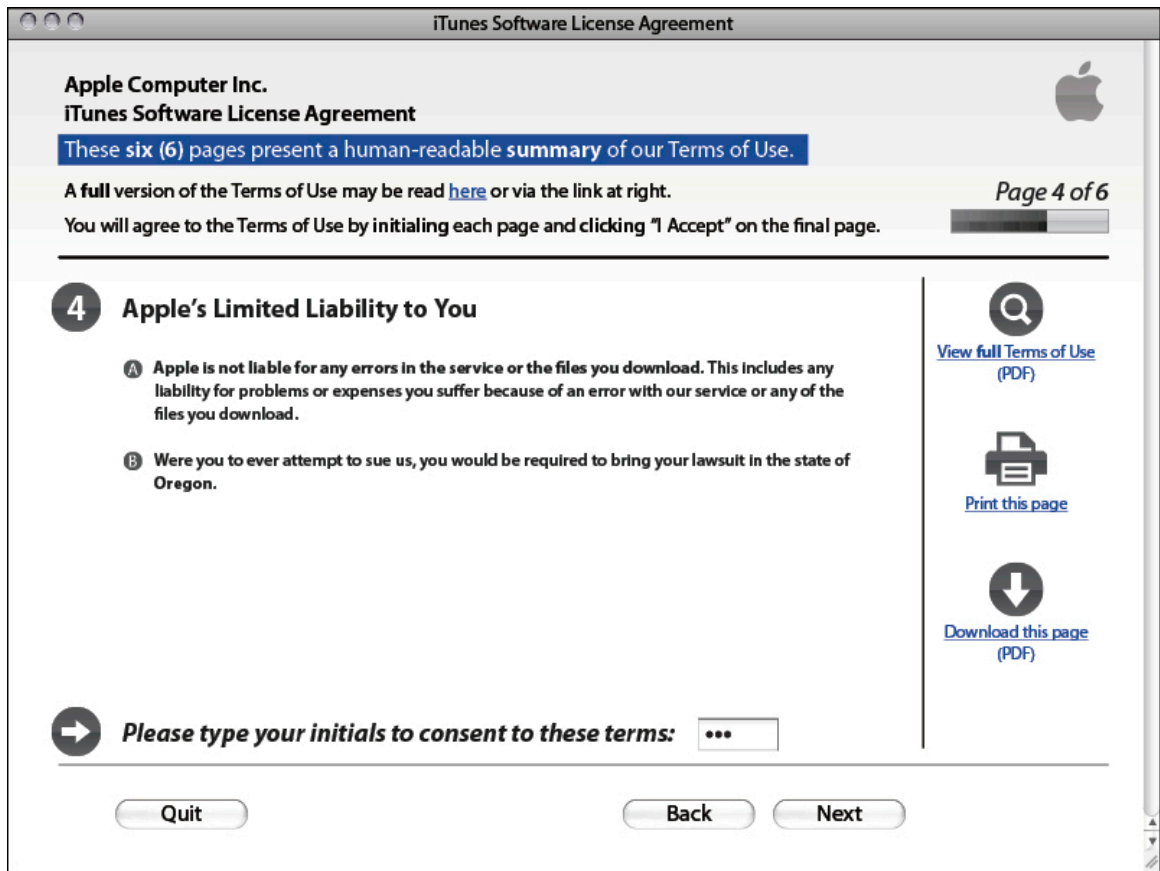


Fig. 19. Proposed CTA Model, Page 4.

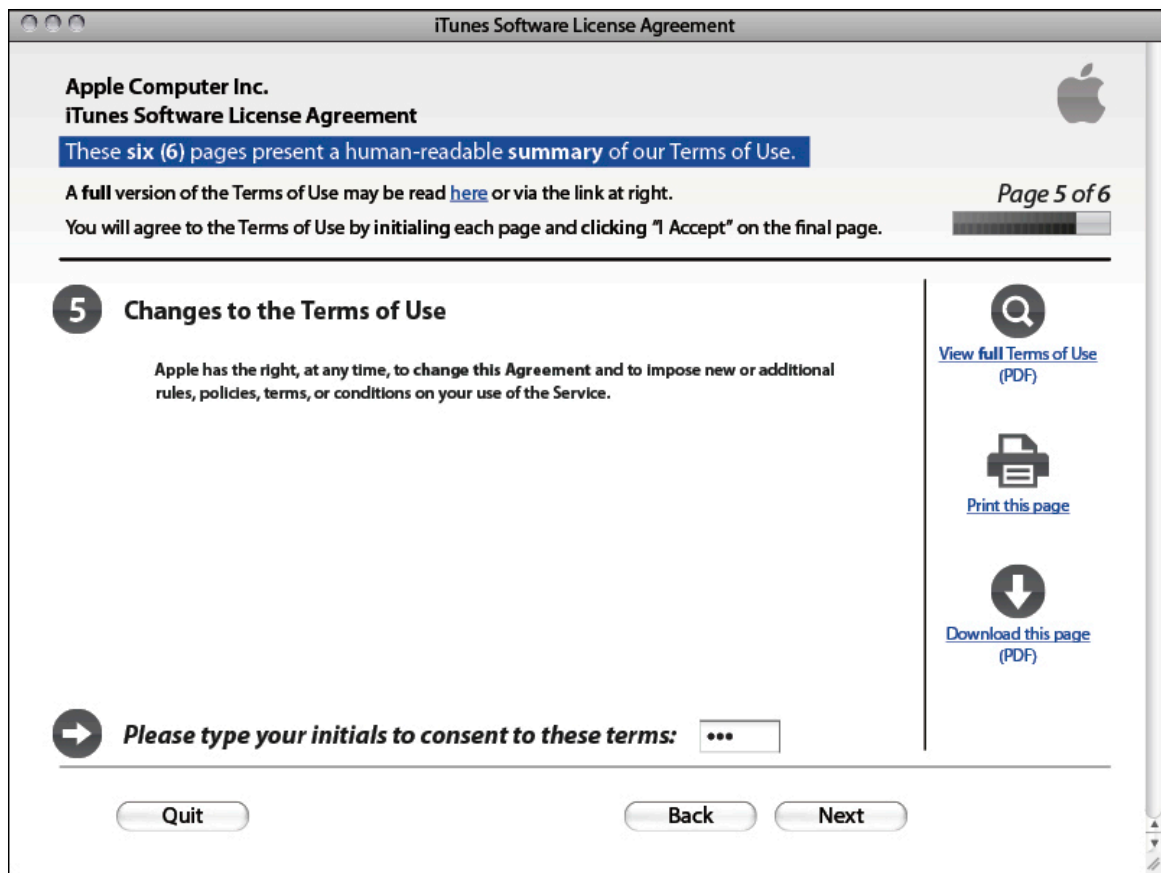


Fig. 20. Proposed CTA Model, Page 5.

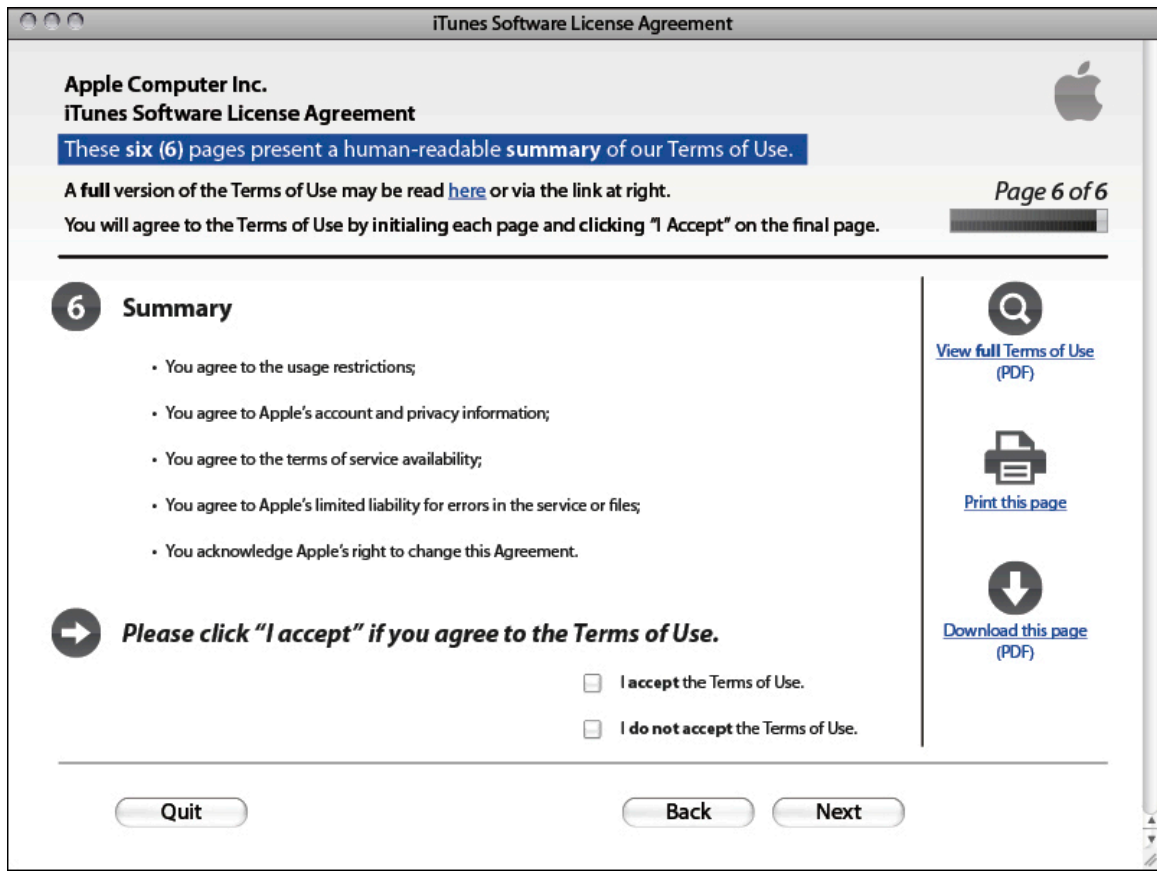


Fig. 21. Proposed CTA Model, Page 6.

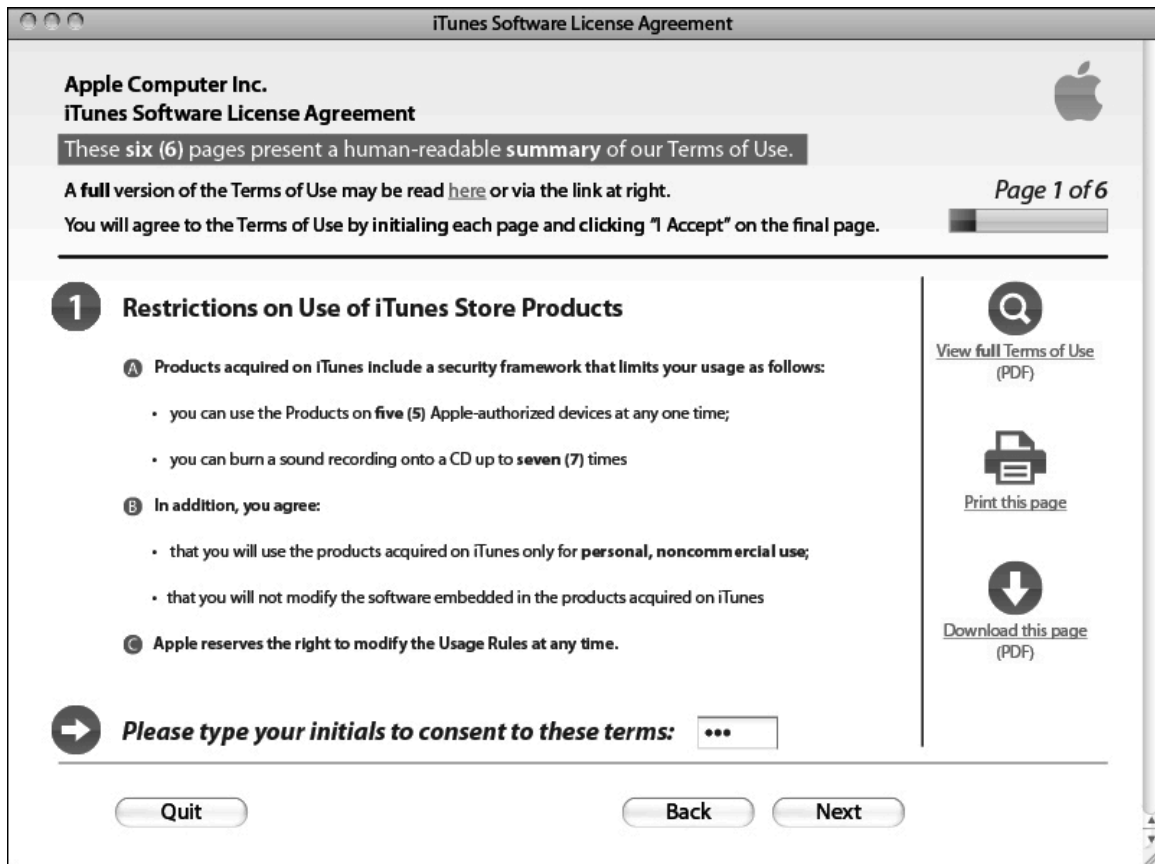


Fig. 22. Proposed CTA Model, desaturated for color blindness testing.

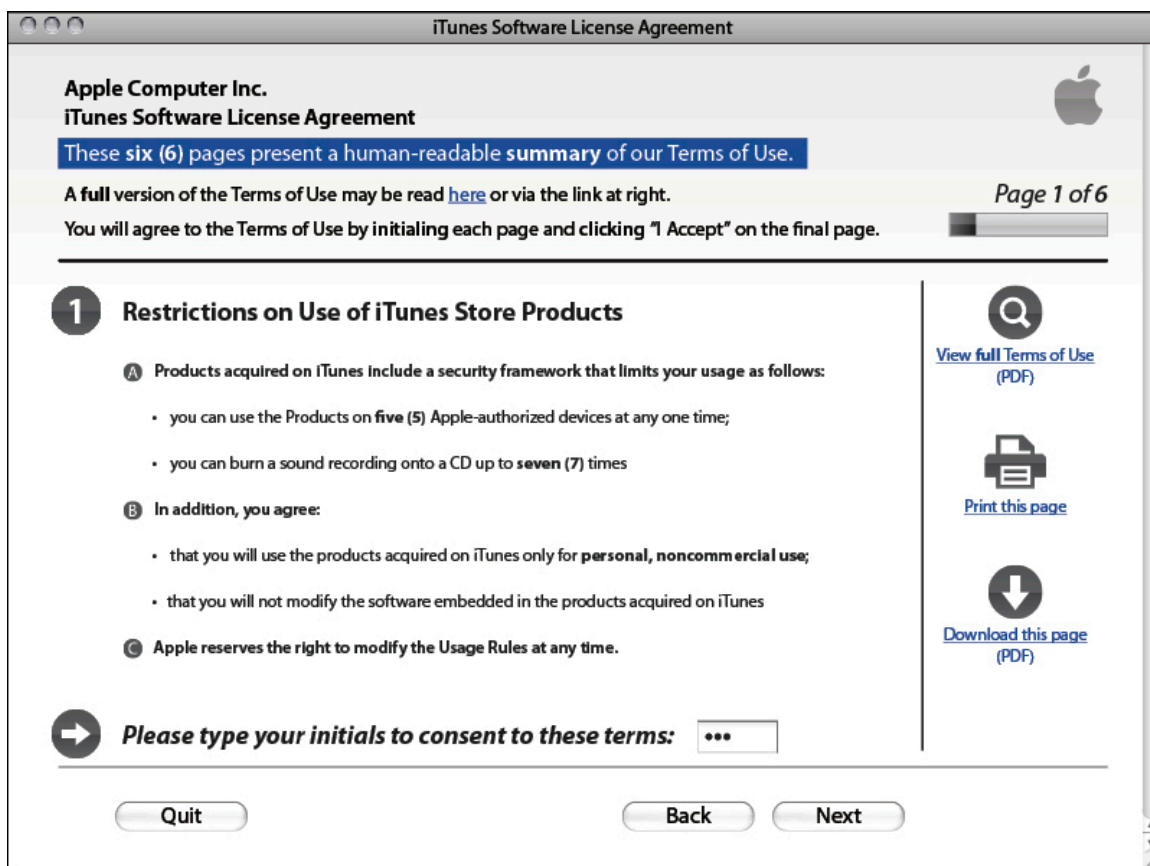


Fig. 23. Proposed CTA Model, simulating deuteranopia.

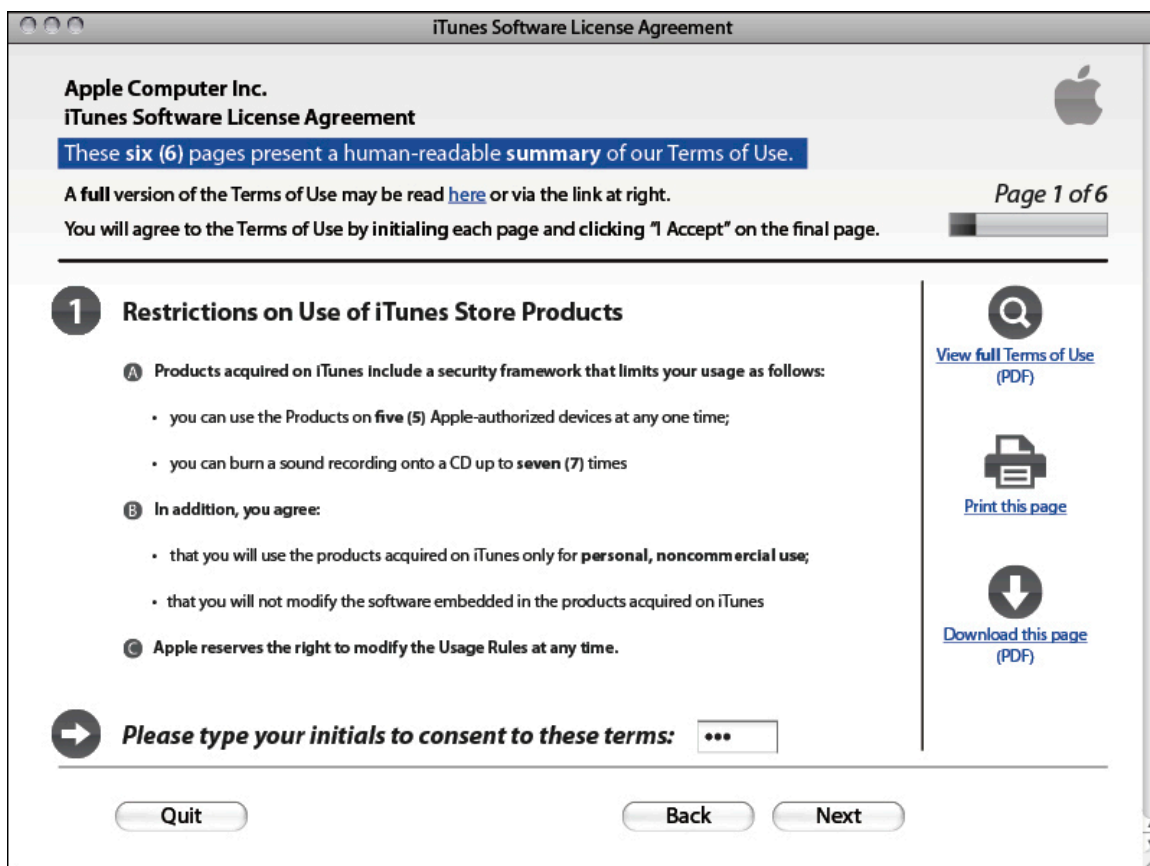


Fig. 24. Proposed CTA Model, simulating protanopia.