



**TAMPERE
POLYTECHNIC**

FINAL THESIS

**VISUAL DESIGN AS AN ASPECT OF AN ONLINE STORE'S
USABILITY
Case: Radio86 Store**

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ABSTRACT

As a final thesis, a visual layout design has been made for Radio86 Store, an online store concentrated on Chinese books and tea products, maintained by FutuVision Media Ltd. The thesis concentrates especially on the usability issues of the graphical design and is narrowed to review only the basic elements of manual browsing and viewing the product details. The look and feel of the site are created to suit the target group, the nature of the business and be consistent with the image of other Radio86 services.

Usability is an issue that affects every user of the internet, and evaluation of every design phase in this perspective is important. On the visual level, usability is especially focused on the placement, consistency, focus and coherence of the different elements on a site. Achieving a balance between graphics and their usability was one of the key issues when the visual layout was created.

References are gathered from the wide spectrum of web design and usability professionals. As the field has diverse views on the subject, the essential basics have been taken into consideration and applied to the design in as many ways as possible. In addition, four online stores with similar business areas have been compared in detail and the resulting analysis has been used to help with the design of the Radio86 Store. A short introduction to web standards has been also written to point out the necessity of standardized markup in the implementation of the layout.

As a result, graphical layouts for four different phases of browsing were created. The layout could be used by applying it to the actual site.



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TIIVISTELMÄ

Opinnäytetyönä on toteutettu visuaalinen ulkoasusuunnitelma kiinalaisiin kirjoihin, teehen ja teetuotteisiin keskittyneelle FutuVision Media Oy:n ylläpitämälle Radio86 Storelle. Ulkoasua kehitettäessä on keskitytty erityisesti mahdollisimman käytettävän lopputuloksen luomiseen. Suunnitelma on rajattu käsittelemään tuotetietosivulle johtavan polun eri vaiheita. Graafisesti on pyritty luomaan verkkokaupalle ulkoasu ja ilme, joka sopisi mahdollisimman hyvin kaupalle huomioon ottaen kohderyhmän, yrityksen ja sen muiden palveluiden, sekä itse kaupan luonteenomaiset piirteet ja tarpeet.

Käytettävyys on asia, joka koskettaa jokaista internetin käyttäjää ja siksi kaikkien suunnitteluvaiheiden tarkastelu tästä näkökulmasta on tärkeää. Visuaalisella tasolla käytettävyyttä pyritään tehostamaan erityisesti elementtien ja niiden sisällön asettelulla, johdonmukaisella jatkuvuudella, sekä käyttäjän huomion kiinnittämiseen liittyvien seikkojen tarkastelulla. Graafisuuden ja käytettävyyden välinen tasapaino on eräs työn avainasioista.

Viitteitä on kerätty verkkosuunnittelun ja käytettävyyden asiantuntijoilta. Mahdollisia lähteitä on olemassa erittäin laajalti ja yleiset mielipiteet alalla ovat vaihtelevia. Tämän vuoksi käytettävät lähteet on valittu ja tutkittu siten, että tärkeimmät piirteet on voitu hyödyntää mahdollisimman hyvin suunnittelutyössä. Lisäksi on vertailtu neljää eri verkkokauppaa, joilla on jotain yhteistä Radio86 Store:n kanssa. Tätä vertailua on käytetty apuna suunnittelutyössä. Lyhyesti esitellään myös verkkostandardeja ja niiden käyttöönoton tärkeyttä Radio86 Store:n toteutuksessa.

Lopputuotteena esitellään graafinen ulkoasu neljälle eri kaupan selauksen vaiheelle.

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1 Introduction

Usability is an issue that every user of internet comes across in some form. Usually they make evaluations of a site's usability subconsciously, for example by getting frustrated about unclear navigation, being pleased to find the information they were looking for easily, or simply leaving a site because they do not find it interesting, professional or trustworthy enough. Consciously or unconsciously, every single user is affected by the matters within the concept of "usability of a web site". Usability as a term contains much more than could be handled within a single thesis since every single element on a web site that can potentially help or distract the user can be evaluated from usability's point of view.

This thesis concentrates on a visual design of an online store, introducing a graphical layout which is explained and investigated in depth. This leaves many aspects of usability out of the scope of this thesis, for example the content of text on the site, its clarity, choice of words and other – very important – details concerning textual presentation, or the importance of proper help pages are not discussed here, even though considering such issues is a crucial part of creating the actual site.

As a user enters an online store site, from his own and from the service provider's point of view there is basically one concrete goal, to make a purchase of a product or products. Before achieving this goal the user must perform many actions, and as a service provider, the site must make this all possible and as easy as possible. This thesis concentrates on the first pinnacle of the online shopping process: finding the product on the site and making it available for purchase. Since the focus is on the visual layout of the site, the core of this thesis is to describe the different phases of browsing the site in order to reach some product's details and how they are graphically designed. The actual process of making the big portions of the site, such as the transaction process, entering payment information, and all the other details concerning the finalization of the order are important matters, and being such a wide subject on its own, it is left out of this thesis.

The goal is to present a justified graphical design with overall usability basics investigated and taken into consideration in relation to the needs, target audience and characteristics of the e-commerce site in question, the Radio86 Store.

2 Background information

2.1 Introduction of FutuVision Media Ltd and Radio86

Employer of this thesis is Tampere-based FutuVision Media Ltd., an affiliated company of FutuVision Holdings Ltd. FutuVision Media Ltd. is focused on creating content to different media, concentrating on radio and Internet. The main operation of FutuVision Media Ltd. is Radio86, an auxiliary firm-name and a brand, which provides radio programs and web services on subjects concerning China. Radio86's slogan "All about China!" presents the diversity of content it offers.

Ready radio programs are created by the staff and then broadcast through co-operating radio stations across Europe. For now, there are 20 million potential listeners in Finland, Sweden, France and Belgium. On the internet, Radio86 provides daily updated news, interviews, cultural articles, information about traveling and much more about China in Finnish, Swedish, French and English. There is also an online store actively working at the moment.

As of March 2007, FutuVision Media Ltd. had 19 full-time employees, and also freelancers who work on a part-time basis.

2.2 Plan for Radio86 online store (Tuomisto 2006)

The current (November 2006) online store maintained by FutuVision Media Ltd, called "Mestari Zhaon Teekauppa" (in English "Master Zhao's teashop"), sells tea and tea accessories to Finland. The site has a Finnish interface.

FutuVision Media Ltd is planning to expand the teashop by selling more products related to China, mainly books. The company has made a deal with a Chinese publisher of books and magazines, and has now rights to sell their products worldwide. Other products sold online in the future might include toys and electronic devices.

The current teashop-solution is designed and coded to handle tea only, and some minor problems with maintaining stock and updating products have surfaced. Also the new wider range of products requires that the system must be altered to make the categorizing more sensible and flexible.

One important competitive advantage planned for the new site is the use of a multilingual interface. In future, users should be able to browse

the store in English, Finnish, Swedish and French. The first version will be published only in Finnish and English.

Also, a sample PDF of selected books consisting of the book covers, table of contents, copyright notices and few random pages is planned as a special feature.

2.2.1 The products

For now, the main product categories are books and tea. In the future there will probably be a lot more products from an even larger range of goods, so the flexibility of the store and its system must be kept in mind all the time in the process of graphical design.

The publisher's list of products, including books and magazines, consists of about 3000 individual items. The categories vary from culture to literature and from travel guides to children's books.

The teas sold in the online store are Chinese quality teas, sold in packages varying from 100 grams to 300 grams. A product is graded by its quality, depending on the time of the tea's harvest, parts of the plant used and the process used to dry it. There are currently only a few types of teas, along with kitchen- and housewares related to making and serving the tea, such as tea cups and mugs.

2.2.2 The target audience

While the books that will make up the store inventory are mainly in English, there will also be books in French, Chinese and possibly many other languages. This means that the target audience consists of people speaking one or more of the languages supported by the shop's multilingual interface: Finnish, English, Swedish or French. Also, while these people are also most likely interested in China or Chinese products, culture or language, this is not necessarily the case, since the products are not necessarily even tied very tightly to China as a region, cultural area or state. For example, jasmine tea can be an interesting product even to a person who has no idea that it is from China in the first place.

This means that basically the target audience of Radio86 Store are people from all over the world, from many different cultural areas, age groups and social circumstances. However, the main target audience can be thought to belong to the so-called western cultural area, which brings some ground rules into the design, for example, in the form of typography and reading direction. As the target group is not geographically limited within Europe, the prices on the English interface will be displayed both in United States Dollars (\$ USD) and in Euros (€), with up-to-date money exchange rates.

Furthermore, from the site's point of view, this means that users have highly diverse skills in computing and using the internet. Since the target audience is not narrowed or specified to certain group of users, the site's goal is to have as many customers as possible, and according to that, technical solutions should be designed and executed so that the site can be accessed by as many people as possible. This means that the usability issues should be taken into serious consideration during the whole design process.

3 Usability and accessibility

3.1 What is usability?

Usability is a term used in web design to sum up all the big ideas and small details that describe how well a user can achieve some goal that is ultimately the meaning of the web site in question. According to Jakob Nielsen, “Usability is a quality attribute that assesses how easy user interfaces are to use. The word ‘usability’ also refers to methods for improving ease-of-use during the design process (2003).”

Brinck, Gergle & Wood (2002:2) point out that a usable product – which in Radio86 Store’s case is the whole site – must achieve some simple design goals. The basic definition of a usable web site is that it functions correctly, meaning that the user can perform the task that he has set out to do.

The site should also be effective to use, so that the product could be found and purchased by the user with a minimum of effort. Efficiency is directly linked to the ease of learning and remembering how to perform the task, making the whole process as pleasant and as easy as possible. It is also pointed out that a usable system is also error-tolerant, so that possible mistakes by either the user or the system are prevented and handled well. Even if the handling of errors is a bit off-topic for this thesis, the last “basic design goal” presented by Brinck etc (2002:2) is quite relevant, as it points out that in the end, the user determines the quality of usability subjectively, according to simply how they feel about the site.

In the web environment, usability is a necessity for survival as the user can easily leave the site if he gets lost or cannot find information that he is looking for easily, and start searching from another provider, who might have done things better (Nielsen 2003).

3.2 General usability basics

3.2.1 Consistency

When the user enters any site, he must learn how to use it. The user has to figure out what link to click in order to achieve the desired goal, for example, finding a product he is looking for, or to send e-mail to the right person. Where to click to find a specific page or where to look to find specific information? This learning process is usually simple and on a well-designed web site, it does not require that much of concentration or takes that much time.

The user learns how to use the site by repetition. If doing something leads to some result, it is natural for people to assume that by doing it again, the same result will come, and the other way around: getting the same result will require the same action as before. This is why consistency is the most important single ground rule for web design. User should not be forced to learn how to use the site, its interface and textual or visual contexts, many times within the same visit. Thus, the behavior of a usable site should be consistent so that the user, once he has learned how the site works, could concentrate on what is essential: the content. In practice, this means that the navigational elements should be found always in the same place, the content should appear always on the same part of the page and the results of a specific action should always be the same. (Badre 2002:148.)

3.2.2 Coherence

When visiting a site, the user has to manage new information provided by it constantly. Coherence refers to the ease of managing this information, as well as performing the tasks the user will need to do in order to use the site. Many things affect coherence, but from the visual point of view, information placement and density are the key factors that make the site easy to use and understand. (Badre 2002:149.)

If the amount of elements on a page is minimized and the structure of the page is simplified as much as possible, the distinguishing the nature of the elements is clearer to the user. The navigational elements, page titles and the content are more easily recognized and their nature identified when the structure is simple enough and the different elements are not cluttered or overlapping each other. (Brinck etc. 2002:180.)

One important aspect when placing the elements on the layout is the empty space – also known as whitespace – between them. To avoid a too dense layout and the cramped feel to it, it is important to leave some empty spaces between all the basic elements. This gives the layout some room and harmony, but also helps the user to handle the information on the screen more clearly. (Boulton 2007.)

3.2.3 Focus

Whereas Badre (2002:148) separates the information placement, its coding, color and text clarity as separate design goals, the somewhat same ideas are much more simply viewed by Brinck etc (2002:181) under the term “focus”. The bottom line is that the information on a page should be presented to the user with consideration of its importance and value. The key elements should draw the attention more than the less important parts of the page.

Focus can be achieved through many ways. Clearly highlighting the headings and titles and placing the other elements logically will result in a clear structure within the content also. Color and other means of emphasizing some elements or parts of the page are good tools, but they must be used with consistency as well. The layout should also be designed and positioned so that the important information is at the top of the page – preferably so that the user would view it without need to scroll – and the less important parts would be positioned lower.

3.3 Usability and visual design

The balance between aesthetics and usability is one of the main problems when visually designing any web site, as it is also a ground where to build up the Radio86 Store site's visual layout. Curt Cloninger (2000) describes this balancing humorously in his article "Usability experts are from Mars, graphic designers are from Venus", stating that there is actually an "unarticulated war" raging between different views of web design. On one side are the usability experts, emphasizing the easy accessibility of the information and discarding artistic value of a web site as unnecessary, and on the other side are the expert graphical designers who view the web as a platform for multimedia.

But, as Badre (2002:174) points out, the artistic experience is something that should be considered as a valuable part of the interaction between a user and a web site. A human being is, after all, "a composite of cognitive and affective characteristics that need to be satisfied".

The graphical approach to a usable web site is not impossible, as the visual aesthetics and graphical elements do not necessarily make the site unusable, they just need to be used with caution and with consideration of the usability aspect. Few basic mistakes are to be avoided when designing the layouts visually. Firstly, the artistic elements should not interfere with the actual goal and functionality of the site making the web pages harder, or in the worst case, impossible to use. Secondly art shouldn't result in "visual noise", giving excessive information that no longer serves the original purpose of it, usually done by overusing graphical elements or making them unsuitable for their purpose. As a third rule, as images often send a strong and immediate message, their use must always be considered so that they do not give out the wrong or misleading information. Lastly, art should be consistent on the whole site, so that the purpose and meaning of some graphical element stays the same throughout the user's visit on the site in question. (Badre 2002:181.)

In conclusion, the graphical aspect, aesthetic and artistic, should enrich the actual content, and not interfere with the usability and accessibility

of information. On the Radio86 Store site the first aspect is to provide the information of products and offer easy possibility to buy them. However, to make this process more enjoyable for the user, the aesthetic factor should be also provided, as long as it serves as positive and not confusing element and thus strengthens the positive image of the site for the user. Well-done graphical design can also create an image of a trustworthy shopping place for the customer, as the environment looks professional and modern.

4 Competitive analysis

Since online shopping has already gained much popularity among internet-users worldwide and there are so many working and popular stores doing business in roughly the same areas as the Radio86 Store will be competing in, it is wise to do a minor competitive analysis also from the layout's and usability's point of view. Radio86 Store is not really restricted to or focused on a certain group of products – at least in the future it will not be, although right now the emphasis is on books – four online stores have been selected to this comparison so that they all have something in common with Radio86 Store.

Brinck etc (2002:83) state the importance of competitive analysis when designing a completely new site and this analysis and chapter is adapted mainly from this reference.

The design of Radio86 Store will be started from scratch and in such situations competitive analysis is a cheap and fast way for creating a basis for the design. When comparing and analyzing the competitors' sites it should be kept in mind that all the sites taken into this comparison are most probably quite much higher budgeted projects – some with millions put into them – employing tens or hundreds of staff members full-time while Radio86 online store will be launched as a side-project of about four or five employees. From this point of view the starting points are quite different, and this should be considered when analyzing the results and especially when the project is started. Of course the objective is a stylish and professional layout nonetheless.

Also, millions of dollars, millions of hits and years of successful business do not necessary mean that the site is optimally usable or even close to it. Multi-million web stores can on the contrary be quite clumsy when trying to renew its layout – even if the direction would be better – and in a way trapped in its own old decisions. When there are business partners, shareholders and hundreds of people working on the site involved in the process, changes – for better or worse – can take time and leave the site a bit old-fashioned.

Lastly, as the “borrowing” of successful ideas has been the basis of many successful businesses, the design cannot be just copied from any of the compared sites. The materials used on web sites as such are protected by copyrights, even if this point is not mentioned, and intellectual property should be respected. (Brinck etc 2002:83.)

In conclusion, the competitive analysis should be used as a tool to gather ideas and notice the good things that the other sites are doing, but it should not be a list of features and styles to be copied without closer review.

In this chapter, the facts and details of the comparison between the selected sites are presented as “cold” numbers and charts. Later on, in the Chapter 5 (Layout of Radio86 Store) these results are analyzed more deeply in relation to the layout design of Radio86 Store and their value to the choices made is considered more thoroughly.

4.1 The online stores to compare

Three of the four stores chosen for this analysis are, like the Radio86 Store, mainly focused on books, and one is selling solely Chinese tea.

The stores were chosen based on different criteria, some by popularity and some by being interesting in some other way. Next, the sites and their backgrounds are shortly introduced.

4.1.1 Amazon.com

Amazon.com Inc is one of the first large online stores, which started out in 1995 as a web site dedicated to selling books via the internet. Starting as a small shop and delivering books from its founder Jeff Bezos' garage, Amazon.com has later on diversified its catalogue, offering products such as food, consumer electronics, clothing and jewelry in addition to books. (Amazon.com Media Kit 2006)

Growing slowly but steadily, in 2005 the revenue of Amazon.com Inc. was already \$8.5 billion USD. Amazon.com, which also runs retail websites in six different countries at the moment, and employs 12 000 people, the site is now one of the largest and well-known online stores in the world. (Amazon.com n.d.)

For years, Amazon.com was also the flagship for e-commerce usability, but lately the usability factor of the site has weakened strongly. As Nielsen (2005) points out, the cluttering of elements and excessive use of advertising has reduced the usability of the site, and it might not be the best site to look up to anymore when designing e-commerce solutions. With this in mind, it is also very important to take this site into comparison, for better or worse.

4.1.2 Barnes & Noble.com

Barnes & Noble.com is a subsidiary of the largest specialty retailer in United States, the bookstore chain Barnes & Noble. The online store's main products are books, but they also offer music, DVDs and other related products. Advertising themselves as the largest online bookstore, the site offers over 1 million titles with immediate delivery internationally. The company's first bookstore was opened in 1917 and the expansion to the internet (www.bn.com) took place 80 years after its founding, in 1997. In 2004, the companies employed 42 000 people,

and its revenue in 2005 was about \$4,9 billion USD. (Barnes & Noble n.d.)

The site is located at www.bn.com.

4.1.3 Suuri kuu

Suuri kuu (in English “Big moon”) is the online store of a Finnish book club, Suuri Suomalainen Kirjakerho Oy and can be found in the address www.suurikuu.fi. The store was published in the end of 2005, and it sells books from multiple Finnish book publishers. (Suuri Kuu 2006.)

No information about Suuri kuu’s sales or revenues is available.

4.1.4 TeaSpring.com

TeaSpring.com is an online store dedicated in selling Chinese tea. The store, which is a part of a USA-based e-business management and solutions company Eritier Inc, offers wide variety of teas and tea wares. The products are shipped worldwide, and there is also a sister site at charmsofasia.com, offering Chinese arts, crafts, gifts and other items. (About Us – TeaSpring.com 2006.)

No information about TeaSpring.com’s sales or revenues is available.

4.2 The basic elements

All the compared online stores have some common elements, which are often represented in different manners and in different places. These elements are roughly:

- categories (presenting the products in some categorized manner)
- search-function
- shopping cart
- additional information such as company information, privacy polices, shipping policies and so on.

In the following, the comparison of these elements’ placements and use is conducted.

The layouts were analyzed in mid-November in 2006. Four different views of the layout are analyzed: front page, subcategory page, product listings and product information pages. There are basic elements on all the pages, such as the header and the footer, with which user must navigate in order to finalize order in all of these cases.

The basic idea of comparing these stages is that the procedure to browse and view products is more or less the same on all the compared

sites: the products are categorized in some way, and after viewing the categories, the detailed information of a product can be seen on a separate page. Some stores, like Amazon.com, seem to emphasize the search function over the categorized way of browsing, although the possibility and functionality still remains. This is probably a consequence of the diversity and the number of the products, since it is hard to categorize every product in a manner that is easy for the user to use.

4.2.1 Overall layout

Web sites can be arranged in many ways, but all the online shops in this comparison have a lot in common. The placing of certain elements is similar, though there are many small details and ideas done differently on each site. When designing this kind of an online service one of the basic questions to be solved before proceeding any further with the design is the width of the pages on the site.

One of the basic guidelines of layout design of a website is that the designer cannot predict the circumstances and the environment of all the visits to a site. There are almost limitless possibilities and combinations of software, hardware and preferences that user might use when viewing the site. (Clark 2002.)

One of the most influential details when considering the layout is the resolution that the user uses when visiting the site. On the Appendix 1 (comparison of overall layouts), a comparison of the widths and the alignment of the front pages on the different sites has been made.

The number represented in Appendix 1 (Comparison of overall layouts) on the row “Min. width” defines the width of the elements on the sites’ front pages so that everything fits on the screen at once, in other words, no horizontal scroll bar becomes visible or any crucial elements are left outside the area mentioned, and the layout does not break – in other words the elements and graphics are presented without problems.

4.2.2 Header

Header is the element of a web page that is usually on the top of each page and offers usually different navigational or other functional means, but is also one of the most important places where the site’s characteristic graphical layout is introduced and used.

All the sites have some similar elements in their headers as well. In Appendix 2 (Comparison of headers’ general information) the height

and overall color of the headers are listed as well as the size of the logo. In Appendix 3 (Comparison of headers' links) links and functionalities of each sites' headers have been listed.

The most characteristic element of a header is the service's logo. On each of the compared stores, the logo was placed on the upper left corner of the header and thus is considered – at least in the western cultures and thus presumably amongst the target audience of Radio86 Store – the first information that the user views when he views the site. On most cases the logo is also a hyperlink pointing to “home”, in other words to the front page. This is a trend that can be seen in many web designs, no matter what the field or service that the site represents. Still, some users might not be aware of such trend and a textual link is also presented on three of the four sites.

Two of the four stores listed their main categories in horizontally in the header, as one displayed the categories on the left-side column of the page. In Amazon.com, a link in a header's tab pointed to categories-page, where all the main categories are listed. On the front page, the list is also presented in the left-side column.

4.2.3 Footer

The footer is the element on the bottom of the page, usually designed to be simpler and lighter than the header. On all the sites compared, the footer consisted mainly of links to pages inside the site, such as copyright information, privacy policies and on some cases, links to the main categories.

In the Appendix 4 (Comparison of footers' color and size) the height of the footers is measured in lines and pixels, and the overall coloring is viewed.

Both Amazon.com's and Barnes & Noble.com's footers are quite large, containing many links and taking up a lot of space on the bottom of the page. Also both have varying content depending on the page viewed. The consistency of this element is weak on both sites. These footers seem to function as additional menu bars, offering information not to be found anywhere else on the basic layout.

Suuri Kuu and TeaSpring.com on the other hand, have both quite small and modest footers. Consisting only of two lines and containing only a few links and a copyright notification, the footer stays the same regardless to the location on the site. The elements of the footers are viewed more carefully in the Appendix 5 (Comparison of footers' elements). These footers work more as backup tools for navigation, offering straight links to some pages, some already presented on the upper side of the layout.

4.2.4 Front page

The sites compared have surprisingly similar content on the front page. The contents are presented in different places and in different ways, but the basic elements are the same. The contents are listed in Appendix 6 (Comparison of front page elements).

The front page is used to display campaign ads and banners, as well as to list some featured or chosen products on almost every site.

4.2.5 Main category page

After following a link to a main category, the sites usually display a front page for that specific category. The nature of this page is often quite similar with the front page of the whole site, i.e., a promotional page with special offers and ads to promote the products in the specified category. It also lists the subcategories, so that the user can access the listing of the products. The elements of the main category page are presented in the Appendix 7 (Comparison of main category pages' elements).

In Suuri Kuu, the subcategories as well as the search bar are placed in the content area, as well as in the left navigational bar, so that the functionalities are duplicated on the pages.

4.2.6 Subcategory page

After following a link from the main category page or from the left navigational bar, the user can access the subcategory page, which on every site lists the products belonging to a subcategory. Although the presentation of this page slightly differs on each site, the basic idea is quite the same on each: displaying products with thumbnails as list and with possibility to access more detailed information by following the links. The structures of the sites vary quite a lot, since Amazon.com and Barnes & Noble.com both subcategorize their products in more levels than Suuri Kuu and TeaSpring.com. Where TeaSpring.com has only two-level hierarchy on their products (main category – product), and Suuri Kuu has always three levels (main category – subcategory – product), Amazon.com and Barnes & Noble.com can have levels from four or five upwards. The main pages of each subcategory are quite similar, resembling very much the main category pages described in the chapter 4.2.5. In the appendix 8 (comparison of subcategory pages' elements), the last subcategory pages are reviewed on each sites.

4.2.7 Product page

Since the products sold in the compared shops vary a lot, there are also some differences in the layout and content of the product pages. The Appendix 9 (Comparison of the product pages' elements) lists the information and functionalities displayed on the product pages on each site.

One common factor on all the sites was that there was one main image displayed at a time, usually with a static width reserved for it, so that the placing of the other elements stayed the same on each different product page. On all the other sites except Suuri Kuu, there were detailed images on certain products. In TeaSpring.com and Barnes & Noble.com the detailed pictures could be viewed in a new popup-window by clicking a link, and on Amazon.com the main image changed to another image when the cursor was moved to the small thumbnail images below the main image. In Amazon.com, altering the main image also led to the moving of the other elements on a product page also, since dimensions of the images were different and there was no static space reserved for them.

On all sites, regardless of the product, its price, description or an editorial review and customer reviews (both by grade and by textual content) were displayed on the product page, or at least a place for these elements was provided, even if there were no content there.

5 Layout of Radio86 Store

5.1 Placing of elements

As Brinck etc (2002:180) point out, the value of first impression is a very critical factor when a user first views the site. A well-structured and consistent web site creates an impression of quality service and trustworthy business. The design of page templates and the structure of the layout of Radio86 Store aim to meet basic usability rules reviewed in the Chapter 3 (Usability and accessibility): consistency, coherence and focus.

5.1.1 The alignment of the site

Determining the alignment of the site is the first step of layout design. The three most used ways to align the pages are: left-aligned (the contents start from the left side of the page, reach certain width and leave the rest of the page empty), center-aligned (the contents take a certain width but are centered in the browser's viewport-area¹) and full width (the contents stretch to the full width of the viewport area and thus take as much of the space as possible).

Two of the four sites compared in the competitive analysis (see Chapter 4 Competitive analysis) were aligned as full width, taking the full length dynamically, while one was center-aligned and one left-aligned, both thus having a static width.

The benefit of restricting the width of a site to some static figure lies in the gained control in placing the elements within the more controlled area. When using a static width, a designer could, ideally, make sure that the content would look the same for every user regardless of the resolution, but as stated before in Chapter 4.2.1 (Overall layout), such absolute control over the site is impossible.

The most remarkable downside of using static width is probably the wasted space on screens with greater resolutions. We can take as an example the case where a user with screen resolution of 1280 x 1024 pixels (the resolution of most 19-inch TFT-monitors at the moment) is visiting a site with static width of 800 pixels: the actual contents of the site take only 60-65% of the width of the screen. The rest of the page viewed in the browser is useless. Of course, content on some web sites do not need any more space.

¹ Browser's viewport-area is the part of the browser-window, where the web site is seen. The navigational buttons, such as back and home, as well as the address bar, status bar, bookmarks and other such elements are not included in this area.

Since contents of the Radio86 Store will vary quite a lot depending on which page is viewed, it seems wisest to align the site so that it will always take full width of the browser's viewpoint area. Product descriptions and details can have a lot of text and take a lot of space. This way the use of the space on the screen can be maximized, and the site will work better with different monitors, resolutions and settings. Printer devices can also more easily work with information not restricted by the designer. The disadvantage of this alignment is mostly encountered by the user with very high resolutions on the pages with less textual content, which is then spread widely and becomes thus harder to read. However, the user also has the power to resize the browser window and the text will dynamically alter, making the full width solution most usable in this case. (Brinck etc 2002: 200.)

5.1.2 Three column layout

Aligning the page full width on the browser window also backs up the use of a three column layout. In this model, the contents and navigational and functional elements placed under the header and above the footer are always presented in three main columns: left sidebar, content and the right sidebar.

The advantage of this choice is the possibility to have more elements organized clearly on a page with as much of the actual space available used as possible. As there are two spaces on the both sides of the actual content of the page, there is more space to lift the most important elements as high as possible on the page instead of putting them on top of each other on just one side. This way the user can more probably view as much of the necessary or important elements with as little scrolling as possible.

5.1.3 The minimum width

Although some web design guides (Lynch & Horton 2002) recommend designing sites so that they work on resolution of 800x600 pixels and some even so that they'd work with 640x480 pixels (Brinck etc 2002: 201), none of the compared sites are designed that way (see Table 1). Designing for 800px wide resolution actually means that the elements should not be wider than about 780 pixels, because of the vertical scroll bar that will appear if the page's content does not fit in the viewport-area of the browser, which is most often the case, especially sites with lot of textual context.

According to Jakob Nielsen (2006) the most common resolution used by the surfers of the internet is nowadays 1024x768 pixels. It seems that the new era of designing web sites to 1024 pixels wide resolutions instead of 800 pixels is coming quite soon. Anyway, since the amount of the users with 800x600 resolutions is still quite noticeable, and since

the layouts designed for 800 pixels wide screens look still quite good with 1024x768 pixel resolution, Radio86 Store is designed so that it still works with 800x600 resolution, making it as its minimum width.

5.2 Colors and text

5.2.1 Overall color schema

Somewhat adapting the colors used in the other Radio86 local sites (Radio86 Suomi– Kaikkea Kiinasta! | Radio86.fi 2006), the color schema is based on dark red. Red is a warm and impressive color, and the light details can be clearly lifted out of it. The mental image of Chinese shop and products might be strengthened by the layout's color choices, as red is also the base color of the flag of the People's Republic of China. Also the Radio86 logo consists of yellow dragon and red text. This further creates mental connection between the brand and the service.

When using red or green on any design, especially on interactive products such as web pages, designer should always keep in mind that color blindness, especially red-green color blindness is quite common. According to Clark (2002) 8% of people – mostly male – in North America and Europe are color-blind. Thus, that quite large portion of the potential audience might not be able to tell red and green from each other or at all is something to be taken into serious consideration.

The background color of the Radio86 Store is white and the content text on it is black, to preserve the best possible contrast and ease reading. This also helps to bring out the links and guarantees the needed contrast between the elements and graphics.

5.2.2 Typography

Typefaces can be divided into seven types: serif, sans-serif, script, blackletter, display, monospaced and symbol typefaces. Examples of each types are displayed in Figure 1. Serifs have small elements at the end of strokes of the letters, as the sans-serifs do not. Script typefaces are more artistic, simulating old-fashioned handwriting or calligraphy. Blackletter, or gothic typefaces as they are often referred, resemble the blackletter calligraphy used in the medieval times, and was the first typefaces to exist. Display typefaces are decorative typefaces with many different styles, often used very limitedly. Symbol typefaces consist of symbols rather than normal text characters. For monospaced typefaces, each letter takes an equal width, contrary to the other typefaces, and were used originally with typewriters. (Typeface n.d.)



Figure 1: Typefaces

Serif, sans-serif and monospaced types are appropriate for use in content text, as they are most easily readable. Since the Radio86 Store will be an e-commerce site and serve a large target audience, the typography is selected to be clean and simple, a bit business-like, but without being dull. To preserve a clear output and not to create confusing and unbalanced feel to the site and the text, the use of different typefaces has been minimized. (Brinck etc. 2002:311.)

For the graphical parts of the page, such as header and advertisement, font called Palatino Linotype was used, whereas the textual content, navigational tools and the functional items have been done with Arial. Arial has a corporate and modern feel to it, while the Palatino Linotype serves as a bit more decorative, but still readable sans-serif type of font.

To better serve all the possible groups of users regardless to their age or vision, the text size should not be absolutely set. Users must have the possibility to control the size of the font to improve the readability of the text, and the design should be done so that the whole layout works even if the font size is increased by few steps. (Nielsen, 2002.)

5.2.3 Hyperlinks

Hyperlinks are the basic form of navigation on web sites, and thus it is very important that the user can find and identify the links as easily as possible. Some of the authors of design guides, such as Brinck etc (2002:285) recommend using the default link colors on web sites. This idea was also presented by Jakob Nielsen back in 1996. Since that, more recent design guides as well as Nielsen himself (Nielsen 2004a) have suggested that the styles of link colors could in fact be changed to better suit the overall layout of the page, but certain rules should be followed when doing so. Since the links play such an important role on the functionality of a web site, it should be clear to the user which part of the text works as link and which is just text. Again, the important thing is consistency.

The first rule is that the style in which the links are represented should be used exclusively on links. Users should not be confused by styling regular text similarly to the links, for example if the links are marked with certain color and underlining, the same combination should not be

used to emphasize regular text, preferably even the color and styling separately should then be left only to links.

The style to use on links should also be clear enough so that it stands out from the regular text.

As the color schema of Radio86 Store is based on the dark red, the links are presented with red also, the hexadecimal equal of the color is #cc0000. Since colorblind people might not be able distinguish the red properly, the decision to underline each link has been made in Radio86 Store. Underlining as a style is not used in anywhere else on the site's textual content except on links to prevent confusion.

The user should also be able to distinguish the links he has already visited from those he hasn't. This can be easily achieved by determining the corresponding CSS-attributes. The knowledge of visited links helps to piece together the contents and hierarchy of the site. In order to avoid navigational confusion and preventing the user from getting lost, the visited links are color-coded differently to indicate the user where he has already been. A "duller" or more "washed-out" version of the same color is used with visited links so that they do not seem as appealing to click in comparison to the non-visited links, the hexadecimal value of this color is # cc6666. (Nielsen 2004b.)

5.3 Header and footer

5.3.1 Header

The height of the header on the sites compared in Chapter 4 (Competitive Analysis) varies from 104 pixels to 156 pixels. Since the actual content of a page is not in the header, it is reasonable not to let this element take too much of the space. For this reason, the height of the header on Radio86 Store's layout is set to 145 pixels.

On the top left corner of the header, and thus the whole page, the logo of the Radio86 Store is presented on a photographic background to give the site a more vivid touch. A picture of a Chinese landscape combined with Chinese characters meaning "welcome" and the slogan, which in English is "China at your door!" aims to boost the Chinese aspect and feel to the site as well as bring interesting details to the layout. This picture will change according to language selection. The logo will function also as a link to the front page.

On the top right corner, the most basic navigational elements are displayed. Textual link to the front page, to the account information, to checkout and to the help page are presented to ease the navigation to these pages.

The header consists of dark red stripe with gradient effect, which helps create posture to the whole layout. On the red stripe, there is space of approximately 320x70 pixels reserved for possible banners of campaigns or products. If there is a need for such banners, this space can also be used to rotate multiple ones.

On the right side of the banner, a language selection element is located with textual links to the languages accompanied by images of flags related to the language, as they are used in other Radio86 services as well.

5.3.2 Footer

The aim of the footer's design on the Radio86 is to keep it simple and unobtrusive, resembling more Suuri Kuu and TeaSpring.com than Amazon.com or Barnes & Noble.com, as described in chapter 4.2.3 (Footer). Separated with two light lines, the footer consists only of the links *Home*, *About Radio86 Store*, *Help*, *Conditions of use* and *Privacy notice* along with the copyright information and link to the FutuVision Media's web site.

5.4 Navigational elements

5.4.1 Search

One of the most important elements on Radio86 Store site is the search form. On every site compared in the Chapter 4 (Competitive analysis) the search forms are easily reached and made part of the overall layout so that the user can access and use the form on any page rather than try to find a separate page for this function.

As the Radio86 Store will have products from quite a wide range of goods, it is reasonable to think that the search function would be quite important to the user, and maybe even the most important way of finding a product to buy.

Therefore the form must be placed to an easily viewable place and be presented in simple and efficient way. On the layout the search form has been placed within its own element, labeled simply as "Search". It has thus the same role as the other elements presented in this chapter, an individual functionality presented first on the left sidebar. Graphical layout of the search-box is presented in the Figure 2 (Search box).



Figure 2: Search box

5.4.2 Browse-element

Powazek (2006) points out that navigational elements are more than just links, they are a way of communicating with the user. There are three basic things that user should be able to answer as he enters any web page: where am I, where can I go and where have I been. To achieve these goals, Powazek gives three simple guidelines: never to link to the present page in order to avoid confusion of whereabouts, to always show the users their current location, and to pay attention to the need of each link on the basic navigation. Creating easily understandable and usable navigational elements helps to create trustworthy image of the business and hopefully make the users return to the site again.

The products in Radio86 Store will be categorized in two-level hierarchy, so that there are main categories and subcategories under them. These categories are presented as one element in the layout, called "Browse". In this basic navigational element the categories are viewed as tree-hierarchy, so that the main categories are always visible and the subcategories of a main category are viewed one at the time according to the location of the user.

On the front page, there will be only the main categories viewed. When the user moves – in other words, clicks a main category link or a product link on the featured list – to a category page or furthermore to a subcategory page, the browse-element shows the subcategories of the specific main category only.

In this way, the user can achieve a stronger perception of his location on the site's hierarchy. This helps furthermore to navigate on the site, and accompanied by the breadcrumbs displayed on the content (see Chapter 5.4.1 Breadcrumbs) with similar logic, presents a simple and understandable hierarchy of products and categories on the site.

As shown in the Figure 3, to maximize the effect of tree-hierarchy, each link in the browse-element's list is preceded by a bullet. The main categories' list bullets are small arrows pointing to the right when the user is not inside that category. To present the category as "open" – in other words present that the user is inside the specific main category –

the small arrow turns 90 degrees to point downwards. The subcategories are then listed with more margin from the left, making the list indented. Bullets for these sub-level categories' links are gray circles in order to maximize the distinction of links within subcategories and main categories. When hovering the cursor on a subcategory link makes the bullet turn to red and a darker gray box appear behind the text, adding liveliness to the interface.

Since the browse-element is the other main way of browsing the site along with the search-option, it is placed in the left sidebar right below the search-element.



Figure 3: Browse-box

5.4.3 The shopping cart

The shopping cart displays the products the user has chosen to add to it while browsing the site. When the user has all the products he wants to buy at the time, he can proceed to the checkout and actually buy them.

On the shopping cart element, named as "Shopping cart", there are some basic information listed about its contents. First the quantity of a certain product and then its title as just plain text and finally the cost of the product or products, depending on their quantity, with both euros and dollars, the euro being highlighted with bold and red font style. All the different products are listed in the shopping cart. Below the list, under a horizontal line, the total of items and the total of their price are presented. After the user has all the products wanted placed in the shopping cart, he can follow the *checkout*-link to complete the checkout. He can also access the contents of the shopping cart to modify the quantities or empty the cart by clicking the *edit cart*-link.

The shopping cart was done in many different ways in the shops compared in the Chapter 4 (Competitive analysis). In Radio86 Store the cart is considered as an important element with great functional value, so it is placed on top the right sidebar and by doing so, giving it as much visibility as possible.

Information about the payment methods is somewhat connected to the shopping cart in a graphical way. The methods are mentioned also in the information pages with more detail, but it is also important to give some graphic presentation on the layout itself about the methods approved by Radio86 Store, as for the user this is much needed information when deciding whether to browse the shop further and actually completing the order. For this reason the pictures of the approved credit cards and other payment methods such as PayPal are placed right below the shopping cart, so that it is on an easily viewable spot and also linked to the cart. This highlights that it is information related to the same functionality as the shopping cart: the actual process of buying products.



Figure 4: Shopping cart

5.4.4 The Customer service-element

To ensure the pleasantness of the user's visit, a group of static pages must be created to provide important information, such as privacy policies, methods of shipping and return policies to the user. These pages are very important as they provide crucial information to the user so that he can complete the order, and also when written properly, they strengthen the positive image that the user hopefully has of the online store and the company providing it. Creating a trustworthy image is very important for the business, and the customer service-pages are the core of that trust between user and the store provider.

The elements in the sidebars are visually basically divided in two: the basic, most important functional elements and the informative and sales-promoting elements. The first consisting of the search, browse and the shopping cart elements, and the latter one consisting of customer service, bestsellers and possible promotional elements.

The customer service element is important to the user, but by separating it slightly with visual styles from the functional elements the idea of interactivity on the page is strengthened for the user. The shopping cart and browse elements have dynamic contents, so that the user can actually define what is seen in them, by adding or removing products to the shopping cart or by browsing the categories and thus opening views to the hierarchy, and the search form serves as a functional element also, as user can input text and define the category where the search is done in. The other elements consist of things that user has no power over. The user sees these elements as static information: links to pages, bestseller list and advertisements.

As these elements are potentially out of the basic viewport area of systems with lower resolutions, they are placed according to their importance order from left to right and from top to bottom. Customer service element is the most important informative element, so it is placed under the browse element on the left sidebar.

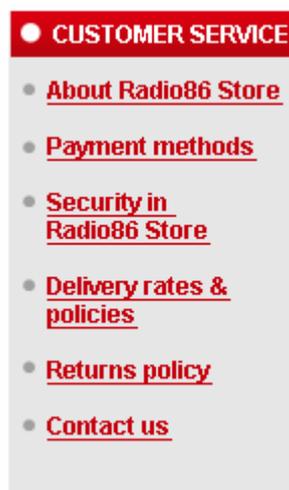


Figure 5: Customer service

5.4.5 Bestsellers

Bestsellers-element consists of actually purely promotional content and serves the purpose of highlighting the most popular products on the layout level. This element is not considered very important to the user, but more as a pure bonus to promote the store's interests. It is placed on the right sidebar under the shopping cart and the payment methods and not too much visual emphasize is targeted at it. A simple list with links to the products is enough.



Figure 6: Bestsellers

5.4.6 Advertisements

As the shop starts to work and the amount of products increase, there might come a need for some places for advertisements. These ads will most probably be banner-like images with links to somewhere on the site, most probably to a specific product or category. When making these advertisements, the designer should keep in mind the overall layout and the visual style, so that they gather enough attention but do not seem like something completely incompatible with the look of the site.

Even though they can actually be placed anywhere on the layout, even within the content, it is recommended to keep them on the header, or in bottom of each sidebar if possible. By not interfering with the functional and informative elements they serve more as hints or highlights than navigational or structural elements.

5.5 Content elements

As the four different views of content are presented later in chapter 5.6 (Layouts for the four phases of browsing), the space for the actual content is the same for all these views and there also are few style-related things in common for all of them. As stated before, the content-area takes the full width of the page after decreasing the widths of both of the sidebars. There is a small margin on both sides of the content-area.

Consistent use of these elements is especially crucial, since they form important behavioral tools which affect the browsing of the site.

5.5.1 Breadcrumbs

Breadcrumbs are a set of links to give the user an idea where they are on the site. There are three types of breadcrumbs. Path breadcrumbs which display the actual path of the user on the site, so that the previous breadcrumb is actually the page the user last visited regardless where the page lies in the hierarchy. Attribute breadcrumbs display some meta information regarding each page, thus giving a trail of ideas that might have lead to the page in question. Location breadcrumbs represent the location of the user in the hierarchy of the pages on the site. (Rogers, Chaparro 2003.)

An e-commerce site could get the best advantage from the location breadcrumbs, as the breadcrumbs form a better idea of the structure of the site, but also provide links to the upper levels of the hierarchy, so that the user can access them more easily.

According to Brinck etc. (2002:157), in order to prevent confusion between the breadcrumbs and other navigational sets of links, the trail should be presented with arrows or greater-than signs. Right-pointing double angle quotation mark (») was chosen to present the trail on the Radio86 Store.

The survey conducted by Rogers and Chaparro (2003) suggests that the most efficient location of the breadcrumbs is below the title of the page, which in the case of Radio86 Store means that the breadcrumb should be located below the header and above the content-area's textual contents, as shown in appendixes 11, 12 and 13.

5.5.2 Add to cart-buttons

Throughout the site, there are *add to cart*-buttons, links for adding the product in question to the shopping cart. This being a core functionality, special care must be taken to prevent confusing the user. However, the *add to cart*-button is used in three different places, which creates a challenge to the usability aspect of the button. The places are the featured products-list, the category-list and the product page. Using the button on the two first occasions gives the user a possibility to instantly add the product to the cart without even reviewing it more carefully. But since some of the products, mainly tea, require some options to be selected by the user before the product can be added to the cart – such as the quality and package size - a problem with the button emerges. If the button says "add to cart" and after clicking it the product actually is not added to cart, the message and the label is wrong. However, if there are two different buttons presented to the user, with quite similar graphical layout, there might be confusion that way also.

On the Radio86 Store, there is visually only one *add to cart*-button used, but in case of products that need some options to be selected, the different options are presented always when the *add to cart*-button is displayed. So in the subcategory-page's lists, as well as in the Radio86 recommends-lists, the options should be displayed at all times if they exist, as shown in the Figure 7.



Figure 7: *Add to cart*-button

5.5.3 Headings

Even though such small things as headings' styles on a single web page can seem small and unimportant, the consistency of such secondary styles can further strengthen the feel of security for the user as he browses the site. On Radio86 Store the main heading (tagged as `<h1>` in XHTML) is always black with font-size of 18pt and has a red line 3 pixels wide filling up the space between the end of the text and the end of the space for content. The line helps to give the pages some more posture. As for the subheadings, the first subheading (`<h2>`) is sized 14pt and the second (`<h3>`) 12pt. They are both black and have the same sort of line beside them. The color and size are enough to distinguish the difference between the main heading and the secondary headings.

5.6 Layouts for the four phases of browsing

5.6.1 The front page

The nature of the front page in Radio86 Store is more promotional and welcoming than actually informative or functional, as it was on all of the compared sites reviewed in chapter 4.2.4 (Front page). As it is the first page that user sees when accessing the site, it needs to be interesting and "lure" the user into browsing the site more deeply. For business, it is important to display few featured products on the front page so that the user is immediately given a glimpse of the products sold in the online store.

One of the wishes from the FutuVision Media was that on the front page there would be space for campaign ads, used to promote certain periodical campaigns within the site. For each main category there should be individual campaign to promote certain products. In the future, designing these campaigns is left to the editorial and sales staff of FutuVision Media, so on this layout design, there are fictional campaigns made up to simulate the spaces needed for them. These campaigns should be the dominant element of the front page with the featured products list, and actually no other text or pictures is needed for now on the front page, according to the plans made by FutuVision Media. Therefore there is a space solely reserved for the campaigns, both image and text. The main part of these campaigns is a large image, taking quite a lot of space on top of the page, right under the breadcrumb. Even though the breadcrumb is not actually necessary on the front page, it is important to maintain consistency in even small matters such as this. The picture can be at most 400x250 pixels, and the image's background picture or color should fill up the rest of the width of the content area of the page. The width is set so that the layout still fits on screens set to 800 pixels wide resolutions. In Appendix 10, an example campaign has been created to promote the potential Grand opening sale.

The campaign image is centered on the content area, and below it there are sections separated with horizontal line to shortly describe the campaigns of each main category. The campaign descriptions consist of a picture and text on its right side, the text can consist of links or even of *add to cart*-button if the campaign considers just certain products. The secondary campaigns' images should always be 120 pixels or less wide.

Lastly on the front page, there is a featured products list. As this list serves as overall view to some products, chosen by the store's staff, it is not necessary to present very much detailed information of these products on this list at this point. Image, name and price of the product are displayed, as well as *see details*-link which points to the product's own page with more details and also the *add to cart*-button. To align the list efficiently, the products are organized in three columns, thus presenting six featured products at a time

5.6.2 Category pages

If the user chooses to browse through the products without using the search-function, a list of products within a certain category is displayed. By clicking the subcategories of a main category, the user gets a list of products in it. To keep the hierarchy consistent and easy, it is strongly suggested to use the subcategories to actually place the products in a similar and consistent way.

By clicking the main category link on the browse-menu (in the left sidebar), the user accesses the main category page, presented in Appendix 11. On this page the content-area is divided in three, very much in the same manner as the front page. On top of the page is a place for the category's campaign advertisement and on the bottom is the category-specific featured products list, positioned in the same way as on the front page. The only difference is that, between them, instead of the categories' campaign information, there is a list of subcategories under the main category viewed. The nature of the category page is promotional, as it was on most of the sites compared in chapter 4.2.5 (Main category page).

From this page, the user can browse the actual products in the subcategories.

5.6.3 Subcategory-page

This page serves as a list of the actual products in specific subcategory. As an example, in the Appendix 12, the view of main category "books" subcategory "history" is presented.

On the page, ten products are displayed at a time. The user can change the order of the viewed products by clicking the links in the list's header, pointed out as "sort by"-label. There is a possibility to sort the products by title or by price, since they most probably are the most crucial ways to view the available products. On the top of the list as well as below the list there are also links to the pages of the list. Since there are only ten products on each page, often the products in certain subcategory must be separated to different pages. These pages are accessed by clicking numbers of the pages, placed inside icons portraying sheets of paper, or by clicking links *next* or *previous*, which are accompanied by arrows pointing either left or right and placed on either side of the page-list.

For each product, the same information is provided: a thumbnail, the title, the author (if the product is a book), short description, price in both euros and dollars if the language setting is English and the *Add to cart*-button. On the left a thumbnail with the width of 100 pixels is displayed so that the list has a neat and uniform look to it. The height of this small image is not restricted, but to keep the views look as clean as possible, the height of the image is advised to be 100-200 pixels but as the cropping and processing of products images is a job for the Radio86 Store's personnel, the ratio and height of the pictures is a judgment call from them. Underneath the thumbnail, a *see more details*-link is displayed underneath the small image, pointing out to the product page of the product in question. On the right side of the thumbnail, the title as a link to the product details and the possible name of the author are

presented first and then underneath them a short description of the product is placed. Beneath the teaser the price and the *add to cart*-button are displayed. If the product has some options that the user is required to choose, for example the grade of the tea, the selections are displayed also as presented in the Figure 10. This way, the information about the product is always presented on the same place and uniformity in the presentation is achieved. Each product is separated from each other with a one pixel wide horizontal line to clear out the page even more.

If there is a sample PDF-file available of a product, this is noted in the list. A picture informing the user of this possibility is placed partly over the thumbnail as shown in the Figure 8.

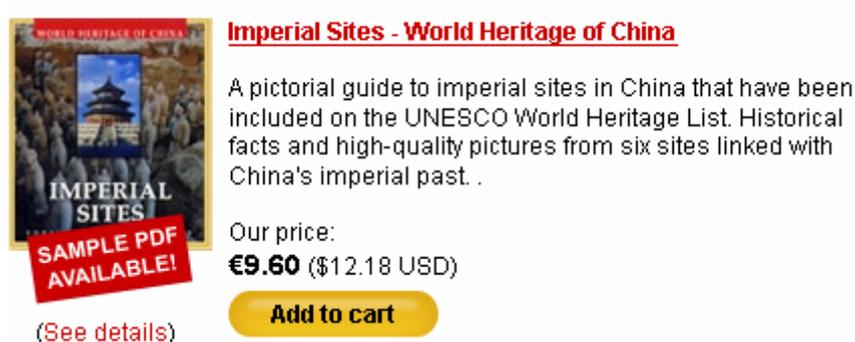


Figure 8: Product on subcategory page

5.6.4 The product page

This page is in one sense the most important page for the user that is thinking of completing a purchase from the Radio86 Store. In here, he must be able to gather all the possible information of the product and as a service provider, the Radio86 Store must be able to convince the user that the product in question is worth buying. As most of the actual convincing is done by words and images, and in case of books, the possible PDF-sample file, the layout must make sure that the presentation is clear enough and the information is easy to read and find.

Underneath the breadcrumb, the header of the product page is simply the product's title. If there is an author, the name is displayed right underneath the header. The long description and the image are displayed in two columns: on the left side, there is the picture of the product with link to more detailed picture and possible link to the PDF-file; on the right side the long description. The image is placed inside an element 220 pixels wide and 250 pixels high, making these numbers its maximum height and width, but meaning also that the space is always taken, even if the size of the image is smaller. This way, the

layout of the product page is the same on every occasion. If the image is smaller than the maximum, it is always positioned so that it is centered horizontally in the space and set on the top of it. In Figure 9, the gray borders represent the area reserved for the image, within it the different-sized main images are placed appropriately. If there are more than one image, the main image serves as a link to more detailed image, as does the *see more detailed image*-link beneath it. This detailed image is at most 500x500 pixels in size. The picture opens in a popup-window and is presented in a "gallery" with other pictures of this product. This way of presenting the images is similar with the viewing of galleries in other Radio86 sites. Opening popup-windows is always a slight risk from usability's point of view, as no links should be opened in new windows. This breaks the browser's back-button's functionality as well as creates confusing new windows on the user's desktop. (Nielsen, 1999). When such popup-gallery is used, it needs to be clearly stated that the browser will open a new window and furthermore, this system should be explained in the help-section of the site.

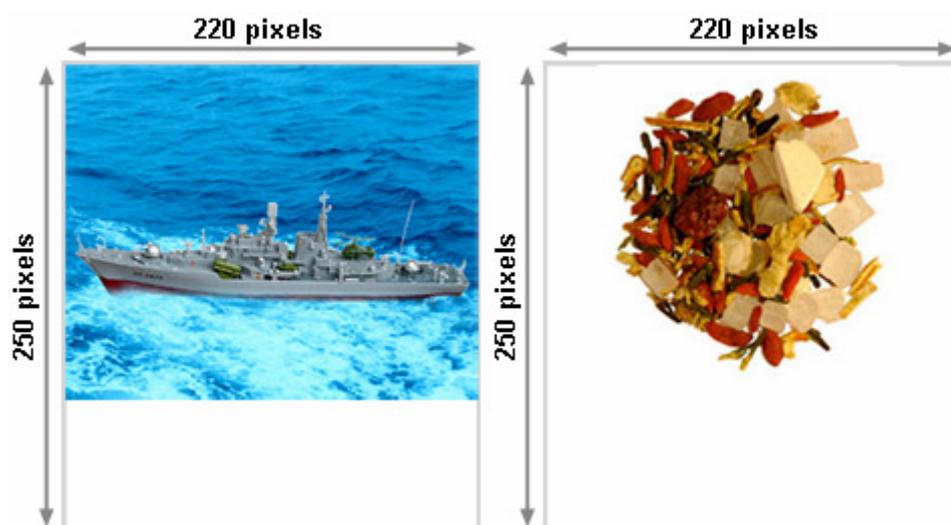


Figure 9: Placing of the main image

On the image-column's right side is the detailed description. A simple area filled with text produced and maintained by the editorial staff of Radio86 Store.

The price and the *add to cart*-button are placed on the top right corner of the product page inside an element labeled "buy this item". In this element, along with the prices and the *add to cart*-button, the possible options regarding the product are presented as well. See figure 10 for details.

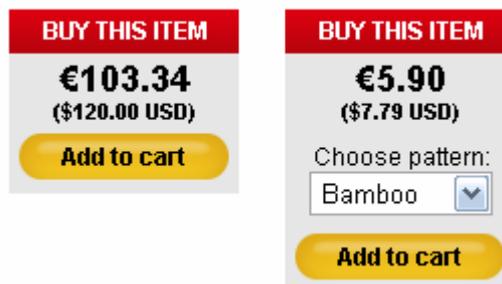


Figure 10: Buy this item

Underneath the two columns on the top of the page, the product page continues in a single column for the rest of the space. The details of the product are displayed in their own section labeled "details", presenting information such as the language, cover-type, amount of pages, weight, dimensions or quality of the teas, and so on. This information is again provided by the Radio86 Store's editorial staff, and depending on the product, can vary quite a lot.

After these descriptive details of the product, the page continues with more promotional information. Users who have logged on to the site will have a possibility to review each product by giving it a rating from 1 to 5 and by creating a textual description on their own experiences about the product. Three of the newest user reviews will be displayed on the page as well as the link to the page where the review can be made in. Each review will consist of the name of the user, the date when the review was made, the rating presented with stars and the textual content. Below the three reviews, there is a link to read more reviews, if there are more.

Lastly, on the product page, there is a list of products that other users, who have bought the product in question have also bought. This section, titled self-explanatorily as "Customers who bought this also bought...", displays three products in the same manner as the featured products-list on the subcategories' main pages, in three columns with *add to cart*-buttons.

6 XHTML- and CSS-standards and usability

Since the so-called web standards recommended by the World Wide Web Consortium (W3C)² are such an important part of the technical solution of usable and accessible web sites, they will shortly be introduced in this chapter.

Web standards are not covered in detail, as this is a really wide subject, and the aim is to just give an idea of what they are and why it is wise and profitable to use them.

6.1 Background of the standards

Since the early 1990's, as the internet reached the homes of more and more ordinary people and its potential as a global communication network was noticed and taken into use, the different browsing applications have competed in a way that is often referred dramatically as "the browser wars". The role of the most used and dominant web browser in the internet is naturally a financially desired objective. Roughly the competition can be divided in two phases so far, as in the mid- and late-90's Netscape Navigator was the main challenger of Microsoft's Internet Explorer, and now in the early 2000's Mozilla's Firefox has become IE's biggest potential rival.

This "browser war", and especially events in the 90's led however to serious consequences. As the companies tried to lure more customers to using their browser, they concentrated more on bringing out new features than fixing the old bugs, and what's worse, many of these features were far from the standards on which the internet was hoped to be built on (such as HTML specifications). Both Netscape and Microsoft added their own HTML tags so that some elements worked only on their respective browser. This led to a situation where the markups of most web pages became incompliant with some versions of some browsers, and specific workarounds had to be invented - where they were possible - in order to make the sites viewable with different browsers. This leads to problems also as new devices, such as mobile phones, personal digital assistants and such are becoming more and more used as a web browsing platforms. Jeffrey Zeldman (2003: 23) estimates that about 99,9% of the web pages in the internet are obsolete, meaning that almost every site contains "broken" code. This problem was (and it still is) a serious threat to usability and accessibility over the internet.

² W3C is an international consortium that aims to develop the World Wide Web by developing protocols and guidelines. It consists of member organizations working on many different fields, as well as full-time staff and technical experts. (Jacobs 2007.)

The W3C finally gave a possible solution to this problem by releasing XHTML and making it its official recommendation from of the year 2000.

6.2 XHTML

The Extensible HyperText Markup Language is often thought as the successor of HTML (HyperText Markup Language), but it actually is not a new version of HTML, but a totally separate recommendation. Both have derived from SGML (Standard Generalized Markup Language), which is a metalanguage used to define markup languages, but on different levels. HTML is designed on SGML itself, but XHTML is actually an application of XML (Extensible Markup Language) a simplified subset of SGML. More precisely, XML is a general-purpose markup language for creating special-purpose markup languages, recommended by the W3C. (XHTML, n.d.)

The major difference between HTML and XHTML is the latter's requirement for the code's validity and well-formedness, which are the basic rules of its predecessor XML. This means that every tag must be closed, and properly nested according to the hierarchy provided by XHTML-standard.

6.3 CSS

The abbreviation CSS stands for Cascading Style Sheets, which is a stylesheet language, a technique widely used when determining the style and outlook of a web page. Whereas XHTML and HTML are markup languages, used to describe the content and structure of a web page, CSS-definition is made to determine the style in which the content is presented. CSS has also different levels, for now CSS1, CSS2, and CSS3 are available.

Since the CSS rules can be applied to either classes specified in the (X)HTML-document or just to a tag, it is easy to assign specifically which tag in the markup gets which rule applied. With CSS a designer can modify many different types of styles, for instance the appearance, size and color of a font or any other element. Also, the CSS rules can be made not only as inline mention in the code, but also in a single, external file, that then is linked to in the (X)HTML-document. This reduces the time and effort to update even the most detailed parts of the layout.

6.4 Why use web standards?

The purpose and goals of a web site vary greatly as the content and target audience differs, but most public web pages benefit from reaching as large number of people as its audience as possible. The benefits of accessibility and usability have been reviewed earlier in Chapter 3, and the standards are underlining the idea from technical point of view.

With a proper, well-formed and valid XHTML markup the site is more likely to work on different platforms, browsers and devices as it is planned to work by the designer. By following standards with both markup and style, the code assures that the presentation of the site will be viewable by more and more people using different systems and configurations. XHTML is designed also so that it will be backward-compatible, meaning that in the future the site should look more or less the same as it does when it is made, and there will be no need to create specified versions of the site's coding every time a new browser or operating system is launched.

Also, from the site provider's point of view, the updating process is simplified a great deal by following the standards. The usage of XHTML and CSS often shortens and clarifies the markup for a page dramatically and when using the syntax in a reasonable way, the company can reduce time and money spent on updating procedures significantly. The shortening of the code also leads naturally to smaller file sizes, which is not only means that the user as a potential customer can access the information more quickly, but also reduces costs on bandwidth and for example the need of hard drive space. (Zeldman 2003:14.)

6.5 Usage of the standards in Radio86 online store

Even if the XHTML-standard is recommended by W3C and the basis of the code is undeniably reasonable and, necessary for the future of the whole internet, the transition to the strict XHTML is not easy. Actually none of the online stores compared in the chapter 4 (Competitive analysis) passed the W3C's validator – an online tool for determining whether the markup is valid or not (The W3C Markup Validation Service n.d.).

There are many details and possibilities that are "left out" of the XHTML 1.0 Strict-standard compared to the old HTML-standards that are not easy to welcome by everybody, even if the background of the restriction could be understood. One such example is the targeting of hyperlinks which is not a valid procedure in XHTML.

In HTML, a target-attribute can be given to hyperlink's tag (<a>), and with it a destination window where the new page is opened can be specified. For example the new page can be opened in completely new browser window, leaving the window where the original link was still opened. In XHTML this functionality has been "stripped". The objective for discarding this detail is that every site on the internet would eventually work the same way: by clicking a link, the user opens a new page in the same browser window where he is at the moment. This means that user can easily move back and forward according to the browsers page history, and the website would not control the user's applications by creating new windows without warning. For now, users cannot really tell what will happen, when he clicks a link, and might be confused or even lost when following a simple link anywhere on the site. The choice of opening a new window (or in some browsers, a new tab) is left to the user according to XHTML's standard.

This example is one of the few new rules, which are hard to accept, especially by designers and people in management-level positions, who are already used to the idea of controlling the user's trail in the website in such manner. They might, quite understandably, think that the user is being let out of the site (with commercial purposes) too easily if new windows cannot be opened for completely external links, leading the user away from the content on which the business might rely on. Such has been the case when constructing the other Radio86-related web sites so far. In fact, the misleading opening of new windows without warning might lead to confusion and weaken the positive image of the whole site in the user's mind. Valid XHTML in markup has not been seen as necessary when it requires such sacrifices, and such are the wishes for the online shop also.

Even if it is recommended to use strict XHTML in nearly all cases and thus being a part of the solution, and not the problem, the ideas and reasons of management of Radio86 Store are somewhat understandable. Anticipating these and other issues, W3C's recommendation also gives an option to use XHTML 4.01 Transitional markup. This is a much looser markup-set, which aims – as its name suggests – to help with the transition from old markup and markup habits to strict markup.

When creating the Radio86 Store based on the layout presented in this thesis, the aim should be to use XHTML Strict markup with valid CSS styles. However, the use of the XHTML 4.01 Transitional markup is also acceptable, and should be considered as a minimum requirement.

All in all, keeping the importance of standards in mind, this chapter could be concluded with the challenging words of Jeffrey Zeldman: "If not now, when? If not you, who?" (Zeldman 2003:9.)

7 Summary

Throughout this thesis, every aspect of the graphical design has been examined from the usability's point of view. By inspecting the ideas of wide and partly contradictory set of references written by specialists and active members of the web design field, and measuring the meaning and relativity of these guidelines, the visual layout has been created with the perspective of usability to suit the theoretical and aesthetic purposes of a single e-commerce solution, Radio86 Store. Many problems have no single answers as the theoretical references still tend to disagree with each other on many issues, as also the hopes of the Radio86 management have set certain limits to the design. Even with these restrictions, many aspects of the design can be improved even if not fully optimized to suit everyone's taste. The compromises made are mostly questions of personal taste, and no larger-scale functionalities, ways of behavior or presentation methods have been discarded or left ignored in order to achieve the final design. A sensible approach has been taken to find the golden mean between the plain and the visually attractive schools of web design, letting the smaller details create the visual impressions so that the elements' basic purposes and use is not interfered. The graphics have been used in a way that enriches the experience and does not have negative influence on the usability.

As a process, starting from scratch and designing with the theoretical aspects first in mind and applying the visual means and extras with the purpose of the site as a guideline, the designing has surely strengthened the idea of the importance of usability in design work. Evaluating the many instructions of various authors has also helped to adapt the essential ones and find the basic red line of usability more clearly.

Most of the ideas and theoretical choices made are well applicable to other designs as well, regardless of the purpose of the site, but there are also many e-commerce-specific and even Radio86-specific conclusions and implementations made. Especially the basic rules of usability as well as the importance of standards are issues that every designer on every project should evaluate closely.

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Appendixes

Appendix 1: Comparison of overall layouts

| | Amazon.com | Barnes & Noble.com | Suuri Kuu | TeaSpring.com |
|-------------------|------------|--------------------|------------|---------------|
| Min. width | 870px | 802px | 1033px | 960px |
| Alignment | Full width | Left | Full width | Center |

Appendix 2: Comparison of headers' general information

| | Amazon.com | Barnes & Noble.com | Suuri Kuu | TeaSpring.com |
|--------------------------|------------|--|-----------|---|
| Height of header | 108px | 156px | 151px | 104px |
| Overall color | Light blue | Dark and light green, brown and dark red | Dark blue | Green and separate color for each section |
| Placement of logo | Up left | Up left | Up left | Up left |
| Logo dimensions | 101x24px | 208x47px | 200x90px | 170x40px |

Appendix 3: Comparison of headers' links

| | Amazon.com | Barnes & Noble.com | Suuri Kuu | TeaSpring.com |
|--|--------------------------|--------------------|----------------|---------------|
| Home as textual link | | x | x | x |
| Logo as a link to home | x | x | | x |
| Main categories | A link to the categories | x | | x |
| Search | x | x | | |
| Your account | x | x | (a login form) | x |
| Cart | x | x | | |
| Help | x | x | | x |
| Personalized homepage | x | | | |
| Special campaign | x | x | | |
| Shipping info | | x | | |
| Static pages with editorial content | | | x | x |

Appendix 4: Comparison of footers' color and size

| | Amazon.com | Barnes & Noble.com | Suuri Kuu | TeaSpring.com |
|-------------------------|---|--------------------------------------|---|-----------------------------------|
| Height in pixels | Varies | Varies | Two lines | Two lines |
| Lines | Varies | Varies | 60px | 50px |
| Colors | White, light brown, black text and blue links | White, green headers and black links | White, with gray copyright text and black links | White, black text and green links |

Appendix 5: Comparison of footers' elements

| | Amazon.com | Barnes & Noble.com | Suuri Kuu | TeaSpring.com |
|--------------------------------|---|---|-----------|------------------|
| Shipping & delivery | x | x | x | |
| Return policies | x | x | | |
| Privacy notice | x | | x | |
| Conditions of use | x | | x | |
| Help | x | | x | |
| Home | x | | | |
| Copyright | x | | | |
| Partnership programs | x | | | |
| About us | | x | x | x |
| Contact us | | | x | |
| F.A.Q.³ | | | | x |
| My account | | | | x |
| Back to Top | | x | | |
| Other | Link to main categories, localization sites | A lot of links under “B&N SERVICES”, such as Bulk Order Discounts and Corporate, Government & Libraries | | Link to tea info |

³ An abbreviation of Frequently Asked Questions, a list of popular questions and answers to them

Appendix 6: Comparison of front page elements

| | Amazon.com | Barnes & Noble.com | Suuri Kuu | TeaSpring.com |
|---|----------------|---------------------|-----------|---------------|
| Campaign | x | x | x | |
| Recommended products⁴ | x ⁵ | x | x | |
| Main categories | x | (already in header) | x | x |

Appendix 7: Comparison of main category pages' elements

| | Amazon.com | Barnes & Noble.com | Suuri Kuu | TeaSpring.com |
|--|------------|--------------------|-----------|---------------|
| Campaign | x | x | | |
| Recommended products | x | x | x | x |
| Columns for recommended products | 3 | 3 | 3 | 2 |
| Subcategories | | | x | |
| Separated search in the body area | | | x | |

Appendix 8: Comparison of subcategory pages' elements

| | Amazon.com | Barnes & Noble.com | Suuri Kuu | TeaSpring.com |
|-----------------------------------|--|--|--|------------------------------|
| Products per page | 12 | 10 | 16 | All (max. 33) |
| Thumbnail | x | x | x | x |
| Information of the product | Title, author, cover type, date published, price, rating, other editions | Title, author, cover type, publisher, date published, price, delivery time | Author, title, teaser, publisher, year published, cover type, delivery time, price | Title, teaser, rating, price |
| Add to cart-button | | x | x | |

⁴ Links directly to the products' detail pages

⁵ Amazon.com creates personalized recommended products list, based on previous browsing and possible purchasing habits.

Appendix 9: Comparison of product pages' elements

| | Amazon.com | Barnes & Noble.com | Suuri Kuu | TeaSpring.com |
|--|---|--------------------------------|--------------------------|--|
| Main image max. height | 240 px | 226 px (estimation) | 160 px | 220 px |
| Main image max. width | 240 px | 148 px (estimation) | 160 px | 220 px |
| Displaying of detailed images | Changing main image with varying dimensions | Popup | No detailed images | Popup |
| ISBN (with books) | x | x | x | (no books) |
| Price | x | x | x | x |
| List price | x | x | | |
| Availability | x | “Usually ships within x hours” | “Delivery time” | |
| Description / editorial review | x | x | x | x |
| Cover type (with books) | x | x | x | (no books) |
| Publishing information (with books) | Publisher | Publisher, publishing date | Publisher, printing year | (no books) |
| Page amount (with books) | | x | x | (no books) |
| Customer reviews - grades | x | x | x | x |
| Customer reviews – textual | x | x | x | x |
| Tell a friend | x | | | |
| Search for other related products | x | x | | |
| “Others who bought this also bought...” | x | x | | |
| Forum | x | | | |
| Add to wish list | x | x | | |
| Other | Used books, shipping list, wedding list | | | Descriptions, brewing guide, recommendations, sound clip of the product name |

Appendix 10: Layout of the front page



radio86 store
China at your door!

[Home](#) | [Your account](#) | [Checkout](#) | [Help](#)

Other languages:
[Suomi](#) 
[Français](#) 
[Svenska](#) 

Check out our grand opening sale!
 -20% DISCOUNT ON EVERY PRODUCT!

SEARCH

in Books ▼

Search

BROWSE

- [▶ Books](#)
- [▶ CD/DVD](#)
- [▶ House- and tableware](#)
- [▶ Tea](#)
- [▶ Toys](#)

CUSTOMER SERVICE

- [• About Radio86 Store](#)
- [• Payment methods](#)
- [• Security in Radio86 Store](#)
- [• Delivery rates & policies](#)
- [• Returns policy](#)
- [• Contact us](#)

Grand opening sale!

We're taking it ALL off!
To celebrate the opening of the new Radio86 Store, we're taking 20% off ALL books, ALL teas, ALL toys! It can't get much better than this, so order now!

Offer good until 15 January 2007.

Two history books for the price of one!

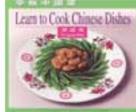


Choose any two books from the history category and we'll give you the cheaper one for free!

The special offer is on only for the January 2007 so order quickly!

[Browse all history-books](#)

Radio86 recommends:



Learn to Cook Chinese Dishes - Vegetable

Our price:
€18.40
(\$23.35 USD)

Add to cart



Babao tea

Our price:
€2.72
(\$3.45 USD)

Add to cart



White jasmine tea

Our price:
€6.52
(\$8.27 USD)

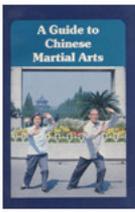
Add to cart



The Invisible Great Wall
Yang Xiagui

Our price:
€55.20
(\$70.05 USD)

Add to cart



A Guide to Chinese Martial Arts
Li Tianji and Du Xilian

Our price:
€7.20
(\$9.14 USD)

Add to cart



Cruiser - pulveriser

Our price:
€40.00
(\$50.76 USD)

Add to cart

YOUR CART

- 1 x Learn to Cook Chinese Dishes
€18.40 (\$29.19 USD)
- 2 x Babao tea (100g)
6.80€ (\$8.63 USD)

Item(s): 3
Subtotal: **29.80€**
(\$37.82 USD)

Edit cart

Checkout

We accept:



MasterCard. Verified by SecureCode. VISA

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Appendix 11: Layout of a category page



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2 x Babao tea (100g)
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Item(s): 3
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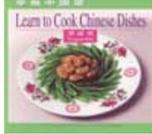
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Radio86 recommends:



Learn to Cook Chinese Dishes - Vegetable

Our price: **€18.40**
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Legends of Ten Chinese Traditional Festivals

Our price: **€7.00**
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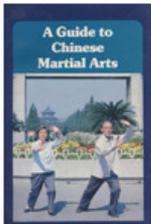
Taijiquan (with DVD)

Our price: **€29.00**
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The Invisible Great Wall
Yang Xiagui

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(\$70.05 USD)



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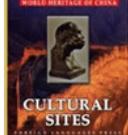
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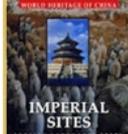


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The Invisible Great Wall

Yang Xiagui



A magnificent work dedicated to one of the most magnificent construction projects in human history - China's Great Wall.

This 200-page colorfully illustrated historical album depicts the role that this major monument has played in China's cultural, imperial, technological and economic past. The book takes the reader on a journey through the building phases of the wall and the significant events that this construction has witnessed throughout the millennia. Did you know that it all of the sections of the wall built during different time periods were all linked up, the wall would be over 25,000 km long?

BUY THIS ITEM

€103.34
(\$120.00 USD)

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Details:

Overall rating: ★★☆☆ (3 out of 5)

Weight: 1.94 kg

ISBN: 7119036963

Author: Yang Xiagui

Publisher: Foreign Languages Press

Year published: 2004

Size: 27.94cm x 26.67cm

Pages: 217

Language: English, Chinese

Cover: Hardcover

User reviews:

Scott Thompson | 9th December 2006
★★★☆☆ (3 out of 5)

I have been interested in Great Wall ever since I visited it back in the '90s. This book was quite informative and the perspective was strictly historical. The illustrations of this book were good and the layout was nice. However, the text was somewhat hard to read from time to time, as the author seemed to lose his track and get too focused on the details. For those who are really interested in detailed history, this book is a good buy.

Jenna S. | 6th December 2006
★★★☆☆ (2 out of 5)

I loved the pictures on this book, but the style of writing was too boring for me. I read it through, but the experience reminded me too much of being back to school and those heavy and hard-to-read science books.

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