The proposal for improvement of the website of Vancl

Master of Science Thesis in the Programme of Interaction Design

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THESIS FOR THE DEGREE OF MASTER OF COMPUTER SCINECE

The proposal for improvement of the website of Vancl

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Abstract

As the number of online shopping increases, the demand of building user-friendly websites for customers is vital for companies. In this thesis project the author intended to figure out some solutions regarding problems of popular B2C online shopping websites. Choosing the website of Vancl as the main object to research on the e-business websites in the field of interaction design.

Good user interfaces of online shopping provide multiple choosing methods, such as in the form of search engine, navigation, keyboard accelerators, and direct manipulation controls, each with the parallel capability to look for and buy the items. This enables users of different skill sets and attitudes to command the system according to their abilities, inclinations and backgrounds. More consideration should be focus on novice users especially the help function should be really helpful when the users need it. Visibility is a general user interface design principle which should be related to users' daily life which means it is better to bear similarity to interactions with the objects in the physical world. For the new users the direct manipulation controls are easy to learn and use so the visual manipulation and visual feedback of the website is crucial to success for the online shopping websites. In the market of B2C the brand value should be stand out for sustainable development. Whatever functional updating or non-functional updating all the solutions are up to meet the requirements from different users. The less distance from the mental model of users the more satisfaction will be achieved in the products.

Keywords: B2C websites, interaction desgin, online shopping, visual feedback, usability

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1. Introduction

Based on the big population of China and the current development status, e-business and online shopping are supposed to have an expected great market. In the traditional market the sales volume depends on the salesmen within the similar circumstances. But nowadays the website replaces the salesmen's role to face to the customers directly interacting with them.

Why does e-business exist? For customers it is not only because of the high level of convenience, but also because of the broader selection; competitive pricing and greater access to more information. For organizations on one hand it increases their customer value and the building of sustainable selling capabilities, next to the increased profits; on the other hand it reduces the expenses for opening the real stores sharply.

1.1 Domain research

Online shopping is the process whereby consumers directly buy goods or services from a seller in real-time, without an intermediary service, over the Internet. It is a form of electronic commerce. The process is called Business-to-Consumer (B2C) online shopping. When a business buys something from another business it is called Business-to-Business (B2B) online shopping.

As refer to Wiki [1]it was stated that E-commerce B2C product sales totaled \$142.5 billion (2010), representing about 8% of retail product sales in US. The \$26 billion worth of clothes sold online represented about 13% of the domestic market, and with 72% of women looking online for clothes. Online shopping has become one of the most popular cross-shopping categories. Forrester Research estimates that the United States online retail industry will be worth \$279 billion in 2015.

The e-shopping situation in China is different from the western countries to some extent in some aspects. 15 years ago adoption of e-commerce in place of or in addition to conventional methods is limited by a lack of affordable internet access. A few years ago the development of Chinese online B2C market still had been hindered by many objective factors such as payment, logistics and internet security problem, in 2009, with hindrance in technology and infrastructure cleared, China B2C market is finally taking off. The major search engine like google china and Netease Youdao have smelled the opportunities in B2C market, both search engines launched their own shopping search engine.

According to a statistical report by iresearch[2], the online shopping market has exceeded 100 billion RMB in the first half of 2009. By May 2009, the B2C users in China have reached 130 million. Based on the statistics from the shopping search engine Youdao.com, they have included more than 400 e-commerce site with 23 million merchandises. E-commerce C2C online shopping has dominated the market but the B2C is expending

these few years. With the expansion of the market share from 2008 B2C online shopping is expected to be more popular.



<u>Analysys International</u>, a tech & media consultancy firm based in China, released its forecast comparing China's C2C and B2C online retail market.

Analysis predicts more growth in B2C online retail business than C2C.

Figure 1

With the Taobao Mall and Jingdong mall popularization B2C online shopping affects the life style nowadays especially for the young people. On 11 Nov 2011 which is the single day in China just after the stroke of midnight the sum volume of transaction of Taobao Mall past one hundred million RMB in 8 minutes.

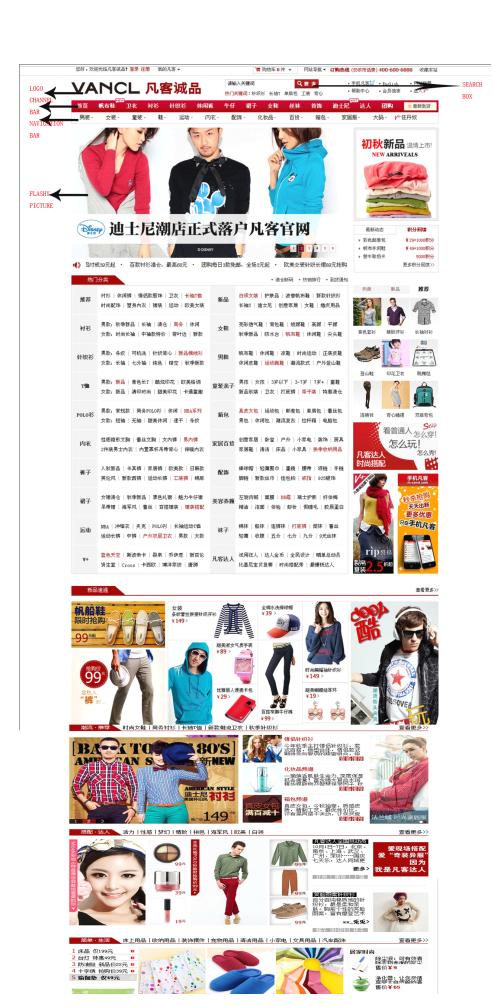
After one-day hard work many white collars do not bother to go shopping in the real mall, instead more and more choose to go shopping online which is convenient and more choices to choose from. What is more attracting is you can go shopping at home with lower price. The attraction of online shopping will be more obvious with the development of economics in China. Besides the youngsters even some middle-aged had the experience of online shopping. At beginning some of them though it is not trustful but with the service of cash on delivery they tried to purchase goods through internet.

1.2 Background and motivation:

VANCL is one of the B2C companies selling from shirts initially expanding to other clothes and general merchandise. From 0 to 2,000,000,000 (2 billion) yuan, VANCL managed in just 3 years. The CEO of VANCL Chen Nian predicted that VANCL will achieve the goal of sales of over 10 billion yuan in 2013. So Vancl will have a promising future. However, the extraordinary growth speed is not the most special place. Compared with C2C, it has its own brand, to ensure the quality of products, and compared with clothing company, it has incomparable advantage of logistics channels. So B2C e-shopping will dominate the electronic shopping market somehow and there should be some research for the commercial websites which is limited. The author wants to do some contributions for the research of commercial websites from this thesis. The website is the only tool interacting with the customers. There are many aspects for the website of Vancl to improve if the company wants to improve the brand impact and increase the sales volume in the future. And with the upgrade of the brand value there should be a matching website in order to better serve the users and to interact with the current and potential customers.

The author has some experiences shopping on the Vancl websites and she is pretty satisfied with the quality of the goods and the logistics delivery. And she recommended this B2C website to some of her friends. One of them told that he will never buy stuff from there whatever the goods are good or the price is reasonable since the website sucks. It is annoying from the first glance for him. So the interaction between website and users influences the sale volume and the impact of the brand directly. Website's interface and usability is determining the value of the brand in the future to some extent. And through the interviews with some customers the problem are becoming more and more. When the customers went to the online shops, a couple of factors determine whether they will return to the site. The most important factors are the ease of use and the presence of user-friendly features. Appearance and usability are the 2 aspects determining whether the website is good or not. Some organizations find that sometimes the goods are not worth selling since it is hard for users to do online shopping and with the commitment of 30 days' refund without reasons offered by the company of Vancl it is possible to lose money in the future if there is no progress of the website. So the improvement of the website of Vancl is kind of urgent in the market of B2C online shopping facing to so many competitors.

To get noticed that in the highly competitive field of web products requires standing out. Marketing departments are realizing how branding, the number of hits, customer return rate, and customer satisfaction are greatly affected by the usability of a website. Furthermore, the presence or absence of good interaction design of the website can make or break a company.



2. Literature review

Internet services at large are becoming an inherent part of people's everyday lives. Simultaneously, increasing attention has been paid to the usability of the interactive products and applications, that is, the efficiency, fit for purpose and users' satisfaction with the products, applications, or services (International Organization for Standardization [ISO], 1999)[3]. For commercial B2C business the users' satisfaction mostly depends on the goods' quality, the logistics' service and the experience of website's shopping. The quality of goods from Vancl can be guaranteed since the company has good control of the production chain of all the goods. And the logistics has competitive advantage due to their advanced supply chain management. But the website is under the average level with low usability.

In the early 2000s, it is noticed from [4] that the shift in product development has taken place toward user experience (e.g. Battarbee, 2004; Hassenzahl & Tractinsky, 2006; Roto, 2006). Aiming for a good user experience means designing products and systems that, in addition to being usable, invoke positive emotions (Forlizzi & Ford, 2000; Jordan, 2002; Norman, 2003), support hedonic needs (Hassenzahl, 2004) and enable flow (Csikszentmihalyi, 1990) in using the product or service. Furthermore, pleasant user experience means that the users' interactions with every contact point in the life cycle of the product are satisfying, including marketing, product purchase, or acquisition, taking it into use, and other supporting services. This thesis will focus on the product purchase which takes place in the interaction with the website.

As technologies used in the products develop, users' expectations towards interactive products are rising. Thus, exceptionally good user experiences are harder to achieve as the product markets mature. Customers are different but the website is the only one. How to satisfy the users as many as possible is the main concern for the owner of the websites. From the aspect of interaction design, usability is crucial for websites to be goal-oriented. According to [5]: "User satisfaction is essential to the success of any Web site. Satisfaction with electronic environments, or e-satisfaction, drives traffic to Web sites and encourages repeated use of a site. With more e-satisfaction there is more sales volume."

The customers are the god so without the user satisfaction there is no success in the market for any business. In the field of e-commerce the website is the only main way to interacting with the customers which illuminates the important status.

"There are four aspects of website design: usability, content, navigation and aesthetics. The last three all contribute in some way to the first." Extracted from [6]
As mentioned in [7]: A large community of designers exists to help improve appearances of websites. But appearances are only part of the story: usability and understandability are

more important, for if a product can't be used easily and safely, how valuable is its attractiveness? Usable design and aesthetics should go hand in hand.

Nielsen (1993) [8] pointed out that we could find problems by evaluating the process of users' practical operations. He suggested to evaluate the user interface design by usability criteria. He provided five criteria of usability evaluation, including learnability, efficiency, memorability, errors and satisfaction in evaluating system usability. Learnability means the system is easy to learn. Efficiency means users work efficiently when using the system. Memorability means operation steps are memorable. Errors means the system works in fewer errors. Satisfaction means users feel pleasure and satisfied when using the system. Most researchers' views about usability criteria are not beyond the Nielsen's five criteria.

Below are some guidelines and critical lines for websites.

A few critical items [9] that most new web sites have to take into consideration are:

- Above the fold: People should feel at home immediately when they land on your site. They do not have to scroll down to see where they are, who you are and what you have to offer them.
- Page legibility: Do not pretend to be Monet. Virtuosisms in web design is beautiful to see, but they it is not required. What really counts is whether your web page communicates clearly what you have to offer in a handful of seconds.
- Loading speed: Each and every design component you add on your web pages (widgets, plugins, Flash elements, etc.) contributes to slow down the overall load time of your content. Remember that speed is now one of the ranking factors that Google uses to rank your website inside Google search engine result pages.
- Simplicity: Stay simple. Do not throw as much content and calls for action on your pages as you possibly can. Start by focusing your design layout on a few, valuable content items and then gradually guide your reader in discovering more of it.

The Ten Most Violated Homepage Design Guidelines from [10]

- 1. Emphasize what your site offers that's of value to users and how your services differ from those of key competitors
- 2. Use a liquid layout that lets users adjust the homepage size.
- 3. Use color to distinguish visited and unvisited links.
- 4. Use graphics to show real content, not just to decorate your homepage
- 5. Include a tag line that explicitly summarizes what the site or company does
- 6. Make it easy to access anything recently featured on your homepage
- 7. Include a short site description in the window title
- 8. Don't use a heading to label the search area; instead use a "Search" button to the right of the box.
- 9. With stock quotes, give the percentage of change, not just the points gained or lost.

10. Don't include an active link to the homepage on the homepage

In conclusion for the online commercial websites the usability of website determines whether the users come back or not to some extent. To improve the quality of the website it is supposed to put the usability first not the appearance. However the interfaces' appearance is another aspect to be improved. So the usability has to be improved for better satisfaction from users. Especially for the commercial websites the users' satisfaction dominate the future of the brand. As mentioned before there are many problems existed in the website of Vancl which will restrict the development of the brand and the company. In the development of online shopping more and more concerns will be focused on the interaction between websites and customers.

3. Theoretical framework

Interaction design: interaction design, often abbreviated IxD, is "the practice of designing interactive digital products, environments, systems, and services." Interaction design is heavily focused on satisfying the needs and desires of the people who will use the product. So for the B2C websites' improvement interaction design is very helpful since it focuses on whether the users are easy to use or satisfied to use the website or service.

There are several techniques for the inspection of the usability. The ones used commonly are Cognitive walk through, Questionnaire, User testing and Observation. Every technique has its own (dis-)advantages and it is therefore important to check per situation which technique is appropriate. Methods relying on subjective opinions collected in the interaction of researchers and users such as interviews and questionnaires or user-produced materials in forms of photos and video clips are perhaps the only way to gather information on the construction of meaning although there are biases, distortions and omissions in the process from the perspective of interaction design study.

Ultimately it is believed that [11] properly conducted open-ended interviews are quite capable of exploring user's requirements. By asking the right questions and paying close attention to how a subject explains his activities and the domain, the association of the functionality and information will be exposed. From the previous study and practice of interaction design research a combination of observation and one-on-one interviews is the most effective and efficient tool for gathering qualitative data about users and their goals. The first step in the usability process is to study the intended users and use of the product. At a minimum, the customer site should be visited so that users have a feel for how the product will be used. Individual user characteristics and variability in tasks are the two factors with the largest impact on usability, so they need to be studied carefully. [12]

Combining the methodologies from interaction design and the experiences from study the 3 steps are figured out below

The 3-step method:

1. Identify detail problems

Using observations, interviews and questionnaires to investigate users and their environment in order to learn more about them and find the problems.

2. Requirements studies

According to [13]: Traditionally there are two different kinds—of requirements—have been identified: functional requirements, which say what the system should do, and non-functional requirements, which say what constraints there are on—the system or the service and its development. So these two kinds of requirements will be collected using object-oriented method.

3. Prototype design and evaluation (evaluator will be the experts)
Once a clear view of the problem domain exists, alternative solutions with low fidelity prototypes to help convey concepts and ideas will be proposed. Through usability testing the evaluation will be done. The end result should be a design that solves as many of the user requirements as possible, especially the focused points which are sorted out from the users.

These original solutions proposed from aesthetics, usability and understandability in the field of interaction design concentrating on users' mental model. One should not analyze just the way users currently do the task, but also the underlying functional reason for the task: what is it that really needs to be done, and what are merely surface procedures which can, and perhaps should be changed. In the process of redesign of the website users' complains will be fixed as much as possible according to their requirements. In the process of evaluation the 5 criteria for usability will be used to measure whether the redesigned blue print is good enough for the final proposal. The functional website with the conception of the author is not produced with the limitation of time and capability.

4. Empirical study

Through the theoretical study it is noticed that individual user characteristics and variability in tasks are the two factors with the largest impact on usability so user-based research and task-based research will be studied separately.

Based on the 3-step the specific methods are figured out.

4.1 Methods:

- User-based observations and interviews
- Cognitive walkthrough
- Task-based observations and interviews

- General analysis and identify problems
- Design and discussions
- Usability testing and evaluations
- Solutions and final proposal

4.2 User-based analysis:

Review: according to [14]

It is crucial to interview both current and potential users who do not currently use the product but will use it in the future because they have similar requirements and are in the target market for the product if you are redesigning or improving an existing product. Interviewing both current and potential customers shows the effect of experience of the current version of a product on how the customers behave and think about the product.

Information we are interested in learning from users includes: when, why, and how the product is or will be used; what do users need to know to do their jobs; current tasks and activities; goals and motivations for using their product; how users think about their jobs and activities, as well as what expectations users have about the product; problems and frustrations with current products.

Although the varieties in the users are dramatic such as the gender, age and backgrounds. In the field of computer there is a word computer literacy for the extent of how fluent people can use computers. Computer literacy determines whether people will succeed in the information economy to some extent. Those who have computer literacy will succeed nowadays and those who lack it will inevitably fall. Age is a potentially powerful individual difference variable directly and indirectly affects user capability of using computers. How well user capabilities and system demands fit directly affects many aspects of the interaction with a system or service including short-term and long-term usage patterns and attitudes toward the product. According to the statistics the age is the imperative factor to affect the level of using computer. Although there are some middle-age people or old people are good at computer we concentrate on the mainstream of the middle-aged or the old which have less computer literacy in present study of China. So firstly the observation study is based on the age: more than 40 years old for one group and less than 40 years old for the other one. There are two persons in the first group who are very typical presenters with the average age of 43 and two in the second group with the average age of 23.

How did it proceed?

The first interviewee is a 46 year-old female who is a manager of an international commercial company. She uses computer everyday but has no online shopping experience. She is a representative potential user to some extent. The observation and interview last for 40 minutes. The first 20 minutes I did observation watching each action she did and no response for her questions; the second 20 minutes I asked some questions and gave some help for her to finish the online shopping since she could not manage all the procedures of

online shopping task without my help. She is one of the potential users of VANCL and she is interested in online shopping for clothing. Her task was to buy one piece of skirt from the website.

Here are all the points of results.

- 1. When she saw the website in first sight she clicked the big picture in the middle of the screen and said "I want this dress" but she could not find the one in that picture after clicking in.
- 2. "The amplify function of hover the goods is good but I cannot see what the material of that dress."
- 3. "售罄" dose not make sense for her.
- 4. There was no response when she clicked the "日韩女装" under the menu of women's dress.
- 5. "more" is too litter.
- 6. Once she closed all the windows and had no idea how to enter the website again.
- 7. "When I clicked the region of on sales I had to click the arrow of each part otherwise there was no response."
- 8. "Where can I find one-piece dress?"
- 9. "Online shopping is hard since I can not sure if the waist is suitable."
- 10. Double-click the size "XL" intending to choose the dress.
- 11. "I do not notice the dress property instead I only see the description of the dress."
- 12. "How to buy it?"
- 13. Entered the part of "晒单" to see the reviews but none.
- 14. "How to check out."
- 15. "it is too messy to use the system"
- 16. When she wanted to login she did not notice the capital or litter character of the verification code and the caution was not noticed too.
- 17. "Why do I trust the website to present my real name and my personal information especially my cell phone number?"
- 18. "When I finish all the information clicking all the buttons on the left why the application button is on the right side."
- 19. "When I registered I did not know how and where to login."
- 20. She used her real name as user name when she first tried to login.
- 21. After login she could not find the shopping cart so she had to find the dress again!
- 22. After submitting the application of order there is a big block of characters. Scrolling a lot she could see the success of submission.

Discussions: The biggest problem of online shopping for her is how to do it and if the dress suitable for her. There is hardly any help for her to give some hints especially for the novice users.

The second interviewee is 40 year-old who is an expert of online shopping because he has his own online shop on another C2C website and he is a current user of this website. The interview lasted for 20 minutes and the task was to buy a specified bag from the website. And some complains were collected.

- 1. When you entered the channel of bags trying to find the bag and clicked the handbag there was no choice for colors.
- 2. The classification of each channel is not that helpful.
- 3. The function of search is hard.
- 4. You have to search one page by one page to find out the goods without any help if you can not specify the name of the bag.
- 5. There is limited interaction between customers and the company.
- 6. The layout of the website is not interesting.
- 7. When he searched "粉红" in the channel of bags all the goods in pink showed up including shoes, shirts and so on.

Discussion: there is no difficulty for him to finish the task of online shopping. But he was not satisfied with the layout of the website and the search function. There are no similarities between the behaviors of these two individuals with the similar age so experience determines the understandability of the website for each user.

The third interviewee is a male and works at bank who is a potential user of VANCL. He is 27 years old and has online shopping experience. With large scale of advertising of VANCL he wanted to try shopping from this website.

The interview lasted for about 20 minutes and the task was to buy a pair of slippers from the website. And some complains were collected.

Results

- 1. "I cannot check out one by one."
- 2. "The character of "cancel the order" is too little and when I clicked to the page of the detail of my order there is no button for canceling the order."
- 3. The layout is not satisfactory. "I cannot focus on shopping and order since the layout of the website especially the page of cancel my order cannot make me concentrate."
- 4. Facing all these similar T-shirt it is not helpful for me what is oblique T-shirt. The classification is supposed with pictures or small signals especially for the man customers
- 5. There is no progress indicator
- 6. There are only 4 options for the address to receive my order which cannot satisfy my request.
- 7. He typed"拖鞋" in the search box but nothing he wanted found and instead typing"拖" it worked.

The fourth interviewee is a 19 year-old female university student who is a potential user of VANCL. Some of her classmates bought items from the website so she wanted to buy them as well.

The interview lasted for about 20 minutes and the task was to buy a T-shirt from the

website. And some complains were collected.

Results

- 1. She used navigation and said "one by one to choose from is messy".
- 2. The users have to choose color first then size and to check out. The system do not support you choose size first. This mode of selection is not user-friendly.
- 3. "There is not much useful information for a T-shirt I want to know".
- 4. "What dose delivery to Beijing mean?"



Figure 3

- 5. "The category of the T-shirt is not good. I want different styles."
- 6. "If I filled in wrong information the system did not correct them or distinguish them which is stupid".
- 7. The system saves the user name of the customer who used once before not the one uses the website more frequently.
- 8. "When I submit the refund application I cannot rewrite it or cancel it."

Discussions:

The feedback showed the experience affects them dramatically. Computer literacy diverse not depends on their ages or gender but on their experience of online shopping. So experience will be considered as a variable. Especially the understandability of the novice users will be focus in the later research.

4.3 Cognitive walkthrough

Review:

Cognitive walkthrough involves one or a group of evaluators inspecting a user interface by going through a set of tasks and evaluate its understandability and ease of learning. The user here is limited to experts since they will better go through each task and point out the existing problems.

A cognitive walkthrough starts with a task analysis specifying the sequence of steps or actions required by a user to accomplish a task, and the system responses to those actions.

The designers and developers of the product then walk through the steps as a group, asking themselves a set of questions at each step. Data is gathered during the walkthrough. Usually the main focus of the cognitive walkthrough is to establish how easy a system is to learn and to use.

How did it proceed?

Two persons carried out the cognitive work through process. The prototype is the website and the main method is to observe each action the users made to manage their tasks.

Person A: 29 years old, good experience of online shopping and potential user of Vancl. The date for this cognitive walkthrough is 17th June.

Person B: 30 years old, experts of websites and has experience of creating websites by herself. Potential user of Vancl. The date for this cognitive walkthrough is 17th July.

To perform the cognitive walkthrough, a few tasks are defined.

For A, the task was to buy one specified bag which is recommended from her friend. For B, the task was to buy a specified swimming suit.

For each task, close look of the actions was taken and for each action, four questions were asked.

A. Will the users be trying to produce whatever effect the action has?

Are the assumptions about what task the action is supporting correct given the user's experience and knowledge up to this point in the interaction?

B. Will users be able to notice that the correct action is available?

Will users see the button or menu item, for example, that is how the next action is actually achieved by the system? This is not asking whether they will know that the button is the one they want. This is merely asking whether it is visible to them at the time when they will need to invoke it. An example of when this question gets a negative supporting story might be if a VCR remote control has a hidden panel of buttons that are not obvious to a new user.

C. Once users find the correct action at the interface; will they know that it is the right one for the effect they are trying to produce?

This complements the previous question. It is one thing for a button or menu item to be visible, but will the user know that it is the one they are looking for to complete their task?

D. After the action is taken, will users understand the feedback they get?

Assuming the users did the correct action, will they know that. This is the completion of the execution/evaluation interaction cycle. In order to determine if they have accomplished their goal, the user needs appropriate feedback.

A list of the actions needed to complete the task with the given prototype.

Results of the first cognitive walkthrough:

The first action

A She wanted to use navigation to find the classification of bags so moved the mouse to the navigation.

B The navigation bar is visible

C Yes. But for the new users the navigation bar is not easy to use.

D She knew she did the right try but there was no bag in the navigation bar which was a very bad feedback so she had to give up.

The second action

A She had the knowledge to use the search engine so this time she typed "皮包" then there was a list of choices below the search box. She chose one of them "皮包+女"

B The search function is visible

C Yes. But for the new users the search engine is not that obvious.

D but still she did not find it out

Then she changed the content of the search to "包+女" but there was nothing so she felt unpleasant.

The third action

A She used the specified options to limit the items in the channel of bags and tried to search again.

B The options for the color, material and size are visible

C Yes. But the logic of the options and classifications is not that clear.

D The search function sucks since it uses the method to match most the content typing from the users. It is supposed to use Fuzzy Word-searching or other advanced searching method. So there was very bad feedback to the user whatever she used "PU, purple", "PU, pink" or "purple".

It is even more ridiculers to search "藕" in the search box there was nothing while searching "藕荷色" there was the item she was looking for.

Discussions:

So for the experts all the search, navigation and options are easy to find out but the feedback has to be improved. The function of search is used most frequently for mainstreams but in the website of VANCL it works silly and even not that easy to be noticed for the new users.

Navigation bar is another big problem has to be improved from the perspectives of aesthetics and usability.

And the option listing is bad especially there are many options there such as the size of different items filling up the screen without any effect.

Results of the second cognitive walkthrough.

The first action

- A. She attempted to find the swimming suit in the list of the homepage so she spent about 30 seconds to find it out.
- B. Yes. The list of all the items names is visible to the users.
- C. Yes. She knew what would be happen if she found out the item list for swimming suit.
- D. She did not find out swimming suit in that list.

The second action

- A. She said "in this case I am going to use the search box instead."
- B. No. She did not find out the search box.
- C. No. She did not find out the search box in a rush.
- D. She did not success.

The third action:

- A. Yes. She noticed the navigation bar and clicked on the "one-piece swimming suit".
- B. Yes. She noticed all the swimming suit would be listed then.
- C. Yes. She knew this would be the right way to find out the suit.
- D. Yes. After clicking she knew all the one-piece swimming suits were listed.

The forth action:

- A. Yes. She found out the swimming suit she was looking for.
- B. Yes. She knew it was possible to click on it and pay for it.
- C. Yes.
- D. Yes. When she clicked on the picture the feedback was clear.

Discussions:

This cognitive walkthrough reveals that some of the customers use the list for search the classification which they are interested in but the list is too messy to find out the specified kind of what they want. Without the success of the users the list is useless. In the field of interaction design the functionality users do not understand or can't be used does not exist. And the search box which is very important function is not that easy to be noticed. So the search function was complained from all the experts.

4.4 Task-based analysis:

Review:

A key technique in the field of interaction design is task analysis which is used widely by successful designers. A task analysis is essential because it will uncover the overall goals from the users. "Workarounds" can illuminate what a new system could support and one should identify the weaknesses of the current situation: points where users fail to achieve goals, spend excessive time or made users uncomfortable. Those weaknesses present opportunities for improvements of the future products.

How was it done?

Four persons carried out the task-based analysis. The prototype is the website and the main method is to observe the behavior of the users to manage their tasks.

The observations and open-ended interviews are used separately for each user to catch their requirements. 4 users participated in the task-based research.

Task analysis: The main task is to buy an item from that website so the first step is to choose the right item from all the goods. Secondly after comparing the customer has to put it into the shopping cart. Finial step is to pay for it.

The task of refund is to find the item which the user want to refund, and then fill in the forms, apply for refund procedure at the end.

The first interviewee is a 25 year-old administrator works in an international school who is a current user of VANCL. Her task was to purchase and refund some goods.

Results

- 1. "The function of shopping guide has to be improved. I am not interested in shopping in this website since I did not find anything attracting at first glance. When I chose one item I could not find some comparison among similar items. Then I chose another one I forgot what I have seen before and the differences between in".
- 2. "When I put my mouse over the item which looks good I cannot see the picture amplified. Sometimes the mouse enlarges the picture but not all the time when it is necessary."
- 3. The layout of the "underwear channel" and the layout of the "shoes channel" are totally different.
- 4. "Too much attention is taken to the refund notice in the middle of the content of the page every time I want to check my account.

Customers should be attracted to the items which they may be interested in for a good shopping website." It was a kind of distraction for her.

```
提示:现在可以在线申请退换货了您目前的会员级别:普通用户
截至 2011年07月14日,您在Vanc1共完成了 16 张订单,订单总金额 1244.97 元。为了保证您30天退换货的权益,您的积分会在商品购买30天后添加。《积分状态》
```

查看您的会员升级情况,请点击"会员升级计划"

Figure 4

5. For the reviews there are not that useful and look silly. For example it is said most of the people think this T-shirt is comfortable while it is noticed that the percentage of people who felt this T-shirt comfortable is 38%. There is no direct link to the review part in this way you have to go through all the pictures and details to see it if you do not notice the tabbed windows which are easy to miss. When you received the item and wanted to write some reviews it took you a long time maybe half of the day to post it on

the website since it took time for the system to confirm that you had received the item and it also took time to preview the reviews before it was showed to other customers. All these behavior reduced the passion for recommendation of the items and writing reviews. Customers do not feel in control. Commends lagging is not goal-oriented system's feature. "I think the reviews are important for my shopping. Once I even found one review was for advertising for individual interest which made me feel the system is not convincing."

- 6. "The rating is a good idea but the default rating is not customized. Some people focus on the price while others prefer the one with the best score. Even there is only one kind of rating without any other options."
- 7. "About login every time you want to check your account or collect the item you have to login without the default account name."
- 8. "Sometimes when I choose one item after searching movement and comparison clicking in the page for showing the item detail then I find out the goods are sold out which is really frustrating."
- 9. "When I first used the search engine entering the "hot sales" the result was none. So the function of searching is weak which is supposed to correct the misspelling and match the similar search text."
- 10. "The first page of the website is most significant which determines whether the customers will shop here. But when I clicked on the "hot sales", "new arrival", and "recommendation" there is no response which made me unpleasant. What I see is what I have is a principle in interaction design field. I do not like the layout and forms."
- 11. "The www.vancl.com provides service of refund within 30 days without reasons. It is good to let the refund convenient for the customers but the function of refund is not that good. For example when I submitted the refund application it was not possible to modify it."
- 12. "When I wanted to continue my shopping the system went back to the items I just deleted from my order application."
- 13. The consulting is billable and there is no online consultant for free.
- 14. About shopping cart once I added some items without login. After log out of the website I lost all my goods.
- 15. In the step of check out there was some problems with the function of back.
- 16. The layout has to be updated for example it is hard to find "more items".

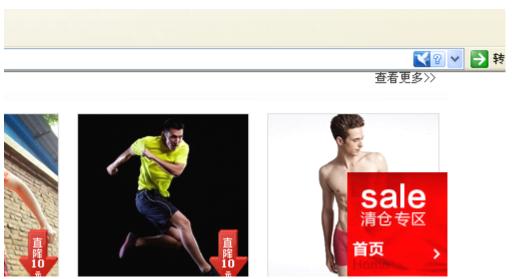


Figure 5

Too closed to the browser, mouse down only once there is no chance for clicking the more items.

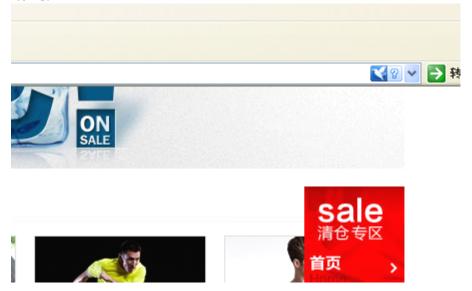


Figure 6

The second interviewee is a 30 year-old female works at a HR company who is a potential user of VANCL. She heard the price is low so she wanted to compare the website with other online shopping websites.

Her task is to buy some clothes and she has experience of online shopping. Results

- 1. "The big picture is not clickable in each channel, I cannot find out the one I like".
- 2. "Navigation is not good which is complex and not easy to click."
- 3. "I do not notice the tabbed window behind the first one."

- 4. "The steps for check-out are too many. It is more than 3 steps to pay the goods either using cash or other payment." It is easier and more convenient when you pay in Taobao.
- 5. "I do not like the layout of the home page".

The third interviewee is a 30 year-old female works at an IT company who is a current user of VANCL. She has a lot of online shopping experience. Her task was to buy one bag. Results

- 1. "I cannot see anything recommended from the first glance."
- 2. "When I clicked to see the detail of one item I could not see the most important information in the screen at first time such as the material but some less important information occupied a lot of space such as the different colors with different pictures."
- 3. There was no default value in the search text box.
- 4. The category on the first page is terrible.
- 5. The clothes with big picture in the middle of the screen are not easy to find out.
- 6. "These two row of navigation and channel are confusing for there are too closed to each other. If you do not notice there is a litter triangle for each navigation they look wired".



Figure 7

- 7. There is no online help service.
- 8. "It is hard to focus on the part of integral feedback which is useful for online shopping websites."
- 9. There is a link for the special product but the help document is silly and the users do not have to do that. The information showing when the mouse fly-over is enough to know what is a special product.
- 10. Entering the channel of "团购" it is not possible to go back to the first page expect to click the logo of VANCL.
- 11. It is confusing to see the classification of bags like this
- 12. "What do the new bags mean here?"



Figure 8

- 13. "When I wanted to use the options to limit the circle of search, the listing of all bags' size was really annoying occupying the entire screen which looks like messy code."
- 14. It was not functional most time when I clicked the button of back.
- 15. "The logic of the listing is different from mine for example when I wanted all the bags its default was all the purple bags since I pressed the color of purple for the last search."

- 17. "If all the items are labeled new stuff how to stand out the new ones?"
- 18. "When I saw the grading from the customers was empty I did not want to purchase anymore." "If there is no reviews it should not be put in such important position"



Figure 10

19. "When I chose the display modes as tabular format I did not know the meaning of "暂存" and I hate the style of it."



Figure 11

The fourth interviewee is a 28-year-old female works at an international company who has experience of online shopping. She is a potential user of the website and her task was to buy one swimming suit.

Here is all the list of results from the observation and interview.

- 1. The channel bar and navigation bar are confusing. "I thought this is the navigation bar which is obvious" when she pointed at the channel bar.
- 2. The layout of one-piece of swimming suit and the layout of swimming suit is totally different.



Figure 12



Figure 13

3. "The color options bar is useless. Who will buy the white swim wear?"



Figure 14

- 4. The options classifications are confusing.
- 5. There is no use for this block in such a important position.

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支付方式: 货到付款 | 在线支付 | 邮政汇款 | 礼品卡或虚拟账户支

付 | 邮局网汇通汇款 | 电话支付

Figure 15

- 6. "When I clicked on the next page the amplified picture was clicked by mistake."
- 7. The picture which can be clicked when the users click on each item looking for their detail information should be located to the right side of the screen which is organized with other clickable choices.



Figure 16

- 8. The property of the item is not attracting or obvious.
- 9. "I do not like the layout of the homepage."

4.5 General analysis and identify problems

From all the data I have collected the diagram is formed below.

From each functionality to the task and finally to the goal of the users the focused points are the crucial part for updating. Users' success and users' satisfaction are the main concerns to be fixed in the field of interaction design.

Systematically analysis of the requirements

From usability requirements to design new one in the next step the problems are classified in this part. Object-oriented analysis is used to figure out the main requirements from the users systematically. The objects they have used: login, homepage, navigation, search, options and so on. There are 10 interviewees were interviewed and the percent of each complained subjects was calculated by the complaining persons' number divided by 10.

object	Use cases	Percen	Analysis
		tage of	
		users	
		who	
		compl	
		ained	
The	"I do not like the layout of the homepage."	100%	In the interviews
home	"I cannot see anything recommended from the first glance."		about the

page			homepage layout none of the customers liked it.
Navig ation bar	These two row of navigation and channel are confusing for there are too closed to each other. If you do not notice there is a litter triangle for each navigation they look wired". The channel bar and navigation bar are confusing. "I thought this is the navigation bar which is obvious" when she pointed at the channel bar	60%	
The search box	"When I first used the search engine entering the "hot sales" the result was none." There was no default value in the search text box.	70%	
Layou t of other pages	The layout of the "underwear channel" and the layout of the "shoes channel" are totally different. "Too much attention is taken to the refund notice in the middle of the content of the page every time I want to check my account. Customers should be attracted to the items which they may be interested in for a good shopping website." It was a kind of distraction for her.	60%	50% users complained the layout of the page for detail info for each item.
	提示:现在可以在线申请退换货了 您目前的会员级别: 普通用户		
	截至 2011年07月14日,您在Vancl共完成了 16 张订单,订单总金额 1244.97 元。为了保证您30天退换货的权益,您的积分会在商品购买30天后添加。《积分状态》查看您的会员升级情况,请点击"会员升级计划"		
Shopp ing walk flow	"The steps for check-out are too many. It is more than 3 steps to pay the goods either using cash or other payment." "The function of shopping guide has to be improved. I am not interested in shopping in this website since I did not find anything attracting at first glance. When I chose one item I could not find some comparison among similar items. Then I chose another one I forgot what I have seen before and the differences between in". "If all the items are labeled new stuff how to stand out the new ones? There is no progress indicator.	60%	Most of the interviewees complained that it was not fun to do online shopping on this website.
Help system	There is no online help service. "How to buy it?"	20%	For the novice users there is no help at all for them.
Other eleme	"When I wanted to use the options to limit the circle of search, the listing of all bags' size was really annoying occupying the entire screen	50%	Options were used frequently

nts on	which looks like messy code."		which were
the	"The big picture is not clickable in each channel, I cannot find out the		complained
websit	one I like".		most in this part.
e	"The color options bar is useless. Who will buy the white swim wear?"		
	颜色: 全部		

4.6 Design and discussions

Concerning aesthetics, usability and understandability some solutions are figured out. Usability is the most crucial aspect to be improved from the previous theoretical study.

The Priority of the most complained issues can be summarized:

- 1. About layout (functional and non-functional)
- 2. About search function
- 3. About navigation function
- 4. About shopping guide
- 5. About Check-out
- 6. About Refund
- 7. About help
- 8. Other elements

It is a key role of the usability engineer to translate the understanding of users and their requirements to redesign product with good recommendations. It is a key role of interaction designers to incorporate usability recommendations into interactive interfaces that promote users' success and satisfaction.

In the design proposal, the author will try to solve each of the prioritized problems with some design solutions.

- 1 Layout of the website
- a. Requirement: Make the layout of the homepage more clear and attracting. Proposal:



So the color of the website should be black and red as main colors. Color has a very strong influence on people and can affect how people view a company. So, when designing any website, color should be an important factor. There is no focused information made in black. There should be some tag lines in black in the homepage. And where is the brand value from the homepage? According to Jakob [15], homepages are the most valuable real estate in the world. Each year, companies and individuals funnel millions of dollars through a space that's not even a square foot in size for good reason. The impact of homepage on a company is far greater than simple measures of e-commerce revenues: The homepage is your company's face to the world. Increasingly, potential customers will look at your

company's online presence before doing business with you — regardless of whether they plan to close the actual sale online.



Figure 17

This is the first screen homepage from my browser. Expect the low price there is nothing about the brand value from the homepage. There should be some tag lines on the homepage to express the brand value of Vancl which is popular in the youngsters circle.

And it is not easy to find out the search box which is a very important function for this kind of commercial websites which I will concentrate on later. Such as the one below is better:



Figure 18

The logo of home page is equal size to other pages. There is no change of the logo size between the home page and the other pages within the site which should be updated. The other pages' logo should be smaller than the homepage.

The list of all the goods is kind of method to tell the users what the site is selling but the list is not in good organization and looks messy. With the large list of all the goods users have to scroll a lot to see the homepage. It is suggested to delete the list or cut it down at least. The picture in the middle takes too much space. It is supposed to save some space for navigation and tag lines which should express the value of the brand. About the flashy picture the issue will be talked later.

Layout is the face of the website. No matter how wonderful the function of the website the first impression is crucial for every customer. Especially the first page has to be improved. Just as with interpersonal relationships, first impressions of a website's interface can be exceedingly important. The first five-minute experience is the foundation that long-term relationships are built upon. To ensure a successful first five-minute experience, the website interface must clearly and immediately present the brand value.

Visual design actually plays one of the most significant roles in first impressions by colors and images. Selecting an appropriate color palette and image style will support the brand and it will be possible to go a long way towards leveraging the equity of that brand in the form of a positive first impression. [16]

First impressions can also have a significant impact on the usability of a product. This is described as the "Aesthetic-Usability Effect" in Lidwell, Holden, and Butler's eminently useful Universal Principles of Design. According to this principle people perceive more aesthetically pleasing designs as easier to use than less aesthetically pleasing designs, regardless of actual functionality. After people have developed the first impression they will build their brand equity and long-term customer relationships by delivering on the promises made during the first impression. Interaction design is the best way to keep the promises due to the observation of the customers and study of the mental model of them. The designers should pay more attention to the design of the home page than any other. Make the logo larger on the homepage than on other pages within the website. Tag line is supposed to tell the users what the website is about and the essence of the website. The homepage will determine the first impression of users so pay more attention to the homepage visually and functionally.

b. Requirement: Change the navigation bar to be more user-centered. Proposal:

There is nothing to highlight the navigation bar. Even some users did not notice the navigation bar at first time. What's more is the navigation is hard to use.



Figure 19

The suggested redesign is to stand out the navigation bar either by using bold black color or exchange the background colors of the navigation bar and the channel bar. Red is a color of highlighting which should be used in navigation not in the channel bar. It is confusing to use these two bars which are located together. It is even better to separate them and stand out the navigation bar which is typical imperative function in online shopping especially for the step of searching for item. Most of the successful commercial websites put the navigation bar on the upper-left side to classify all the goods they sell.

Navigation is a crucial section for online shopping websites but it is not obvious in the website of Vancl. With the tiny triangles some users did not see the navigation bar at first time. From the perspective of usability it is not acceptable.

And the eye movements are traced by tests which figure out the good logical flow for the website interface. [17]

Good logical flow

Eye movements match the path through the interface

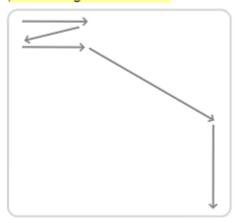


Figure 20

So put the navigation on the upper left side will attract more attention. With more attention and use of navigation the sales volume will be risen as well.

c. Requirement: The customers want to find out the item in the flashy pictures when they click it.

Proposal: The flashy picture of the homepage is in the middle of the first page when you open the website. So it attracts most of the customers. The complaint repeated that when I clicked the dress I saw in the flashy picture I could not find it out. The flashy picture takes too much room in the middle of the screen which are attracting but it does not work since it does not link to the goods in the pictures directly. In the mental model of the users they click on the picture illuminating they want to buy them or have interest of them at least. So the goods should be in the first place when they are clicked on.

The good design is supposed to be the one I see will be the one I get. So it is suggested that the item from flashy picture in the middle of the screen should be found more easily when customer clicks it. Maybe put it in the first place of the list after clicking in each channel. And for the big pictures in the middle of the screen from each channel or from the homepage should be easy to find out since some customers think that is what they would like to see the detail information after clicking. So list all the items in the big pictures at the first few positions should be a good proposal.

As mentioned before "Use graphics to show real content, not just to decorate your homepage" so the pictures should be the content and the recommended goods. Principles of graphic design can help users prioritize their attention to a screen by making the most important dialogue elements stand out. Size is a useful property in conveying information hierarchies. Sufficient distinction in size is also enough to draw our attention quickly. Also, information that is presented "first," given the usual reading direction normally gets more attention. To attract the users the flashy pictures are used but the feedback has to be improved in order to match the mental goal of the users. What they click should be the ones list first since they clicked them to see the material and every detail. And this issue will be talked about later

The one you see should be the one you get according to the mental model of users. Images are powerful communicators when they show items of interest to users, but will backfire if they seem frivolous or irrelevant. So when users click on the item in the picture the item should be found very easily since it is what the users are interested in.

d. Requirement: The style of each channel should be the same. Proposal:

About the layout of each page the consistence is a big problem for this website. Users could notice the problem in the procedure of shopping and feel strange which makes the purposing process unpleasant and not convincing.

Wherever the customers choose any channel the layout should be in the same style. This is the basic requirement for online shopping website. Otherwise customers will not trust the website because it does not look professional.



Below is the layout of the bag channel and layout of the dress channel.



Figure 22

Obviously they are not in the same style which has to be updated. Especially for the bag channel we even cannot go back to the home page clicking on the logo of VANCL. It looks like a fake one. These inconsistent layouts make users uncomfortable and influence the aspiration for shopping. It really undermines users' confidence. So the redesigned bag channel is below here.



Figure 23

Consistency is one of the most basic usability principles. Users will feel more confident if they know that the same command or action will always have the same effect. And the style of each page should be looked the same which looks more trustful. The same information should be presented in the same location and dialog boxes should be formatted in the same style to facilitate recognition.

Good design has the feeling of a unified whole where all parts are in balance and harmony while poorly designed products look or feel like they are cobbled together from disparate pieces. Slight differences can make users feel unstable and ultimately fail in catching users' interest. Consistent spacing and positioning supports people's innate visual-processing mechanisms. And standardizing your layouts will reduce the amount of work required to produce high-quality visual interfaces.[18]

e. Requirement: Too many stuff in the homepage and the list of all the goods is messy. Proposal:

It is not necessary to list all the categories in the first page which should be list in the navigation part in order to make the first page simpler and less scrolling movements for users. At a minimum put all these items in better order and better organization for users to choose from if the list is not deleted.

Actually there is less customer used the listing of all the categories during the observations and interviews since it looks messy.

1	A. M. A.C.	分类		■ 清仓断码 ■ 热销排行 ■ 到货通知
	推荐	格纹衬衫 内衣 情侣服饰 化妆品 配饰 日韩 童装 <mark>牛仔裤</mark> 短裤清仓 百货清仓	新品	日韩女装 护肤品 波普帆布鞋 新款针织衫 长袖I 拉杆箱 创意家居 女鞋 婚庆用品
	衬衫	男款:短袖 长袖 休闲 商务 <mark>优雅商务</mark> 女款:短袖 季末清仓 时尚商务 甜美碎花	女鞋	亮彩透气鞋 水果鞋 坡跟鞋 高跟 平跟 秋季新品 防水台 <mark>帆布鞋</mark> 休闲鞋 尖头鞋
	针织衫	男款:条纹 长袖款 针织背心 新品棉线衫 女款:长袖 七分袖 纯色 镂空 秋季新款	男鞋	帆布鞋 休闲鞋 凉鞋 时尚运动 正装皮鞋 休闲皮鞋 <mark>运动跑鞋</mark> 潮流款式 户外登山鞋
	T Í	男款:新品 素色长T 涂鸦街区 忍者系列 女款:新品 卡通童 <mark>趣</mark> 潮酷日系 桂宝日记	童装亲子	男孩 女孩 3岁以下 3-7岁 7岁+ 童鞋 新品秋装 卫衣 打底裤 条子装 特惠清仓
	POLO衫	男款: 常规款 商务POLO衫 休闲 NBA系列 女款: 短袖 无袖 <mark>甜美休闲</mark> 速干 条纹	箱包	真皮女包 运动包 邮差包 单肩包 蕾丝包 男包 休闲包 潮流复古 拉杆箱 电脑包
	内衣	性感隐形文胸 无痕文胸 女内裤 男内裤 68元文胸套装 内置罩杯吊带背心 塑身内衣	家居百货	创意家居 卧室 户外 小家电 装饰 厨具家居鞋 清洁 床品 小家具 换季收纳
	裤子	入秋新品 卡其裤 家居裤 欧美款 日韩款 英伦牛仔裤 西裤 运动长裤 工装裤 棉麻	配饰	棒球帽 草帽特惠 墨镜 腰带 项链 手链 脚链 新款丝巾 挂包钩 <mark>戒指</mark> 925银饰
	裙子	女裙清仓 秋季新品 清新小碎花 魅力牛仔裙 吊带裙 海军风 蕾丝 礼服裙 <mark>裙装新演绎</mark>	美容养顏	BB霜 左旋肉碱 面膜 胶原蛋白 纤体梅指甲油 洁面 体验区 卸妆油 假睫毛

Figure 24

Why?

In the field of interfaces interaction design less is more and designers are supposed to endeavor to solve problems with limited content. Why are interfaces should be simplified as much as possible? Because every additional feature or item of information on the screen is one more thing for users to learn, one more thing to possibly make errors, and one more thing to search through when they look for the thing they want. When the interfaces were redesigned it is supposed to look to simplify the elements constantly. As pilot and poet Antoine de Saint Exupery famously said[19]: "Perfection is attained not when there is no longer anything to add, but when there is no longer anything to take away." The navigation classification menu can show all the items and classification so that the list can be canceled or minimized if the navigation is updated to satisfy the users better.

f. Requirement: The function should be matched with the look. The item looks clickable it is supposed be clickable.

Proposal:

When the cursor moves to the "最新动态" "积分回馈" it changes to the shape of a hand hinting it is clickable but it isn't. So the visual hinting is misleading here. In the same way "hot sales" is not clickable.



Figure 25

It is supposed to list all the hot sales goods when the "hot sales" is clicked which should be also applied to "new items" and "recommendation goods". Use metaphors that are natural to your target audience. Be consistent in your use of metaphor and don't go over the top.

Why?

According to [20] dynamic visual hinting works like this: When the cursor passes over a pliant object, it changes its appearance. This action occurs before any mouse buttons are clicked and is triggered by cursor fly-over only which is commonly referred to as a "rollover." Use cursor hinting to indicate pliancy. Cursor hinting should first and foremost make it clear to users that an object is pliant. It is also often useful to indicate what type of direct-manipulation action is possible. The key to successful direct manipulation is rich visual feedback. It should be obvious to users which aspects of the interface are manipulable, which are informational, and which are décor. Mouse cursor feedback is especially important for creating effective interaction idioms. [21]

g. Requirement: Some users say they really want to see something recommended at first glance.

Proposal:

Here the website has to show the advantages of the brand such as recommended goods, good logistics and 30 days' free refund. It is suggested to put the block below in the upper right position. Standing out the hot sales, new goods and recommended items.



So the users will see the hot sales goods, new goods and the recommended goods in the first screen which should be attracting and special. There is no shipping fee if the transaction once over 200 yuan which is supposed to be visible on the homepage and emphasized at the first glance. So locate it near the block of recommended goods and hot sales is a good idea. It is suggested that exchange the positions of the block of hot sales, recommended items and new items with the block of advertising stuff such as shown below.





Figure 27

From the homepage users hardly find any information about shipping fee. While for each item detail information the block below takes a big space which is unnecessary if the shipping fee policy is noticed from the homepage.

库存情况: 送至 北京 ▼ 请先选择尺码

运费说明: 全国不限区域,快递与EMS均为5元。 海外运费收取标准>>
全场购物满200元免运费。

支付方式: 货到付款 | 在线支付 | 邮政汇款 | 礼品卡或虚拟账户支付 | 邮局网汇通汇款 | 电话支付

Figure 28

So publish the policy about shipping fee and 30 days' refund without reasons on the homepage.

Why?

It was reported that when customers open the shopping website the most frequent location of the mouse is on the upper right of the screen. Taking advantage of this there should be something attracting and special in that position. For the new users there are so many

websites to choose from, the VANCL is nothing special to attract them except the price, most of them will never use it since it is not comfortable to buy the goods from it. Make the advantages and characteristics of the brand big enough to grasp the customers at the first time. With the big space saved the user could see more concerned information about the item without scroll down the mouse such as the material of the item. According to According to [22]

There is a trade-off between paging and scrolling information: You should understand your users' mental models and workflows to determine what is best for them. So for the first screen when users open the website they can see the "hot sales", "new items" and "recommended goods" which should be focus on. They do not have to scroll down the mouse to see them. Scrolling should be minimized when possible. This means giving supporting panes enough room to display information so that they don't require constant scrolling.

h. Requirement: rating bar is not satisfied.

Proposal: rating bar should work for all the lists to limit the searching time.



The display mode is hard to click and has to be clicked twice for one option and it is hard to notice the differences between "款式浏览" and "花色浏览". The organization is confusing for users. It is suggested the one below which is simple and with better organization. Put all the rating together using radio button instead of drop-down box. For better understandability the rating should be improved like:

显示: 🗏 🔡	排序:	销量费	新品合	价格令	收藏 🖑	人气🐶

Figure 30

You only need once click to choose the display mode.

For the B2C websites the rating of the items is useful and popular. But the rating is not consistent from different channel or pages. Shown below:

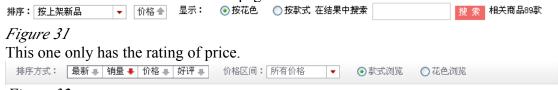


Figure 32

And this one has the rating of price, grading and sales volume.

There is even no rating for some of the channels. When you enter the channel of accessories there is no rating function which is important for many customers to choose from the price or the rate of credit grading.

Why?

Where there are very few options radio buttons works better than a drop-down box. The users can see all options at a glance, it takes one click to make a choice and, with so few options, space on the page is not an issue. Sometimes, the question only makes sense in the

context of the choices for the answer. If you use a drop-down, the choices are hidden until the user clicks.

Consistence is the basic interfaces principle.

i: Requirement: better organization better feelings.

For instance the picture below is a detail information page from the website which is poor organized so that the users have to scroll down to see their concerned information.



Figure 33

Proposal: It is suggested to relocate the 3 pictures on the left to the right side together with the choices on the right since they are all clickable and it has to minimize the movement of the mouse for users. The users do not have to move the mouse from the right to the left so often to see each picture of the item. It is suggested that put all the buttons or choices together with good organization.

It is better to put the block of the material of the item on the first screen of the detail page since users are most concerned about what the clothes are made up with. It is too reduplicate to put the block about shipping fee every page. The redesigned one is down here:



Figure 34

Why?

To convey which elements are related, return to your scenarios to determine not only which elements have similar functions but also which elements are used together most often. Elements that tend to be used together should generally be grouped nearby to minimize mouse movement, while elements that aren't necessarily used together but have similar functions may be grouped visually.[23] It's usually a good idea to distinguish different logical sets of controls or data by grouping them by using visual properties such as color and dimensional rendering. By consistently applying these visual properties throughout an interface, you can create patterns that your users will learn to recognize.

The ideal is to present exactly the information the user needs-and no more-at exactly the time and place where it is needed. Information that will be used together should be displayed close together, and at a minimum on the same screen. Also, both information objects and operations should be accessed in a sequence that matches the way users will most effectively and productively do tasks.

According to [24] rules say that things are seen as belonging together, as a group, or as a unit, if they are close together, are enclosed by lines or boxes, move or change together, or look alike with respect to shape, color, size, or typography. Spatial grouping makes it clear to users what tasks, data, and tools relate to each other, and can also imply sequence.

[25]Good grouping by position takes the order of tasks and subtasks and how the eye scans the screen into account: left to right in many culture, and generally from top to bottom.

j: Requirement: the users want to see the help when they need it. And some of them complained that the reviews are hard to find out.

商品信息	购买评论 (75)	疑难提问(51)	售后服务	如何购买
------	-----------	-----------------	------	------

产品描述:

本款都市典雅系带高跟女鞋,鞋身采用优质pu材质,穿着柔软舒适。鞋口系带装饰简单而轻便,金属链条的加入,更具时尚潮流风范。前水台的设置,缓解高跟鞋给双脚带来的压力,穿着更加舒适。大底耐磨且有很好的防滑效果,呵护行走中的双脚。绝对是您日常生活各个场合中不可或缺的百搭之选。

跟高: 8.7cm; 前水台: 1.1cm

保养说明:

- 1、定期清洁皮鞋,可用湿布擦,但不能用水洗。
- 2、鞋面可用软刷清洁,切勿用硬刷猛刷。
- 3、皮鞋应避免接触酸碱等腐蚀溶剂。
- 4、穿皮鞋不宜作剧烈运动,否则皮鞋会变形走样。
- 5、要养成经常替换穿鞋的良好习惯。
- 6、新鞋穿着时,建议穿深颜色袜子,以防内里掉颜色,受潮及摩擦而产生的掉色,均属正常现象。
- 7、当下雨天皮鞋淋湿,要及时擦干净晾干,要避免高温烘烤和日光直晒。
- 8、定期使用一些皮革保护剂,可以很好的保养皮面。

Figure 35

Proposal:

Stand out the help function and shadowing the tabbed information window. It is suggested that the use of shading and highlights suggesting dimensionality will give these buttons affordance or clickability.



产品描述:

本款都市典雅系带高跟女鞋,鞋身采用优质pu材质,穿着柔软舒适。鞋口系带装饰简单而轻便,金属链条的加入,更具时尚潮流风范。前水台的设置,缓解高跟鞋给双脚带来的压力,穿着更加舒适。大底耐磨且有很好的防滑效果,呵护行走中的双脚。绝对是您日常生活各个场合中不可或缺的百搭之选。

跟高: 8.7cm; 前水台: 1.1cm

保养说明:

- 1、定期清洁皮鞋,可用湿布擦,但不能用水洗。
- 2、鞋面可用软刷清洁,切勿用硬刷猛刷。
- 3、皮鞋应避免接触酸碱等腐蚀溶剂。
- 4、穿皮鞋不宜作剧烈运动,否则皮鞋会变形走样。
- 5、要养成经常替换穿鞋的良好习惯。
- 6、新鞋穿着时,建议穿深颜色袜子,以防内里掉颜色,受潮及摩擦而产生的掉色,均属正常现象。
- 7、当下雨天皮鞋淋湿,要及时擦干净晾干,要避免高温烘烤和日光直晒。
- 8、定期使用一些皮革保护剂,可以很好的保养皮面。

Why?

The use of dimensionality to give the feel of a manual affordance is perhaps the most effective way to distinguish controls from data or background elements. With the pin on the help function information the novice users will better understand how to find the help and how to manage the online shopping flow.

2. About search function

Requirements: search box should be more helpful and bigger meanwhile it is supposed to be on the base of each channel or category if users search the items in the channel.

Proposal:

The search box is not that obvious which has to be enlarged. It is suggested to occupy all the space to the right space of the site logo.

The search engine has to be improved since it is not only a shortcut for customers to find the goods but also an efficient way to compare similar goods. And it needs to make it clearer that there is more than one entry point to searches. Using category-based searches addresses the need to speed up searches. There is no difference between the search in the homepage and the search in each channel. That should be updated to be category-based. Prefer free text searches to classified ones unless there is a well-thought out, shared classification scheme. Include a 'free text' option among the other categories. Back up classified searches with full text searches. The search engine in this website is only text matching one which is far away from the efficient search engine for e-commercial websites such as ebay or taobao.

It is better to list the recent searches to make the system customizable. The function of search is too bad to be a shortcut which is confusing and useless. But the technology of database is beyond the discussion of this thesis.

There is no default value in the search engine which has to be improved like this:



Figure 37

And it is better if there is hint for how to figure out the best way to use the search functionality. There is no error-correct menu for users to choose from in the search text interface blank.

There should be text-oriented correctors for all input of information in the website to reduce the error of input and validate the information. And the matching method for similar text input should be improved at the same time. If the inputs are not correct or do not make sense the similar ones should be shown at once trying to match the mental goal of the users.

抱歉!没有找到符合您要求的"热销"商品,您可以改变搜索关键词或减少分类条件的限制试试。

Figure 38

The picture above is the search results if "热销" is what the users are looking for. The feedback is bad without any value. It is supposed to list all the goods with good sell volumes when "hot sale" is typed by users.

And the recent searches should be default somehow in the search box hinting the items users may be interested in.

Why?

How big or small is it in relation to other items on the screen? Larger items draw our attention more, particularly when they're much larger than similar things around them. Size is also an ordered and quantitative variable, which means that people automatically sequence objects in terms of their size and tend to assign relative quantities to those differences; if we have four sizes of text, we assume relative importance increases with size, and that bold type is more important than regular.

According to [26] always provide a search engine and put it to the right of the website logo. And it is better to offer the system-provided default values for the users to search for as a kind of shortcut. Because it is faster to recognize a default and accept it than having to specify a value by themselves. Defaults also help novice users how to learn the system since they reduce the number of actions users need to make before using the system, and since the default values give an example of the kind of values that can legally be specified.

Regarding the text-oriented corrector Durham et al. [1983][27] found that even a simple spelling corrector could handle 27% of all user errors in a text-oriented interface, thus confirming the value of this cheap method.

3. About navigation

Requirement: The users would like the navigation is more helpful and easy to use.

Proposal:

The website uses rather long navigations which were not structured well, and they were hard to be noticed at a glance. And it is hard to catch the right category from the navigation since the content is changing fast and sometimes disappears suddenly. The navigation bar is always confusing with the channel bar which has the background of red color. From the perspective of designers the navigation should be concentrated not the channel bar. Save space in the navigation by using short and, if possible, structured menus. Consider pulling out the menus horizontally if they are not too long and providing your usability and get-it tests indicate no problems are so caused. Ensure that there is a visual cue which is the

triangles to tell the user that the menus are there. Using red and bold font and triangles to stand out the navigation should be a good solution. And make them bigger.

There are many more popular websites locate the navigational clarity on the upper left for each page which is better and more convenient. Also it will separate the navigation bar and the channel bar which are too closed to each other easily confusing customers.



Figure 39

The navigation bar is not structured well and there are too many classification menus horizontally. It is better to put it on the left of the site like other better designed websites. Meanwhile if the navigation functionality is better served the pictures on the homepage will be reduced consequently. So the navigation has to be updated concerning not only layout but also the structure and functionality.

Actually there are many website companies trying to figure out the best way to reduce the data flow of the websites in order to shut down the waiting time for the users while loading all the pictures.

Why?

Designing transactional websites requires attention to both information architecture to organize the pages and to interaction design in order to devise appropriate behaviors for the more functional elements. Of course, visual design must meet both of these requires, as well as the effective communication of key brand attributes, which is often particularly important considering the commercial nature of most transactional sites. For these types of sites, navigational clarity is very important, as are access to supporting information and efficient transactions.[28]

With good navigation classification the owner can break up information and function into several pages and reduce load time and visual complexity.

According to [29] in a landmark usability study conducted in 2001 by User Interface Engineering about user perception of page load time for e-commerce sites like Amazon.com and REI.com, it turned out that user perception of load time is more closely correlated to whether a user is able to achieve her goal than to actual load time.

4. About shopping guide

Comparing with C2C such as www.taobao.com the shopping guide function of B2C is much worse. Marketing is crucial for any business. In the field of E-business the website is as important as advertisements. The final usability attribute, subjective satisfaction, refers to how pleasant it is to use the system. Subjective satisfaction can be an especially important usability attribute for systems. The website is for online shopping so the

procedure of shopping is prominent. Whether the shopping guide is satisfactory is dominant for the survival of the brand.

a. Requirement: goods are out of store should be look different from others.

Proposal: The goods which are out of sales should be look different from others such as fading out or under tint from others. Not all the customers know the meaning of "售罄". It is even unacceptable if the user searched and compared the items for a while, ending with that the item was out of store. So distinguish the items which are sold out in a more understandable way for the users. Such as:



都市魅惑及踝高跟女鞋 黑色

市场价: ¥409 售价: ¥139

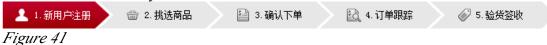


都市闲逸及踝高跟女鞋 驼色

Figure 40

Why? When an application is asleep, it should look asleep. When an application is awake, it should look awake, and when it's busy, it should look busy. When the computer is engaged in some significant internal action like performing a complex calculation and connecting to a database, it should be obvious to us that it won't be quite as responsive as usual. So something is out of store it should be look sold out.

b. Requirement: there should be a process indicator for shopping steps. Proposal: If there is no indicator in the system customers will be confused sometime especially for the novices. Such as the old customer may close all the website pages and no way to find it back. If there is a process indicator to help them it will be better and clearer. It is suggested that a shopping guide indicator located somewhere all the time to instruct the novice users where they are.



If the home page is too crowded it should be shown up after customers select the items in the shopping cart.

Why? On one hand it tells the users how many steps left for them, on the other hand they know where they arrive now. This gives a sense of location in the surrounding context. Identify all the steps needed to achieve a goal and provide a visual indication of: the current step; the total number of steps; the points at which transactions are committed. According to [30]: A good progress indicator: is honest, showing all the steps that you will go through; is updated as the user works through the form; uses a name or number or both, is consistently named or numbered; and is in the same place on each page of the form

c. customize the setting for each user.

Proposal: remember the users' setting. For example some of the users prefer low price while some of them pay more attention to the grading of the item. It is also kind of customizable of rating for different users. Especially when the users have login the setting should be remembered by the system.



Figure 42

There should be the default user name under the dialogue frame or at least all the user names used before can be chosen from. With this thesis going on this problem has been fixed to some extent. It makes the customer last used as the default one.

Why?

Computers are very good at remembering things very precisely, so they should take over the burden of memory from the user as much as possible. In general, people have a much easier time at recognizing something that is shown to them than they have at having to recall the same information from memory without help.

According to [31], it's worth the system remembering if it's worth the user entering. Instead of asking a user to make a determination, the system should go ahead and make the same determination a user made last time, and let her change it if it was wrong. The website should remember the choice or information users offer from run to run and remain the option in effect until the users change it.

Personalizing the setting of users will make users pleasant and return to the website with the feeling of at home. An application with a better memory can reduce the number of errors users make.

This is simply because users have to enter less information. More of it will be entered automatically from the system's memory. Looking through the characteristics of considerate products presented earlier reinforces this fact: For a product to be truly helpful and considerate it must remember important things about the people interacting with it.

d. requirement: why do I have to follow the steps for choosing item or pay for the item? I would like to pay directly.

Proposal: when users intend to buy the item there are only 2 options to choose from: put into the shopping cart or collect this item. There is no way to pay right now. It is demonstrated below:



Figure 43

When the customers want to choose the item it is supposed to choose from color or the size. But it does not work if one chooses size first then the color since the website forces the users to choose from one step to another which is not friendly. When you click the city you are in, even pops up dialog box saying "please choose size first". It is suggested that make the dialogue modeless.

Why?

Modeless dialogue should be used except very urgent situation occurs. It is not reasonable for a system to stop the proceedings, just as it is not follow its procedures.

- 5. About check-out:
- a. Requirement: we do not want to check out one step by one step. There are too many steps for the application of the order.

Proposal: It is supposed to set and save each customer's information individually unless the customer wants to change the saved information. So for each time of check-out the information should be the same until users manually change it. The users do not have to confirm one step by step each time.

Why? Sometimes such sequences are enforced by the user interface, but it is normally better to allow the user to control the dialogue as much as possible such that the sequence can be adjusted by the individual user to suit that user's task and preferences. According to [32]: Any time the system offers a choice to a user, the system should remember the information from run to run. Any options users set should be remembered, so that the options remain in effect until manually changed. If a user ignores aspects of an application or turns them off, they should not be offered again.

b. Requirement: there should be a reasonable back button function on the website pages.

Proposal:

The back button should link to items for customers continuing shopping at the step of check-out. For some channels there is no way to go back or to the homepage which should be avoided.

Why? According to [33]:

A significant benefit of Undo is purely psychological: It reassures users. And make the function of back related to the workflow. As mentioned in [34]: Make sure that the 'back' concept is related to the use cases and include 'continue shopping' links where appropriate. Don't rely on the browser back and forward buttons alone. Suggested by[35]:

Provide built-in checkpoints in transactions that users can return to. Test all possible paths through transactions, not just the ones you would like users to follow. Provide confirmations as each transaction succeeds or fails.

c. Requirement: there should be some audit process when users need.

Proposal: There is no audit process in the check-out step. There is supposed to audit the information customers fill in and help them to finish the filling forms in order to get more correct information. No warning in the process of filling in forms is a bad idea. There should be some drop-down menu with a list of selectable options to simplify the forms. Then the users construct a sentence from a dynamic series of choices that always guarantees a valid result.

Why? According to [36]:

When a user does something that the system thinks is wrong, the best way to protect him is to make it clear that there may be a problem, but to do this in an unobtrusive way that ultimately relies on the user's intelligence to figure out the best solution. The best way should be remember each of the user's actions, and ensure that each action can be cleanly reversed, and that a user can figure out where the system thinks the problems might be. Essentially, we maintain a clear audit trail of his actions. Thus the principle: Audit, don't edit.

6 About Refund

Requirement:

There is no way to cancel refund application which is kind of waste resources and feeling not in control for the customers.

Proposal:

When you open the application in order to refund it which is not possible, on the contrary before you open the detail of your order application you can refund which is ridiculous. So for the refund procedure it is suggested that it has to be a way to cancel the refund after the refund application has submitted.

Why? According to [37]: users do not like to feel trapped by the computer. The system should offer the user an easy way out of as many situations as possible in order to increase the user's feeling of being in control of the dialogue. So when users check each order it should be possible for them to refund the application and cancel the application of refund.

7 about help

Requirement: There should be helpful help function when users are in need.

Proposal:

Sometimes a help document is just not enough. The explanations may not be clear enough, or special circumstances may apply. Again and again in usability testing and field

observations, some users look for telephone numbers so that they can call on real human assistance.

Providing a phone number or, at a minimum, help request form or email address can help meet these needs. But there is only the order telephone number which is easy to find. The help telephone number is on the bottom of each page which is not free. There should be some help tips for customers to know what are listed and where to see. How to buy the goods is not easy for the new. The tips should be kept in order to let the users know what to do next. Or as the proposal redesigned before: adding one pin to stand out the help function window which is hidden in the tabbed information window. There is another suggestion that each element is supposed to show the help document when users right click on it.

Why? It is studied in [38]:If naive users are part of the target market for a domain-specific product, care must be taken to support domain-naive behaviors.

Ever since the emergence of various web devices, much efforts have been made to deal with device independence issues of web engineering. Some focused on separating presentation, content and logic layers of web applications so that presentations can be modified before rendering based on contextual information. Some took use of content selection techniques by analysing the semantics priorities of web content in order to reduce and remove unnecessary or unimportant elements. There are also others which use page partitioning techniques to split web pages into several smaller sub-pages so that each can fit into a smaller screen.

For the domain-naïve users the biggest problem is how to use it. They have no idea of registration, shopping cart or how to pay. And there is no online help.

When the 46-year-old lady was stuck there was no help at all. She was complaining it was too hard and tedious to finish the task which is to buy a dress for her. How to do it is the most questions she asked. Direct manipulation is simple, straightforward, easy to use, and easy to remember. So the pin should be easier for users to notice. As mentioned in [39]: "Rich visual feedback is the key to successful direct manipulation." This ideal interaction is not a dialogue — it's more like using a tool.

According to [40]: it should be possible to keep any online help system visible in a separate window while the user returns to the main application. It might even be possible to let the user copy examples directly from the help system to have them executed.

8. Other elements:

1. Requirement:

Options should limit the choices for good help, not annoy the users.

```
尺码
           10*5.5cm(1)
                          10.3*6.7*1.1cm(2)
                                               10.5*3.5cm (1)
                                                                104*70*27mm (4)
                                                                                  105*165mm(3)
                                                                                                  11*11*2.5cm (5)
           11*6 cm (1)
                        11*9cm (5)
                                     11.5*10cm (3)
                                                     11.5*8*14.5cm(2)
                                                                         11.9*6*1.2cm(3)
                                                                                            12*16 cm (17)
                                                                                                           121*81*64mm(2)
           127*13mm (4)
                          13.5*4.5cm(2)
                                           14*11.8*14.1cm(3)
                                                                14*21 cm (6)
                                                                              14.5*5*10.5cm (6)
                                                                                                  14.5*9.5*2cm(3)
                                               16*9.5*26 cm (1)
                                                                 16*9, 5*27 cm (1)
                                                                                                      180*250mm (1)
           145*190mm (4)
                           16*2, 2*0, 95cm (5)
                                                                                   17.5*10*10cm (4)
                                                    192*132mm (4)
                                                                                       21*8*5cm (1)
                                                                                                      210*50mm (6)
           19*10.6*3.7cm(2)
                               19.5*85*12.5cm(2)
                                                                    20*16*10.5cm (4)
                                                          25*31.4cm (4)
                                                                          28*10cm (4)
           22. 4*31 cm (2)
                          22.5*31 cm (1)
                                           220*40mm (5)
                                                                                        31*25cm (4)
                                                                                                      32*23.5cm(2)
           33*23 cm (1)
                         33*24.5cm(4)
                                         33*25 cm (3)
                                                       33*26.5cm(4)
                                                                       50*40 cm (1)
                                                                                     55*120*55mm (3)
                                                                                                       67*66.5*6.5mm(2)
           78*43*4mm(2)
                           78*43*7mm(1)
                                           8*10*0.8cm (1)
                                                            8*9*4cm(2)
                                                                          8.5*8.5*12.5cm(3)
                                                                                               8.7*8.7*21.5cm(1)
           85*85*125mm(3)
                             88*59*3.5mm(3)
                                               9*10cm (2)
                                                            9*5.5*1 cm (1)
                                                                            9.5*8.4*13.2cm(8)
                                                                                                 9.8*14.3*6cm(2)
                            杯口:13.8cm 高度:18cm(5)
                                                          长:13.5cm 宽:6.2cm(3)
                                                                                     ₩: 16cm (1)
                                                                                                    ★: 17cm (1)
           95*62*7mm (15)
           长11.5cm 宽12cm(1)
                                 ₩15.5cm (1)
                                                <del>K</del>15cm (8)
                                                             ₩16 cm (1)
                                                                          长8.3cm 宽7cm(2)
           忍者免:6.5*3.8*0.5cm 可爱猫:4*5.3*0.5cm 乖乖狗:4*5.3*0.5cm(5)
                                                                            甜甜圈:3.5*1.5em 笑脸小熊:6.8*2.7*0.1em(4)
           外盒: 20.5*4*3.2cm 铅笔: 17.5cm(1)
                                                 汪汪狗:6.3*3.2*0.5cm 北极能:5.5*3*0.5cm 可爱猪:6.3*3*0.5cm (5)
           云朵: 7*4, 1*0, 5cm 小苗: 6, 3*3, 5*0, 5cm (2)
                                                     直径:1.2cm 长:16.5cm(7)
                                                                                  直径:6.5cm(1)
                                                                                                   直径:9cm(1)
```

Figure 44

Proposal: use "more" to hide some of the options when the choices are too many. Avoid the situation of occupying the whole screen by options.

Why?

A common design pitfall is to believe that by providing as many as options and several ways of doing things, it can satisfy everybody. But it does not work in the field of interaction design. It is believed that offering limited choices to users is the best way for them to choose from. When users use options to figure out what they want it is better to use "more" to hide some of the options in order to prevent filling up the screen from happening especially when the options are more than 3 lines. Choosing from limited choices is easy and useful for customers. Otherwise if the options are more than acceptability they do not work.

2. Requirement: there should be competition function.

Proposal:

There is no competition function between or among similar goods.

For example this kind of functional buttons are useful. The customers choose 2 or 3 items and press the button for comparison then all the information of the goods are listed which is very convenient for users to compare. Since some customers will forget what they saw before and the differences of the property between similar

Why? It is reported that

In the field of cars Lexus's default comparisons which are useful for most customers most of the time. And it increases the sales volume.

3 Requirement: the website should support keyboard instruction.

Proposal: The website does not support keyboard instruction excepting up and down. This has to be improved for broader users since not all the users are good at mouse using. Why? According to [41]: a significant portion of computer users have some trouble using a mouse so support both mouse and keyboard use for navigation, selection and other tasks will benefit them as well as expert mouse users. This means that for each mouse idiom there should be at least one non-mouse alternative.

4 requirement: customers prefer to see other's reviews as a kind of socialization. Proposal:

It deserves the attention of people that men barely watch the reviews while women do care about reviews from other customers. This point maybe belongs to the field of psychology. But for interaction designers this discovery definitely helps. In this website users are not encouraged to upload reviews which take time to see their own reviews. And customers do not like the feeling of not in control if long time taken for other people examining or verifying their reviews.

It is not that easy to find the reviews for each item for the new customers. There is no direct link to the reviews at the first screen after clicking.

Why?

In the form of providing information about their buying behavior to other users this enriches the user experience and increases the value of the service to the individual users. Many of the e-commerce sites enable users to produce reviews, such as Amazon.com for books, eBay, Booking.com for hotels, and PriceRunner for product price comparisons. Commentary on the reviews also may be enabled. EBay and similar online auction sites encourage reviews on sellers and buyers alike.

Amazon.com provides users with the possibility to rate and submit reviews on purchased products. These can be further rated by their usefulness to other customers. The behavior of other customers is also used to inform the users, for example, regarding how many prior customers who bought the viewed or purchased product. Users can also tag products in order to help themselves and other users find relevant products. It is helpful to see what others have done in the service and to see what products others have recommended.

5. Requirement: there are too many mouse and keyboard switching in the registration. Proposal: using up and down to control the cursor for registration. The users do not bother to use mouse for each line.

The picture down is the registration window.

请填写您的Email地址:		请填写有效的 Email地址作为下次登录的用户名, 同时我们也会给这个地址发送您的帐户信息、订单通知等。
请设定密码:		密码请设为6-16位字母或数字
请再次输入设定密码:		
昵称:		请输入中英文、数字、下划线或它们的组合
请输入验证码:	M L 0.3 M 者	不清,换一张
	完成往册	
	▼ 我已阅读并同意《VANCL凡客诚品服务	条款》

Figure 45

Why? According to [42]: Avoid frequent channel switching. Frequent switching of input between keyboard and mouse is evidently undesirable.

The users have to move the mouse one by one in order to move the cursor from the first frame to the last one. The movement of switching between keyboard and mouse is really an excess.

6. Requirement: warning should work like warnings.

Proposal: this is what the warning look. It is proposed that make the entry field change colors when it is right or wrong differently. The warning information is not obvious which should be updated. Either make the warning box larger or change the color of the entry box validating whether it is right or wrong.



Why?

According to [43]

"To provide rich visual feedback, the entry field could change colors to reflect its estimate of the validity of the entered data. The field could show in shades of pink until the program judged the data valid, when it would change to white or green."

It is better that data-entry fields can highlight any user input the system evaluates as suspect.

7. Requirement: no permission is needed.

Proposal

In the shopping cart if you want to delete one item the system will ask you "are you sure you want to delete it?" It is suggested to be limited for all the permissions unless the answer is no.

Why? According to [44]: Don't make users ask permission. Asking permission is pure excise, and unfortunately things haven't changed much.

This is frequently a symptom of not allowing input in the same place as output.

4.7 Usability testing and evaluations

Usability is the main concern of the website from perspective of interaction designer. Usability testing is quite late in the design cycle.

The main objective of usability work after the release of a product is to gather usability data for the next version. In the same way that existing and competing products were the best prototypes for the product in the initial competitive analysis phase, a newly released product can be viewed as a prototype of future products. The websites of Vancl and Taobao were used as prototypes and redesigned interfaces of Vancl using PS was used as a low fidelity prototype as well. Evaluation of the user interface is very important. Expert walkthroughs which is usually enormously useful were used and questionnaires were used too.

In a case study [Nielsen 1992c][45], the same user interface was subjected to heuristic evaluation by three groups of evaluators: usability "novices" with knowledge about computers in general but no special usability expertise, "single experts" who were usability specialists but not specialized in the domain of the interface, and "double experts" with expertise in both usability in general and the kind of interface being evaluated. The performance of the novice evaluators was fairly poor, with each of them finding an average of 22% of the usability problems in the interface. The single experts found 41% of the problems each, making them 1.8 times as good as the novices, and the double experts found 60% each, making them 2.7 times as good as the novices and 1.5 times as good as the

single experts. These results show that there are systematic group differences in evaluator performance in addition to the individual differences. It is preferable to use usability specialists as the evaluators.

Experts walkthrough: 3 experts did walkthrough using the existing Vancl website and watching the redesigned page layout of redesigned comparing with Taobao website then data were collected in the diagram. Open end interviews and questionnaires were used to figure out whether those proposals are better. The five criteria of usability evaluation was used to measure the improvement of the redesigned one.

The first expert for the usability testing is 29 year-old doing online shopping frequently and has experience of industry design. She said she really likes the updated search box which is bigger and more obvious. "The search function does matter a lot. The look now is better but the functionality has to be improved harshly which is out of the field for the interaction designer. They have to pay for better database programmers."

The second expert for the usability testing is a 30 year-old lady works in the field of IT and she pointed out that "I am used to use the navigation on the left of the screen just like the navigation from other popular ones."

So the navigation and the search box work better after updating. And for sure they like the position of the "hot sale", "recommended goods" since they do not have to scroll down to see them.

The third expert works in the field of interfaces design who is 33 year old so she can see problem and progress from the interfaces professionally. She preferred the redesigned homepage.

Nielsen (1993)[46] pointed out that we could find problems by evaluating the process of users' practical operations. He suggested to evaluate the user interface design by usability criteria. He provided five criteria of usability evaluation, including learnability, efficiency, memorability, errors and satisfaction in evaluating system usability. The number of experts agreed with the issue was illuminated in the following chart using questionnaires.

proposal	functiona	Non-function	learnabilit	efficiency	memorabilit	errors	satisfactio
	1	al	у		у		n
Homepage		√					3
. a							
Homepage		√		2		1	3
. b							
Homepage	√		3	3	3	3	3
. c							
Homepage		√	2				3
. d							

		1		1	1	1	
Homepage		√		2			2
. e	/		3	3	3		3
Homepage . f	√				3		
Homepage		√	3	3			3
. g							
Homepage . h	√	√	3	3	3	3	3
Homepage		√	2	3		2	2
i		•	_			-	
Homepage		√	3	3	3	3	3
. j		,					
Search	√	√	3	3	3	3	3
function	,	,					
Navigatio	√	√	2	3	3	1	3
n function	,	,					
Shopping		√	3	3	3	3	3
guide. a							
Shopping	√		3	1		2	2
guide. b							
Shopping	√			3		2	3
guide. c							
Shopping	√			2			2
guide. d							
Check-out.	√		1	3	1	2	3
a							
Check-out.	√		3	2		2	3
b							
Check-out.	√		3	3		3	2
c							
About	√						1
refund							
About	√	√	3	3	2	2	3
help							
About		√	2	2		2	3
options							
competitio	√		2	2	1		3
n function							
keyboard	√		2	3	1		2
instruction							
About	√	√	2	1	3		2
reviews							
About	√		1		3	2	3
registratio							

n							
About		√	3	3	3	2	2
warning							
About	√				2		2
permission							

Except the proposal for refund 3 experts figure out the redesigned solution is better than the original one.

4.8 final solutions and proposal

1. the homepage is updated. The original home page



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满百减十

真皮女包, 今秋独享, 质感 质,精制工艺,最优性价比 还有满户或干活动,让你尽



Figure 48

Improved prototype

The updated homepage is the proposal for this company to improve the website homepage. First post the tag line in the middle of the flashy pictures which express the brand value for the company. Second delete the list to cut down the homepage length to minimize the movement of scrolling especially for small screen users. Thirdly enlarge the search box to stand out the search engine. Fourth separate the channel bar and navigation which stands

out on the left of the first screen. Fifth stand out the block of new items, hot sales and recommended items. Sixth demonstrate the advantage of shipping fee on the homepage.

- 2. Some non-functional updating
- a. The original page for detail information



Figure 49

The proposed page for detail information



Figure 50

The important information should fit on one screen, as some users will not bother to scroll the page. Such as the material should be included on the one screen whenever the item is clicked. And with the info of shipping fee posted on the homepage and in the main trace of the users' eye movement there is no need to repeat the information about transportations on each detail pages.

b. The updated page of bags channel



Figure 51

c. The rating bar is updated:

The original one:



Figure 52

The updated one:

显示: 📃 🚻 🏻 排序: [销量 🌷 新品 🖒 | 价格 🖒 | 收藏 🐥 | 人气 🤚

Figure 53

d. The help and reviews stand out by the redesigned one The original one:

商品信息 购买评论 (75) 疑难提问 (51) 售后服务 如何购买

产品描述:

本款都市典雅系带高跟女鞋,鞋身采用优质pu材质,穿着柔软舒适。鞋口系带装饰简单而轻便,金属链条的加入,更具时尚潮流风范。前水台的设置,缓解高跟鞋给双脚带来的压力,穿着更加舒适。大底耐磨且有很好的防滑效果,呵护行走中的双脚。绝对是您日常生活各个场合中不可或缺的百搭之选。

跟高: 8.7cm; 前水台: 1.1cm

保养说明:

- 1、定期清洁皮鞋,可用湿布擦,但不能用水洗。
- 2、鞋面可用软刷清洁,切勿用硬刷猛刷。
- 3、皮鞋应避免接触酸碱等腐蚀溶剂。
- 4、穿皮鞋不宜作剧烈运动,否则皮鞋会变形走样。
- 5、要养成经常替换穿鞋的良好习惯。
- 6、新鞋穿着时,建议穿深颜色袜子,以防内里掉颜色,受潮及摩擦而产生的掉色,均属正常现象。
- 7、当下雨天皮鞋淋湿,要及时擦干净晾干,要避免高温烘烤和日光直晒。
- 8、定期使用一些皮革保护剂,可以很好的保养皮面。

Figure 54

The updated one:



产品描述:

本款都市典雅系带高跟女鞋,鞋身采用优质pu材质,穿着柔软舒适。鞋口系带装饰简单而轻便,金属链条的加入,更具时尚潮流风范。前水台的设置,缓解高跟鞋给双脚带来的压力,穿着更加舒适。大底耐磨且有很好的防滑效果,呵护行走中的双脚。绝对是您日常生活各个场合中不可或缺的百搭之选。

跟高: 8.7cm; 前水台: 1.1cm

保养说明:

- 1、定期清洁皮鞋,可用湿布擦,但不能用水洗。
- 2、鞋面可用软刷清洁,切勿用硬刷猛刷。
- 3、皮鞋应避免接触酸碱等腐蚀溶剂。
- 4、穿皮鞋不宜作剧烈运动,否则皮鞋会变形走样。
- 5、要养成经常替换穿鞋的良好习惯。
- 6、新鞋穿着时,建议穿深颜色袜子,以防内里掉颜色,受潮及摩擦而产生的掉色,均属正常现象。
- 7、当下雨天皮鞋淋湿,要及时擦干净晾干,要避免高温烘烤和日光直晒。
- 8、定期使用一些皮革保护剂,可以很好的保养皮面。

Figure 55

e. Distinguish the items out of store The original one:



都市魅惑及踝高跟女鞋 黑色

市场价: ¥409 **售价: ¥**139



都市闲逸及踝高跟女鞋 驼色 Figure 56

The updated one:



都市魅惑及踝高跟女鞋 黑色

市场价: ¥409 售价: ¥139



都市闲逸及踝高跟女鞋 驼色 Figure 57

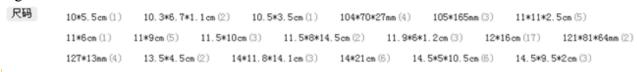
f. Add the indicator bar for new users.

Figure 58

g. Change the options that have more than 3 lines to this style. The original one:

```
尺码
                       10. 3*6. 7*1. 1 cm (2) 10. 5*3. 5 cm (1) 104*70*27mm (4)
          10*5.5cm(1)
                                                                             105*165mm(3)
                                                                                            11*11*2.5cm (5)
                     11*9em (5) 11.5*10em (3)
                                                  11.5*8*14.5cm(2) 11.9*6*1.2cm(3)
                                                                                     12*16cm (17)
                                                                                                     121*81*64mm (2)
          11*6cm (1)
          127*13mm (4)
                        13.5*4.5cm(2)
                                        14*11.8*14.1cm (3)
                                                            14*21 cm (6)
                                                                          14.5*5*10.5cm(6)
          145*190mm (4)
                         16*2, 2*0, 95cm (5)
                                            16*9.5*26 cm (1)
                                                             16*9.5*27 cm (1)
                                                                               17.5*10*10cm (4)
                                                                                                 180*250mm (1)
          19*10.6*3.7cm(2)
                             19.5*85*12.5cm(2)
                                                 192*132mm (4)
                                                                20*16*10.5cm (4)
                                                                                  21*8*5cm (1)
                                                                                                 210*50mm (6)
          22. 4*31 cm (2)
                         22.5*31 cm (1)
                                        220*40mm (5)
                                                       25*31.4cm (4)
                                                                      28*10cm (4)
                                                                                   31*25cm (4)
                                                                                                 32*23.5cm(2)
          33*23em (1) 33*24.5em (4)
                                      33*25cm(3)
                                                    33*26.5cm(4)
                                                                   50*40 cm (1)
                                                                                55*120*55mm(3)
                                                                                                 67*66.5*6.5mm(2)
          78*43*4mm(2)
                         78*43*7mm(1)
                                        8*10*0.8cm(1)
                                                         8*9*4cm(2)
                                                                      8.5*8.5*12.5cm(3)
                                                                                          8.7*8.7*21.5cm(1)
          85*85*125mm(3) 88*59*3.5mm(3)
                                                         9*5.5*1 cm (1)
                                                                        9.5*8.4*13.2cm(8)
                                                                                            9.8*14.3*6cm(2)
                                            9*10cm (2)
          95*62*7mm (15)   杯口:13.8cm 高度:18cm (5)   长:13.5cm 宽:6.2cm (3)
                                                                                ₭:16cm(1)
                                                                                               ₭:17cm(1)
                               长15.5cm (1)
          长11.5cm 宽12cm(1)
                                             ₩15cm (8)
                                                         ₭16 cm (1)
                                                                      长8.3cm 宽7cm(2)
          忍者兔:6.5*3.8*0.5em 可爱猫:4*5.3*0.5em 乖乖狗:4*5.3*0.5em(5)
                                                                       甜甜圈:3.5*1.5cm 笑脸小熊:6.8*2.7*0.1cm(4)
                                              汪汪狗:6.3*3.2*0.5cm 北极熊:5.5*3*0.5cm 可爱猪:6.3*3*0.5cm(5)
          外盒: 20.5*4*3.2cm 铅笔: 17.5cm(1)
          云朵: 7*4, 1*0, 5cm 小苗: 6, 3*3, 5*0, 5cm (2)
                                                  直径:1.2cm 长:16.5cm(7)
                                                                             直径:6.5cm(1)
                                                                                              直径:9cm(1)
```

Figure 59



~显示全部分类

Figure 60

h. update the warning layout for login. The original one:

Vancl用户	Vji≋用户
★ 用户名或表 用户名: lanlan32254@h	
密 码:	
登 录	忘记密码啦?
提示:还不是Vancl会员? 如果您是VJIA用户可以使	

Figure 61

The updated one:

VANCL用户	V+用户		
■ 用户名	或者密码错误!		
用户名: lanlan322			
密 码:			
登录	忘记密码啦?		
提示:还不是VANCL会员	37点击这里 免费注册		
如果您是V+用户可以使,	用V+用户名进行登录		

Figure 62

3. Some functional updating

- a. Improve the searching function
- b. It is suggested that the item from flashy picture in the middle of the screen should be found more easily when customer clicks it. Maybe put it in the first place of the list.
- c. Customize the setting for each user
- d. Modeless dialogue should be used except very urgent situation occurs.
- e. It is supposed to set and save each customer's information individually unless the customer wants to change the saved information. So the steps for check-out should be cut down.
- f. There should be a reasonable back button function on the website pages.
- g. There should be some audit process when users need.
- h. There should be somewhere to cancel the refund application.
- I. There should be helpful help function when users are in need. Especially for novice users.
- J. There should be competition function. Add the function of competition.
- k. Add the function of keyboard instruction.
- 1. It is suggested to be limited for all the permissions unless the answer is no.

Conclusion

In this thesis the author gave some solutions for the problems collected from users and figured out some suggestions and points for proposal of the website of Vancl which should update its online shopping website. Good user interfaces of online shopping provide multiple choosing methods, such as search engine, navigation, keyboard accelerators, and direct manipulation controls. Each of them should have the parallel capability to look for and buy the items. For diffent users and different tasks—the concern is not all the same form the research. More consideration should be focus on novice users especially the help function should be really helpful when the users need it.

Visibility is a general user interface design principle which should be related to users' daily life which means it is better to bear similarity to interactions with the objects in the physical world. For the new users the direct manipulation controls are easy to learn and use so the visual manipulation and visual feedback of the website is crucial to success for the online shopping websites. In the market of B2C the brand value should be stand out for sustainable development. Whatever functional updating or non-functional updating all the solutions are up to meet the requirements from different users. The less distance from the mental model of users the more satisfaction will be achieved in the products.

General discussion

What is your main contribution scientifically? (toward the commercial website design of Chinese)

In the market of B2C the brand value should be stand out for sustainable development. Low prices can no longer attract many customers which means it will lost the market share if no great brand value is familiar in the circle of target customers. With the development of online shopping the interaction between website and human will dominant the sales volume to some extent so the research from interaction design will be more important and valuable.

What do you learn from this work?

Besides the method learned from previous using in the whole research I have dig more information about online shopping users. Experience plays a very important role for users to recognize the function and layout of each element.

What are the weak points in the study?

Limited numbers of interviewees participated. Not concerning the colorblind.

How to make it better if you have more time?

If more time permitted more interviews will take place for the research.

Design recommendation?

You cannot make users follow the way you do or the steps you designed. Understandability of the novice users should be considered separately.

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