An Improved Interface for Craigslist

by Team JavaCup

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1. Tasks and Requirements

1.1 Introduction

Craigslist is an e-commerce website that has a deficient user-interface. It is the second most successful e-commerce website after eBay. However, its incompetence in providing an efficient user interface prevents it from becoming more popular. For instance, its homepage contains too much information in the form of links. Furthermore, information is not well organized and there is a lot of space wasted on the sides. The entire website needs a friendlier user interface. The current user interface is puzzling and many people leave the site frustrated. Selling, buying, requesting services, posting comments, questions and responses are some of the activities that the users are actually able to perform.

Even though more than 90% of Craigslist's users are from North America, Craigslist has a different section for every country around the world. Craigslist mainly connects sellers and buyers that reside in the same city; also, all major cities in the world are also supported. Every day, new users access Craigslist; however, many of these are novice users that get quickly frustrated because of the unfriendly user interface that the site offers. These people may choose to never come back to the site. Given that the website is mainly focused in buying, selling and requesting services, people older than 15 years of age are the main users.

The main function of this site is to connect people who want to sell with people who want to buy. In addition to allow them to come to an agreement concerning the price and the conditions of the item involved. The current expectations are that the site will continue to be used as it was used before; however, by improving its user interface, the site will attract more non-technical oriented people and older people that currently

find the site puzzling.

For instance, a 70 year old user who is not very familiar with browsing on the web

finds Craigslist. Once he sees the special offers on the main page, he will easily

recognize the website's main propose. Before, he would have seen all those scrambled

links, and he would not even bother to figure out the site's main function and just

leaves.

The site must contain support for the novice and expert users alike. However, so far

this support is so inefficient that new users are victims of different kind of scams by

other more experienced users. The user interface should be able to guide the novice

users on how to avoid being a victim of a scam and also how to be able to purchase

and sell all the items wanted. The new design should be able to run smoothly on all

major browsers such as IE, Firefox, Opera and Avant. This is a topic to be careful with,

since compatibility issues between browsers and web pages are all over the internet.

1.2 Concrete Task Examples

The following tasks have been identified for the new Craigslist interface:

1) Peter is a real estate investor (when he is not working) who frequently needs to find

housing information in Vancouver. Peter keeps an active internal record of all the

houses for sale in the Vancouver area. His weekend tasks involve 1) updating his list

with reliable resources (newspaper, flyers, phone calls), 2) Studying those information

to determine their return potential, 3) contacts the owner or the real estate agent for

those houses he is interested in.

Discussion: The user is a wealthy male in his 40-50's and is interested in finding out

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updated housing information for investment. The task (compiling and updating the listing) requires user's frequent attentions and is very important for him (everyday he waits his money depreciates in value while prices rise even higher).

2) Neil is in his last year of UBC. He wants to find a local job, and fast. Neil try to use different means to find a job, but regardless the means, his job search pattern is almost the same: 1) He read through all headings in job listings, 2) pays closer attention to those headings that seems relevant to his major, 3) he read through the details of these jobs, and 4) he contacts the employer and submit resumes by fax or email.

Discussion: The user is a young male in his 20's. His primary concern is to find a local job as quickly as possible using any resources he has. The task he performs in this example will likely be done very frequently before he secures a high-paying job. The task is also important for him because it directly how dynamics his life in the next few years. Having access to a local job database (updated constantly) will be immensely helpful for Neil.

3) Shaw is single and is in his 30's. Now he really wants to get married and build a family, the only problem is that he doesn't know how to start. He tried out local events and even some match maker services, but none of these worked out for him. Shaw learned a few lessons from previous dates, and wants to do a few things before he makes friends in the future: 1) He wants to see a picture of her before the first date, 2) whether she is a Christian, and 3) what kind of job she has. If he is interested, he wants to contact the lady and perhaps set up a date as quick as he can.

Discussion: Shaw is a male in his 30's. Although his survival is not dependent on the task state in the example, it may allow him to find a compatible girlfriend. Before he finds a compatible person, he may need to perform this task frequently. It is not critical task, but is still quite important for him.

4) Cindy recently got a job as an event hostess. She needs brilliant party ideas in order to impress her boss. She is one month to plan for it. She is excited but has no clue on what makes a party from so-so to spectacular. She needs ideas. She tries to call friends and family members for ideas and they offer ideas, but none are spectacular. Cindy wants more ideas, a lot more. She wants to be able to 1) let the world know she is planning for a party, 2) let everyone know that best idea will be implemented, 3) person with the best deal will be award a free pass to the party, and 4) advertise the party at the same time. She hopes by doing these things, a wonderful idea will come up to save the day. She doesn't want to use newspaper for this purpose because it is too costly and it seems inappropriate. She is hoping to post it somewhere on the internet as an informal request and also attracts hundreds of local party goers to show up.

Discussion: Cindy is a female in her 20's. The task she has to perform is extremely important because it directly affects her employment and perhaps her salaries. She does not have to perform this task frequently, as this is a one-time event. However she does need the experiences and wisdoms of the community to solve for her inadequacy in the subject.

5) Leah wants to sell her laptops. She doesn't want to pay the newspaper publisher to advertise. She heard there are lots of ways to post advertisements on the internet for free so she wants to try it out. She wants to 1) post a brief description of the laptop 2) post a picture of the laptop to show it is preserved well 3) state the selling price, and 4) leave contact information. She wants to have as many people seen her ads as possible.

Discussion: Leah is a female in her 30's. This task is likely to be a one-time event. It is somewhat important that she be able to sell it quickly because such item depreciates in value as time goes by. Newspaper may not be the best sources (because it targets news readers instead of computer users) and can be quite costly for such small sell.

We have collected this information by interviewing several users of Craigslist, and picked the most typical tasks from their description.

1.3 Tentative List of Requirements

The major requirements are identified and classified as follows:

- 1. Absolutely must include
- Search for jobs
- Search for housing
- Search for items on sale
- Search for dates
- Search for professionals with specialized skills
- Post ad
- Upload pictures with ad
- Contact ad owner by email
- 2. Should include
- Search by multiple keywords
- Search by posting date
- Search by location
- Search by picture availability
- Search for jobs by experience (entry-level, intermediate, or experienced)
- Search for jobs by type (full-time, part-time, intern, contract)
- Search for housing by monthly rent ranges
- Search for housing by # of bedrooms
- Search for housing by available date
- Search for items on sale by category
- Search for items on sale by price ranges
- Search for dates by gender

- Search for dates by age ranges
- Search for professionals with specialized skills by category
- Search for professionals with specialized skills by wage demand
- Help for novice users

3. Could include

- Posting preview functionality
- Put priority posting on homepage with payment of a fee
- User community and forum
- Event calendar
- Search for upcoming events
- User feedback and feedback rating

4. Exclude

- Search for gigs (combined with jobs)
- Location selection (can be specialized when searching for postings)

2. Sketches of design alternatives

2.1 Design alternative 1



Figure 1. Design alternative 1.

Strengths: Pictorial illustration; informative; innovative logo design; effective prevention of scam and fraud; easy for new users to identify the purpose of the site

Weakness: Limited choices of subcategories; inconvenient for advanced users

2.2 Design alternative 2

10 1 2 9 3		couver Craigslists
8 4 7 6 5	XE	Enter email:
Time Now		Forget your password? Sign in account? Click here to sign up today
<u>Home</u>	Search the key	words in craigslist:
Community		Advanced search Go
Personal	Upcoming Eve	
72		<u>Breaking news)</u> UBC building shuts down due to reat
Forums	Jan 09, 2008 <u>∨</u> s	ancouver HCl Contest held in downtown
Housing		
For Sales		
Services		
<u>Jobs</u>		
<u>Gigs</u>		
	Account / Terms	of use / Report Abuse/Scam / Help

Figure 2. Design Alternative 2 – Home page

Advanced Search
You can search vancouver craigslist by category. The result can be sorted by posting date and or relevance
Select one or more following categories to search: Home
By: ⊙ date ⊘ relevance
Search the term: Search

Figure 3. Design Alternative 2 - Advanced Search page.

Sign up a New Account	
To sign up a new account, please fill out your email and first name below. The last name, picture, and self-introduction are optional information that is used to identify yourself to other members, but not required.	
After you filled out your information, click "Submit" button to build a new account.	
Email:	
First Name:	
(optional) Last Name:	
(optional) Upload a Picture:	
Browse	
(optional) Self-Introduction:	
Submit	
Back to home page	

Figure 4. Design Alternative 2 – Account signup page.

Strengths: Focusing on the account concept; clean and simplified interface.

Weaknesses: Search functionality not adapting to user's needs.

3. Prototype, Analysis and Evaluation

3.1 Low-fidelity prototype

1. Target users

The target users of the pages described in this prototype include everyone aged 16-80 with access to the internet where the Craigslist service is available.

2. Storyboard

The main page

ncouver	Advanced search		Forgot password? Logi
Home / Community / F	Click the link to go to Personal / Forums / Housing / F	or sale	es / <u>Services</u> / <u>Jobs</u> / <u>Giqs</u>

Figure 1. Main page.

This is the home page where all functionalities will be presented to the user. Only the center content pane changes as the user clicks each link. The time and location on the top-left corner is meant to show local real-time. Subsequent pages are meant to appear

in the center pane, not replacing the home page.

Your Account You can view and modify your account profile here E-mail: ting.at.school@hotmail.com Secondary e-mail: ting.at.home@hotmail.com Name: Age: Likes: Distlikes: Do you wish to be contacted by other members if he/she is interested in you? Yes No Do you want to receive our newsletter? Yes No Save all changes

View/Modify account information

Figure 2. View or modify account information.

After the user clicks 'Your account', the center pane is updated with the 'Your account' sub-page. The user can enter information in each text field. The user uploads a picture of him/her by clicking 'Upload a picture...' to bring up a standard file menu and selecting an image to upload. The picture will be pending for review, and won't be shown right away (the picture frame displays only previously verified pictures). The user can click the checkboxes to specify settings. When all is done, the user is required to click 'Save all changes' in order to make the information entered permanent.

View policies regarding the use of the site

Users of this website is bounded by the following policies:

You may not spread virus or spam. You may not post threatening message.
You may post homework solutions here. You may post bittorrent links here.
You may post professor rating here. You may hack into our server (if you promise not to delete my games files) and change the content of this policy. If you are found guilty of any of the previous act mentioned, you will be punished by God and be Condemned to certain place in the afterlife. But the truth is I cannot do anything about it; and I will simply try to ignore whatever you do. If you have any complaint please find the member who gave you a hard time and resolve the issue by any violent means necessary.

Figure 3. Terms of use.

By clicking 'Terms of use', the user is able to read the website policy page in the center pane.

Report any abusive use of the site

Report abuse or spam:	
If you suspect a user is abusing his/her privillige, please fill-out the following complaint form. After you are done, please click "Submit" at bottom to submit the report to us. Our staff will get in touch with you in possibly 1 months or whne he feels like:	
Please describe the problem in the following box (max 2000 characters):	

Figure 4. Reporting abuse or spam.

After the user clicks 'Report abuse/spam', the center pane is updated with the 'Report abuse/spam' page. The user types in the text field and needs to hit the 'Submit' button

to submit the report.

Enabling online help

Figure 5. Enabling online help.

After the user clicks 'Help', the help page appears on the center pane. The user is required to enter email information in the email field and a description of the problem in the text field. Click 'Submit' to submit the question.

Advanced search

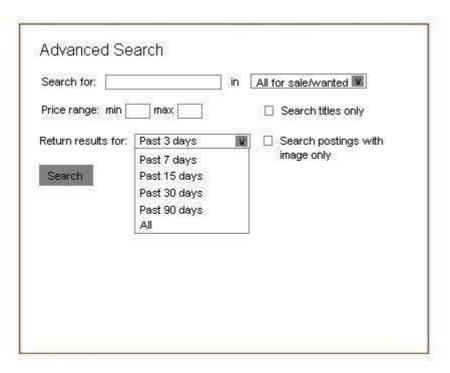


Figure 6. Advanced search.

By clicking 'Advanced Search', the user will be redirected to the advanced search page. The user can select different time ranges as well as subcategory-specific criteria (e.g. rent range for housing, wage range for jobs, etc.) in this page. The user can also choose to search the title only or search postings with images only. Click 'Search' to submit the query and retrieve search results.

Retrieve lost password

This is a 3-step process. First, the user clicks 'Forgot Password?' on the main page and is prompted for his/her email address. Second, the user enters the answer to the preset security question. Third, the user is notified that the password is sent to his/her email account.



Figure 7. Retrieve lost password step 1.



Figure 8. Retrieve lost password step 2.



Figure 9. Retrieve lost password step 3.

Subcategories

We divide Craigslist into multiple subcategories in order to reduce the amount of links. This approach resolves the overcrowding problem in the old main page. After the user clicks each link (Forums, housing, etc.), the corresponding sub-page will appear in the center pane.

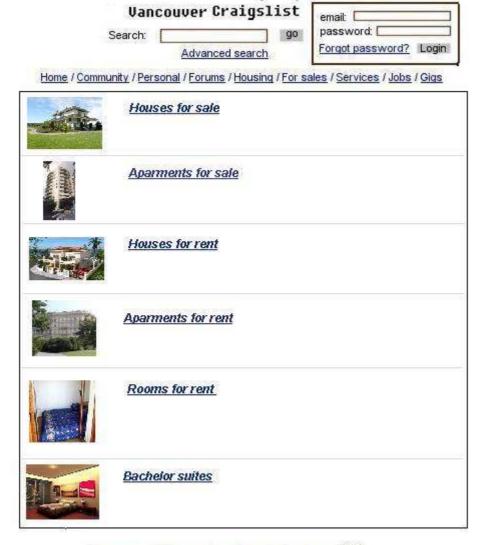


Figure 10. Subcategory 'Housing'.

Vancouver Craigslist Search: go Advanced search	email: password: Forgot password? Login
lome / Community / Personal / Forums / Housing / For s	ales / Services / Jobs / Gigs
ANTIQUES	
ART	
BOOKS	
BUSINESS & INDUSTRIAL	
CAMERAS & PHOTO	
CLOTHING, SHOES & ACCESSORIES	
COMPUTERS & NETWORKING	
CONSUMER ELECTRONICS	
DVD's & MOVIES	
<u>GIFTCERTIFICATE</u>	
MUSIC	
SPORTING GOODS	
VIDEO GAINES	

Figure 11. Subcategory 'For sale'.

Vancouver Cra Search: Advanced	go	email: password: Login
Home / Community / Personal / Forums /	Housing / For sale	s / <u>Services</u> / <u>Jobs</u> / <u>Gigs</u>
PART TIME JOBS		
FULL TIME JOBS		
SEASONAL JOBS		
STUDENT JOBS		
CARREER ORIENTED JOBS		
DO YOU HAVE A CATEGORY NOT	LISTED ABOVE	<u> </u>

Figure 12. Subcategory 'Jobs'.

Vancouver Craigslist Search: go Advanced search	email: password: Forgot password? Login
Home / Community / Personal / Forums / Housing / For sa	ales / <u>Services</u> / <u>Jobs</u> / <u>Gigs</u>
HOME SERVICES	
CAR SERVICES	
STUDENT SERVICES AND TUTORS	
INMIGRANT SERVICES	
GENERAL SERVICES	
FREE STUFF	

Figure 13. Subcategory 'Communities'.

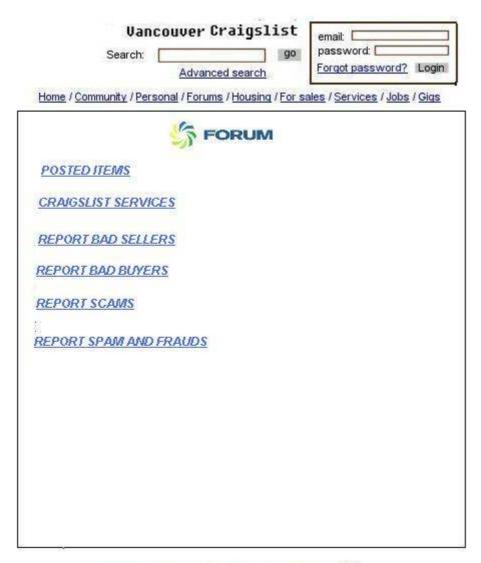


Figure 14. Subcategory 'Forum'.

Search:	Advanced search	password: Forgot password? Logir
Home / Community / Pe	rsonal / Forums / Housing / For s	ales / <u>Services</u> / <u>Jobs</u> / <u>Gigs</u>
	GIGS	
CREW		
<u>EVENT</u>		
LABOR		
COMPUTER		
CREATIVE		
DOMESTIC		
TALENT		
WRITING		
ADULT		
<u>OTHERS</u>		

Figure 15. Subcategory 'Gigs'.

3.2 Analysis and Walkthrough

3.2.1 Analysis

- 1) (Peter the real estate investor): Peter would have to start up an internet browser, enter the web address, and hit enter. In a few seconds, the main page will be shown. Here peter should see the title "Vancouver Craigslist" to identify the site. His eyes may skim through the top section and notice there are time, search bar, and account login. In the center, there is a hint that says "Click the link to go to" with lots of web links shown underneath. One of them is "Housing", thus it is reasonable to assume that this link contains some kind of information regarding houses for sales or rental units. Peter clicks into it and the content pane updates with an updated listing of houses for sales or rent in the Vancouver area. If the list is long, a scroll bar on the side will show up to allow peter to drag the scroll bar to move the screen down. When peter found a house he is interested in buying, he can clicks into the link for each house to obtain detail information and contact person. Thus Peter is able to successfully complete a search of housing information in Vancouver area using our design.
- 2) (Neil the UBC graduate) Neil would start up web browser, enter the web address, and wait a few seconds for Vancouver Craigslist to load. After a few seconds, he will spot the "Jobs" section and guessing maybe it contains job list or something that may help him. He clicks into it. The content pane updates, and he sees a long list of jobs available, sorted by dates. His eyes will skim through the list. If he sees something interesting, say "Recent graduate wanted immediately, good salaries to start" he can clicks into the link to find out the details and the contact information. Thus Neil is able to successfully complete a job search using our interface.
- 3) (Shaw the virgin) Shaw needs to fire up the web browser, enter the address, and let the site to load up. He skims through the top section and found "Personal" link,

which is usually associated with "Personal Ads" on the newspaper. Shaw wants to see what's inside, hoping that it is a personal ad. He clicks it, the content pane updates, and a list of all personal ads is shown sorted by dates. He may be interested in, say, third posting that says "Attractive man in his 30's, must be financially responsible and wanted to start a family". So Shaw clicks into the post, and sees a picture of the woman who posted the ad. He found her contact information on the posting, and emails her to arrange for a date. Whether he gets a reply is no guarantee, but his first search is completed at this point.

- 4) (Cindy the party hostess) Cindy comes to the site. She sees lots of links, and one of them is a forums. She recognizes that "forum" is something that everybody can post message and exchange ideas. She thinks this may help out her search of ideas, so she clicks into it. In the forum page (in content pane), she found lots of posting of all various type. She read through a couple postings to get a bit more familiar with the posting rules. She notices that there is a link on the content pane corner saying "Create a new posting". She clicks into it and find a blank form for her to fill out, and recognize this will enable her to exchange ideas with all the people on the forum. She is excited and tried to type a few things. She discovered through trial and error that this is very similar to a MS word editor that she is already familiar. She type up a brief posting, made a few changes, and read it again. She clicks the "Submit" button which she assumes is used to submit the posting to the forum. Content pane displayed a "Posting submitted" page, signaling her that the submission is complete. She is excited and went back to the "forum" link by clicking the link above. On the first link, sorted by latest posting date, she found the title link of her page "Win a ticket to a fabulous party – Design by you!!!" She clicks into it and find all the information that she typed. All she needs to do is to wait for reply until one suitable candidate shows up. Her task for requesting ideas from the community is complete.
- 5) (Leah the laptop seller) Leah comes to the site. Her eyes skim through links but

found no links that allows her to post her sell. She wonders whether she can post her ads in the forum, so she clicks into it. She found the forum is quite general, so she thinks it might be ok to put an ad. She went though pretty much what Cindy did and created a new posting. She waited a day and checked the responses from the forum; to her surprise, only the site administrator replied saying ads should be only posted in the "For sales" sections, she went to the "For sales" section and found a link on the corner saying "Create a new posting". She clicks into that, typed her ads in the pages, and submitted her ads. Finally she got responses from someone who is interested. She emails that person and sold her laptop. Leah was able to complete the task at the end, but because she wasted some time finding her way around. The title "For sales" perhaps isn't clear enough to indicate she can post her own ad. This task walkthrough is not successful and must be improved.

3.2.2 Heuristic Evaluation from Group 5

Due to technical issues, the PDF file provided by group 5 cannot be merged into this document. Thus we handed it in separately within the same handin directory.

3.3 Informal Evaluation with Users

Informal interviews with users of different background were held. A summary of the issues identified is described as follows:

- Users mentioned that the old Craigslist had a messy interface and the current interface design is a massive improvement.
- Users had divided opinions on whether feedback ratings resembling those of eBay's should be implemented. Some think it would make the site more reliable and less subject to scam and fraud; others think the current setting is better since Craigslist doesn't have to be reliable for its commercial transactions.
- Vivid graphic design is appealing to some, while others prefer simplistic design
 with categories and subcategories only. However, the majority of users don't like
 the current design of Craigslist, citing it being too messy.
- The most frequently used Craigslist functionalities are: housing, jobs, items on sale, dating, and professional services. Some users whose mother tongues are not English find the term 'gigs' hard to comprehend.
- Users would like more versatile searching mechanisms, such as searching jobs by location, searching professional services by wage demand, etc.
- One of the users suggested using tabs to enhance the usability of the interface.

3.4 Summary of Discussions

The interface that we designed (Vancouver Craigslist website) is appropriate for all internet users who are interested in exchanging information in the local community in Vancouver. The Home link lists all the local events that took place in Vancouver. The Community link lists the community lists community events. Personal link lists personal ads with pictures. Housing link provides a list of available houses for rent or sale. Forum link allows users to exchange ideas in text. For sales allows users to post personal sale ads. Services link lists all the local professional services advertisements.

Jobs link list local job postings. Lastly, the Gigs link provides spaces for posting events that do not belong to any other links. Users may be able to view those links at all times and be able to navigate by clicking anyone of them easily.

There are several enhancements underway:

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- The "You are here" effect: each major links will be represented by a tab on a clickable panel. Current page will be visually apparent by a highlight tab. The user always sees the current status of the interface system
- Reduced complexity: un-necessary categories and excessive web links are reduced or removed. By limiting the number of choices and functionalities, the usability of the interface improved. Users now are less likely to make errors due to a simpler design.
- More aesthetic elements and thoughtful layout: more visual element (i.e. back and forward button) will be incorporated to enhance the user browsing experiences and ease of use. A more user-friend layout will be thought after to better assist users to accomplish each tasks described in the task examples/walkthrough.
- More ways to search: by having multiple search functions, users may be able to locate information much faster than browsing alone. These functions enhance user freedom and control.

Overall we found our low-fidelity prototype to be barely sufficient to carry out the tasks defined in our proposal. It contains a few ambiguities (for example, home and community both display local events) and some redundant components (we are still debating whether to keep track of user accounts). Our goal is to solve these problems in the next high-fidelity prototypes and make our design a crude proximity of the real website to be launched. We will build the framework by HTML and the visual elements by CSS and Photoshop.

4. Mid-High Fidelity Prototyping and User Evaluation

4.1 Redesign Rationale

During our design review, we identified that a major weakness in our design was the lack of a viable mental model. Besides, the heuristic evaluation showed several major usability issues, which we aim to address and rectify in our mid-high fidelity prototype.

In addition to the issues above, the following questions would need to be answered to convince our users that our design is superior:

- a) How satisfied are our users?
- b) How easy is it for users to navigate the site?
- c) How fast can users find the information they want?
- d) How often do users make errors or require assistance?
- e) How much better are the aesthetic elements (layout and text) compared to before?

In order to evaluate the improvement of our interface based on the criteria above, we have the following mechanisms at our disposal:

- (1) Controlled experiments: Questions c) and d) can be answered by controlled experiments since they can be measured objectively. A user who is not familiar with Craigslist will be given a task to accomplish in the control group. The same user is then given the same task using the new interface in the experimental group. The data collected (time spent, error rate) will be analyzed using statistical methods.
- (2) End of interview questionnaire: This approach will provide answers to questions a), b), and e), which can only be answered by users personally.

We feel that a mid to high fidelity, semi-functional, horizontal prototype would be

needed to support our evaluation. The prototype can be built upon scripting languages such as HTML and CSS using Frontpage. We feel that we have sufficient information at this point to perform user testing.

Our new design is based on the catalogue mental model. In this design, each main category consists of several subcategories, and each subcategory is represented by a subpage. The main category is visible to the user at all time. Whenever the user hovers the mouse onto the category, a drop-down menu appears and displays all the subcategories for the main category. This is done to maintain a mental image of menu-driven interfaces and for the ease of navigation.

According to the pass 1 heuristic evaluation, we made several changes in our design. We took out the main categories that overlap with other main categories, such as 'gigs' (with 'jobs'), to ensure mutual exclusiveness. The hover-over menu ensures that the user understands the meaning of the main categories. We also took out some out-of-the-scope subpages, such as terms of use and reporting abuse or scam. Sign up functionality is added, and consistency is maintained throughout all subpages by using the same fonts, sizes and positioning parameters.

4.2 Additional Analysis and Evaluation

Based on the task list in section 1.2, a task walkthrough is performed to verify the feasibility of our design.

Description of step	Does the user have knowledge/training to do this?	Is it believable that they would do it? Are they motivated?	Comment/Solution
(1) Peter			
Click 'Housing -> estate	Yes	Yes	
for sale' on menu			
Browse the ad postings	Yes	Yes	Recent ads are on top;
of the past week			browsing can be done
			using navigation buttons
Contact the owner or the	Yes	Yes	Contact info can be seen
real estate agent			without clicking any link
(2) Neil			
Click 'Jobs -> software'	Yes	Yes	Assume software
on menu			engineering major
Click 'More details'	Yes	Yes	
on subpage for job			
postings of interest			
Contact the employer	Yes	Yes	E-mail address provided
and submit resume			in job posting
(3) Shaw			
Click 'Personal -> men	Yes	Yes	
seeking women' on menu			
Click 'Post new ad'	Yes	Yes	
button			

Description of step	Does the user have knowledge/training to do this?	Is it believable that they would do it? Are they motivated?	Comment/Solution
Write about the details he	Yes	Yes	
requires and leaves his			
contact info			
(4) Cindy			
Sign up and log in	Yes	It might not be	New users need a
		obvious at first that	learning curve. Mention
		the user needs to log	this tip in the main page.
		in to post in a forum	
Click 'Forum -> event'	Yes	It might not be	Similarly, mention this
on menu		obvious for the user to	tip in the main page;
		discover the	highlight event as a major
		functionality to	forum in the menu
		organize events using	
		a forum	
Click 'New Thread'	Yes	Yes	
Write message and post	Yes	Yes	
(5) Leah			
Click 'Sales ->	Yes	Yes	
computer' on menu			
Click 'Post new ad'	Yes	Yes	
button			
Type the posting and	Yes	Yes	
submit			

4.3 Prototype Illustrations

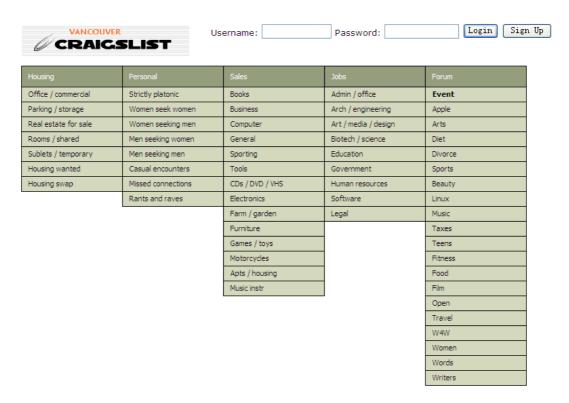


Figure 16. Fully expanded Craigslist menu.

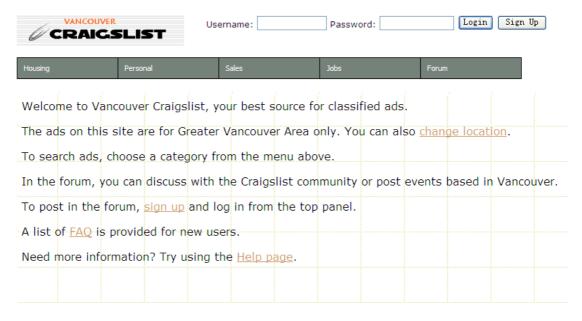


Figure 17. Main page.

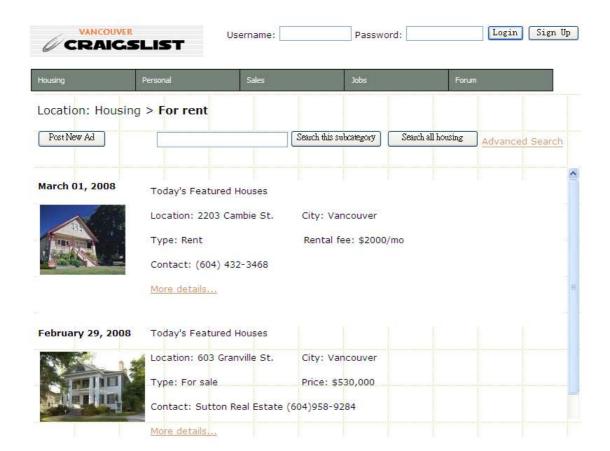


Figure 18. Housing -> For rent



Figure 19. Personal -> Men seeking women

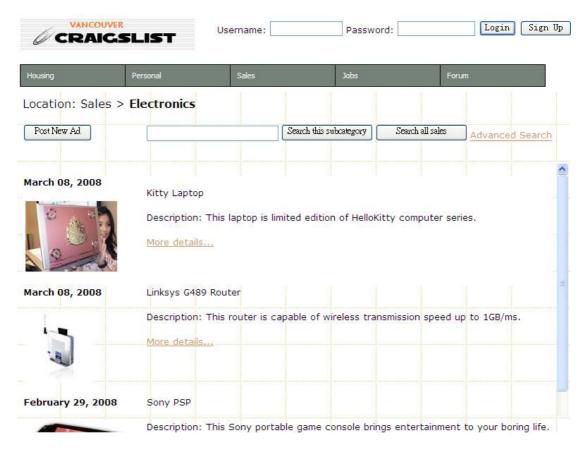


Figure 20. Sales -> Electronics

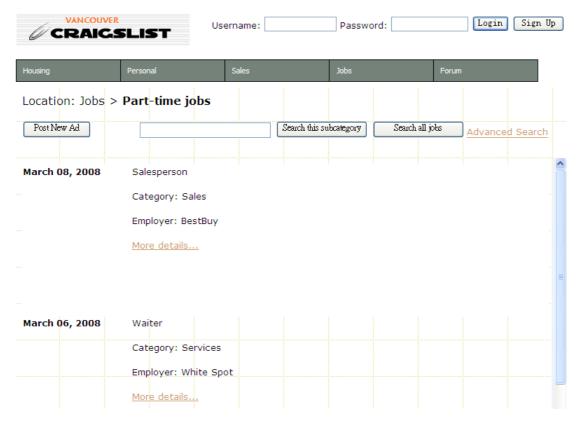


Figure 21. Jobs -> Part-time jobs



Figure 22. Forum -> Event

4.4 Evaluation Protocol

We use a controlled experiment to evaluate our revamped interface of Craigslist. The size of the study is 5. 15 tasks divided into 3 sessions of 5 tasks each are performed by each subject on the original Craigslist and the improved Craigslist interface. The task list is included in the Appendix.

The parameters of the controlled experiment are as follows:

- a) Null Hypothesis 1: The new interface does not reduce user search time.
- b) Alternative Hypothesis 1: The new interface reduces user search time.
- c) Null Hypothesis 2: The new interface does not reduce user errors.
- d) Alternative Hypothesis 2: The new interface reduces user errors.
- e) Null Hypothesis 3: Users do not favor either interface.
- f) Alternative Hypothesis 3: Users favor the improved interface.
- g) Independent variables: Spread-out layout v.s menu-based layout.
- h) Dependent variables: Time required for a certain task; number of errors made on an interface executing a certain task.

Before the experiment, the following needs to be prepared:

- a) A computer with a mouse as the input device, and a computer monitor as the output device.
- b) Screen-capturing software CamStudio to capture video during the session.
- c) The original Vancouver Craigslist website and a horizontal improved interface of Craigslist, the subcategories of the latter being linked to the subcategories of the original Craigslist.
- d) A paper task list, a questionnaire form, and a consent form.

The test procedure is outlined as follows:

a) Debrief the subject on the purpose of this experiment, their rights, and consent

- regarding releasing their personal information and experimental data.
- b) Set the subject in front of computer monitor (showing the original Vancouver Craigslist) and provide a quick tutorial on how to complete an example task. Request the subject to perform the example task again to make sure the subject understands how to perform each task.
- c) Start CamStudio recording; give the subject the task list to begin the study session. The task sequence is the same for all participants, so that the effect of fatigue is compounded with each task evenly.
- d) Each subject is asked to repeat the following for each of the 3 sessions tested: complete the 5 tasks on one interface, rest 2 minutes, complete the 5 tasks on the other interface, rest another 2 minutes. During the 2-minute rest, clear the private data from the browser. The precedence of the interface would be original => improved for the first session of the first subject, then alternating every other session and subject.
- e) Upon completion of all 15 tasks, the subject would complete a short, 5-minute questionnaire, which is also included in the Appendix.
- f) Review the video, and identify the start time and end time of each task. Count the errors (defined as the number of misclicks, e.g wrong category or wrong post) for each task performed.

4.5 Subjects

The selected users must not have used Craigslist, because familiarity with the original interface may bias users' browsing experience and their ability to navigate. The subjects' age should be 16 years old and up, because most information appearing on the original site is meant for adult users, and may contain information unsuitable for younger audiences. Subjects will be drawn randomly from the local community to better reflect a true representation of the population in the Lower Mainland.

From our post-study questionnaire, we collected some information about our subjects' experience with internet and buying/selling goods online. The subjects are reasonably familiar with internet: all users had more than 5 years of experience with internet, and 4 out of the 5 users have over 10 years. The subjects browse the internet for at least 1-2 hours a day, with 1 of the 5 users spending over 4 hours a day surfing the web. 3 out of the 5 users had previous experience buying and selling goods online, but never using Craigslist.

The results above show that the subjects we used are familiar enough with internet to use Craigslist. The fact that quite a few subjects had e-trading experience but never used Craigslist indicates that with a potential improvement of the Craigslist interface, these subjects might switch to Craigslist from the e-commerce sites they originally used.

We used entirely different subjects from those we used in pass 1, who have already used Craigslist before. As discussed above, using subjects who had previous experience with Craigslist would incur bias towards the original Craigslist interface.

4.6 Evaluation Results

Our experiment aims to measure the usability and the level of user satisfaction of the original and redesigned interfaces of Craigslist. We measure the usability by two metrics: time required for each session of 5 tasks, and the number of errors made during each session. Figure 23 summarizes the comparison of the time used for each session between the two interfaces. The average time used for each session is reduced by over 1 minute per session. The t-statistics analysis of p=0.05 suggests the null hypothesis be rejected, showing a significant difference between the two interfaces in terms of search time.

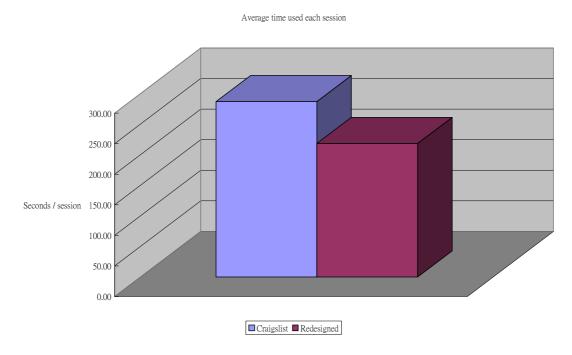


Figure 23. Comparison of average time per session of the original and the improved Craigslist interfaces.

Figure 24 summarizes the comparison of the number of errors occurring within each session between the two interfaces. On average, the errors occurring within each session is reduced by 1.73 per session. The t-statistics analysis of p=0.05 suggests the null hypothesis be rejected, showing a significant difference between the two interfaces in terms of number of errors.

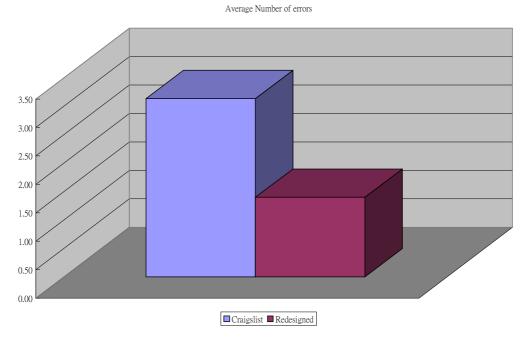


Figure 24. Comparison of average number of errors of the original and the improved Craigslist interfaces.

Figure 25 summarizes the comparison of the level of satisfaction experienced by the subjects between the two interfaces. The redesigned interface edges out the original interface by 3 points. The t-statistics analysis of p=0.05 suggests the null hypothesis be rejected, showing a significant difference between the two interfaces in terms of user satisfaction.

Our conclusions from the user study and statistical analysis are:

- a) It takes less time to find stuffs on the redesigned interface.
- b) It is less likely to commit errors on the redesigned interface.
- c) Users are more satisfied with the new interface.

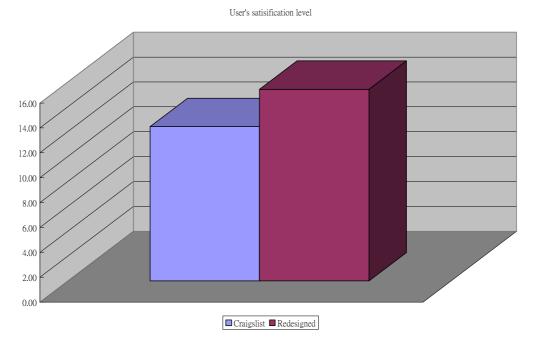


Figure 25. Comparison of the user satisfaction level of the original and the improved Craigslist interfaces.

We identified some noise variables associated with our study. First, some users had more exposure to online classfied ads or e-commerce websites than others, as was shown by the questionnaire results. Second, there would be a learning effect due to the nature of our prototype. We countered this effect to some extent by alternating the precedence order of the two interfaces. Third, the system response time may be different between subjects. The system response time may be influenced by the internet connection, the frequency of the CPU, and the number of processes running on the computer. In addition, despite the fact that our subjects were randomly chosen, the sample size is quite small. A larger sample size would be required to further verify the usability of the new interface.

4.7 Final design rationale

The messy layout was identified as a deficiency of the original Craigslist interface, which featured a large number of densely arranged links. Everything was clickable while the meaning of the links were not apparent. Besides, the compact arrangement of links increased the likelihood of errors by the users. These problems are duly addressed by our redesigned interface. The number of links are greatly reduced and the links are arranged in a more organized manner. As a result, users are less likely to produce errors.

Our redesigned interface can be improved by installing menus on each subpage. The current prototype displays the drop-down menu only on the main page; once the user clicks a subpage, the menu disappears and the user has to press 'Back' in order to see the drop-down menu again. This feature is not feasible to implement (all subpages-more than 100 pages-must be reimplemented in Javascript) during the given timeframe

Ideally, a better design would be menued-subpages accompanied by a 2-level dropdown list. We believe a 2-level of cascade with a better organized sub-categories would help users to navigate more easily. There is a tremendous amount of information Craigslist brings to the user, and not all of these information are available to users at all times. It is our belief that if we reveal all the choices to the user at all times (in the form of drop-down menu in each subpage), users are less likely required to traverse back to the main page each time he/she wants to go to a different category.

Another feature that improve the usability of our design is the 'You are here' effect that we proposed. We found this feature also technically impossible to implement in the given timeframe, unless we modify hundreds of all subpages on the Craigslist. The 'You are here' effect would indicate current location with respect to the main page, or the current status of the system to the user.

4.8 Reflect on the design process

The design process took many twists and turns. The biggest surprises we had about the user-centered design process taking this course was how necessary it is to have a viable mental model. At the time we did our proposals, HCI meant no more to us than changing fonts, colours, and layouts. We used to design interface based on how it looked rather than how well it worked, and it was based on this misunderstanding of the essence of HCI that we carried out our pass 1 design. As a result, usability decreased despite a better layout. In pass 2, we integrated a new category-based mental model into our design, and favorable results followed. This lesson showed us that we need to consider more about the mental process of the user rather than the aesthetic aspect of the interface.

We were happy with our user evaluation process and results. It could have been better if the sample size were larger, but our busy schedule towards the end of the term made it difficult for us to conduct a more thorough user study.

The most valuable activity for our group was the heuristic evaluation. Due to our lack of experience in user interface design, many mistakes were made in our pass 1 design. The heuristic evaluation after pass 1 gave us a lot of information on what was done wrong and helped us immensely in our pass 2 design. We feel that heurstic evaluations can be very useful for either large-scale or personal projects. On the other hand, we found that constructing storyboards of alternative designs took up much time that could be put to better use elsewhere.

For our future interface design projects, we will focus on the validity of our mental model and the heuristic analysis. The extent of user involvement would depend on the scale of the project. A formal user evaluation will be performed if the interface is complex or very important.

Appendix

A.1 Raw data collected at each user study session

	Old Craigslist Interf	ace						
	Time (sec)							
Subject	Session 1	Session 2	Session 3					
1	234	352	167					
2	420	264	277					
3	358	302	262					
4	352	247	183					
5	401	224	258					
	New Craigslist Inter	face						
	Time (sec)							
Subject	Session 1	Session 2	Session 3					
1	212	337	111					
2	270	168	175					
3	284	215	209					
4	251	172	187					
5	331	171	183					
	Old Craigslist Interface							
		Error						
Subject	Session 1	Session 2	Session 3					
1	1	2	1					
2	7	2	2					
3	6	6	3					
4	5	2	2					
5	6	1	1					
	New Craigslist Interface							
	Time (sec)							
Subject	Session 1	Session 2	Session 3					
1	0	0	1					
2	3	2	1					
3	1	1	1					
4	3	1	1					
5			2					
Subject	Old-satisfaction(/20)	New-satisfaction(/20))					
1	15	17						
2	11	16						
3	13	16						
4		14						
5	10	14						

A.2 T-statistics analysis table – search time by session

N=	15					
df=	14					
C1-:4	G :	Pres.	Old time	New time	Maria	Diff
Subject	Session	Order	(s)	(s)	Mean	(Old-New)
1	1	ON	234	212	223.0	22
2	1	NO	420	270	345.0	150
3	1	ON	358	284	321.0	74
4	1	NO	352	251	301.5	101
5	1	ON	401	331	366.0	70
1	2	NO	352	337	344.5	15
2	2	ON	264	168	216.0	96
3	2	NO	302	215	258.5	87
4	2	ON	247	172	209.5	75
5	2	NO	224	171	197.5	53
1	3	ON	167	111	139.0	56
2	3	NO	277	175	226.0	102
3	3	ON	262	209	235.5	53
4	3	NO	183	187	185.0	-4
5	3	ON	258	183	220.5	75
		M	207.72	210.40	mean of	(0.22
		Mean	286.73	218.40	differences:	68.33
					SS:	20953.3333
					s2:	1496.66667
					sd:	38.6867764
					se=sd/sqrt(N):	9.98888271
					t:	6.8409386
conf	0.05				df for t statistic:	14
					terit	2.14478668
					(two-tailed):	2.144/0000
						REJECT
					tdist(t,df,2)	8.05E-06

A.3 T-statistics analysis table – number of errors by session

N=	15					
df=	14					
Subject	Caggion	Pres. Order	Old arrors	New	Mean	Diff
Subject	36881011	ries. Oluci	Old Cirois	errors	Ivican	(Old-New)
1	1	ON	1	0	0.5	1
2	1	NO	7	3	5.0	4
3	1	ON	6	1	3.5	5
4	1	NO	5	3	4.0	2
5	1	ON	6	3	4.5	3
1	2	NO	2	0	1.0	2
2	2	ON	2	2	2.0	0
3	2	NO	6	1	3.5	5
4	2	ON	2	1	1.5	1
5	2	NO	1	1	1.0	0
1	3	ON	1	1	1.0	0
2	3	NO	2	1	1.5	1
3	3	ON	3	1	2.0	2
4	3	NO	2	1	1.5	1
5	3	ON	1	2	1.5	-1
		Maan	2 12	1 40	mean of	1 72
		Mean	3.13	1.40	differences:	1.73
					SS:	46.93333
					s2:	3.352381
					sd:	1.830951
					se=sd/sqrt(N):	0.472749
					t:	3.666494
conf	0.05				df for t statistic:	14
					tcrit	2 144707
					(two-tailed):	2.144787
						REJECT
					tdist(t,df,2)	0.00254

A.4 T-statistics analysis table – user satisfaction by subject

N=	5					
df=	4					
Subject	Session	Pres. Order Old sa	Old satisf	New caticf	Mean	Diff
Subject	36881011	Tics. Ofuci	Olu salisi.	new sausi.	Ivican	(Old-New)
1	N/A	N/A	15	17	16.0	-2
2	N/A	N/A	11	16	13.5	-5
3	N/A	N/A	13	16	14.5	-3
4	N/A	N/A	13	14	13.5	-1
5	N/A	N/A	10	14	12.0	-4
		Mean	12.40	15.40	mean of	-3.00
		Mean	12.40	13.40	differences:	-3.00
					SS:	10
					s2:	2.5
					sd:	1.581139
					se=sd/sqrt(N):	0.707107
					t:	4.242641
conf	0.05				df for t statistic:	4
					tcrit	2.776445
					(two-tailed):	2.770443
						REJECT
					tdist(t,df,2)	0.013236

A.5 Task description given to the subject

This experiment will take 25-35 minutes. The information collected from the experiment will be used for research purpose only.

Task: For each of the five tasks in a session, find **only one** posting using the interface provided. The test assistant will inform you before a session which tasks to complete and which interface to use. After you find postings for all tasks in a session, notify the test assistant immediately.

Session 1
Rent one bedroom below \$500
Buy condo beside Skytrain
Car storage for summer
Room for rent in Whister for one week around April 20
Find Asian girl below 25 seeking men

Session 2
Find Caucasian guy 25-30 seeking women with pic
Find a tennis partner, male or female
Golf clubs
MacBook Pro
Cheap movie tickets

Session 3
Find French tutor
Civil Engineering job
Barista job
Recruiter job
Dietary advices

A.6 Post-experiment Questionnaire

1. When did you first use internet?

The information collected from the experiment will be used for research purpose only.

(a)	a) Less than 5 years ago							
(b)	(b) 5-10 years ago							
(c)	10-15 years ago							
(d)	d) More than 15 years ago							
(a) (b) (c)	 2. How much time do you spend surfing the into (a) Over 4 hours a day (b) 2-4 hours a day (c) 1-2 hours a day (d) Less than 1 hour a day 	ernet every day?						
3. (a)	3. Have you purchased or sold anything on the etc.)?(a) Yes, at least several times a year	nternet before (e.g on eBay, Amazon,						
` ′	b) Yes, but only occasionally							
(c)	c) No, never							
	4. On a scale of 1-10, how would you rate Craig 1 2 3 4 5 6 7 8 9 10 Very bad Ok Very	•						
5	5. On a scale of 1-10, how would you rate the n	ew interface's layout?						
٥.	1 2 3 4 5 6 7 8 9 10	ew interface 5 layout:						
Vei	Very bad Ok Very	good						
	9	B						
6.	6. On a scale of 1-10, how would you rate Craig	slist's usability?						
	1 2 3 4 5 6 7 8 9 10							
Ve	Very bad Ok Very	good						
	7. On a scale of 1-10, how would you rate the n 1 2 3 4 5 6 7 8 9 10 Very bad Ok Very	•						
8.	 Please provide any comments about your ex interface. 	perience with Craigslist and the new						

A.7 Questionnaire results

Subject	Q1	Q2	Q3	Q4	Q5	Q6	Q7
1	В	В	A	7	8	8	9
2	С	С	В	3	8	8	8
3	D	С	С	5	8	8	8
4	В	С	С	5	8	8	6
5	С	A	A	5	7	5	7

Q8

Subject 1: It's simpler than the old interface.

A.8 Ethics Forms