

# **Usability Evaluation Report for Cmail**

<http://www.chatreez.com/hci/prototype2>

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# 1 Executive Summary

This report documents the findings of a usability test of Cmail, a web-based email prototype. The main purpose is to assess the usability of the prototype on email activities that assist email user to manage their large amount of emails. The study focused on findings of any possible usability issues in the design.

Three participants were selected to participate in one hour session. Each session includes questionnaires, a time-on-task study, and an interview. All three participants represents extensive computer and email user.

Overall, users were pleased with the interface of Cmail. The new feature that most of them considered useful is a note taking feature. The idea of grouping emails the thread together was well-accepted. Users graded the ease of use of this interface as B+, C, and A, and they scored the overall interface as 8.5, 7, and 8.

However, there are some negative feedbacks or reactions on some of the new feature and the design. The following table presents usability issues found in this study.

#	Severity	Issue Found
1	Major	There is no "Archive" button in the message page
2	Major	The order of messages in the thread is reversed from normal order
3	Moderate	Menus are too close to each other
4	Moderate	There is no feedback after user perform an action
5	Moderate	Redundant "Filter" in a drop-down menu
6	Minor	In a thread, a page should be scrolled to a position of a clicked email
7	Minor	The use of the term "Filter" could be confusing
8	Minor	Search term does not remain in the search box
9	Minor	Not enough supports for new/novice users

## 2 Methodology

### 2.1 Overview

The purpose of this usability evaluation study was to identify usability issue of Cmail (<http://www.chatreez.com/hci/prototype2>). Cmail is the dynamic prototype of web-based email service. It is designed to support the email overload issue in web-based email service that occurs when the service offers large amount of storage space (>1GB).

The evaluation focused only on email activities that assist email user to manage their emails (categorization, task management, thread grouping, searching, and archiving). The evaluation did not cover other area of email such as address book, email composing, etc.

There were three users participated in this evaluation so that the report is focusing on qualitative data such as problem findings rather than quantitative data. In this stage of usability investigation where the design is in progress, qualitative data is productive and could be done in a short period of time with a small amount of participants.

### 2.2 Equipments

The computer used in this test was a PC with a 1 GHz Pentium 4 Processor, 128MB of RAM, and a 15" CRT monitor set to a resolution of 1024 x 768. Microsoft Internet Explorer 6 was used on Microsoft Windows 2000 Operating Systems. Internet connection was connected via LAN. The entire session was recorded using another computer and a camcorder.

### 2.3 Participants

Three participants were selected. They represent experienced computer an email users. Since Cmail is a prototype, none of them of used Cmail before. All of them check their emails for more than ten times per day. All of the uses Microsoft Outlook as an email client for work. Some of them also use Yahoo! Mail and Gmail as a personal and, sometimes, work email.

\* For detailed user profile, see **Appendix A**.

### 2.4 Procedures

Each participant participated in a one-hour session consists of five parts:

**1. Introduction (~5 minutes):**

The introduction script was read to each user to provide exact explanation on the purpose, the role, and the procedure of the study.

**2. User Profile Questionnaire (~3 minutes):**

Each user had to complete the user profile questionnaire. This questionnaire contains questions related to user's general computer and email experiences.

**3. Time-on-Task and Think-Aloud Technique (20-30 minutes):**

Each user was given seven tasks to complete. Tasks are email features and

activities that should be focused on. There was a time limit for five minutes to complete each task.

**4. Post-Test Interview (20-30 minutes):**

After completing the task, there was an interview that asked a range of questions related to the experience with Cmail.

**5. Post-Test Questionnaire (~5 minutes):**

The questionnaire was also asked questions related to the experience with Cmail using questionnaire that contains scales of preferences (likert scale).

\* For detailed test materials, see **Appendix D**

### 3 Evaluation Results and Recommendations

Evaluation results are grouped by the degree of severity in usability issue. Explanation is shown in the following table:

Severity	Description
Critical	The issue is so severe that most users could not complete the task, or they would not want to continue doing the task with the issue.
Major	Most users could complete the task, but with considerable frustration or performance of unnecessary steps. Unexpected outcome for most users.
Moderate	Most users could complete the task, only some users were frustrated, saw unexpected outcome, or did not see expected outcome.
Minor	The task could be finished in most case. But the issue may annoy users. It could also be a cosmetic issue.

\* Please note that this measure based on how the issue affect users, not the difficulty to fix the issue from the designer or programmer standpoint.

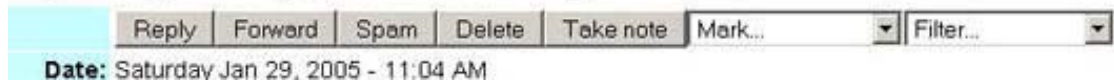
\* For time-on-task result, see **Appendix B**

\* For user remarkable comments, see **Appendix C**

There is no critical issue that prevents any user from completing the tasks in this usability study.

### 3.1 Major Usability Issue

- There is no “Archive” button in the message page



In order to archive a message, all of the participants tried to find an “Archive” button in the message page, but there was no such button in that page. When they tried to go back to the Inbox, they lost their message (since this message did not present in the first page in the Inbox). Users actually had to either click “Back” button in the browser or do the search again. An “Archive” button only appears in a message list or search results.

Recommendation: Place an “Archive” button in the message page.

- The order of messages in the thread is reversed from normal order

When users clicked into a conversational thread, they were surprised to see messages arrange in a reverse order. In the Inbox, messages in the thread are grouped and order by date in descending order (most current on top). But when users clicked a thread to read, they found out that messages were order by date in ascending order (most current at the bottom) as a web forum. Every user did not expect to see messages to be arranged in reverse order.

Recommendation: Reorder message in a thread to be in descending order.

### 3.2 Moderate Usability Issue

- Menus are too close to each other



This issue is also noticed by every user and one user had a problem with it. In the Inbox, all the menus and buttons and search box are next to each other in a same level. Every user mentioned that there are three group of functionality and there should be something that separates them. Also, one user mentioned that the checkbox, which works with most of the menus, was not connected with those menus. There should be a clue or a connection between them.

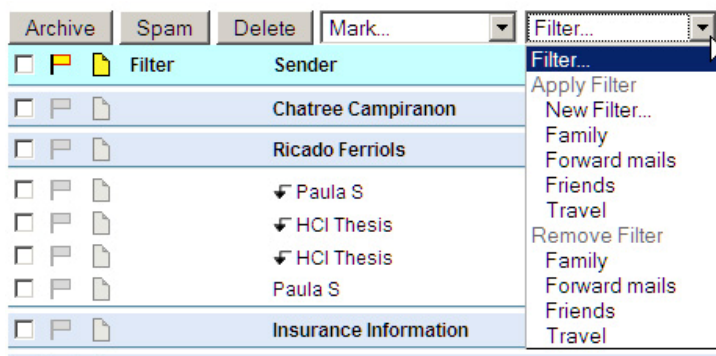
Recommendation: Use different treatment, such as shape or color, for different type of menus. Also, there could be a division between different menus. And provide connection between check boxes and menus.

- **There is no feedback after user perform an action**

Once user performed an action such as moving email or flagging email, there was no feedback to a user to let them know if the result is correct or not. Most users were admitted that success or error message would help them make sure about the result. Also, one user mentioned that once he moved a message to a particular folder such as archive, the result would be the redirection of the page to that particular folder (not the Inbox).

Recommendation: *Provide some kind of message or alert. Also, consider about redirecting current page to a page that messages have been moved to.*

- **Redundant “Filter” in a drop-down menu**



There was one user that mistakenly clicked a filter name under a sub-division “Remove Filter” to apply filter, the result was task completion was delayed. In the “Filter” drop-down menu, the entire filter was appeared in both “Apply Filter” and “Remove Filter” sub-division, which can cause users who cannot see the grey sub-category letter to make a mistake.

Recommendation: *Show only filters that correspond to a current applied filter in selected emails. For example, if a selected email has a filter “Friends” with it, then there should not be an option to “Apply Friends Filter.”*

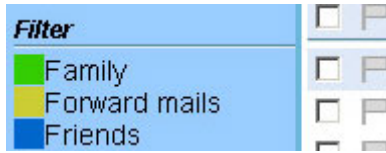
### 3.3 Minor Usability Issue

- **In a thread, a page should be scrolled to a position of a clicked email**

All of the users mentioned that it would be more convenience to have a page to be automatically scrolled (jumped) to a position of an email that they click to read.

Recommendation: *Add Anchor Tag.*

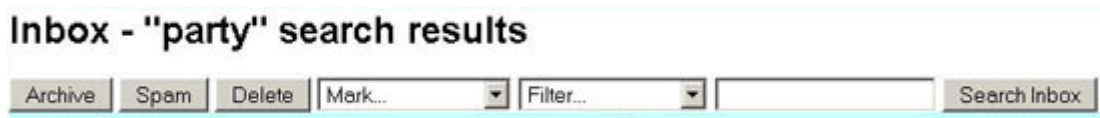
- **The use of the term “Filter” could be confusing**



One user mentioned that since a filter works like a folder in many other email services, which users are the one who create their own filter, “Filter” should be named differently to differentiate between the functionality of the “Filter” (created by user) and “View” (created by default).

Recommendation: *Change the terminology to “My Filter” or “Personal Filter.”*

- **Search term does not remain in the search box**



Once users searched, the search term did not appear in the search box. One user mentioned that he prefer to have it in the search box in case that he wanted to refine and change a previous search.

Recommendation: *Place the search term in the search box*

- **Not enough supports for new/novice users**

New users need to be introduced to the email system. One user mentioned that he did not know the exact functionality of email flag. One user mentioned that he did not know which column was sorted. And new feature like archive should also be introduced.

Recommendation: *For flag, add more informative caption (Alt Text) such as “Add flag to make this email easier to be noticed later.” For sort, add a little symbol such as a small triangle next to the “Date” column. If there are a lot of new features, providing help or FAQ page might be useful.*

## Appendix A – User Profile Results

General information	Users	
	Respondents	%
<b>Age (years)</b> 26-35	3	100.0
<b>Gender</b> Male	3	100.0

General computer and internet experience	Users	
	Respondents	%
<b>Operating system</b> Microsoft Windows	1	33.3
Apple Macintosh	1	33.3
Both Windows and Macintosh	1	33.3
<b>Computer experience (years)</b> 7-9	1	33.3
More than 10	2	66.7
<b>Internet experience (years)</b> 7-9	1	33.4
More than 10	2	66.7
<b>Computer usage (hours per day)</b> 7-9	2	66.7
More than 10	1	33.3
<b>Internet usage (hours per day)</b> 4-6	1	33.3
More than 10	2	66.7

General email experience	Users	
	Respondents	%
<b>Email experience (years)</b> 7-9	1	33.3
More than 10	2	66.7
<b>Frequency of checking email (time per day)</b> More than 10	3	100.0
<b>Estimated duration on accessing mailbox each time (minutes)</b> 1-5	2	66.7
6-10	1	33.3
<b>Email client software usage</b> Outlook	3	100.0
<b>Web-based email usage</b> Yahoo! Mail	1	33.3
Gmail	1	33.3
Both Yahoo! Mail and Gmail	1	33.3
<b>Current web-based email client experience (years)</b> 1-3	1	33.3
4-6	1	33.3
7-9	1	33.3
<b>Area of usage on web-based email</b> Work and Personal	2	66.7
Only Personal	1	33.3

## Appendix B – Time-on-Task Results

The following table represents results from task session, number indicates the duration in seconds to finish the task. Every participants can complete every task (success rate = 100%). However, information from user 3 is not available (N/A).

User	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Task 7
User 1	14	27	40	90	85	30	47
User 2	20	27	20	32	30	76	92
User 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Median</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>Mean</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<b>SD</b>	N/A	N/A	N/A	N/A	N/A	N/A	N/A

## Appendix C – User Comments

### First Impressions:

- Very clean, orderly, and very logical looking.
- Looks like it has a lot of functionality that I can do a lot more than reading email.
- Comfortable. Layout looks familiar enough to other email services.

### Menus:

- I want to include some divisions between search and menus.
- Menus with different functionality don't belong in the same line.
- The most difficult thing to me is figuring out that the menus work in conjunction with the check box.
- It may not be easy to find any function right away.
- Menu is not understandable right away. Not that intuitive, but acceptable.

### Note Feature:

- It could be something very useful. In outlook, I want something to annotate status of a message.
- It wouldn't be a primary use, but it would be useful.
- I would see the take note feature because of the proximity to the other menus.

### Flag Feature:

- I don't know what will happen when I flag something. But I flag in Outlook.
- Flag would be even useful in conjunction with Note feature.

### Filter and View Feature:

- I did not get the meaning of view at first, but filter make sense.
- You will have color blindness issue.

- Filter might be useful, in terms of metadata, it has advantage over folder
- There should be an error message to tell me that the filter is applied.
- I don't think I'll filter feature in web-based email.
- I'm not used to the implementation of filter. To me, filter is more like a sort.
- I like the use of color for filter better than text.

#### **Thread Grouping Feature:**

- I would expect the thread to have an anchor down to it.
- There's a lot of information in the grouped thread (in the Inbox). But it going to be redundant (same Re: subject).
- There should be a way to condense the thread to one line. But Gmail approach is sometimes confusing.

#### **Search Feature:**

- I use Yahoo! As a spam account. I really don't search in Yahoo!
- Would you consider having a global search?
- I expect the search term to be present in the search box.
- If I want something, I'll sort it, and then search manually. I don't usually use the search function.

#### **Archive Feature:**

- You should have added something for the archive in the message page.
- I don't know the benefit of putting emails in the Archive. So that I may not use it.

#### **Others:**

- I expect the compose page to show up when I click a sender's name.
- I often move the mouse over place that I don't understand the functionality.
- The biggest short coming of web-based email is the integration with other applications.
- I'm figuring out what can I not pay attention to.
- I should be able to turn off some un-used feature like flag.

# Appendix D – Usability Session Materials

## Introduction Script

Hi, my name is Chatree Campiranon, and I am collecting data for the development of the new prototype for web-based email service. Thank you for giving me your time to test the email service. I'd like to cover a few points and instructions with you before you begin this usability test of the web-based email service.

- 1. Your role today is as web-based email user. You should be clear that you are NOT being tested, but rather the email service you will review is what is under examination.**
- 2. Your input will greatly help me make a better decision as to the design of the new web-based email prototype.**
- 3. The testing process will consist of three parts:**
  - a) A user profile questionnaire, which will provide some background about your experience as a computer user and email user.
  - b) A series of 7 tasks, focusing on different area of web-based email activities. You will have approximately three minutes to complete each task. However, this should be more than enough time. In the event you go over the allotted time I will ask you to move on to the next task.
  - c) A post-test interview, which will ask you a range of questions related to your experience with the email service you just reviewed.
  - d) A post-test questionnaire, which will also ask you a range of questions related to your experience with the email service you just reviewed.
- 4. Regarding the Tasks:**
  - a. You will be allowed to read each of the 6 tasks before you begin. This will allow you time to completely understand what each task is asking you to do.
  - b. Please feel free to ask if anything is unclear. If once you begin and the task still seems unclear, you may ask whatever is needed.
  - c. During the process of carrying out each task, I ask if you could speak aloud what you are thinking or feeling.
    - i. In other words feel free to verbalize any problems, i.e., frustrations, disturbances, ambiguities, or unclearness in anything you see during the process.
    - ii. You may also express any positive comments if you feel it is necessary.
    - iii. You don't need to be excessive, but rather very natural in verbally expressing what you would normally keep in your head.
  - d. Please, do not feel pressured as if you were under a time limitation to complete each task, but rather simply read the task and carry it out as quickly as possible.
- 5. During the task period, I'll take note on your comments and expression and there will be a video recording during the session.**
- 6. After you have completed the post-task questionnaire, you will be free to go.**
- 7. I deeply appreciate your cooperation in the email service testing and will follow-up with a formal letter of thanks.**
- 8. Are there any questions?**
- 9. So, let's get started.**

## User Profile Questionnaire

FIRST NAME (only): \_\_\_\_\_ User Number: \_\_\_\_\_ Date: \_\_\_\_\_

### General Information

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1. Age       18-25       26-35       36-45       56-65
2. Sex       Male       Female

### Computer and Internet Experience

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3. What kind of computer system do you use?       Microsoft Windows       Apple Macintosh
4. How long have you been using computers (years)?       1-3       4-6       7-9       10+
5. How many hours each day do you use a computer?       1-3       4-6       7-9       10+
6. How long have you been using the Internet (years)?       1-3       4-6       7-9       10+
7. How many hours each day do you use the Internet?       1-3       4-6       7-9       10+

### General Email Experience

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8. How long have you been using email (years)?       1-3       4-6       7-9       10+
9. How many times each day do you check your email?       1-3       4-6       7-9       10+
10. How long does it take you to access your mailbox each time (minutes)?  
 1-5       6-10       10-15       15-20       20-25       25-30       30+
11. Do you use email client software?       Yes       No
12. If yes, please specify:       Outlook       Other \_\_\_\_\_
13. Do you use web-based email service?       Yes       No
14. If yes, please specify (1 or more):  
 Gmail       Hotmail       Yahoo! Mail       Other \_\_\_\_\_
15. How long have you been using your current web-based email (years)?  
 1-3       4-6       7-9       10+
16. Which area you use web-based email for?  
 Personal       Work       Study       Other \_\_\_\_\_

## Task Sheet

TASK NO.	TASK DESCRIPTION
<b>1</b>	Your <b>insurance</b> company called you that your insurance is going to be expired and they sent you an email about detailed billing information. You want to know the details so you have to go to <b>read</b> that email.
<b>2</b>	After you read the insurance email, you went through their link and paid the insurance bill, they also gave you a confirmation number. Then, you get back to the email to <b>take a note</b> to remind yourself as: “already paid, confirmation number is 123”
<b>3</b>	After adding note into the insurance email, you remember that you read another email about tax information. So you want <b>mark flags</b> to both insurance and tax information emails.
<b>4</b>	You know that the filter is a feature that is assigned emails to group them together, it works like a folder in many email service. You always group emails about expenses together and now you want to <b>put this insurance email in the “Expenses” filter</b> .
<b>5</b>	On Friday evening, you are going to a party but you are not sure about <b>the time and place to meet your friends</b> . You remember that the detail was mentioned in one of the reply messages in those emails that you sent back and forth with your friends. How can you find this information?
<b>6</b>	You want to ask your friends to go to a concert after the party. You remember that you friend, Ricardo, sent you an information about this concert long time ago. You need to <b>find his email about the concert</b> .
<b>7</b>	You know that “Archive” is a feature that allows you to keep your inbox clean without deleting emails by putting them in the Archive folder. After you read the concert email, you want to <b>archive this email</b> .

## Post-Test Interview Session Form

User number \_\_\_\_\_ Date \_\_\_\_\_

1. What was your immediate impression of the interface of this email service?

*Note:*

2. What did you like the most and the least about this email service?

*Note:*

3. How would you grade how easy it was to use – A, B, C, D, or F?

*Note:*

4. Did you understand how to use the basic menus and buttons right away?

*Note:*

5. What were the biggest problems you found on the previous test?

*Note:*

6. Do you understand the note feature? How do you think of it?

*Note:*

7. Do you understand the filter feature (with color)? How do you think of it?

*Note:*

8. Do you understand the archive feature? How do you think of it?

*Note:*

9. Do you understand the thread grouping feature? How do you think of it?

*Note:*

10. How do you think of the search feature?

*Note:*

11. Any other comments and suggestions that that you feel will help us evaluate the usability and develop the better web-based email service.

*Note:*

## Post-Task Questionnaire

User Code: \_\_\_\_\_ Date: \_\_\_\_\_

Please answer the following questions based on your experience using the web-based email.  
SA = Strongly Agree, A = Agree, N = Neither, D = Disagree, SD = Strongly Disagree

### Questions related to general design of the Web site

- |  |    |   |   |   |    |
|--|----|---|---|---|----|
| 1. The amount of text and graphics on the Web site is appropriate.     | SA | A | N | D | SD |
| 2. The use of color is appropriate.                                    | SA | A | N | D | SD |
| 3. The text and graphics are presented in a visually aesthetic manner. | SA | A | N | D | SD |
| 4. The terminology is understandable throughout the site.              | SA | A | N | D | SD |
| 5. The buttons and menus are easily understood.                        | SA | A | N | D | SD |
| 6. The buttons and menus are easily located                            | SA | A | N | D | SD |
| 7. The design is consistent through out the site.                      | SA | A | N | D | SD |
| 8. The design provides information on where you are on the Web site.   | SA | A | N | D | SD |
| 9. Overall, pages are quick to load.                                   | SA | A | N | D | SD |
| 10. Overall, the design of the Web site is attractive.                 | SA | A | N | D | SD |

### Questions related to specific designs and features of the Web site

- |  |    |   |   |   |    |
|--|----|---|---|---|----|
| 1. The view/filter is easy to use.   | SA | A | N | D | SD |
| 2. The categorizing function is efficient.<br>(It is easy to manage and locate messages in categories.)              | SA | A | N | D | SD |
| 3. It is easy to view a particular type of messages.<br>(For example, new messages, flagged/starred messages)        | SA | A | N | D | SD |
| 4. It is easy to read/locate all the messages in the same conversational thread. (Original message and Re: messages) | SA | A | N | D | SD |
| 5. It is easy to mark flag on email messages.  | SA | A | N | D | SD |
| 6. It is easy to mark email messages as unread.  | SA | A | N | D | SD |
| 7. The search box is easily located.   | SA | A | N | D | SD |
| 8. The archive feature is useful.  | SA | A | N | D | SD |
| 9. The archive feature is easy to use.   | SA | A | N | D | SD |
| 10. The note feature is useful.  | SA | A | N | D | SD |
| 11. The note feature is easy to use.   | SA | A | N | D | SD |

### Overall impressions of the Web site

On a scale of 1 to 10, 1 being the worst, and 10 being the best, how would you rate this site based on what you have seen today?      **1   2   3   4   5   6   7   8   9   10**