

Web Site Design, Usability, Documentation

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## A PTS Heuristic Evaluation

### Heuristic Evaluation of the City of Half Moon Bay, CA



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## Background

A heuristic evaluation of a Web site is a systematic inspection of a site design measured against recognized usability principles. The purpose of a heuristic evaluation is to identify a majority of the usability problems in a Web site.

Evaluators use industry-accepted guidelines for usability (the heuristics), their own experience from prior usability studies, their domain knowledge, and their ability to “put on the user’s hat” when identifying problems and recommending solutions.

Heuristic evaluations generally explore questions like:

- Is the look and feel of the site appropriate for the site's purpose?
- Are the design elements well integrated and consistent throughout the site?
- How simple to use is the site? Does it parallel the user's work process and encourage an appropriate navigational sequence?
- How clear are the meanings of graphical elements such as icons and toolbar buttons? Are they overused or underused?

- How well is the site organized? Are navigational aids adequate to support the organization? What feedback is provided to orient the user?
- Are instructions or explanations presented clearly, without unnecessary complication or ambiguity? Is the language direct, simple, and non-wordy, so that users can read/hear as few words as possible?
- What information must users encounter that they don't need? What information might be missing?

### **Method**

This evaluation will examine each page in the City of Half Moon Bay Web site for usability problems, based on current usability research. Screen shots of most pages are included to show the usability problems in detail, and results and some basic recommendations will be noted for each page in the site. In some cases, new graphics are included to show how correcting a usability problems will look on the page.

### **New Home Page Design Prototype**

Following the evaluation of the home page is a mockup for a new site design for the City of Half Moon Bay. The new design is included to show how a home page that follows the principles of usability might look.

### **Author**

The author of this heuristic evaluation, Phillip Scarborough, is an experienced senior usability engineer and Web designer. His company, PTS Technical Writing is located in Half Moon Bay, CA. Phillip has over 10 years of experience managing usability engineering projects for Fortune 500 companies nationwide.

### **Introduction**

This heuristic evaluation will evaluate the Web site of the City of Half Moon Bay according to accepted principles of usability, but will focus primarily on the heuristics of "look and feel," and consistency. The greatest improvement of the site can be made in these two areas.

#### ***Look and Feel.***

Usability research shows that a pleasing, consistent user interface that is easy to navigate is a satisfying experience for users of Web sites. Anything less can cause a user to be annoyed or even disgusted with a Web site, leaving a bad impression of the product or services offered on the site. The design of a site like the City of Half Moon Bay Web site should project a consistent, professional and helpful image to its users, the residents of Half Moon Bay.

#### ***Consistency***

Users of the City of Half Moon Bay Web site will expect to see a consistent design and navigation scheme on every page in the site. Users don't want to be worrying about how to navigate through the site. The navigation scheme should be consistent on every page, and easy to understand and use.

Users don't like to be surprised. When they click to the next page, they expect to see a page that has a consistent look and feel, and consistent navigation that allows them to reach any page in the site from any other page.

### City of Half Moon Bay Home Page (top half)

Below is a snapshot of the City of Half Moon Bay home page as seen in the Microsoft Internet Explorer browser.



Pic 1

There are several usability problems with the look and feel of the City of Half Moon Bay home page.

1. Users scan from left to right, like reading a print document. The first thing users will notice is the City seal in the upper left corner of the home page. The seal hangs outside the left side of the browser so it cannot be completely viewed by the user. The code needs to be adjusted to fix this.
2. The City seal is blurred, and the text cannot be clearly read. One reason this may be happening is the seal is used as a background, rather than a simple graphic.
3. The photo slide show in the upper right corner of the page has the delay set too fast (see the home page on the Web to see the delay). The viewer does not have enough time to get a good look at each of the photos. In addition, many of the pictures are not easily identifiable as being associated with Half Moon Bay. To insure that viewers understand the picture subjects, each picture can be titled.
4. Like the City seal, some of the navigation links on the far left of the page are partially cut off, and not fully viewable.
5. What appears to be one of the links on the left is actually a heading named "DEPARTMENTS:" To avoid user confusion, this heading should be differentiated, perhaps, by increasing the font size, or using a graphic. In addition, two links that appear under Departments are "Addresses and Phone Numbers," and "Recycling Resources and Tips," are clearly not departments.
6. The text on the home page is virtually all in bold, and appears in several primary colors, red, blue, black green and yellow (highlight). Overuse of bold text suggests that the writer is yelling at the reader. In addition, this array of text colors does not present a clean, consistent and pleasing design.
7. Extra long links are difficult to read, and the home page uses them exclusively. The links should be much shorter, and in addition, the user should be asked to take an action like "Click here," followed by the reason why the user should click. For example,

[Click here](#) to read about **changes** in garbage and recycling services for Half Moon Bay residents.

Rather than...

**[Read about changes in garbage and recycling services for Half Moon Bay residents.](#)**

**City of Half Moon Bay Home Page (bottom half)**



Pic 2

8. The Acrobat Reader button, above, on the left, appears to have no reason for being there. There is no accompanying text that explains its use. It cannot be assumed that the user will understand how or why to use it.
9. The red and yellow separator bar at the bottom of the page appears only on the home page and is not integrated with the design of the site. It seems to be an Acrobat Reader button that has been elongated in a photo editing program. Yet it is not a link to Acrobat reader. This will confuse users who will wonder why it's elongated and whether or not it's a link.
10. Every page in a Web site should have a header and a footer. The footer on the home page above, including the separator bar and the text below it, does not appear on any other page in the site. It's important to users to see consistency when browsing Web sites.
11. There are four fonts used on the home page: Times New Roman, Georgia, Tahoma, and Arial. Standards of usability suggest that the limit is two fonts. The indiscriminate use of fonts cause Web sites to have a cluttered, and unprofessional look and feel.
12. HTML text and graphics are presented on the page in tables, invisible to the user. The width of these tables can be defined in two ways, by percentage, or by a fixed number of pixels. The home page, and other pages in the site are defined by percentage. This means that if the width of the window

browser is smaller than the width of the table, the text and graphics will be forced to the left. See the example below.



Pic 3

Pic 3 above has a window open with a width that is smaller than the width of the invisible table on the page. (Compare with Pic 1 which has a wide window). The text and graphics are pushed to the left causing distortion of the way the page is meant to be viewed. (Note that the word "announced" was pushed down to another line.) In addition, the City seal and navigation links are pushed further to the left, and cannot be adequately seen by the user.

Changing the widths of the tables to a fixed number of pixels will solve this problem so that no distortion of text and graphics will occur when the browser window is smaller than the table on the page.

### Welcome Page (Top Half)

13. When the user sees the Welcome page below, they will expect to see the same design and navigational scheme as on the home page. They will be surprised to see that the navigational scheme is completely different. The navigation buttons are on the right, not the traditional left side, as the links appear on the home page (see Pic 1).



# City of Half Moon Bay

ABOUT HALF MOON BAY

Incorporated in 1959, Half Moon Bay offers a wide variety of public and private attractions. The City rests on the Pacific Coast between forested hills and some of the most beautiful coastlines that California has to offer. It is located approximately 25 miles south of San Francisco and lies within San Mateo County.

The historic downtown is home to numerous shops, art galleries, restaurants, bed and breakfasts, and other businesses. Local beaches and parks can be accessed by pedestrians, bikes and equestrians. Golf can be enjoyed at two of California's finest courses. The City and coastside are home to numerous nurseries and farms. The Pumpkin Festival held in October draws hundreds of thousands of people to the coast to enjoy its panoramic vistas, fine cuisine, arts, crafts and genuine hospitality.

Temperatures are mild and the valleys are rich. Half Moon Bay and the coastside are proud of their floriculture center where roadside stands sell locally grown artichokes, greens, root vegetables, beans and herbs. You can not top the fresh seafood available everywhere in restaurants or to take home and prepare yourself.

HOME

ABOUT HALF MOON BAY

BULLETIN BOARD

CITY COUNCIL

CITY MANAGER

COMMUNITY LINKS

Pic 4

14. Some of the navigational buttons on the welcome page are not the same as the links on the home page. See a comparison below.

## HOME PAGE

[WELCOME](#)

????

????

[CALENDAR & AGENDAS](#) (same as ?)

[CITY COUNCIL](#)

[CITY MANAGER](#)

[COMMUNITY LINKS](#)

[ADDRESSES & TELEPHONE  
NUMBERS](#)  
(same as ?)

[EMPLOYMENT](#)

[FINANCE](#)

[PARKS & RECREATION](#)

[PLANNING](#)

[POLICE](#)

[PUBLIC WORKS](#)

[ADMINISTRATION](#)

[LIBRARY](#)

## WELCOME PAGE

????

HOME

ABOUT HALF MOON BAY

BULLETIN BOARD

CITY COUNCIL

CITY MANAGER

COMMUNITY LINKS

DIRECTORY

EMPLOYMENT

FINANCE

PARKS & RECREATION

PLANNING

POLICE DEPARTMENT

PUBLIC WORKS/BUILDING

????

????

15. Not only are some of the buttons on the Welcome page different from those on the home page (see example above), they are also in a different order. This is extremely confusing for the user and it makes it difficult for the user to navigate successful through the site.
16. Although the header on the Welcome page looks much better with a larger, clearer logo, consistency is very important to users. The logo should be the same size on every page.
17. From the home page, clicking on the Welcome link takes you to a page entitled About Half Moon Bay (Pic 4 above), not to a Welcome page. The link text and buttons must be consistent throughout the site. Readers need to know where they are in the site at all times, and the navigational scheme must support this concept.
18. As noted earlier, the text should not be all bold, as is the case on the Welcome/About Us page. Overuse of bold text has the effect of yelling at the reader.
19. The title of this page, appears in the upper right in the shape of a button. This is confusing to the user. They will wonder if it's actually a button that should be clicked. (see Pic 5 below). The title should be clearly differentiated from the navigational buttons.



20. There is no footer on this page. Every page should have a consistent header and footer.


#### **Calendar & Agendas Page (Top Half)**

21. The Calendar & Agendas page (Pic 5 below) has yet another design and navigation scheme, or lack thereof. This page has a background not found on other pages.
22. There is no header on this page. Every page in a site should have a header and a footer.
23. The navigation on this page is non-existent. It is not possible to reach any other page in the site except the home page. Users must be able to reach any page on the site without returning to the

home page.

24. There are four font colors used: black dark blue, red, and green.. It is not clear to the reader why. Do the different colors have some meaning? Using too many colors contributes to a cluttered, inconsistent design. In addition, the dark blue is used for both the headings (Monday-Friday), and some entries (Sept. 2 and 9). Entries should be differentiated from headings.
25. The Acrobat Reader button has good explanatory text, but both button and text should not appear in an entry box (Sunday, Sept. 1 below). The Acrobat Reader button and text should appear in the upper left of right corner of the Calendar.

**CITY OF HALF MOON BAY**  
**September 2002**  
**Meetings and Events**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1  Most agendas require a PDF reader. Download the FREE Acrobat Reader via the link above.	2 Labor Day .. City offices closed.	3 Regular City Council Mtg. Cancelled.	4 <a href="#">Special City Council Mtg.</a> , 7:30PM, Ted Adcock Community Center, 535 Kelly Ave.  <a href="#">ARC Mtg.</a> , 4:30 PM, Ted Adcock Community Center, 535 Kelly Ave., Sun Room	5	6 Moonlight Shopping and Gallery Walk, Main Street shops open until 9:00 PM.	7 Coastside Market, 9 a.m. - 1 p.m., In the parking lot behind 845 Main Street, Half Moon Bay
8	9 Admissions Day .. City offices closed	10	11 9/11 Observance, Half Moon Bay Fire Dept., 8:30 am.	12 <a href="#">Planning Commission Mtg.</a> , 7:30 PM, Ted Adcock Community Center, 535 Kelly Ave	13	14

Pic 5

**Calendar & Agendas Page (Bottom Half)**

26. The footer on this page (Pic 6 below) is unique and not consistent with other pages in the site.

15	16	17 City Council Mtg., 7:30PM, Ted Adcock Community Center, 535 Kelly Ave.	18 ARC Mtg., 4:30 PM, Ted Adcock Community Center, 535 Kelly Ave., Sun Room	19	20	21 <i>Coastal Flower Market, Main St &amp; Kelly Ave... 9:00 AM to 3:00 PM</i>
22	23	20 Parks & Recreation Commission Mtg., 7:00 PM, Ted Adcock Community Center, Sun Room, 535 Kelly Ave.	21	22 Planning Commission Mtg., 7:30 PM, Ted Adcock Community Center, 535 Kelly Ave	23	24
25	26	27	28	29	30	31

For Further Information Call 650-726-8270

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**Pic 6**

### **City Council Page**

This page is not viewable from any link in the site because clicking on this link cause the computer to crash. This is extremely frustrating for users and many may not come back to the site as a result.

### **AUTHOR'S NOTE**

This site appears to be very unstable, and clicking certain links in the site causes the computer to crash. This should be remedied immediately.

### **City Manager Page**

This page is not viewable from any link in the site because clicking on this link cause the computer to crash. This is extremely frustrating for users and many may not come back to the site as a result.

### **Community Links Page (Top Half)**

27. This page (Pic 7 below) is better organized than previous pages, but many of the usability errors

noted previously are repeated on this page. Additionally, users don't read on the Web the same way they read print material. On the Web, they scan, rather than read. An important principle of usability called "chunking" can be applied here. Chunking means organizing and grouping information in "chunks" that are easily grasped by readers scanning the page.

For example, the following two links on this page (bottom half shown in Pic 8) are so long and so close together that it is difficult for the user to see the differentiation.

### **Emergency Service Sites**

[San Mateo County Fire Dispatch](#)

[San Mateo Co. Public Safety Communication 911 Dispatch](#) [ARES - Amateur Radio Emergency Service](#)

As an example, in Pic 8 below, the author has "chucked" the text from Pic 7 into groups (in alphabetical order) that are more easily digested by the reader. This principle needs to be applied throughout the site.



The screenshot shows the City of Half Moon Bay website. At the top left is the city seal with the motto "VIVIR • TRABAJAR • JUGAR" and "HALF MOON BAY 1955". The main title "City of Half Moon Bay" is in large blue letters. To the right is a "COMMUNITY LINKS" button. Below the title, the "COMMUNITY LINKS" section is organized into categories:

- PG & E Power Watch** (yellow background)
- CHP - Driving Safety Tips!** (yellow background)
- Arts, Activities, Entertainment, Shopping, and more!** (red text)
  - [Coastside Live - Community Information](#)
  - [Half Moon Bay Chamber of Commerce](#)
- Business** (red text)
  - [Better Business Bureau](#)
  - [Half Moon Bay Chamber of Commerce](#)
- Local, California and Government Agencies** (red text)
  - [Sewer Authority Mid-Coast](#)
  - [Montara Sanitary District](#)
  - [State of California Home Page](#)
  - [ABAG \(Association of Bay Area Governments\)](#)

Community Links Page (Top Half) Revised



**Arts, Activities, Entertainment, Shopping, and more!**

[Coastside Live - Community Information](#)

[Half Moon Bay Chamber of Commerce](#)

**Business**

[Better Business Bureau](#)

**Local, California and Government Agencies**

[ABAG \(Association of Bay Area Governments\)](#)

[Montara Sanitary District](#)

[Sewer Authority Mid-Coast](#)

[State of California Home Page](#)

## Community Links Page (Bottom Half)

28. In Pic 9 below, there is no footer. There should be a header and a footer on every page.
29. There is no navigation on this page. It is not possible to reach any other page in the site except the home page. Users must be able to reach any page on the site without returning to the home page.

### Conflict Resolution

[Peninsula Conflict Resolution Center](#) is a non-profit organization partially funded by cities throughout the county which provides free mediation services to help resolve disputes.

### Education

[Cabrillo Unified School District](#) [San Mateo Co. Office of Education](#)

[College of San Mateo](#) [Education, Youth Care & Youth Activities](#)

### Emergency Service Sites

[San Mateo County Fire Dispatch](#)

[San Mateo Co. Public Safety Communication 911 Dispatch](#) [ARES - Amateur Radio Emergency Service](#)

### Libraries

[Half Moon Bay Library](#) [Peninsula Library System](#)

### Newspapers

[Half Moon Bay Review](#)

[San Mateo Times](#)

[San Francisco Chronicle](#)

[San Jose Mercury News](#)

### San Mateo County

[San Mateo County Small Claims Court](#) [Assessor, County Clerk, Recorder, Elections](#)

### Transportation

[BART](#) [Caltrain](#) [Sam Trans](#)

HOME

Pic 9

### Library Page

30. From the home page, the Library link takes the user to an old Library page that is no longer in existence. The reader must click another link to get to the Library page. The home page link should be updated to point to the new Library page.

### Administration Page

31. This page is not viewable from any link in the site because clicking on this link cause the computer to crash. This is extremely frustrating for users and many may not come back to the site as a result.

### Finance Page (Top Half)

32. The non-link button that appear to the left of titles in Pic 10 below is a new design element that does not appear on other pages. Users expect to see a consistency in design from page to page in the site.



Pic 10

**Finance Page (Bottom Half)**

- 33. The bright blue in the table in Pic 11 below is another new design element that appears only on this page. As noted earlier, users expect to see a consistency in design from page to page in the site.
- 34. Traditionally, the bright blue color used in this table is the color used for text color to indicate a link, particularly when underlined. In the table below, the blue is used as a background color, and the underlined text is white. This can cause confusion because the reader can't tell if they are links or not.
- 35. The overuse of capitalization in the table makes reading more difficult and adds to a cluttered look and feel.
- 36. There is no footer on this page. Every page should have a header and a footer.

BUSINESS LICENSE FEE AND APPLICATIONS	
Effective October 1 <sup>st</sup> , 200X through September 30 <sup>th</sup> , 200X	
Business License & Home Occupation Application →	<a href="#">BUSINESS LICENSE APPLICATION – PAGE 1</a> <a href="#">BUSINESS LICENSE APPLICATION – PAGE 2</a>
SECURITY ALARM PERMIT – BUSINESS AND RESIDENTIAL	
Effective July 1 <sup>st</sup> , 200X through June 30 <sup>th</sup> , 200X	
Alarm Permit \$50.00 →	<a href="#">ALARM PERMIT APPLICATION</a> <a href="#">ALARM PERMIT ORDINANCE</a>

Questions regarding accounts payable, business license and alarm permits:  
sjohnson@ci.half-moon-bay.ca.us

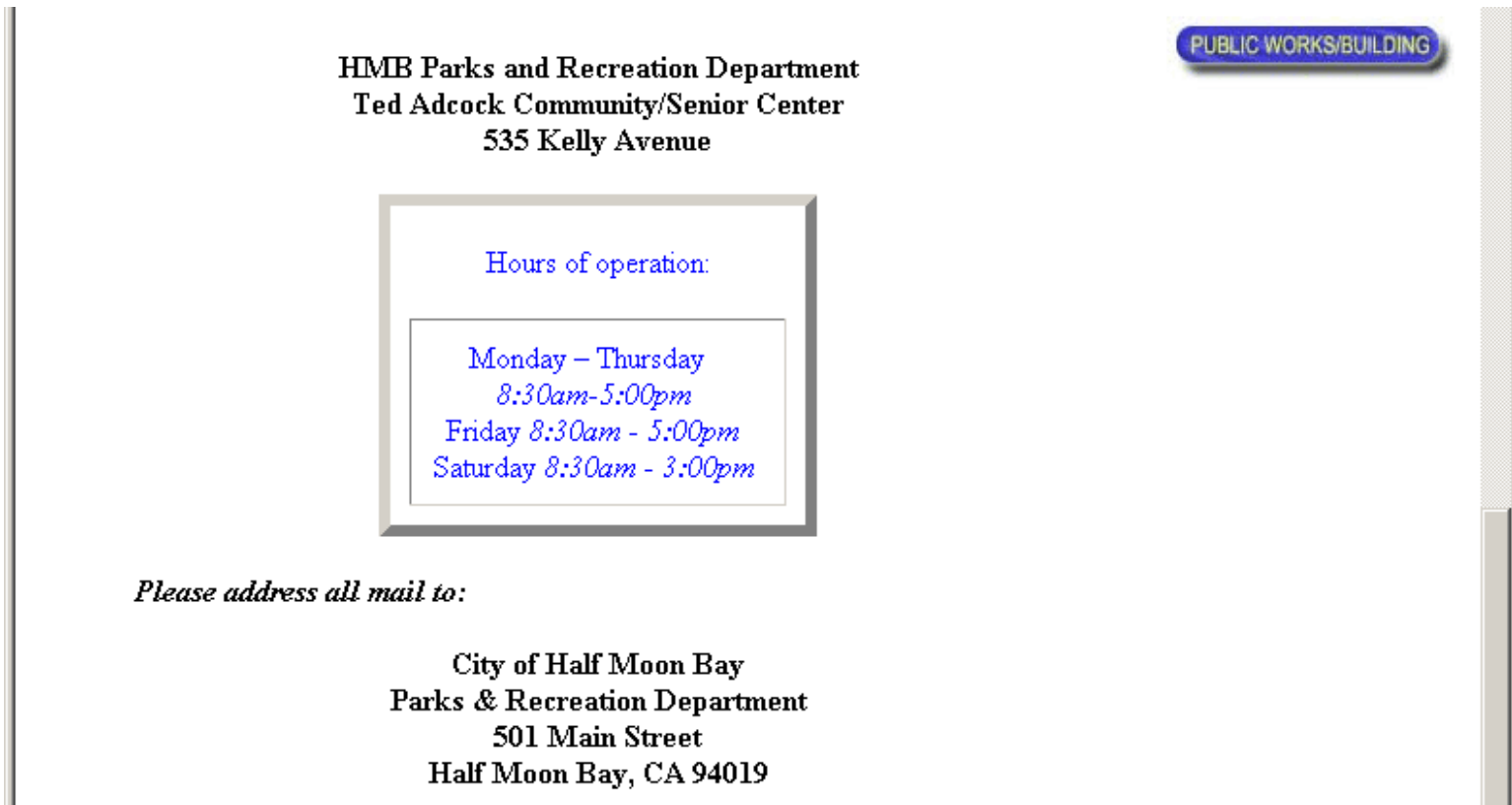
Questions and suggestions regarding the website:  
webmaster@ci.half-moon-bay.ca.us

- CITY MANAGER
- COMMUNITY LINKS
- DIRECTORY
- EMPLOYMENT
- FINANCE
- PARKS & RECREATION
- PLANNING
- POLICE DEPARTMENT
- PUBLIC WORKS/BUILDING

Pic 11

**Parks and Recreation Page (Bottom Half)**

- 37. Another design element, the beveled box, in Pic 12 below, appears only on this page. Design elements should be integrated into the overall design of the site.
- 38. The page has no footer, which should appear on every page.



**Pic 12**

**Planning Page (no graphic)**

- 39. Like most other pages in the site, this page has no footer.

**Police Page (no graphic)**

- 40. Like most other pages in the site, this page has no footer.

### Police Page (no graphic)

41. Like most other pages in the site, this page has no footer.

### Employment Page (Top Half)

42. This page introduces an entirely new design. The header is used as a background, a special design element that appears in the background on every page. Using the header as a background has caused the text and graphics to appear blurred, and the City seal smaller than it is on other pages.
43. The links on this page only lead to a few of the pages in the site. All links to other pages should be available so that users can navigate freely throughout the site.



Pic 13

## Recycling Tips and Resources Page

44. This page is not viewable from any link in the site because clicking on this link cause the computer to crash. This is extremely frustrating for users and many may not come back to the site as a result.

***P7S* Web Services**

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