

Vehicle Maintenance Log Help File

<http://rogercortesi.com/maint/>

Roger Cortesi

Document Version 0.6: November 19, 2005

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1 Background

I created the Vehicle Maintenance Log to keep track of the service history and periodic maintenance requirements on my cars. I was continually losing the receipts from service stations and unable to answer questions like: How old are those tires? When was the last time the radiator was flushed? How much is this all costing me?

The Vehicle Maintenance Log allows you to save information about the servicing of vehicles in one location, accessible from anywhere. You may define scheduled (periodic) maintenance requirements and it will notify you (via email) as they become due. Scheduled maintenance can be due based on periodicity (time), usage (miles, km, or engine hours), or both.

Additionally the Vehicle Maintenance Log can plot the maintenance cost vs time and vehicle usage vs time. It can export your data either as a csv file or as a report suitable for printing.

A Web Interface: This allows access to the maintenance log from any computer with an internet connection and just about any operating system. See Appendix [A](#) for more information on browser compatibility.

Periodic Maintenance Tracking: The Vehicle Maintenance Log allows you to define the scheduled maintenance requirements for your vehicles and it will track these requirements as they become due. See Section [7](#) for more information.

Graphing: The Vehicle Maintenance Log can generate plots of vehicle usage (miles, km, or hours) vs. time and maintenance cost vs. time. See Section [6](#) for more information.

An Email Summary: The Vehicle Maintenance Log can email you reminders of the periodic maintenance required on your vehicles. See Appendix [B](#) for an example email.

High Quality Printed Output: The only really reliable long term storage for information is on paper. Hopefully people will still know what paper is in 15 years when the internet crashes. The Vehicle Maintenance Log can export any portion of the log as a high quality hardcopy. See Section [9](#) for more information.

Automated Backup: The Vehicle Maintenance Log is backed up nightly to at least one other computer. While I'm not about to offer any sort of data reliability guarantee, I personally have a lot of entries in the Vehicle Maintenance Log and don't want to lose my data either. See Section [9](#) for more information.

2 Quick Start

This section demonstrates the minimum steps to get your account up and running. **You can try the Vehicle Maintenance Log by logging in to the demonstration account.** The username and password are ‘demo’.

1. Create your profile using the “Add a New User” link on the login page (see Section 3), and then log in.
2. Create at least one vehicle with the “Edit Your... vehicles” link (see Section 4).
3. Make entries for that vehicle using the “Make an Entry” page (see Section 5).
4. Optionally, you may also define scheduled maintenance items for the vehicle using the “Edit Your... scheduled maintenance” page (see Section 7). Your car’s owner’s manual almost certainly has the maintenance schedule for it.

Maintenance Log Totals

Vehicle	Current (Estimated)	Total Maint Cost	Last Entry Date	Last Entry	Annual Use	Daily Use	Maint \$ per Use
Honda Civic	100,823 mi	\$2,603.56	22 SEP 05	99,882 mi	9,541 mi	26 mi	\$0.04 per mi
Honda Element	3,614 mi	\$235.00	05 OCT 05	2,950 mi	10,544 mi	29 mi	\$0.08 per mi
Trek 2200	1,462 mi	\$206.00	01 OCT 05	1,390 mi	968 mi	3 mi	\$0.15 per mi
Trek Ex8	168 mi	\$10.00	23 JUN 05	58 mi	316 mi	1 mi	\$0.17 per mi

*Log totals are only displayed for active vehicles with entries. A vehicle **without** any entries will **not** appear on this list.*

Figure 1: The Vehicle Maintenance Log showing summary data for several vehicles.

Overdue and Upcoming Scheduled Maintenance

Honda Civic

Item	Month Due	Months To Go	Miles Due	Miles To Go	Last Entry
! Rotate and Balance Tires	Nov 04	11 late	99,500	1,271 over	11 May 04
! Check transmission fluid level (Sec 1-20)	May 05	5 late	107,000	6,229	11 May 04
! Replace Air Filter (Sec 1-18)	May 05	5 late	107,000	6,229	11 May 04
# Check Front Brakes (Sec 1-15)	Nov 05	1	104,175	3,404	11 May 05
# Inspect and replace (if needed) hoses	Nov 05	1	105,343	4,572	23 May 05

!: Overdue based on date or an **estimated** current vehicle miles of **100,771**.

#: Due in the next 2 months or **1,568** miles.

Honda Element

Item	Month Due	Months To Go	Miles Due	Miles To Go	Last Entry
# Oil Change	Dec 05	2	5,000	1,443	

!: Overdue based on date or an **estimated** current vehicle miles of **3,557**.

#: Due in the next 2 months or **1,733** miles.

Figure 2: The Vehicle Maintenance Log showing scheduled maintenance items overdue or due soon.

3 Your Profile

Your profile is edited by selecting the “Edit your: profile” link.

To make any changes to your profile you must enter your current password at the bottom of the form.

The minimum required information for your account to function is a username and a password. Your username may only be made up of letters, numbers, and the underscore character. It is not case sensitive.

You do not have to supply an email address. However, supplying an email address enables several features in the Vehicle Maintenance Log. If you forget your password, your password will be sent to your primary email address. Without an email address, you have to contact me to reset your password. Additionally, a periodic maintenance summary can be sent your primary email address and to any secondary email addresses in your profile.

You may specify how often periodic maintenance summaries are sent. Possible values are: never, monthly, every other month (Jan, Mar, May, Jul, Sep, and Nov), or quarterly (Jan, Apr, Jul, and Oct). Maintenance summaries are sent on the first of the month.

4 Vehicles

You need to define at least one active vehicle for your account. Each vehicle is required to have a name. The rest of the information is optional. Specifying a purchase date and an initial mileage allows the Vehicle Maintenance Log to better estimate the vehicle's current mileage (miles, km, or hours). Each vehicle has a set of units associated with its use. These units may be miles, km, or hours.

If you no longer want to track a vehicle in the log, make the vehicle “inactive”, by selecting the inactive checkbox. This does not delete the vehicle, or any records associated with it. Inactive vehicles do not appear in the rest of the log. You may restore an inactive vehicle, and its data, at any time.

Vehicle To Edit:

Honda Civic

[Reset page for a new vehicle.](#)

Create New Vehicle

Name:

Serial Number:

Purchase Date:

Purchase Price:

Initial :

Remarks:

Inactive:

Figure 3: The ‘edit vehicles’ form.

5 Making Maintenance Entries

The “Make an Entry” page allows you to add entries and mark scheduled maintenance completed for a vehicle. The text in entries may be formatted using NanoWiki tags. See the Appendix C for more information using NanoWiki. Entries can also display uploaded files and images. See Section 8 for more information on uploading files.

Once the entry has been made, the scheduled maintenance menu will appear, allowing you to mark scheduled maintenance items as complete.

Once an entry has a scheduled maintenance item associated with it, its vehicle may not be changed. If you need to change the entry’s vehicle (if you selected the wrong vehicle), you must delete all the scheduled maintenance items from the entry.

The entry’s date and mileage (miles, km, or hours) will be used to calculate when the scheduled maintenance items are due next.

Each maintenance entry has a type associated with it. This type is just descriptive text to summarize the entry. For example: “Oil Change”, “45K mile servicing”, “Replaced Muffler”, etc. The type menu shows all the entry types in your log. This allows you to easily make multiple entries of the same type.

If you want to rename **all** instances of a particular type (i.e. “Oil Change” to “Oil Change at Al’s Garage”), go to the “Edit Entry Types” page. See Figure 5.

6 Viewing Entries

The “View your entries” page allows you to display log entries in a variety of formats. An example of the long format, showing the remarks and completed scheduled maintenance, is shown in Figure 6. This page will also display the total mileage plot (Figure 7) and the cost per month plot (Figure 8) for the vehicle.

Maintenance Entry

Vehicle: **Honda Civic**
 Date: 2005-01-24
Leave blank for : 2005-10-26

Type: Oil Change ▾
 New Type:
 Miles: 92,854
 Cost: 27.77 Job Hours: 0.3

Remarks:
 Oil change at Valvoline Annapolis

Hide Entry:
 Add a completed scheduled maintenance item:
 None ▾

Scheduled Maintenance Completed
delete Oil Change

Figure 4: The ‘maintenance entry’ form. The scheduled maintenance menu, at the bottom, appears once the entry has been made.

Change Entry Type Text:

Old Entry Type: Body Work ▾
 New Entry Type:

[Reset Page](#)

Figure 5: The ‘edit entry type’ form, for renaming all entry from one type to another.

Regular Service: 11 MAY 04 at 92,000 Miles for \$390.00 Job Hours: 2

90K Regular Service.
Replaced waterpump.

Scheduled Maintenance Completed
Check and adjust drive belts (Sec 1-11)
Check and adjust idle speed (Sec 1-27)
Check and replace PVC valve (Sec 1-25)
Check and service battery (Sec 1-10)
Check Power Steering Fluid
Check transmission fluid level (Sec 1-20)
Oil Change
Replace (Drain, Flush, Fill) Coolant (Sec 1-25)
Replace Air Filter (Sec 1-18)
Replace fuel filter (Sec 1-26)
Replace Spark Plugs (Sec 1-23)
Replace Timing Belt
Rotate and Balance Tires

Oil Change: 24 JAN 05 at 92,854 Miles for \$27.77 Job Hours: 0.3

Oil change at Valvoline Annapolis

Scheduled Maintenance Completed
Oil Change

Figure 6: The Vehicle Maintenance Log showing several entries.

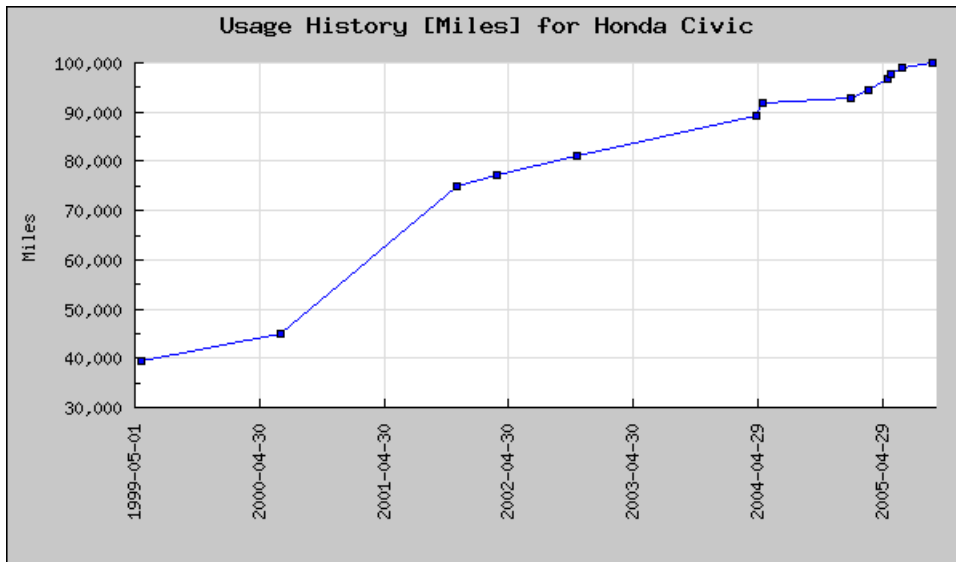


Figure 7: An example mileage plot.

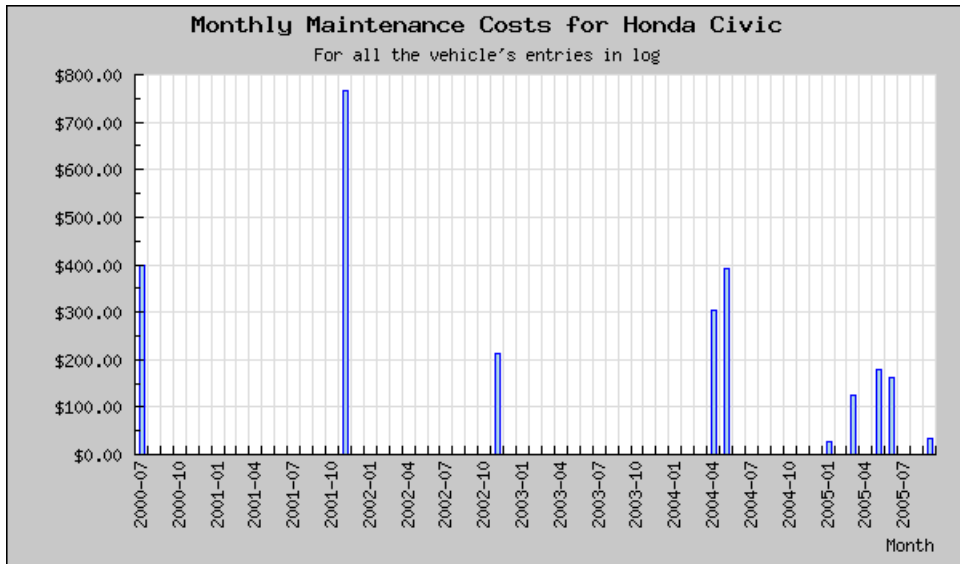


Figure 8: An example cost plot.

7 Scheduled Maintenance Items

Once you have created at least one active vehicle, you may define scheduled maintenance for it using the “Edit your... scheduled maintenance” page.

The name or description of the maintenance is entered in the “text” field. If you enter a usage interval (in the vehicle’s units of miles, km, or hours), the item will be flagged as due when that interval is exceeded. You may also specify a periodicity (in months) for the item. The item will be flagged as due when this period is exceeded.

Entering 0 or “none” for the usage interval or periodicity will removed that criterion from the item’s due calculation. So, if you enter “none” for BOTH the usage interval and the periodicity, the item will NEVER come due.

Scheduled maintenance items can also be made inactive. An inactive item is not evaluated and is not displayed in the menu on the “Make an Entry” page.

	Item	Miles Interval	Period [Months]	Inactive
edit	Replace Brake Fluid	none	36	
edit	Oil Change	5,000	6	
edit	Check Brakes	10,000	12	
edit	Inspect suspension components and driveshaft boots	10,000	12	
edit	Inspect Tie Rod Ends, Steering Gear Box, and boots	10,000	12	
edit	Lube Hinges, Locks, and Latches	10,000	12	
edit	Rotate Tires	10,000	none	
edit	Replace air cleaner element	15,000	none	
edit	Check Parking Brake Adjustment	20,000	12	
edit	Inspect all fluid levels and conditions	20,000	12	
edit	Inspect brake hoses and lines (including ABS)	20,000	12	
edit	Inspect exhaust system, fuel lines and connection	20,000	12	
edit	Check Belts	30,000	24	
edit	Replace Dust and Pollen Filter	30,000	24	
edit	Replace manual transmission fluid	60,000	36	
edit	Replace Rear Differential Fluid	60,000	48	
edit	Inspect valve clearances (unless noisy)	110,000	none	
edit	Replace Spark Plugs	110,000	none	
edit	Replace engine coolant (then 60k miles or 5 yrs)	120,000	120	
edit	Inspect Idle Speed	160,000	none	

Figure 9: The maintenance schedule for my Honda Element (on the “Edit your... scheduled maintenance” page). See your car’s owner’s manual for the maintenance schedule for your vehicle.

Once scheduled maintenance items have been defined, the log can send periodic reports on overdue or due soon items by email. See Appendix B for a sample report. The reporting interval is specified in your profile (Section 3). The interval can be set to: never, monthly, bi-monthly, or quarterly. Additionally, you may send a report to yourself at any time from the main page.

Honda Element

Item	Month Due	Months To Go	Miles Due	Miles To Go	Last Entry
Rotate Tires	NA	NA	10,000	6,386	
Inspect valve clearances (unless noisy)	NA	NA	110,000	106,386	
Replace Spark Plugs	NA	NA	110,000	106,386	
Replace air cleaner element	NA	NA	15,000	11,386	
Inspect Idle Speed	NA	NA	160,000	156,386	
# Oil Change	Dec 05	2	5,000	1,386	
Check Brakes	Jun 06	8	10,000	6,386	
Inspect suspension components and driveshaft boots	Jun 06	8	10,000	6,386	
Inspect Tie Rod Ends, Steering Gear Box, and boots	Jun 06	8	10,000	6,386	
Lube Hinges, Locks, and Latches	Jun 06	8	10,000	6,386	
Check Parking Brake Adjustment	Jun 06	8	20,000	16,386	
Inspect all fluid levels and conditions	Jun 06	8	20,000	16,386	
Inspect brake hoses and lines (including ABS)	Jun 06	8	20,000	16,386	
Inspect exhaust system, fuel lines and connection	Jun 06	8	20,000	16,386	
Check Belts	Jun 07	20	30,000	26,386	
Replace Dust and Pollen Filter	Jun 07	20	30,000	26,386	
Replace manual transmission fluid	Jun 08	32	60,000	56,386	
Replace Brake Fluid	Jun 08	32	NA	NA	
Replace Rear Differential Fluid	Jun 09	44	60,000	56,386	
Replace engine coolant (then 60k miles or 5 yrs)	Jun 15	116	120,000	116,386	

!: Overdue based on date or an **estimated** current vehicle miles of **3,614**.
 #: Due in the next 2 months or **1,733** miles.

Figure 10: The status of all the scheduled maintenance items for my Honda Element (the “View scheduled maintenance” page).

Overdue and Upcoming Scheduled Maintenance

Honda Civic

Item	Month Due	Months To Go	Miles Due	Miles To Go	Last Entry
! Rotate and Balance Tires	Nov 04	11 late	99,500	1,271 over	11 May 04
! Check transmission fluid level (Sec 1-20)	May 05	5 late	107,000	6,229	11 May 04
! Replace Air Filter (Sec 1-18)	May 05	5 late	107,000	6,229	11 May 04
# Check Front Brakes (Sec 1-15)	Nov 05	1	104,175	3,404	11 May 05
# Inspect and replace (if needed) hoses	Nov 05	1	105,343	4,572	23 May 05

!: Overdue based on date or an **estimated** current vehicle miles of **100,771**.
 #: Due in the next 2 months or **1,568** miles.

Honda Element

Item	Month Due	Months To Go	Miles Due	Miles To Go	Last Entry
# Oil Change	Dec 05	2	5,000	1,443	

!: Overdue based on date or an **estimated** current vehicle miles of **3,557**.
 #: Due in the next 2 months or **1,733** miles.

Figure 11: A portion of the Vehicle Maintenance Log’s main page showing, scheduled maintenance items overdue or due soon.

8 Uploading Files to the Log

The Vehicle Maintenance Log allows you to upload files to your account. These file can be receipts, warranty cards, image from inspections or damage, maintenance instructions etc. The to upload a file it must meet the following restrictions:

- Less than 1.4 MB in size.
- Be a file of type: pdf, doc, ppt, xls, txt, gif, png, jpg, tif, or bmp

The uploaded files can be displayed in maintenance entries by typing one of the following tags in the text of the entr:

```
[[media:filename.jpg ]]  
[[image:filename.jpg ]]  
[[thumb:filename.jpg ]]
```

The media tag displays a link to the filename. This is how you display non-image files in the log. The `[[image:...]]` tag display the image at its full size. If the image has a thumbnail image you can display the thumbnail in the entry with the `[[thumb:...]]` tag.

Additionally any text entered after the file name in double brackets will be used as the caption for an image or the link text the entry.

See the Appendix C for more information using NanoWiki to format entries and place files and text in them.

9 Exporting Log Data

The Vehicle Maintenance Log can export your data in two ways. The data can be exported as a comma separated value (.csv) file. Or it can generate a report in your browser which is suitable for printing. This allows for data backup or analyzing your data in a spreadsheet.

On the topic of data backup...

The Vehicle Maintenance Log is usually backed up nightly to at least one other computer. While **I'm not about to offer any sort of data reliability guarantee**, I personally have a lot of entries in the Vehicle Maintenance Log, and don't want to lose my data either. So I regularly test the automated backup solutions. If you are really paranoid about data loss, **make hardcopy records of your maintenance log...** I do.

A good technique is to print the report to a PDF file for archiving.

9.1 Generating a Report

Because computer systems are continually evolving, there is no way to really ensure that data entered in the maintenance log will be readable in 20+ years. The best method for ensuring the long term readability of your log data, is to periodically print your records.

Browser Note: Most modern browsers will print the report properly. Firefox, Opera, Internet Explorer, and Safari have all been tested successfully. Older versions of Safari may crash when the report is printed. Upgrading to version 1.3 or later fixes this.

9.2 Download Data as a .csv File

The data data from your maintenance log can be exported as a comma separated value (.csv) file. The .csv file can be used to backup the data or analyze it in a spreadsheet.

The following changes are made to the data to format it as a .csv file:

- Newlines, carriage returns, commas, and quotation marks are replaced with spaces.

These changes are made only to data in the .csv file. The data stored in the log is NOT modified. The .csv file contains the vehicle's log entries, maintenance schedule, and a listing of all the completed scheduled maintenance.

A Browser Compatibility

I have tested the Vehicle Maintenance Log with a range of browsers. Safari, Firefox, and Opera all render the Vehicle Maintenance Log well. Internet Explorer 6 and Konqueror renders the Vehicle Maintenance Log almost as well.

Update on 26 SEP 05: Opera 8.5 on OS X does a poor job of rendering the login page. It doesn't seem to have problems rendering the rest of the site.

Internet Explorer 5 (Mac) and Netscape 4 do a poor job. If you must use these much older browsers (IE5 or Netscape 4) to browse the Vehicle Maintenance Log, I recommend you turn off stylesheets (in the advanced section of the preferences). The display will lack color and formatting, but it will be useable (I have tested this).

Printing your data from the Vehicle Maintenance Log's 'Export' page works properly on most modern browsers. Firefox, Opera, Internet Explorer, and Safari have all been tested successfully. Older versions of Safari may crash when the report is printed. Upgrading to version 1.3 or later fixes this.

The Vehicle Maintenance Log has also been tested successfully with several text browsers, including: lynx, links, elinks, and w3m.

I'm looking for data on how well the Vehicle Maintenance Log performs on handheld browsers. I have tested it using Opera's Small Screen Rendering (SSR) technology.

Please contact me if the Vehicle Maintenance Log is not displaying properly in your browser. My goal is to make the Vehicle Maintenance Log as accessible as possible.

B Example Email Report

Roger Cortesi,

Here is the scheduled maintenance summary for your vehicles.
Review or update your vehicle's maintenance records by logging
in to the Vehicle Maintenance Log at:
<http://rogercortesi.com/maint/>

Honda Civic

The following scheduled maintenance is overdue as of 27 Oct 05
or an estimated vehicle miles of 100,797 Miles:

Scheduled Maintenance Item.....	Due: Month	Miles
Rotate and Balance Tires.....	Nov 04	99,500
Check transmission fluid level (Sec 1-20).....	May 05	107,000
Replace Air Filter (Sec 1-18).....	May 05	107,000

The following scheduled maintenance is due in the next 2 months (as of Oct 05)
or in the next 1,568 Miles (estimated):

Scheduled Maintenance Item.....	Due: Month	Miles
Check Front Brakes (Sec 1-15).....	Nov 05	104,175

Honda Element

There is no overdue scheduled maintenance.

The following scheduled maintenance is due in the next 2 months (as of Oct 05)
or in the next 1,733 Miles (estimated):

Scheduled Maintenance Item.....	Due: Month	Miles
Oil Change.....	Dec 05	5,000

The Vehicle Maintenance Log
<http://rogercortesi.com/maint/>

C Formatting Log Entries with NanoWiki

The NanoWiki Engine is a very minimal set of markup tags for formatting text.

C.1 NanoWiki Example

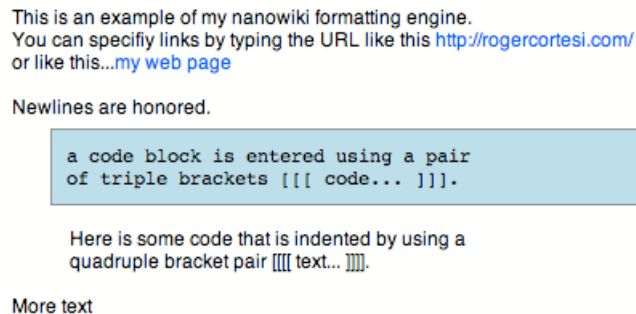
The following text:

```
This is an example of my nanowiki formatting engine.
You can specify links by typing the URL like this http://rogercortesi.com/
or like this... [http://rogercortesi.com/ my web page]
```

Newlines are honored.

```
[[[
a code block is entered using a pair
of triple brackets \[\[\[ code... \]\]\].
]]]
[[[[
Here is some code that is indented by using a
quadruple bracket pair \[\[\[\[ text... \]\]\]\].
]]]]
More text
```

gets displayed as:



```
This is an example of my nanowiki formatting engine.
You can specify links by typing the URL like this http://rogercortesi.com/
or like this...my web page

Newlines are honored.



```
a code block is entered using a pair
of triple brackets [[[code...]]].
```



Here is some code that is indented by using a
quadruple bracket pair [[[[ text... ]]]].

More text
```

Figure 12: An example of NanoWiki formatting.

C.2 NanoWiki Formatting Rules

Newlines: Newlines are printed.

Hyperlinks: `http://rogercortesi.com/` or `[http://rogercortesi.com/ my site]` where the text 'my site' will be used as the link text.

Code block / Preformatted Text: Text between `[[[and]]]` will be preformatted (3 pairs of brackets).

Indentation: Text between `[[[[and]]]]` will be indented (4 pairs of brackets). Indentations can be nested.

Files: `[[media:filename.pdf]]` or `[[media:filename.pdf hello roger]]` where 'hello roger' will be the link text.

Images: `[[image:filename.jpg]]` or `[[image:filename.jpg hello roger]]` where 'hello roger' will be the caption.

Thumbnail Images: `[[thumb:filename.jpg]]` or `[[thumb:filename.jpg hello roger]]` where 'hello roger' will be the caption. The thumbnail file **MUST** exist (see file upload page), and it will link to the full size image.

Files and images must be in the entry's primary topic's directory. File name may not have spaces in them. Bracket characters may be escaped with a backslash in front of them to prevent them from creating indentations, codeblocks or URLs.

D Documentation Change Log

Version 0.6: November 19th, 2005

1. Added a section for the upload file feature.
2. Added section on the NanoWiki format.
3. Added this change log in this file.

Version 0.5: October 29th, 2005

1. Minor fixes to two images.
2. Lots of corrections.
3. TOC only one level deep now.

Version 0.4: October 27th, 2005

1. Draft 1 is finished.
2. Basically all images in the document.
3. Lots of corrections.

Version 0.2: October 25th, 2005

1. Still build up the initial document.