

LEEDS BECKETT UNIVERSITY

Web History Extraction Artefact Tool

Unit Testing Report

David Michael Keebles

09/04/2015

1.0 Purpose of Document

This document explains the various activities performed as part of the Web History Extraction Artefact Tool unit testing. Both the acquisition and viewing applications are included in this document.

Table of Contents

1.0 Purpose of Document	1
2.0 Application Overview.....	4
3.0 Testing Scope	4
3.1 In Scope.....	4
3.2 Out of Scope.....	4
3.3 Items Not Tested	4
4.0 Test Environment	4
5.0 Metrics	5
5.1 Total	5
5.2 Acquisition.....	5
5.3 Viewing.....	5
6.0 Acquisition Unit Tests	6
Unit Test A001 : Booting the Tool (UEFI)	6
Unit Test A002 : Booting the Tool (BIOS).....	6
Unit Test A003 : Tool Windows are Locked Down	7
Unit Test A004 : Shutdown the Machine.....	7
Unit Test A005 : Cancel a Shutdown of the Machine.....	8
Unit Test A006 : View Licenses.....	8
Unit Test A007 : New Case (No Evidence Drive Mounted - Cancel).....	8
Unit Test A008 : Change Evidence Drive (No Disks)	9
Unit Test A009 : Change Evidence Drive (Rescan Disks).....	10
Unit Test A010 : Change Evidence Drive (Mount Disk).....	10
Unit Test A011 : New Case (Evidence Drive Mounted)	10
Unit Test A012 : New Case (Missing variables)	11
Unit Test A013 : New Case (Incorrect Variables)	11
Unit Test A014 : New Case (Correct Variables).....	12
Unit Test A015 : Automatically Select Drives (No Potential Drives).....	12
Unit Test A016 : Automatically Select (Potential Drives).....	13
Unit Test A017 : Manually Select Partitions (No Potential Drives).....	13
Unit Test A018 : Manually Select Partitions (Two Potential Drives – Select One)	14
Unit Test A019 : Manually Select Partitions (Two Potential Drives – Select Both)	15
Unit Test A020 : Parse Microsoft Windows 7	15
Unit Test A021 : Parse Microsoft Windows 8	16

Unit Test A022 : Parse Debian Linux.....	17
Unit Test A023 : Parse Ubuntu Linux.....	17
Unit Test A024 : Parse All Operating Systems Simultaneously	18
7.0 Viewing Unit Tests	20
Unit Test V001 : No Mounted Evidence Drive	20
Unit Test V002 : PHP Server Overload.....	20
Unit Test V003 : View Cases.....	21
Unit Test V004 : View Drives.....	21
Unit Test V005 : View Partitions (Microsoft Windows).....	22
Unit Test V006 : View Partitions (GNU/Linux)	22
Unit Test V007 : View Users (Microsoft Windows)	23
Unit Test V008 : View Users (GNU/Linux).....	23
Unit Test V009 : View System Information (Microsoft Windows - IE).....	24
Unit Test V010 : View System Information (Microsoft Windows – Firefox).....	24
Unit Test V011 : View System Information (GNU/Linux).....	25
Unit Test V012 : View Web History (Microsoft Windows).....	25
Unit Test V013 : View Web History (Textual Search)	26
Unit Test V014 : View Web History (Date Search)	27
Unit Test V015 : View Web History (Select Profile).....	27
Unit Test V016 : View Web History (GNU/Linux)	28
Unit Test V017 : View Rebuilt Cache (GNU/Linux)	28
Unit Test V018 : View Rebuilt Cache2 (GNU/Linux)	29
Unit Test V019 : View Downloads (GNU/Linux)	29
Unit Test V020 : View Google Analytical Cookies (Microsoft Windows)	30
Unit Test V021 : View Google Analytical Cookies (GNU/Linux)	30
Unit Test V022 : View Bookmarks (GNU/Linux)	31
Unit Test V023 : View User Credentials (GNU/Linux).....	31

2.0 Application Overview

The Web History Extraction Artefact Tool is a GNU-Linux bootable USB that functions as a tool for initial digital forensic investigations by extracting web history from a target computer. The data is parsed and displayed in the form of PHP files. The acquisition modules consist of hashing the drive, creating a new case, adding evidence to an existing case and deleting collected evidence. The outputted data consists of drive information, system information, web history, Google Analytics cookies, and rebuilt cache data.

3.0 Testing Scope

3.1 In Scope

Functional unit testing for the following acquisition modules are in the scope of testing:

- New Case
 - New Case
 - Existing Case
 - Manually Select Suspect Partitions
 - Automatically Select Suspect Partitions
- Hash Drives
- Delete collected evidence
- View Licenses
- Shutdown the machine

Functional unit testing for the following viewing modules are in the scope of testing:

- No evidence drive mounted
- View cases
- View drives
- View partitions
- View users
- View system information
- View web history
- View rebuilt cache
- View downloads
- View Google Analytics cookies
- View bookmarks
- View user credentials

3.2 Out of Scope

Apple Mac Operating System testing was not done for this tool. The tool is not designed for Apple Mac OS machines, however unexpected results may be encountered if the tool is used on them.

3.3 Items Not Tested

Microsoft Windows XP machines were not tested due to the unavailability of a legitimate license.

4.0 Test Environment

The test environment consisted of Dell laptop with an i7 Haswell processor and 8GB of RAM. No hardware write blockers were used.

5.0 Metrics

5.1 Total

Planned Test Cases	Executed Test Cases	Passed Test Cases	Failed Test Cases
52	52	41	11

Status	Critical	Major	Minor	Cosmetic	Total
Closed	1	1	2	1	5
Open	0	1	2	3	6

5.2 Acquisition

Planned Test Cases	Executed Test Cases	Passed Test Cases	Failed Test Cases
25	25	19	6

Status	Critical	Major	Minor	Cosmetic	Total
Closed	1	0	0	0	1
Open	0	1	2	2	5

5.3 Viewing

Planned Test Cases	Executed Test Cases	Passed Test Cases	Failed Test Cases
27	27	22	5

Status	Critical	Major	Minor	Cosmetic	Total
Closed	0	1	2	1	4
Open	0	0	0	1	1

6.0 Acquisition Unit Tests

Unit Test A001 : Booting the Tool (UEFI)

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Ensure the tool boots successfully on a UEFI machine	
Menu Item:	N/A	
Variables Used:	N/A	
Expected Result		Actual Result
The tool boots successfully with no visual errors.		The tool boots successfully with no visual errors.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A002 : Booting the Tool (BIOS)

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Ensure the tool boots successfully on a BIOS machine	
Menu Item:	N/A	
Variables Used:	N/A	
Expected Result		Actual Result
The tool boots successfully with no visual errors.		The tool boots the kernel, and then encounters an error regarding the fact that it cannot find the root partition. The tool then drops into a shell and requires the user to 'exit' from the shell before the root partition will successfully mount.
Initial Unit Test Result:	FAIL - CRITICAL	
Change	Expected Result	Actual Result
Changed the initrd file so the instead of dropping to a shell the tool loops (a total of 5 times) until the root is found.	The tool informs the user that the root partition could not be found and it is retrying. The second pass successfully mounts.	The tool informs the user that the root partition could not be found and it is retrying. The second pass successfully mounts.
Final Unit Test Result:	PASS	

--

Unit Test A003 : Tool Windows are Locked Down

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	The tool windows should not be able to be moved, resized, closed or opened by the user. This test involves right clicking the window, clicking and dragging the window and using shortcuts such as ‘ALT-F4’ to attempt to close the windows.	
Menu Item:	N/A	
Variables Used:	N/A	
Expected Result		Actual Result
No windows are changed in any way.		No windows are changed in any way.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A004 : Shutdown the Machine

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Shut down the machine using the main menu item. Allow the counter to reach zero.	
Menu Item:	Shutdown	
Variables Used:	N/A	
Expected Result		Actual Result
The tool gives a 5 second counter and then shuts down successfully.		The tool gives a 5 second counter and then shuts down successfully.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A005 : Cancel a Shutdown of the Machine

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Shut down the machine using the main menu item. Cancel this shutdown before the counter reaches zero.	
Menu Item:	Shutdown	
Variables Used:	N/A	
Expected Result		Actual Result
The shutdown is cancelled and the user is returned to the main menu.		The shutdown is cancelled and the user is returned to the main menu.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A006 : View Licenses

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	View licenses for the machine. All licenses should be scrollable, the full license should be visible and correct.	
Menu Item:	Licenses	
Variables Used:	N/A	
Expected Result		Actual Result
All licenses that exceed the size of the acquisition workspace menu should be scrollable. The licenses should be correct and readable.		All licenses that exceed the size of the acquisition workspace menu are scrollable. The licenses are correct and readable.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A007 : New Case (No Evidence Drive Mounted - Cancel)

Date:	08/10/2015
--------------	------------

Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Start a new case with no evidence drives mounted. Cancel this request when the tool informs the user of this.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
The tool should inform the user that no evidence drives are currently mounted. After selecting cancel the user should be presented with the main menu.		The tool successfully informed the user that no evidence drives are currently mounted. After selecting cancel the user was presented with the main menu.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A008 : Change Evidence Drive (No Disks)

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Change the evidence drive with no potential evidence drives inserted. After being informed, insert an evidence drive and click rescan.	
Menu Item:	Change evidence drive	
Variables Used:	N/A	
Expected Result		Actual Result
The tool informs the user that there are no current evidence drives present and gives a 'Rescan' option. After inserting the evidence drive and selecting rescan, the user should be presented with the 'select drives' menu.		The tool loops looking for a drive. Visually unpleasing, however when a drive is inserted the looping stops and the user is presented with the 'select drives' menu.
Initial Unit Test Result:	FAIL - COSMETIC	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	FAIL - COSMETIC	

Unit Test A009 : Change Evidence Drive (Rescan Disks)

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Insert one potential evidence drive. After the menu is displayed insert another and rescan.	
Menu Item:	Change evidence drive	
Variables Used:	N/A	
Expected Result		Actual Result
The new evidence drive is now displayed alongside the initial one.		The new evidence drive is now displayed alongside the initial one.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A010 : Change Evidence Drive (Mount Disk)

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Mount an evidence drive.	
Menu Item:	Change evidence drive	
Variables Used:	N/A	
Expected Result		Actual Result
The drive is successfully mounted. Using the development TTY, the mount command shows that it is mounted to '/mnt/evidenceDrive'.		The drive is successfully mounted. Using the development TTY, the mount command shows that it is mounted to '/mnt/evidenceDrive'.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A011 : New Case (Evidence Drive Mounted)

Date:	08/10/2015
Suspect Drive(s):	N/A

Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Start a new case with an evidence drive mounted.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
The user is presented with the case details form.		The user is presented with the case details form.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A012 : New Case (Missing variables)

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Start a new case. Only fill in 2 out of three variables.	
Menu Item:	New Case	
Variables Used:	Examiner ID: test examiner Suspect ID: Case ID: test-case-A012	
Expected Result		Actual Result
The user is informed that all fields must be filled in and is then redirected to the form again.		An error (system not tool based) is displayed and the user is redirected to the main menu.
Initial Unit Test Result:	FAIL - MAJOR	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A013 : New Case (Incorrect Variables)

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Start a new case. Enter all three variables. When asked to confirm they are correct, select no.	

Menu Item:	New Case	
Variables Used:	Examiner ID: test examiner Suspect ID: test suspect Case ID: test-case-A013	
Expected Result		Actual Result
The user is redirected to the form.		The user is redirected to the form.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A014 : New Case (Correct Variables)

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Start a new case. Enter all three variables. When asked to confirm they are correct, select yes.	
Menu Item:	New Case	
Variables Used:	Examiner ID: test examiner Suspect ID: test suspect Case ID: test-case-A014	
Expected Result		Actual Result
The log displays a message that the examiner started the case.		The log displays a message that the examiner started the case.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A015 : Automatically Select Drives (No Potential Drives)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: GPT Partitions: 1 Partition Type: Encrypted	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Attempt to have the tool automatically select the suspect drives	

	when there are no viable drives connected.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
The tool informs the user that no drives could be mounted and returns to the main menu.		The tool informs the user that no drives could be mounted and returns to the main menu.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A016 : Automatically Select (Potential Drives)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Attempt to have the tool automatically select the suspect drives when there are potential drives present.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
The tool should successfully mount each partition. The extended partition is ignored.		The tool successfully mounts each partition. The extended partition is skipped (NOT ignored).
Initial Unit Test Result:	FAIL - COSMETIC	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	FAIL - COSMETIC	

Unit Test A017 : Manually Select Partitions (No Potential Drives)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: GPT Partitions: 1 Partition Type: Encrypted	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	

Test Description:	Have the tool display potential drives to mount while there are no viable potential suspect drives present.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
The tool informs the user that there are no current suspect drives present and gives a 'Rescan' option. After inserting the evidence drive and selecting rescan, the user should be presented with the 'select drives' menu.		The tool informs the user that there are no current suspect drives present and gives a 'Rescan' option. After inserting the evidence drive and selecting rescan, the user should be presented with the 'select drives' menu.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A018 : Manually Select Partitions (Two Potential Drives – Select One)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: GPT Partitions: 1 Partition Type: Encrypted Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Only select one drive.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
The tool should display the partitions for this drive only and not the other drive.		The tool only displays the partitions for this drive only and not the other drive.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A019 : Manually Select Partitions (Two Potential Drives – Select Both)

Date:	09/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4 Partition Table: GPT Partitions: 2 Partition Types: EXT4; NTFS	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Select both drives.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
The tool should display partitions for each selected drive.		Partitions for each selected drive are displayed.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A020 : Parse Microsoft Windows 7

Date:	09/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4 Selected Partition: 2 - NTFS	
Suspect Operating System(s):	Windows 7	
Suspect Browser(s):	Internet Explorer and Firefox	
Test Description:	Full parse of Windows 7 partition. Two Users: One has IE history; Both have FF History. Cache for both users.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
Operating system parsed with no errors.		Operating system parsed with no errors.
All relevant users found and irrelevant (i.e. system) users ignored.		All relevant users found and irrelevant (i.e. system) users ignored.
Operating system(s) and browser(s) correctly identified.		Operating system(s) and browser(s) correctly identified.
Cache records successfully identified.		Cache records successfully identified.

Cache rebuilt.		Cache rebuilt – however some records are NOT rebuilt correctly.
Cache2 records successfully identified.		Cache2 records successfully identified.
Cache2 rebuilt.		Cache2 rebuilt.
Initial Unit Test Result:		FAIL - MINOR
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:		N/A

Unit Test A021 : Parse Microsoft Windows 8

Date:	09/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4 Selected Partition: 2 - NTFS	
Suspect Operating System(s):	Windows 8	
Suspect Browser(s):	Internet Explorer and Firefox	
Test Description:	Full parse of Windows 7 partition. One Users: Has IE history have FF History. Cache2.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
Operating system parsed with no errors.		Operating system parsed with no errors.
All relevant users found and irrelevant (i.e. system) users ignored.		All relevant users found and irrelevant (i.e. system) users ignored.
Operating system(s) and browser(s) correctly identified.		Operating system(s) and browser(s) correctly identified.
Cache records successfully identified.		Cache records successfully identified.
Cache rebuilt.		Cache rebuilt.
Cache2 records successfully identified.		Cache2 records successfully identified.
Cache2 rebuilt.		Cache2 rebuilt.
Initial Unit Test Result:		PASS
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:		N/A

Unit Test A022 : Parse Debian Linux

Date:	09/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4 Selected Partition: 2 - NTFS	
Suspect Operating System(s):	Kali Linux 1.1.0 [Debian based]	
Suspect Browser(s):	Iceweasel (Firefox based)	
Test Description:	Full parse of Debian based linux. Two Users: Both have FF (Iceweasel) history Cache2.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
Operating system parsed with no errors.		Operating system parsed with no errors.
All relevant users found and irrelevant (i.e. system) users ignored.		All relevant users found and irrelevant (i.e. system) users ignored.
Operating system(s) and browser(s) correctly identified.		Operating system(s) and browser(s) correctly identified.
Cache records successfully identified.		Cache records successfully identified.
Cache rebuilt.		Cache rebuilt.
Cache2 records successfully identified.		Cache2 records successfully identified.
Cache2 rebuilt.		Cache2 rebuilt.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A023 : Parse Ubuntu Linux

Date:	09/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4 Selected Partition: 2 - NTFS	
Suspect Operating System(s):	Ubuntu 12.04	
Suspect Browser(s):	Firefox	
Test Description:	Full parse of Debian based linux. Two Users: Both have FF history Cache.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
Operating system parsed with no errors.		Operating system parsed with no errors.

All relevant users found and irrelevant (i.e. system) users ignored.	All relevant users found and irrelevant (i.e. system) users ignored.	
Operating system(s) and browser(s) correctly identified.	Operating system(s) and browser(s) correctly identified.	
Cache records successfully identified.	Cache records successfully identified.	
Cache rebuilt.	Cache rebuilt.	
Cache2 records successfully identified.	Cache2 records successfully identified.	
Cache2 rebuilt.	Cache2 rebuilt.	
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test A024 : Parse All Operating Systems Simultaneously

Date:	09/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	None; Windows 8; Windows7; None; Kali 1.1.0; Ubuntu 12.04	
Suspect Browser(s):	None; IE and FF; IE and FF; None; Iceweasel; FF	
Test Description:	Full parse of all operating systems as described in unit tests A020 to A023.	
Menu Item:	New Case	
Variables Used:	N/A	
Expected Result		Actual Result
Operating system parsed with no errors.		Operating system parsed with no errors.
All relevant users found and irrelevant (i.e. system) users ignored.		All relevant users found and irrelevant (i.e. system) users ignored.
Operating system(s) and browser(s) correctly identified.		Operating system(s) and browser(s) correctly identified.
Cache records successfully identified.		Cache records successfully identified.
Cache rebuilt.		Cache rebuilt – however some records are NOT rebuilt correctly.
Cache2 records successfully identified.		Cache2 records successfully identified.
Cache2 rebuilt.		Cache2 rebuilt.
Initial Unit Test Result:	FAIL - MINOR	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

7.0 Viewing Unit Tests

Unit Test V001 : No Mounted Evidence Drive

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	View the page with no evidence drive mounted.	
Page Item:	N/A	
Search Criteria Used:	N/A	
Expected Result		Actual Result
A message is displayed advising to mount an evidence drive and reload the page.		A message is displayed advising to mount an evidence drive and reload the page.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V002 : PHP Server Overload

Date:	08/10/2015	
Suspect Drive(s):	N/A	
Suspect Operating System(s):	N/A	
Suspect Browser(s):	N/A	
Test Description:	Overload the PHP server. This happens when refreshing the PHP page multiple times while the places.sqlite file is being parsed on the other workspace.	
Page Item:	N/A	
Search Criteria Used:	N/A	
Expected Result		Actual Result
A custom error page is displayed with a refresh button.		A custom error page is displayed with a refresh button.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V003 : View Cases

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	None; Windows 8; Windows7; None; Kali 1.1.0; Ubuntu 12.04	
Suspect Browser(s):	None; IE and FF; IE and FF; None; Iceweasel; FF	
Test Description:	View the cases page.	
Page Item:	Cases	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V004 : View Drives

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	None; Windows 8; Windows7; None; Kali 1.1.0; Ubuntu 12.04	
Suspect Browser(s):	None; IE and FF; IE and FF; None; Iceweasel; FF	
Test Description:	View the drive page	
Page Item:	Drives	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V005 : View Partitions (Microsoft Windows)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	None; Windows 8; Windows7; None; Kali 1.1.0; Ubuntu 12.04	
Suspect Browser(s):	None; IE and FF; IE and FF; None; Iceweasel; FF	
Test Description:	View the partitions page with a Microsoft Windows partition.	
Page Item:	Partitions	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V006 : View Partitions (GNU/Linux)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	None; Windows 8; Windows7; None; Kali 1.1.0; Ubuntu 12.04	
Suspect Browser(s):	None; IE and FF; IE and FF; None; Iceweasel; FF	
Test Description:	View the partitions page with a GNU/Linux partition.	
Page Item:	Partitions	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Microsoft Windows image displayed.
Initial Unit Test Result:	FAIL - MINOR	
Change	Expected Result	Actual Result
Fixed error in PHP code	Images displayed are of the correct	Images displayed are of the correct

	manner and are displayed correctly.	manner and are displayed correctly.
Final Unit Test Result:	PASS	

Unit Test V007 : View Users (Microsoft Windows)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	None; Windows 8; Windows7; None; Kali 1.1.0; Ubuntu 12.04	
Suspect Browser(s):	None; IE and FF; IE and FF; None; Icedove; FF	
Test Description:	View the users page for a Microsoft Windows user.	
Page Item:	Users	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V008 : View Users (GNU/Linux)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	None; Windows 8; Windows7; None; Kali 1.1.0; Ubuntu 12.04	
Suspect Browser(s):	None; IE and FF; IE and FF; None; Iceweasel; FF	
Test Description:	View the users page for a GNU/Linux user.	
Page Item:	Users	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:	PASS	

Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:		
N/A		

Unit Test V009 : View System Information (Microsoft Windows - IE)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	Microsoft Windows 7	
Suspect Browser(s):	Internet Explorer	
Test Description:	View system information about a Microsoft Windows partition that uses Internet Explorer.	
Page Item:	System Information	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:		
PASS		
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:		
N/A		

Unit Test V010 : View System Information (Microsoft Windows – Firefox)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	Microsoft Windows 7	
Suspect Browser(s):	Mozilla Firefox	
Test Description:	View system information about a Microsoft Windows partition that uses Mozilla Firefox.	
Page Item:	System Information	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.

Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.	
Initial Unit Test Result:		PASS	
Change	Expected Result		Actual Result
N/A	N/A		N/A
Final Unit Test Result:		N/A	

Unit Test V011 : View System Information (GNU/Linux)

Date:	08/10/2015		
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4		
Suspect Operating System(s):	Ubuntu 12.04		
Suspect Browser(s):	Mozilla Firefox		
Test Description:	View system information about a GNU/Linux partition that uses Mozilla Firefox.		
Page Item:	System Information		
Search Criteria Used:	N/A		
Expected Result		Actual Result	
Page is visually readable.		Page is visually readable.	
Information is correct.		Information is correct – however the roaming and local directories are displayed, these are MS Windows only and should be changed to Mozilla and Cache folders.	
Images displayed are of the correct manner and are displayed correctly.		MS Windows image is displayed instead of the Tux image.	
Initial Unit Test Result:		FAIL - COSMETIC	
Change	Expected Result	Actual Result	
Fixed error in PHP code	Images displayed are of the correct manner and are displayed correctly.	Images displayed are of the correct manner and are displayed correctly.	
Final Unit Test Result:		FAIL - COSMETIC	

Unit Test V012 : View Web History (Microsoft Windows)

Date:	08/10/2015		
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4		
Suspect Operating System(s):	Microsoft Windows 8		

Suspect Browser(s):	Internet Explorer and Mozilla Firefox	
Test Description:	View the web history for a Microsoft Windows partition that has both Internet Explorer and Mozilla Firefox browsers.	
Page Item:	History	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V013 : View Web History (Textual Search)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	Microsoft Windows 7	
Suspect Browser(s):	Internet Explorer and Mozilla Firefox	
Test Description:	View the web history for a Microsoft Windows partition that has both Internet Explorer and Mozilla Firefox browsers. Search for multiple queries; including a query that should return zero (0) results.	
Page Item:	History	
Search Criteria Used:	.com .org Google searchwithnoresults	
Expected Result		Actual Result
Searches return correct results.		Searches return correct results.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V014 : View Web History (Date Search)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	Kali Linux 1.1.0	
Suspect Browser(s):	Iceweasel Firefox	
Test Description:	View the web history for a Microsoft Windows partition that has both Internet Explorer and Mozilla Firefox browsers. Search for multiple dates; including dates that shold return zero (0) results.	
Page Item:	History	
Search Criteria Used:	01/01/2005 : 31/12/2015 09/02/2015 : 01/03/2015 01/01/2005 : 01/01/2006	
Expected Result		Actual Result
Searches return correct results.		Searches return correct results.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V015 : View Web History (Select Profile)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	Microsoft Windows 7	
Suspect Browser(s):	Internet Explorer and Mozilla Firefox	
Test Description:	View the web history for a Microsoft Windows partition that has both Internet Explorer and Mozilla Firefox browsers. Search for a particular profile.	
Page Item:	History	
Search Criteria Used:	Internet Explorer First Firefox Profile Other Firefox Profile	
Expected Result		Actual Result
Searches return correct results.		Searches return correct results.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A

Final Unit Test Result:	N/A

Unit Test V016 : View Web History (GNU/Linux)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	Ubuntu 12.04	
Suspect Browser(s):	Mozilla Firefox	
Test Description:	View the web history for a GNU/Linux partition a Mozilla Firefox browser.	
Page Item:	History	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V017 : View Rebuilt Cache (GNU/Linux)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	Ubuntu 12.04	
Suspect Browser(s):	Mozilla Firefox	
Test Description:	View the rebuilt cache page for a partition containing GNU/Linux.	
Page Item:	Cache	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:	PASS	

Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V018 : View Rebuilt Cache2 (GNU/Linux)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	Kali 1.1.0	
Suspect Browser(s):	Iceweasel Forefox	
Test Description:	View the rebuilt cache2 page for a partition containing GNU/Linux.	
Page Item:	Cache	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V019 : View Downloads (GNU/Linux)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	Ubuntu 12.04	
Suspect Browser(s):	Mozilla Firefox	
Test Description:	View the downloads page for a partition containing GNU/Linux	
Page Item:	Downloads	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.

Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V020 : View Google Analytical Cookies (Microsoft Windows)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	Microsoft Windows 8	
Suspect Browser(s):	Internet Explorer and Mozilla Firefox	
Test Description:	View the Google analytics page for a partition containing Microsoft Windows.	
Page Item:	Google Analytics	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:	PASS	
Change	Expected Result	Actual Result
N/A	N/A	N/A
Final Unit Test Result:	N/A	

Unit Test V021 : View Google Analytical Cookies (GNU/Linux)

Date:	08/10/2015	
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4	
Suspect Operating System(s):	Ubuntu 12.04	
Suspect Browser(s):	Mozilla Firefox	
Test Description:	View the Google analytics page for a partition containing GNU/Linux.	
Page Item:	Google Analytics	
Search Criteria Used:	N/A	
Expected Result		Actual Result
Page is visually readable.		Page is visually readable.
Information is correct.		Information is correct.

Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.	
Initial Unit Test Result:		PASS	
Change	Expected Result		Actual Result
N/A	N/A		N/A
Final Unit Test Result:		N/A	

Unit Test V022 : View Bookmarks (GNU/Linux)

Date:	08/10/2015		
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4		
Suspect Operating System(s):	Ubuntu 12.04		
Suspect Browser(s):	Mozilla Firefox		
Test Description:	View the bookmarks page for a partition containing GNU/Linux.		
Page Item:	Bookmarks		
Search Criteria Used:	N/A		
Expected Result		Actual Result	
Page is visually readable.		Page is visually readable.	
Information is correct.		Bookmarks with a single quotation mark (') in their name are not displayed correctly.	
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.	
Initial Unit Test Result:		FAIL - MAJOR	
Change	Expected Result	Actual Result	
Changed delimiter to #'#	Information is correct.	Information is correct.	
Final Unit Test Result:		PASS	

Unit Test V023 : View User Credentials (GNU/Linux)

Date:	08/10/2015		
Suspect Drive(s):	Partition Table: MSDOS Partitions: 6 (including extended) Partition Types: FAT32; NTFS; NTFS; Extended; EXT3; EXT4		
Suspect Operating System(s):	Ubuntu 12.04		
Suspect Browser(s):	Mozilla Firefox		
Test Description:	View the user credentials page for a partition containing GNU/Linux.		
Page Item:	User Creds		

Search Criteria Used:		N/A
Expected Result		Actual Result
Page is visually readable.		For very long URL paths the table is made much longer than the page width resulting in the requirement to scroll horizontally.
Information is correct.		Information is correct.
Images displayed are of the correct manner and are displayed correctly.		Images displayed are of the correct manner and are displayed correctly.
Initial Unit Test Result:		FAIL - MINOR
Change	Expected Result	Actual Result
Made table description have a word-break.	Page is visually readable.	Page is visually readable.
Final Unit Test Result:		PASS