

Title	ReMp3 – The Remote MP3 Player
--------------	--------------------------------------

Document	Test Specification
-----------------	---------------------------

Author	Sacha Barber [sb54]
---------------	----------------------------



CSAI Final Year Project : Test Specification	
Author:	Sacha Barber
Issue Date:	21/03/06
Total Word count	4330

Test Specification**TABLE OF CONTENTS**

1. INTRODUCTION.....	3
2. TESTING PREREQUISITES	4
2.1 TEST MACHINES	4
2.2 WINDOWS INSTALLER PACKAGES	4
2.3 SERVER APPLICATION	4
2.4 CLIENT APPLICATION.....	4
3. TESTING PROCEDURES.....	5
3.1 TESTING ORGANISATION.....	5
3.1.1 <i>ReMP3 Server Testing Organization</i>	5
3.1.2 <i>ReMP3 Client Testing Organization</i>	5
3.2 TESTING METHODS	6
4. TESTS.....	7
4.1 REMP3 SERVER TESTS	7
4.1.1 <i>Common GUI Interface</i>	7
4.1.2 <i>Media Player Control</i>	8
4.1.3 <i>MP3 Editor Control</i>	9
4.1.4 <i>Media Library Control</i>	11
4.1.5 <i>CD Ripper Control</i>	12
4.1.6 <i>WAV To MP3 Converter Control</i>	13
4.2 REMP3 CLIENT TESTS.....	14
4.2.1 <i>Common GUI Interface</i>	14
4.2.2 <i>Tracklist Control</i>	15
4.2.3 <i>Media Library Control</i>	16
5. FAULT LOGS	18

1. INTRODUCTION

This document details the set of tests that have been conducted, to test the Functional Requirements of the ReMP3 project. This document should be read in conjunction with the Draft/Final reports for the ReMP3 project.

The tests are split into numerous sections, that shall attempt to apply unit style testing to the complete ReMP3 applications.

Test Specification

2. TESTING PREREQUISITES

The ReMP3 project relies on a number of different software / hardware elements. The tester must ensure that the following list of test prerequisites, are available prior to conducting any testing.

2.1 Test Machines

The ReMP3 project is essentially making use of Distributed Computing, as such one of the main prerequisites is that 2 host machines should be available to test with.

2.2 Windows Installer Packages

In order to install all these prerequisites, I have provided 2 Windows Installers. One for the ReMP3 Server and another for the ReMP3 Client, which should ensure that most of the required software elements, are installed correctly on the host computer (there are some exceptions that can not be installed by the installer, these must be installed manually). The tester should make sure these 2 Windows Installers are available prior to testing, as these Installers should ensure that most of the Server Application / Client Applications requirements are dealt with.

2.3 Server Application

The server will require the following software to be installed and correctly configured

- Windows XP must be installed (must be available)
- Microsoft .NET framework must be installed manually
- Windows Media Player SDK must be installed manually
- The lame_enc.dll must be installed to the C:\Windows folder (provided within Installer)
- A collection of music (must contain MP3's, as a minimum)

NOTE : *Where stated the items will be installed by using the ReMP3 Server, Windows Installer program provided.*

2.4 Client Application

The server will require the following software to be installed and correctly configured

- Windows XP must be installed (must be available)
- Microsoft .NET framework must be installed manually
- A collection of music (must contain MP3's, as a minimum)

NOTE : *Where stated the items will be installed by using the ReMP3 Server, Windows Installer program provided.*

Test Specification

3. TESTING PROCEDURES

3.1 Testing Organisation

The ReMP3 project is made up of a number of discrete software packages. When the ReMP3 project was first designed, unit testing was always a prime consideration. Where by, each of the individual software packages, could be tested in isolation. This is what is meant by a unit, where the unit a self contained item that can be tested, independently. This is the methodology that has been adopted, throughout the entire project life cycle, from designing to testing.

As such the testing can be broken down into small sub sections, which relate to a different software package, that was developed in isolation of the main application.

These individual software packages, have now been imported into the whole application, but it was only by creating the ReMP3 software software packages in isolation, that it was possible to test the individual packages before porting them into the entire whole application.

The majority of the ReMP3 software packages are Windows.Forms.UserControls which are hosted within the Server/Client applications. The tests associated with the UserControls will test the individual working of the UserControls, so when testing the Server and Client applications it is really ONLY necessary to test the messages that pass between UserControls.

The sub sections below detail the tests that relate to the 2 ReMP3 applications.

3.1.1 ReMP3 Server Testing Organization

The tests will be arranged as follows:

- Common GUI Interface
- Media Player Control
- MP3 Editor Control
- Media Library Control
- CD Ripper Control
- WAV to MP3 Converter Control

3.1.2 ReMP3 Client Testing Organization

The tests will be arranged as follows:

- Common GUI Interface
- Tracklist Control
- Media Library Control

Test Specification

3.2 Testing Methods

This document will be submitted as part of the Draft/Final report, and as such this will be the only copy of this document. It shall serve as written evidence, that each of the test cases has been tested, and the results recorded.

As stated earlier the tests are formed into test areas, each of these test areas is then broken down further, into individual tests. Each test will be initialled with the name of the tester (me) and the date on which the test was completed.

Should the test fail, a separate FAULT form shall be created, with a unique fault ID number. The current test will then reference the unique fault ID number within the Pass/Fail column. If the Fault is rectified the FAULT form shall state the name of the person that fixed it (me) and the date it was fixed.

If the test passes, the Pass/Fail column of the test will simply show Pass.

Using this method, the complete history of the testing period should be able to be traced, from the start of testing, through to completion.

Fault logs can be found at section 5.

Test Specification

4. TESTS

4.1 ReMP3 Server Tests

This is the ReMP3 Server set of tests.

4.1.1 Common GUI Interface

Test No	Description	Pass/Fail	Tester	Date Tested
001	Make sure the ReMP3 server is running. Check that the main server GUI is now shown.			
002	Check the following sub tests features of the Client GUI that is shown			
002-1	Clicking on the Media Player tab or using the menu, or using the hyperlink within the left shrink panel, or using CTRL+P displays the "ReMP3 Server Media Player" tab contents			
002-2	Clicking on the MP3 Editor tab or using the menu, or using the hyperlink within the left shrink panel, or using CTRL+3 displays the "ReMP3 Server MP3 Editor" tab contents			
002-3	Clicking on the Media Library tab or using the menu, or using the hyperlink within the left shrink panel, or using CTRL+M displays the "ReMP3 Server Media Library" tab contents			
002-4	Clicking on the CD Ripper tab or using the menu, or using the hyperlink within the left shrink panel, or using CTRL+R displays the "ReMP3 Server CD Ripper" tab contents			
002-5	Clicking on the WAV to MP3 tab or using the menu, or using the hyperlink within the left shrink panel, or using CTRL+T displays the "ReMP3 Server WAV to MP3 Converter" tab contents			
002-6	Clicking on the WAV to MP3 tab or using the menu, or using the hyperlink within the left shrink panel, or using CTRL+T displays the "ReMP3 Server WAV to MP3 Converter" tab contents			
002-7	Clicking the File-Exit or CTRL+E prompts the user to quite the application.			
002-8	That if the user chooses not to quit, that the application does not exit			
002-9	Ensure the functionality of the normal forms control keys, Maximise, Minimize, and Close work correctly.			
002-10	Clicking the Help-About menu, or using the hyperlink within the left shrink pane, or CTRL+A displays the about form			

Test Specification

Test No	Description	Pass/Fail	Tester	Date Tested
002-11	That the hyperlinks on the about form work correctly			
002-12	Clicking the Help-Help menu, or using the hyperlink within the left shrink pane, or F1 displays the help which is the correct content for the tab shown			
002-13	That the application is using the current Windows XP skin.			
002-14	That if the current Windows XP skin is changed the application is also changed.			

4.1.2 Media Player Control

Test No	Description	Pass/Fail	Tester	Date Tested
001	Confirm that each item has a tooltip associated with it			
002	Confirm that clicking on the Add (+) button prompts the user with a menu asking whether they want to add from folder or file			
003	Check the following sub tests features of the Add menus			
003-1	Confirm that the add file allows the user to add a number of files, using CTRL and SHIFT keys			
003-2	Confirm that if the user picks non supported (non audio file) files that the ones that are not audio files are not imported to the tracklist			
003-3	Confirm that the add folder allows the user to specify a directory to import from			
003-4	Confirm that when the user picks a folder that it is imported recursively and imports ALL valid audio files, and that any non audio tracks are not imported			
004	Confirm the clear track list button (-) clears the tracklist of all items			
005	Load some tracks into the tracklist, and confirm this selection may be saved to a XML file of the users choosing.			
006	Rename a word (or other) document to be an XML file and try and import this, it should fail and report some caught exception and no tracks should be loaded.			
007	Now attempt to import a valid XML file, and only those valid TRACK elements within the XML file should be imported			
008	With several tracks loaded into the tracklist (say 15) ensure that the up and down arrows move the current selection up and down. The current selection may be picked using CTRL + SHIFT keys.			

Test Specification

Test No	Description	Pass/Fail	Tester	Date Tested
009	With the current selection, press DEL and confirm the current selection is removed from the tracklist			
010	Try and drag and drop a file, or directory straight into the tracklist, all valid audio files should now appear within the tracklist			
011	Confirm that with some track within the tracklist, that when hovered over a popup details form is shown. If the file is an MP3 the ID3 data should also be shown, if the track has an ID3 tag			
012	With both the ReMP3 client and ReMP3 server applications running, create a new tracklist which has tracks from both computers. Ensure each of the tracks can be played.			
013	With both the ReMP3 client and ReMP3 server applications running, create a new tracklist which has tracks from both computers. Start the playback of a local track. Shutdown the ReMP3 client computer. Ensure the ReMP3 Server tries to make contact with the ReMP3 client computer for a time. Then attempts a Fast Forward.			
014	With both the ReMP3 client and ReMP3 server applications running, create a new tracklist which has tracks from both computers. Save this tracklist to an XML file using the Save button provided. Shutdown the ReMP3 client computer. Attempt to use the Load button to load the previously saved XML file, and ensure that only available tracks (local) are loaded.			

4.1.3 MP3 Editor Control

Test No	Description	Pass/Fail	Tester	Date Tested
001	Confirm that clicking the "Click Here To Select And MP3 File To Edit" allows the user to browse for a single mp3 file			
002	Confirm that if the user changes the filter to *.* and tries to load a file that does not have a .mp3 extension that an ERROR message is shown and the controls are disabled			
003	Confirm that once a valid mp3 file has been chosen that the Currently Selected Text shows this file name.			

Test Specification

Test No	Description	Pass/Fail	Tester	Date Tested
004	Confirm that once a valid mp3 file has been chosen that the text fields are editable			
005	Confirm that once a valid mp3 file has been chosen that has a ID3 tag already associated with it, that the text fields show the current id3 data for this file			
006	Choose an mp3 file that does not already have a id3 tag, and check the following			
006-1	That the Title field can have alpha-numeric characters up to a limit of 30 characters applied to it			
006-2	That the Artist field can have alpha-numeric characters up to a limit of 30 characters applied to it			
006-3	That the Album field can have alpha-numeric characters up to a limit of 30 characters applied to it			
006-4	That the Year field can ONLY accept digits up to a limit of 4 digits			
006-5	That the Comment field can have alpha-numeric characters up to a limit of 30 characters applied to it			
006-6	That the Track No field does not accept negative (-) digits			
006-7	That the Year field can ONLY accept digits			
006-8	That the Year field will ONLY accept values between 0-255			
006-9	Confirm that a valid genre can be chosen from the combobox provided			
006-10	Ensure that if ALL the rules from 006-1 to 006-9 are satisfied, that when the update button is pressed a message is shown to state the update was successful, and that the fields are update button are then disabled.			
006-11	Reopen the file that was just updated and ensure the correct id3 information is displayed in the fields provided			
006-12	Try and modify some of the fields and resave the file. Then re-open the file and ensure these updates are now reflected in the file			
007	Confirm that each item has a tooltip associated with it			

Test Specification**4.1.4 Media Library Control**

Test No	Description	Pass/Fail	Tester	Date Tested
001	Using the Add folder button, test that a local folder (one on this PC) can be added and starts to scan and alerts the user to the size of the scan about to commence.			
002	Using the Add folder button, test that a share or network folder (one not on this PC) can NOT be added and alerts the user.			
003	Confirm that once the Scan has started that it can be stopped using the Red Cancel Scan button			
004	Confirm that once the scan has completed that the folder tree represents this folder scan request			
005	Ensure that the Share Files button brings up a dialog with all the currently logged folders within it. (This may initially be none)			
006	Confirm the following features of the Shared Music dialog			
006-1	That for 1 to n many folder the behaviour is as specified in tests 001-004			
008	Confirm that a folder within the Folders treeview can be deleted by right clicking on it and using the "Delete Selected Folder" right click context menu			
009	Confirm that if the currently selected folder in the Folders treeview, contains audio information, that the main pane shows the files within this folder, and that the text at the top of the main panel shows which folder is being explored			
010	Confirm that each of the 4 different views of the Details button actually change the way in which the tracks are displayed			
011	Using the Show Details with 0 track selected, shows an ERROR message			
012	Using the Show Details within 1 track selected toggles the state of the Details panel			
013	Check that each of the hyperlinks within the Details panel navigate to the correct location / treeview			
014	Change to using the Organiser treeview using the button provided. Confirm that if the currently selected folder in the Organiser treeview, contains audio information, that the main pane shows the files within this folder, and that the text at the top of the main panel shows which folder is being explored			
015	Confirm for both the Folders and Organiser treeviews, that when the right click context menu "Add selected folder to tracklist" is used, that the tracklist within the Media Player control (Tab1) is actually updated with these files.			

Test Specification

Test No	Description	Pass/Fail	Tester	Date Tested
016	Confirm that each item has a tooltip associated with it			

4.1.5 CD Ripper Control

Test No	Description	Pass/Fail	Tester	Date Tested
001	Confirm that each item has a tooltip associated with it			
002	Place a audio CD into the available CD drive. Select the correct CD drive from the combobox provided. Click the open button provided, and check that the CD contents are now shown			
003	Click the Eject button, and ensure the CD is ejected			
004	Click the Load CD button, and ensure the CD is reloaded			
005	Repeat steps 002-003. And then click the Rip CD button, and ensure the ripper preferred output form is shown.			
006	Select rip to MP3, and ensure a rip location can be specified			
007	Ensure the ripping operation, rips the entire CD to the location specified, and the output files are MP3			
008	Repeat step 005-007, but press the cancel button, and ensure the ripping operation stops and that all later not ripped tracks are skipped			
009	Repeat steps 002-003. And then click the Rip File button, and ensure the ripper preferred output form is shown.			
010	Select rip to MP3, and ensure a rip location can be specified			
011	Ensure the ripping operation, rips the currently selected track ONLY, to the location specified, and the output file is an MP3			
012	Repeat step 009-010, but press the cancel button, and ensure the ripping operation stops and that the track is not ripped to disk			
013	Repeat steps 005-012 but ensure the rip type is set to Wav this time			

Test Specification**4.1.6 WAV To MP3 Converter Control**

Test No	Description	Pass/Fail	Tester	Date Tested
001	Confirm that each item has a tooltip associated with it			
002	Check that the Input file button allows a wav file to be chosen and that the filename is shown in the Wav file input field			
003	Check that if a wav file is not chosen for the input file, and error message is shown, and that the Wav file input is cleared and all other buttons fields are cleared and disabled			
004	Check that the Output file button allows a mp3 file to be chosen and that the filename is shown in the Compressed file field			
005	Check that the Config button (if enabled) brings up an adjustable configuration form			
006	That when the compress button (if enabled) creates an mp3 file using the configuration specified at using the source file of the Wav file input field, and that the output file is that specified by the Output file field			
007	Check the Media Player hyperlink shows the correct image and that the hyperlink works correctly			
008	Check the MP3 ID3 Tag Editor hyperlink shows the correct image and that the hyperlink works correctly			
009	Check the Media Library hyperlink shows the correct image and that the hyperlink works correctly			
010	Check the CD Ripper hyperlink shows the correct image and that the hyperlink works correctly			

Test Specification

4.2 ReMP3 Client Tests

This is the ReMP3 Client set of tests.

4.2.1 Common GUI Interface

Test No	Description	Pass/Fail	Tester	Date Tested
001	Make sure the ReMP3 server is NOT running. Then run the ClientApp.exe and confirm that a form is shown with a list of computers available within your network			
002	Pick a PC name that is not the ReMP3 server, and does not have the ReMP3 server application running on it. Ensure that an ERROR message is shown and the form closes after the user accepts this error.			
003	Make sure the ReMP3 server is running. Then run the ClientApp.exe and confirm that a form is shown with a list of computers available within your network Now select the name of the PC that has the ReMP3 server running on it. Check that the main Client GUI is now shown.			
004	Check the following sub tests features of the Client GUI that is shown			
004-1	Clicking on the tracklist tab or using the menu or using CRTL+M displays the "ReMP3 Client Track List" tab contents			
004-2	Clicking on the Media Library tab or using the menu or using CRTL+L displays the "Media Library" tab contents			
004-3	Clicking the File-Exit menu, or CTRL+E prompts the user to quite the application.			
004-4	That if the user chooses not to quit, that the application does not exit			
004-5	Ensure the functionality of the normal forms control keys, Maximise, Minimize, and Close work correctly.			
004-6	Clicking the Help-About menu, or CTRL+A displays the about form			
004-7	That the hyperlinks on the about form work correctly			
004-8	Clicking the Help-Help menu, or F1 displays the help which is the correct content for the tab shown			
004-9	That the application is using the current Windows			

Test Specification

Test No	Description	Pass/Fail	Tester	Date Tested
	XP skin.			
004-10	That if the current Windows XP skin is changed the application is also changed.			

4.2.2 Tracklist Control

Test No	Description	Pass/Fail	Tester	Date Tested
001	Confirm that each item has a tooltip associated with it			
002	Confirm that clicking on the Add (+) button prompts the user with a menu asking whether they want to add from folder or file			
003	Check the following sub tests features of the Add menus			
003-1	Confirm that the add file allows the user to add a number of files, using CTRL and SHIFT keys			
003-2	Confirm that if the user picks non supported (non audio file) files that the ones that are not audio files are not imported to the tracklist			
003-3	Confirm that the add folder allows the user to specify a directory to import from			
003-4	Confirm that when the user picks a folder that it is imported recursively and imports ALL valid audio files, and that any non audio tracks are not imported			
004	Confirm the clear track list button (-) clears the tracklist of all items			
005	Load some tracks into the tracklist, and confirm this selection may be saved to a XML file of the users choosing.			
006	Rename a word (or other) document to be an XML file and try and import this, it should fail and report some caught exception and no tracks should be loaded.			
007	Now attempt to import a valid XML file, and only those valid TRACK elements within the XML file should be imported			
008	With several tracks loaded into the tracklist (say 15) ensure that the up and down arrows move the current selection up and down. The current selection may be picked using CTRL + SHIFT keys.			
009	With the current selection, press DEL and confirm the current selection is removed from the tracklist			
010	Try and drag and drop a file, or directory straight into the tracklist, all valid audio files should now appear within the tracklist			
011	Confirm that with some track within the tracklist, that when hovered over a popup details form is shown. If the file is an MP3 the ID3 data should			

Test Specification

Test No	Description	Pass/Fail	Tester	Date Tested
	also be shown, if the track has an ID3 tag			
012	With several tracks loaded and the ReMP3 server running, click the send button. This should bring up a menu.			
013	Check the following sub tests features of the Send menus			
013-1	Confirm that "Add to Existing" returns the tracklist tracks and any that may have been enqueued at the ReMP3 server and the resultant list of tracks is now represented at the Client Tracklist			
013-2	Confirm that "Clear Existing" returns the tracklist tracks ONLY at the Client Tracklist			
014	With some music playing at the ReMP3 server ensure the FF button skips to the next track and that the tracklist current track indicates this change			
015	With some music playing at the ReMP3 server ensure the REW button skips to the previous track and that the tracklist current track indicates this change			
016	With some music playing at the ReMP3 server ensure the STOP button stops the playing of music at the ReMP3 server			

4.2.3 Media Library Control

Test No	Description	Pass/Fail	Tester	Date Tested
001	Using the Add folder button, test that a local folder (one on this PC) can be added and starts to scan and alerts the user to the size of the scan about to commence.			
002	Using the Add folder button, test that a share or network folder (one not on this PC) can NOT be added and alerts the user.			
003	Confirm that once the Scan has started that it can be stopped using the Red Cancel Scan button			
004	Confirm that once the scan has completed that the folder tree represents this folder scan request			
005	Ensure that the Share Files button brings up a dialog with all the currently logged folders within it. (This may initially be none)			
006	Confirm the following features of the Shared Music dialog			
006-1	That for 1 to n many folder the behaviour is as specified in tests 001-004			
007	Confirm that a folder within the Folders treeview can be deleted by right clicking on it and using the "Delete Selected Folder" right click context menu			
008	Confirm that if the currently selected folder in the			

Test Specification

Test No	Description	Pass/Fail	Tester	Date Tested
	Folders treeview, contains audio information, that the main pane shows the files within this folder, and that the text at the top of the main panel shows which folder is being explored			
009	Confirm that each of the 4 different views of the Details button actually change the way in which the tracks are displayed			
010	Using the Show Details with 0 track selected, shows an ERROR message			
011	Using the Show Details within 1 track selected toggles the state of the Details panel			
012	Check that each of the hyperlinks within the Details panel navigate to the correct location / treeview			
013	Change to using the Organiser treeview using the button provided. Confirm that if the currently selected folder in the Organiser treeview, contains audio information, that the main pane shows the files within this folder, and that the text at the top of the main panel shows which folder is being explored			
014	Confirm for both the Folders and Organiser treeviews, that when the right click context menu "Add selected folder to tracklist" is used, that the tracklist (Tab1) is actually updated with these files.			
015	Confirm that each item has a tooltip associated with it			

5. FAULT LOGS

