

GUI_ProjectRestore – Restore a Project

Revision history

2017-06-21	Robin Lamacraft	Original draft
2018-06-08	Rod Thompson	Replace 'screen' with 'window' Replace 'BR_PanelConfig' with 'BR_WindowConfig' Replace 'BR_Notification' with 'BR_Message Patterns' Add graphic, Window Interaction Map, Process Flow chart
2018-06-09	Rod Thompson Don Ferguson	Edits Amend REQUIRED SERVICES
2018-06-10	Rod Thompson Don Ferguson	Add Dependencies Revise graphics, Flow chart & Windows Interaction Map Add detail to LOOK AND FEEL Add Warning & Error Messages Add EVENT ACTIONS
2018-06-11	Rod Thompson	Edit Replace graphics & Process Flow Chart
2018-07-01	Rod Thompson	Revise Issues Add PROJECT FILESET Revise REQUIRED SERVICES – Dependencies Replace Process flowchart Amend MESSAGES Replace WINDOW INTERACTION MAP
2018-07-02	Rod Thompson	Revise SCOPE and ACTIONS Replace Process Flowchart Added sample logging process and use case
2018-07-07	Rod Thompson	Add Use Cases (version differences) Add TESTING Revise PROJECT RESTORATION LOG
2018-07-08	Rod Thompson	Replace Process Flowchart Edit ERROR MESSAGES
2018-07-17	Don Ferguson	Updated Use cases, added commentary for plugins
2018-11-18	Rod Thompson	Additions to WARNING CONDITIONS Addition to ERROR CONDITIONS Add window location to LOOK AND FEEL Amend EVENT ACTIONS Update REQUIRED SERVICES – Add 07.11 BR_Logging

SCOPE

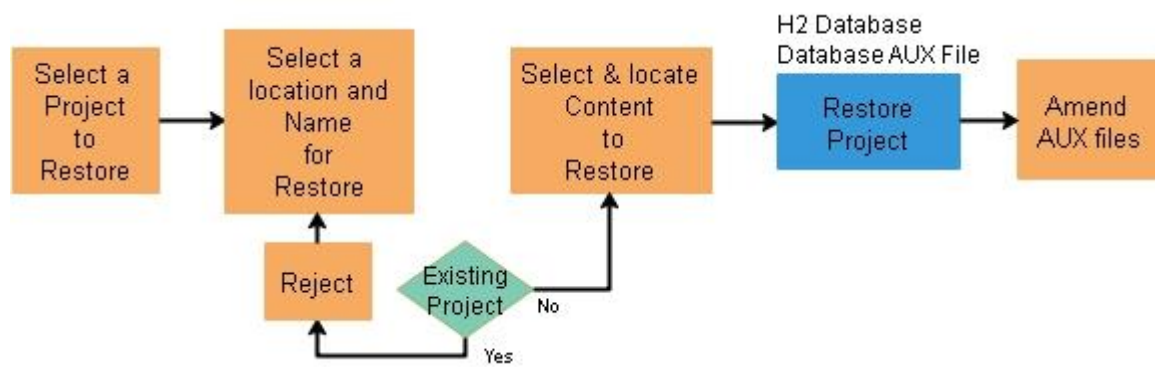
This GUI module is called from the Main Menu (GUI_UserInterface) to restore an HRE project from a backup fileset.

The location and naming of the Backup file to be used for restoration is determined by the User when using the Project Backup module. The backup process may also have included external files and application settings, for which restoration is optional, to selectable locations.

Regression from a backup is allowed. Warning messages are displayed where an existing Project of the same name exists in the selected location for the restoration.

The integrity of the 'restored' project is critical. A rollback system is employed, restoring the project to a temporary project name and location. The project is checked, and where errors occur, warnings issued and actions taken. If no errors are detected, the temporary project is converted to the designated project.

Process Overview



PROJECT FILESET

A set of files required for normal use of HRE projects consists of:

- an H2 database
- A 'User' Auxiliary file
- A 'Project' Auxiliary file
- folders of external files (images, etc) [optional].

Refer to *03.32 Overview – Auxiliary (Non Database) Files* for details.

Issues

The format of the backup file is still to be determined.

LOOK AND FEEL

The content of this window varies:

- 1) with the installation

Where HRE is used in a single computer/single user scenario, there is no evidence of a Server presence. The window layout varies according to use or not, of a Server.

- 2) With the selection of 'Restore Contents'.

The window has several parts:

- The upper right icon buttons provide the following universal features:
 - the 'Reminder' icon displays the Reminder content for this window
 - the 'Help' icon displays context Help about the use of this window.
- The "Server" selection list allows selection from various servers known to this installation of HRE. On selection of a Server, the "Login" button allows the user to access that server (if the user is already logged into that server the "Login" button will be hidden). NOTE: If this is an isolated usage of HRE where project files are only used from the same computer then the server aspects of this GUI will not show any server-related elements. There can be a one user environment. If a second computer is used to access those project files over a local network then the login on either computer must invoke the shared server mode
- The From Backup "Browse" button so that the user can select a folder and a project backup file
- The 'Start at server backup default' check box does ??????
- The "Summary" button opens the GUI_ProjectSummary module to display the details of the selected backup project
- The Restore to "Browse" button so that the user can select a folder and a restored project file

Project regression is allowed.

If the user selects a Project name, where an identically named project exists in the intended destination for the restoration, a warning message is displayed

- The Restore Contents checkbox list enables the user to select what content will be restored 'Data' and 'Definitions' are defaults, and cannot be de-selected.
When selected, the main window expands to provide additional user selections for 'Images' and 'External Files'
- The buttons:
 - "Restore" performs the restore project functions on the selected project
 - "Cancel" exits without action.

Project Restore X

Lightbulb ?

From Backup
 Browse

Folder
 D:/History/Drummond

Project Name
 D:/History/Drummond

Summary

Restore Contents

X	Data
X	Definitions
<input type="checkbox"/>	External Files

Restore to

Project Name Browse
 D:/History/Drummond

Restore as Project Name
 Drummonds-UK

Cancel Restore

Window extension here, for Resore Content extras

ProjectRestore Window (no Server)– Mockup

Project Restore

X

Server

This computer

Login

If not logged in

From Backup

Browse

X

Start at server backup default

Folder

D:/History/Drummond

Project Name

D:/History/Drummond

Summary

Restore Contents

X

Data

X

Definitions

External Files

Restore to

Project Name

Browse

D:/History/Drummond

Restore as Project Name

Drummonds-UK

Cancel

Restore

Window extension here, for Resore Content extras

ProjectRestore Window (with Server)– Mockup

External Files

From:

Browse

Folder

D:/History/Drummond

Project Name

D:/History/Drummond

To:

Browse

Folder

D:/History/Drummond

Restore as Project Name

Drummonds-UK

Window Extension for External files restore

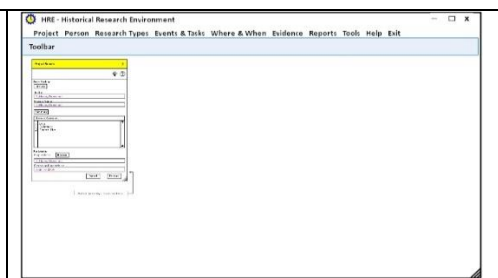
Shape, Size, Color, Layout etc. determined in design.

On screen location

Initially inherited from the HRE main display

Window located immediately below the Project menu button

On screen location and scale are the only User changeable settings



ACTIONS

The fundamental operations are:

1. Open the window according to its saved window Layout (BR_WindowConfig)
2. Allow the user to select one backup file to examine
3. Allow the user to select where the backup file will be restored to
4. Allow the user to select what contents from the backup files is to be restored
5. Perform the restore operation
 - Assign a temporary filename to the restored project files
 - Check the validity of the H2 database and perform a 'project integrity check'
This process is as yet to be defined, but it is assumed that the process will create a log.
If the restore process creates an Error:
 - i. An Error Message is displayed
 - ii. The 'Restore' process is 'failed' and the temporary project files deleted.
 - The filename of the restored project consists of the Project name, and the date and time at which the Project files are saved
 - When the restoration action is successful, update entries in the User Auxiliary file, and the Database Auxiliary file for the restored Project
6. Other Users of the Project are to be notified of the actions.

USED BY

All HRE users.

DATA CONTROLLED BY THIS MODULE

1. None.

REQUIRED DATA CONTROLLED BY OTHER MODULES

1. None.

REQUIRED SERVICES - Dependencies

First-Order Dependencies	Second-Order Dependencies	Higher-Order Dependencies
04.14 GUI_ProjectSummary	07.17 BR_WindowConfig	07.06 BR_GuiElement
		07.02 BR_EntityLink
		07.29 BR_Translation
		BR_FieldTranslation
		03.66 GUI_Message Patterns
	07.21 BR_Project	07.06 BR_GuiElement
		07.02 BR_EntityLink
		07.29 BR_Translation
		07.03 BR_FieldDefinition
05.75 GUI_Server Login	03.68 GUI_Select Configuration	Needed
	07.24 BR_Setting	BR_AppData
		BR_UserData
		07.02 BR_EntityLink
	07.17 BR_WindowConfig	See above
	03.66 GUI_Message Patterns	07.02 BR_EntityLink
		07.01 BR_EncodedString
		07.11 BR_Logging
		Call Stack
		07.24 BR_Setting
		GUI Translation
03.66 GUI_Message Patterns	NIL	
07.17 BR_WindowConfig	07.06 BR_GuiElement	07.01 BR_EncodedString
		07.02 BR_EntityLink
		BR_FieldTranslation
		07.16 BR_MessagePattern
	07.02 BR_EntityLink	Needed
	07.29 BR_Translation	07.02 BR_EntityLink
		BR_Field
		07.06 BR_GUIElement
		07.16 BR_MessagePatterns
	07.16 BR_MessagePatterns	See above
07.04 BR_Files	Local file system interface modules	
	Remote server connection modules	
	Remote or ext. file system modules	
	07.16 BR_MessagePatterns	See above
	07.21 BR_Project	See above
	07.24 BR_Setting	See above
	07.11 BR_Logging	07.01 BR_EncodedString
		07.02 BR_EntityLink
		BR_FieldTranslation
		07.26 BR_Substitution
	07.25 BR_Schema	See above
	08.01 BCS_Bridge	10.02 SS_DirectRequest
		07.16 BR_MessagePatterns
07.43 BR_ServerServices	????	
07.16 BR_MessagePatterns	See above	
07.21 BR_Project	07.06 BR_GuiElement	See above
	07.02 BR_EntityLink	See above
	07.29 BR_Translation	See above
	07.03 BR_FieldDefinition	Needed
07.11 BR_Logging	07.01 BR_EncodedString	Needed
	07.02 BR_EntityLink	Needed
	BR_FieldTranslation	
	07.26 BR_Substitution	07.02 BR_EntityLink
		07.29 BR_Translation

APPLICATION PROGRAMMING INTERFACE (API)

1. Single call, with no parameters

EVENT ACTIONS

- 1) Keyboard actions

NIL

- 2) Mouse actions

Drag and drop mouse actions to move and resize the window

Setting changes saved to database for User>Project>Window

Left key

- a. click on Server name pulldown expands Server list, and allows selection
- b. click on a Project Name, causes the project name to be shown in the text box, associated with the Summary button
- c. click on the Browse button opens the Windows Explorer allowing the user to view the file system to select an existing Folder and Filename, or enter a new Filename
- d. click on the 'un-checked' check box in the Restore Content display, causes the check box to be 'checked', and the option selected. A second click, reverses the process.
- e. click on each button, operates the button
- f. click on icons (detailed below)

Right key

To be determined

- 3) Icon actions

- a. left mouse key click on icons in the Window Control group:

'X' icon

(closes the window)

NOTE: Same action as in use of the 'Cancel' button

a.

A click on the toolbar icon restores the display to its previous setting

- b. left mouse key click on 'Reminder' icon:

(opens 'Reminder' window for this 'Send to Colleague' Message display)

- c. left mouse click on 'Help' icon:

(opens the Help System, searches for the section on 'Send to Colleague Message')

- 4) Keyboard shortcuts

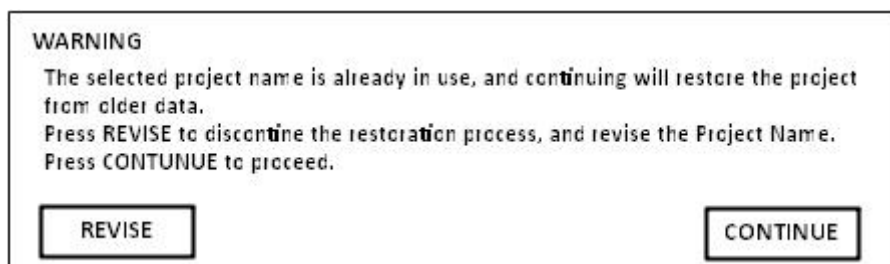
To be determined

WARNING CONDITIONS

Display Location: centered on the GUI_ProjectRestore window

1. When Project regression will occur as a consequence of the user selected Project name and location, a warning message is displayed.

Warning Message (WM-PR1)



Text Version

The selected project name is already in use, and continuing will restore the project

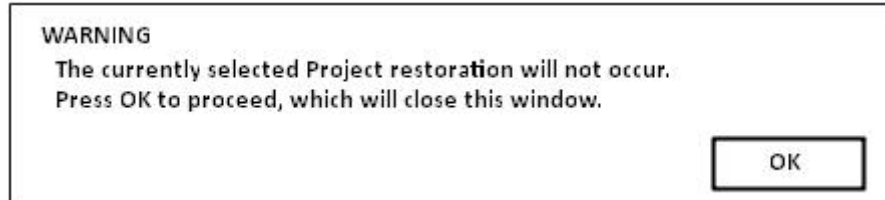
from older data.

Press REVISE to discontinue the restoration process, and revise the Project Name.

Press CONTINUE to proceed.

2. When the 'Cancel' button is used, a warning message is displayed.

Warning Message (WM-PR2)



Text Version

WARNING

The currently selected Project restoration will not occur.

Press OK to proceed, which will close this window.

Use (or otherwise) of Warning Messages in HRE is a User controlled preference, set through the Application Settings management module.

Where applicable in the operation of HRE, Warning Messages are generated.

According to the User preference for these, the display of such messages is bypassed, with action taken by the software equivalent to the User operation of the OK button.

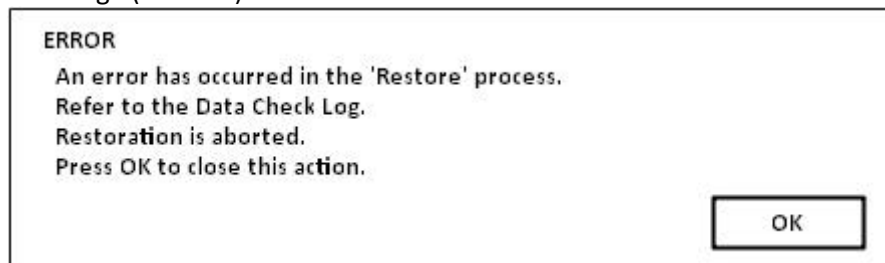
ERROR CONDITIONS

Display Location: centered on the GUI_ProjectRestore window

Single computer/single user scenario

1. An error may occur in the restoration process – detected by the Data Check.

Error Message (EM-PR1)



Text Version

ERROR

An error has occurred in the 'Restore' process.

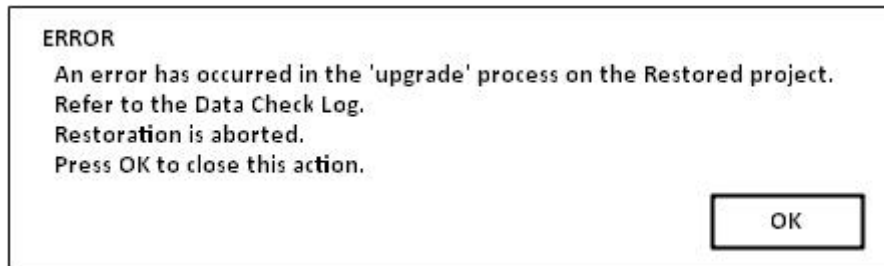
Refer to the Data Check Log.

Restoration is aborted.

Press OK to close this action.

2. An error may occur in the upgrade process on a restored project – detected by the Data Check.

Error Message (EM-PR2)



Text Version

ERROR

An error has occurred in the 'upgrade' process on the Restored project.
Refer to the Data Check Log.
Restoration is aborted.
Press OK to close this action.

MESSAGES

Server scenario

Created in and sent from Server to Client

<p>Message M_S_C_1</p> <p>Uses Server Broadcast Message Pattern GUI_Message (SB)</p> <p>Sent to one Client User initiating the 'restore' process</p>	<p>Subject: Project Restore From: Server Text Message: Either the Server is currently taking other actions on the project, or you do not have 'RIGHTS' to restore the project.</p> <p>Requested by: User name Project name: Project name Project folder: Folder name Project filename: Filename</p>
<p>Message M_S_C_2</p> <p>Uses Server Broadcast Message Pattern GUI_Message (SB)</p> <p>Sent to all current users of the selected project</p>	<p>Subject: Project Restore From: Server Text Message: Project restore queued – multiple users. Restore will occur when all users are disconnected from the project.</p> <p>Requested by: User name Project name: Project name Project folder: Folder name Project filename: Filename</p>
<p>Message M_S_C_3</p> <p>Uses Server Broadcast Message Pattern GUI_Message (SB)</p> <p>Sent to one Client initiating the process</p>	<p>Subject: Project Restore From: Server Text Message: Project restore successful.</p> <p>Requested by: User name Project name: Project name Project folder: Folder name Project filename: Filename</p>

<p>Message M_S_C_4</p> <p>Uses Server Broadcast Message Pattern GUI_Message (SB)</p> <p>Sent to all Client Users (except initiator) recorded in the Project AUX file, with access to the origination project</p> <p>Queued till next Login</p>	<p>Subject: Project Restore</p> <p>From: Server</p> <p>Text Message: This Project has been restored.</p> <p>Requested by: User name</p> <p>Project name: Project name</p> <p>Project folder: Folder name</p> <p>Project filename: Filename</p>
<p>Message M_S_C_5</p> <p>Uses Server Broadcast Message Pattern GUI_Message (SB)</p> <p>Sent to all Client Users (including initiator) recorded in the Project AUX file, with access to the origination project</p> <p>Queued as necessary till next Login</p>	<p>Subject: Project Restore</p> <p>From: Server</p> <p>Text Message: Project restore failed. Error detected. Refer to Data Check Log. Process aborted.</p> <p>Requested by: User name</p> <p>Project name: Project name</p> <p>Project folder: Folder name</p> <p>Project filename: Filename</p>
<p>Message M_S_C_6</p> <p>Uses Server Broadcast Message Pattern GUI_Message (SB)</p> <p>Sent to all Adminsitrator advising attempt to Restore a project – without RIGHTS</p> <p>Queued as necessary till next Login</p>	<p>Subject: Project Restore</p> <p>From: Server</p> <p>Text Message: A request was made to restore this Project by the User, without RIGHTS.</p> <p>Requested by: User name</p> <p>Project name: Project name</p> <p>Project folder: Folder name</p> <p>Project filename: Filename</p>

Message window location: centred on the GUI_ProjectRestore window

Message window location (for Administrator) - **how to deal with this??**

Message designator:

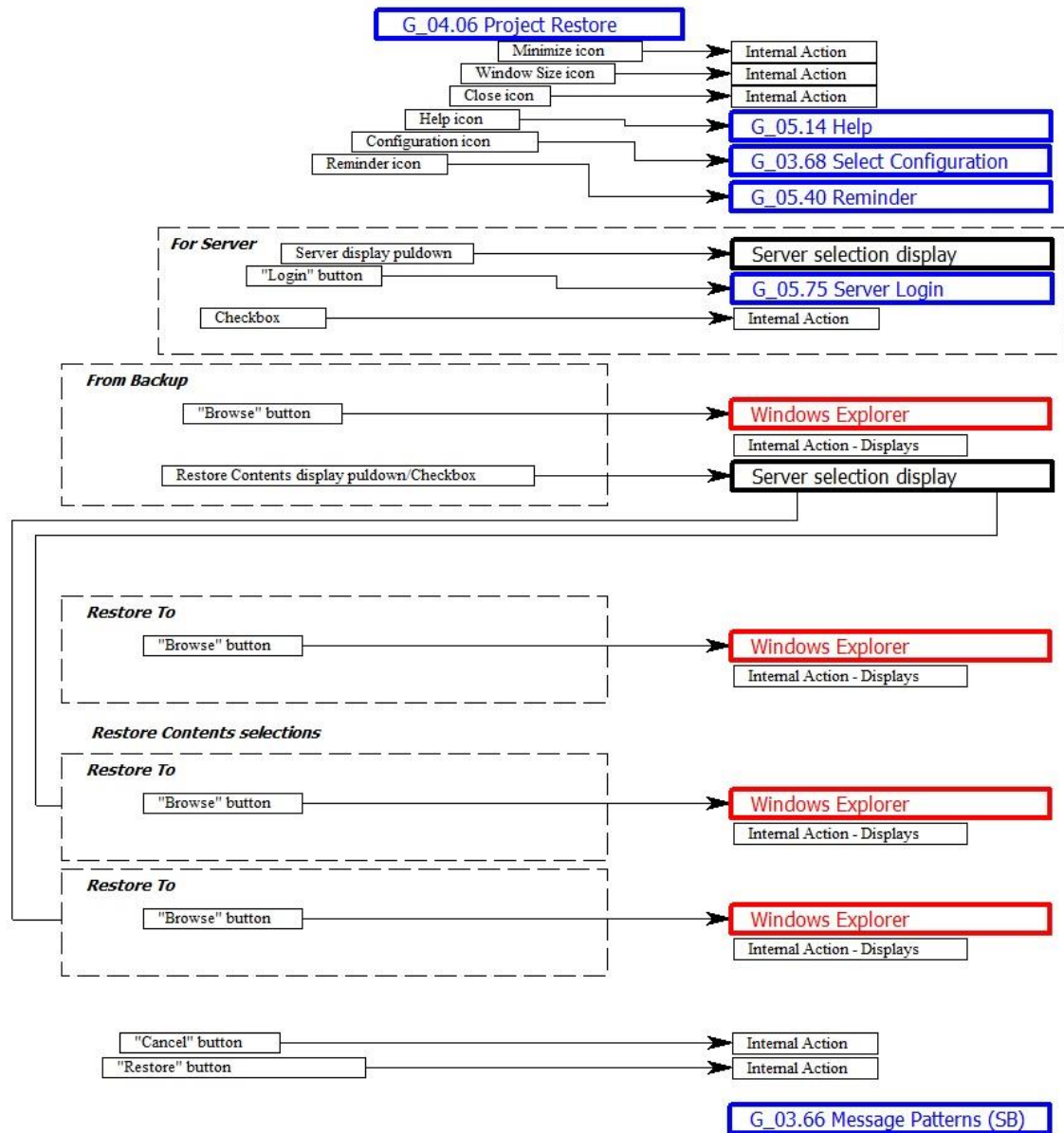
- 1) M_ signifies a message
- 2) X_ source
- 3) Y_ destination
- 4) Z distinguishing number for this window

Messages from the Server to the Client utilize the Server Broadcast Message Pattern.

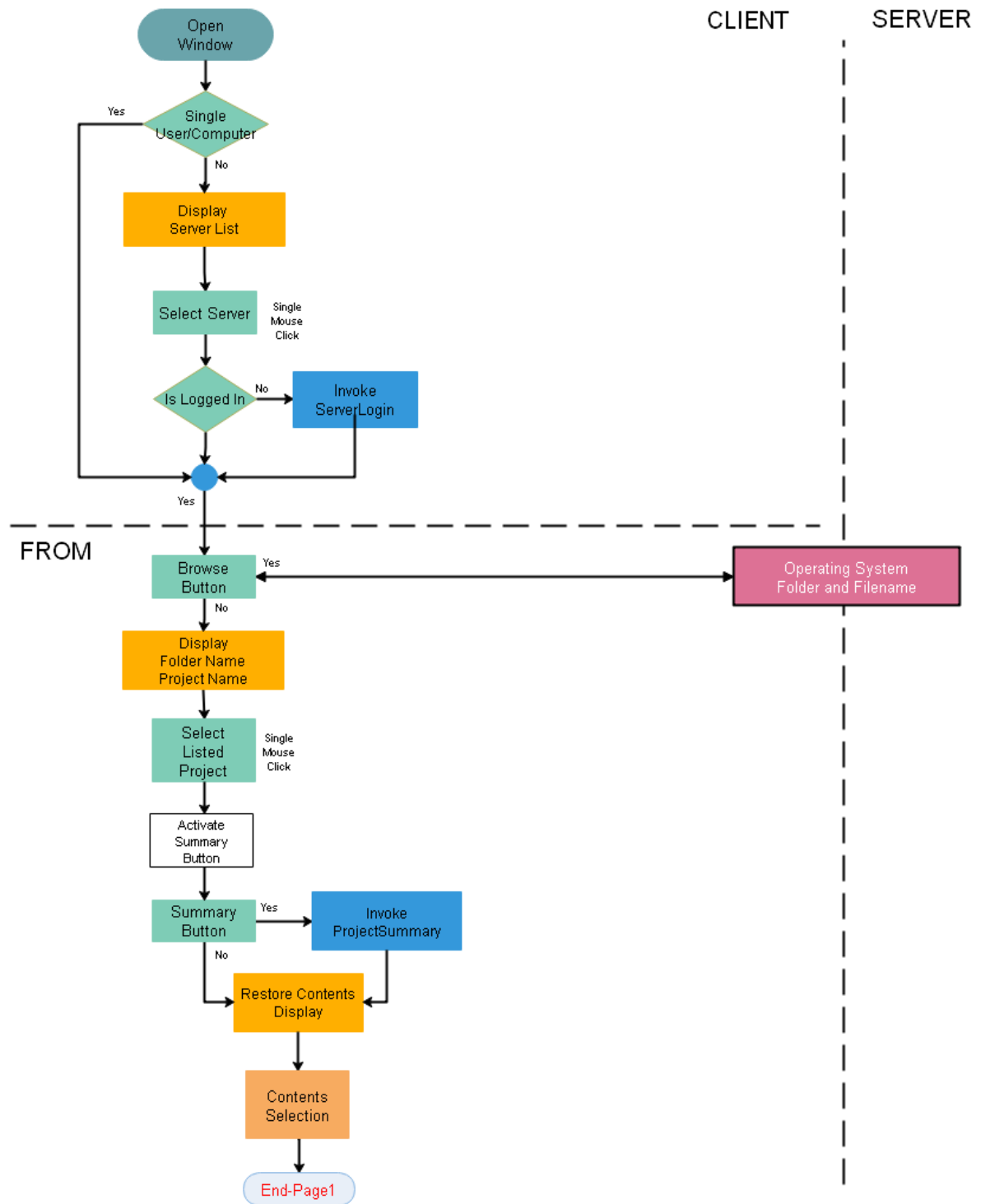
Such messages result in a window opening on the client, to display information (detailed above)

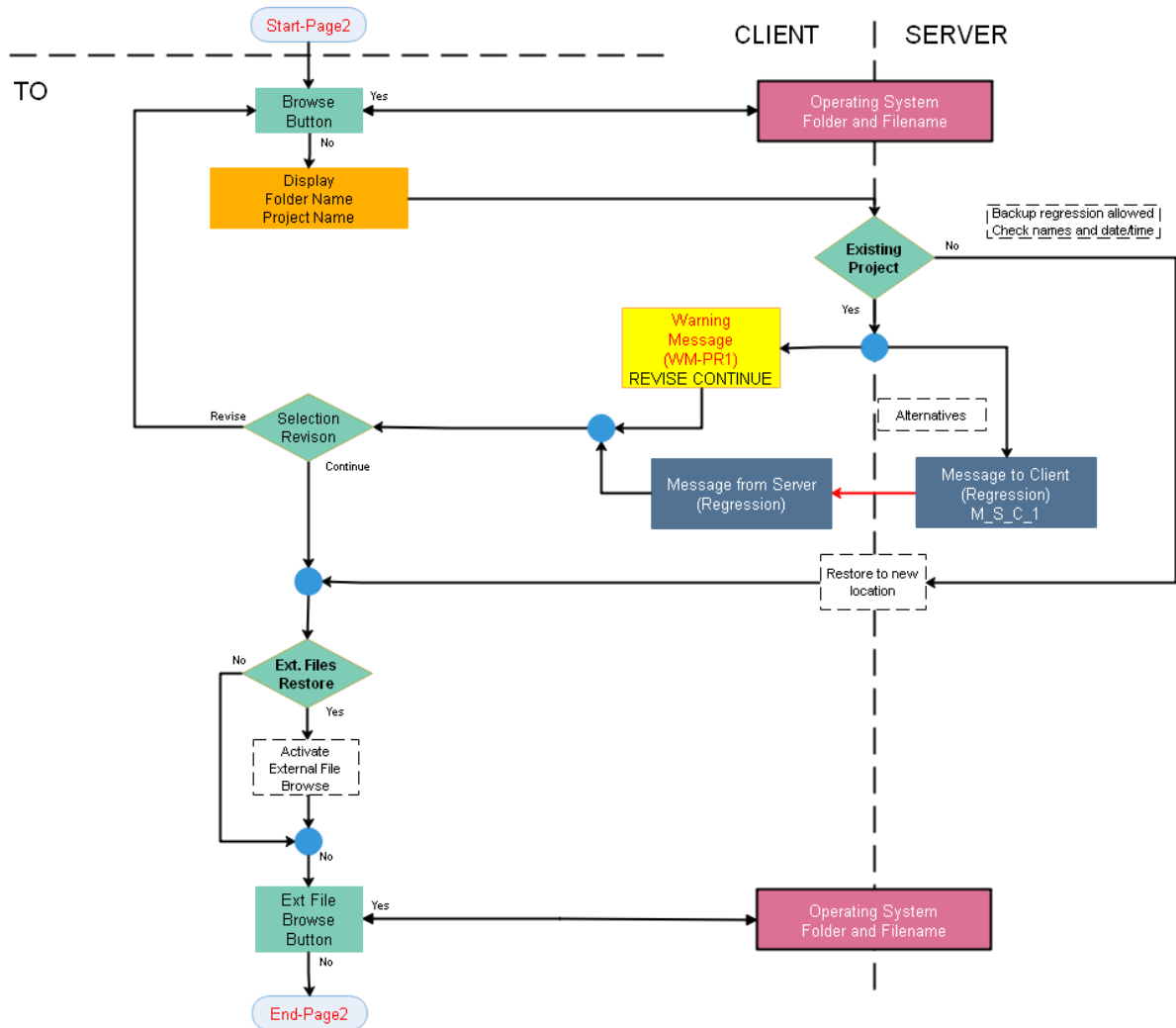
That specification requires amendment to allow use for sending to selected Users.

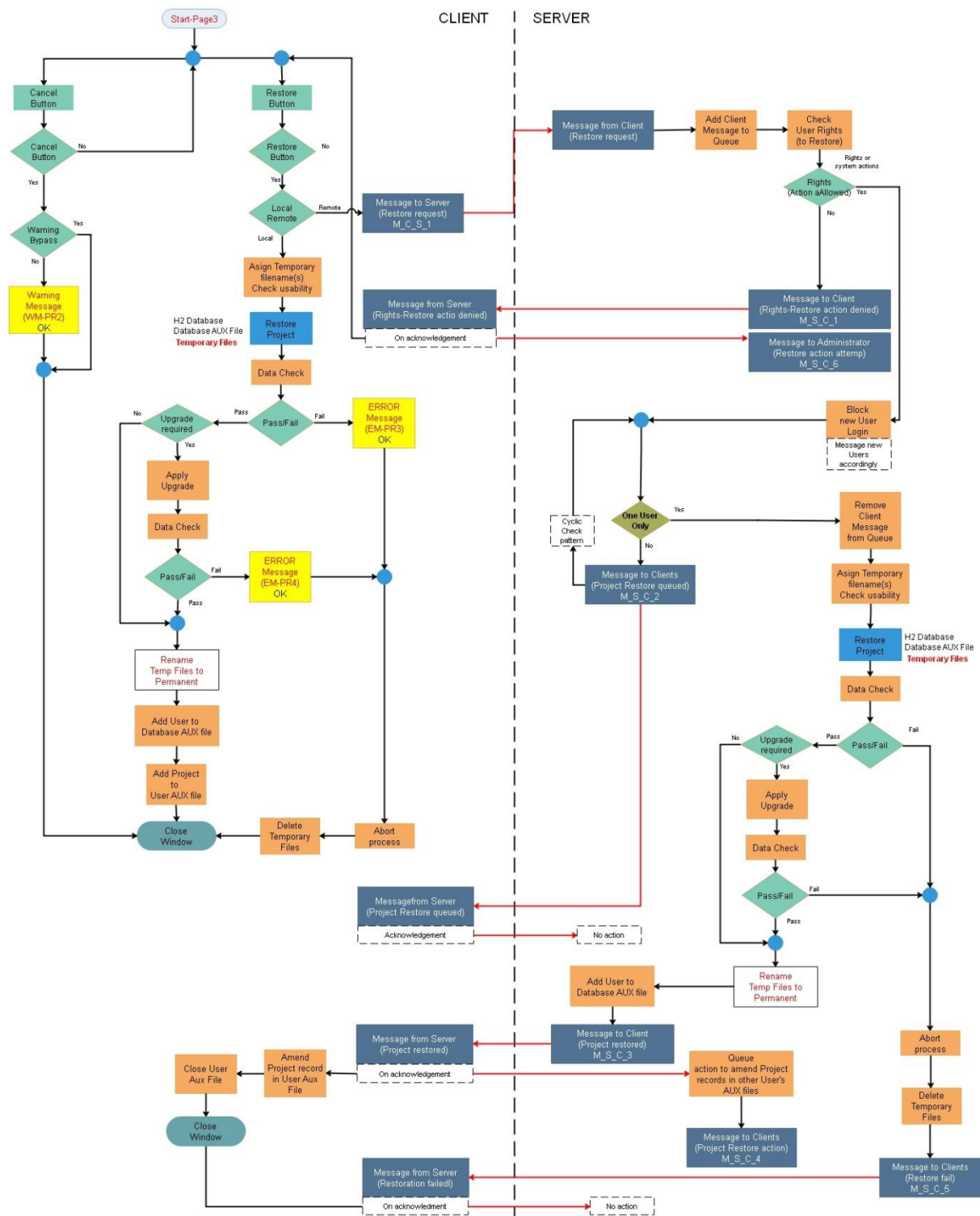
WINDOW INTERACTION MAP



PROCESS FLOW CHART







USE CASES

- 1) HRE Software and Project version differences (Single computer or Client to Single Server)
- 2) HRE Software and Project version differences (Server based multi-user)
- 3) Restoration by a User different from the User that created the backup
- 4) Restore recently backed up project (same User), no external files
- 5) Restoration in a different location from original
- 6) Restoration (with external files).

NOTE: Where the Use Case identifies 'version difference' this can be either a difference in HRE software/database version numbers OR a difference in installed HRE plugins. Where the difference is in installed plugins, a restore should never be allowed, as database corruption may result from either (a) lack of a plugin that was used to create data in the backup file, or (b) installation of a plugin in the software that may cause database corruption or fail of the integrity checks.

Use Case 1

Single Computer, or Client to Single Server - HRE Software and Project version difference

Where the database version is lower than the software, then the database is in need of upgrading. Where the database version is higher than the software, no restore action is permitted.

Where the upgrade is possible (software determination), then carry out the Restore process, then upgrade the project to the current version.

Save the database, and update AUX file records.

When access is not possible, additional information needs to be provided to the User (i.e., software and database versions).

Use Case 2

Server based project (multi-user) - HRE Software and Project version difference

An administrator probably determines the software versions of client installations.

Project versions and client HRE's will generally match.

An exception may be a guest client user, in which case rights are likely to be limited.

If rights are open, and the guest user has a newer version of software, then any data saved by the guest user may cause problems for the broader user base, thus no restore can be permitted.

Another exception may exist where multiple organisations share a common project on a server. Rights will have to determine action taken where a project/software version difference is detected.

Project versions need to be stored in User AUX Files and Database AUX files.

A new specification is required (BR series) to define requirements resulting from HRE software version changes. The presumption is that with each software version upgrade, a set of rules will be established for project database upgrades, which will be embedded in the software.

Use Case 3

Restoration by a User different from the User that created the backup

Project database backup (old) supplied by Pamela Johnson (or Manchester, England) [backup created by deceased husband-Paul] to Eliza Jackson (of Woop Woop, Victoria). Files supplied as a zip set, on a memory stick. No external files. Files transferred to local computer and unzipped.

Add detail of the restore process to Log file (see below).

Process

- 1) H2 database copied to new location with temporary filename EJ_HRERestore_Date/Time.PRJ
- 2) Database AUX file copied to new location with temporary filename EJ_HRERestore_Date/Time.JSON
- 3) No external files
- 4) Database integrity check (yet to be defined)
Information from that process added to the log
INTEGRITY TEST – PASS or FAIL
- 5) If FAIL, temporary file deleted and user warned the restore failed
- 6) If PASS, rename temporary files to correct names, and update AUX files to match.

Use Case 4

Recently backed up project (same User)

Add detail of the restore process to Log file (see below)

Process

- 1) H2 database copied to new location with temporary filename EJ_HRERestore_Date/Time.PRJ
- 2) Database AUX file copied to new location with temporary filename EJ_HRERestore_Date/Time.JSON
- 3) No external files
- 4) Database integrity check (yet to be defined)
Information from that process added to the log
INTEGRITY TEST – PASS or FAIL
- 5) If FAIL, temporary file deleted and user warned the restore failed
- 6) If PASS, rename temporary files to correct names, and update AUX files to match.

Use Case 5

Restoration in a different location from original

Use Case 6

Project Backup restoration (with external files)

PROJECT RESTORATION LOG ENTRIES

Assume restore of temporary files to the specified restore location.

Restoration Log requirements assumes accepted Project Name, valid user rights.

User Name (the person initiating the request)

Restore date

User AUX filename

User location

User contact email

Project Name (to be restored)

Backup date

Backup filename

Backup location

Backup Content (external files)

External file folder locations

User list (from Database AUX file-backup)

Restore Project Name (highlight if regression)

Restore location

Restore filename

Restore Content (external files)

External file folder locations

User list (restored Project) (User undertaking the restore)

Process check list

- 1) Copy H2 database to new location with temporary filename
- 2) Copy Database AUX file to new location with temporary filename
- 3) As applicable copy external files to new location

List all files, with new location paths

(what of folder name and filename over-writes?)

- 4) Perform a database integrity check (yet to be defined)

Check linkages to external files

Information from that process added to this log

INTEGRITY TEST – PASS or FAIL

If FAIL

- 1) Delete the temporary files
(Problems with over-written external files and folders)
- 2) Add file/folders deletions in this log

If PASS

- 1) Rename
- 2) Update records in AUX files
- 3) Deal with external files (to be determined)

Example of Log file entries – Use Case 3

User Name	Eliza Jackson
Restore date	27-Jul-2019
User AUX filename	ejackson_UAUX.json

User location	Woop Woop, Victoria, Australia
User contact email	ejackson4@gmail.com
Project Name	(to be restored)
Backup date	13-Jan-2017
Backup filename	JohnsonUK
Backup location	C:/Users/elizaj/Documents/Johnson Family/UK/
Backup Content	NIL (external files)
External file folder locations	NA
User list	Paul Johnson (from Database AUX file-backup)

Restore Project Name	UK_Johnson (highlight if regression)
Restore location	C:/Users/elizaj/Documents/HRE/Projects
Restore filename	JohnsonUK
Restore Content	NO (external files)
External file folder locations	

Process check list

- 1) H2 database copied to new location with temporary filename EJ_HRERestore_Date/Time.PRJ
- 2) Database AUX file copied to new location with temporary filename EJ_HRERestore_Date/Time.JSON
- 3) No external files
- 4) Database integrity check (yet to be defined)
Information from that process added to this log
INTEGRITY TEST – PASS or FAIL

Integrity Test-FAIL

Data integrity check on Project files - **FAILED**

Failure summary

- 1) Database file - EJ_HRERestore_Date/Time.PRJ deleted
- 2) Database AUX file - EJ_HRERestore_Date/Time.JSON deleted

Integrity Test PASS

Data integrity check on Project files - **PASSED**

- 1) Database file - EJ_HRERestore_Date/Time.PRJ renamed as JohnsonUK.PRJ
- 2) Database AUX file - EJ_HRERestore_Date/Time.JSON renamed as JohnsonUK.JSON
- 3) Database AUX file appended with user record of ejackson.
- 4) User AUX file appended with record of the UK_Johnson project

TESTING

Testing to prove the functionality of this module in use with others of the HRE application.
Limited 'Project' functionality (see below).

Prior testing of the module in the code development process is assumed.

<u>General requirements</u> HRE installation 1) Single computer 2) Client-Server 3) Test Project database fileset (created by the HRE backup process) Three versions required: (a) Same version as software (b) older version than software (c) newer version than software	<u>Code element requirements</u> Main GUI Project Restore Project Close ExitHRE
<u>Test Project database fileset (created by the HRE backup process)</u> <u>With external files</u>	

Process

- 1) HRE (Simple restore)
 - a. Open HRE
 - b. Restore the Test Project (v1-same version as HRE software)
 - c. Close the Project
 - d. Restore the Test Project (v2-older version than HRE software)
 - e. Close the Project
 - f. Restore the Test Project (v3-newer version than HRE software)
(likely this will require an older version of HRE software)
Expect a rejection of the process.
 - g. Exit HRE
 - h. Check results (how?)
- 2) HRE (restore with external files)
 - a. Open HRE
 - b. Restore the Test Project (v4-with external files)
 - c. Check result (how?)
Are external files correctly linked?
Can external files be accessed?

See Test Plan document