

GUI_ProjectBackup – Backup a Project

Revision history

2017-04-04	Don Ferguson	Original draft
2018-05-27	Rod Thompson	Add Mockup window graphics; Add Event Actions
2018-06-02 & 03	Rod Thompson	Revise Process Flow chart; Revise Mockup graphics; Add Warning Messages
2018-06-05	Rod Thompson	Revise Process Flow chart; Revise ACTIONS; Revise MESSAGES
2018-06-11	Rod Thompson	Add 'Issues' to SCOPE; Revise REQUIRED Services; Add 'Required Service' – Message Patterns
2018-06-29	Rod Thompson	Add INFORMATION DISPLAY; Replace Mockup window graphics; Replace Process flowchart
2018-11-19	Rod Thompson	Replace Graphics; Remove 'configuration' & window size control icons; LOOK AND FEEL – Add window location; Update REQUIRED SERVICES – Add 07.11 BR_Logging; Additions to WARNING CONDITIONS; Add USER RIGHTS section; Replace Process Flow Chart; Add LOGGING section; Add USE CASES and TESTING sections
2019-02-02	Rod Thompson	Replace Window graphic; LOOK AND FEEL – replace location graphic; LOOK AND FEEL – revise text regarding Progress Display; LOOK AND FEEL – add Progress Display section
2019-02-03	R Thompson	TESTING – additions; LOOK AND FEEL – amend 'Browse' function; ACTIONS – Amend for project selection alternatives
2019-02-04	Rod Thompson	Revise graphics for Project Selector window addition
2019-02-06	Rod Thompson	LOOK AND FEEL - Add NOTE regarding overlapping layout; WARNING CONDITIONS – Revise; EVENT ACTIONS – Revise; Add new Section – BACKUP FILE; Replace Process Flowchart (v9); REQUIRED SERVICES – Amend for Progress Display; ACTIONS – update; Issue - addition
2019-02-07	Rod Thompson	Replace Process Flowchart; Add Issue – Error Messages ERROR CONDITIONS – Add detail; LOGGING – Add Error Log detail
2019-02-08	Rod Thompson	Replace Window graphic; LOOK AND FEEL – revise for Summary & Server Login buttons
2019-04-05	Rod Thompson	Replace Window graphics; LOOK AND FEEL -revise (remove AppSetting check box); ACTIONS – Remove AppSetting reference; LOGGING (General) – amend; Replace Process Flowchart
2019-04-14	Don Ferguson	Replace mockups with real screens
2020-03-02	Don Ferguson	Align with actual code (Build 19)

SCOPE

This GUI module is called from the Main Menu or from GUI_ProjectClose, to backup a current project.

Note: it is assumed that a backup cannot be performed while others are active on that same project database. It is also assumed that it is not legal to only backup part of a Project database. However some external files (like images and other Digitals) can be optionally included in a backup.

Issues to be resolved:

- questions arise when considering remote, server-side projects, in relation to authorization, privilege and file locations.
- Process Flowchart – disconnect & reconnect of clients

PROJECT FILESET

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

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

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

BACKUP FILE

The backup file is a zip file created on the Server. Optionally, backups of other external files like images, etc may be made to a separate zip file.

A complete backup is the only way to be able to move a project to another computer.

Default naming convention

Uses the existing Database filename, with the current data and time, filetype .hrez.

USER RIGHTS

All Users have Project Backup rights.

LOOK AND FEEL

The window has 5 parts:

- A 'Backup From' scrollable display area which shows all of the user's currently open projects, by name and which allows the selection of a file from the displayed list. The list order is that applicable to the opening of the Projects (this may be empty if no projects are open).
A display of additional project status information, relevant to the backup of the Project
- A 'Backup To' area which allows the selection of a folder and filename for the backup files
- The buttons "Browse" (for each display area), "Server Login", "Summary", "Backup" and "Cancel"
 - The "Browse" buttons allow the user to search the project records in the User AUX file for a valid HRE project to backup. In the 'Backup To' area, the "Browse" button accesses the file-system for a location to save the backup file
 - The "Server Login" button allows the User to connect to the server where the selected project is located
 - "Summary" button opens the GUI_ProjectSummary module to display the details of the selected project
 - "Backup" performs the project backup functions on the selected project, and (optionally) any external folders
 - "Cancel" exits without action.
- Check boxes
 - "Include external referenced files"
- If the 'Backup' button is used, a Progress Display window opens.

Project Backup

BACKUP FROM
Choose from your known projects:

Project Name	Filename	Local/Remote
HRE Sample project	HRE Sample database v16d	Local
HRE Seed project	HRE Sample database2 v16d	Local

Summary

Project HRE Sample project

BACKUP TO **Browse...**

Filename HRE Sample project_2020-03-02_12-29-22

Folder

☐ Backup external file folders

Cancel **Backup**

PROJECT BACKUP Window – with project selected

External File Backup

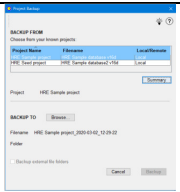
External Files

From **Browse...**

Folder to Backup

Cancel **Accept**

PROJECT BACKUP Window (External folder selector)

Shape, Size, Color, Layout etc. determined in design. <u>On screen location</u> Initially inherited from the HRE main display Window located immediately below the Project menu button On screen location is the only User changeable setting	
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Progress Display

A progress display is called for using the Action Progress module.

On-screen location:

Initially inherited from the GUI_ProjectBackup window

Window located immediately to the right of the window – shifted to the left if the User has relocated the ProjectBackup window such that the Progress Display would exceed the bounds of the Main Window, in which case, shifted to the left side of the ProjectBackup window.

Location and size of this window are not User changeable settings.

ACTIONS

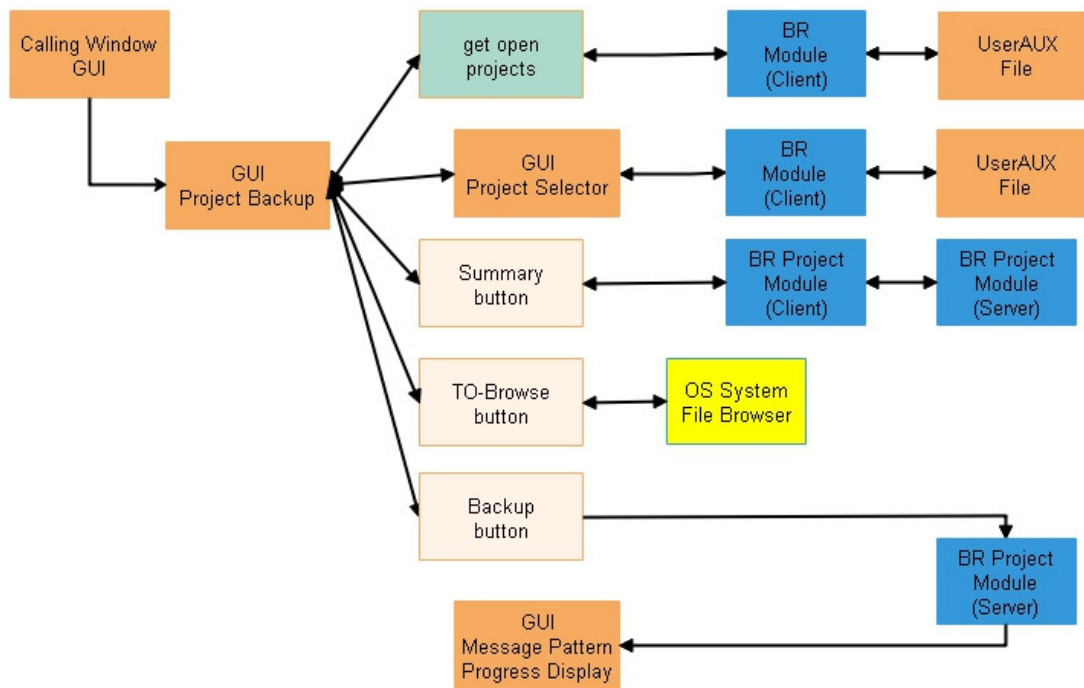
The fundamental operations are:

1. Open the window
2. Allow selection of a project, or browse for another project to be backed up
3. Allows connection to a remote server, when a project (so located) is selected by the User.
The Server Login button is made visible by selection of the remotely located project, and re-hidden on use of the 'Cancel' button
4. Use of the Server Login button invokes the 05.75 GUI_ServerLogin module
5. Allow the User to view a Summary of the project. The Summary button is enabled after selection of a project, and disabled on use of the 'Cancel' button
6. Select whether external files are to be backed up
7. Allow selection/entry of a filename and location to save the backup
The 'Browse' button opens the Operating system File Explorer through the 05.77 GUI_FileChooser module
8. Wait until all outstanding transactions from this client are completed
9. Check the number of current users of this project
10. If only one user, then perform a backup task for this project within the server, else queue a backup task for this project within the server
11. Prevent any further logins to the database until the backup is completed
12. This backup setup task is to be notified to all concurrent users
13. The server to perform that backup as soon as possible when all users have disconnected
14. The backup completion is to be notified to all users registered to receive that notification
15. On completion of backup (one user only), or having messaged the Server of the backup requirement, close the window and return.

The following table illustrates the interaction between code modules as the above actions occur.

Client		Server
GUI module	Other modules	
Display – open project details	Get open project information	Get open project information
FROM-Browse button		
Server Login	05.75 GUI_Server Login	
Summary Button		
04.14 GUI_ProjectSummary	Get project data	Get project data
Display project data	Supply project data	Supply project data

Client		Server
GUI module	Other modules	
Display 'Change' information		
Display 'use' information		
TO-Browse button	05.77 GUI_FileChooser	
Backup Button		
Cancel Button		



BACKUP ZIP FILES

ZIP file code for the creation of the backup file collects the relevant folder and file data, then creates the backup file under an hrez filetype.

Backup external data is gathered under a standard zip filetype.

USED BY

All HRE users.

DATA CONTROLLED BY THIS MODULE

1. Any open HRE Project.

REQUIRED DATA CONTROLLED BY OTHER MODULES

1. Server names and Project names
2. Data from Project Summary for each open Project.

REQUIRED SERVICES - Dependencies

First-Order Dependencies	Second-Order Dependencies
07.11 BR_Logging	
04.14 GUI_ProjectSummary	
05.77 GUI_FileChooser	

APPLICATION PROGRAMMING INTERFACE (API)

1. Single call, no parameters

LOGGING

Use of this module will create log entries.

Commit Logging

This occurs for each of the following functions – in the listed tables:

Function	Database Table
Move and/or resize window	305/306?

General Log

Date, Time and Event record for each of the following (if applicable)

- Backup process initiated
- Folder and filename for backup
- External File – folder/file selection (list)
- Backup process completion.

Error Log

Client

Module ID, Date, Time and Event record for each of the following (if applicable)

- Error Message received

Server

Client ID, Date, Time and Event record for each of the following (if applicable)

- Error Message sent

EVENT ACTIONS

- 1) Keyboard actions
Filename for backup (through Operating System)
- 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/Project name pulldown expands Server/Project list
- b. click on a Project record in the Currently Open projects list, selects the project, and causes the project name to be shown in the text box
- c. a click on the Browse button in the FROM section, opens a sub-window allowing User selection of a project which is not open
- d. if a selected project is located on a remote server, a 'Sever Login' button is made visible. A click on this button causes the opening of the 05.75 GUI_Server Login module
- e. a click on the Summary button opens another window to display additional detail about the Project
- f. click on the Browse button (in the TO area) opens 05.77 File Chooser allowing the user to view the file system (where User rights allow) to select an existing Folder and Filename, or enter a new Filename

- g. click on the un-checked 'Include external reference files' Check box, causes the Check box to be 'checked', and the display of the External folder selection window.
A second click, reverses the process
- h. click on the 'Backup' button, initiates the project backup process
- i. click on the 'Cancel' button, cancels any selections and exits the window
- j. 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
- b. left mouse key click on 'Reminder' icon:
(opens 'Reminder' window for this 'Project Backup' window)
- c. left mouse click on 'Help' icon:
(opens the Help System, searches for the section on 'Project Backup' window).

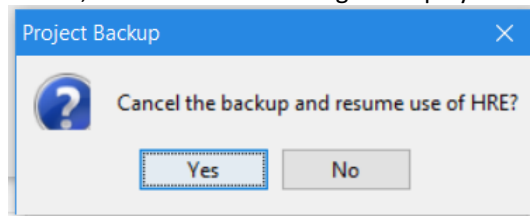
4) Keyboard shortcuts

To be determined.

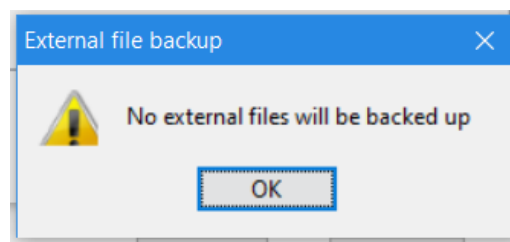
WARNING CONDITIONS

Display Location: centered on the GUI_ProjectBackup window

When the 'Cancel' button is used, a confirmation message is displayed:



When the 'Cancel' button is used from within the External folder selector, a confirmation message is displayed:



Message Display bypass

A user option enables bypass of Confirmation Messages.

ERROR CONDITIONS

Error Source	Action Consequences
This Remote Server is not on-line	Unable to access Server, and the project Project selection not available
The project cannot be located on this Server	Unable to access the project

	Project selection not available
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SERVER MESSAGES

Created in and sent from Client to Server

Message M_C_S_1 Software based – no display	Contains: User Name Project name Folder and filename for saving of the Project Option-External Files Option-App Settings
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Created in and sent from Server to Client(s)

Message M_S_C_1 Uses Server Broadcast Message Pattern GUI_Message (SB) Sent to all Users of the selected project	Subject: Project Backup From: Server Text Message: Project backup queued – multiple users. Requested by: User name Project name: Project name Backup folder: Folder name Backup filename: Filename
Message M_S_C_2 Uses Server Broadcast Message Pattern GUI_Message (SB) Sent to all Users of the selected project	Subject: Project Backup From: Server Text Message: Project backup previously queued with multiple users – now in progress. Requested by: User name Project name: Project name Backup folder: Folder name Backup filename: Filename
Message M_S_C_3 Uses Server Broadcast Message Pattern GUI_Message (SB) Sent to all Users of the selected project	Subject: Project Backup From: Server Text Message: Project backup previously requested and queued – has been processed. Requested by: User name Project name: Project name Backup folder: Folder name Backup filename: Filename

Message window location: centred on the GUI_ProjectBackup window

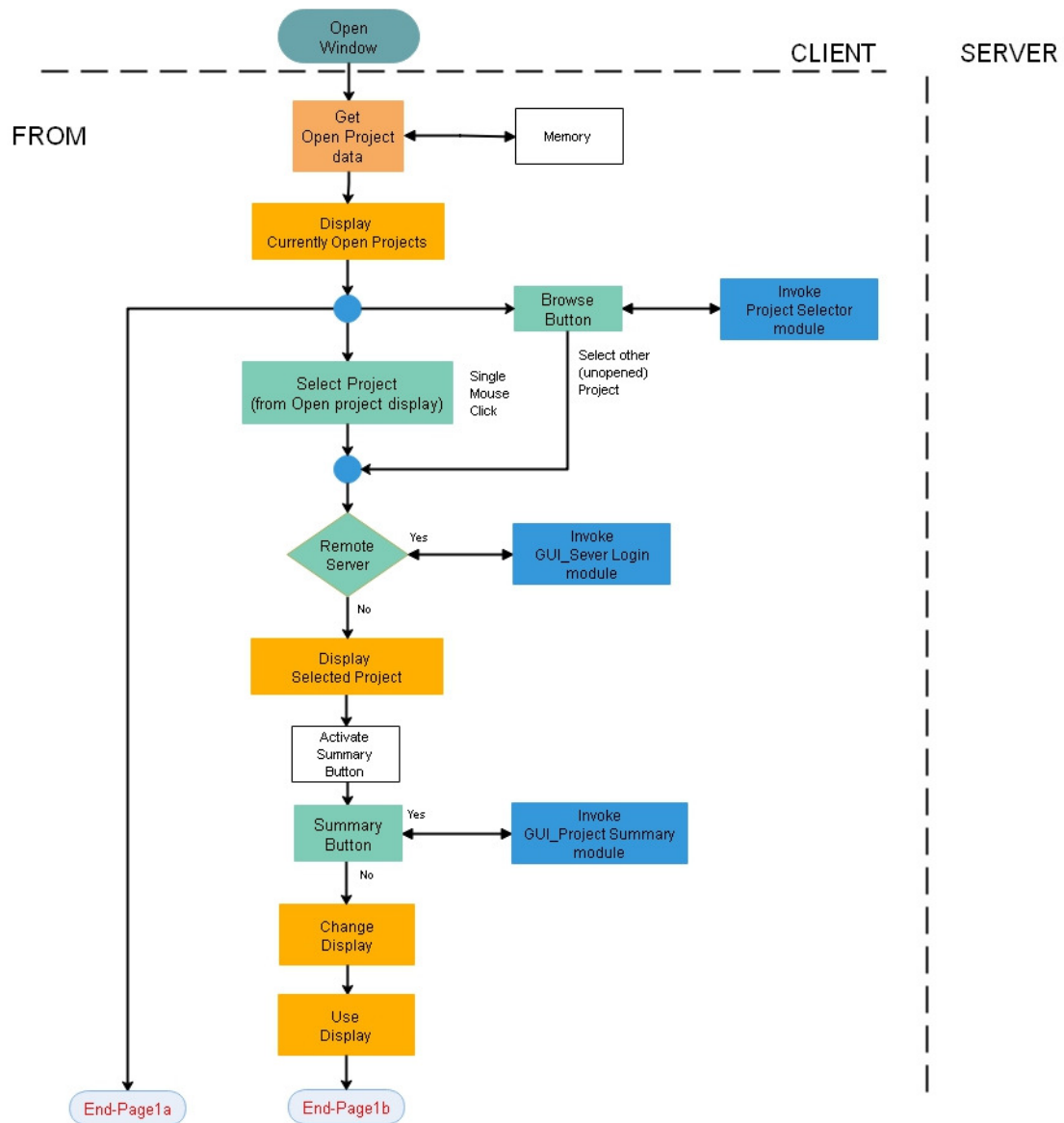
Message designator:

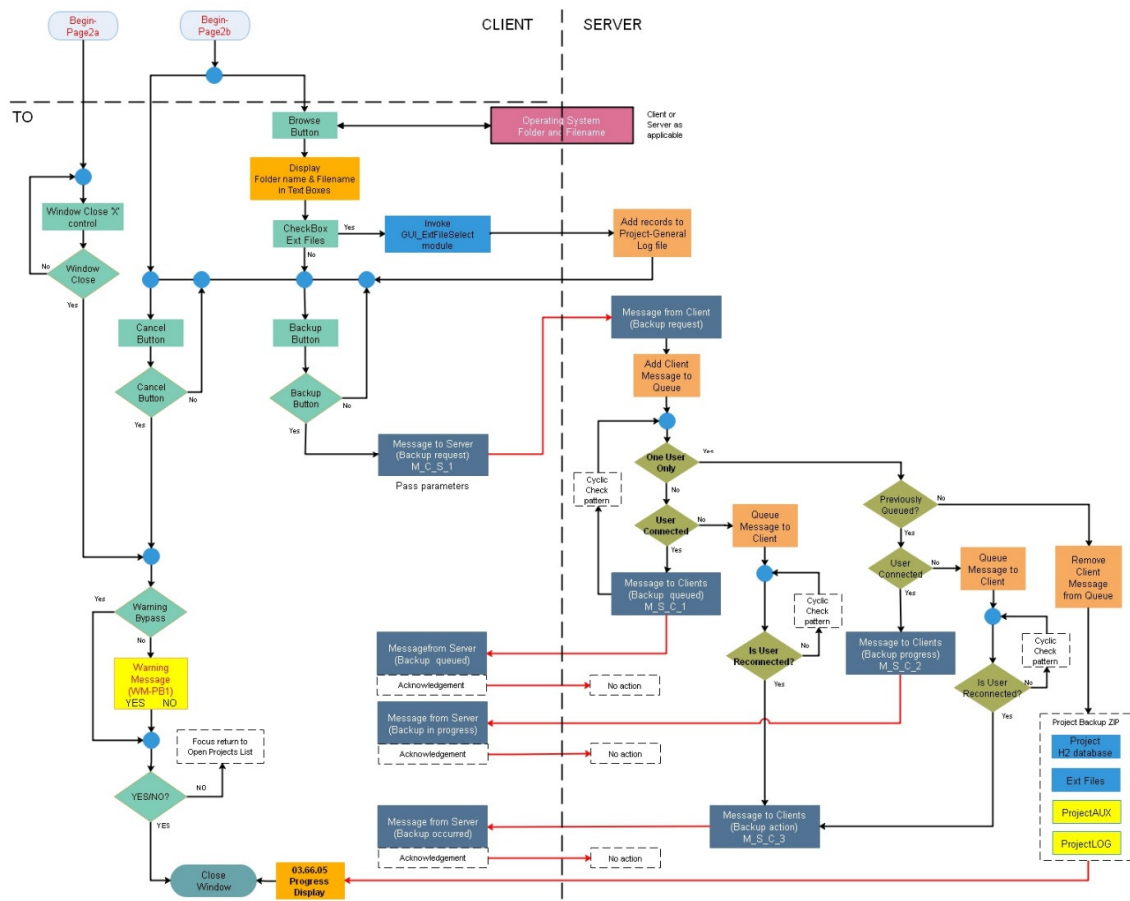
- 1) M_ signifies a message
- 2) X_ source
- 3) Y_ destination

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.

PROCESS FLOW CHART





USE CASES

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>	<u>Code element requirements</u>
HRE installation	Main GUI
1) Single computer	Project Open
2) Client-Server	Project Backup
3) Test Project database files	Project Close
	ExitHRE

Process

- 1) Run HRE
 - a. Open the Test Project
 - b. Invoke the ProjectBackup module
 - c. Close the Project
 - d. Exit HRE
- 2) Check result (how?)
 - a. Confirm new backup file i created
(name, location, date and time)
Inspect content
 - b. Appropriate Commit Log entries
 - c. Appropriate General Log entries.