GUI_Viewpoint – HRE Viewpoint management

Revision history

2018-07-11-24	Rod Thompson	Original draft
2018-07-24b	Don Ferguson	Minor edits throughout
2018-10-17	Rod Thompson	Replace ACTION Window with PROGRAM Window Remove 'configuration icon' Replace graphics Add 'Location' for Warning Message windows
2018-10-18	Rod Thompson	Addition to REQUIRED SERVICES Add XML modules (Viewpoint-Project table record)
2018-10-19	Rod Thompson	DEFINITIONS - Remove STARTUP Viewpoint Add Use Case 1
2018-10-23	Rod Thompson	Add to DATA CONTROLLED
2018-11-22	Rod Thompson	Amend SCOPE Add to DEFINITIONS Delete Dual Project references Replace graphics Replace Process Flow Chart Additions for DISPLAY AREA
2018-12-05	Rod Thompson	

SCOPE

When HRE opens and existing Project, the Project's defined Viewpoint(s) will be used to display the data. The Viewpoint module may be used to revise the selection of Viewpoints from those available in the Project database. Existing Viewpoints may be edited, or new Viewpoints created.

The Viewpoint defines the HRE display for a project, specifying the region (area) on a computer screen that the HRE data window display will occupy, and the content of this region. Each Viewpoint is saved with a name, the record holding the definition of that Viewpoint.

A Display Area is defined being that area of the computer's display in which all HRE windows are displayed.

Multiple Viewpoints may be defined for a Project, and separately selected by the user to display different information sets. As each Viewpoint is selected, a 'selection button' is added to the right-hand end of the toolbar on the main display. This enables focus change where the Viewpoints overlay. A mouse click on a window within the Viewpoint achieves the same change.

DATA Windows make up the content of each Viewpoint, each with its own purpose and setup to suit the user preference. Each window can be named, located, sized, and configured to suit the content requested by the user for display. That individual window detail is saved in the Configuration record for the specific window; and linked to the Viewpoint record.

This module is invoked when a New Project is created; or may be opened via the Tools > Settings > Viewpoint menu item. It is also called when Project Open is used for a previously unknown project for this User, and under the same condition for an unknown Project Restore.

Issue:
Need database records for Display Area.
Need database record for default Viewpoint

DEFINITIONS

A VIEWPOINT is the HRE way of defining a layout of windows for a particular research type and a particular research activity. A VIEWPOINT is the definition of the windows that are to be opened, where they are to be located, what and how they display data.

DISPLAY AREA

The area of the computer display which is used by HRE.
Location and size may be changed by the User.

DEFAULT DISPLAY AREA

The 'Display Area' used when HRE starts.
Location and size as per the Main Window Configuration.

VIEWPOINT

A region of the HRE Display Area containing one or more windows for presentation of the historical data.
Named Viewpoints may be created (and edited) by the User for each project to suit their preferences. These include WORKING Viewpoints (User named), and DEFAULT Viewpoints.

WORKING VIEWPOINT

Created and named by the User for each Project, including all User preferences for display of relevant data. The Working Viewpoint (as named) is unique to the User.

DEFAULT VIEWPOINT

Created (by the HRE software) from the WORKING Viewpoint.
Used under the following circumstances:

1) The User (who created the Project) opens the Project on another computer with display properties, different from those of the computer on which the original WORKING Viewpoint was created.
2) It is also used when a User (other than the original Project creator) opens the project.

Once opened, the User can then clone (copy and rename), then amend the new WORKING Viewpoint, for use in that environment.
DEFAULT PROGRAM Window configurations apply when using the DEFAULT Viewpoint.
The DEFAULT Viewpoint can be amended by the User. Does this need some controls? Example – only by the creating User or Administrator.

The process of creating the Viewpoints is further detailed in Use Case 1.

Windows which make up the HRE display are categorised as follows:

PROGRAM Windows:

These are the windows which are opened as a result of User actions – menu selections or button use, or by software action. They include:

Windows from menu selection	(e.g., Project Backup, Tools, etc.,)
Sub-windows called from other windows	(e.g., Server Login).

They are transient in nature.
The shape, size, layout, color, etc., are determined in design. Content is similarly fixed.
Their location on the HRE main display is specified for initial use, but may be changed by the User.
Other Windows used for example to display Warnings to the User, are NOT provided with any User change functionality.

DATA Windows:
These are the windows which are normally resident on-screen when HRE is running.
They are generally a permanent part of the running HRE application.
The number, location, size and content are determined by the User through use of the Viewpoint and Configuration modules.

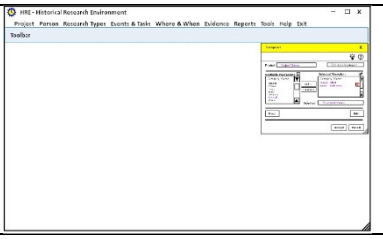
VIEWPOINT Categories
To facilitate the User selection of a working Viewpoint from those created and saved, each is assigned to a category.
For genealogy research, the initial categories are as follows:

Person
Used with a focus on the people whose details are stored in the database
Event
Used with a focus on the events recorded in the database
Location
Used with a focus on the events recorded in the database
Other
To be determined.

Additional categories are likely when HRE is used in other historical research fields.

LOOK AND FEEL

The Viewpoint module window is (by default) opened as illustrated below, with the window attached immediately below the toolbar on the right-hand side of the main display. This allows for the display of Information windows as they are selected for a new Viewpoint.

Shape, Size, Color, Layout etc. determined in design. On screen location Attached immediately below the toolbar on the right-hand side of the main display On screen location and scale are the only User changeable settings	

The Layout (see graphic below):

- The topmost section of the window shows the window title 'Viewpoint'
- An icon panel includes on the right, buttons to provide the following universal features:
    - An 'Output' icon, provides an Output of the details for a selected Viewpoint by sending the contents of the Viewpoint Properties tabular display to a file or to a printer
    - A 'Reminder' icon to display the Reminder content for this window
    - A 'Help' icon to display context Help about the use of this window.
- The window has two layouts:
    - Standard – working with a single project
    - Modified – working with two projects simultaneously

  Each of these has a basic form which simply allows addition, removal and re-ordering of Viewpoints attached to the project
  When a "New" Viewpoint is required, or an "Edit" to the Viewpoint, the window is expanded to provide additional control to the User.
- Below the top two sections, the window has 5 parts; vertically separated
- The upper section has:
    - a display of the Project name

- a button to toggle display of the HRE Display Area ON/OFF
  (the same action is available from the right mouse key).

- The next lower section contains two horizontally separated displays.
  - On the left, a picklist of *Available Viewpoints* known to this User.
    An 'information' icon opens a separate window, which displays additional detail about each Viewpoint. (See below)
    When a viewpoint is selected, that selection is added to the 'Selected' Viewpoint name display
  - On the right, the *Selected Viewpoints* selected for the projects are displayed.
    The order in which Viewpoints are added is not important, but the order is reflected in the display. The order of listing determines the Viewpoint used when opening the project, and the display order of the Viewpoint selection buttons in the task bar.
    A 'swap' icon located above the display, allows the user to re-order the list.
    This icon is only activated and displayed if two or more Viewpoints are attached to a project. (See below).

  At this point the User may elect to utilize the selected Viewpoint, by using the "Accept" button at the foot of the window.

- The next lower section of the window contains "New" and "Edit" buttons.
  Use of either of these buttons to expand the window, adding additional displays and controls.
  Both buttons use the same elements.
  <u>New</u>
  Text boxes allow the user to enter a Viewpoint Name; and select the category.
  A circular process enables the User to select a 'window type' and ***Add*** it to the Selected Windows list, entering a name to be used at the head of the displayed window. Removal of a window from the Selected Windows list is also possible with the ***Remove*** control.
  The order of entry is not important as the displayed location and size of each window is determined in the following configuration process.
  When satisfied with the Viewpoint definition, the "Save" button is used to save the content.
  At this point the User may elect to utilize the selected new Viewpoint, by using the "Accept" button at the foot of the widow.
  <u>Edit</u>
  As with the New Viewpoint described above, when editing a selected Viewpoint, the User has the option to copy and rename an existing Viewpoint, adding or removing windows from the selection using the ***Add*** and ***Remove*** controls.
  When satisfied with the Viewpoint definition, the "Save" button is used to save the content.
  At this point the User may elect to utilize the selected Viewpoint (as edited), by using the "Accept" button at the foot of the window.

- At the foot of the window, buttons including "Accept", "Cancel" and "Close"
  - "Accept" adopts a selected Viewpoint for use in the Project
    adds the Viewpoint selection tabs to the Toolbar, and closes the window
  - "Cancel" neglects any User actions in this window, and closes the window
  - "Close" is only displayed and active when a Two Project Viewpoint is being defined; and is used to close the definition for one Project before accepting the dual project Viewpoint.

<u>Display Area</u>
When a new project is created, the Default Display Area is the area of the HRE Main Display.
The area is displayed using a border component (color RED).
Once displayed, the User can relocate and resize the Display Area with the mouse drag and drop methodology on the border.

Viewpoint Area

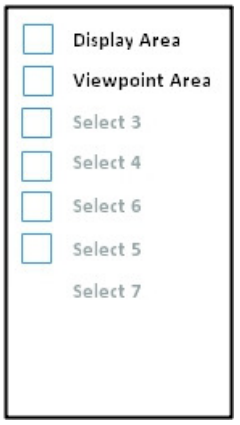
When a new Viewpoint is created, the Default Viewpoint Area is the area of the HRE Main Display less the Viewpoint GUI window (as illustrated below).

The Area is created as a new Java Container with a border component.

Should a Canvas component also be used?

The area is displayed using a border component (colour BLUE).

Once displayed, the User can relocate and resize the Display Area with the mouse drag and drop methodology on the border.



Mouse – Right key selection

Use the check-box to toggle ON/OFF, display of the applicable area.

Same as using the appropriate buttons on the GUI window.

Information icon

When a Viewpoints is selected in the *Viewpoints Available* list, a mouse click in the information icon will open a small overlay window to provide the following detail:

Viewpoint Name
Date created
Created by (User name)
Used in (projects list)
Content summary (e.g., 6 Information, 4 Image, 1 Chart).

Order Swap icon (for Selected Viewpoints)

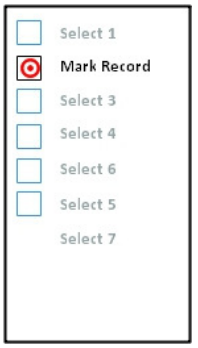
Used to re-order the listed Viewpoints used in the Project.

The process involves us of the Mouse right key.

Any two Viewpoints in the list can be re-ordered at one time.

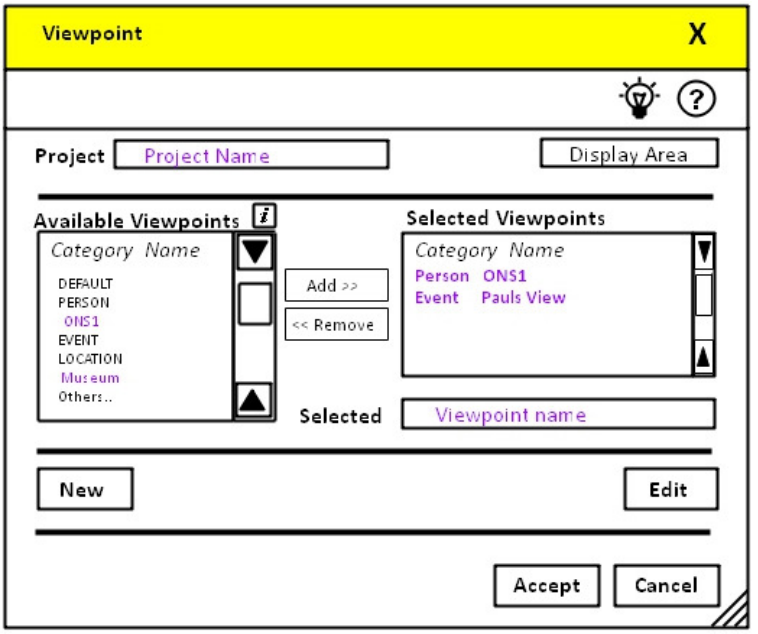
Process:

1. Select one Viewpoint (mouse left key-single click)
2. Open the Mouse right-click window
3. Select the 'Record marker'
   This will place a marker in the Selected Viewpoint list against the selected Viewpoint, and close the Mouse right-key selection window
4. Select the second Viewpoint (mouse left key-single click)
5. Use the Swap Icon (mouse left key-single click).
   This will swap the location of the two selected Viewpoints in the list; and remove the record marker from the list.

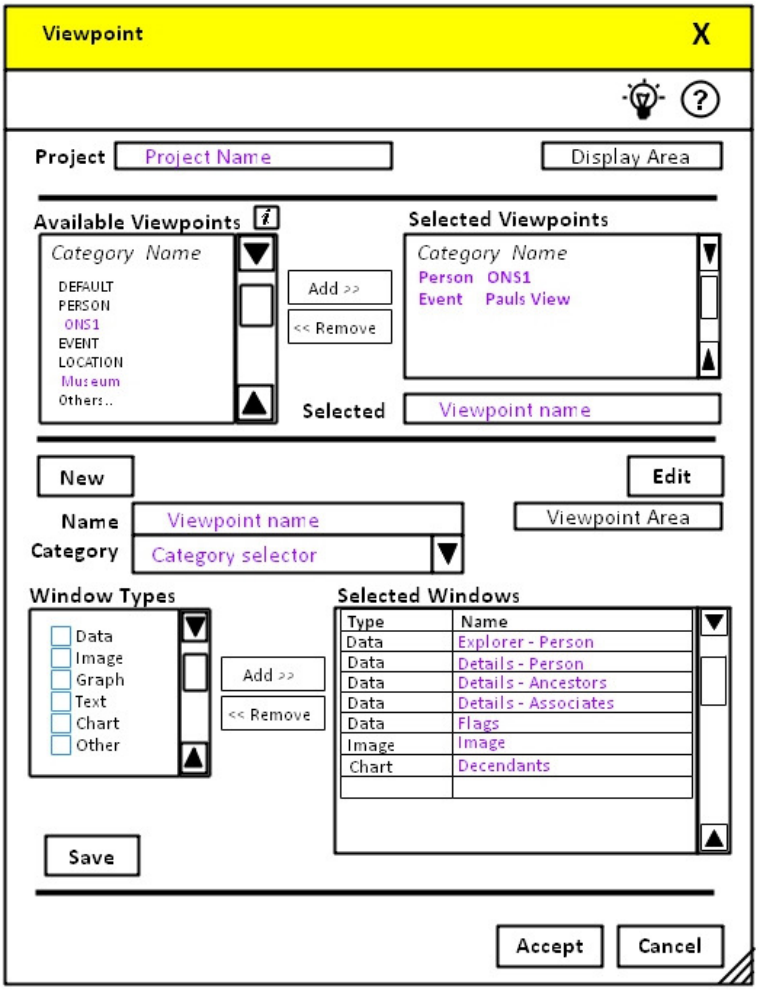


Mouse – Right key selection

Window Display



VIEWPOINT Window – Mockup

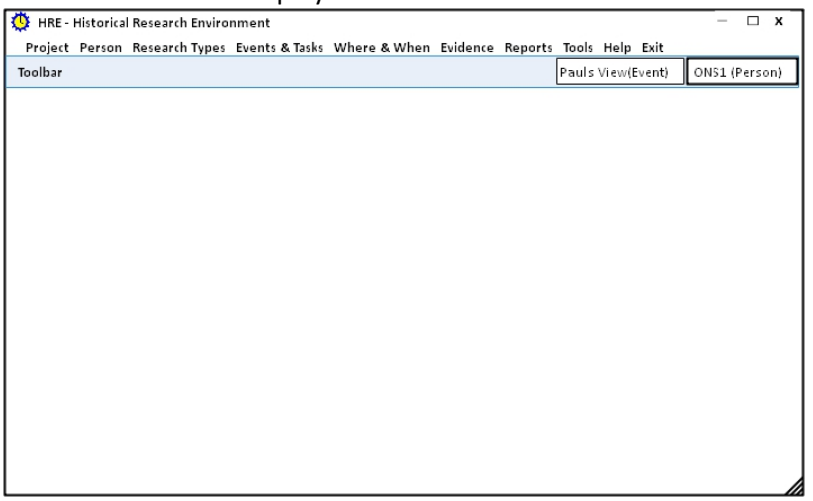


VIEWPOINT Window (with NEW & EDIT) – Mockup

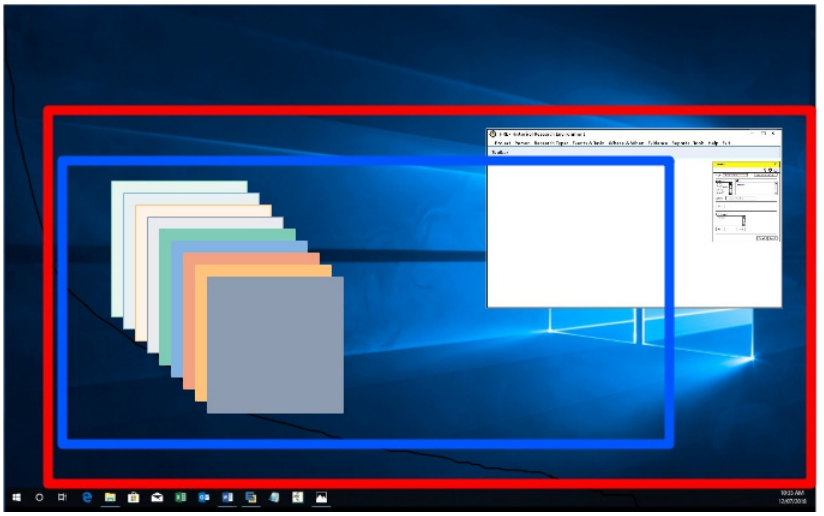
ACTIONS

The fundamental operations are:

1. Open the window according to its saved window Layout (BR_WindowConfig)
2. Display the current Project Name
3. Turn ON/OFF the HRE Display Area using the toggle button on the window, or via the right mouse key
4. Display lists of Viewpoints (known to the User for this Project)
   An indented list using categories
   Issue: Viewpoint categories (T_304 database table change?)Allow the user to select 'known' Viewpoints; and add to the Selection for the project
   Each 'Selected Viewpoint' in the GUI window, is accompanied by a separate Viewpoint on the display.
   As each View is added to the Selected Viewpoints list (If the number is more than one), then a Viewpoint selection button (with the Viewpoint name) is added to the right-hand end of the Toolbar on the Main Menu display.



   This feature allows for switching between Viewpoints which may otherwise be hidden from view, bringing the selected Viewpoint to the foreground. A similar change in the Viewpoint display occurs with a left mouse key click on any window within, or on the border of a Viewpoint.
5. Allow the user to select an existing (selected} Viewpoint, and either:
   a. Create a new Viewpoint (by cloning and re-naming)
   b. Edit the existing viewpoint
6. Creating a NEW Viewpoint or EDIT a Viewpoint, allows the user to choose the Window types to be used in the selected Viewpoint
   Note: - It does NOT involve selection of the specific data to be displayed in each window, that being determined via window configurations using the GUI_Select Configuration module, and its sub-modules. Each window requires that attention before data can be displayed
7. Turn ON/OFF the Viewpoint Area display using the toggle button on the window, or via the right mouse key
8. Resize and relocate the Display Area and/or Viewpoint Areas, using mouse drag and drop method on the displayed borders
9. Save the Viewpoint
10. Accept the edited Viewpoint for use by linking to the project.



HRE Display showing Display Area border (red) and Viewpoint Area border (blue), Main Display window and template DATA windows

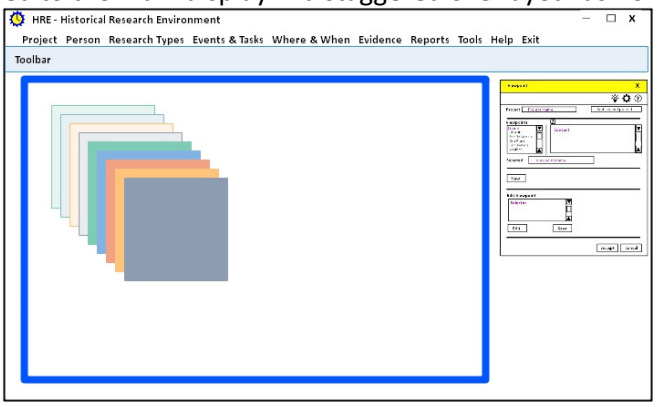
NOTE: Software must allow amendment of the Viewpoint, while DATA windows display data, and protect the integrity of the data if a DATA Window is removed from the Viewpoint.

VIEWPOINT DATA WINDOWS

Each Viewpoint defines a set of windows for display of the HRE project data.
The following types are defined.

Data	uses Multi-column lists to present data Includes: project data, styles, events, locations, flags, sources & repositories, research plans & tasks, timelines, logs
Image	displays exhibits (photographs, scanned documents)
Graph	displays a graph, linked to defined data set
Text	Help System display? Others?
Chart	displays a chart (reports), e.g. (for genealogy), Ancestor Box, Descendent Box, Fan, Hourglass
Other	to be determined

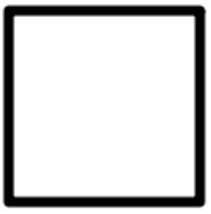
The window selection for the Viewpoint provides the available types, allow multiple picks from the available list, naming each in the selection process.
When an additional window is selected in the creating process, a new template window of the appropriate type is added to the main display in a staggered overlayed fashion as illustrated below.



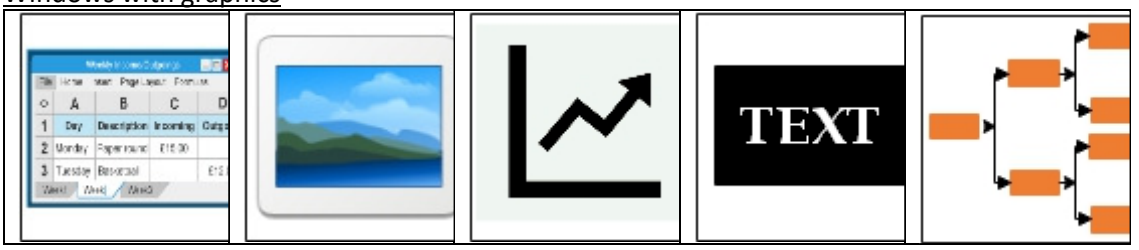
What do these windows look like? Options.

1) Blank box
2) A box with a graphic that shows its use
3) A box with content per the DEFAULT Configuration for such a window.

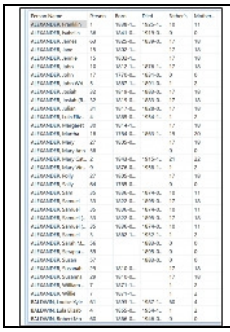
Blank Windows



Windows with graphics



Windows with DEFAULT Configuration content

	A table with columns (with headings) and rows, as expected in an HRE data display.

After closing the Viewpoint window, each Information window may then be manually relocated and resized by the User using the mouse utilizing the drag and drop methodology. Location and Size data to be stored as changes as made, as properties of the individual windows as part of this Viewpoint for the User/Project.

On completion of the Viewpoint creation and save processes, the configuration of each DATA window to specify the display contents may be initiated by use of the 'Configuration' icon located on each Window.

A Wizard should be considered as a means to semi-automate this Viewpoint creation and subsequent Window configuration process. Optional use.

TEMPLATE VIEWPOINTS

A DEFAULT (Project) Viewpoint template is essential to initial use of HRE, where a User seeks to open a Project created by another User, or where movement between computes occurs. Such Viewpoints are likely to vary considerably according to the nature of the research data, and contain a limited number of DATA Windows.
Template Viewpoints may be useful additions to HRE contributing to the learning of the User.

What Viewpoints might we expect an HRE user to utilize.
First use of HRE will be genealogical.

1) Person focus Template
   Proposed viewpoint

Window Type	Window Name
Information window	Explorer
Information window	Person detail
Information window	Ancestors
Information window	Descendants
Information window	Associates
Information window	Flags
Image window	Exhibits

2) Event focus Template

Window Type	Window Name
Information window	Explorer
Information window	Associates

3) Location focus Template

Window Type	Window Name
Information window	Place List
Image window	Exhibit (photograph)
Image window	Exhibit (map)

USED BY
All HRE users.

DATA CONTROLLED BY THIS MODULE
1. Database Table 303 GUI_VIEWPOINT_CONFIGS
2. Database Table 304 GUI_VIEWPOINT_ELEMENTS
3. Database Table 5129 COMMIT_LOGS
4. Database Table 5130 COMMIT_ITEMS.

Others for Window configurations.

REQUIRED DATA CONTROLLED BY OTHER MODULES
1. Detail needed.

REQUIRED SERVICES – Dependencies

First-Order Dependencies	Second-Order Dependencies (if not already listed)	Higher-Order Dependencies (if not already listed)
05.40 GUI_Reminder	03.68 GUI_SelectConfiguration	Needed
	05.02 GUI_EncodedStringEdit	05.08 GUI_FieldDefinitionEdit
		05.42 GUI_SubstitutionEdit
		07.26 BR_Substitution
		07.24 BR_Setting
		07.17 BR_WindowConfig
	07.01 BR_EncodedString	NIL
	07.24 BR_Setting	BR_AppData
		BR_UserData
		07.02 BR_EntityLink
	07.17 BR_WindowConfig	07.06 BR_GuiElement
		07.02 BR_EntityLink
		07.29 BR_Translation
		BR_FieldTranslation
		07.16 BR_MessagePatterns
	07.02 BR_EntityLink	NIL
05.14 GUI_Help	03.68 GUI_Select Configuration	
	07.24 BR_Setting	
	07.17 BR_WindowConfig	
	07.11 BR_Logging	
	07.07 BR_Help	
	07.02 BR_EntityLink	
07.24 BR_Setting	BR_AppData	
	BR_UserData	
	07.02 BR_EntityLink	NIL
07.17 BR_WindowConfig	07.06 BR_GuiElement	07.01 BR_EncodedString
		07.02 BR_EntityLink
		BR_FieldTranslation
		07.16 BR_MessagePatterns
	07.02 BR_EntityLink	NIL
	07.29 BR_Translation	07.02 BR_EntityLink
		BR_Field
		07.06 BR_GuiElement
		07.16 BR_MessagePatterns
	BR_FieldTranslation	
	07.16 BR_MessagePatterns	07.02 BR_EntityLink
		07.01 BR_EncodedString
		07.11 BR_Logging
		Call Stack

First-Order Dependencies	Second-Order Dependencies (if not already listed)	Higher-Order Dependencies (if not already listed)
		07.24 BR_Setting
		GUI_Translation
03.53 info icon window		
03.68 GUI_Select Configuration	07.06 BR_GuiElement	See above
	07.17 BR_WindowConfig	See above
	07.02 BR_EntityLink	NIL
	07.29 BR_Translation	See above
	07.03 BR_FieldDefinition	Needed
XML modules for handling data recorded in the Project (table 126) providing the Project properties (Users/Viewpoints etc.)		

APPLICATION PROGRAMMING INTERFACE (API)

1. Need Details.

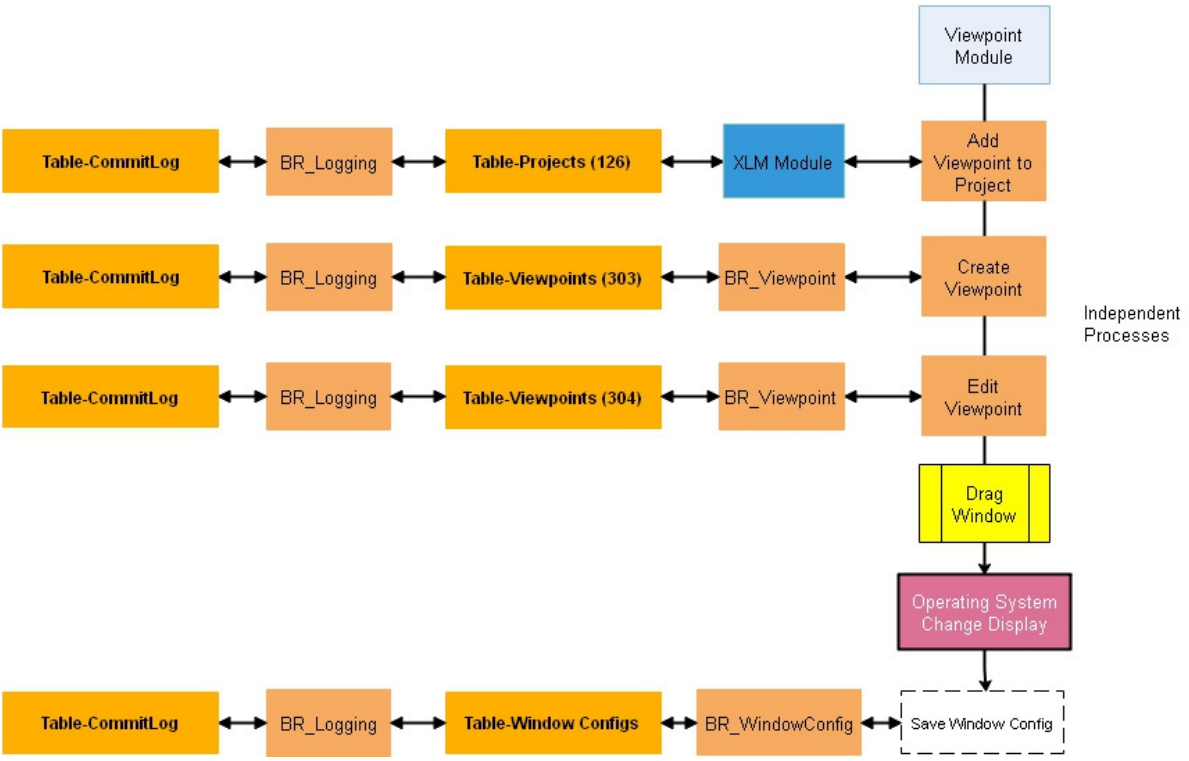
LOGGING

Use of this module will create log entries.

Commit Logging

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

Function	Database Table
Add or Remove Viewpoint to Project	126
Create Viewpoint	303
Edit Viewpoint	304
Move and/or resize window	305/306?



General Logging

To be determined

EVENT ACTIONS

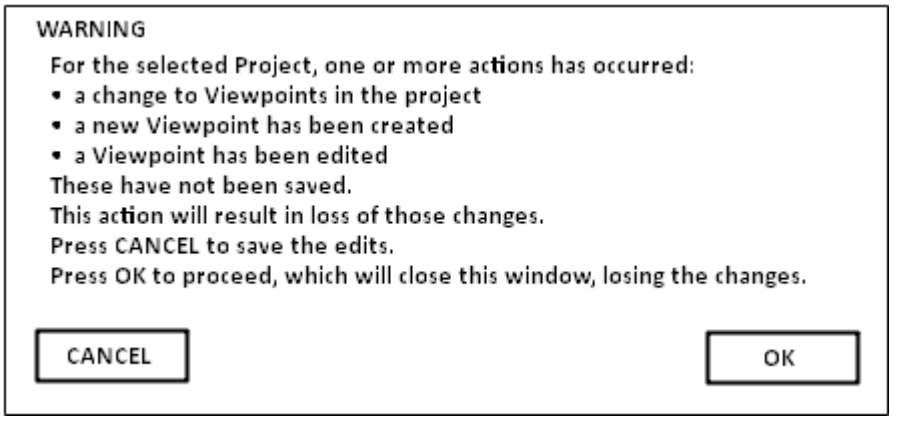
1) Keyboard actions
    a. Entry of a Viewpoint name (NEW or EDIT action)
2) Mouse actions
   Drag and drop mouse actions to move and resize the window
   Setting changes saved to database for User>Project>Window
   <u>Left key</u>
    a. key click on pulldown expands list, and allows selection
    b. Mouse hover over the slider bar, hold key down and drag slider bar up or down
    c. Mouse key tap in slider bar box causes up and down movement
    d. Mouse key click on a record in a selection box, selects that item for further action
    e. Mouse key click on a displayed Viewpoint for a project, then a second Viewpoint selection; allows use of the 'Swap' icon to re-order the two records in the list
    f. key click on each button, operates the button
    g. key click on icons (detailed below)

   <u>Right key</u>
   See above (Selected Viewpoint record marker)
   Others to be determined
3) Icon actions
    a. left mouse key click on icons in the Window 'X' icon:
       (closes the window)
    b. left mouse key click on 'Reminder' icon:
       (opens 'Reminder' window for this 'Viewpoint' window)
    c. left mouse key click on the 'Configuration' icon
       (opens the Configuration Window for this 'Viewpoint' window)
    d. left mouse click on 'Help ' icon:
       (opens the Help System, searches for the section on 'Viewpoint' window)
    e. left mouse key click on the 'info' icon:
       (provides additional information about the selected configuration)
    f. left mouse key click on the 'swap' icon:
       (re-orders two selected records in the Project's Window list)
4) Keyboard shortcuts
   To be determined

WARNING CONDITIONS

Display Location: Centred on the Viewpoint window

1. When the 'Cancel' button is used, a warning message may be displayed.
   Warning Message (WM-V1)



Text Version

WARNING

For the selected Project, one or more actions has occurred:

- a change to Viewpoints in the project
- a new Viewpoint has been created
- a Viewpoint has been edited.

These have not been saved.

This action will result in loss of those changes.

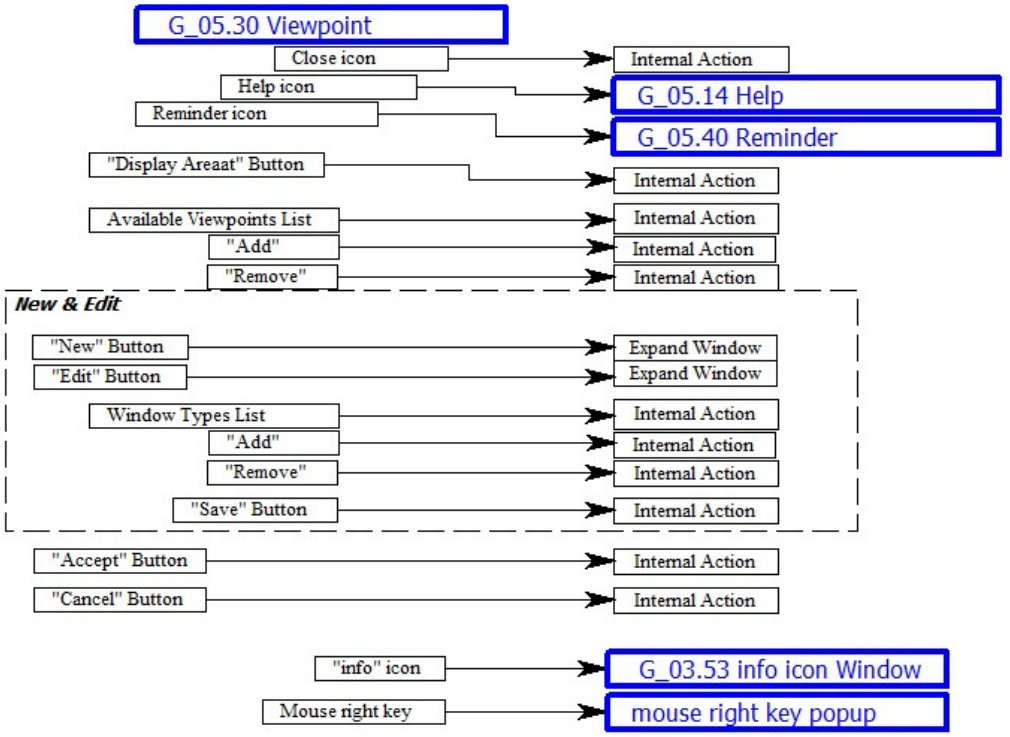
Press CANCEL to save the edits.

Press OK to proceed, which will close this window, losing the changes.

ERROR CONDITIONS

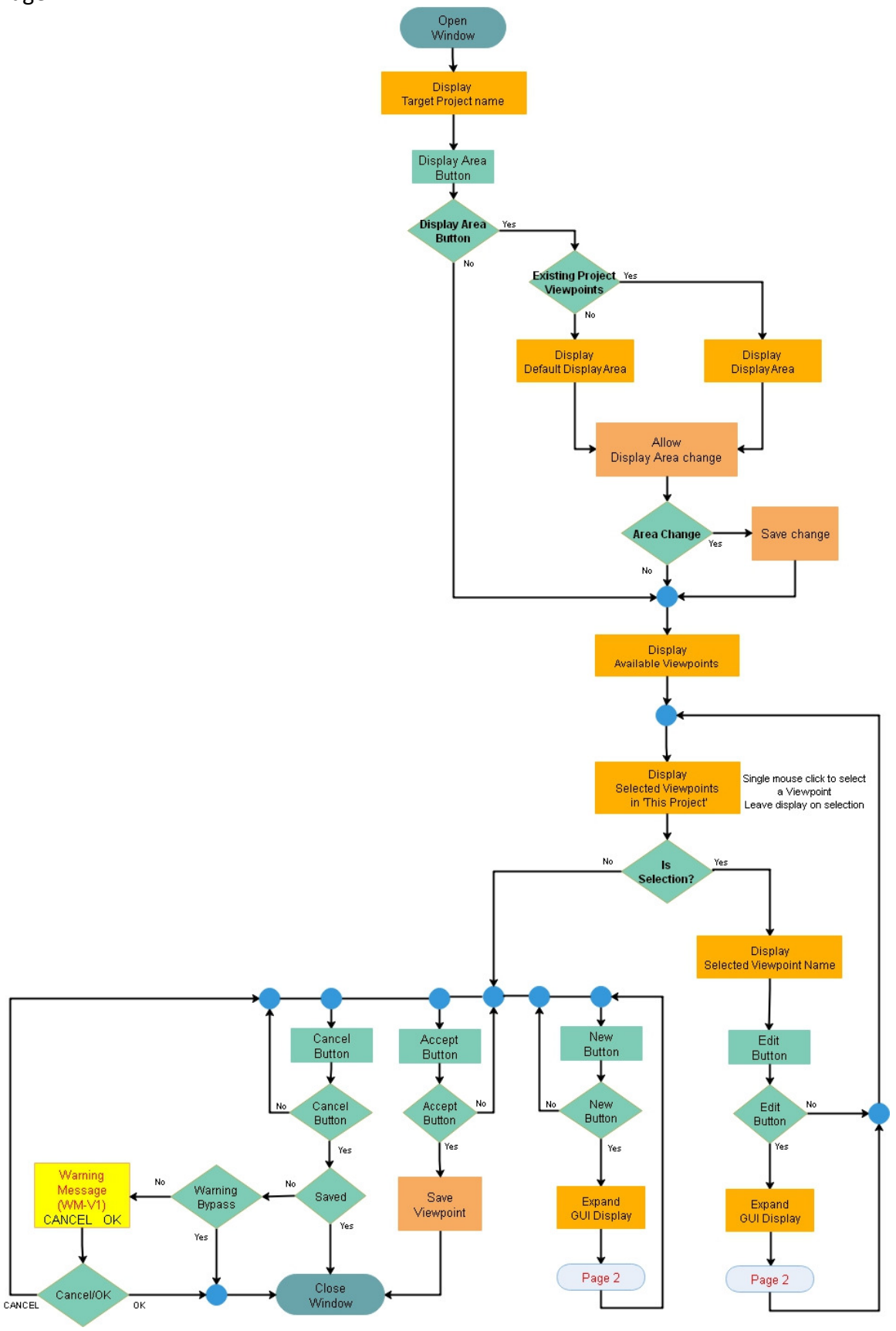
1. Need to record the condition that raised the error, example message and possible next steps. (GUI_Message Patterns used to report warnings to user)

WINDOW INTERACTION MAP

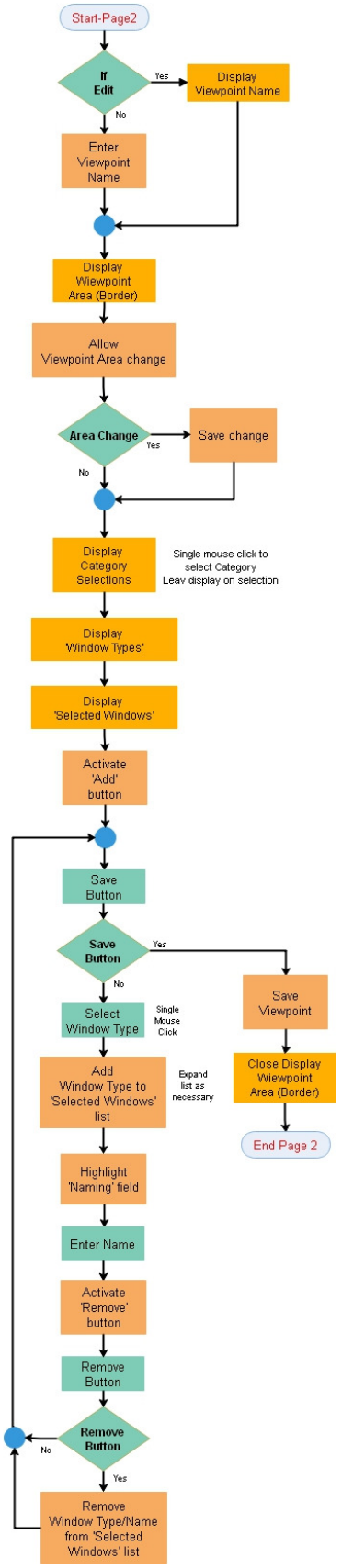


PROCESS FLOW CHART

Page-1



Page-2
New and Edit Section



USE CASES

1) DEFAULT Viewpoint creation
2) Use on an alternate computer
3) WORKING Viewpoint (Person focus)
4) WORKING VIEWPOINT - Two Projects
5) Project open on another computer, by another User

Details below

Use Case 1
DEFAULT Viewpoint Creation

DEFAULT Viewpoint is used to cater for a minimalist display.
i.e., Single screen, small area
Internet research suggests smallest is 11.6 inches (diagonal)
Windows Settings display shows resolutions down to 800x600
Contents (DATA Windows) to be included in a DEFAULT Viewpoint are defined in the HRE Overview-Operation specification.

The aim is to replicate the Users WORKING Viewpoint in the DEFAULT Viewpoint, reducing as necessary. Need to set a minimum, scale everything and adjust, deleting DATA Windows if applicable.

Process (using an example)
The extents of the DEFAULT Viewpoint are the STARTING Display properties.
These are:

- Left edge 80
- Top edge 120
- Width 480
- Height 420

WORKING Viewpoint (use my TMG as an example)
My screen 3440x1440
TMG Data
[MainWindow]
State=0
Top=197
Left=60
Height=1188
Width=1704

To get all in above VIEWPOINT window
Height reduction 1188 to 420 from 100 to 35%
Width reduction 1704 to 480 from 100 to 28%
Take the worst case (width here) – add a bit of margin – so say 25 %.

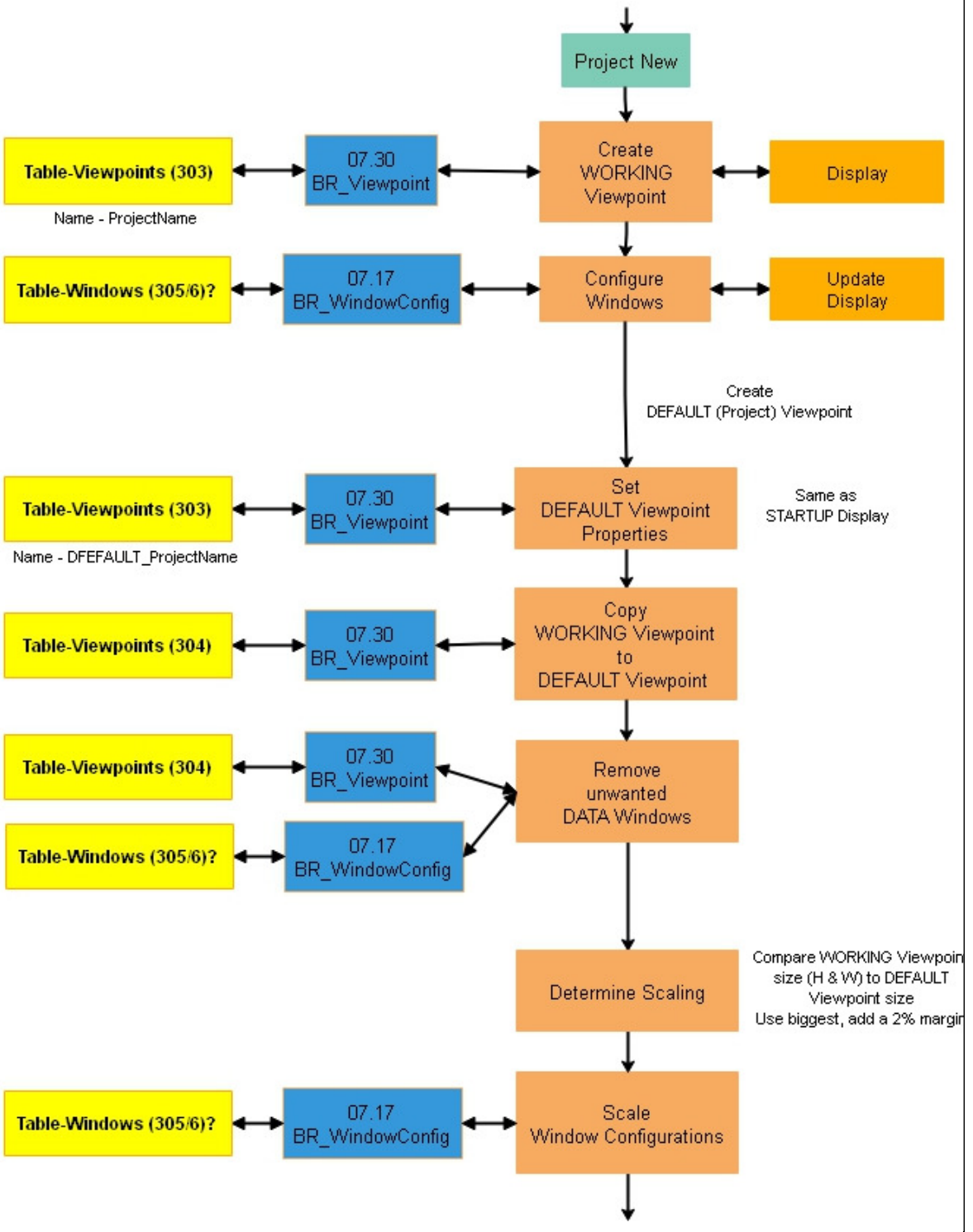
Steps

1) Save STARTUP Display properties to the DEFAULT Viewpoint for this Project [this User] in (Table 303)

Left Edge / Top Edge / Width / Height

2) Copy WORKING Viewpoint DATA Window detail to the DEFAULT Viewpoint

3) Remove DATA Windows (as necessary) to match DEFAULT Viewpoint content requirements
4) Scale all window sizes
5) Keep DATA Window contents
6) Add Horizontal and Vertical scroll bars.
7) Save Window Configurations for the DEFAULT Viewpoint.



Use Case 2
Use on an alternate computer

It is assumed that relevant HRE files have been copied onto the secondary computer.
Starting will occur as per Use Case 1.
The exception is that access is available to the Project database.
On opening, the Project is added to the User AUX file on this computer.
Details for the Project are read from the Project database, and the DEFAULT (Project) Viewpoint used for displaying the Project data.

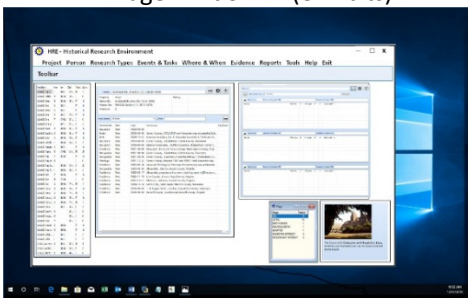
A revision to the Users Viewpoint for this Project when used on this computer may be required.
The process would likely involve cloning (copy and rename) of the DEFAULT Viewpoint, and editing the content.

Use Case 3
WORKING Viewpoint (Person focus)

Used when HRE is started, the User selecting a project not previously opened by that User.
This Viewpoint will differ with each variety of research.

The display consists of the following:
For Genealogy:

- Data window (person explorer)
- Data window (person details)
- Data window (ancestors)
- Data window (descendants)
- Data window (associates)
- Data window (flags)
- Image window (exhibits)

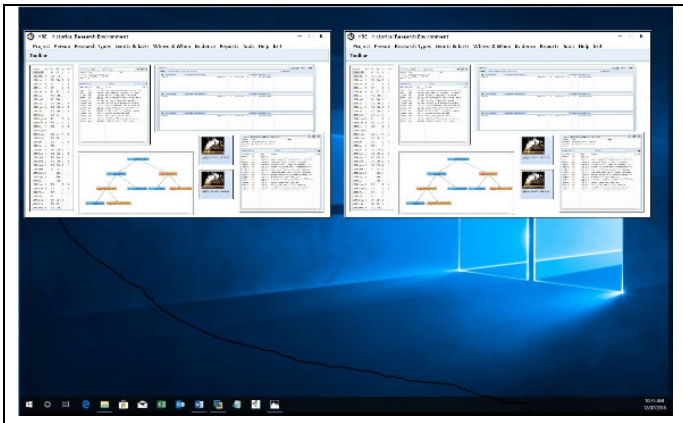


Mockup example

To be defined (for other research fields)

Use Case 4
WORKING Viewpoints - Two Projects (Person focus)

It is expected that a special case use of HRE will involve opening two projects concurrently, enabling a close comparison of the data sets, allowing interaction between project data elements. (to be determined)
This can only be achieved by opening two instances of HRE, and manipulating their Viewpoints to display the required data in available space on the computer's display.



Mockup example

Use Case 5

First time opening of an existing Project, by a User on secondary client computer (not previously used by the User), on a network. Assume the User has access rights.

Starting will occur as per Use Case 1.
From the HRE STARTUP Display, Project Open is invoked to access the project on the server.
This process will add the Project details to the User-AUX file.
The Project will be opened using the DEFAULT (Project) Viewpoint.

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.

General requirements	Code element requirements
HRE installation 1) Single computer 2) Test Project database fileset	Main GUI Viewpoint Project New Project Open Project Close ExitHRE

Process

1) Run HRE
    a. Open HRE
    b. Open the Test Project
    c. Invoke the Viewpoint module via the Tools>Settings menu selection
    d. Use the Project New selection, creating a dummy project with viewpoint
    e. Test the functionality of the module
    f. Close the Project
    g. Exit HRE
2) Check result (how?)

See Test Plan document