

Log

Coded UI Testing problems

Navigation looping (Testing click, enter and space in 1 method)

- Failed:
 - Looping over an array of actions in the base-class methods for navigation, because testInitialize is not repeatedly executed.
 - Test methods within test methods
 - Executing the method 3 times and executing testinitialize after every time, all inside one test method

Content - Read

- When the found patient list is too long, the test fails after 4 minutes even though all search results are correct.
- ClinicSearch

Functionality

- Cannot (yet) access elements of a flyout button
- Partpicker (date/time), can access the yes/no button with "Ctrl-i" but cannot access the other controls in the popup-window.

General random fails

- Beveiligd geheugen:

Calidos.Maat.CodedUITests.Screens.Config.WorkbookConfigPage.WorkbookConfigPageContent.WorkbookConfigReadMenuBarWorkbookConfigToggleButton threw exception:

System.AccessViolationException: Poging tot het lezen of schrijven van beveiligd geheugen. Dit duidt er vaak op dat ander geheugen is beschadigd.

- NullReferenceException:

Calidos.Maat.CodedUITests.Screens.Config.WorkbookConfigPage.WorkbookConfigPageNavigations.WorkbookConfigNavigateContactConfigListItemClick threw exception:

System.NullReferenceException: De objectverwijzing is niet op een exemplaar van een object ingesteld.

- ElementNotAvailableException:

Calidos.Maat.CodedUITests.Screens.Config.WorkbookConfigPage.WorkbookConfigPageNavigations.WorkbookConfigNavigateTrialHyperlinkEnter threw exception:

System.Windows.Automation.ElementNotAvailableException: Element not available ---->

System.Runtime.InteropServices.COMException: Een gebeurtenis kan geen van de abonnees aanroepen (Uitzondering van HRESULT: 0x80040201)

This exception is thrown when the parent-control of the control you want to use has disappeared. So one possible explanation for this problem could be that the test is trying to find a control before the page has been refreshed (due to appStartUp), and has already found the parent-control but then, the page refreshes and the originally found parent control has therefore disappeared.

After testing, we came to the conclusion that putting in a delay before searching the first control may have some positive effects on the testresults (less fails) but does not fix the problem 100%.

- System.Runtime.InteropServices.COMException:

Calidos.Maat.CodedUITests.Screens.Config.WorkbookConfigPage.WorkbookConfigPageNavigations.WorkbookConfigNavigateTrialHyperlinkSpace threw exception:

Microsoft.VisualStudio.TestTools.UITest.Extension.UITestControlNotFoundException: The playback failed to find the control with the given search properties. Additional Details:

TechnologyName: 'UIA'

FrameworkId: 'XAML'

ControlType: 'Hyperlink'

---> System.Runtime.InteropServices.COMException: Fout HRESULT E_FAIL is geretourneerd voor een aanroep van een COM-onderdeel.

- System.ComponentModel.Win32Exception:

Calidos.Maat.CodedUITests.Screens.Config.WorkbookConfigPage.WorkbookConfigPageNavigations.Initialize threw exception. System.ComponentModel.Win32Exception:

System.ComponentModel.Win32Exception: Kan RPC niet uitvoeren.

Problems / Functionality issues

General

- Login window pop-up window interrupts test startup, causing them to fail even when there is no problem with the UI or test itself
- Pop-up error window interrupts tests, causing them to fail even when there is no problem with the UI or test itself
- Settings Button on Menubar does not have navigation (yet)
- When "Mäat" is not yet active and navigating directly towards a pagetoken (with extra parameters) for Testing purposes for example, the page sometimes gives an error and/or is not fully loaded (Ex. PatientScriptPageStates)

Page-specific

- Some navigation controls cannot be activated using 'Enter' or 'Space'
 - ClinicHub
 - VisitesEnFollowUpsHub: all tiles
 - TrialHub
 - StudieInfoHub: all tiles
 - StudieVerloopHub: all tiles
 - PatiëntPraxisHub: all tiles
 - VisitesEnFollowUpsHub: all tiles
 - NotasHub: tile
- SemanticZoom tiles spaced wrong / not scrollable when in zoomed out mode
 - ClinicHub
- Clicking a trial and then clicking on the BackButton sometimes makes a hyperlink appear on top of the page of the trial you just navigated to, but sometimes it doesn't
 - ClinicTrials
- PatientScript-worklist:
 - worksteps disappear after a while and are replaced by: "Geen werkstappen in deze werkljst"
 - SemanticZoom:
 - work different on some pages, instead of being made of Hubs and HubSections, they are sometimes groups. Because of this, we cannot always use our own BaseClassCodedUI methods
 - Because the list inside the SemanticZoom doesn't have a UID, we have to give the searchproperties an instance (instance 2) to find the correct list, otherwise the list found in the testmethod will be the tab-list on top of the page, which does contain a UID
- WorkbookConfig
 - Definitie:
 - textfield below "Modaliteiten" is only partially displayed
- PathConfig
 - When navigating to PathConfig starting from WorkbookConfig, the ProgressBar keeps loading and no control is accessible, the full page is frozen

Possible visual or interfering issues

General

- Home button toggle isn't working as intended
 - Still toggles if user is already at homepage
- Buttons that are actual XAML buttons (black) have bad contrast when highlighted
 - Text turns black on black background when mouse hovers the element
- ClinicHub Hubs that contain lists get a different interaction animation with their respective hub titles
 - Probably because they make the width of the button bigger and hereby cause the different interaction
- Visites & Follow-ups is referenced differently on different pages
 - Sometimes 'Visites & Follow-ups' (ex. in ClinicContacts as title of page)
 - Sometimes 'Visites en follow-ups' (ex. in TrailHub as title of HubSection)
 - Uniform naming could improve the testing possibilities
- When selecting a hubsection title with tab and activating it using the enter or space key, the corresponding tile with that title is not highlighted.
 - By default the program highlights the first tile, is this logical?

TrialHub

- Press any ListItem (preferably more at the back for demonstration purposes)
- Use the back button
 - We end up at TrialHub, but at the start
 - Not on the respective hub that was clicked

CliniciContacts

- "Visites" Combobox items sometimes contain small logos. These heighten the combobox when selected.
 - Not sure if this is intended
- "Visites" Combobox items contains "Alle visites" twice

ClinicContactsPage

- Use combobox to order chronologically
- Click any ListItem
- Click 'back' button
 - We end up at ClinicContactsPage, but ordered by task
 - Not ordered chronologically

PatientHub

- When clicking “Casus info”
 - “Administratief” and “Status” tabs overlap (text)

ClinicTrials.NewTrial

- Typing wrong data makes a sentence appear “Gelieve een geldig studienummer in te geven”, however, the sentence is not fully displayed

Fixes

Adding controls to the UImap

- When a title is variable (Ex. title of a trial), we have to find a way to always be able to search the title, based on some other properties. Because the title doesn’t have an automationID, we search for the title based on an hard coded instance, but every time something is added in the titlebar, we have to change the instance.

Adding popup menu’s to the UIMap

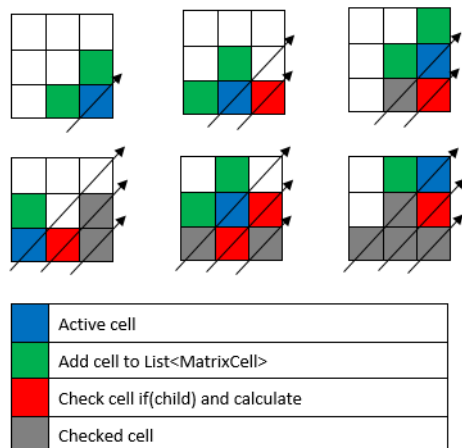
- Use “Ctrl-i” while hovering over the popup menu to directly select it with the coded UI test builder, without having to drag the crosshair onto the control (in that case, it disappears)

Result Management Tools

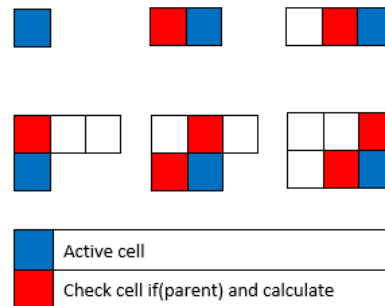
Calculating totals algorithm

- Algorithm 1
 - The first algorithm was too slow, probably because of LINQ queries
 - Inheritance coupling based on level of each cell left and top of current cell
 - Totals calculated after matrix was already in memory
 - Not efficient on small or large scale data processing
- Algorithm 2 (Revised Algorithm 1)
 - LINQ has been removed from the equation
 - Inheritance coupling based on level
 - Hold a list of children and a parent object in the created cell
 - Totals are calculated ‘on the fly’
 - Performance rate increased by $\frac{2}{3}$
 - Program run time now lasted 10s instead of 30s
 - Very efficient on large scale data processing

Algorithm 1



Algorithm 2



Generating HTML

- Before
 - After swapping the test data to 'real' data, the HTML generation was rather slow
 - Program run time back to 30s
 - Iterated over both VerticalAxis and HorizontalAxis
 - Used a LINQ query along with a list that was passed to AssignClassBasedOnLabel() method
- Revised methods
 - Removed LINQ query and List
 - Changed AssignClassBasedOnLabel() method to accept only 1 cell at a time
 - Iterates over every cell in matrix.Cells List
 - Counters → to keep up with which cell's data is being altered