

Xojo Calendar and Time Chooser

User Documentation

v1.05

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# Project Information

|  |  |
| --- | --- |
| Development Model: | Open Source |
| Version Control Repository: | GitHub |
| Repository Type: | Public |
| Link to Repository: | <https://github.com/mikecotrone/CalendarTimeChooser> |
| Project File Format: | “Xojo Project (xojo\_project)” |
| License: | [BSD-3 Clause](http://opensource.org/licenses/BSD-3-Clause) |
| Affiliation: | This project is authored and maintained by Intelligent Visibility, Inc. |
| Author: | Mike Cotrone |
| Contributors: | Jim McKay |

# Project Purpose (Please Read)

The purpose of this project was to create a professional “Calendar and Time Chooser” control for my Xojo**™** made applications. I was pleasantly surprised to see the volume of participation on this topic on the Xojo**™** Forums to where I believe this topic set a record (unofficial) for the most views.

Special Thanks to Jim McKay who made significant contributions to the code base specifically around the clock face hands and OOP restructuring. This interest and contribution help has driven me to expand this project several times.

## What this Project IS:

This project is a multi featured Calendar and Time Chooser control tool. The following features are available to you.

General Options:

* Show “Calendar Chooser Only”, “Show Time Chooser Only”, “Show Both Choosers”
* Change background color of this tool

Clock Options:

* 12 hour or 24 hour time formats
* Multiple clock faces to choose from
* Change color of clock hands

Calendar Options:

* Change “Week Start Day”
* Include/Exclude next/previous months on calendar
* Localizations: English, Afrikaans, Dutch, French, German, Italian, Polish, Spanish, Swedish
* Allow multiple date selections

## What this Project ISNT:

I feel that communicating what this project is and is not is key setting the expectations.

* This project is not a clock nor a countdown timer
* It is not calendar software i.e. Outlook or Thunderbird
* This project does not employ SQLite or any other databases for data storage
* This project isn’t designed to be “parted” out as the options will dictate how the tool operates (more detail later in this document)

# Quick Start Setup

## Download Project, Copy folders, and Enable GDI

1. Download the project at <https://github.com/mikecotrone/CalendarTimeChooser>
2. Open “CalendarTimeChooser.xojo\_project” with the Xojo IDE
3. Copy all Folders that begin with “1 – 5” to your destination project (*Note: You probably do not want the “Demo Window” folder for your destination project*)

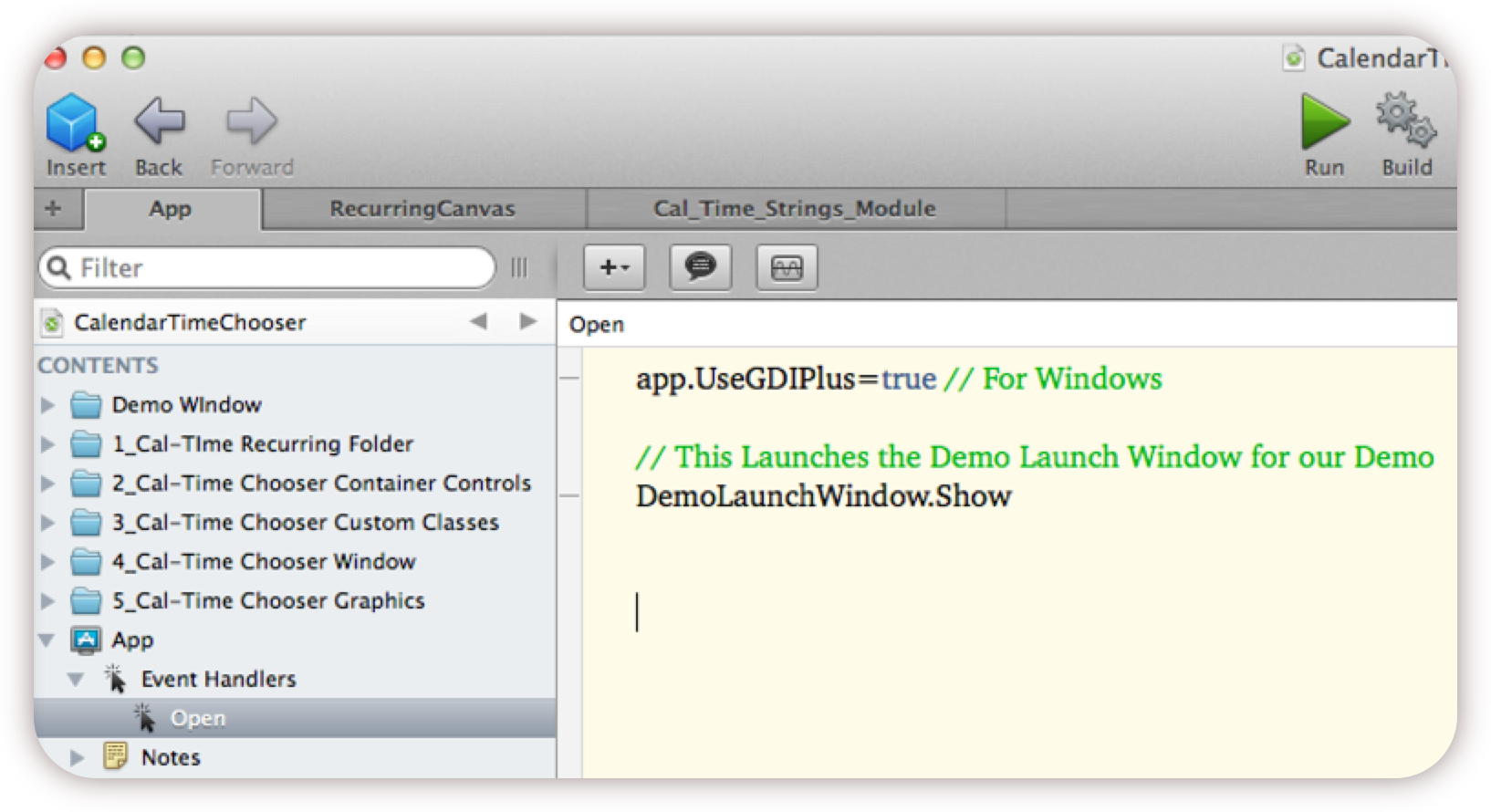


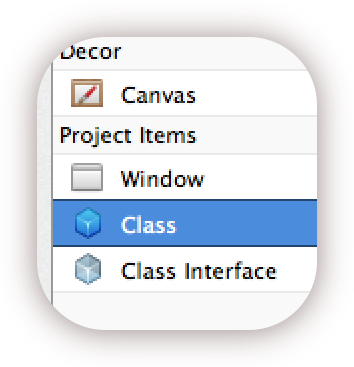
Figure 1. Depicts the six (6) folders that comprise the “Calendar and Time Chooser” project

1. Enable “GDI Plus” in your destination project (*for example: copy “app.UseGDIPlus=True” to your destination project app.open event*)

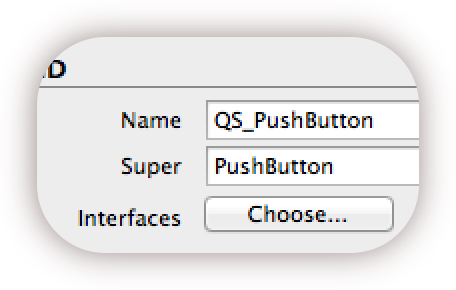
## Create instantiation of Options and DateTimeWindow

There are many ways to accomplish this step, but for this quick start example I will use a “Push Button” control that will be responsible for instantiating the “DateTimeWindow” and it’s options.

1. From the Xojo IDE drag a new “Class” to your project



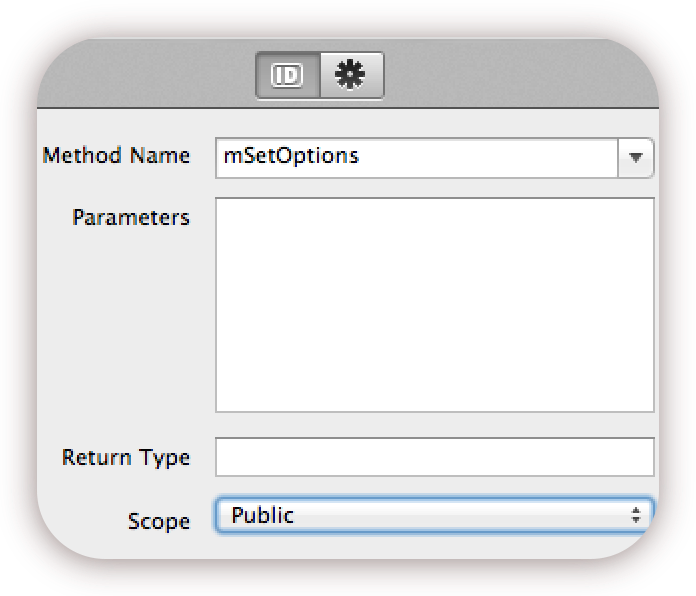
1. Name your new class “QS\_PushButton”
2. Change it’s super class to “PushButton”



1. Add a new “Property” to the “QS\_PushButton” and name it “CalTimeChooser”



1. Change the “CalTimeChooser” property type to: DateTimeWindow
2. Add a method named “mSetOptions” to the “QS\_PushButton”



1. Add the following Code to the “mSetOptions” Method based on how you want this tool to behave in your project. (Detailed explanation of each option can be found at \_\_\_\_)

// Chooser Type:

CalTimeChooser.VisiblePickers=Date\_Time\_Container.PickerElements.CalendarAndClock

// Chooser Window Back Color

CalTimeChooser.Date\_Time\_Container1.BackColor = RGB(239,239,239)

// Chooser Time Format

CalTimeChooser.Date\_Time\_Container1.Time\_Container1.TimeMode = 12

// Chooser Clock Face Type

CalTimeChooser.ClockFaceType = Date\_Time\_Container.ClockFaceType.Chrome

// Chooser Clock Hands Type

CalTimeChooser.UseGraphicalClockHands=True

// Chooser Week Start

CalTimeChooser.WeekStartsOnMonday = False

// Chooser Calendar to include previous/next days on calendar

CalTimeChooser.IncludePrevNextMonthDays = True

// Calendar Localization

CalTimeChooser.LocalizationInt = 0 // 0-English

// Allow User to Select Multiple Calendar Days

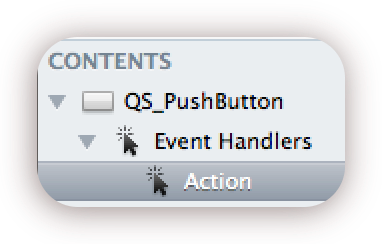
CalTimeChooser.AllowMultipleCalendarSelections = False

// Calendar Start Year:: This date integer is your calendar's start date

CalTimeChooser.Date\_Time\_Container1.Calendar\_Container1.Calendar1.StartYear = 1975

CalTimeChooser.Date\_Time\_Container1.Calendar\_Container1.Calendar1.EndYear = 2052

1. Add the “Action” event to the “QS\_PushButton”

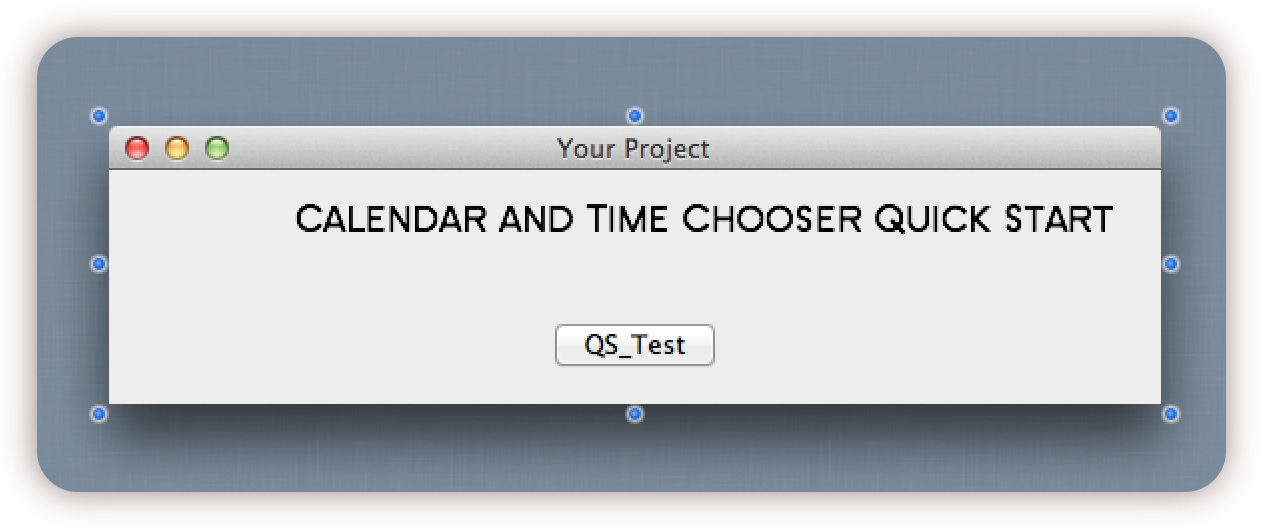


1. In the “Action” event add the following code:

CalTimeChooser = New DateTimeWindow

mSetOptions

1. Drag your newly created custom pushbutton control “QS\_PushButton” onto a Window in your destination project



Quick start is now complete! Run your project in the IDE to see your project.

# Project Option Definitions

This section provides details for the “Calendar and Time” options that are available to change the behavior of this tool.

## General Options

|  |  |
| --- | --- |
| Calendar and Time Chooser Layout Option | |
| Description: | This option allows you to set which chooser is visible.  *Choose one option* |
| Choice #1: | CalTimeChooser.VisiblePickers=Date\_Time\_Container.PickerElements.CalendarAndClock |
| Choice #2: | CalTimeChooser.VisiblePickers=Date\_Time\_Container.PickerElements.CalendarOnly |
| Choice #3: | CalTimeChooser.VisiblePickers=Date\_Time\_Container.PickerElements.ClockOnly |

|  |  |
| --- | --- |
| Change Back Color of Chooser Window | |
| Description: | This option will change the back color of the chooser (all choosers).  *Replace the RGB color with your desired color.* |
| Option: | CalTimeChooser.Date\_Time\_Container1.BackColor = RGB(239,239,239) |

## Clock / Time Options

|  |  |
| --- | --- |
| Time Format | |
| Description: | This option allows you to set which time format you would like.  *Choose one time format* |
| Option 1: | CalTimeChooser.Date\_Time\_Container1.Time\_Container1.TimeMode = 12 |
| Option 2: | CalTimeChooser.Date\_Time\_Container1.Time\_Container1.TimeMode = 24 |

|  |  |
| --- | --- |
| Clock Face Type | |
| Description: | This option allows you to set which clock face is displayed graphically  *Choose one option* |
| Option 1: | CalTimeChooser.ClockFaceType = Date\_Time\_Container.ClockFaceType.Chrome |
| Option 2: | CalTimeChooser.ClockFaceType = Date\_Time\_Container.ClockFaceType.Antique |
| Option 3: | CalTimeChooser.ClockFaceType = Date\_Time\_Container.ClockFaceType.GoogleStyle |
| Option 4: | CalTimeChooser.ClockFaceType = Date\_Time\_Container.ClockFaceType.Dynamic\_12hr |
| Option 5: | CalTimeChooser.ClockFaceType = Date\_Time\_Container.ClockFaceType.Modern |
| Option 6: | CalTimeChooser.ClockFaceType = Date\_Time\_Container.ClockFaceType.Roman |
| Option 7: | CalTimeChooser.ClockFaceType = Date\_Time\_Container.ClockFaceType.Standard |

|  |  |
| --- | --- |
| Choose Clock Hand Type | |
| Description: | This option allows you to choose between the graphical clock hands or plain lines.  *Choose True or False* |
| Option: | CalTimeChooser.UseGraphicalClockHands=True |

|  |  |
| --- | --- |
| Choose Clock Hand Color | |
| Description: | This option allows you to the color of the minute and hour clock hands (second hand is always red) |
| Option: | CalTimeChooser.Date\_Time\_Container1.ClockHandColor = RGB(120,20,200) |

## Calendar Options

|  |  |
| --- | --- |
| Week Begins on Monday | |
| Description: | If False the week begins on Sunday  If True the week begins on Monday |
| Option 1: | CalTimeChooser.WeekStartsOnMonday = False |
| Option 2: | CalTimeChooser.WeekStartsOnMonday = True |

|  |  |
| --- | --- |
| Include / Exclude Previous/Next Months on Calendar View | |
| Description: | This option enables or disables displaying the next and previous month days on the calendar. |
| Option 1: | CalTimeChooser.IncludePrevNextMonthDays = True |
| Option 2: | CalTimeChooser.IncludePrevNextMonthDays = False |

|  |  |
| --- | --- |
| Localization | |
| Description: | Choose the localization Integer that you desire. |
| English: | CalTimeChooser.LocalizationInt = 0 |
| French: | CalTimeChooser.LocalizationInt = 1 |
| Swedish: | CalTimeChooser.LocalizationInt = 2 |
| Italian: | CalTimeChooser.LocalizationInt = 3 |
| Spanish: | CalTimeChooser.LocalizationInt = 4 |
| Dutch: | CalTimeChooser.LocalizationInt = 5 |
| German: | CalTimeChooser.LocalizationInt = 6 |
| Afrikaans: | CalTimeChooser.LocalizationInt = 7 |
| Polish: | CalTimeChooser.LocalizationInt = 8 |

|  |  |
| --- | --- |
| Allow Multiple Calendar Date Selections | |
| Description: | If True then “Single” selection allowed only  If False then “Multiple” selection allowed |
| Option 1: | CalTimeChooser.AllowMultipleCalendarSelections = True |
| Option 2: | CalTimeChooser.AllowMultipleCalendarSelections = False |

|  |  |
| --- | --- |
| Calendar Start Year | |
| Description: | Enter the “Start” year integer that you would like the calendar to allow user selection. |
| Option: | CalTimeChooser.Date\_Time\_Container1.Calendar\_Container1.Calendar1.StartYear = 1975 |

|  |  |
| --- | --- |
| Calendar End Year | |
| Description: | Enter the “End” year integer that you would like the calendar to allow user selection. |
| Option: | CalTimeChooser.Date\_Time\_Container1.Calendar\_Container1.Calendar1.EndYear = 2175 |

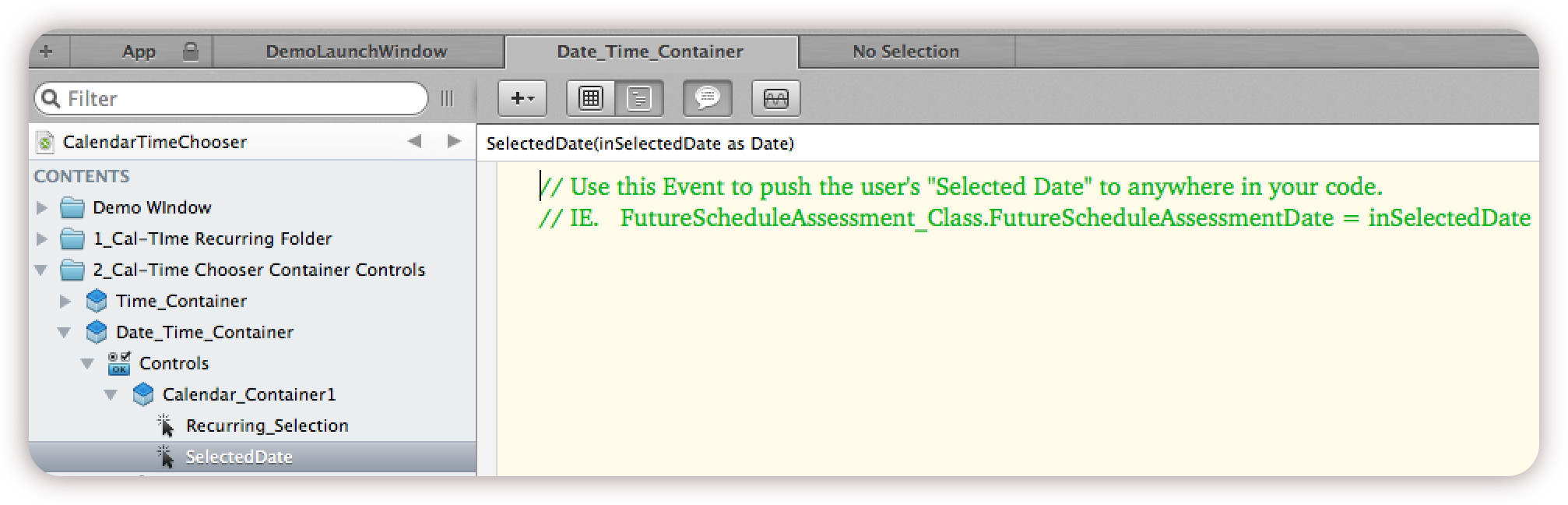
# How Do I Get the User Selected Results?

There are three custom event definitions, which will provide you the user selection results.

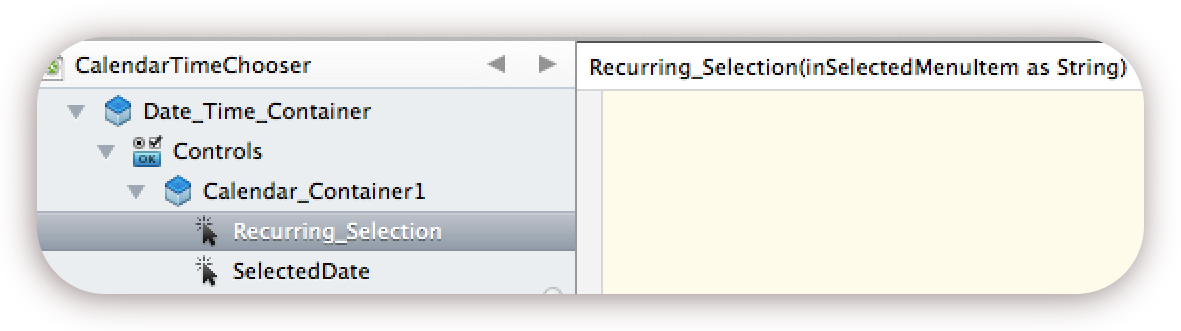
1. Calendar: Selected Date(s)
2. Calendar: Selected Recurring Type
3. Clock/Time: Selected Time

The following describes these events:

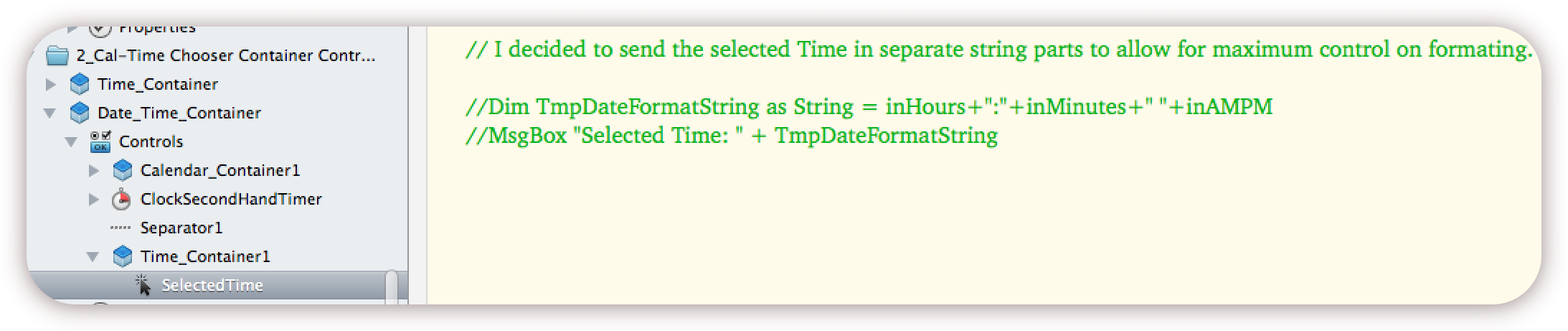
|  |  |
| --- | --- |
| **Calendar Date(s) Selection** | |
| Description: | This event will contain the user’s selected date or dates which you may use in your application |
| Event Name: | SelectedDate |
| Name Space: | Date\_Time\_Container.Calendar\_Container1 |
| Parameter Type: | Date |



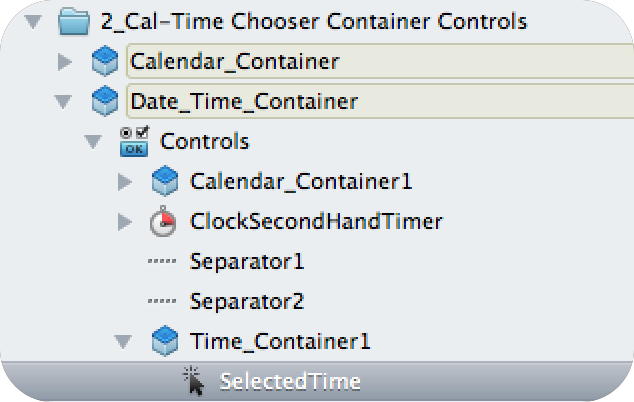
|  |  |
| --- | --- |
| **Calendar Recurring Selection Type** | |
| Description: | This event will contain the user’s recurring choice |
| Event Name: | Recurring\_Selection |
| Name Space: | Date\_Time\_Container.Calendar\_Container1 |
| Parameter Type: | String |



|  |  |
| --- | --- |
| **User Time Selection** | |
| Description: | This event will contain the user’s time selection |
| Event Name: | SelectedTime |
| Name Space: | Date\_Time\_Container.Time\_Container1 |
| Parameter Type: | Strings |



# How Do I Use the “SelectedTime” Custom Event?



## SelectedTime Parameters

The “SelectedTime” event expects two (2) mandatory parameters with one (1) optional parameter. The goal was to provide as much flexibility to the coder by separating each time field. This allows maximum flexibility for the coder to choose how they want to reassemble the time instead of being forced into an unwanted format representation.

The following parameters are as follow:

* inHours as String (mandatory)
* inMinutes as String (mandatory)
* InAMPM as String (optional and for 12 hour format only)

## Example Code

Here is example code that could be implemented in the “SelectedTime” event:

// 12 Hour Time Format

Dim TmpDateFormatString as String = inHours+":"+inMinutes+" "+inAMPM

// Now I can do something with TmpDateFormatString

OR

// 24 Hour Time Format

Dim TmpDateFormatString as String = inHours+":"+inMinutes

// Now I can do something with TmpDateFormatString

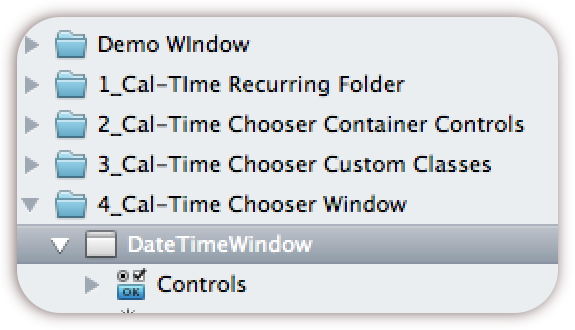
# How Do I Close This Chooser Now That It’s Open?

I purposely left it to you the coder on how to handle dismissing or closing the chooser when finished. I knew that some coders would like to have a “Cancel” and ”Close” button, while others may only want to enable the keydown event for the “Escape key” or “Enter key”. Either way this is the reason that this is not built in by default.

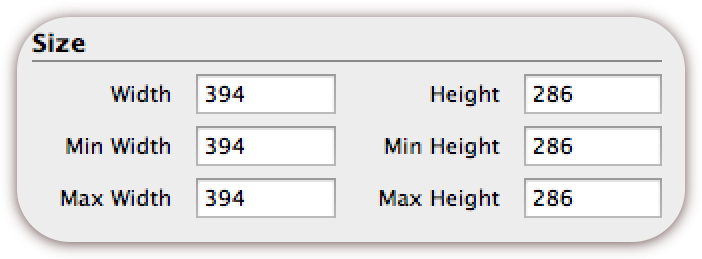
The following is an example that accomplishes adding a “Close” button onto this project along with resizing the proper window and containers

## 1. Resizing the DateTimeWindow

We will first need to resize the “DateTimeWindow” Height to 286 in order to make room for our controls to fit.



*Figure 7.1*

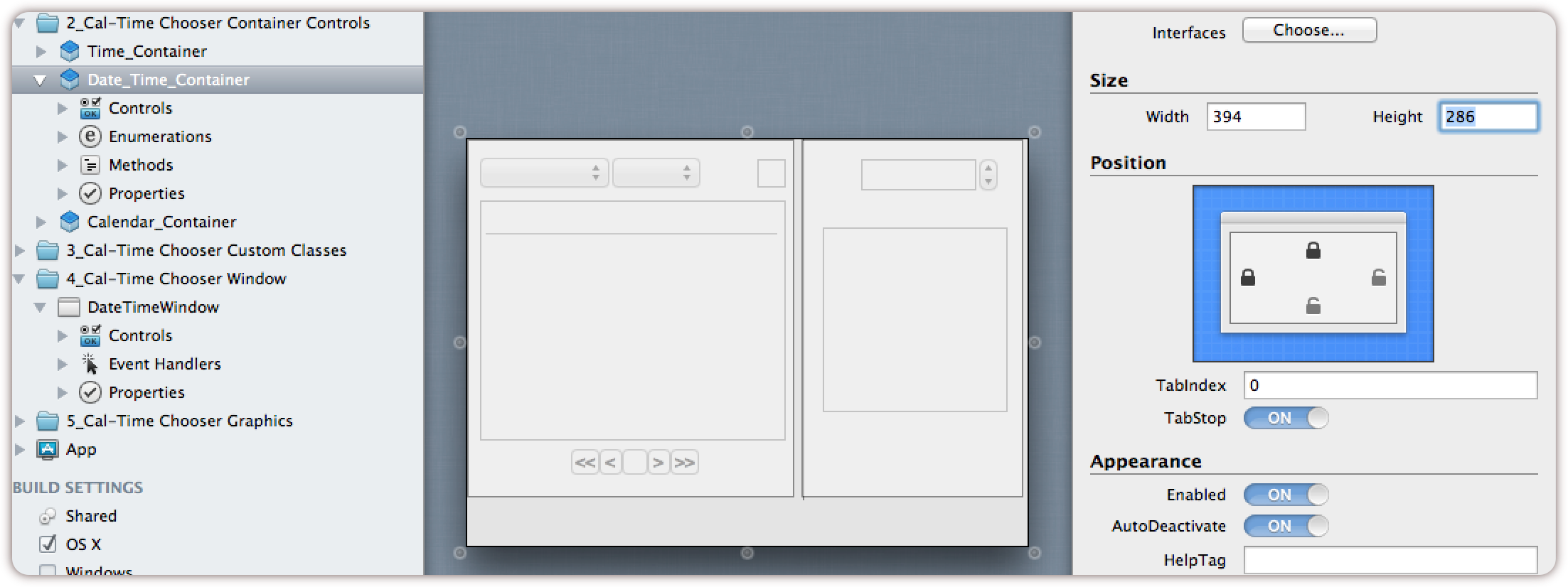


*Figure 7.2*

First change the height of the “DateTimeWindow” from 252 to 286 as shown above in *Figure 7.2*

## 2. Resizing the Date\_Time\_Container

Next we will need to resize the “Date\_Time\_Container” Height from 252 to 286.

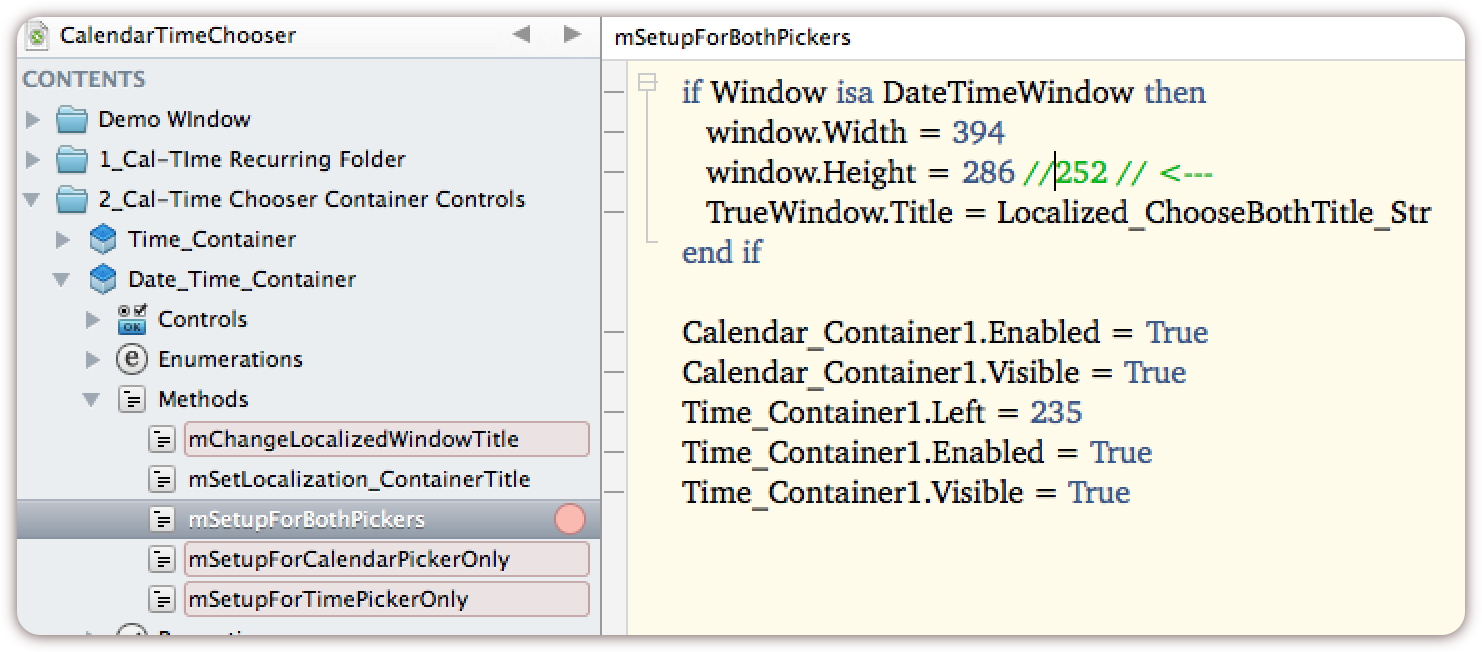


*Figure 7.3*

## 3. Change Setup Methods

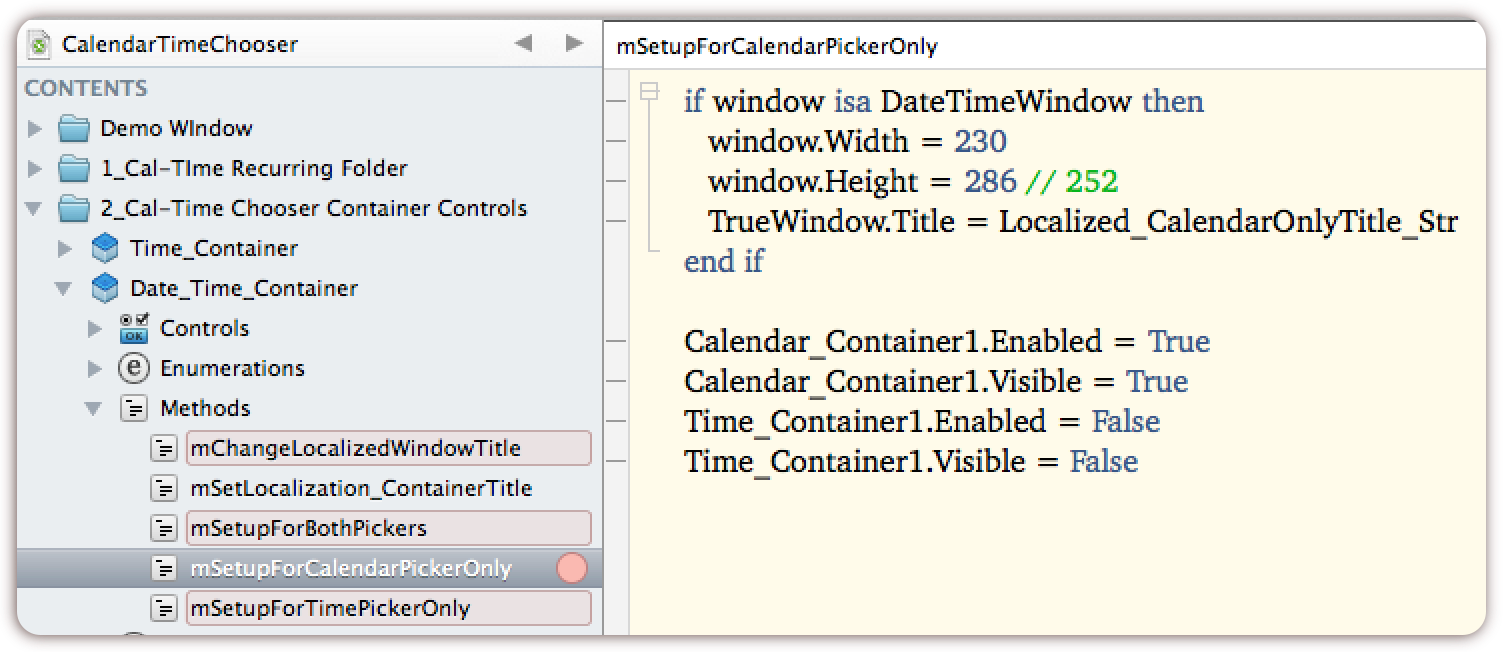
When you select one of the following options “Both Choosers, Time Chooser Only, or Calendar Chooser Only” during your implementation either one of the three below methods are launched. We must adjust their “Window.Height” line from 252 to 286.

Change: mSetupForBothPickers



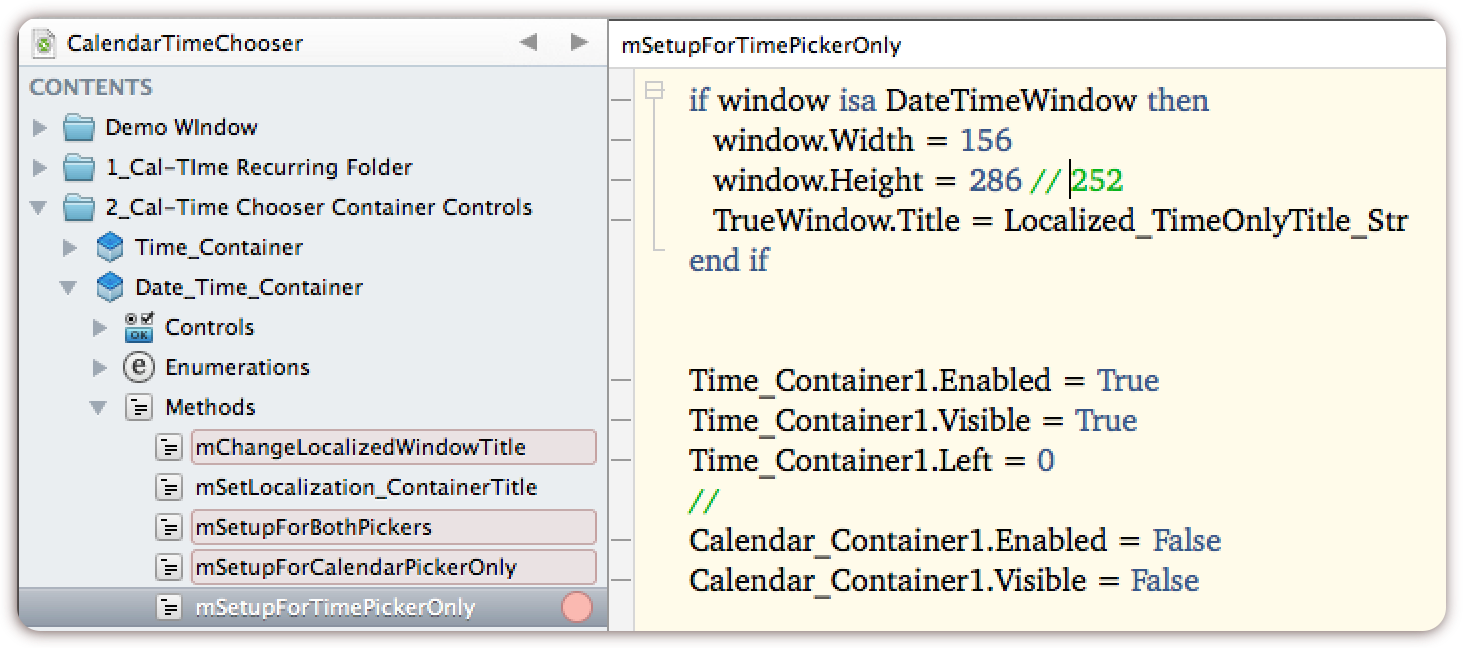
*Figure 7.4*

Change: mSetupForCalendarPickerOnly



*Figure 7.5*

Change: mSetupForTimePickerOnly

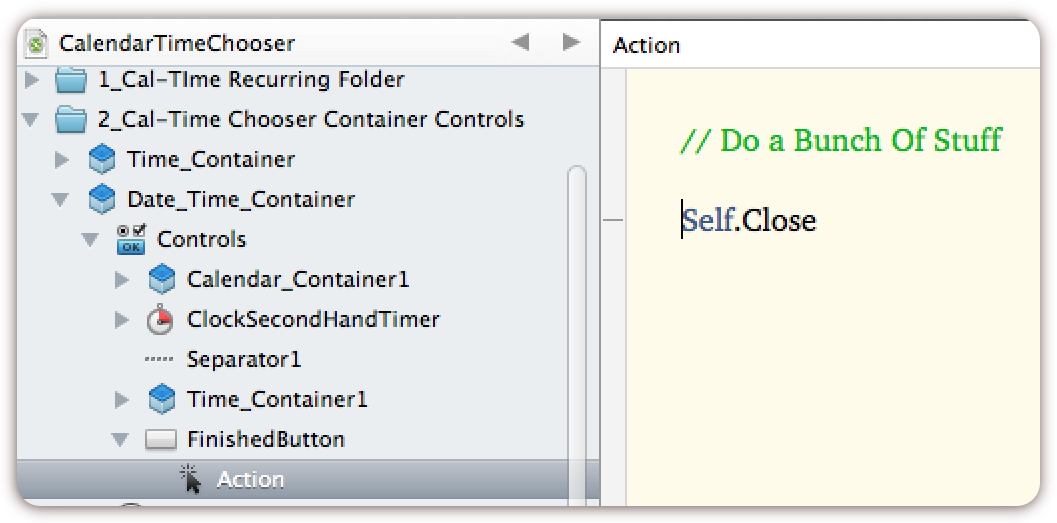


*Figure 7.6*

## 4. Add a new PushButton

In the Xojo IDE we will need to drag a new PushButton onto the project so we can turn it into the “Close” button for the Calendar/Time chooser tool. After all we need to close this after the user is finished right? ☺

1. In the Xojo IDE prepare to drag the “PushButton” control onto your project
2. Place the “PushButton” control onto the “Date\_Time\_Container” control (Looking on page 18 you see that this container is the Parent and a great place for this control)
3. Change the name of your new “PushButton” to “FinishedButton” and change its text to “Finished”
4. Add the “Action” event to the “FinishedButton”
5. To “Close” the control add the “Self.Close” code to the action event (see figure 7.7 below)



*Figure 7.7*

1. You are finished

# Appendix: OOP Structure

The following illustration is a depiction of the object-oriented relationships between the windows, containers, and canvas classes.

