Honeywell

Lab Exercise – Interpret Animation Techniques (Optional)

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TotalPlant

Notices and Trademarks

This module supports **TotalPlant** Solution (TPS) system network.

TPS is the evolution of TDC 3000^X.

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Performance Lab Exercise 1

Introduction

Occasionally display builders desire animation in an operator display. Animation in a display can cause a performance hit if the guidelines in the Display Authoring Tutorial are not followed. This concept lab exercise demonstrates both the angle property and frame technique described in the Display Authoring Tutorial. The better option is the frame technique.

Objectives

At the end of this lab exercise, you will be able to do the following:

- Interpret two animation techniques:
  - Angular rotation
  - Frame technique
- Add a frame approach to a display using an OnPeriodicUpdate script with alternating visible display objects.

Design Criteria

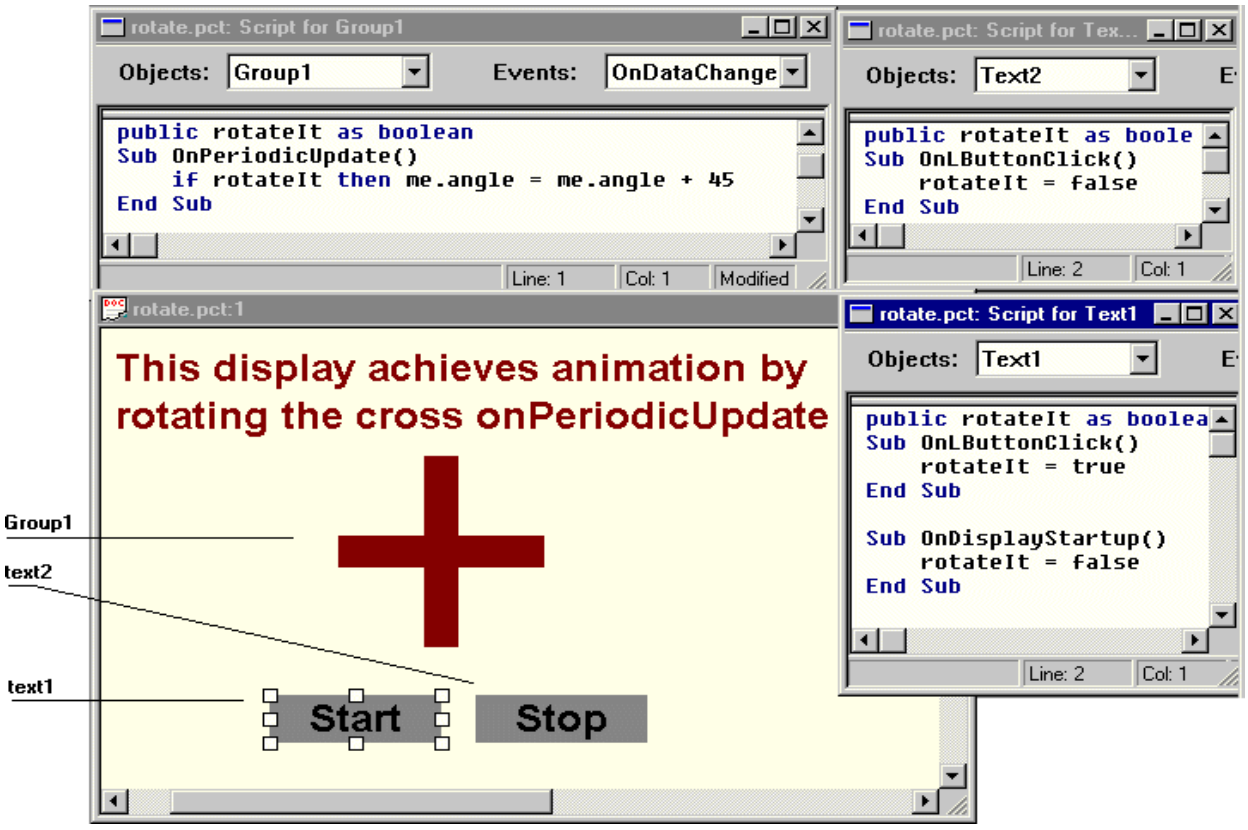
Two pictures are provided for you in the lab exercise to demonstrate animation approaches. The pictures have some script already entered, but the script you need to enter to make the animation occur is shown in this Design Criteria section. The animations are started by a boolean flag called RotateIt.

The animation using angular rotation requires the following script:

```
public rotateIt as boolean
Sub OnPeriodicUpdate()
     if rotateIt then me.angle = me.angle + 45
End Sub
```

The **angular** rotation display is shown in the following figure.

Figure 1 – Angular Rotation Display

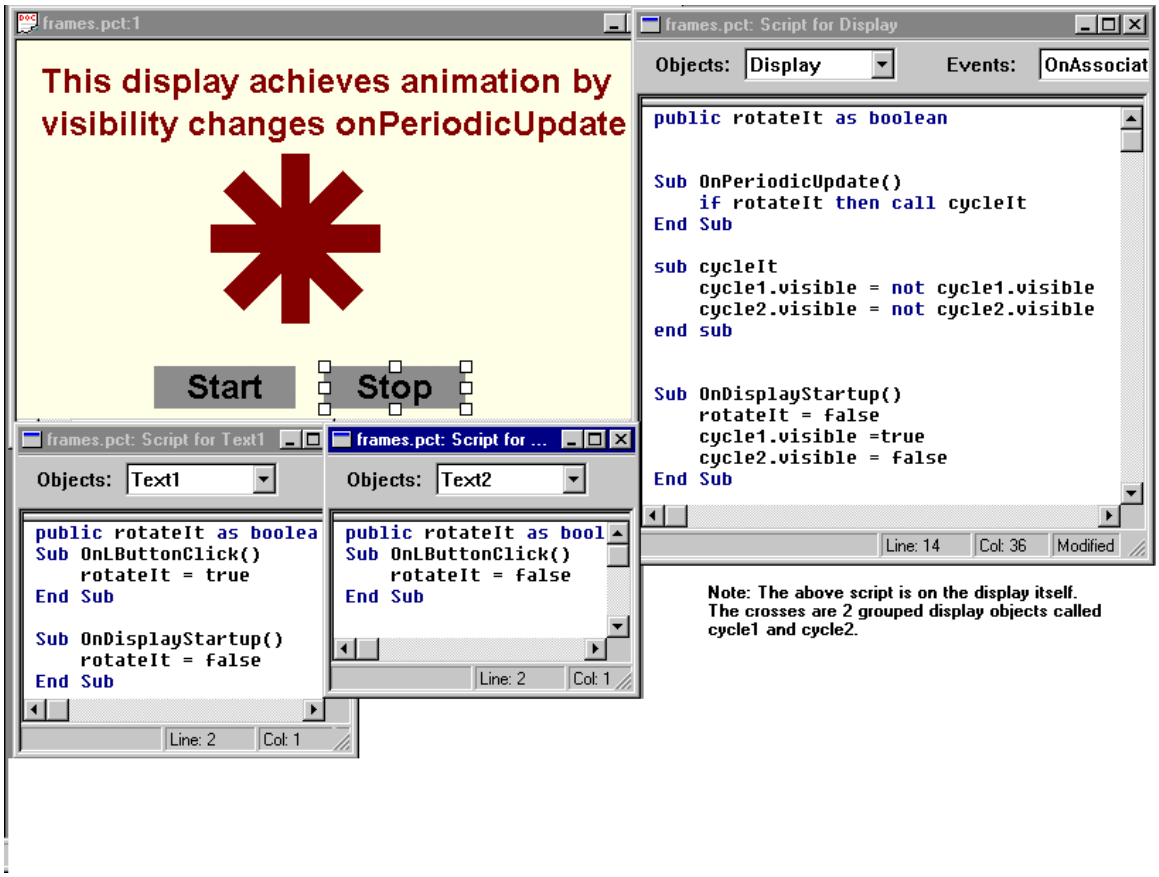


The animation using alternating visible displays as **frames** has the following script:

```
public rotateIt as boolean

Sub OnPeriodicUpdate()
     if rotateIt then call cycleIt
End Sub

sub cycleIt
     cycle1.visible = not cycle1.visible
    cycle2.visible = not cycle2.visible
end sub

Sub OnDisplayStartup()
     rotateIt = false
     cycle1.visible =true
     cycle2.visible = false
End Sub
```

The **frames** rotation display is shown below.

Figure 2 – Frames Rotation Display



Lab Prerequisites

Lab prerequisites are the following:

- GUS Display Builder
- Pre-built displays (rotate and frame).

Lab Procedure

Step	Action
1.	From your Perform folder, open the display called rotate.pct

2.	From a script editor browser window for rotate.pct, select the object Group 1 and add the script shown in the Design Criteria section:
	`public rotateIt as boolean`
	`Sub OnPeriodicUpdate()`
	`  if rotateIt then me.angle = me.angle + 45`
	`End Sub`

3.	Syntax check your display.
4.	Validate your display.
5.	Save your display.
6.	Run your display.
7.	Click on the "Start" text object to start the animation. (The start objects sets a boolean flag to true). Result: The display object rotates.
8.	From your Perform folder, open the display call frames.pct.

9.	From a script editor browser window for frames.pct, select the Display (this represents the frames display) and add the script shown in the Design Criteria section:
	`public rotateIt as boolean`
	`Sub OnPeriodicUpdate()`
	`  if rotateIt then call cycleIt`
	`End Sub`
	
	`sub cycleIt`
	`  cycle1.visible = not cycle1.visible`
	`  cycle2.visible = not cycle2.visible`
	`end sub`
	
	`Sub OnDisplayStartup()`
	`  rotateIt = false`
	`  cycle1.visible =true`
	`  cycle2.visible = false`
	End Sub

10.	Syntax check your display.
11.	Validate your display.
12.	Save your display.
13.	Run your display.
14.	Click on the "Start" text object to start the animation. Result: The display object rotates using the frames approach.

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