

TNCComponent

Propertys

Methods

This component is the base component for all Non Client Components which are intended to be compatible with TNComponentForm.

TNCComponent provides one abstract method, RePaint which MUST be overridden in any descendant. The purpose of this method is to paint the component as appropriate.

There are several methods used as the interface between TNComponentForm and TNCComponent. These would normally never be overridden as incorrect operation of these methods would prevent the correct operation of the NCComponent.

RePaint Method

Applies to

All NCComponents

Declaration

procedure RePaint; virtual; abstract

Description

RePaint is called by TNCForm every time an NCComponent needs to repaint itself. It is the responsibility of the component writer to ensure that repainting is done.

All decendent NCComponents MUST override ths method.

See Also

[TNCComponent](#)

[Painting NCComponents](#)

MouseMove Method

Applies to

TNCComponent

Declaration

```
procedure MouseMove(MouseX, MouseY : integer); virtual;
```

Description

Once the left mouse button is pressed when the mouse pointer is over an NCComponent, this method is called every time the mouse is moved until the left mouse button is released.

MouseX and MouseY contain the screen co-ordinates of the pointer.

The default method does nothing

See Also

[TNCComponent](#)

LButton Method

Applies to

TNCComponent

Declaration

```
procedure LButton(ButtonState : TNCClickState); virtual;
```

Description

Every time the left mouse button is pressed or released this method is called. ButtonState is csUp if the button is now up (released) or csDown if now down (pressed).

The default method does nothing.

See Also

TNCComponent



TNCButton

[Property](#)s

[Methods](#) [Events](#)

TNCButton is a decendent of TNCComponent and provides additional buttons on the Caption Bar. These buttons can be placed either left or right and used the same as any of the standard Delphi button components.

TNCButton Propertys

ButtonLock

Glyph

TNCButton Methods

LButton
RePaint

MouseMove

TNCButton Events

OnClick

OnUnClicked

Non Client Components

NCCComponents

Non-Client Components are Non Visual components which creates a control or some other component on the Caption Bar of a the window.

In order to use a Non Client component, it's parent form MUST be TNCCComponentForm or a decendent. Note that if you use TForm the components won't work, but no error will be generated. To use TNCCComponent form, you need to add **TNCForm** to the **uses** clause in your form then change

TMyForm = class (TForm)

to

TMyForm = class(TNCCComponentForm)

At run time the NCCComponent has access to the Caption Bar and can use it for whatever purpose it wishes, within the constraints of TNCCComponent. All Non Client Components MUST descend from TNCCComponent.

TNCComponentForm

Declaration

TNCComponentForm = class(TForm)

Description

TNCComponentForm is the heart of TNCComponents. The standard TForm provides no support for the actions required to perform the painting on the Caption Bar, and indeed anywhere in the Non Client Area.

TNCComponentForm works by using the Create method to scan its components property for any TNCComponent. It then calls the ParentRegister method for each one. Once this is done, by intercepting several messages and taking appropriate action the NCComponent behave (I hope) as required. The relevant messages are;

WM_NCPAINT; WM_NCACTIVATE; WM_NCLBUTTONDOWN; WM_LBUTTONUP;
WM_NCLBUTTONDBLCLK; WM_GETMINMAXINFO; WM_MOUSEMOVE; WM_ACTIVATE;

In addition to this, TNCComponentForm does to other things.

- (1) Automatically adjusts its minimum size so all NCComponents are always shown.
- (2) Override the Caption property of NCFORM so that it is displayed in centre of the caption bar remaining AFTER the NCComponents have been added. (This has no effect on the user as they still read and write the Caption Property, however, TNCComponentForm writes the caption to the title bar, not the default window procedure)

TNCComponent Propertys

VerticalOffset CaptionHt
ParentHandle RelativePaintPos
PosRight PosLeft
BorderValid Position
Width DragBy
ParentActive

TNCComponent Methods

RePaint LButton
RButton LButtonDbIClk
RButtonDbIClk MouseMove
GetPos ParentRegister
IsCovered ParentState

Non Client Components

TNCComponent

TNCBlank

TNCButton

TNCLabel

TNCClock

ParentRegister Method

Applies to

All NCComponents

Declaration

```
function ParentRegister(Wnd : HWnd; PaintPos, VOffSet,CaptionHt : integer): integer;
```

Description

This method is critical to the correct operation of all Non Client Components.

TNCComponentForm calls this method for each NCComponent in it's Components list. The parameters passed are :

Wnd : Hwd	Handle to the Parent Window. It is accessible though the <u>ParentHandle</u> Property.
PaintPos : integer	This is the position reletive to the Left or Right of the Window that the object is painted. This value is obtained from the <u>RelativePaintPos</u> Property.
VOffSet : integer	Vertical width of the Window's border. Obtained from <u>VerticalOffSet</u> Property.
CaptionHt : integer	Height of Parent's caption bar. Obtained from the <u>CaptionHeight</u> Property.

The return value is the width of the object however this is not currently used by TNCComponentForm.

ParentHandle Property

Applies to

All NCComponents

Declaration

property ParentHandle : HWnd

Property Type

Protected, Read only

Description

ParentHandle hold the Handle of the Parent Window. It may be used whenever a window handle is required , for example when drawing or painting on the window.

RelativePaintPos Property

Applies to

All NCComponents

Declaration

property RelativePaintPos : integer;

Property Type

Protected, Read/Write

Description

This property holds the relative horizontal position of the visible element of the NCComponent. The actual horizontal position that an NCComponent paints itself is found from calling the [GetPos](#) method.

See also

[Painting NCComponents](#)

VerticalOffset Property

Applies to

All NCComponents

Declaration

property VerticalOffset : integer;

Property Type

Protected, Read only

Description

This property holds the vertical position of the visible element of the NCComponent. This is the height of the window border

See also

[Painting NCComponents](#)

CaptionHeight Property

Applies to

All NCComponents

Declaration

```
property CaptionHeight : integer;
```

Property Type

Protected, Read only

Description

CaptionHeight is set to the height of the parent window's caption bar during the run-time initialisation.

PosRight Property

Applies to

All NCComponents

Declaration

```
property PosRight : integer;
```

Property Type

Protected, Read/Write

Description

This property is used to store the actual leftmost position of the object. When the NCComponent is RePainted, this value must be updated to reflect the new position. It is for use, along with [PosLeft](#), by the [MouseMove](#) and [IsCovered](#) Methods.

See also

[Painting NCComponents](#)

ParentActive Property

Applies to

All NCComponents

Declaration

property ParentActive : boolean

Property Type

protected, Read Only

Description

If the parent window is the current active window then ParentActive is True, otherwise, ParentActive is False. This would be used when an NCComponent need to paint itself differently depending on when the window is active or not.

e.g. If the component's colour needed to match the Caption Bar colour.

PosLeft Property

Applies to

All NCComponents

Declaration

```
property PosLeft : integer;
```

Property Type

Protected

Description

This property is used to store the actual leftmost position of the object. When the NCComponent is RePainted, this value must be updated to reflect the new position. It is for use, along with [PosRight](#), by the [MouseMove](#) and [IsCovered](#) Methods.

See also

[Painting NCComponents](#)

BorderValid Property

Applies to

All NCComponents

Declaration

```
property BorderValid : boolean;
```

Property Type

Protected, Read only

Description

TNCComponent only supports TNCComponentForm BorderStyles of bsSizeable or bsSingle. If the parent border is either of these then BorderValid is True otherwise it is False. TNCComponents should NOT attempt to paint themselves if BorderValid is False.

GetPos Method

Applies to

All NCComponents

Declaration

```
function GetPos : integer;
```

Description

Return the leftmost position at which the object must be painted. The position is in screen co-ordinates.

Width Property

Applies to

All NCComponents

Declaration

property Width : integer;

Property Type

Published

Description

This property stores the width of the object. It is set at design time, and should never be altered at run time.

See Also

[Painting NCComponents](#)

Position Property

Applies to

All NCComponents

Declaration

property Position : TNCComponentPosition;

Property Type

Published

Description

Position stores the position of the object, either to the Left or Right of the screen. The default is right. Note that although it is accessible at run time it should NEVER be altered at run time.

See [TNCComponentPosition](#)

TNCComponentPosition

Declaration

TNCComponentPosition = (bpLeft,bpRight);

Description

If the position of an object is set to bpLeft then it is positioned as far left as possible on the caption bar. Similarly, if it is bpRight it is positioned to the right. Components are positioned in order of creation, and that positioning takes into account the Parents BorderIcons property.

See Also

[Position Property](#)

IsCovered Method

Applies to

All NCComponents

Declaration

```
function IsCovered(MouseX, MouseY : integer) : boolean;
```

Description

When called with the position of the mouse pointer in MouseX and MouseY, the function returns True if the mouse is covering the object otherwise, False.

MouseX and MouseY are screen co-ordinates.

DragBy Property

Applies to

All NCComponents

Declaration

property DragBy : boolean;

Property Type

Published

Description

DragBy is used by TNCComponentForm to decide whether a form can be dragged by the component. Normally a window can be dragged by the caption bar, except the buttons. DragBy defaults to False,

Generally Buttons or other controls which require the user to interact with them using the mouse must have DragBy set False, whereas a control to display text or information could be dragged. When deciding whether to allow dragging using the control, the normal test would be the use of the LButton Method. If this actually does something, then DragBy must be False otherwise it can be True.

Painting NCComponents

Each NCComponent is responsible for painting itself. Each time it needs to do this, the TNCComponentForm will call the RePaint Method. Exactly what you choose your component to look like is entirely up to you, however, it must be painted within the bounds it was designed for. You cannot changed the size or relative position at run time.

The RePaint Method is also responsible for updating PosLeft and PosRight each time it repaints a component. These two values are found from

```
PosLeft := GetPos;  
PosRight := PosLeft+Width;
```

NB : Failure to do this will prevent IsCovered, and therefore the Component, from working properly.

The area in which the component must be painted is

Top Left

```
X := GetPos;  
Y:= VerticalOffSet;
```

Botton Right

```
X := GetPos + Width  
Y := VerticalOffSet + CaptionHeight;
```

In addition, the first line in the RePaint method should set the a protected TRect type variable ParentRect to the current WindowRect by calling GetWindowRect(ParentHandle,ParentRect)

The following is a suggested template for the RePaint Method

```
procedure TMyNCComponent.RePaint;  
var  
  Pos : integer;  
  WndDC : hDC;  
begin  
  GetWindowRect(ParentHandle,ParentRect);  
  Pos := GetPos;  
  WndDC := GetWindowDC(ParentHandle);  
  -----  
  Component specific code here  
  -----  
  ReleaseDC(ParentHandle,WndDC);  
  PosLeft := Pos;  
  PosRight := Pos+Width;  
end;
```

WndDC provides the Device context on which the component can be painted and Pos gives the X co-ordinated of the left of the component.

For example the following code is the Paint method TNCButton (This method is called by RePaint with a flag to indicate whether the button is to be painted up or down)

```
begin  
  GetWindowRect(ParentHandle,ParentRect);
```

```
Pos := GetPos;
WndDC := GetWindowDC(ParentHandle);
BmDC := CreateCompatibleDC(WndDC);
OldBmp := SelectObject(BmDC,FGlyph.Handle);
if Up then
  BitBlt(WndDC,Pos,VerticalOffSet,Width,CaptionHeight,bmDC,0,0,SRCCOPY)
else
  BitBlt(WndDC,Pos,VerticalOffSet,Width,CaptionHeight,bmDC,Width,0,SRCCOPY);
SelectObject(bmDC,OldBmp);
DeleteDC(bmDC);
ReleaseDC(ParentHandle,WndDC);
PosLeft := Pos;
PosRight := Pos+Width;
end;
```

TNCClickState

Declaration

TNCClickState = (csUp,csDown);

Description

Calls to LButton and RButton pass the state of the button concerned as either csUp or csDown.

RButton Method

Applies to

All NCComponents

Declaration

```
procedure RButton(ButtonState : TNCClickState); virtual;
```

Description

Every time the right mouse button is pressed or released this method is called. ButtonState is csUp if the button is now up (released) or csDown if now down (pressed).

The default method does nothing

See Also

[TNCComponent](#)



TNCBlank

TNCBlank adds a spacer of a selected Width to the caption bar. The spacer matches the colour of the title bar.

It is a descendant of TNCComponent and overrides the Create and RePaint methods of that class. Other than this it does nothing.

TNCBlank can be used as a spacer, or new classes can be derived from it. (e.g TNCLabel)



TNCLabel

[Property](#)s

[Method](#)s

TNCLabel is a text display component which allows messages to be placed on the Caption Bar.

A display area is created in which the Caption is displayed. The alignment of the Caption within this window depends on the value of the TextAlign property.



TNCClock

[Property](#)s

[Method](#)s

TNCClock is a descendant of TNCLabel. It creates a timer which it uses to periodically read the current Date and Time. This is then displayed on the caption bar.

The timer and therefore the display can be turned on or off by use of the [EnableTimer](#) and [DisableTimer](#) methods. In addition, you can choose whether date, time or both are displayed by changing the [Display](#) Property.

ParentState Method

Applies to

All NCComponents

Declaration

```
procedure ParentState(Active : boolean); virtual;
```

Description

The ParentState method is called by TNCForm each time the parent window changes activation state.

The default procedure sets the ParentActive property as appropriate.

You would not normally override this method, however it may be if necessary if processing was required when a window changed activation. (although TForm's OnActivate and OnDeactivate would normally be more appropriate).

LButtonDbIClk Method

Applies to

TNCComponent

Declaration

```
procedure LButtonDbIClk; virtual;
```

Description

Every time the left mouse button is double clicked this method is called.

The default method does nothing.

See Also

[TNCComponent](#)

RButtonDbIClk Method

Applies to

All NCComponents

Declaration

```
procedure RButton; virtual;
```

Description

Every time the right mouse button is double clicked this method is called.

The default method does nothing.

See Also

[TNCComponent](#)

OnClick Event

Applies to
TNCButton

Description

The TNCButton is a push button control. When you click the button an OnClick event is generated. If ButtonLock is True, the OnClick Event is generated when the button is locked down. When it is clicked again to release the lock, the OnUnClick Event is generated.

OnUnClick Event

Applies to
TNCButton

Description

This event is ONLY generated when the ButtonLock is True. When the button is locked down an OnClicked event is generated. When the button is clicked again to unlock it, the OnUnClick Event is generated.

ButtonLock Property

Applies to

TNCButton

Declaration

```
property ButtonLock : boolean;
```

Property Type

published

Description

TNCButton can operate in two modes. With ButtonLock set to false it acts like a normal Push Button, i.e click the button to cause an OnClick event which the program can act upon. If ButtonLock is set to True however, clicking causes the button to be locked down. Again, an OnClick event is generated. When the button is clicked again it now returns to the up position and an OnUnClick event is generated.

This function would typically be used as some form of on/off switch.

Glyph Property

Applies to

TNCButton

Declaration

property Glyph : TBitmap

Property Type

Published

Description

The Glyph property hold the bitmap which is used to draw the button in the up and down positions. It must be the height is the Caption Bar and have a width twice the width property. The buttons must be stored next to each other, as shown below



The buttons can be designed in any way you like, e.g. On/Off switch, but must conform to standard the TNCButton expects. Although the bitmap can be set at design time, if you were writing for a wide user base you may well wish to set the bitmap at run time, after determining the users system metrics.

See Also

Painting NCComponents

LButton Method

Applies to

TNCButton

Declaration

```
procedure LButton(ButtonState : TNCClickState); virtual;
```

Description

Every time the left mouse button is pressed or released this method is called. ButtonState is csUp if the button is now up (released) or csDown if now down (pressed).

LButton causes the Button to be repainted in it's new state then calls the OnClick or OnUnClick events as appropriate.

MouseMove Method

Applies to

TNCButton

Declaration

```
procedure MouseMove(MouseX, MouseY : integer); virtual;
```

Description

Once the left mouse button is pressed when the mouse pointer is over an NCComponent, this method is called every time the mouse is moved until the left mouse button is released.

MouseX and MouseY contain the screen co-ordinates of the pointer.

While the left mouse button is down, MouseMove checks to see whether the mouse has been move on to or off of the button and if so the button is repainted as appropriate.

RePaint Method

Applies to

TNCButton

Declaration

procedure RePaint; override;

Description

RePaint check whether the button is up or down, and whether ButtonLock is True or False, then paints the button as appropriate.

See Also

Painting NCComponents

TNCLabel Propertys

Caption

TextColor

TextAlign

BackgroundColor

ForceCaptionColor

Caption Property

Applies to

TNCLabel, TNCClock

Declaration

property Caption : TCaption;

Property Type

published

Description

Caption hold the text which is displayed in the by TNCLabel. The alignment of the text within the display area depends on the TextAlign property. In the TNCClock component, the caption is rewritten before display by the RePaint Method and is effectively, Read Only.

TTextAlign

Declaration

TTextAlign = (taLeft, taCenter, taRight);

Description

TTextAlign is used by TNCLabel to define where the text is displayed within the Components drawing area.

TextAlign Property

Applies to

TNCLabel

Declaration

property TextAlign : TTextAlign;

Property Type

published

Description

TextAlign defines how the Caption is displayed within the display area.

TextColor Property

Applies to

TNCLabel

Declaration

TextColor : TColor;

Property Type

published

Description

TextColor holds the color which the text of the TNCLabel will be drawn. The color will be the same regardless of whether the window is active or not. You can set the text colour to the normal caption colors by setting ForceCaptionColor to true. If you do this, the TextColor property is ignored at run time.

BackgroundColor Property

Applies to

TNCLabel

Declaration

BackgroundColor : TColor;

Property Type

published

Description

BackgroundColor holds the color which the background of the TNCLabel will be painted. The color will be the same regardless of whether the window is active or not. You can set the Background colour to the normal caption colors by setting ForceCaptionColor to true. If you do this, the BackgroundColor property is ignored at run time.

ForceCaptionColor Property

Applies to

TNCLabel

Declaration

ForceCaptionColor : boolean;

Property Type

published

Description

Normally the Text and Background of the NCComponent will be TextColor and BackgroundColor respectively. However, if ForceCaptionColor is true, the colours are the same as the normal caption bar i.e. clCaptionText and clActiveCaption. In addition, when the window becomes inactive, the colors change to clInactiveCaptionText and clInactiveCaption.

TNCLabel Methods

RePaint

RePaint Method

Applies to

TNCLabel

Declaration

procedure RePaint; override;

Description

RePaint is called by TNCForm every time an NCComponent needs to repaint itself. It is the responsibility of the component writer to ensure that repainting is done.

A TRect structure(the display area) is created in which the text is drawn. This area is CaptionHeight x Width in size. The position of the text within this Rect is given by the TextAlign Property. The text and background colours are given by TextColor and BackgroundColor respectively unless ForceCaptionColor is set to true, in which case the colours will match those of the caption bar, including any color changes when the window changes activation state.

See Also

Painting NCComponents

ParentActive Property

TNCClock Propertys

Display

TNCClock Methods

EnableTimer DisableTimer
RePaint

Display Property

Applies to

TNCClock

Declaration

property Display : DisplaySet

Property Type

published

Description

Sets the display to either date, time or date and time.

DisplaySet , DisplayType

Declaration

DisplaySet = set of DisplayType

DisplayType = [dtDate, dtTime];

Description

DisplaySet is used by the TNCClock component to control what is displayed by the component.

EnableTimer Method

Applies to

TNCClock

Declaration

```
procedure EnableTimer;
```

Description

When called the Date/Time timer is enabled, this switches the display of the date and/or time on.

DisableTimer Method

Applies to

TNCClock

Declaration

procedure DisableTimer;

Description

When called the Date/Time timer is Disabled, this switches the display of the date and/or time off

RePaint Method

Applies to

TNCClock

Declaration

procedure RePaint; override;

Description

RePaint is called by TNCForm every time an NCComponent needs to repaint itself. It is the responsibility of the component writer to ensure that repainting is done.

As the TNCClock component is a descendant of TNCLabel it uses the inherited RePaint Method. Before calling this method however, TNCClock sets the Caption to the desired Date and/or combination.

A TRect structure(the display area) is created in which the text is drawn. This area is CaptionHeight x Width in size. The position of the text within this Rect is given by the TextAlign Property. The text and background colours are given by TextColor and BackgroundColor respectively unless ForceCaptionColor is set to true, in which case the colours will match those of the caption bar, including any color changes when the window changes activation state.

See Also

Painting NCComponents

ParentActive Property

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First, the bad news. !

This package is supplied 'as is'. i.e. I do not accept any responsibility for subsequencial loss if it lays waste to your hard disc or does anything undesirable and if you make use of this package you do so entirely at your own risk.

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