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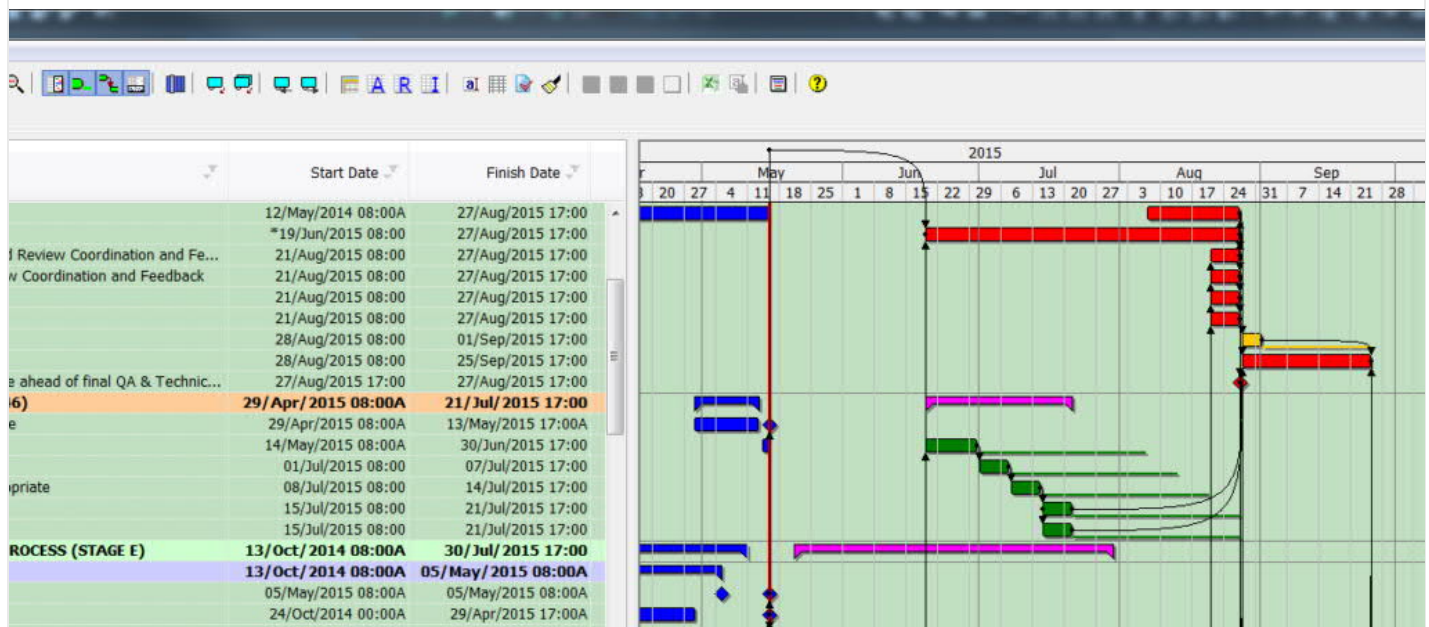
Clipping rendering on a TCanvas

By David | March 24, 2019

0 Comment

This is something I had to work out the other day to fix a change in the rendering of information in a Gantt chart after moving the rendering of relationships to the last stage.

I found that having the relationships drawn before the date grid made it difficult to follow relationships that were covered up by date lines (weeks, months or years) so I moved the rendering of the relationships to the end but found that it exposed another problem in that the date header for the Gantt chart was overwritten with relationships in some circumstances (this didn't show up before as the date header overwrote them).



Gantt chart WITH relationships drawn on top of the date header

The Gantt chart is rendered in a `TPaintBox` using a `TBitmap` to implement double buffering. I knew that I had seen `ClipRect` as a property of the `TCanvas` but found that it was read only 😞 However the help stated that you can change the `ClipRect` through a call to the Win32 API `SelectClipRgn()`. Once I had looked at how to use the function it became apparent why this property is read only as you need to create (and later destroy) a region.

Below is the code that clips the drawing rectangle to fix the above rendering issue:

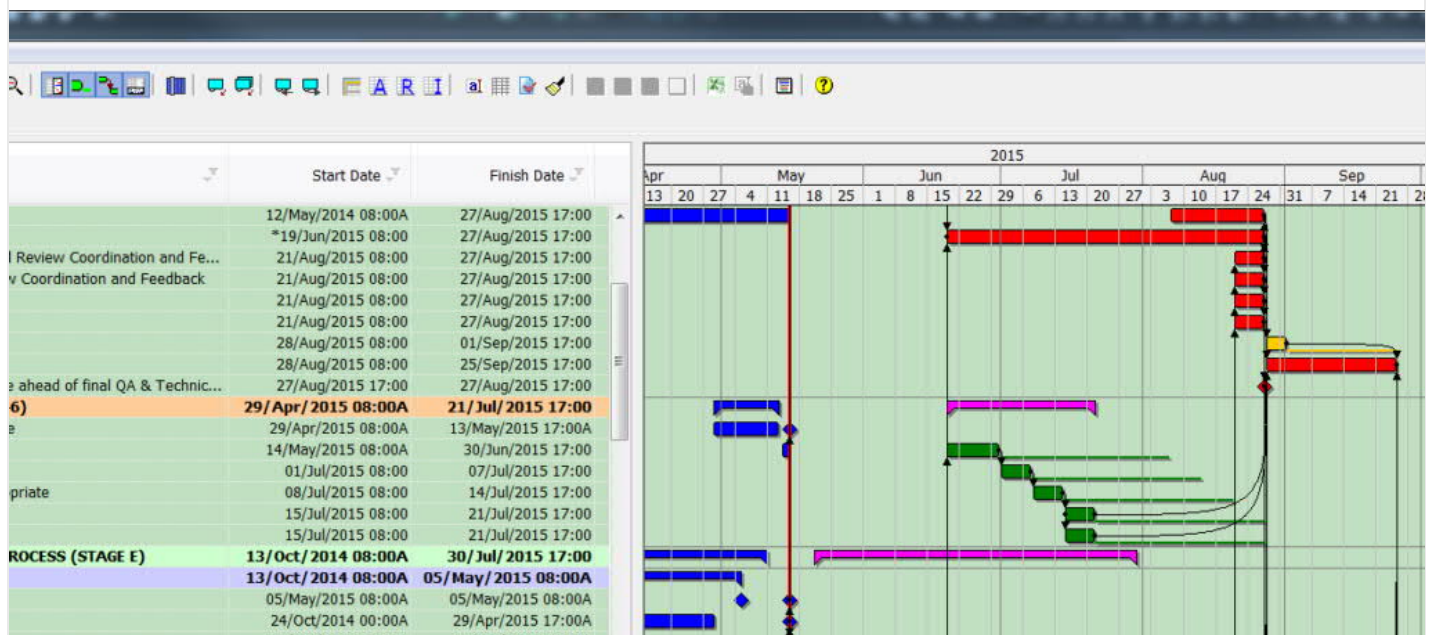
```

RenderHeader;
If goShowRelationships In FGanttOptions Then
Begin
    RegionHnd := CreateRectRgn(0, FVActivities.Header.Height, BM.Width, BM.Height);
    Try
        SelectClipRgn(BM.Canvas.Handle, RegionHnd);
        IterateRelationships;
    Finally
        DeleteObject(RegionHnd);
    End;
End;
FGanttPaintBox.Canvas.CopyRect(FRect, FCanvas, FRect);

```

Before you can use `SelectClipRgn()` you need to create a region with the `CreateRectRgn()` Win32 API which takes the `Left`, `Top`, `Width` and `Height` of the rectangle to create and does not return a `TRect` but a handle to a region which you must use later on to dispose of the region. Once you have the region handle you can call the `SelectClipRgn()` function with the handle of the `TCanvas` and the handle of the region. Once you have done this, rendering is restricted to that rectangle until you change it. Since this is the last rendering operation I do I don't need to change the clipping rectangle again, just dispose of the region with `DeleteObject()`.

I now get the following when rendering the Gantt chart.



Gantt chart without relationships drawn on top of the date header

Hopefully other find this useful for when working with `TCanvas` renderings.

regards
Dave

Category: Delphi RAD Studio Tags: ClipRect, CreateRectRgn, DeleteObject, SelectClipRgn, TCanvas

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