

Form Controls Improvements

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Collabora
Online

Technical Day
COOL
—days—



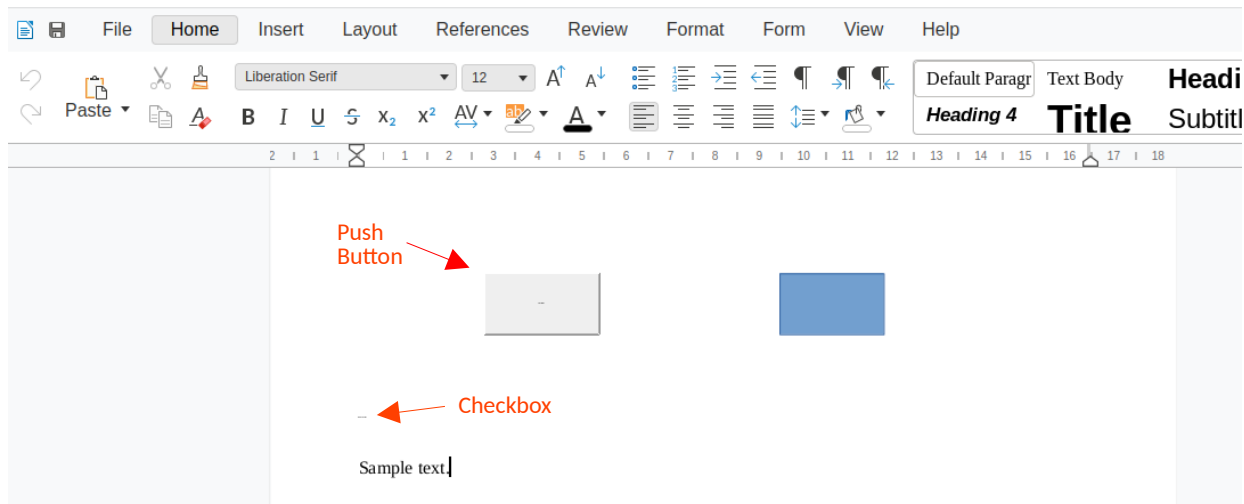
LibreOffice Technology





Control rendering improvements

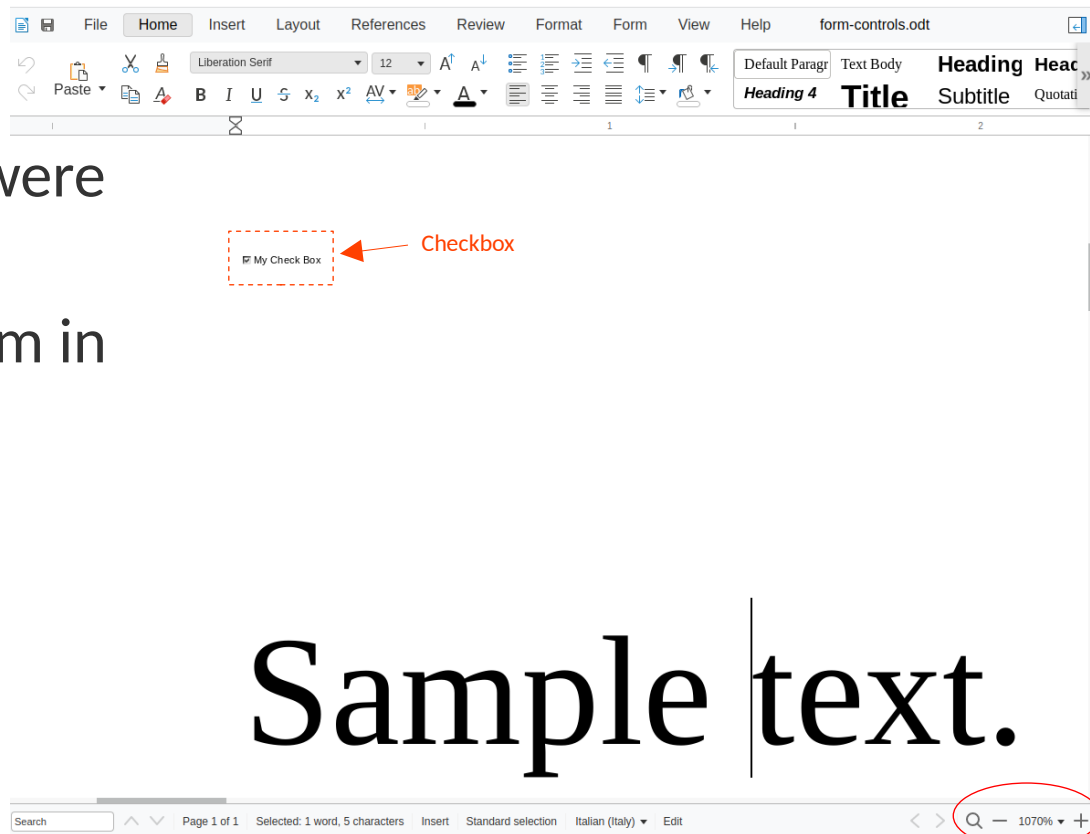
- Form controls supported in Calc (Thanks Tomaž!)
- In Writer and Impress the situation was not very good
- Control labels were missing
- In Writer check boxes were not rendered





Almost missing labels

- Well, indeed labels were not really missing ...
- You just need to zoom in
- At 1000 zoom level!
- Wrong scaling factor used





More on scaling factor

- Wrong scaling was not affecting only the rendering
- Height of `maMouseRect` CheckBox property was just 1 pixel

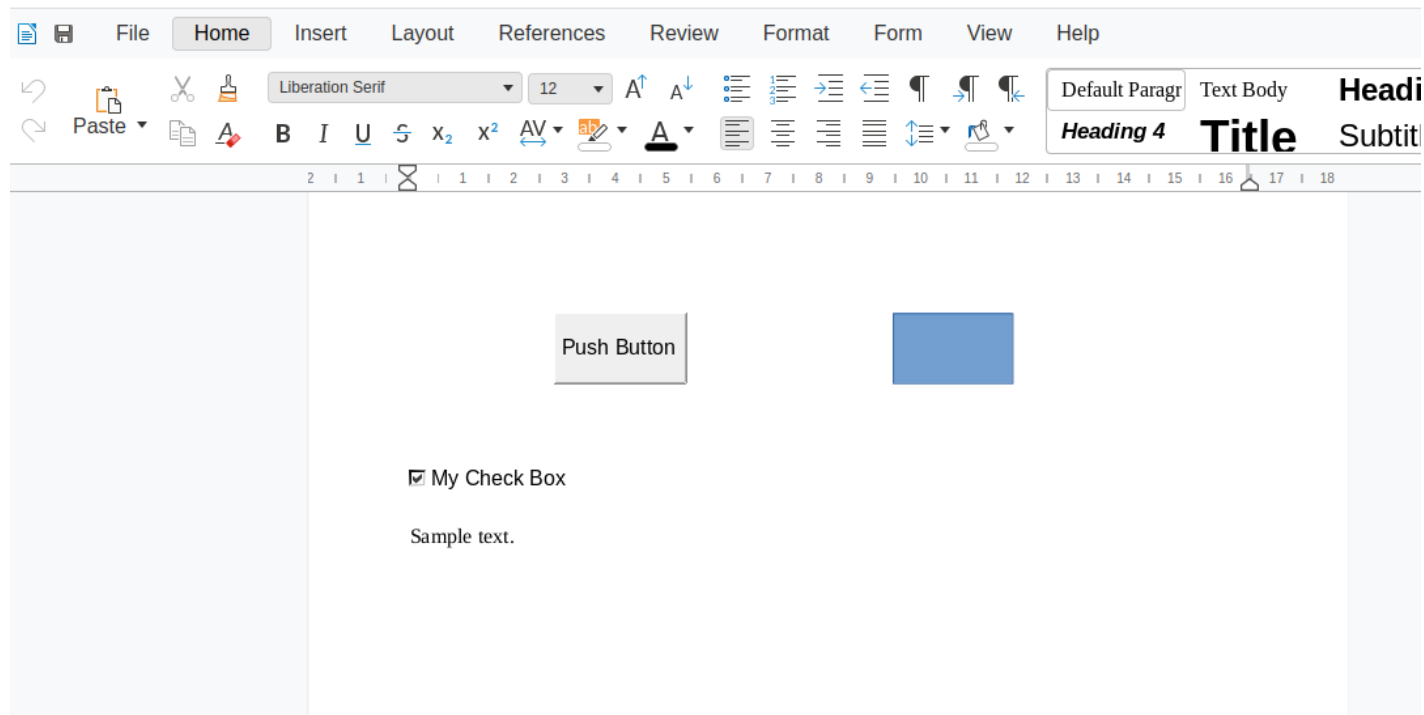
```
void CheckBox::MouseButtonDown( const MouseEvent& rMEvt )  
{  
    if ( rMEvt.IsLeft() && maMouseRect.Contains( rMEvt.GetPosPixel() ) )  
    {  
        GetButtonState() |= DrawButtonFlags::Pressed;  
        Invalidate();  
        StartTracking();  
        return;  
    }  
  
    Button::MouseButtonDown( rMEvt );  
}
```





Correct rendering

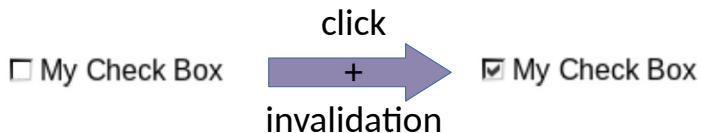
- Some debug sessions later ...





Further Fixing

- Forwarding mouse events from Online to the control
- Adapted Tomaz's Calc implementation
- Control state changes didn't trigger tile invalidation
- Control::LogicInvalidate fixes missing invalidations



```
void Control::LogicInvalidate(const tools::Rectangle* pRectangle)
{
    // avoid endless paint/invalidate loop in Impress
    if (comphelper::LibreOfficeKit::isTiledPainting())
        return;

    VclPtr<vcl::Window> pParent = GetParentWithLOKNotifier();
    if (!pParent)
        return;

    // invalidate only controls that belong to a DocWindow
    if (!dynamic_cast<vcl::DocWindow*>(GetParent()))
        return;

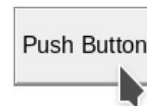
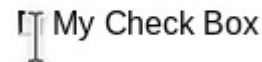
    tools::Rectangle aResultRectangle;
    if (!pRectangle)
    {
        // we have to invalidate the whole control area not the whole document
        aResultRectangle = tools::Rectangle(GetPosPixel(), GetSizePixel());
    }
    else
    {
        aResultRectangle = *pRectangle;
    }

    aResultRectangle = PixelToLogic(aResultRectangle, MapMode(MapUnit::MapTwip));
    pParent->GetLOKNotifier()->notifyInvalidation(&aResultRectangle);
}
```



Pointer Style

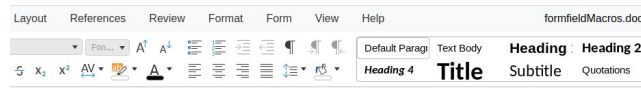
- In Writer the pointer was always an I-beam
- Interact with controls was not very comfortable
- Notification of mouse pointer messages didn't work
- Now mouse pointer style is often the same as in desktop





- Support for VBA macros greatly improved (Thanks Justin!)
- Sample VBA script: checkboxes sincronization

```
Private Sub CheckBox1_Click()  
  
ActiveDocument.CheckBox2.Value = ActiveDocument.CheckBox1.Value  
WordBasic.MsgBox ("Checkbox1.click")  
  
End Sub
```



keep in sync with

☐ CheckBox2

CommandButton1



keep in sync with

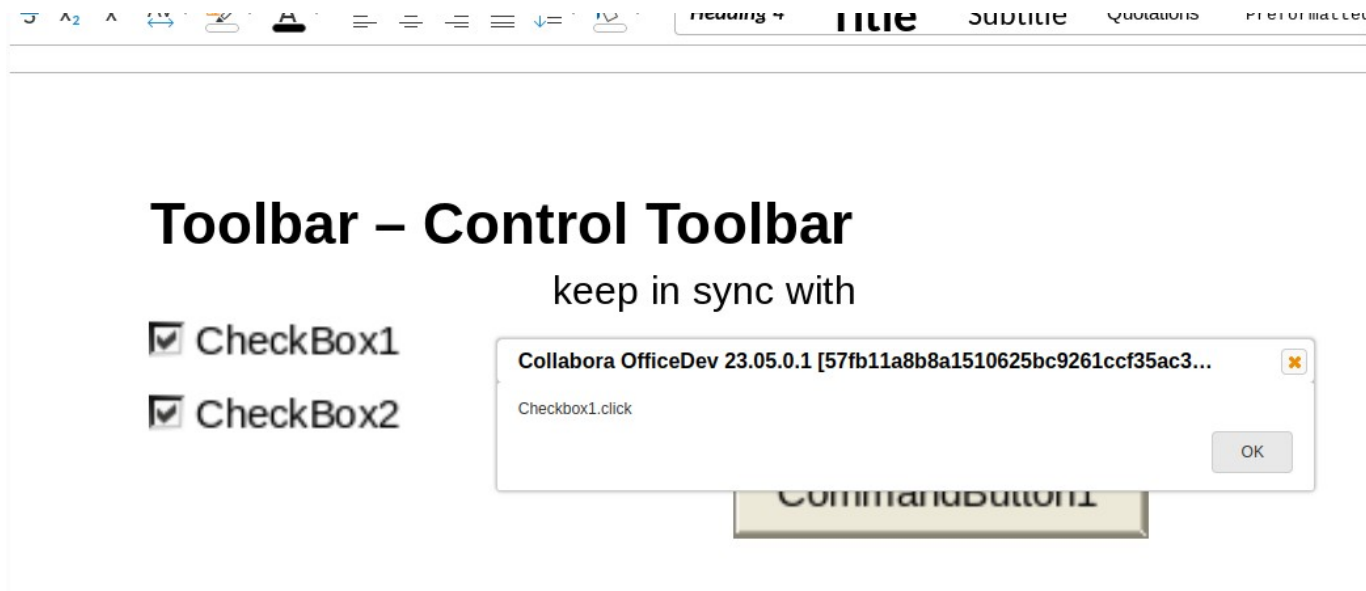
☒ CheckBox2

CommandButton1



MsgBox Command

- **WordBasic.MsgBox** causing assertion failure
- Lok-notifier for the message dialog not initialized
- VBA script needs to be paused on **MsgBox** execution



Thank you!

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