
Subject: How would I virtualize a scrollable view to dynamically load Ctrls?

Posted by [jjacksonRIAB](#) on Thu, 19 May 2022 17:07:35 GMT

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Quick example:

```
#include <CtrlLib/CtrlLib.h>

using namespace Upp;

struct App : TopWindow {
    ScrollBar sb;
    Array<RichTextCtrl> items;

    int GetLineHeight() {
        return 25;
    }

    void Sync() {
        int startY = 10;
        Rect pr = GetRect();
        auto sz = GetSize();

        for(RichTextCtrl& item : items) {
            Rect r = item.GetRect();

            item.SetRect(r.left, startY - sb, pr.GetWidth(), item.GetHeight(sz.cx));
            startY += r.GetHeight() + 5;
        }

        sb.SetTotal(startY);
    }

    void Paint(Draw& w) override {
        Size sz = GetSize();
        w.DrawRect(sz, SWhite());
        Sync();
    }

    void Layout() override {
        sb.SetPage(GetSize().cy);
    }

    void MouseWheel(Point, int zdelta, dword) override {
        sb.Wheel(zdelta);
    }
}
```

```

bool Key(dword key, int) override {
    return sb.VertKey(key);
}

App() {
    Sizeable().Zoomable();

    for(int i = 0; i < 1000; i++) {
        RichTextCtrl& item = items.Create<RichTextCtrl>();

        item.SetData(
            Format(
                "[@(%d.%d.%d) Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do
eiusmod tempor incididunt ut labore et "
                "dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco
laboris nisi ut aliquip "
                "ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit
esse cillum dolore eu "
                "fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui
officia deserunt "
                "mollit anim id est laborum.]",
                (int)Random(255), (int)Random(255), (int)Random(255)
            );

        item.SetZoom(Zoom(1, 1));
        item.HSizePos(0, 0).VSizePos(0, 0);
        item.SetRect(0, 0, 0, item.GetHeight(250));
        item.IgnoreMouse();

        Add(item);
    }

    Sync();

    sb.Enable();
    sb.WhenScroll = [this] { Sync(); };
    sb.SetLine(GetLineHeight());
    AddFrame(sb);
}
};

GUI_APP_MAIN {
    App app;
    app.SetRect(0, 0, 250, 500);
    app.Run();
}

```

I don't know if there is any facility built into U++ for this already but I'd like to dynamically load and unload a bunch ofCtrls as I scroll (web equivalent a virtual scroller) so that I don't have a bunch of redraws ofCtrls that aren't visible in the view. As you can see from the example it can get quite expensive to resize the window if it has thousands of controls.

How would I accomplish this?
