

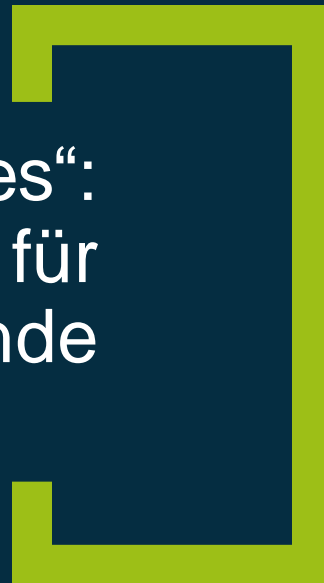


Break-Out-Session | 16:00 Uhr

eNVenta für „Techies“: Framework Studio für Entwickelnde



A member of
enventa
GROUP





```
... = this.oSalesOrder.oDe...
...OrderAmountOpen = this.oSalesOrder.de...
...cus.deCreditLimit = this.oSalesOrder.oCreditLim...
...KStatus.decOpenCreditExclCurrentOrder = this.oSalesOrder...
...project )

editLimitCheckStatus.sCreditLimitType = (this.oSalesOrder.oCreditLimit.bCl...

...er.oCreditLimitCheckStatus.sCreditLimitType = (this.oSalesOrder.oCreditLimit.bClerkSpec...
...ListForBilling IcdSalesOrderDetail CheckOutIagreeSCon X
...ListIntegrity tract(out bool bOutOfTimeP, out bool b
...eCreditLimit OutIagreeDetailClosedP, out bool bOutI
...sterCostsTaxCodes AgreeOverDeliveredP)
...nStockLevel)

OutIagreeSContract This method checks for each sales order detail of
...OutIagreeDetailQuantities current SalesOrderDetailColl. If it is assigned to a
...SalesDocPrintingRestrictions OA-Call. If this is the case, a further checks decide. this.Glob
...SalesOrderForOrderCompletion if the contract assigned is out of date (a), the
...MasterCosts outline agree sales order detail's status is already
... onArticleItems closed (b) or if the total quantity of the
... using Kreditlimitvarianten corresponding OA-Detail will be exceeded (c).
... CreditLimit(ctCredLimCheckEventFactory.CLERK, false, out bDoExtSave )

done because CL has been exceeded
...r.shtCreditLimitBlocked = 1;
...oCreditLimitCheckStatus.sCommentText = String.Format(FSGeneral.ctMessagesFactory.GetText(
...FSGeneral.ctMessagesFactory.GetText(this.Global,3843),new object []{}));

...tCheckStatus.sCommentText = String.Format(FSGeneral.ctMessagesFactory
```

Monaco und das Web in .NET

Dominik Rebitzer

AGENDA



1

Was ist Monaco?

Technischer Überblick

2

Integration in FS

Wie kompliziert ist es?

3

Performance

Wie langsam ist JavaScript wirklich?

4

Fazit

Gute Idee oder nur Schnickschnack?



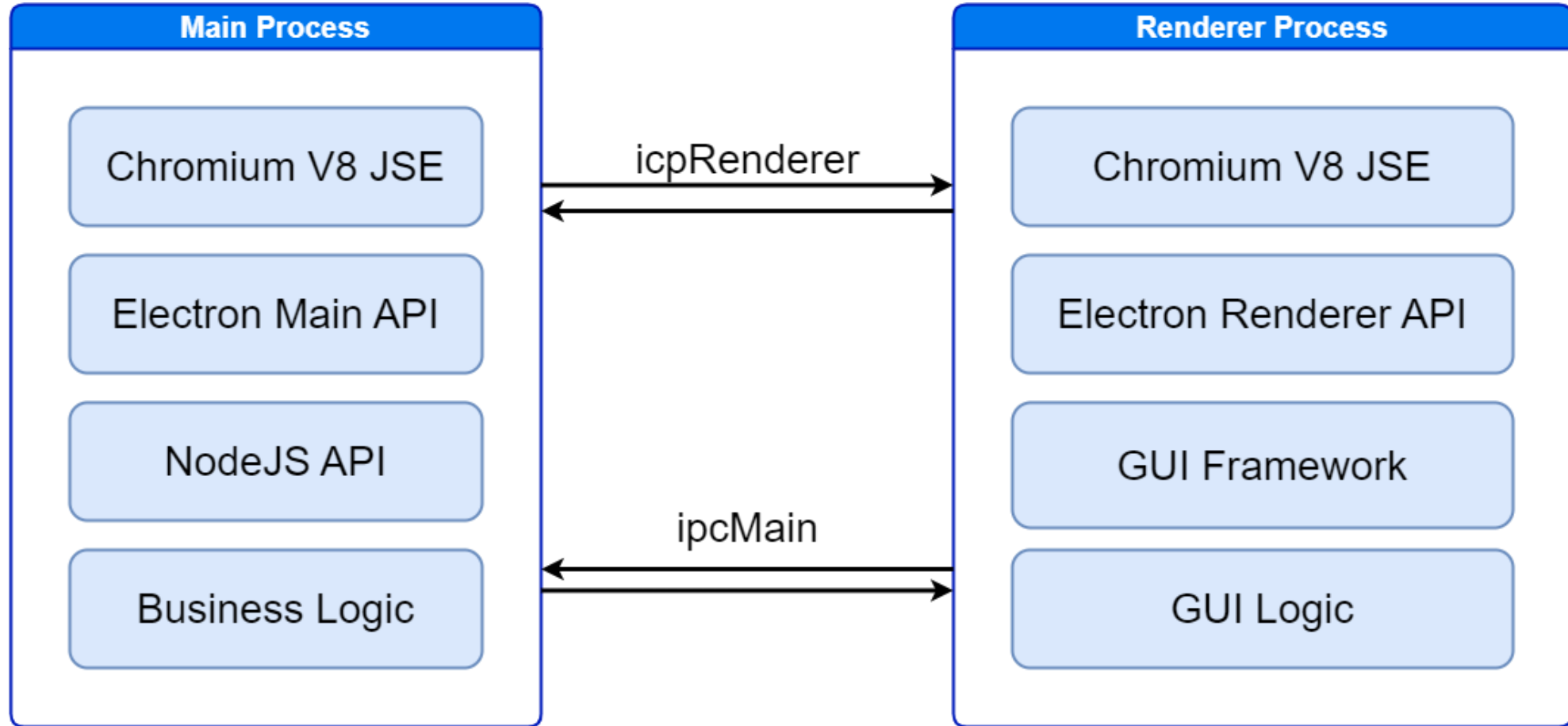
Was ist Monaco?

```
File Edit Selection View Go Run Terminal Help FS
EXPLORER
OPEN EDITORS
monaco.component.ts src/app/monaco
FS
.angular
.vscode
dist
node_modules
src
app
monaco
languages
model
services
types
monaco-bridge-client.ts
monaco-bridge-server.ts
monaco.component.ts
monaco.module.ts
monaco.routing.ts
monaco.workarounds.ts
app.component.html
app.component.scss
app.component.spec.ts
app.component.ts
app.module.ts
app.routing.ts
app.types.d.ts
ext
scss
favicon.ico
index.html
init.ts
TS monaco.component.ts X
src > app > monaco > TS monaco.component.ts > MonacoComponent > attachEvents
394
395 public setActionState(state: MonacoActionState): void {
396     if (this._canCut != null) {
397         this._canCut.set(state.canCut);
398     }
399
400     if (this._canPaste != null) {
401         this._canPaste.set(state.canPaste);
402     }
403 }
404
405 public focus(): void {
406     if (this._editor == null) {
407         return;
408     }
409     this._editor.focus();
410 }
411
412 public getPosition(): MonacoPosition {
413     const defaultPosition: MonacoPosition = {
414         line: 1,
415         column: 1,
416         offset: 0
417     };
418
419     if (this._cursorPosition == null || this._editor == null) {
420         return defaultPosition;
421     }
422 }
423
424 const model: monaco.editor.ITextModel | null = this._editor.getModel();
425
426 if (model == null) {
427     return defaultPosition;
428 }
```

Ln 312, Col 1 Spaces: 2 UTF-8 CRLF TypeScript

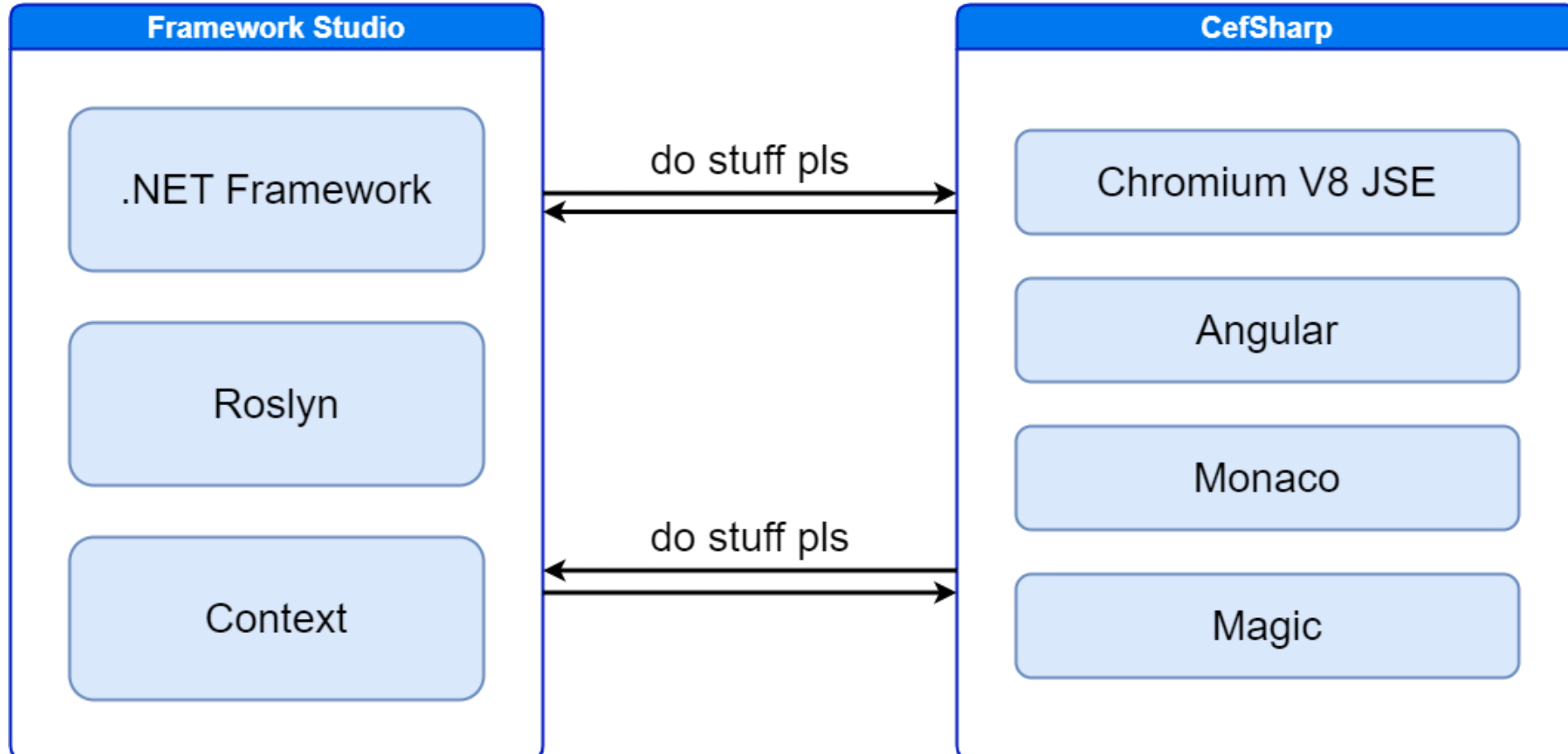


Electron Desktop App



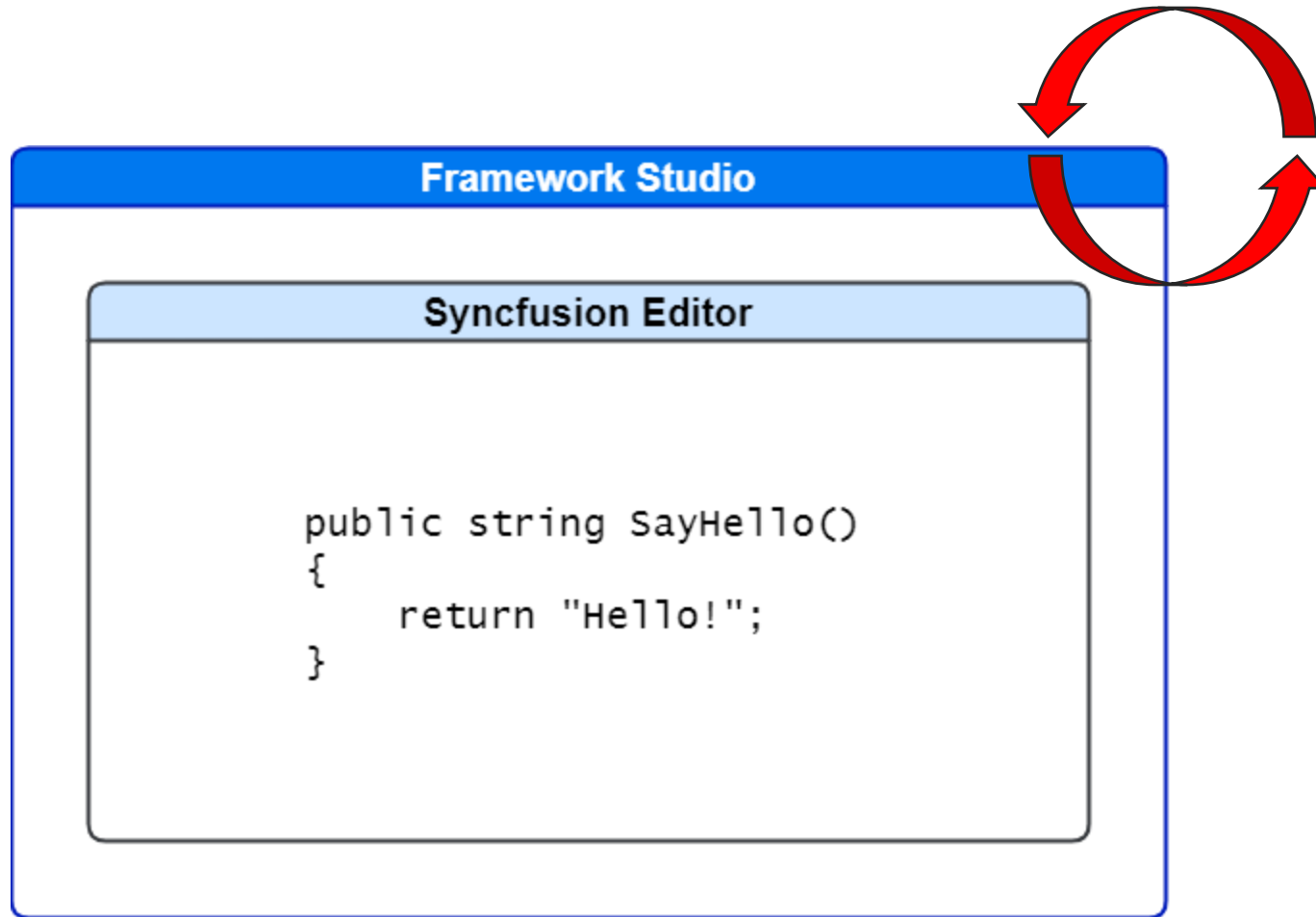


Das können wir auch... irgendwie...





Wie war es bisher?

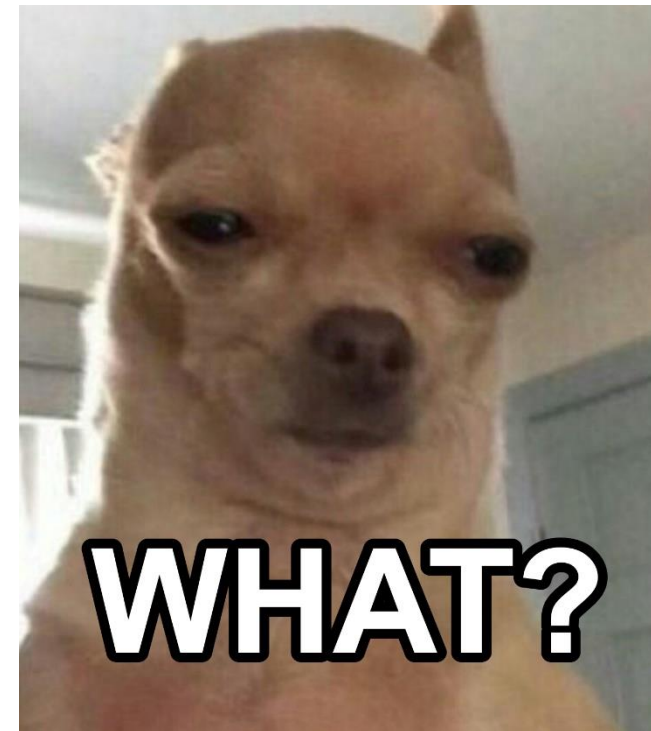
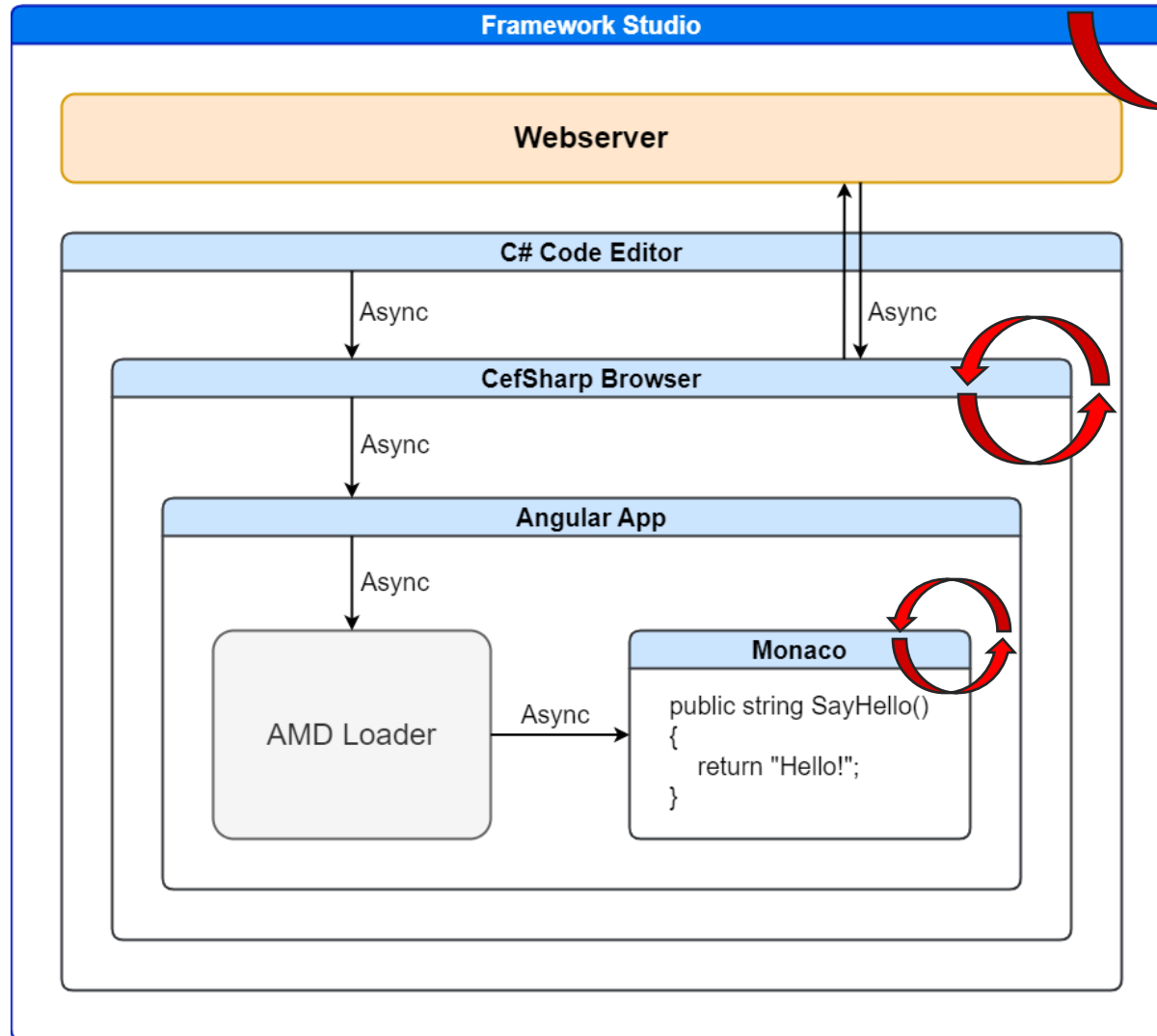


- Windows Forms
- Synchroner Code
- 1 Thread
- 1 Eventloop





Wie ist es jetzt?





Performance

- Runtime Setup
- Runtime Performance
- Runtime Memory Management
 - Object Creation
 - Garbage Collection
- Rendering
 - Bitmap
 - Text



Primzahlen bis 500.000

C#

```
int limit = 500000;

for (int i = 0; i < limit; i++)
{
    isPrime(i);
}

static bool isPrime(int n)
{
    if (n == 0 || n == 1)
    {
        return false;
    }

    for (int i = 2; i < n; i++)
    {
        if (n % i == 0)
        {
            return false;
        }
    }

    return true;
}
```

JavaScript

```
const limit = 500000;

for (let i = 0; i < limit; i++) {
    isPrime(i)
}

function isPrime(n) {
    if (n === 0 || n === 1) {
        return false;
    }

    for (let i = 2; i < n; i++) {
        if (n % i === 0) {
            return false;
        }
    }

    return true;
}
```

Python

```
def isPrime(n):
    if(n==0 or n==1):
        return False

    for i in range(2,n):
        if(n%i==0):
            return False

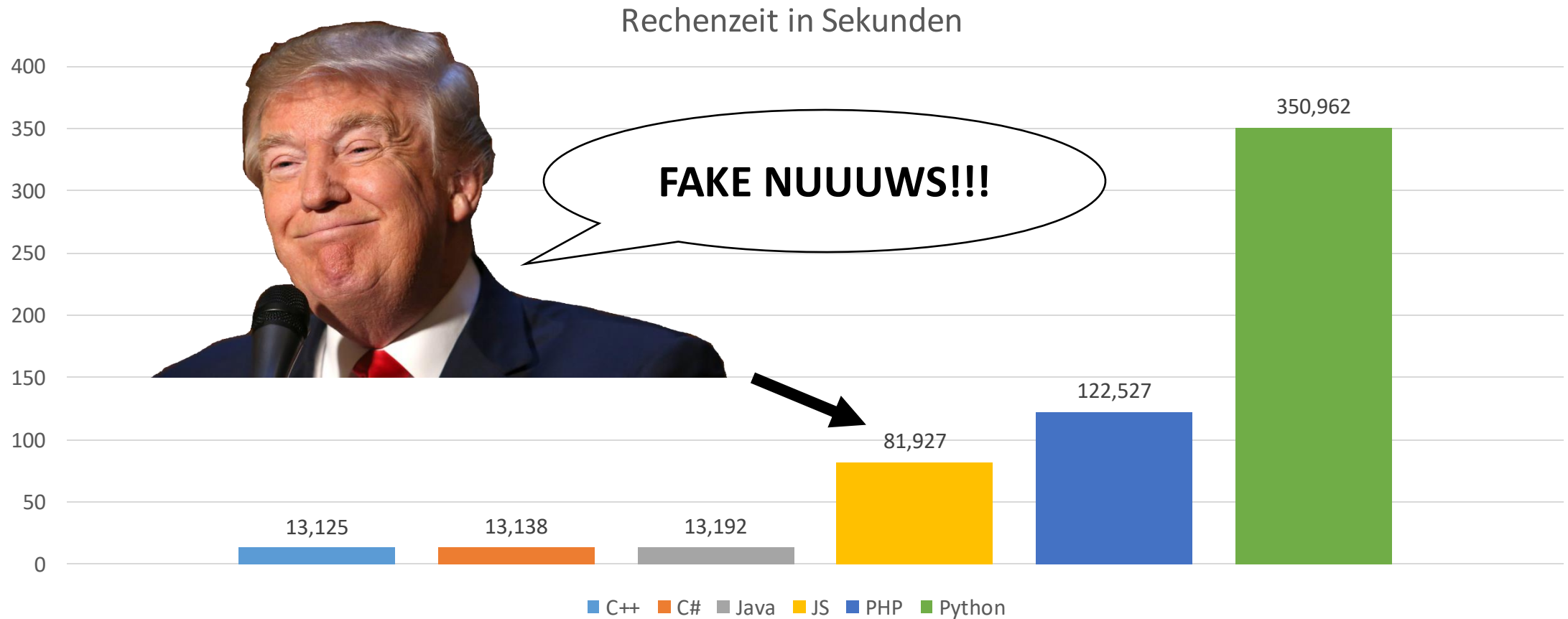
    return True

limit = 500000

for i in range(0, limit - 1):
    isPrime(i)
```

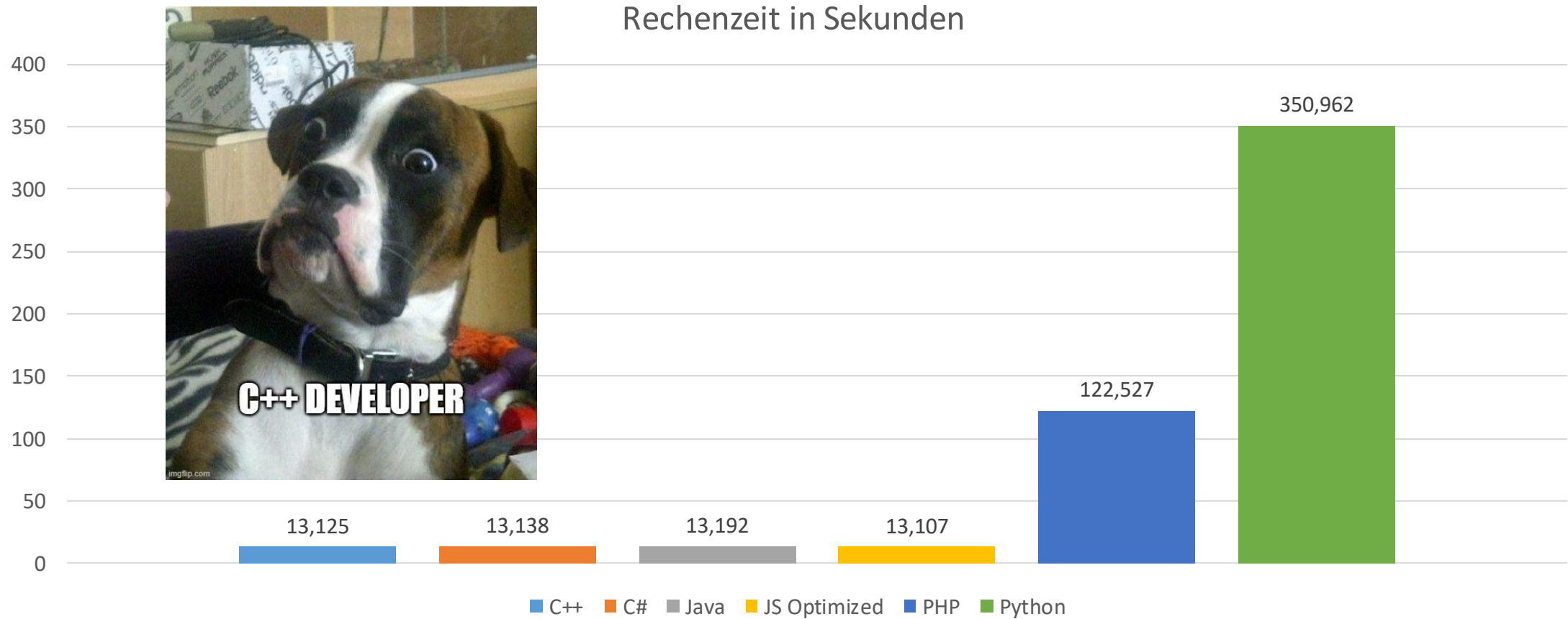


Primzahlen bis 500.000





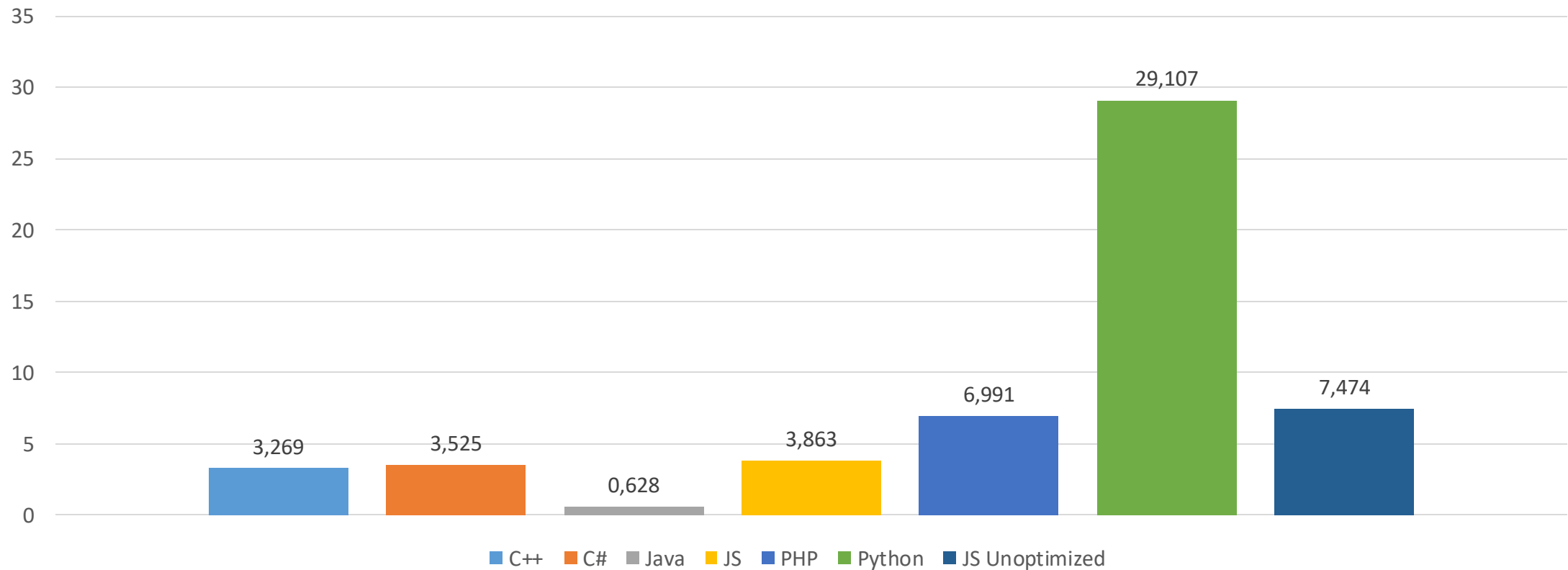
Primzahlen bis 500.000





60.000.000 Objekte & Garbage Collection

Rechenzeit in Sekunden



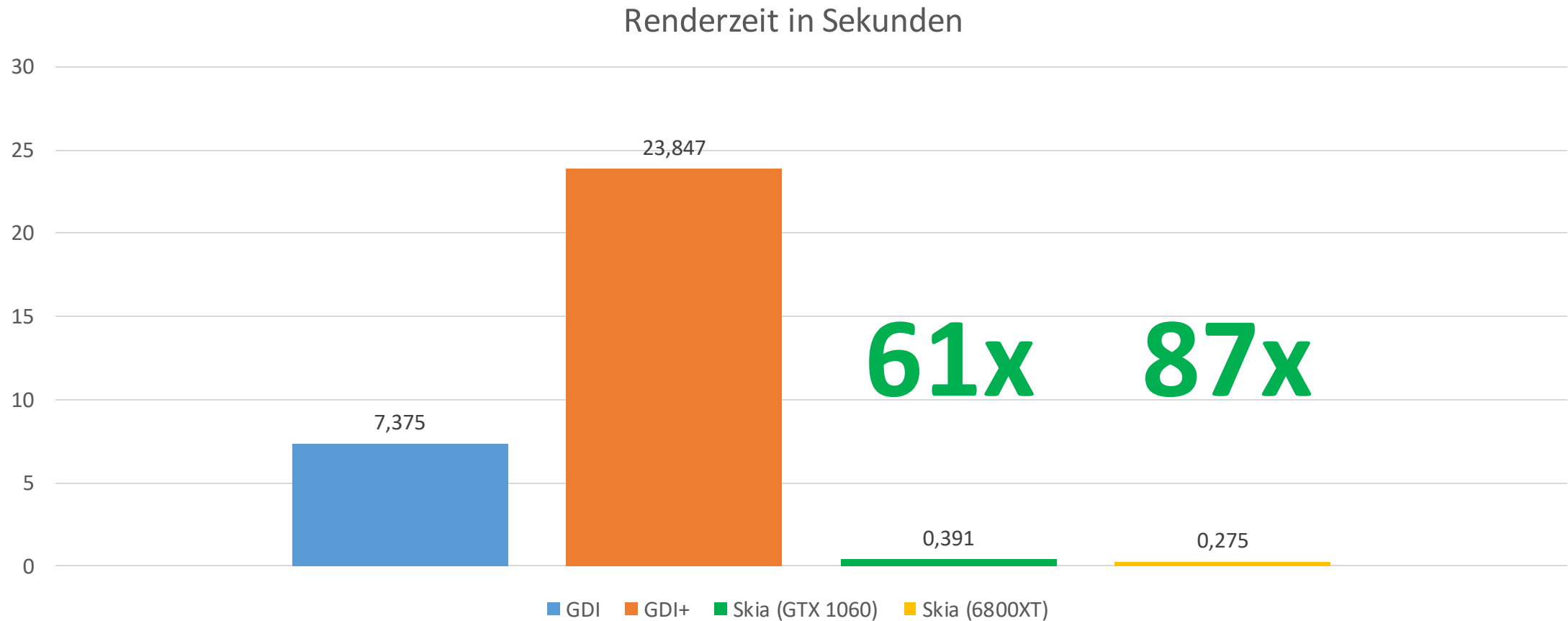


Text Rendering

- Windows Forms nutzt GDI oder GDI+
 - TextRenderer.DrawText() → GDI
 - Graphics.DrawString() → GDI+
- Windows API / Software Renderer
- Chromium nutzt Skia mit OpenGL oder Vulkan
 - Grafiktreiber / Hardwarebeschleunigt



Text Rendering - Draw "Hello" 100.000x





Fazit

- Reine Runtime Benchmarks für Client-Applikationen sind Quatsch
- JavaScript hat den schlechten Ruf nicht mehr verdient
- Monaco ist ca. **[insert random number]** schneller als der alte Code Editor
- Wir profitieren von kontinuierlichen Updates und neuen Features in Monaco
- Teile von FS können zukünftig mit Webtechnologie implementiert werden
- Wir können aus der langsamen GDI/GDI+ Welt ausbrechen
- Wir haben das gesamte Toolset des Webs zur Verfügung
- Keine Abhängigkeit vom installierten Browser

Der neue JxBrowser im JavaClient ist dasselbe wie CefSharp...
denken Sie mal drüber nach ;)



Vielen Dank für Ihre Aufmerksamkeit

Blieben Sie bestens
informiert und folgen
Sie uns auf LinkedIn.

