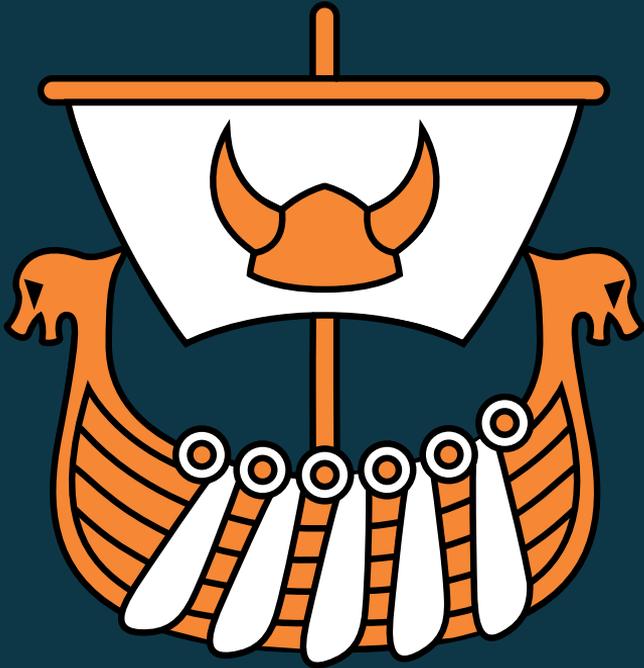


DIALOG

Belfast 2018



TamStat 2018

Michael Baas, Stephen Mansour

Agenda

- 2 Screens old/new (optionally 3!)
- Challenges / Lessons learned



Disclaimer



Disclaimer

- I am showing MiServer, but there's more!



Disclaimer

- I am showing MiServer, but there's more!
- TamStat will run in DUI!



Disclaimer

- I am showing MiServer, but there's more!
- But it's not all!



Disclaimer

- I am showing MiServer, but there's more!
- But it's not all!
- 6/10 Wizards



Disclaimer

- I am showing MiServer, but there's more!
- But it's not all!
- Personal message to the russian delegation and Mr. Rivers: joking is the sincerest form of flattery ;-)



Up the mountain



Up the mountain

- Summary Wizard



Up the mountain

- Summary Wizard
 - „sum z“ for mouse-pushers!



Up the mountain

- Summary Wizard
 - „sum z“ for mouse-pushers!

Quantity	Center	Spread	Position	Shape
<input checked="" type="checkbox"/> count	<input checked="" type="checkbox"/> mean	<input type="checkbox"/> var	<input checked="" type="checkbox"/> min	<input type="checkbox"/> skewness
<input type="checkbox"/> sum	<input checked="" type="checkbox"/> median	<input checked="" type="checkbox"/> sdev	<input checked="" type="checkbox"/> 1 quartile	<input type="checkbox"/> kurtosis
<input type="checkbox"/> sumSquares	<input type="checkbox"/> mode	<input type="checkbox"/> range	<input checked="" type="checkbox"/> 3 quartile	
<input type="checkbox"/> product	<input checked="" type="checkbox"/> stdErr	<input type="checkbox"/> iqr	<input checked="" type="checkbox"/> max	



Up the mountain

- Summary Wizard
 - „sum z“ for mouse-pushers!

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<input type="checkbox"/> product	<input checked="" type="checkbox"/> stdErr	<input type="checkbox"/> iqr	<input checked="" type="checkbox"/> max	

Contents of #.TamStat.Summary (Global Scope)

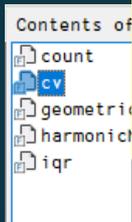
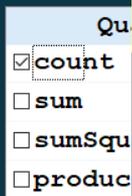
<input type="checkbox"/> count	<input type="checkbox"/> kurtosis	<input type="checkbox"/> mode	<input type="checkbox"/> product	<input type="checkbox"/> skewness	<input type="checkbox"/> sumProduct
<input checked="" type="checkbox"/> cv	<input type="checkbox"/> max	<input type="checkbox"/> percent	<input type="checkbox"/> proportion	<input type="checkbox"/> standardDeviation	<input type="checkbox"/> sumSquares
<input type="checkbox"/> geometricMean	<input type="checkbox"/> mean	<input type="checkbox"/> percentRank	<input type="checkbox"/> quartile	<input type="checkbox"/> stats	<input type="checkbox"/> var
<input type="checkbox"/> harmonicMean	<input type="checkbox"/> median	<input type="checkbox"/> percentile	<input type="checkbox"/> range	<input type="checkbox"/> stdErr	<input type="checkbox"/> variance
<input type="checkbox"/> iqr	<input type="checkbox"/> min	<input type="checkbox"/> percentileRank	<input type="checkbox"/> sdev	<input type="checkbox"/> sum	<input type="checkbox"/> zScore



Up to

- Sum
-

Long- Winded Joke!



Up to

- Sum
 -
 -

Qu

count

sum

sumSqu

produc

Contents of

- count
- cv
- geometric
- harmonic
- iqr

Long- Winded Joke!



Up the mountain

- Summary Wizard
 - „sum z“ for mouse-pushers!
 - Demo

Quantity	Center	Spread	Position	Shape
<input checked="" type="checkbox"/> count	<input checked="" type="checkbox"/> mean	<input type="checkbox"/> var	<input checked="" type="checkbox"/> min	<input type="checkbox"/> skewness
<input type="checkbox"/> sum	<input checked="" type="checkbox"/> median	<input checked="" type="checkbox"/> sdev	<input checked="" type="checkbox"/> 1 quartile	<input type="checkbox"/> kurtosis
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Uncertainty & desire for flexibility



Uncertainty & desire for flexibility

```
{ "desc": "Measures of Position",  
  "title": "position",  
  "fns": [  
    { "fn": "min "},  
    { "fn": "1 quartile"},  
    { "fn": "3 quartile"},  
    { "fn": "max"}  
  ]  
}
```



Uncertainty & desire for flexibility

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{ "desc": "Measures of Position",  
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    { "fn": "3 quartile"},  
    { "fn": "max"}  
  ]  
}
```

```
{ "desc": "Measures of spread",  
  "title": "spread",  
  "fns": [  
    { "fn": "range", "defaultSelectState": false},  
    { "fn": "sdev"},  
    { "fn": "var", "defaultSelectState": false},  
    { "desc": "Interquartile range", "fn": "iqr", "defaultSelectState": false}  
  ]  
},
```



Uncertainty & desire for flexibility

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{ "desc": "Measures of Position",  
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    { "fn": "3 quartile"},  
    { "fn": "max"}  
  ]  
}
```

```
sw←JSON1>nget #.Boot.AppRoot,'assets/sumwiz.json'
```

```
{ "desc": "Measures of spread",  
  "title": "spread",  
  "fns": [  
    { "fn": "range", "defaultSelectState": false},  
    { "fn": "sdev"},  
    { "fn": "var", "defaultSelectState": false},  
    { "desc": "Interquartile range", "fn": "iqr", "defaultSelectState": false}  
  ]  
},
```



Uncertainty & desire for flexibility

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  ]
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```

```
sw←JSON1>nget #.Boot.AppRoot,'assets/sumwiz.json'
```

```
sw.fns.defaultSelectState←{{6::_true ◊
ω.defaultSelectState}ω.fns}sw
```

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  ]
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```



Uncertainty & desire for flexibility

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    {"fn": "3 quartile"},
    {"fn": "max"}
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}
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```
sw.fns.defaultSelectState←{{6::_true}
ω.defaultSelectState}ω.fns}sw
```

```
sw.fns.desc←{{6:: ω.fn}ω.desc}ω.fns}sw
```

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{
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  "fns": [
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    {"fn": "sdev"},
    {"fn": "var", "defaultSelectState": false},
    {"desc": "Interquartile range", "fn": "iqr", "defaultSelectState": false}
  ]
},
```



Uncertainty & desire for flexibility

- | ❤️



Uncertainty & desire for flexibility



Uncertainty & desire for flexibility

- I ❤️ .json & JSON



Uncertainty & desire for flexibility

- I ❤️ .json & JSON
- 1st learning: use JSON.



Uncertainty & desire for flexibility

- I ❤️ `.json` & `JSON`
- 1st learning: use `JSON`.
- 2nd learning: separate code & UI.



Uncertainty & desire for flexibility

- I ❤️ .json & JSON
- 1st learning: use JSON.
- 2nd learning: separate code & UI.
- 3d learning: avoid hardcoded lists.
(There is a chance a russian may come along and extend them! 😊)



2nd screen



2nd screen

- Confidence Interval Wizard



2nd screen

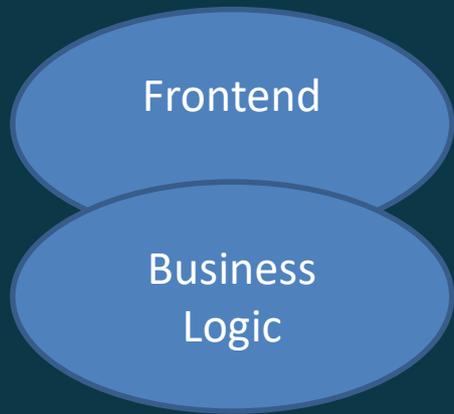
- Confidence Interval Wizard
- „deeply learned“ to separate code & application



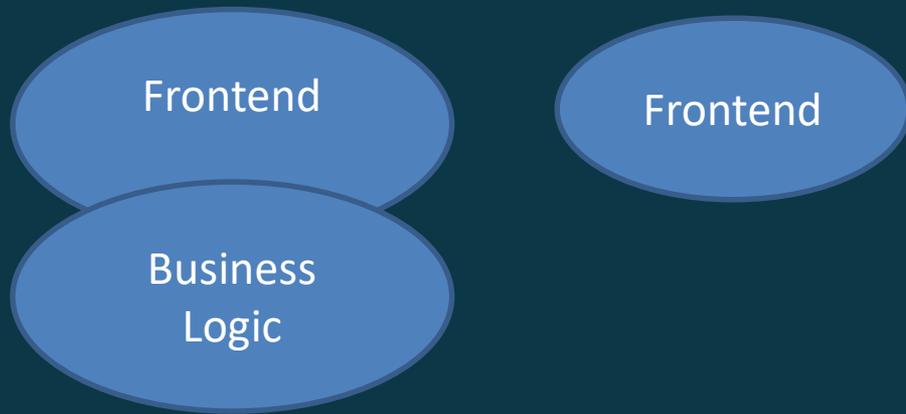
Separate Code from your UI



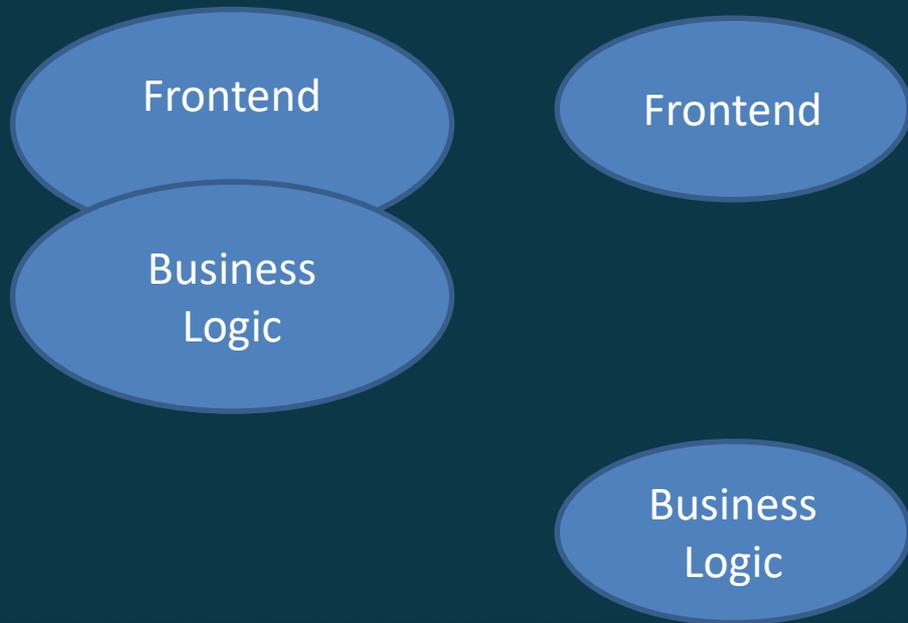
Separate Code from your UI



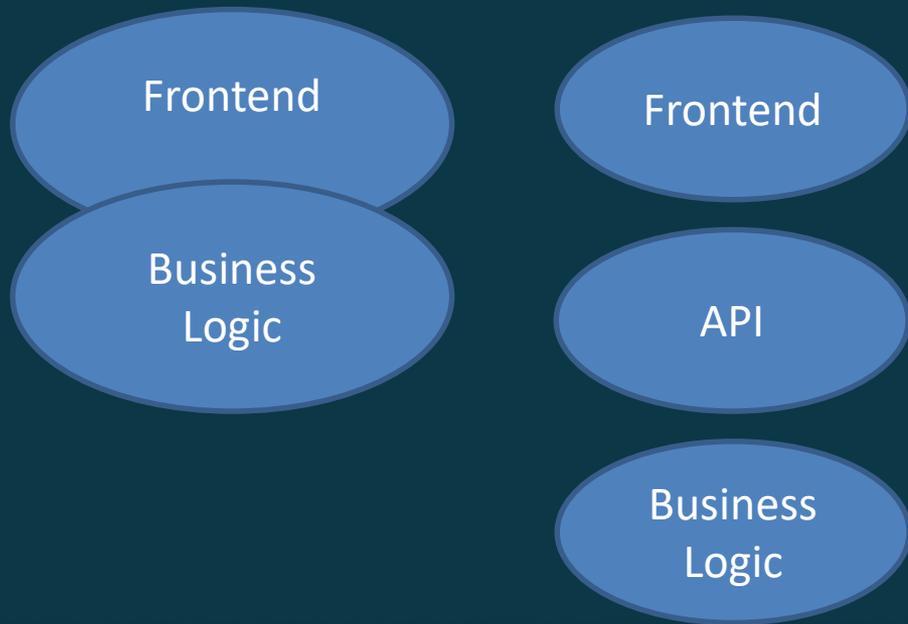
Separate Code from your UI



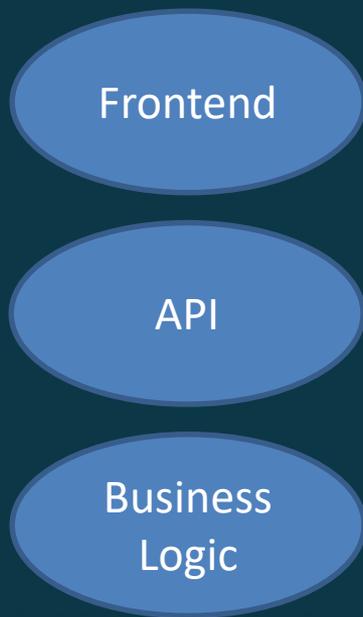
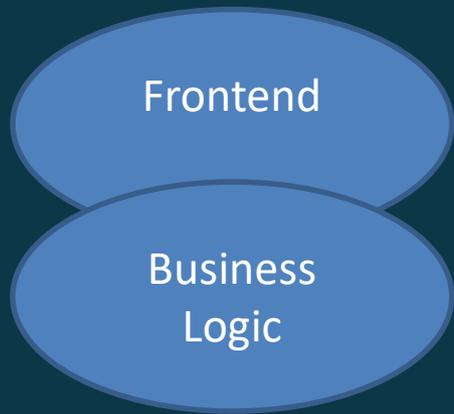
Separate Code from your UI



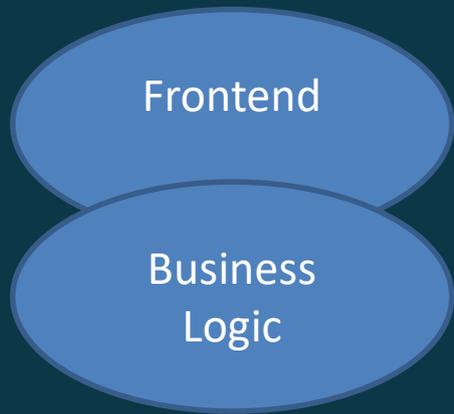
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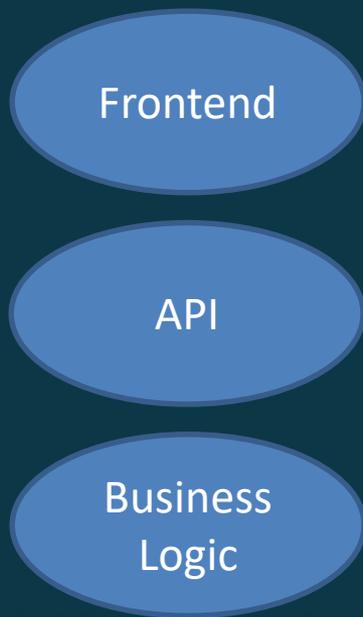
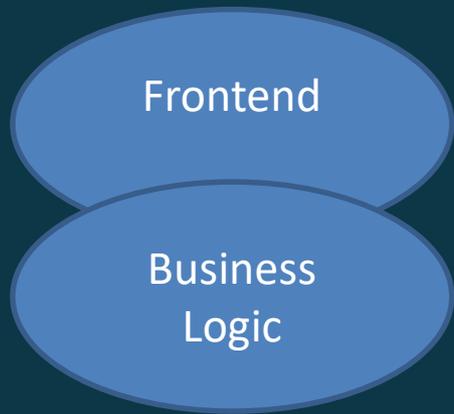
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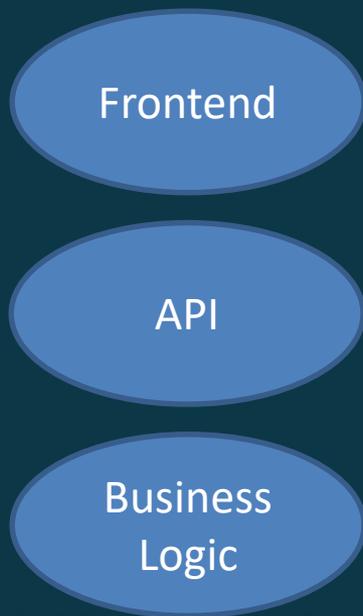
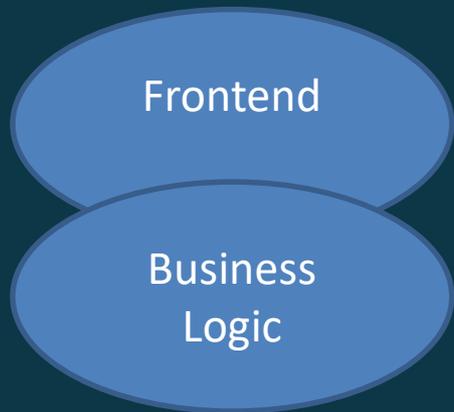
Separate Code from your UI



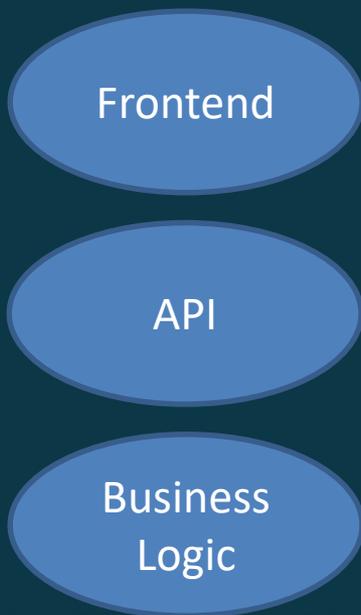
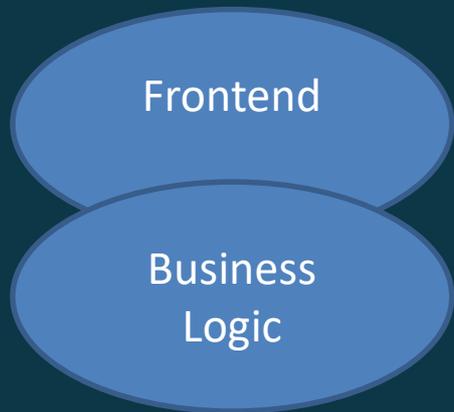
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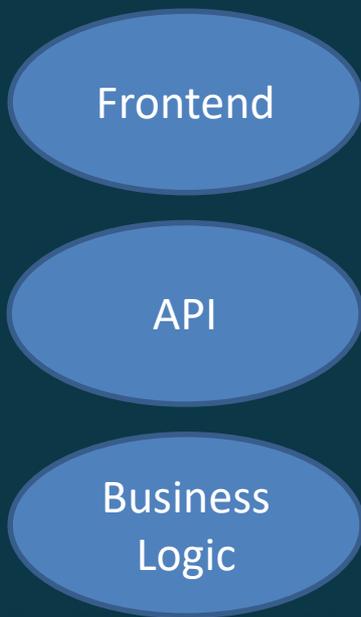
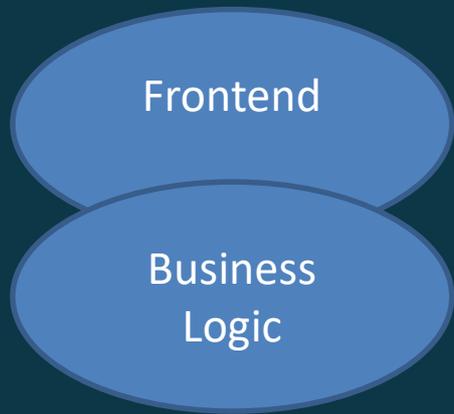
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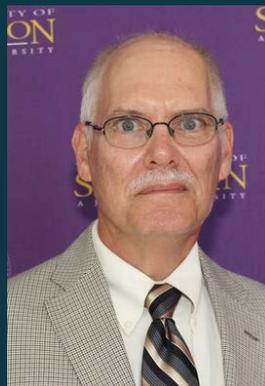
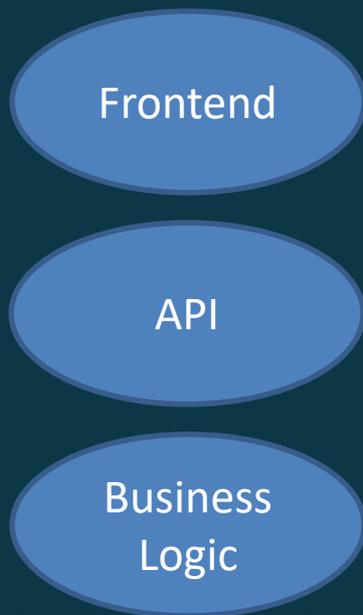
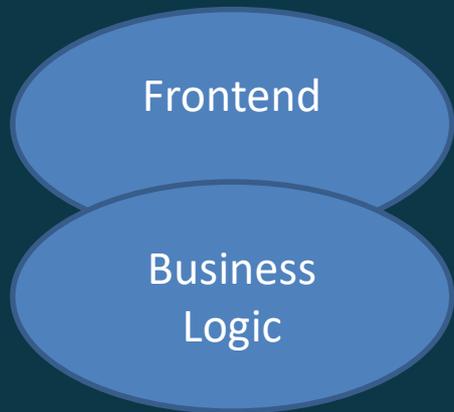
Separate Code from your UI



Separate Code from your UI



Separate Code from your UI



A flexible API

- Simple syntax:
`Res←ConfIntAPI Arg`
- Res and Arg are namespaces!
- Easily extend fns without worrying about interfaces.
- Helps to decouple development-process
- Might be translatabe into JSON
- Arg.Event selects a specific function to execute.
- Different fns may require or set different variables
- Run backend in JSONServer!
- Careful with arrays!



Summary

- API first!
 - For new Wizards, I sketch the API first
 - Functions, Inputs, Outputs
- Be dynamic!
 - No strict rules
- "relaxed" backend (not as packed/dense as before)
- easier debugging/testing



The fundamental difference

- small, cosy world
- □ WC
- Microsoft Windows on local PC
- 1024 x 768
- count pixels
- carefully position individual controls
- the cold, brutal universe
- DUI
- infinite permutations of resolutions, screensizes, operating-systems, browsers
- flow groups of things



The reward



ubuntu macOS



MiServer

HtmlRenderer
WC2

TamStat
„Classic“

API

Business
Logic



The End



?



Components

- DUI with
 - Bootstrap 4.1 (using themed builds from <http://bootstrap.build>)
 - DataTables 1.10.18
 - FontAwesome 5.3 Pro
 - SharpPlot
 - ...and more



