



Face2Face – May 15th 2014



Menu

- About me
- Conclusions
- Game time
- A short story
- uArchitect
- Material ICT Solutions



About me

- Dennis Vorst
- Uniface consultant @ Material ICT Solutions
- Working with Uniface since 1997
- Previously worked for Achilles and ITIS
- Runner up @ Uniface Challenge 2012



Keep in mind

- That you are free to ask questions during the presentation
- That when Compuware is mentioned I really, really meant to say Uniface
- The demo is of a product under development. Some inconsistencies may occur
- If I am going too fast let me know



Conclusion: Wrong

- When you are using it wrong you may have to suffer the consequence



Start using it as a proper 4GL.



Conclusion: Productivity

- Shrink the haystack, enlarge the needle



The reason you are using Google



Conclusion: Quality Control

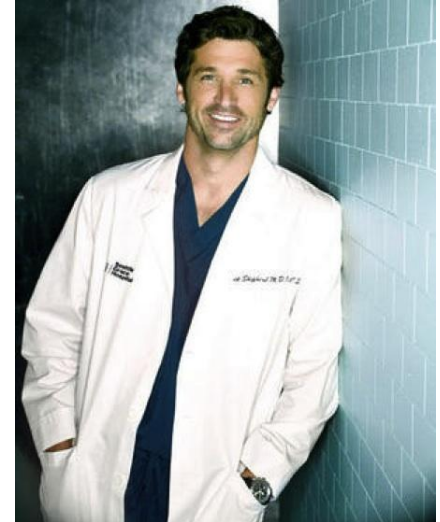
- Is important



Quality is in the eye of the beholder
Nudge, nudge, wink, wink



Game time



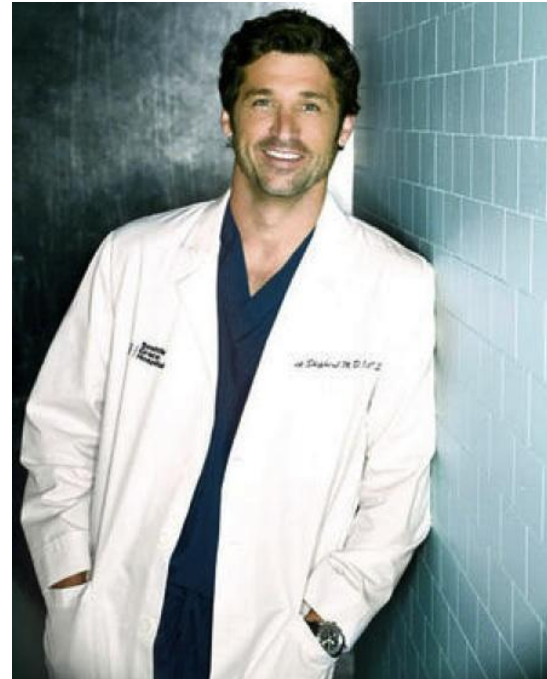
Question: 1

```
entry FOO
  if ($CONTROLE$ = 10)
    if (FIELD.SOME_ENTITY = 3)
      $CONTR_RETURN$ = "J "
    else
      $CONTR_RETURN$ = "N"
    endif
  endif
  return(0)
endif
end
```



Question: 2

```
entry FOO
  retrieve
  if (A.SOME_ENTITY > 100)
    B.OTHER_ENTITY = 0
  endif
  return (0)
end
```



Question: 3

```
entry FOO
  $55 = 1
  ANCHOR:

  if ($55 != 9)
    $55 += 1

    goto ANCHOR
  endif
  return (0)
end
```



You want me to put what where?

Location	
Model	One entity and one field
	one entity more fields
Library	No entities and no fields
Component	Two or more entities

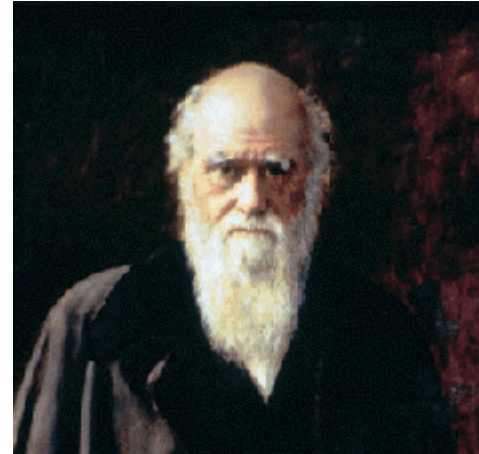


Why

- Using the product the way it was intended helps you get the most out of it.



The First Hello World



UNIFACE



Hello World
Hello Paradise
Hello Big Bang



message “Hello %%%\$1%%”



Hello Adam

Hello Eve



```
message $concat(“Hello “, v_nmperson)
```



A C C E S S D E N I E D

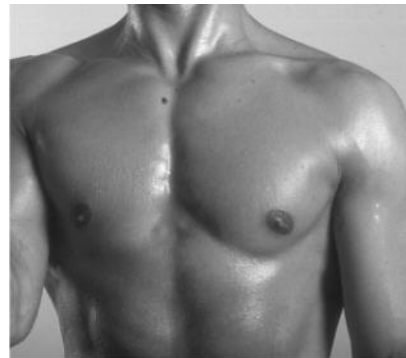
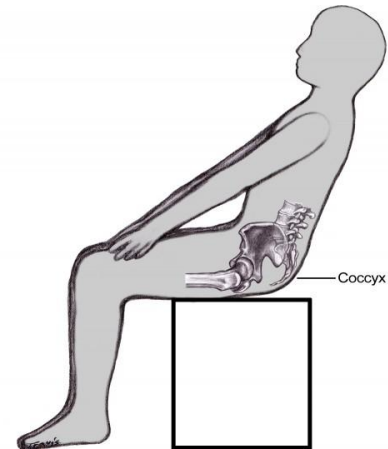
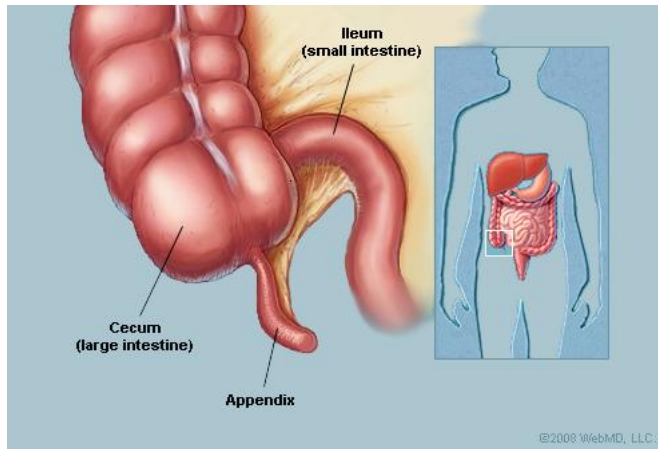
Access to paradise has been denied!

Please contact your creator if you think there has been an error.

Web Filtering by [IPCop](#) and [SquidGuard](#)



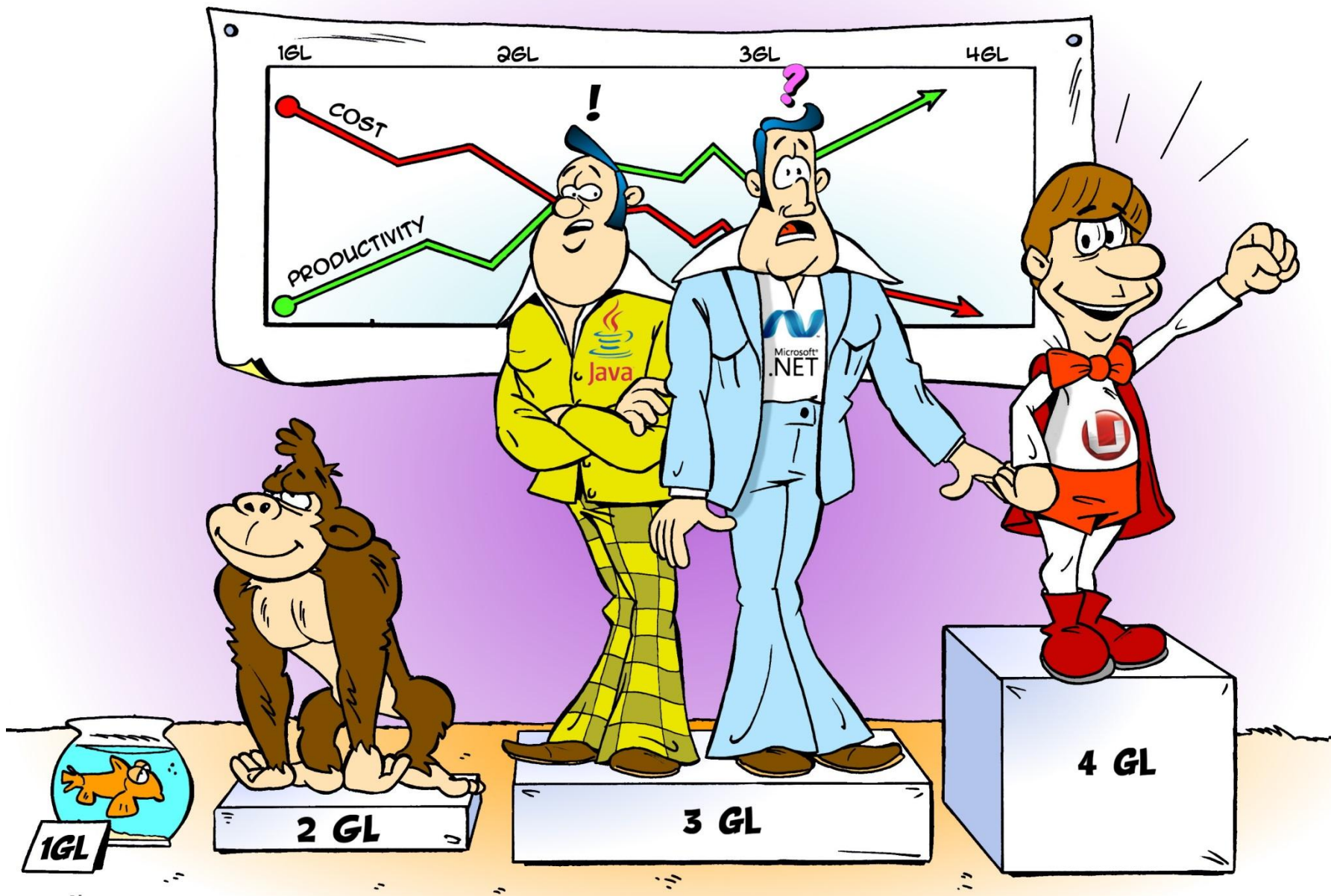
Evolutionary overhead



Why

- We all make mistakes.





Your Application

- Over ten years old
 - Started in a previous version of Uniface
- 500K+ lines of code
- Original creators have left the company
- An army of consultants worked on it
- No time (or money) for refactoring
- If it ain't broke...



What even may apply

- Access to library and model are restricted
 - Only architect
- Components are copied
 - Introducing lots of duplicate elements
- Database model uses shorthand codes
- Coding is outdated (Run vs activate)
- **No Quality control**



Your situation



- Prevent even more potential harmful code to enter



- Start refactoring



Why uArchitect

- Automated reviews
- Recognizing duplicates
- Improving quality of your codebase
- Alterior motives
 - Educate developers by providing feedback
 - Saving time reviewing manually



uArchitect concepts

- Uniface 9
- XML and XSLT
- CSS
- Customizable layout
- Only additional requirement webbrowser
- Only available on supported Uniface versions



Demo

- Three parts
 - Show configuration options
 - Run full analysis (about 3 minutes)
 - Show result



analysis

- To types of analysis
 - Single object (model, library or component)
 - Full application (time consuming)
- Three levels
 - Application model
 - Library
 - Component



General Code Analysis

- Entries
- Operations
- Local parameters
- Local variables
- Error handling
- Deprecated code
- Return(0) in entry and operation



Application model

- Total number of entities
- Entities painted on a component
- Total number of fields
- Naming convention of entities and fields
- Casing of entities and fields in code
- Fully Qualified fieldnames



Libraries

- Naming convention of
 - libraries
 - labels
 - include procs
 - global procs
- Duplicate labels
- Recognition of supported languages
- Usage of labels and procs (full scan only)



Components

- Relationship of entities painted within each other
- Maximum number of entities
- Usage of entries defined in component
- Language independant labels on form
- Use of component variables



Features we are working on

- Duplicates
 - Default is now exact match
- Javadoc like features
 - For easy retrieval of reusable elements
- Betateesting the analysis of model and library



Duplicates – Exact Matches

```
forlist v_item in p_list_in
  v_item=$rtrim(v_item,p_trimvalue)
  v_item=$ltrim(v_item,p_trimvalue)
  if (v_item != "")
    putitem p_list_out, -1, v_item
  endif
endfor
```

```
forlist v_item in p_list_in
  v_item=$rtrim(v_item,p_trimvalue)
  v_item=$ltrim(v_item,p_trimvalue)
  if (v_item != "")
    putitem p_list_out, -1, v_item
  endif
endfor
```



Duplicates – Larger code

```
forlist v_item in p_list_in
  v_item=$rtrim(v_item,p_trimvalue)
  v_item=$ltrim(v_item,p_trimvalue)
  if (v_item != "")
    putitem p_list_out, -1, v_item
  endif
endfor
```

```
call some_function(some_variable)
```

```
If ($status < 0) return $status
```

```
forlist v_item in p_list_in
  v_item=$rtrim(v_item,p_trimvalue)
  v_item=$ltrim(v_item,p_trimvalue)
  if (v_item != "")
    putitem p_list_out, -1, v_item
  endif
endfor
```

```
return(0)
```



Duplicates – Fragments

```
forlist v_item in p_list_in
  if (v_item != "")
    putitem p_list_out, -1, v_item
  endif
endfor
```

```
forlist v_item in p_list_in
  v_item=$rtrim(v_item,p_trimvalue)
  v_item=$ltrim(v_item,p_trimvalue)
  if (v_item != "")
    putitem p_list_out, -1, v_item
  endif
endfor
```



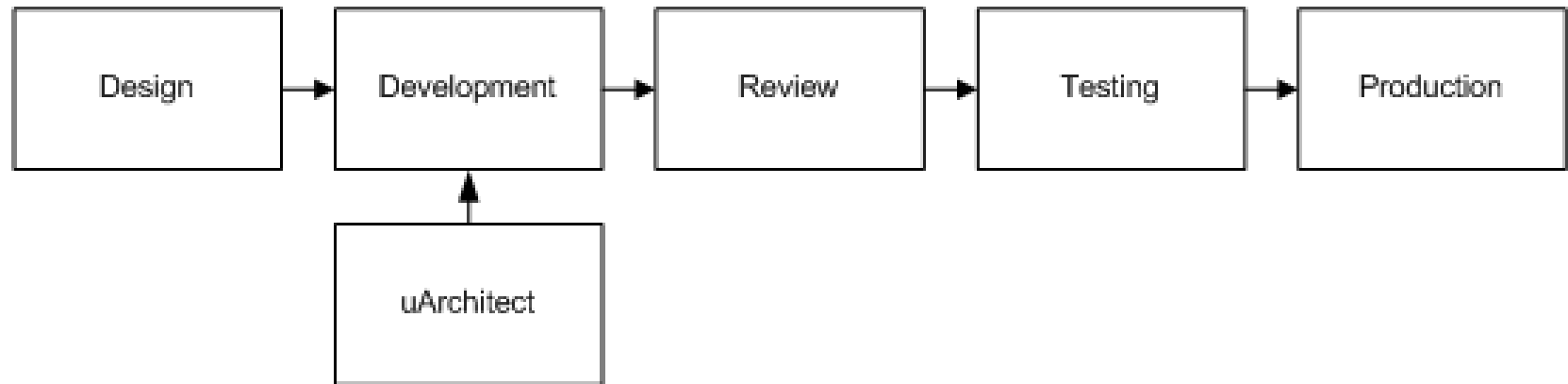
IRL

	Not Used	Duplicate
Entities	29%	
Component variables	14%	
Operations	25%	
Entries	3%	25%
Parameters	4%	
Local variables	12%	

Lowest percentage measured in three different Uniface applications



Refactor for Free



Recap

- uArchitect analyses your work
- Based on your standards and guidelines
- It analyses on three levels
 - Models
 - Libraries
 - Components
- Scan of an entire application is possible
 - But may be time consuming



uArchitect

- Is written in Uniface 9
- And uses XML, XSLT and CSS
- You just need a browser
- Nothing else



Why you need it

- Fast and high quality review
- Based on your standards (Customizable)
- Repeatable
- Higher quality of code
- Developer check their own work
- Early detection of issues



About Material

- www.materialictsolutions.nl
- @materialict
- www.github.com/materialict
- Ask Jan Lex about
 - Smart Sourcing
 - Consultancy
 - On site demonstration



Questions

The desire of knowledge, like the thirst for riches, increases ever with the acquisition of it.

Laurence Sterne (1713-1768) *British writer.*

Be curious, not judgmental.

Walt Whitman

If you have knowledge, let others light their candles with it.

Winston Churchill (1874-1965) *British politician.*

