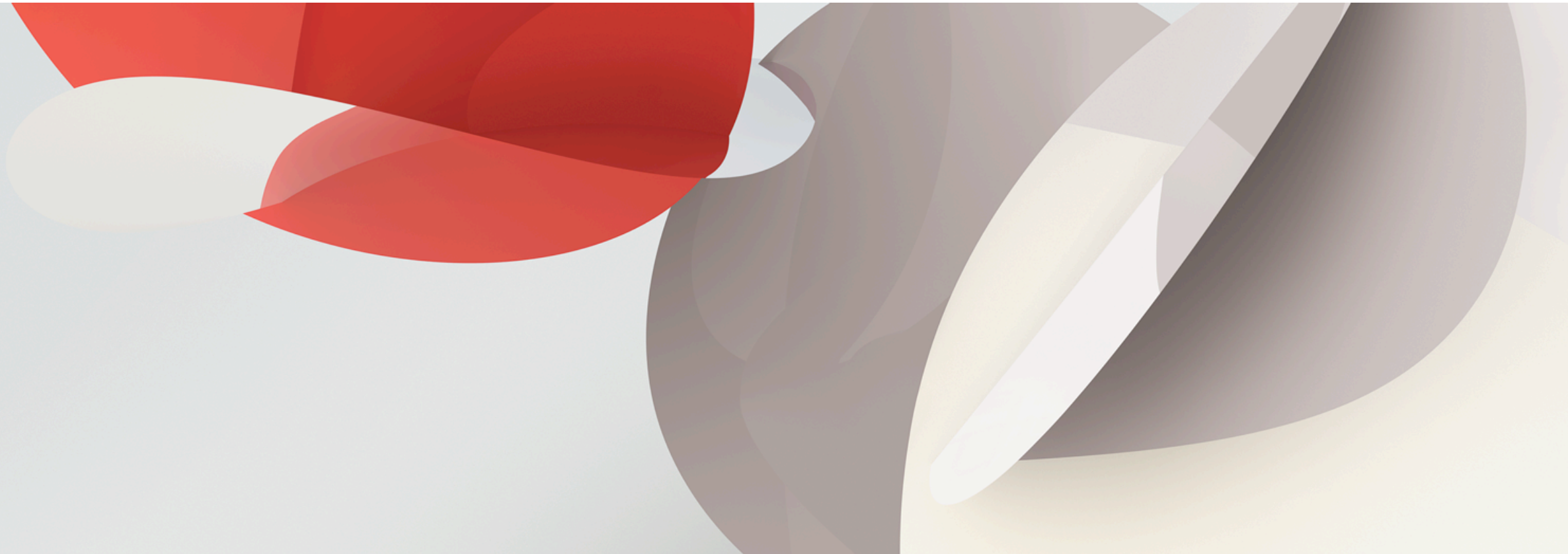


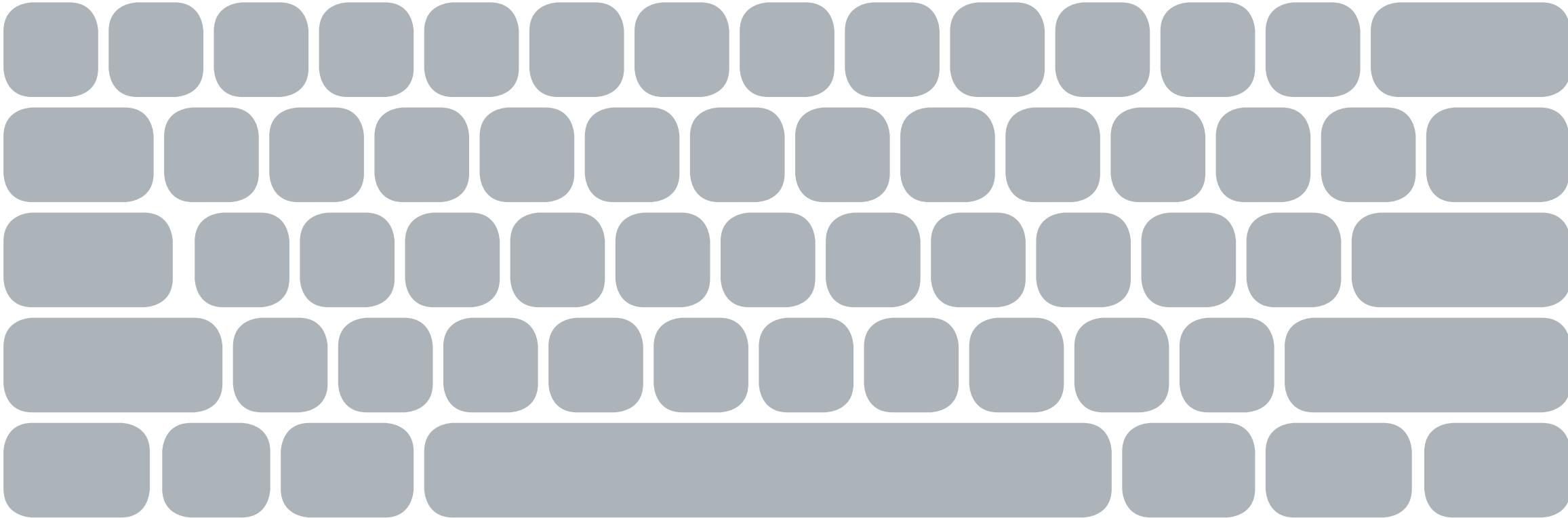


# Pitfalls of Pi Fonts: The World of Keyboard Layouts

Frank Grießhammer | ATypI 2011

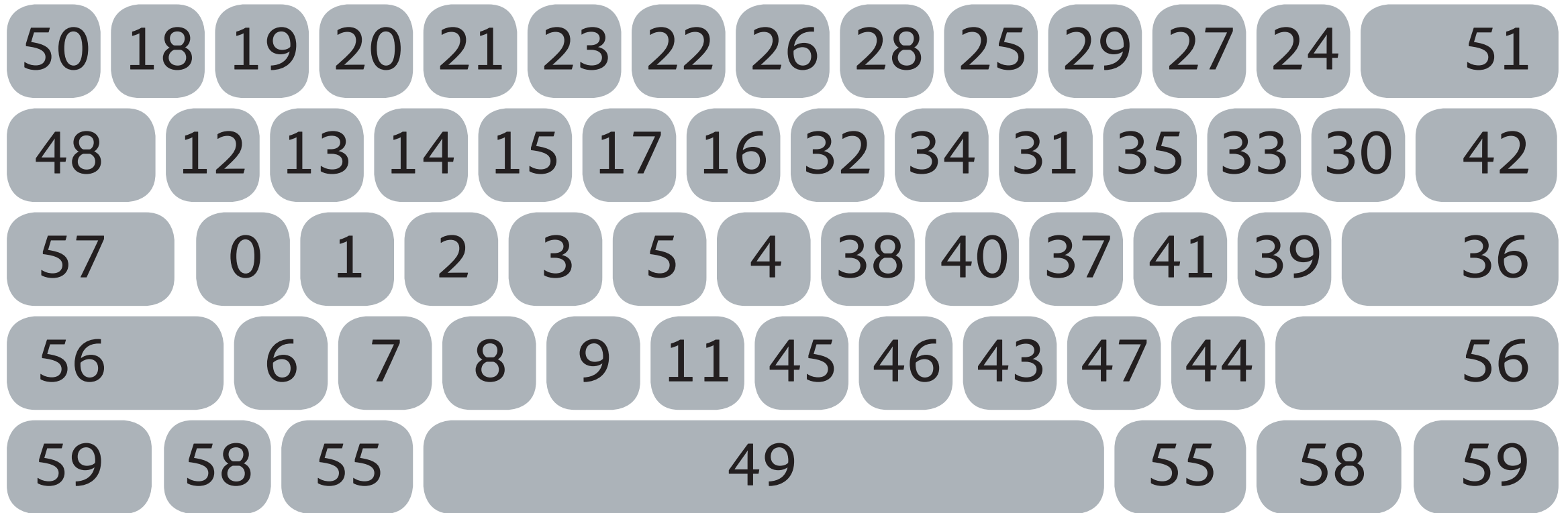


# What are Keyboard Layouts?



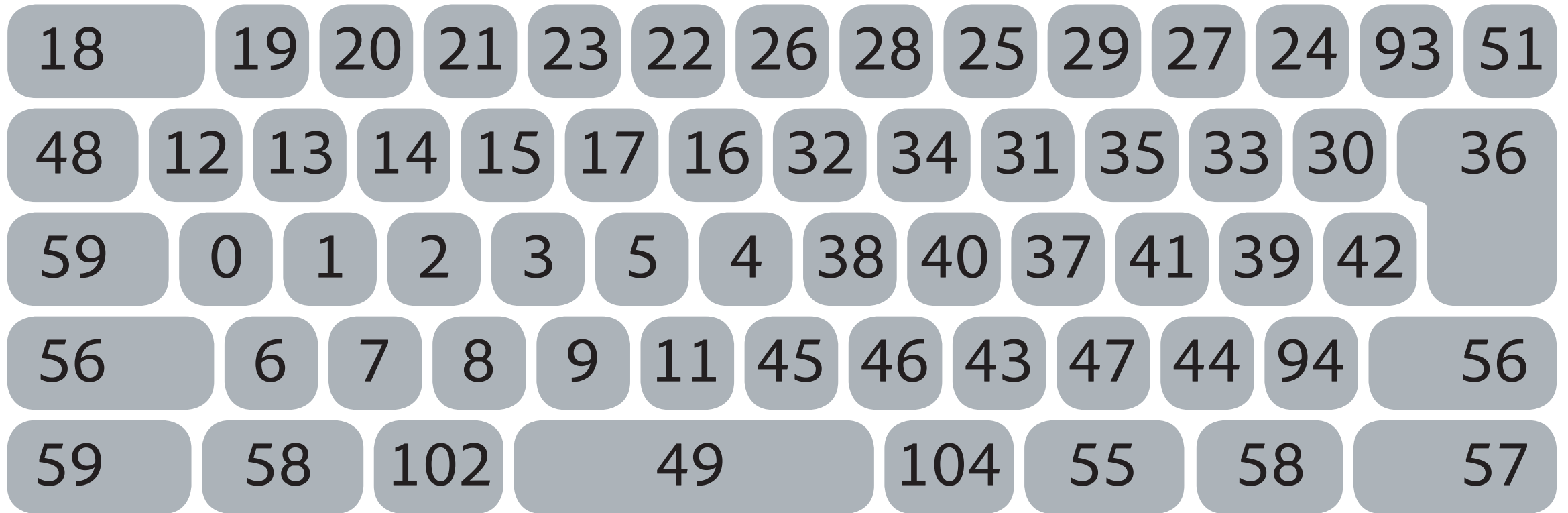
# What are Keyboard Layouts?

## ANSI



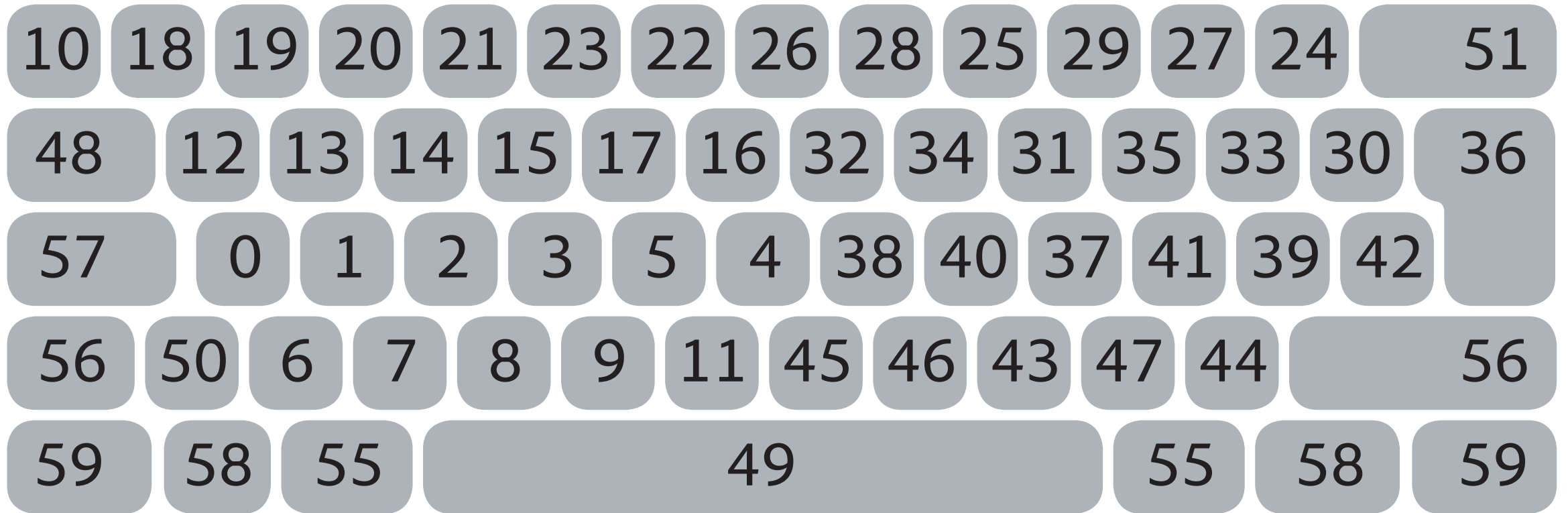
# What are Keyboard Layouts?

## JIS



# What are Keyboard Layouts?

## ISO



## Portion of XML-based Mac Keyboard layout

```
<key code="0" output="&#xE01F;" />  
<key code="1" output="&#x1D18D;" />  
<key code="2" output="&#x1D109;" />  
<key code="3" output="&#x1D191;" />  
<key code="4" output="&#x1D15E;" />  
<key code="5" output="&#x1D183;" />  
<key code="6" output="&#x1D18E;" />  
<key code="7" output="&#x1D161;" />
```



# Why Custom Keyboard Layouts?

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- Issues with Type 1 Fonts



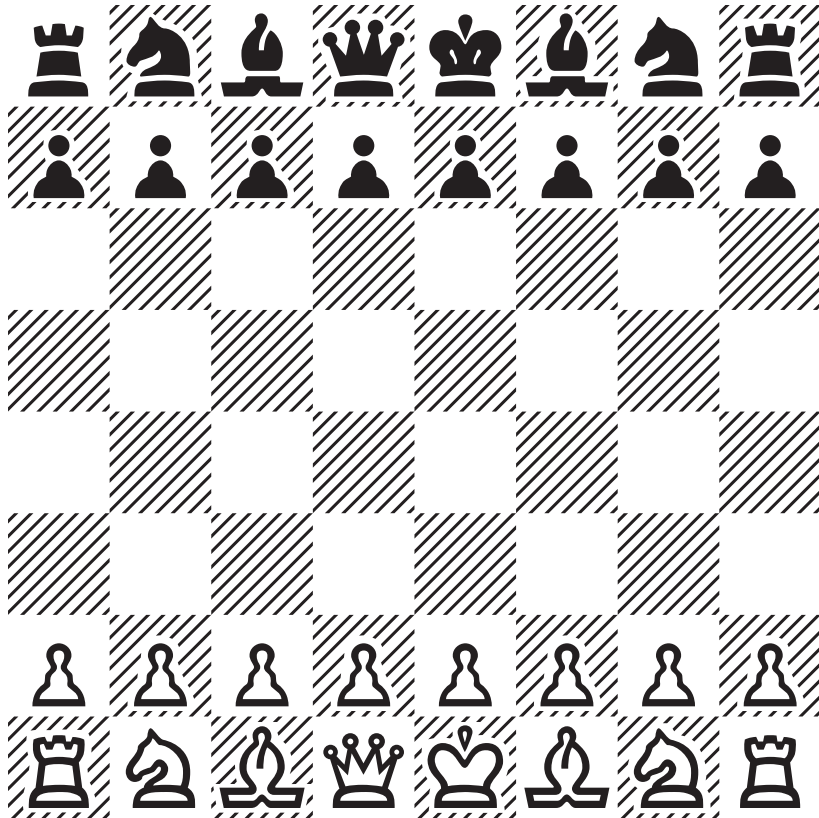






# Why Custom Keyboard Layouts?

- Issues with Type 1 Fonts



# Why Custom Keyboard Layouts?

- Issues with Type 1 Fonts

TÍVÎK₁S˘

РПРПРПРП

X X X X

X X X X

X X X X

X X X X

рπρπρπρπ

†sſq°bßt





# Why Custom Keyboard Layouts?

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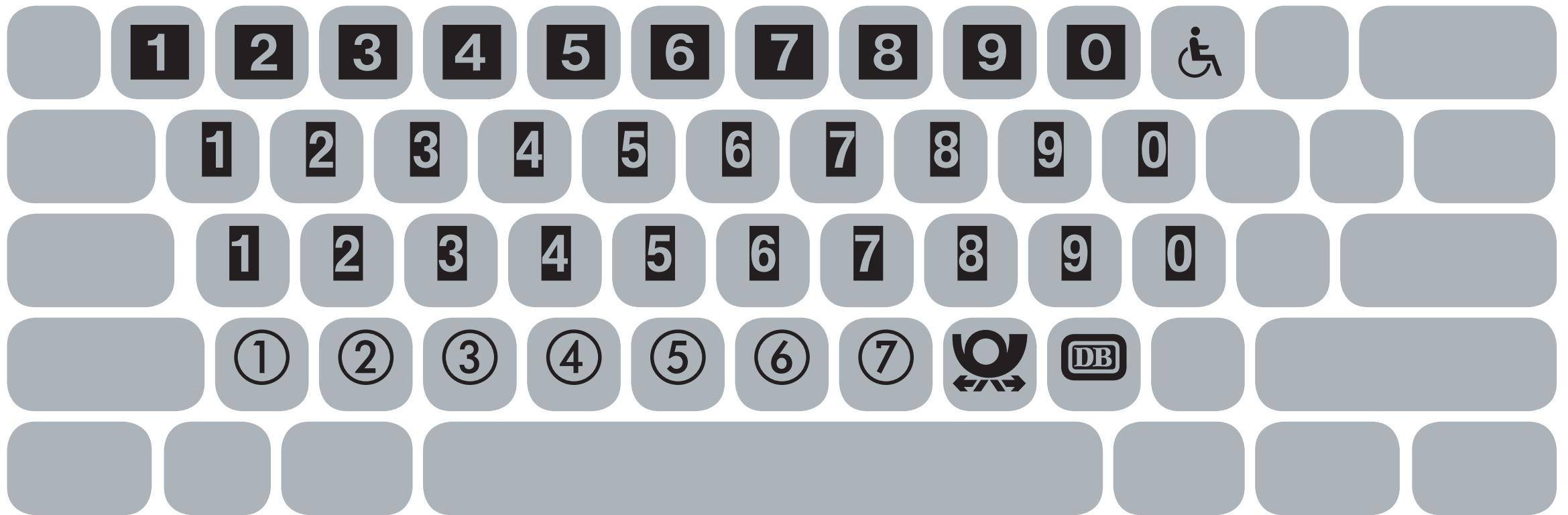
- Limited number of keys







# Why Custom Keyboard Layouts?





# How to create Custom Keyboard Layouts?

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- Important: the encoding of Glyphs



# How to create Custom Keyboard Layouts?

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- Important: the encoding of Glyphs



U+0035  
DIGIT FIVE



U+2464  
CIRCLED DIGIT FIVE



U+1F4EF  
POSTAL HORN



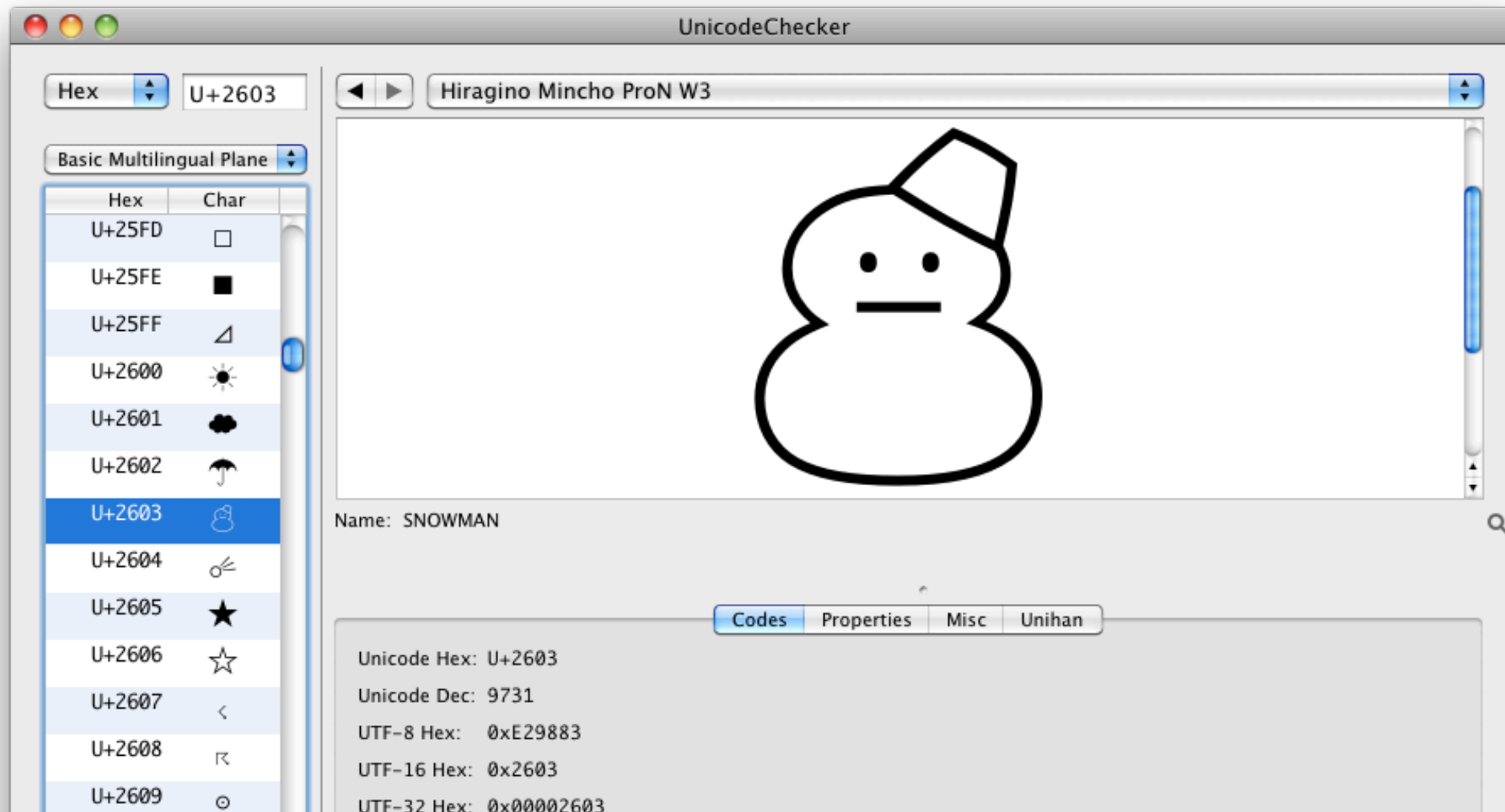
PUA  
(E000 – F8FF)



# How to create Custom Keyboard Layouts?

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- UnicodeChecker

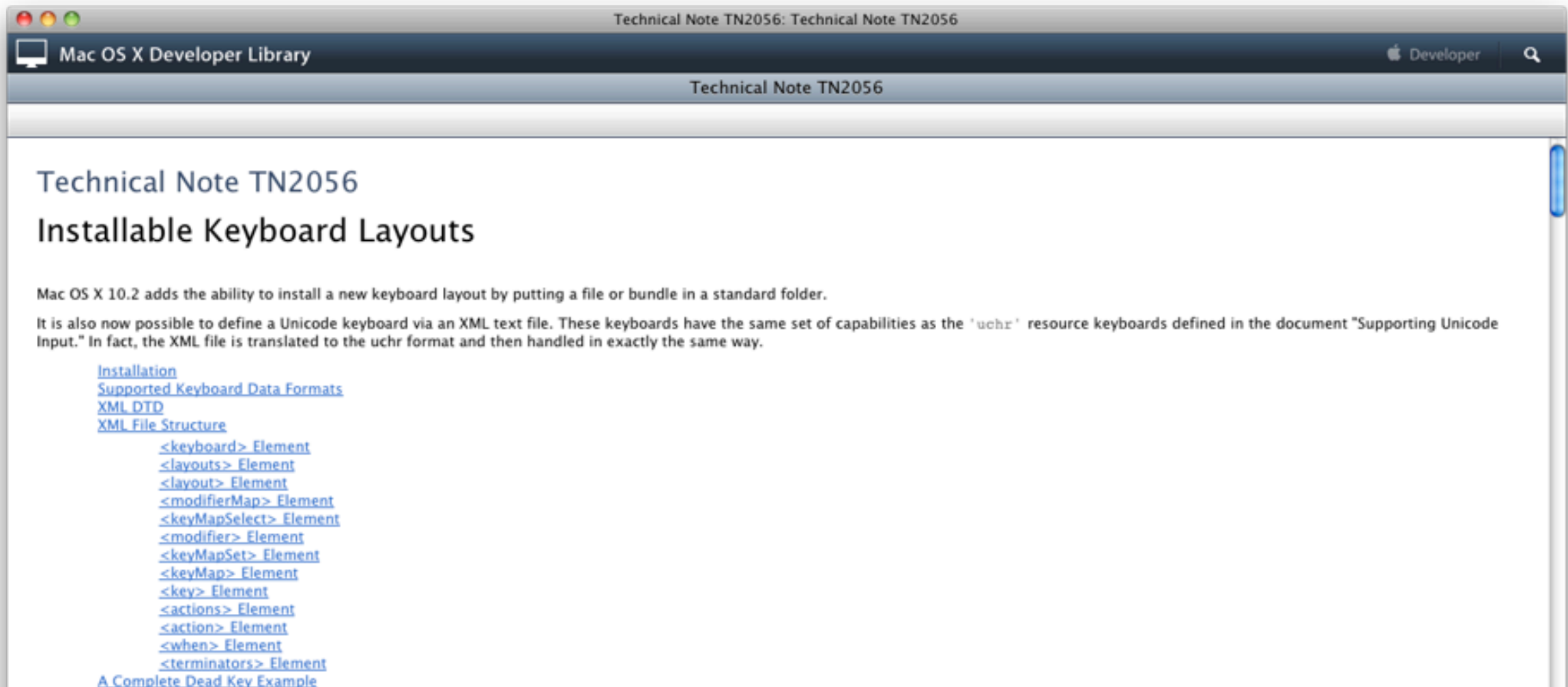


# How to create Custom Keyboard Layouts?

- Ukelele



- Script-based



# How to create Custom Keyboard Layouts?

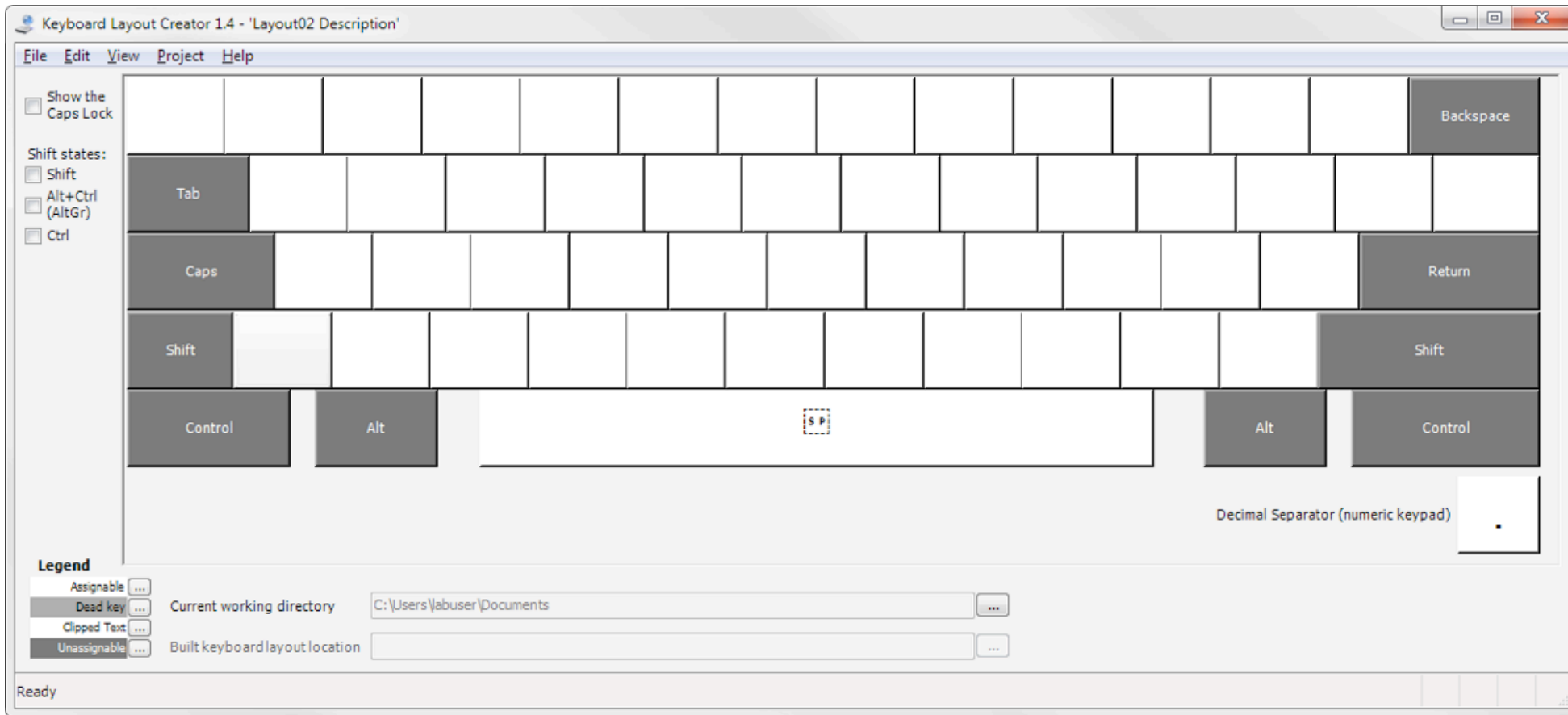
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- What about Windows?



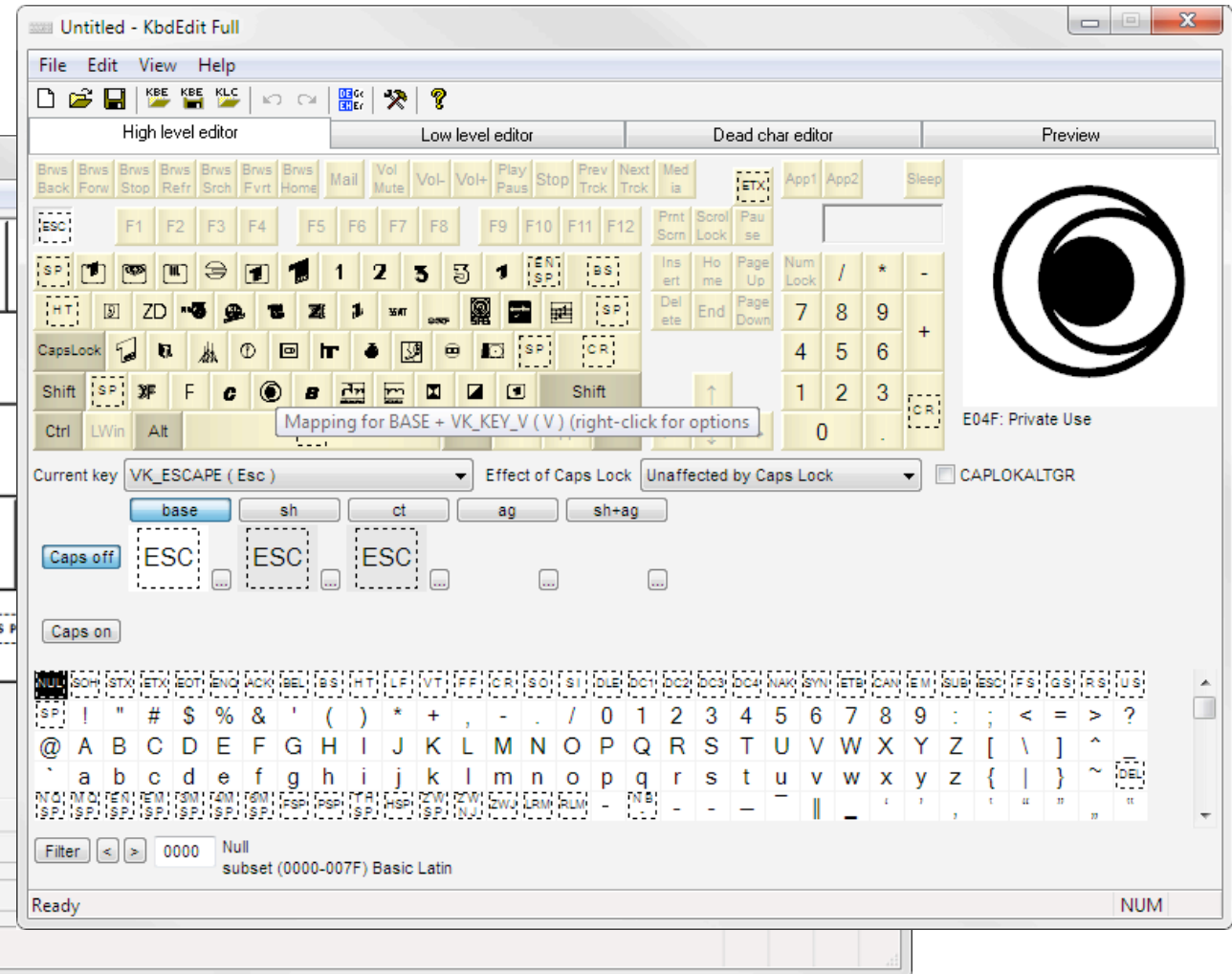
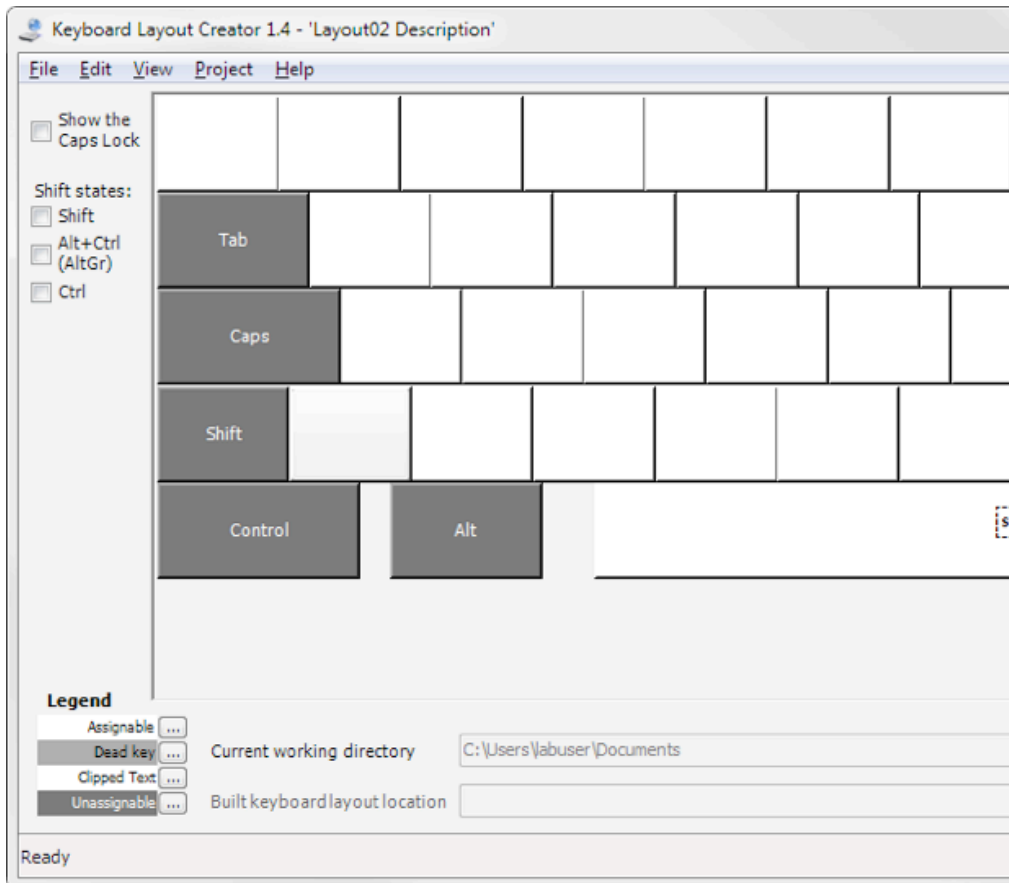
# How to create Custom Keyboard Layouts?

- What about Windows?



# How to create Custom Keyboard Layouts?

## ■ What about Windows?





# How to create Custom Keyboard Layouts?

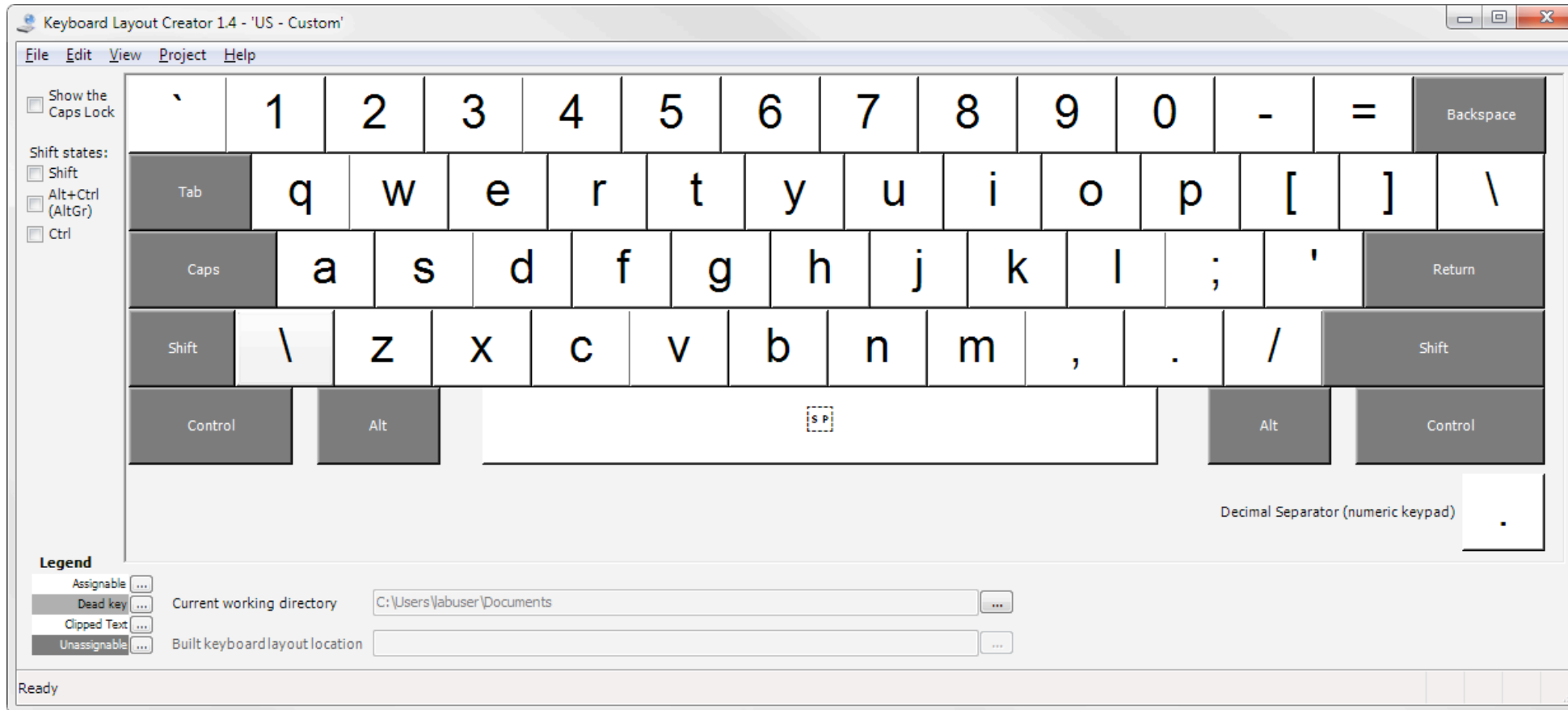
- What about Windows?  
→ use the FDK.

python



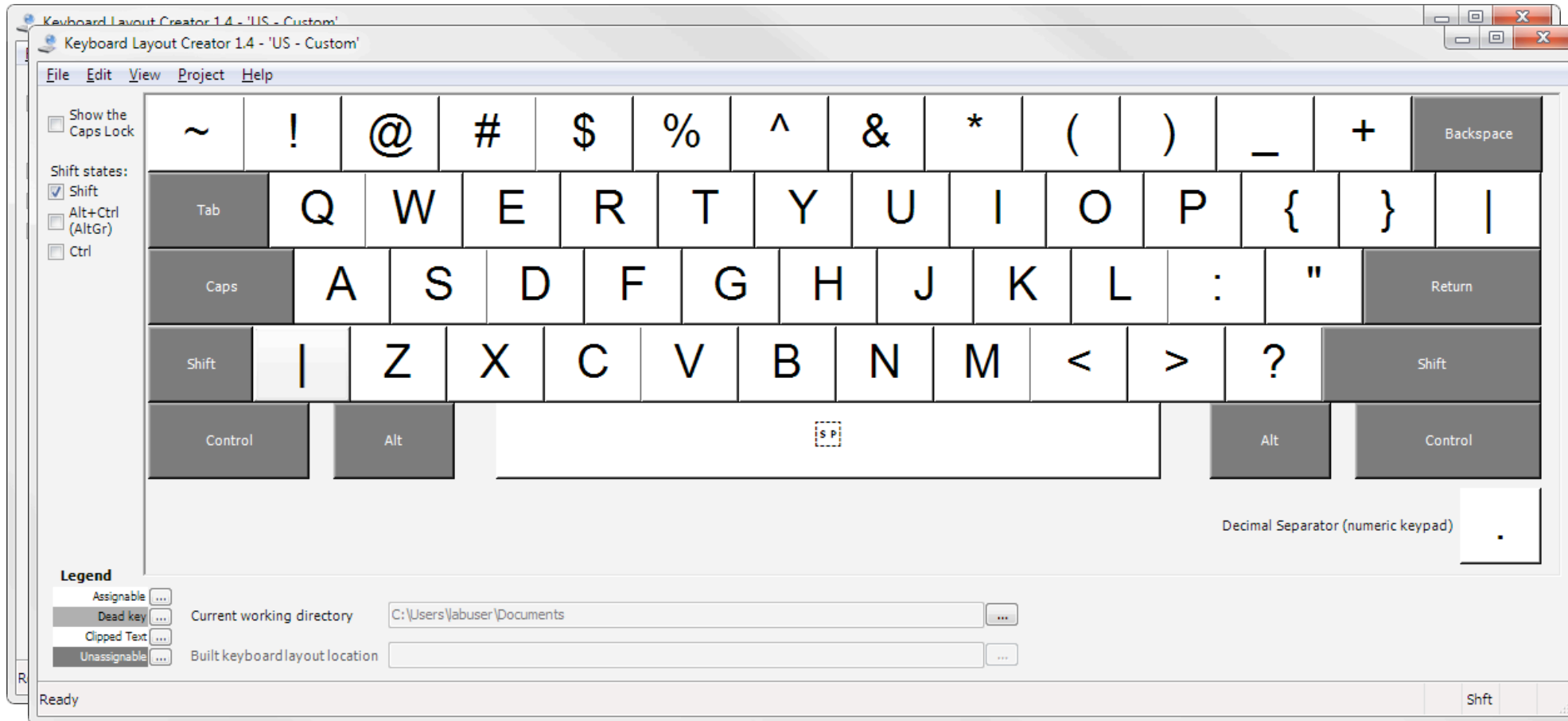
# Why do Windows Keyboard Layouts suck?

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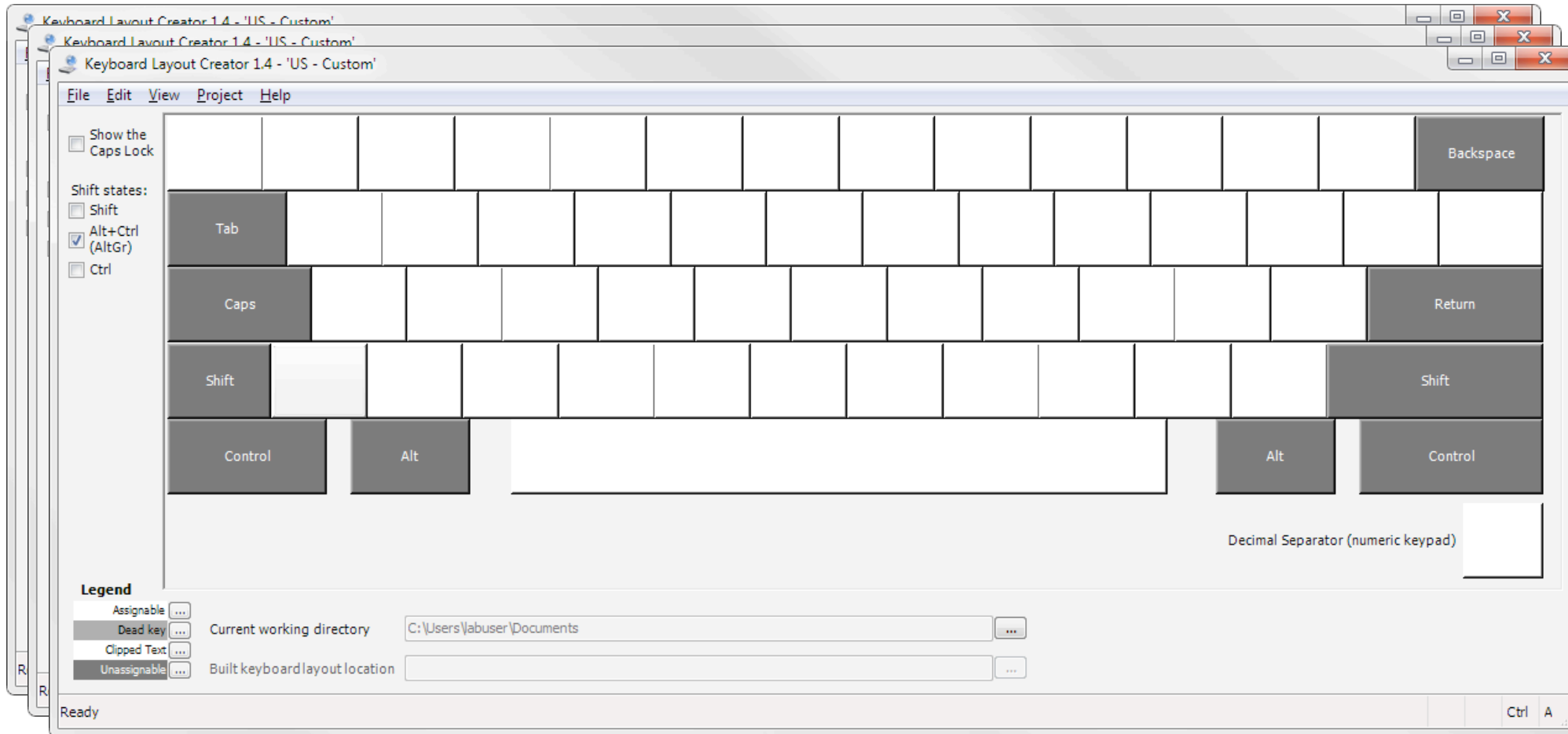
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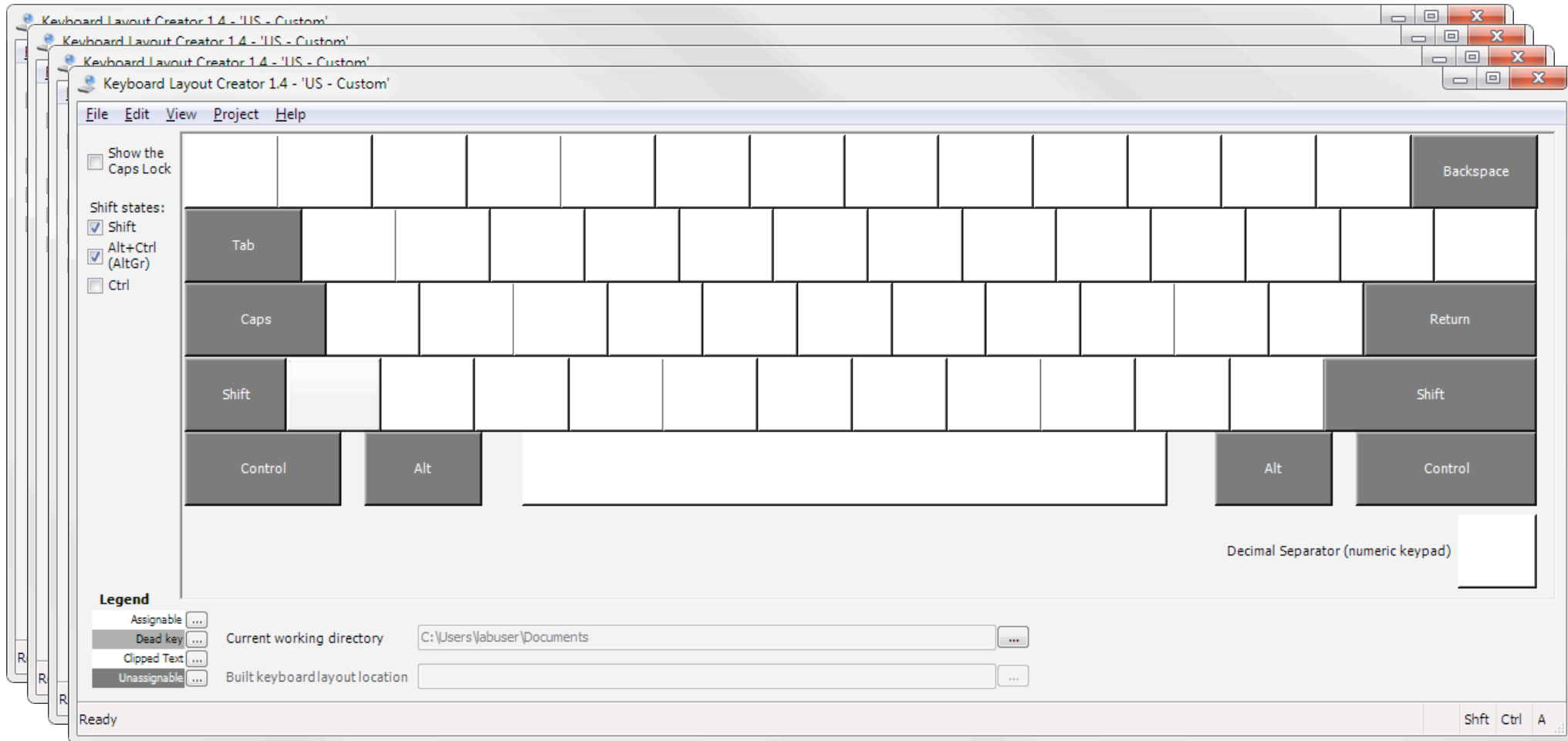
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The screenshot shows a forum window with a title bar that reads "Topic: How to easily input a fucking em dash on Windows? — <3". The forum navigation menu includes links for Bulletin, Topics, Bumps, Folks, FAQ, IRC, Chat, Search, Pages, Stuff, Generate, and BBS. The main content area displays the topic title and a table of statistics. Below the table, there are three posts: the first by Anonymous A, an advertisement for Tinychan, and a reply by Anonymous B. The second post by Anonymous A is partially visible at the bottom.

**Topic: How to easily input a fucking em dash on Windows?**

This is topic #20,753. It was posted about 2.6 years ago. [View topic at AT.](#)

| Headline  | Replies | Visits | Age       | Bump      | Last crawled |
|---|---------|--------|-----------|-----------|--------------|
| How to easily input a fucking em dash on Windows? | 3       | 87     | 2.6 years | 2.6 years | 11 months    |

Anonymous A started this [topic](#) 2.6 years ago #0

Every time I need to do it, I search for two '-' characters in a row on Wikipedia and use their character... This is insane. There must be a better way. [Cite](#)

Ad: [Tinychan!](#)

Anonymous B joined in and replied with this 2.6 years ago, 2 minutes later #114,165

Alt+0151 = — [Cite](#)

Anonymous A (OP) replied with this 2.6 years ago, 4 minutes later, 6 minutes past creation #114,169

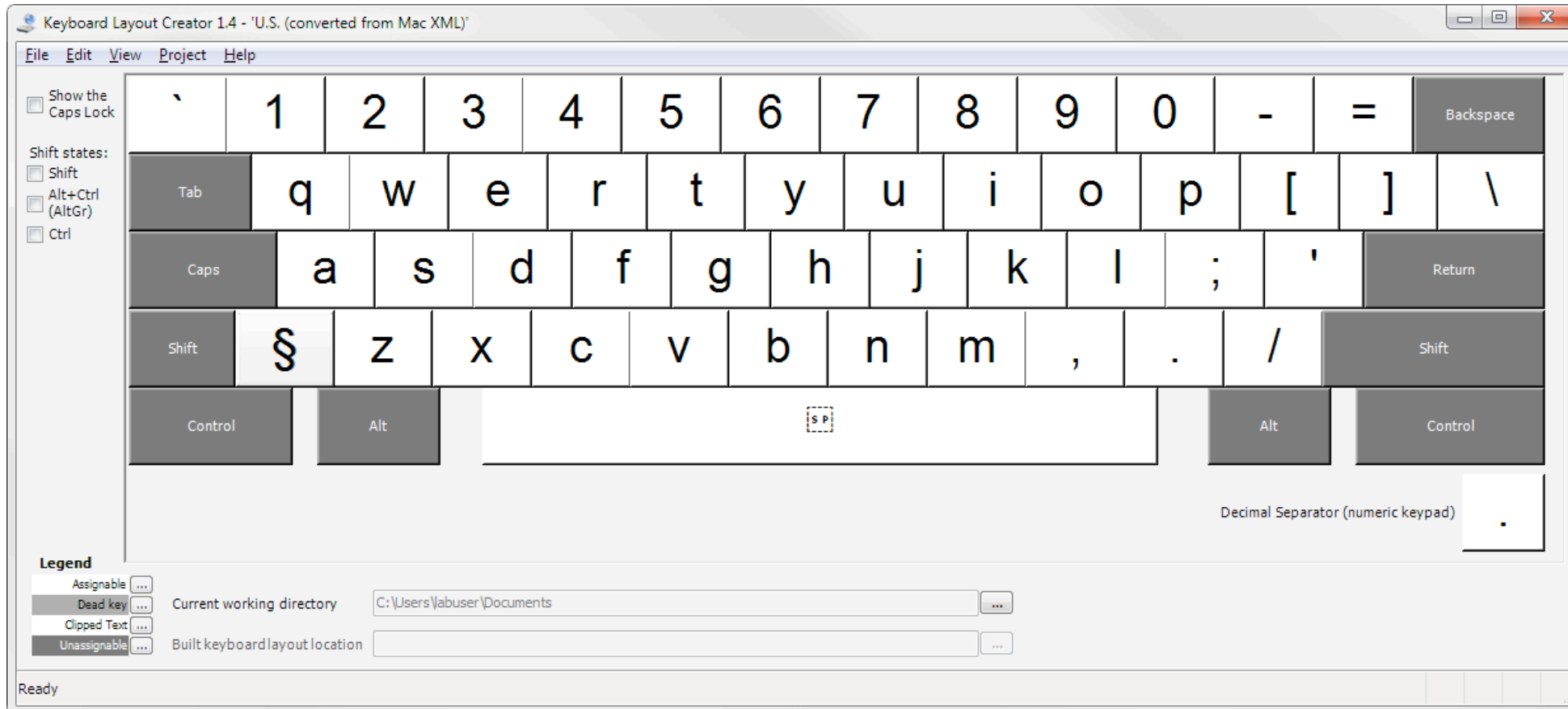
[@previous](#)

So I have to memorize such codes? [Cite](#)



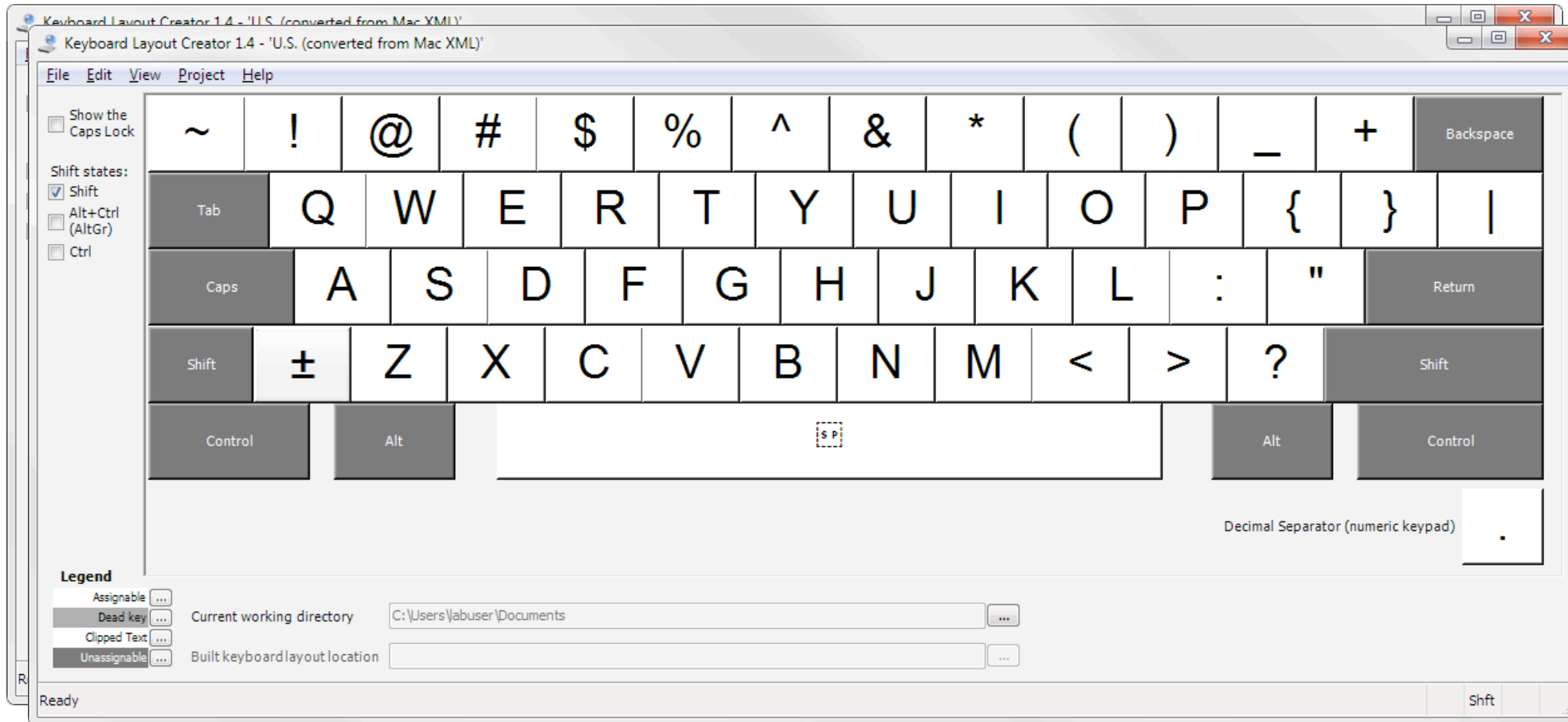
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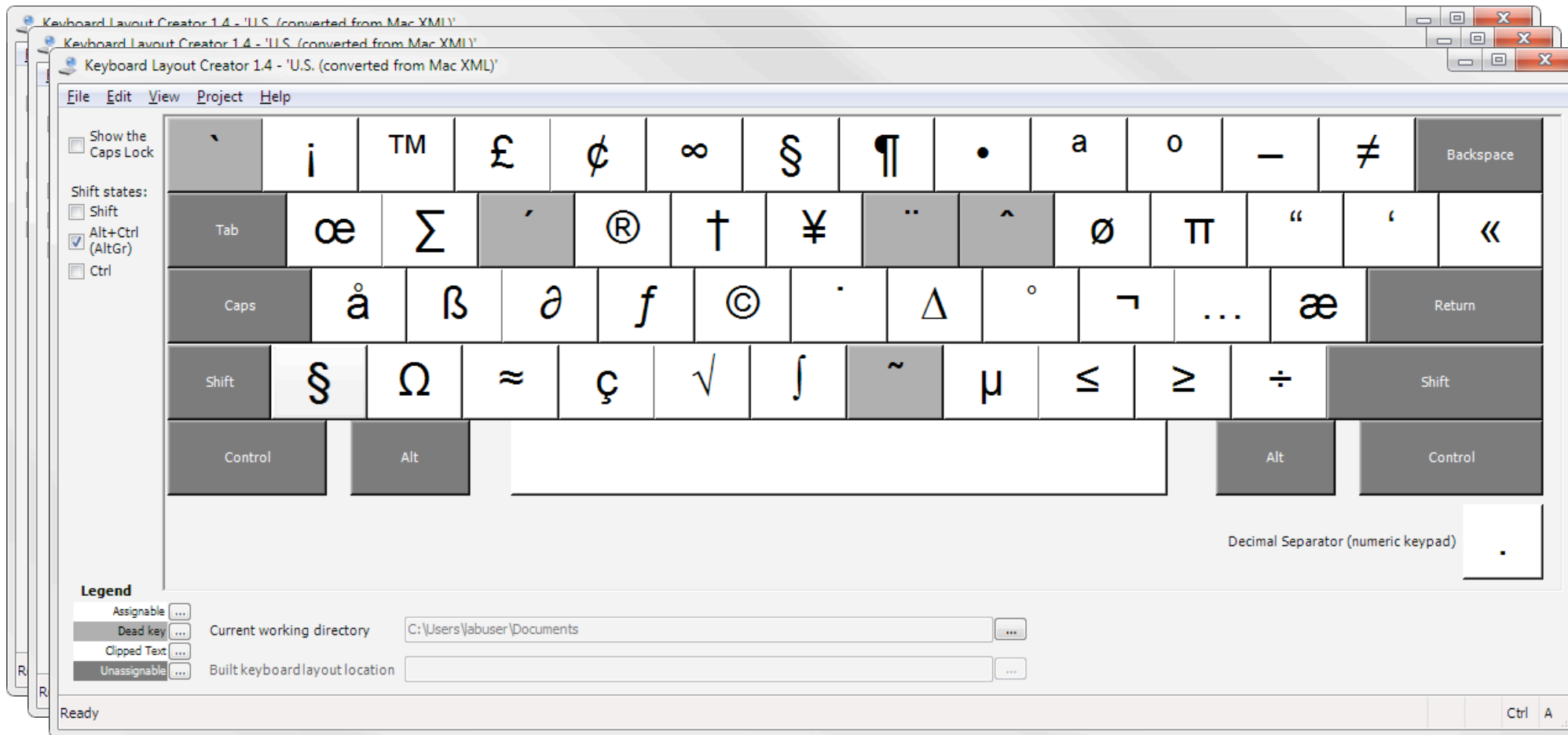
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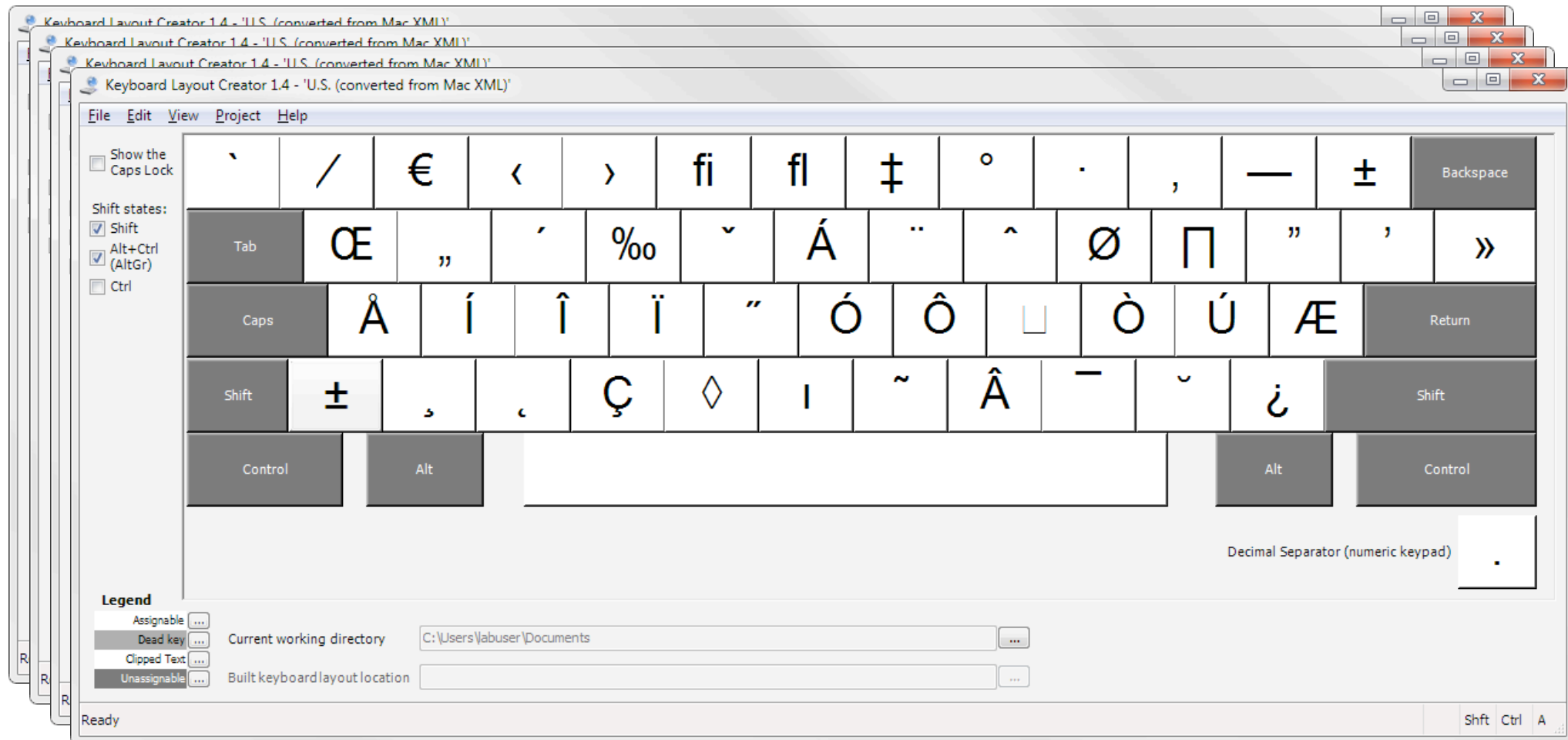
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# Why do Windows Keyboard Layouts suck?

Frank Griebhammer  
Pitfalls of Pi fonts – exploring Keyboard Layouts



- Adobe to release keyboard layouts for OTF Pi fonts
- Dedicated Keyboard Layouts are useful for Pi fonts
- It is important to encode all glyphs in the font properly
- Never arrange glyphs based on a country-specific keyboard layout
- Similar glyphs in different fonts should get the same PUA Unicode





Ukelele

[scripts.sil.org/ukelele/](http://scripts.sil.org/ukelele/)

Unicode Checker

[earthlingsoft.net/UnicodeChecker/](http://earthlingsoft.net/UnicodeChecker/)

Apple TN2056

[developer.apple.com/library/mac/#technotes/tn2056/](http://developer.apple.com/library/mac/#technotes/tn2056/)

MSKLC

[msdn.microsoft.com/en-us/goglobal/bb964665.aspx](http://msdn.microsoft.com/en-us/goglobal/bb964665.aspx)

Michael Kaplan – Microsoft  
lots of keyboard information

[blogs.msdn.com/b/michkap/](http://blogs.msdn.com/b/michkap/)