A Natural Language URL-Shortener

David Branner Hack and Tell eBay, New York 20140610

URL shorteners and their benefits are well known – create very short pointer to a long URL:

create very short pointer to a long URL:

http://bit.ly/TGIQtH

create very short pointer to a long URL:

http://bit.ly/TGlQtH

→ https://www.hackerschool.com/manual#sec-history

create very short pointer to a long URL:

http://bit.ly/TGlQtH

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less susceptible to corruption in transmission

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less susceptible to corruption in transmission concealment of final destination

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less susceptible to corruption in transmission concealment of final destination can be used to track visitors to the main site

- > http://7.ly/jMau
- > http://2.gp/zkSE
- > http://qr.net/Bozx
- http://bit.ly/TGlQtH
- > http://x.vu/KC4s4e
- > http://ow.ly/xQNbx
- > https://t.co/ZfUR4euiph

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ugglesome in the extreme compressed, hence rarely readable easy to remember?

http://bit.ly/HStory

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→ https://www.hackerschool.com/manual#sec-history

http://bit.ly/HStory

https://www.hackerschool.com/manual#sec-history

easier to remember

http://bit.ly/HStory

https://www.hackerschool.com/manual#sec-history

easier to remember short only if you get there first (tend to be long)

(Talon-sharpening exercise at Hacker School recently.)

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The trick to picking always-readable short URL-paths:

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The trick to picking always-readable short URL-paths:

use the characters for the most common Chinese words.

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|\{x : x \in \{\text{simp } \cap \text{trad}\}\}| = 1692
|\{x : x \in \{\text{upper } \cap \text{lower}\}\}| = 52 \quad (52^2 = 2704)
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compare to paired Roman letters (of either case):

$$|\{x : x \in \{upper \cap lower\}\}| = 52 (52^2 = 2704)$$

kind	random 字	random Roman digraph
#	2635	2704

In the current official "HSK" Chinese proficiency exam:

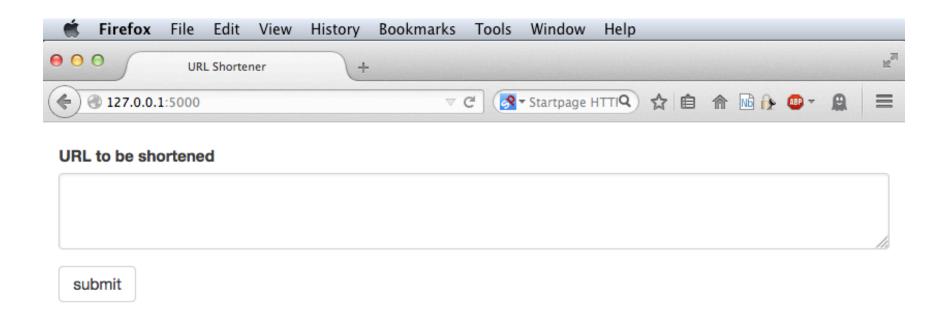
```
|\{x : x \in simplified\}| = 2635
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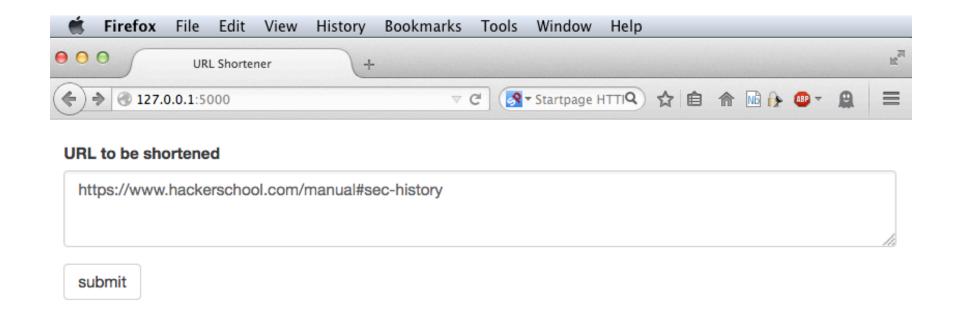
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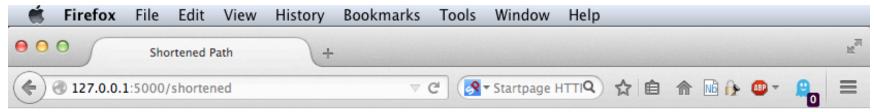
$$|\{x : x \in \{upper \cap lower\}\}| = 52 (52^2 = 2704)$$

kind	random 字	random Roman digraph
#	2635	2704
readable?	guaranteed	probably not

Code for proof-of-concept on my public Git repository.







The URL you submitted: https://www.hackerschool.com/manual#sec-history has been shortened to http://127.0.0.1:5000/fil

First c. 2650 URLs → one character

http://127.0.0.1:5000/印

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Next c. $2650 \times 2650 = 7022500$ URLs \rightarrow two characters

http://127.0.0.1:5000/厉吉

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http://127.0.0.1:5000/印

Next c. $2650 \times 2650 = 7022500$ URLs \rightarrow two characters

http://127.0.0.1:5000/厉吉

Next 18,609,625,000 URLs \rightarrow three characters

http://127.0.0.1:5000/天鼻歪

Always readable

Always readable (may not make sense, since random...)

印: 'to print'; 厉吉: 'to pass through auspiciousness';

天鼻歪: 'Heaven's nose is off-center'

Note:

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Note: many custom shorteners allow Chinese characters:

http://bit.ly/史 (史: 'history')

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Also note:

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Also note: the advantage of shortening to Chinese does not mean bandwidth savings:

Always readable (may not make sense, since random...) 印: 'to print'; 厉吉: 'to pass through auspiciousness'; 天鼻歪: 'Heaven's nose is off-center'

Note: many custom shorteners allow Chinese characters:

http://bit.ly/史 (史: 'history')

Also note: the advantage of shortening to Chinese does not mean bandwidth savings:

http://bit.ly/史 may be sent from your browser as

http://bit.ly/%E5%8F%B2

One more thing to think about:

Someone commented that without knowing Chinese, she would find this system perhaps of limited use. Imagine!

An intermediate solution would be Korean Han'gǔl 한 글, where fully pronounceable syllables are written in one-character-width glyphs composed of alphabetic subunits. There are 2100 recognized syllable-glyphs that can be built up of these sub-units by simple principles, although another 9000 are possible graphically. By no means all possible glyphs are meaningful, though. But learning the 40 subunits is a more manageable task than learning the two-plus thousand basic Chinese characters:

> Branner, A Natural Language URL-Shortener Hack and Tell, 20140610. p. 43/44

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