IT GETS EASIER. EVERY DAY IT GETS A LITTLE EASIER. BUT YOU GOTTA DO IT EVERY DAY –THAT'S THE HARD PART. BUT IT DOES GET EASIER

REWRITE'EM ALL

GRZEGORZ WILCZYŃSKI

CHAPTER 1

WHATEVER HAPPENED TO NETSCAPE?

NETSCAPE 6.0 IS FINALLY GOING INTO ITS FIRST PUBLIC BETA. THERE NEVER WAS A VERSION 5.0. THE LAST MAJOR RELEASE, VERSION 4.0, WAS RELEASED ALMOST THREE YEARS AGO. THREE YEARS IS AN AWFULLY LONG TIME IN THE INTERNET WORLD. DURING THIS TIME, NETSCAPE SAT BY, HELPLESSLY, AS THEIR MARKET SHARE PLUMMETED.

Source: https://www.joelonsoftware.com/2000/04/06/things-you-should-never-do-part-i/

IT'S HARDER TO READ CODE THAN TO WRITE IT.

Source: https://www.joelonsoftware.com/2000/04/06/things-you-should-never-do-part-i/

THEY DECIDED TO REWRITE THE CODE FROM SCRATCH.

CHAPTER 2

DMITRI MENDELEEV

Reihen	Gruppo I. — R^1O	Gruppo II. — RO	Gruppo III. — R^2O^3	Gruppo IV. RH^4 RO^2	Gruppo V. RH^3 R^2O^5	Gruppo VI. RH^2 RO^3	Gruppo VII. RH R^2O^7	Gruppo VIII. — RO^4
1	H=1							
2	Li=7	Be=9,4	B=11	C=12	N=14	O=16	F=19	
3	Na=23	Mg=24	Al=27,3	Si=28	P=31	S=32	Cl=35,5	
4	K=39	Ca=40	—=44	Ti=48	V=51	Cr=52	Mn=55	Fe=56, Co=59, Ni=59, Cu=63.
5	(Cu=63)	Zn=65	—=68	—=72	As=75	Se=78	Br=80	
6	Rb=85	Sr=87	?Yt=88	Zr=90	Nb=94	Mo=96	—=100	Ru=104, Rh=104, Pd=106, Ag=108
7	(Ag=108)	Cd=112	In=113	Sn=118	Sb=122	Te=125	J=127	
8	Cs=133	Ba=137	?Di=138	?Ce=140	—	—	—	— — — —
9	(—)	—	—	—	—	—	—	
10	—	—	?Er=178	?La=180	Ta=182	W=184	—	Os=195, Ir=197, Pt=198, Au=199.
11	(Au=199)	Hg=200	Tl=204	Pb=207	Bi=208	—	—	
12	—	—	—	Th=231	—	U=240	—	— — — —

1871

SOME PEOPLE DISMISSED MENDELEEV FOR PREDICTING THAT THERE WOULD BE MORE ELEMENTS, BUT HE WAS PROVEN TO BE CORRECT WHEN GA (GALLIUM) AND GE (GERMANIUM) WERE FOUND IN 1875 AND 1886 RESPECTIVELY, FITTING PERFECTLY INTO THE TWO MISSING SPACES.

Source: https://en.wikipedia.org/wiki/Dmitri_Mendeleev

CHAPTER 3

ARE WE WEB YET?

WELL, PROBABLY NOT YET

Source: https://www.arewewebyet.org/

CHAPTER 4

RUBY ON RAILS IS NOT A MINIMALIST FRAMEWORK, IT'S A METROPOLIS. ONE FILLED WITH ALL THE MAJOR INSTITUTIONS NEEDED TO RUN A LARGE, SPRAWLING APPLICATION LIKE BASECAMP OR GITHUB OR SHOPIFY.

BLANK?

```ruby
class NilClass
  def blank?
    true
  end
end

class FalseClass
  def blank?
    true
  end
end
```

Source: https://blog.arkency.com/2017/07/nil-empty-blank-ruby-rails-difference/

```ruby
class Array
  #   [].blank?      # => true
  #   [1,2,3].blank? # => false
  alias_method :blank?, :empty?
end

class Hash
  #   {}.blank?                  # =>
true
  #   { key: 'value' }.blank?  # =>
false
  alias_method :blank?, :empty?
end
```

Source: https://blog.arkency.com/2017/07/nil-empty-blank-ruby-rails-difference/

```ruby
class String
  BLANK_RE = /\A[[:space:]]*\z/

  # A string is blank if it's empty or contains whitespaces only:
  #
  #   ''.blank?       # => true
  #   '    '.blank?   # => true
  #   "\t\n\r".blank? # => true
  #   ' blah '.blank? # => false
  #
  # Unicode whitespace is supported:
  #
  #   "\u00a0".blank? # => true
  #
  def blank?
    # The regexp that matches blank strings is expensive. For the case of
empty
    # strings we can speed up this method (~3.5x) with an empty? call.
The
    # penalty for the rest of strings is marginal.
    empty? || BLANK_RE.match?(self)
  end
end
```

Source: https://github.com/rails/rails/blob/master/activesupport/lib/active_support/core_ext/object/blank.rb

964K ITER/SEC

Source: http://intorust.com/tutorial/why-rust/

```c
static VALUE
rb_str_blank_as(VALUE str)
{
  rb_encoding *enc;
  char *s, *e;

  enc = STR_ENC_GET(str);
  s = RSTRING_PTR(str);
  if (!s || RSTRING_LEN(str) == 0) return Qtrue;

  e = RSTRING_END(str);
  while (s < e) {
    int n;
    unsigned int cc = rb_enc_codepoint_len(s, e, &n, enc);

    switch (cc) {
      case 9:
      case 0xa:
      case 0xb:
      case 0xc:
      case 0xd:
      case 0x20:
      case 0x85:
      case 0xa0:
      case 0x1680:
      case 0x2000:
      case 0x2001:
      case 0x2002:
      case 0x2003:
      case 0x2004:
      case 0x2005:
      case 0x2006:
      case 0x2007:
      case 0x2008:
```

Source: https://github.com/SamSaffron/fast_blank/blob/master/ext/fast_blank/fast_blank.c

```
#if ruby_version_before_2_2()
      case 0x180e:
#endif
          /* found */
          break;
      default:
          return Qfalse;
    }
    s += n;
  }
  return Qtrue;
}

static VALUE
rb_str_blank(VALUE str)
{
  rb_encoding *enc;
  char *s, *e;

  enc = STR_ENC_GET(str);
  s = RSTRING_PTR(str);
  if (!s || RSTRING_LEN(str) == 0) return Qtrue;

  e = RSTRING_END(str);
  while (s < e) {
    int n;
    unsigned int cc = rb_enc_codepoint_len(s, e, &n, enc);

    if (!rb_isspace(cc) && cc != 0) return Qfalse;
    s += n;
  }
  return Qtrue;
}
```

Source: https://github.com/SamSaffron/fast_blank/blob/master/ext/fast_blank/fast_blank.c

10.5M ITER/SEC

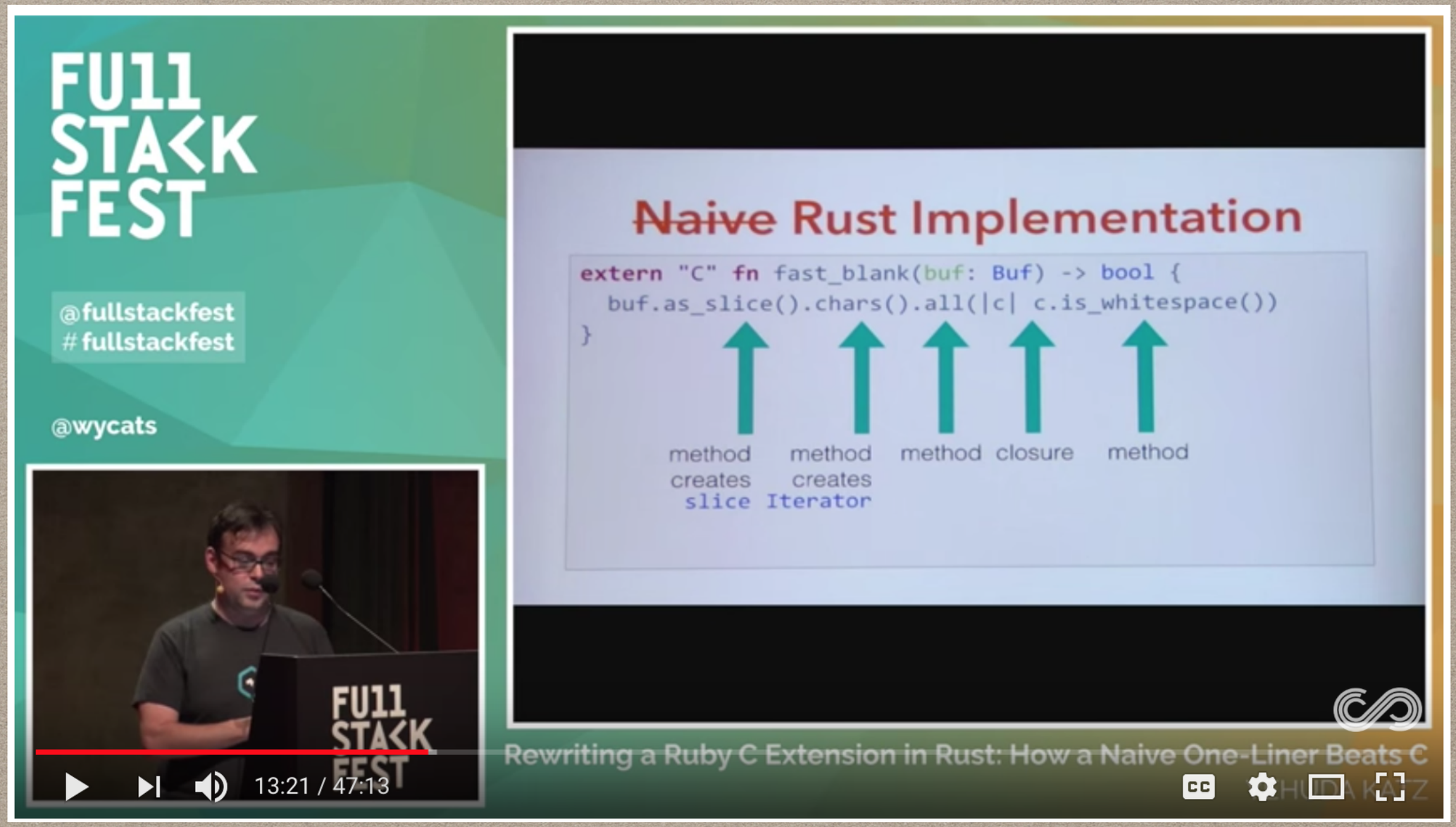
Source: https://github.com/SamSaffron/fast_blank

```rust
extern "C" fn fast_blank(buf: Buf) -> bool {
  buf.as_slice().chars().all(|c| c.is_whitespace())
}
```

Source: https://www.sitepoint.com/ruby-can-be-faster-with-a-bit-of-rust/

11M ITER/SEC

Source: https://github.com/SamSaffron/fast_blank



FULL STACK FEST 2015: REWRITING A RUBY C EXTENSION IN RUST, BY YEHUDA KATZ

Source: https://www.youtube.com/watch?v=2BdJeSC4FFI

IT GETS EASIER. EVERY DAY IT GETS A LITTLE EASIER. BUT YOU GOTTA DO IT EVERY DAY –THAT'S THE HARD PART. BUT IT DOES GET EASIER

THANK YOU

TWITTER.COM/GWILCZYN_SKI

SOURCES

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- https://en.wikipedia.org/wiki/Dmitri_Mendeleev
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- https://www.sitepoint.com/ruby-can-be-faster-with-a-bit-of-rust/