
Subject: Adding new .scd spelling dictionary
Posted by [koldo](#) on Thu, 29 Oct 2009 10:28:49 GMT
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Hello all

I would like to add a new .scd spelling dictionary and begin to use it to detect spelling errors when writing .tpp help files.

How can I create a new .scd file and add new words to it ?

Best regards
Koldo

Subject: Re: Adding new .scd spelling dictionary
Posted by [mirek](#) on Fri, 30 Oct 2009 15:48:00 GMT
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koldo wrote on Thu, 29 October 2009 06:28Hello all

I would like to add a new .scd spelling dictionary and begin to use it to detect spelling errors when writing .tpp help files.

How can I create a new .scd file and add new words to it ?

Best regards
Koldo

Ha, good idea.

The problem is that existing .scd files were created way back in 2002 year. So the code can be outdated today.

And... it took me more than hour to find it. But I am glad we are about to refresh this one - and potentially adding more .scd files.

Anyway, here we go:

```
#include <Speller/Speller.h>
```

```
byte          charset;  
int           vocn[256];  
Vector<String>   voc;  
VectorMap<int, String> line;
```

```
int LineCode(const String& s)
```

```

{
    return ToLower(s[0], CHARSET_DEFAULT) +
        (ToLower(s[1], CHARSET_DEFAULT) << 8) +
        (ToLower(s[2], CHARSET_DEFAULT) << 16);
}

bool Contains(const String& a, const String& b)
{
    for(int i = 0; i + b.GetLength() <= a.GetLength(); i++)
        if(memcmp(~a + i, ~b, b.GetLength()) == 0) return true;
    return false;
}

struct LengthOrder
{
    bool operator()(const String& a, const String& b) const
    {
        return a.GetLength() > b.GetLength();
    }
};

struct NoCaseOrder
{
    bool operator()(const String& a, const String& b) const
    {
        String la = ToLower(a);
        String lb = ToLower(b);
        return la != lb ? la < lb : a > b;
    }
};

void Make()
{
    FileIn in("f:/dict/cs_cz.txt");
    SetDefaultCharset(CHARSET_WIN1250);
    Vector<String> w;
    Index<int> alphabet;
    String maxl;
    int maxlen = 0;
    while(!in.IsEof()) {
        String l = in.GetLine();
        if(l.GetLength() > maxlen) {
            maxlen = l.GetLength();
            maxl = l;
        }
        if(l.GetLength() > 1) {
            if(l.GetLength() == 2)
                l.Cat(127);
        }
    }
}

```

```

w.Add(l);
for(const char *s = l; s < l.End(); s++)
    alphabet.FindAdd((byte)*s);
}
}

printf("Words loaded, now sorting\n");

ASSERT(maxlen < 64);

LOG("Maximal length:" << maxlen << " " << maxl);

Sort(w, NoCaseOrder());

printf("Sorted, now gathering voc candidates\n");

// -----

VectorMap<String, int> part;
int dict = 0;
int i = 0;
while(i < w.GetCount()) {
    int linecode = LineCode(w[i]);
    String prevw;
    printf("line %s\n", ~ToLower(w[i].Mid(0, 3)));
    while(i < w.GetCount() && LineCode(w[i]) == linecode) {
        String ww = w[i];
        for(int j = 0; j < prevw.GetLength(); j++)
            if(ww[j] != prevw[j]) break;
        if(j >= dict)
            dict = j + 1;
        for(int l = 2; l < ww.GetLength() - 1; l++)
            for(int q = j; q + l <= ww.GetLength(); q++)
                part.GetAdd(ww.Mid(q, l), 0)++;
        prevw = ww;
        i++;
    }
}

printf("Creating voc\n");

int dcount = 256 - dict;
RLOG("dict: " << dict);
RLOG("dict size: " << dcount);
RLOG(" alphabet:" << alphabet.GetCount());
RLOG(" combinations: " << dcount - alphabet.GetCount());

for(i = 0; i < alphabet.GetCount(); i++)

```

```

voc.Add(String(alphabet[i], 1));

Vector<int> value;

for(i = 0; i < part.GetCount(); i++)
    value.Add() = part[i] * (part.GetKey(i).GetLength() - 1);

while(voc.GetCount() + dict < 256) {
    int m = 0;
    int mi = 0;
    int i;
    for(i = 0; i < part.GetCount(); i++)
        if(value[i] > m) {
            m = value[i];
            mi = i;
        }
    if(m <= 0) break;
    String v = part.GetKey(mi);
    vocn[voc.GetCount()] = value[mi];
    voc.Add(v);
    RLOG("Adding " << v << " value:" << value[mi] << " count:" << part[mi]);
    printf("Adding %s value %d\n", ~v, value[mi]);
    for(i = 0; i < part.GetCount(); i++) {
        if(Contains(part.GetKey(i), v))
            value[i] -= v.GetLength() * part[i];
        if(Contains(v, part.GetKey(i)))
            value[i] -= part.GetKey(i).GetLength() * part[i];
    }
    value[mi] = 0;
}

int sum = 0;
for(i = 0; i < voc.GetCount(); i++) {
    sum += vocn[i];
    RLOG(vocn[i] << " " << voc[i]);
}
RLOG("Total " << sum);

// -----
Sort(voc, LengthOrder());

i = 0;
while(i < w.GetCount()) {
    int linecode = LineCode(w[i]);
    String& ln = line.GetAdd(linecode);
    printf("LINE %s\n", ToLower(~w[i].Mid(0, 3)));
    RLOG("---- Line " << ToLower(~w[i].Mid(0, 3)));
    String prevw;

```

```

bool next = false;
while(i < w.GetCount() && LineCode(w[i]) == linecode) {
    String ww = w[i];
    for(int j = 0; j < prevw.GetLength(); j++)
        if(ww[j] != prevw[j]) break;
    if(next)
        ln.Cat(j);
    RLOG(j << "\t" << w[i]);
    next = true;
    const char *s = ~ww + j;
    while(*s) {
        for(int i = 0; i < voc.GetCount(); i++) {
            if(memcmp(s, voc[i], voc[i].GetLength()) == 0) {
                RLOG(" " << s << " " << voc[i]);
                ln.Cat(i + dict);
                s += voc[i].GetLength();
                break;
            }
        }
        ASSERT(i < voc.GetCount());
    }
    prevw = ww;
    i++;
}
RLOGHEXDUMP(ln, ln.GetLength());
}
int l = 0;
for(i = 0; i < line.GetCount(); i++) {
    line[i].Cat(0);
    l += line[i].GetLength();
}
FileOut out("F:/dict/x.spell");
out.Put(GetDefaultCharset());
out.Put(0);
out.Put(dict);
for(i = 0; i < voc.GetCount(); i++) {
    out.Put(voc[i]);
    out.Put(0);
}
for(i = 0; i < line.GetCount(); i++) {
    out.PutL(line.GetKey(i));
    out.PutL(line[i].GetLength());
    out.Put(line[i]);
}
}
}

void Main()
{

```

```
Make();  
}
```

(I have not even tried to compile that yet).

The input file is specified here:

```
void Make()  
{  
    FileIn in("f:/dict/cs_cz.txt");
```

and it should be one word per line, all possible variants. The code compresses it to .scd format.

Mirek

Subject: Re: Adding new .scd spelling dictionary
Posted by [koldo](#) on Fri, 30 Oct 2009 23:05:55 GMT
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Hello Mirek

After some small changes the code works converting a text file to a .scd file.

Unfortunately I cannot "catch" that file from Thelde. It seems that the function Speller::Set from Speller.cpp does not understand the supplied .scd file.

Best regards
Koldo

Subject: Re: Adding new .scd spelling dictionary
Posted by [mirek](#) on Sat, 31 Oct 2009 10:40:42 GMT
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Do you think you could send the source .txt to my email? (If it is not too big).

Mirek

Subject: Re: Adding new .scd spelling dictionary
Posted by [koldo](#) on Sat, 31 Oct 2009 13:43:50 GMT
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Hello Mirek

I have just sent you tour program wit small changes to run.

Best regards
Koldo

Subject: Re: Adding new .scd spelling dictionary
Posted by [koldo](#) on Sat, 31 Oct 2009 13:58:19 GMT
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Hello Mirek

A little trick I am doing is using a renamed en-us.scd with my language, and adding all new words in an .usp file. Of course this is not ok as all English words are considered right.

As now your are handling this code, perhaps you could do a little improvement: consider the same upper and lower case words, because if not all words have to be at least duplicated (Hello, hello or HELLO are considered different).

Best regards
Koldo

Subject: Re: Adding new .scd spelling dictionary
Posted by [mirek](#) on Sat, 31 Oct 2009 21:52:46 GMT
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koldo wrote on Sat, 31 October 2009 09:58Hello Mirek

A little trick I am doing is using a renamed en-us.scd with my language, and adding all new words in an .usp file. Of course this is not ok as all English words are considered right.

As now your are handling this code, perhaps you could do a little improvement: consider the same upper and lower case words, because if not all words have to be at least duplicated (Hello, hello or HELLO are considered different).

Some words can only be written with capital first letter...

Mirek

Subject: Re: Adding new .scd spelling dictionary

Posted by [mirek](#) on Sat, 31 Oct 2009 21:53:05 GMT

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koldo wrote on Sat, 31 October 2009 09:43Hello Mirek

I have just sent you tour program wit small changes to run.

Best regards

Koldo

Uh, not program, the input file (spanish words)....

Mirek

Subject: Re: Adding new .scd spelling dictionary

Posted by [koldo](#) on Sat, 31 Oct 2009 22:45:12 GMT

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Hello Mirek

I have just sent you a file with just few words.

If everything is ok I would try to search for some open source of spelling dictionary.

And with all of that to use it in software, adding the possibility of proposing right words in case of spelling mistake, would not be bad ...

Best regards

Koldo

Subject: Re: Adding new .scd spelling dictionary

Posted by [mirek](#) on Mon, 02 Nov 2009 09:57:23 GMT

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It took me longer than I have expected, but I believe it is now working. I have put the packake into uppsrc.

(The problem I had to solve was that original format expected local 8-bit encoding. I have changed this to UTF-8).

Subject: Re: Adding new .scd spelling dictionary

Posted by [koldo](#) on Mon, 02 Nov 2009 10:52:33 GMT

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Hello Mirek

Thank you for your work

Please tell me if I am doing it right. These are the steps I do:

- Prepare input.txt file with a word per row in the language to check spelling
- Save it in UTF8 with BOM
- Run makespellscd input.txt es-es.scd
- Copy es-es.scd to upp folder
- Recompile TheIde
- Run TheIde and open .tpp help
- Select all text and choose ES-ES language

With these steps done the spell checker does not find mistakes so ,as the .scd file has only few words, it does not work.

If instead of ES-ES y select EN-US, the spell checker detects the mistakes.

Best regards
Koldo

Subject: Re: Adding new .scd spelling dictionary
Posted by [mirek](#) on Mon, 02 Nov 2009 12:19:25 GMT
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- UTF8 WITHOUT BOM! (BOM would be added to the first word of dict).
- Also, make sure that only letters which REQUIRE initial (or other) capital letters have them. Capitals are enforced!

Also, you have to recompile theide, because of changed format of scd to support utf-8 (it is BW compatible, so no changes are needed for old .scds).

If you can get it work, it would be nice to establish scd folder on sf.net...

Mirek

Subject: Re: Adding new .scd spelling dictionary
Posted by [mirek](#) on Mon, 02 Nov 2009 12:31:43 GMT
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Hard to say what goes wrong in your case. I have gone throught he process and it works for me (in WinXP).

Mirek

Subject: Re: Adding new .scd spelling dictionary
Posted by [koldo](#) on Mon, 02 Nov 2009 15:55:13 GMT
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Sorry Mirek

Not possible to get it run for now.

I will try it this afternoon from a cleaner svn theide build.

Best regards
Koldo

Subject: Re: Adding new .scd spelling dictionary
Posted by [koldo](#) on Mon, 02 Nov 2009 22:01:59 GMT
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Hello Mirek

Excellent. It works perfectly.

Now does anybody know where to get free spelling dictionaries ?

Best regards
Koldo

Subject: Re: Adding new .scd spelling dictionary
Posted by [emr84](#) on Tue, 03 Nov 2009 01:15:41 GMT
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Maybe <http://icon.shef.ac.uk/Moby/>?
