Using HarfBuzz With Python

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Introduction

The following doc will focus on installing Harfbuzz and using it with python.Harfbuzz is a text shaping library which is used to convert unicode text to glyphs indices and positions .

Setup

- Download Harfbuzz from https://www.freedesktop.org/software/harfbuzz/release/
- Prefer downloading the latest one.
- Build process
    - Now we require to install FreeType,Cairo,GLib.
        - On linux do it by (sudo apt-get install gcc g++ libfreetype6-dev libglib2.0-dev libcairo2-dev)
        - on the Mac, using MacPorts (sudo port install freetype glib2 cairo)
        - on Fedora, RHEL, CentOS, and other Red Hat based systems (sudo yum install gcc gcc-c++ freetype-devel glib2-devel cairo-devel)
        - Homebrew (brew install freetype glib cairo)
    - If you are using a tarball, you can now proceed to running configure and make as with any other standard package. That should leave you with a shared library in src/, and a few utility programs including hb-view and hb-shape under util/. From the tarball, NMake Makefiles are also provided in win32/, which supports building HarfBuzz using Visual Studio, with a README.txt that gives instructions on building using NMake.

    - If you are bootstraping from git, you need a few more tools before you can run autogen.sh for the first time. Namely, pkg-config and ragel.
        - on Ubuntu / Debian:
            - sudo apt-get install autoconf automake libtool pkg-config ragel gtk-doc-tools
        - on Fedora, RHEL, CentOS:
            - sudo yum install autoconf automake libtool pkgconfig ragel gtk-doc
        - on the Mac, using MacPorts:
            - sudo port install autoconf automake libtool pkgconfig ragel gtk-doc
        - or using Homebrew:
            - brew install autoconf automake libtool pkgconfig ragel gtk-doc
        - To build the Python bindings, you also need:
            - brew install pygobject3
- To enable HarfBuzz bindings for Python among other languages, make sure you have latest version of gobject-introspection available.
    - on Ubuntu / Debian:
        - sudo apt-get install libgirepository1.0-dev
- Now run autogen.sh (available inside harfbuzz package)
- Now run ./configure --with-gobject --enable-introspection=yes
- Make sure that gobject-introspection is enabled then in the final report
- Compile and install
- Make sure you have the installation lib dir in LD_LIBRARY_PATH, as needed for the linker to find the library.
- Then make sure you also have GI_TYPELIB_PATH pointing to the resulting $prefix/lib/girepository-* directory.
- Make sure you have pygobject installed.

- To check harfbuzz works in your Python interpreter:
    - from os import environ
    - (set your path to girepository where HarfBuzz-0.0typelib is located)
    - environ['LD_LIBRARY_PATH']='/usr/local/lib/girepository-1.0/'
    - environ['GI_TYPELIB_PATH']='/usr/local/lib/girepository-1.0/' (set your path)
    - from gi.repository import HarfBuzz as hb
- If it import it means it is success.!!
- Now test out sample.py from here
    - https://github.com/phunsukwangdu/python_pango/tree/master/harfbuzz_programs
    - Python sample.py Angel__.otf “text”

References:-

- https://github.com/behdad/harfbuzz/blob/master/BUILD.md
- https://github.com/behdad/harfbuzz/blob/master/README.python
- https://github.com/behdad/harfbuzz/issues/261
- https://github.com/behdad/harfbuzz/blob/master/src/sample.py
- http://www.linuxfromscratch.org/blfs/view/svn/general/harfbuzz.html