The Concise Common Workflow Language

Concision and elegance in a workflow language using lisp

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Why workflow languages?

Why not just use shell scripts?

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Why not just use shell scripts?

What does this script do?

```
input_file=$1
if [ ! -f "$input_file" ]; then
    echo "Input file does not exist"
    exit 1
fi
output_file=$2
mkdir /tmp/working-directory
cp "$input_file" /tmp/working-directory/input
wc -w /tmp/working-directory/input > /tmp/working-directory/words
if [ $? -ne 0 ]; then
    echo "Command wc -w failed"
    exit 1
fi
rm /tmp/working-directory/input
mv /tmp/working-directory/words "$output_file"
rmdir /tmp/working-directory
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Seems to take two arguments

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Check input files and input types

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Report error if command failed

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Actual code is just a single command!

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- Separate housekeeping code from actual processing
- Isolate inputs, outputs and steps
- Report error on failed steps
- Strong static typing
- Automatically handle running in different software and hardware environments (containers, clusters, etc.)
- Machine inspectable language

CWL vs ccwl

The Common Workflow Language and the Concise Common Workflow Language

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Common Workflow Language

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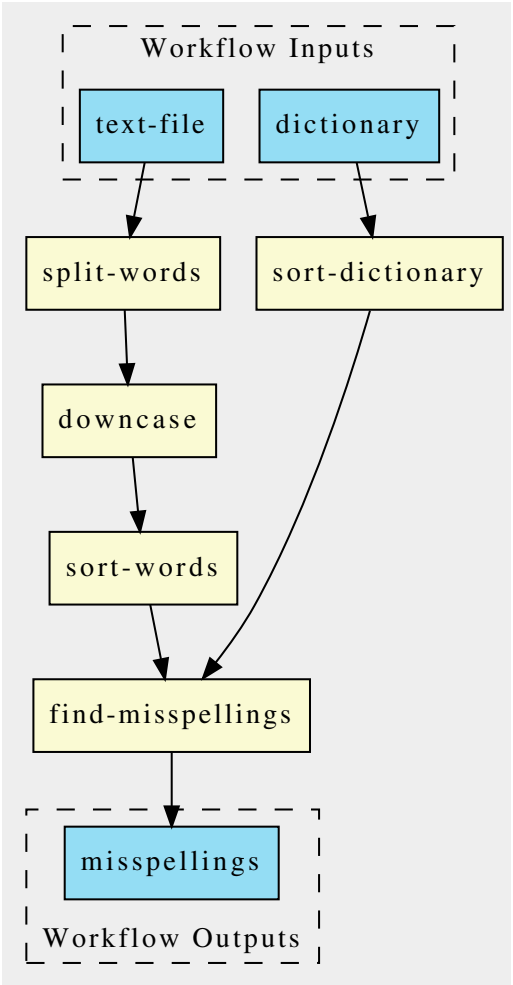
- To the user, writing ccwl should be as simple as writing a shell script, or at least, a Makefile
- Good compile-time warnings so errors can be caught early
- An embedded domain-specific language in Guile Scheme
- Only 1800 lines (including comments and blank lines) so far!

Demo

A spell check workflow[1]



[1] Thanks to dgsh (`https://github.com/dspinellis/dgsh`) for inspiring this example

Thank You!

- Website: `https://ccwl.systemreboot.net/`
- Git repo: `https://github.com/arunisaac/ccwl`
- E-mail: arunisaac@systemreboot.net