Generating regular expression grosswords

Project for Text Algorithms course

Introduction

Our project was inspired by the a regex crossword that was part of the 2013 MIT Mystery Hunt [1] (and the Text Algorithms course exam)

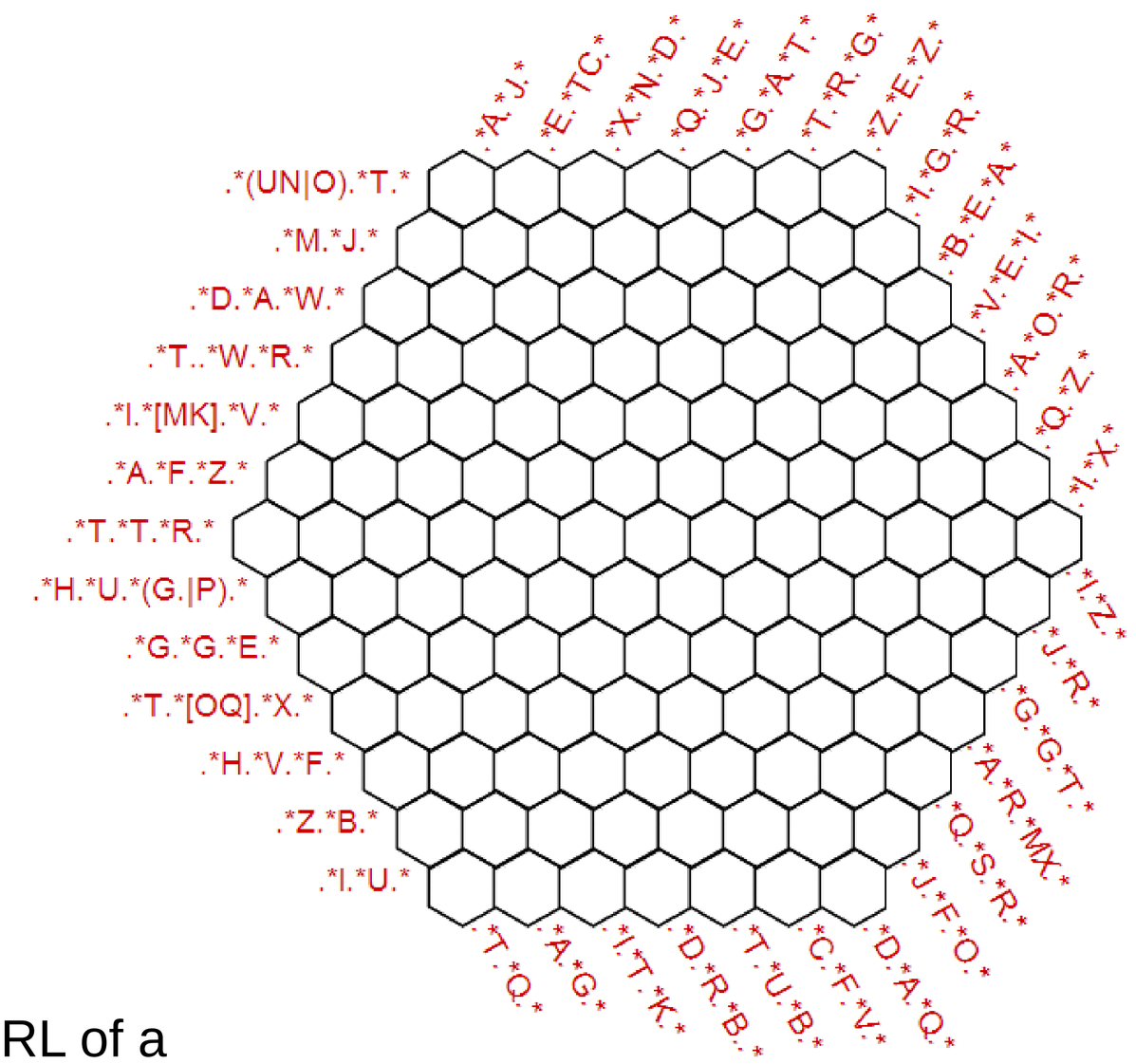
It was fun, but it didn't last for very long and we wanted to solve more puzzles like this.

Purpose of the project

Luckily the user interface to solve such a crossword has already been created [2].

Our goal was to modify that interface so that we can provide it with other regular expressions as hints.

And related to that we needed a way to generate those regular expressions.



Methods and results

The original crossword application was modified to take as a paramater the URL of a JSON with the regular expressions for hints.

To generate the regular expressions we attempted base our regex generation on an existing solution of generating a regex based on a list of strings that it should match and a list of strings it shouldn't [3].

However this approach didn't work very well and needs improving to produce puzzles of good quality.

An example of one such not very challenging crossword is on the right.

Authors:
Joosep Rõõmusaare
University of Tartu

Indrek Loolaid
University of Tartu

Code:
https://github.com/binoternary/regex-crossword-generator
https://github.com/joosep/regex-crossword

Demo:
http://joosep.github.io/regex-crossword/

References:
[1] http://www.i-programmer.info/news/144-graphics-and-games/5450-can-you-do-the-regular-expression-crossword.html/
[2] https://github.com/Jimbly/regex-crossword
[3] http://nbviewer.ipython.org/url/norvig.com/ipython/xkcd1313.ipynb