Extending Programming with Diagrammatic Programming Languages

ANONYMOUS AUTHOR(S)

We assert that DPLs - Diagrammatic Programming Languages - can be used as an adjunct syntax for creating programs.

We give an example of a simple DPL syntax and describe a method for creating executable code using diagrams drawn with off-the-shelf graphic editors.

Certain forms of expression are more easily expressed in DPL form rather than TPL - textual programming language - form. TPL-only expression of programs can lead to perceived complexity and other problems. The use of DPLs makes it possible to address these sorts of issues using fresh notations.

ACM Reference Format:
Anonymous Author(s). 2024. Extending Programming with Diagrammatic Programming Languages. 1, 1 (April 2024), 2 pages. https://doi.org/10.1145/nnnnnnn.nnnnnnn

1 COMPILATION AND EXECUTION

Compilation and execution of this DPL consists of the steps listed below. Note that the diagrams are rough sketches intentionally simplified for overview purposes only.

- filler
- Convert DPL program diagrams to JSON.

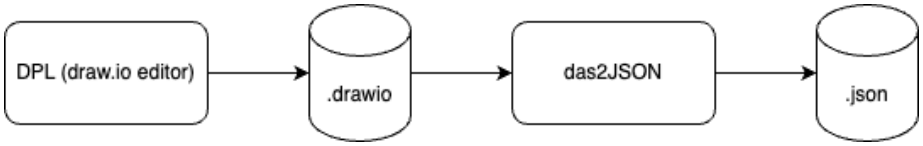

Fig. 1. Convert diagram to JSON

> Transpilation of the diagrams (XML) into JSON (or internal data structures, if efficiency is at a premium). The diagrams represent *templates* for components.

Manuscript submitted to ACM

In our implementation, `das2json` is implemented[10] in the Odin programming language. The process begins with a straightforward call to the XML parsing library. The XML data is then deconstructed into a convenient internal format (see `0d/ir/ir_odin/ir.odin` in the code repository).

```
    xml, xml_err := xml.parse(file)
...
```

2 REFERENCES

REFERENCES

[1] Diagrams.net. https://app.diagrams.net

[2] Martens, Chris. Ceptre: A Language for Modeling Generative Interactive Systems. https://www.cs.cmu.edu/~cmartens/ceptre.pdf (Accessed: January 19, 2024).

[3] https://en.wikipedia.org/wiki/GraphML (Accessed: April 22, 2024)

[4] https://en.wikipedia.org/wiki/Parsing_expression_grammar (Accessed: April 22, 2024)

[5] https://en.wikipedia.org/wiki/Fortran (Accessed: April 22, 2024)

[6] https://ohmjs.org (Accessed: April 22, 2024)

[7] https://odin-lang.org (Accessed: April 22, 2024)

[8] *anonymous repository*

[9] https://www.json.org/json-en.html (Accessed: April 22, 2024)

[10] *anonymous repository*

[11] *anonymous repository*

[12] *anonymous repository*

[13] *anonymous repository*

[14] *anonymous repository*

[15] *anonymous repository*

[16] *anonymous repository*

[17] *anonymous repository*

[18] *anonymous repository*

[19] *anonymous repository*

[20] *anonymous repository*

[21] *anonymous repository*

[22] *anonymous repository*