

Extending Programming with Diagrammatic Programming Languages

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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.

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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.

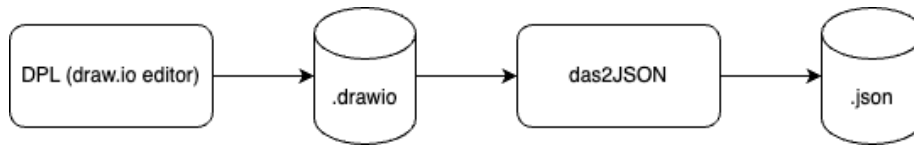


Fig. 1. Convert diagram to JSON

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

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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

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