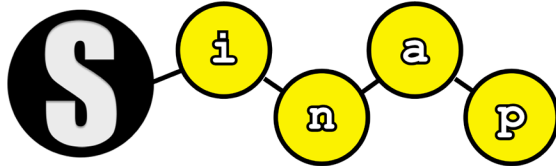


2graphic presents



Sheyne Anderson, CJ Dimaano, Dyllon Gagnier, Daniel James

Development Process

NPM Packages

We use NPM which lets us modularize components and easily add new features. This allowed us to easily create a command line tool in addition to the IDE.

Open Development Process

Sinap is completely free and open. Changes are pushed to GitHub where we use Travis CI to run the test suite. Merging code is only done after all unit tests pass and the code is formatted. All development communication is done through GitHub issue tracking.

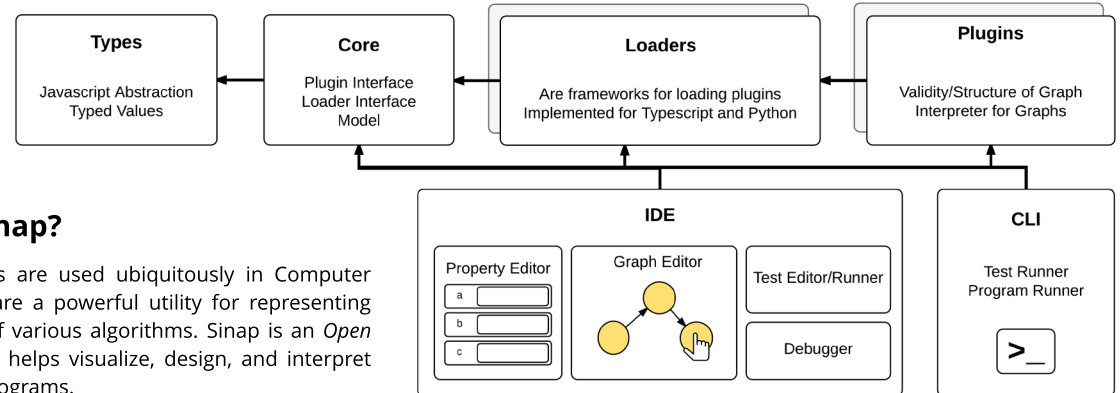
Debugging and Testing



Sinap supports interpreting and running input from the user on the graph along with a simple debugger for inspecting information about the internal state of the graph at each step of the computation.

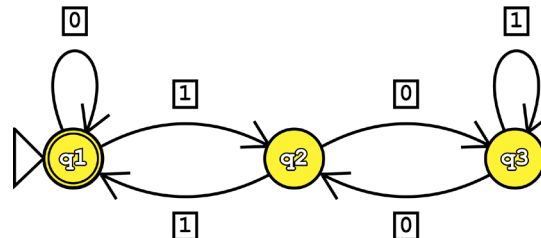
Input	Expected Result	Actual Result
<input type="checkbox"/> 11	<input checked="" type="checkbox"/> true	true
<input type="checkbox"/> 110	<input checked="" type="checkbox"/> true	true
<input type="checkbox"/> 111	<input checked="" type="checkbox"/> true	false

Architecture



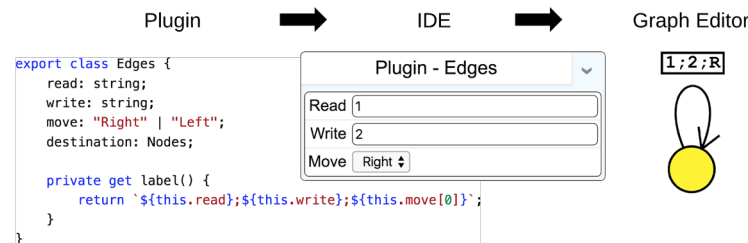
What is Sinap?

Abstract graphs are used ubiquitously in Computer Science. They are a powerful utility for representing the structure of various algorithms. Sinap is an *Open Source* IDE that helps visualize, design, and interpret graph-based programs.



This graph represents a regular expression that accepts binary numbers that are divisible by 3.

Plugin Data Flow



Travis



Angular



GitHub



Python



Mocha/Chai



Electron



TypeScript



NPM

End Users



Students

Sinap is an educational tool that can help demonstrate the many uses for graphs as a visual representation of the algorithms and models used in CS courses. Students can use Sinap to interactively explore these models.

Educational Faculty

Professors and TAs can leverage Sinap IDE by providing their own plugins that match their lectures. They can assign students to create graphs or modify plugins. Finally, assignments can be graded with the CLI.