
FootPrint

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The Problem

- IntelliJ debugger will only show you current variable values
 - What if you overstep the debugger?
 - What if you want to look at a variable's previous state?
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The Solution

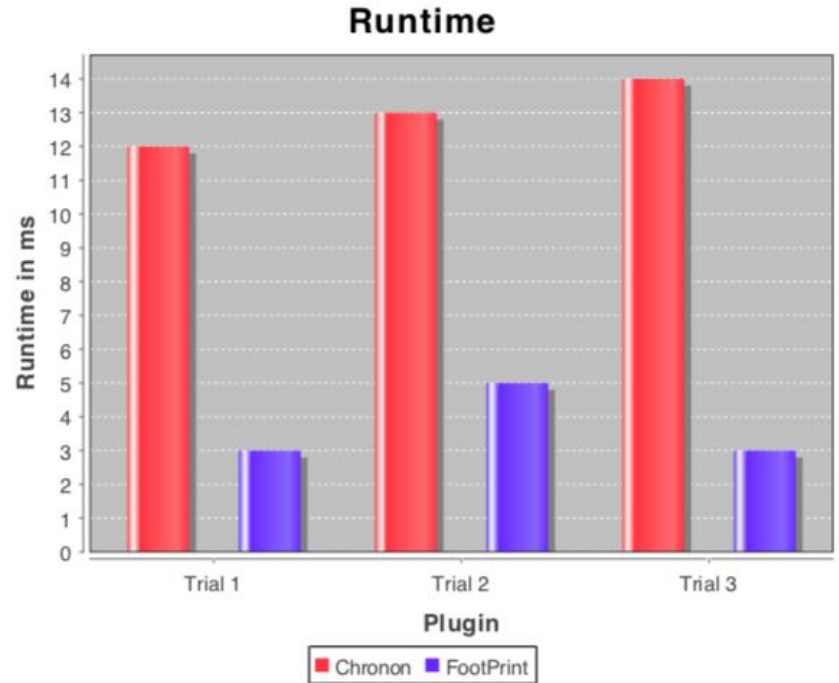
- FootPrint = Simple, light-weight variable history viewer
 - Stores all previous values of variables and line number
 - Aimed towards students/beginners
 - Plugin for IntelliJ
 - Current solutions : Chronon
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Initial Results

- Extract local variables and fields
 - Display objects using toString()
 - Basic extraction and caching completed
 - Basic UI completed
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Performance Experiment

- Measure pre-processing time
- Use test program(s) from CSE 142/143
- Rerun when FootPrint is complete



User Study

- Preferences: FootPrint vs Chronon
 - Ease of use
 - UI design
 - Likert questions (strongly agree - strongly disagree)
 - Would students actually use FootPrint?
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Final Hurdles

- Values are only extracted when the debugger is suspended!
 - Incomplete variable history
 - Solution: breakpoints under the hood
 - UI still needs to be improved; more readable
 - Cleaner display of values
 - Separating variables by method, object instance
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New UI

CLASSES/OBJECTS <input checked="" type="checkbox"/>	METHOD <input checked="" type="checkbox"/>	VARIABLES	HISTORY	LINE
Main	Create Objects	field1 *	student1.	5
HelloWorld @234	sum	field2 *	name = Hang	
student @585		student1	age = 1	
student @523		student2	▶ next = {instance of Student}	
		studentArray	name = Derek	
		studentList	age = 2	
			next = null	
			student1	6
			student1	7
			student1	9

Demo!