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# FootPrint

Audrey Tran-Thien  
Hang Bui  
Derek Cao  
Eric Guo

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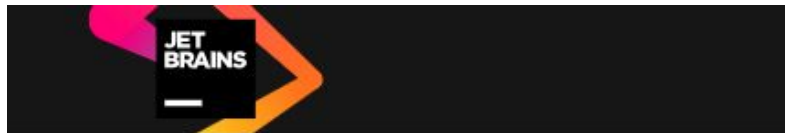
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# The Problem

- 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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# Current Solution

- Chronon
  - Reverse debugger
  - Only for IntelliJ Ultimate Edition
  - 2 out of 5 star reviews



## Chronon

tools integration

Compatible with IntelliJ IDEA

Jan 24, 2019

33 357



**Chronon** recording debugger support

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# Our Solution

- FootPrint = variable history viewer
    - Stores all previous values of variables and line number
  - Incorporates with IntelliJ's debugger
  - Aimed towards students/beginners
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# Key Functions

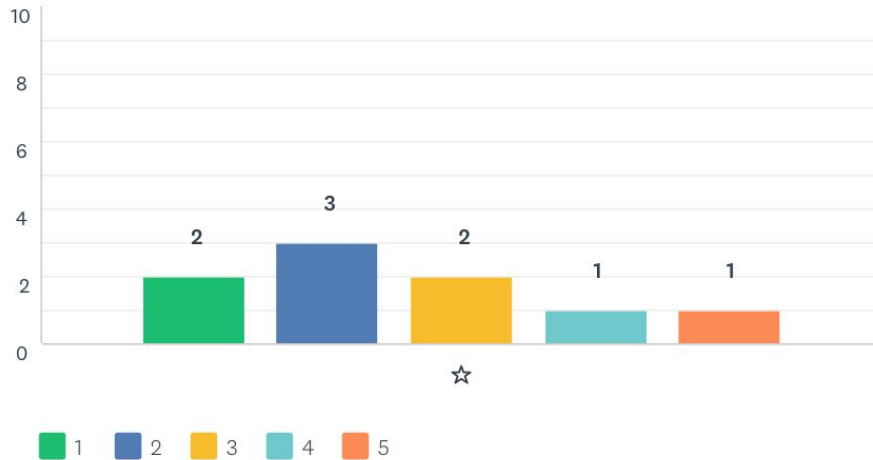
- Track local variables and fields
  - Track methods that were called
  - Live debugging
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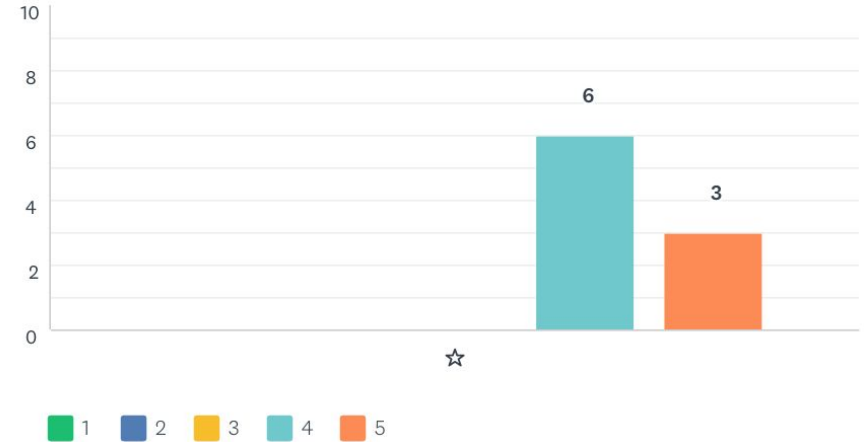
# Demo!

# User study

Chronon's average rating: 2.56/5



FootPrint's average rating: 4.33/5

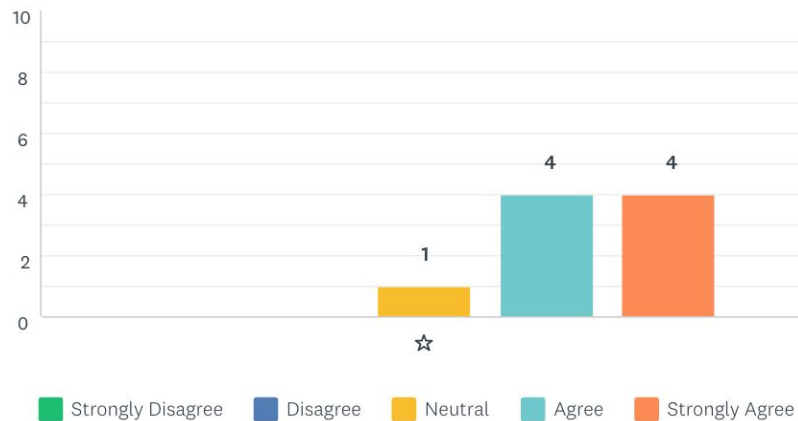


# User study

- Users liked:
  - Simple UI
  - Live debugging with IntelliJ
  - Works well with small assignments
- Conclusion: achieved our goal of creating a plugin that's easy to use

I would use this product again.

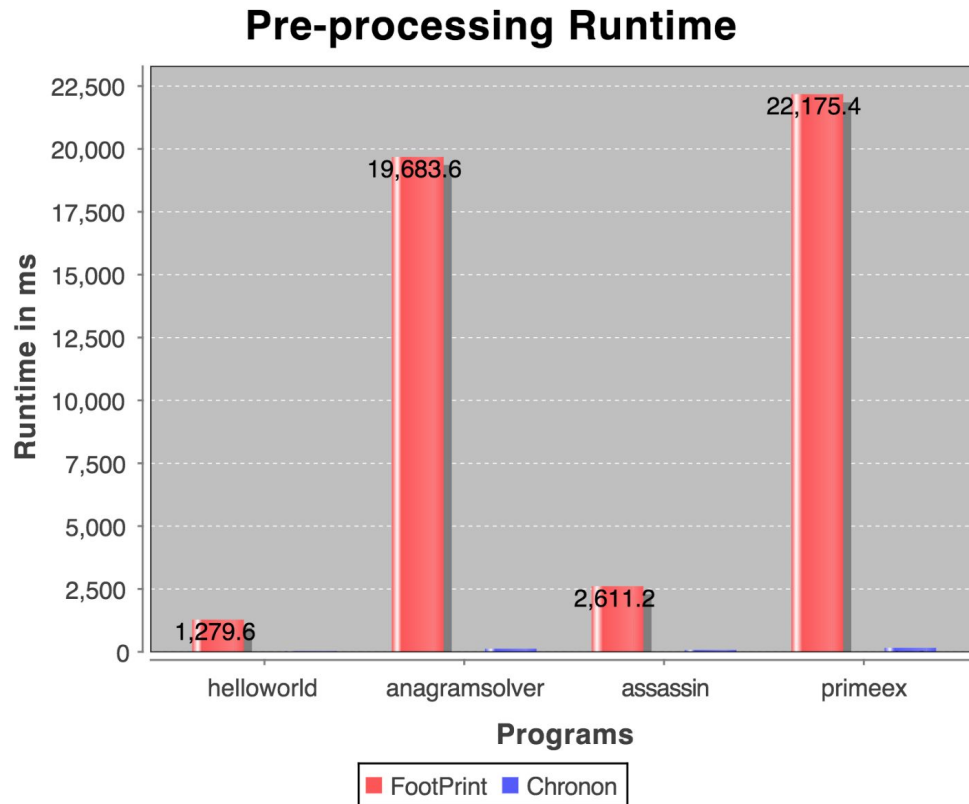
Answered: 9 Skipped: 0





# Performance Experiment

- Measure pre-processing time
- Use test programs from CSE 142/143 and open source
- FootPrint was slower



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# Future Improvements

- Make FootPrint scalable for larger programs
  - Do code analysis instead of setting breakpoints everywhere
  - Allow users to select specific variables to track in the UI
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# Conclusion

- Deployed FootPrint to IntelliJ!
  - Successfully tracks variable histories
  - Easy to use and integrates with IntelliJ's debugger
  - Continue to make improvements based on feedbacks
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**Thank you!**