Java-to-JavaScript Translation via Structured Control Flow Reconstruction

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Stats

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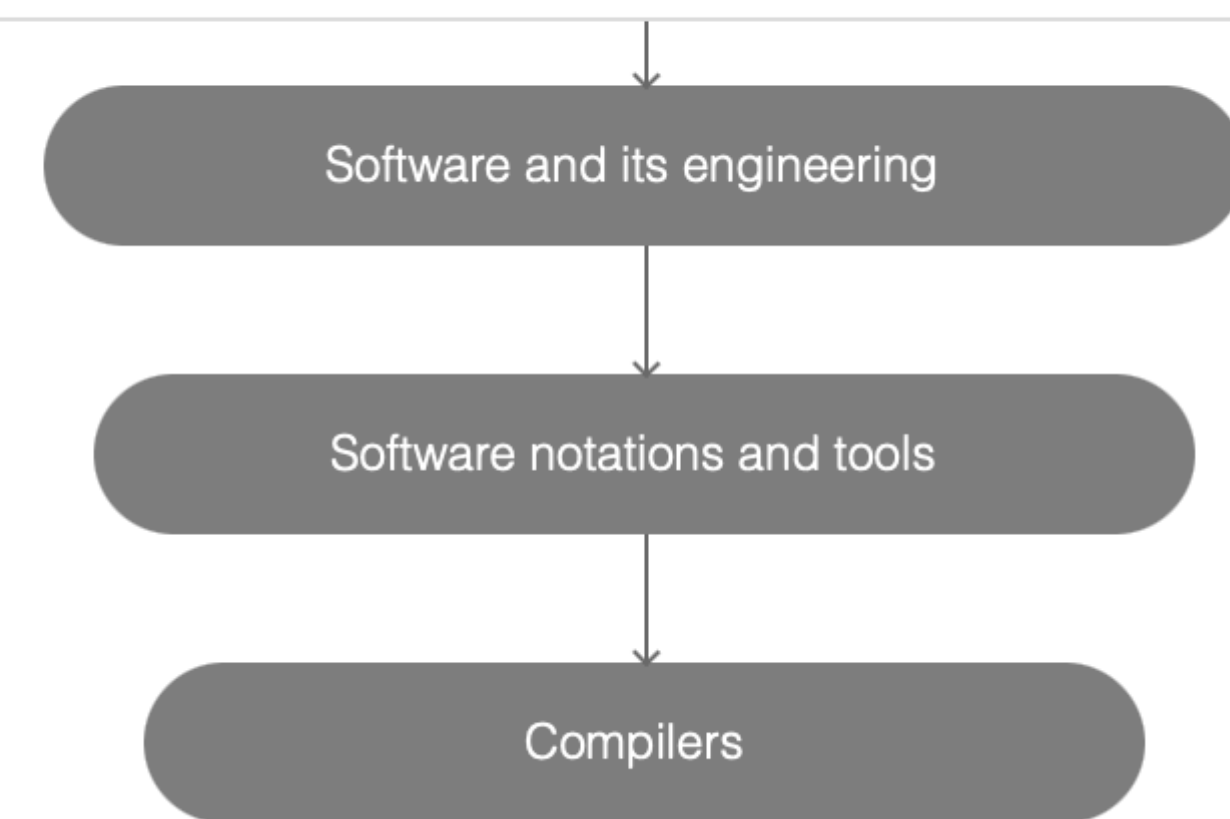**Citations:** 7
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Java-to-JavaScript translation via structured control flow reconstruction of compiler IR

Software and its engineering → Software notations and tools → Compilers

Link

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History Graal VM

1. The project's goal was to write a Java **VM in Java** itself to avoid the problems of developing in C++

2. The project changed its **focus to the JIT compile**r, and to hook it into the HotSpot runtime as much as possible. It complements or replaces the existing compilers (C1/C2 in HotSpot)

3. Graal, was started by manually converting the code of the HotSpot client compiler (named "C1") into Java, replacing the previous Maxine compiler

History Graal VM

Main features:

- GraalVM **JIT** Compiler

- Graal **Native** Image

- **Truffle** Language Implementation Framework and Embedding Languages (low overhead in runtime)

* Graal was included in HotSpot-based JDK releases such as **OpenJDK from Java SE 9 through 15**, to provide experimental **AOT** compilation

* The **-UseJVMCICompiler** option also enabled the use of Graal as a replacement for the server compiler (named "C2").

Personal Assessment

Problem Statement: **10**/10

Innovation: **4**/10 #just one more translator

Contribution: **10**/10

Logical Correctness: **4**/10 #ad hoc solution

Proof of Statements: **6**/10 #evaluation

Readability: **9**/10

Comments

Easy to read, straightforward vocabulary

Graph notation is not determined

Figures and Listings

No repositories presented

Working Technical Solution

Evaluation. Why exactly this set of applications?

Related Works Comparison Table