

A Case Study of The CLforJava Development Process

by Kit Peters
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What is CLforJava?

- ANSI Common Lisp v. 2 compiler/interpreter written entirely in Java and Common Lisp
- Unique in that it is developed as a multi-year student project
- Developed by successive groups of CSCI 462 students
- Intended to give students the experience of working on an “industrial-strength product”

Study Methodology

- Interviewed several students who worked on the project.
- Interviewed the project instructor and chief architect.
- Used my own personal experience of two semesters on the project.

Overall Development Model

- Overall, a spiral development model is used.
- The project is broken into chunks – tasks that can be accomplished in one semester by undergraduate students.
- Each semester is one turn of the spiral: design, build, integrate, test.
- Students present their work at the end of the semester.

Pedagogy

- Other than the spiral, no development models or techniques are taught.
- Instead, “foundational actions” are taught.
- Actions directly related to development, such as architecture, coding, and documentation.
- Actions indirectly related to development, such as version control, status reporting, and defect tracking.
- This makes students more capable of adapting to specific tools to accomplish these actions.

Conclusions

- The project seems well on the way to implementing its technical goals.
- Largely successful in its pedagogical goals.
- Most of the students I interviewed said that the project had given them experience directly applicable to real-world projects.

Why Java?

- Questions were raised about the appropriateness of Java as implementation language.
- At the time of the project's inception there was no other language suitable for implementation.
- Java has a virtual machine, garbage collection, and, most importantly, an established user base at the College of Charleston