DHBW Karlsruhe

Informatik

Themenmitteilung zur Studienarbeit

Studiengang Informatik, DHBW Karlsruhe
Erzbergerstr. 121, 76133 Karlsruhe

Modul T2_3201, Theorie 5. + 6. Semester)

Studierende/r	Fabian Schwarz-Fritz	Betreuer	Daniel Lindner
Kurs	TINF11B2	eMail	daniel.lindner@softwareschneiderei.de

Titel der Arbeit	**Evaluation of tool support to validate the Object Calisthenics**
Typ der Arbeit	**Evaluierung**
Problemstellung, Erwartetes Ergebnis	**The Object Calisthenics are an exercise to improve the quality of Object Oriented code. Good Object Oriented Code is hard to learn when coming from procedural code. Many developers think in Object Oriented code – but do they really write good Object Oriented Software?** **The rules of the Object Calisthenics are an exercise that trains developers to enhance their Object Oriented coding style. The exercise is composed of nine rules that the developer has to stick with. Behind every rule there is a purpose why the rule is important and why it leads to better Object Oriented Code.** **Usually the developer doesn't use these rules in real world project but applies them in short two hour exercises in which he designs and implements minimalistic software with little requirements. This could be a Minesweeper or a TicTacToe game for example. These training challenges should lead the developer to write better code and be more aware of code quality in real world projects.** **But when completing the training challenge the developer has to observe his own code and check if he satisfies the nine rules of the Object Calisthenics.** **Providing tool support for the Object Calisthenics could shorten the time of the training and furthermore guarantee that the developer sticks to the given rules. The academic evaluation of a tool validating the Object Calisthenics and the prototypical implementation of such a tool is the objective of this report.** **Therefore the rules shall be analyzed and the patterns behind it shall be explained. Furthermore, it is the purpose of this report, to evaluate if it is possible to create tool support for automatic validation for every rule. Is it possible to validate the rule? Can the rules be categorized? Are there similarities in validating the rules? Can the rules be grouped in different categories? It is the goal of this report to examine these**

	questions. The prototypical implementation of tool support is done as an Eclipse plugin validating three rules of the object calisthenics and displaying the validation result with simple indicators in the User Interface is also part of this report. Implementing validation support for more rules and providing a more sophisticated User Interface is optional.
Geplantes Vorgehen	1. Walking Skeleton validating one rule of the Object Calisthenics with Eclipse 2. Research about the Object Calisthenics. Assemble all necessary information about the rules of the Object Calisthenics. 3. Research on background information of every rule: Why does the rule exist, where does it come from, what's the purpose behind the rule. What is the right to exists of the rule? 4. Describe every rule and validate if a tool support is possible for the given rule 5. Create a prototypical implementation of the validation tool, validating at least 2 rules
Entwicklungsumgebung	Eclipse IDE, Eclipse PDE, GIT
Literaturliste	The Thought Works Anthology. An essay on Software Technology and Innovation. Chapter: Object Calisthenics by Jeff Bay Eclipse documentation on AST: http://help.eclipse.org/indigo/index.jsp?topic=%2Forg.eclipse.jdt.doc.isv%2Freference%2Fapi%2Forg%2Feclipse%2Fjdt%2Fcore%2Fdom%2FAST.html Object Calisthenics in lecture of last semester: https://github.com/dlindner/vorlesung-se2-dhbw/blob/master/added_2009/Object%20Calisthenics.odp Design Patterns. Elements of Reusable Object-Oriented Software. Erich Gamma, Richard Helm, Ralph Johnson, John Vlissides Clean Code. A handbook of Agile Software Craftmanship. Robert C. Martin