Linnéuniversitetet
Linnaeus University

Degree Project Proposal

Department of Computer Science

Thesis Topic	**Reuse in Self-Adaptive Software Systems: A Systematic Literature Review**
Degree level	Bachelor/Master
Company	None
Description	Software reuse is a process of creating new software systems from existing development artifacts including requirements, design, implementation and testing artifacts. Reuse is a long acclaimed method to build systems efficiently and cost-effectively. It enables developers to resolve complexity and improve quality and productivity at reduced cost and shorter time-to-market. To the best of our knowledge, there exists no systematic study which surveys and reports application of reuse methods and techniques for the development of self-adaptive software systems (SASS). To that end this study is planned to answer following research questions: 1. What are the trends in applying reuse-based methods for the development of SASS. 2. Which reuse-based methods have been used for the development of SASS. 3. What are the challenges in the in the application of reuse methods/techniques for the development of SASS.
Tasks	The degree project involves following major tasks: 1. Identify problems and challenges involved in the application of reuse methods/techniques for the development of self-adaptive systems 2. Identify various software reuse methods or techniques that have been already used for the development of self-adaptive systems 3. Identify software reuse methods or techniques that can be been tailored for the development of self-adaptive systems
Requirements	• 4DV610, Adaptive Software Systems or knowledge of SASS • Good understanding of “how to plan and perform” a systematic literature review
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