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Conference abstract

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Towards Achieving a Reusability Framework for Service and Cloud Computing: A Visionary Tale

Muthu Ramachandran
School of Computing, Creative Technologies, and Engineering
Leeds Beckett University
Headingley Campus
Leeds LS6 3QS UK
M.Ramachandran@leedsbeckett.ac.uk

Abstract

Software reuse has been identified as one of the solutions towards solving the software crisis and achieving productivity since 1969. Since then it has been a popular research topic in software engineering and in industry. There have been significant achievements in terms of approaches to reuse such as code reuse, generative reuse (automatic code generation) design reuse with components, packages, and patterns, knowledge reuse, process reuse, and reuse of best practices. There have been advances in software development tools and environments. However, reuse practices have not been so successful as expected due lack of not-invented-here syndrome and other cultural factors.

Since the emergence of service computing and cloud computing, reuse has now more explicit than ever before as a service allows autonomic composition and distribution of services on-the-fly. This leads us to consider developing techniques, methods, frameworks, and tools for reusability framework that can be ubiquitously embedded in the cloud environment. A great welcome to re-birth of service level reuse (reuse of cloud services, web services, and microservices).

This visionary talk will also provide key reuse characteristics of traditional approaches such as class, package, and component vs service reuse characteristics such as scalability and elasticity which are the founding factors for achieving service level reuse.

This visionary talk will provide a number of techniques, overview of a developed method of the Software Engineering Framework for Service and Cloud Computing (SEF-SCC), a service-oriented reference architecture, and a reusability framework with techniques, design methods, and a visionary tool towards achieving a reusability framework for the future generation of cloud computing systems and applications.

Keywords Software Reuse, Software Reuse as a Service (SRaaS), Reusability Framework, Software Engineering Framework for Service and Cloud Computing (SEF-SCC)

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