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## Supporting Architecture Evolution by Mining Software Repositories

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System evolvability can be characterized as a system's ability to efficiently cater for the addition of new functionalities and capabilities as well as for changes in implementation technologies, system components and configurations. Driven by the need to upgrade systems with a short time to market and optimized development costs, improved system evolvability is increasingly being recognized as a critical success factor in high-tech system design.

The aim of the Darwin project (2005-2010) was to provide generic methods that enable architects to optimize system evolvability. Within the Darwin project a group of researchers worked on two aspects of system evolvability: hardware and software evolvability. The Darwin researchers used the architecture of the Philips Healthcare MRI product family as a case study.

The author is one of the Darwin members, who carried out a doctoral research on software evolvability. During his research, the author has focused on mining software repositories to support software architects in enhancing software evolvability by identifying and investigating unwanted couplings in the decompositions of software systems. This thesis contains the results of that research.

**Adam Vanya (1982)** was born in the first historical capital of Hungary, called Esztergom. In that city he attended the Dobó Katalin Grammar School. He studied Mathematics and Computer Science at the Eötvös Lóránd University in Budapest. He finished his master studies in Computer Science at the VU University Amsterdam and performed his doctoral research at the same university.

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