

	FORM FOR PROPOSING A TOPIC IN THE SECOND CYCLE OF STUDIES	Oznaka	SAO-FENS.4.24.0-ENG
		Datum usvajanja	05.03.2019
		Datum/Br. revizije	-
		Stranica	1/1

Department	IT
Master thesis title:	Empirical examination of design thinking techniques in software development
Mentor/professor - contact:	Nermina Durmic (nermina.durmic@ibu.edu.ba)

Thesis background:	Design Thinking has collected theories and best-practices to foster creativity and innovation in group processes. It is a set of tools that enables solving a particular problem using analytics and creativity. Design thinking consists of five principles: emphasize, define, ideate, prototype, test. Lately, this technique has been recognized as very efficient one in the process of software product innovation and development, however its application in this area has still many open questions.
Thesis objective:	To empirically test the application of design thinking through all steps of SDLC to define the process flow and framework boundaries.
Literature:	<p>Plattner, H., Meinel, C., Leifer, L. (2011) <i>Design Thinking, Understand – Improve – Apply</i>. Springer – Verlag Berlin Heidelberg</p> <p>Hager, F., Kowark, T., Kruger, J., Vetterli, C., Ubernickel, F., Uflacker, M. (2014) <i>DT@Scrum: Integrating Design Thinking with Software Development Processes</i>. Springer International Publishing Switzerland</p>

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		Datum usvajanja	05.03.2019
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Department	IT
Master thesis title:	Barriers to Agile adoption
Mentor/professor - contact:	Nermina Durmic (nermina.durmic@ibu.edu.ba)

Thesis background:	Agile has been proven to be the most effective methodology for software development, and it has been used widely. Product definition and development in iterations, transparency, frequent inspection and adaption are its pillars. It is the most useful to be applied in complex environments. But due to its popularity, software project teams and organization are applying it without testing whether it is suitable for their environment and context, which may lead to software project failures.
Thesis objective:	To experiment and test the application of Agile methodology in different contexts of software development belonging project teams and environments to define its boundaries and limitations. Framework for Agile adoption in software development environments should be the result of this research.
Literature:	<p>Tripp, J.F., Armstrong, D.J. (2018) „Agile Methodologies: Organizational Adoption Motives, Tailoring and Performance“ <i>Journal of Computer Information Systems</i>, Vol.58(2)</p> <p>Dhole, R.D., Kumar, K.M.S. (2018) „Adoption Models for Agile Software Development Projects“ <i>Advances in Computational Sciences and Technology</i>, Vol. 11(1), pp. 69-76</p>

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Department	IT
Master thesis title:	Agile Architecture: Software architecture in Agile environments
Mentor/professor - contact:	Nermina Durmic (nermina.durmic@ibu.edu.ba)

Thesis background:	One of the least tackled questions in agile software development is how to apply architectural practices in such methodology where software is being built in iterations, and all related business and technical decisions are being made on the go, from first to last day of development.
Thesis objective:	The objective of this thesis is to discover and specify what makes up an agile approach to architecture.
Literature:	<p>Waterman, M. (2018) „Agility, Risk and Uncertainty, Part1: Designing an Agile Architecture“ IEEE Software, Vol. 35 (2)</p> <p>Santos, N., Pereira, J., Ferreira, N., Machado, J.R. (2018) „Modeling in Agile Software Development: Decomposing Use Cases Towards Logical Architecture Design“ In: Kuhrmann M. et al. (eds) Product-Focused Software Process Improvement. PROFES 2018. Lecture Notes in Computer Science, vol 11271. Springer, Cham</p>