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When

Wednesday January 16th 2019 from 11am-12pm EST (4pm
– 5pm UTC)

Topic

Machine Assisted Requirements Inspection and Evaluation
(M.A.R.I.N.E.)

Speaker

Amar Zabarah



Abstract

Many systems today are software-intensive. A software-intensive system is, by definition, any system where software influences to a large extent the design, construction, deployment, and evolution of the system as a whole. This includes computer-based systems ranging from individual software applications, information systems, embedded systems, software product lines and product families and systems-of-systems (ISO/IEC/IEEE 42010).

Measuring software size is an important tool for setting budgets, bidding on work, and initiating project control. Function Point (FP) software sizing is a process that quantifies functionality delivered to the user based on the logical design. FPs provide a technology-independent measurement and are an ISO-standardized process. FPs are typically used to measure software for the purposes of quality/productivity analysis, benchmarking, and cost/resource estimation.

However, accurate software size estimation can be a challenge for most organizations due to the scarcity of trained personnel and the very time-consuming nature of the process. One answer to this problem is to automate the software sizing process as well as provide users with real-time guidance and assistance as they conduct their size estimates. Machine Assisted Requirements Inspection and Evaluation (MARINE) automates functional software size estimation and requirements analysis by applying Artificial Intelligence and Natural Language Processing (NLP) techniques to review the quality of software requirements and then applying the FP counting process to them. MARINE is developed in Python, and it is a desktop application that interfaces with Office software.

MARINE benefits include but are not limited to: providing immediate feedback on the clarity of requirement statements, identifying and removing duplicate requirements, displaying entity and object relationships, calculating FP counts on a given set of requirements, and providing ROM effort and schedule estimates.

Biography

Amar Zabarah has more than 9 years of Systems Engineering, Research and Development (R&D), and Operations Research (OR) experience in gathering, defining, and structuring requirements of systems for clients' needs; identifying and designing processes; developing program estimates; building project schedules, budgets, forecasts, and plans; conducting detailed system analyses; and providing acquisition recommendations. Mr. Zabarah is widely respected by Logapps clients for his superior systems approach to tackling difficult IT problems and identifying optimal strategic decisions. Mr. Zabarah has worked in commercial and federal settings, including the National Oceanic and Atmospheric Administration (NOAA), US Army, US Navy, US Air Force, Administrative Office of the US Courts (AOUSC), Internal Revenue Services (IRS) and the Office of the Under Secretary of Defense (OUSD). He is a certified Associate Systems Engineering Professional (ASEP) by the International Council on Systems Engineering (INCOSE) and is pursuing the Certified Systems Engineering Professional (CSEP) designation. Mr. Zabarah is also the MARINE Project Manager. Mr. Zabarah holds a BS in Systems Engineering and MS in Operations Research from George Mason University.

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Regards,

Andy Pickard

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