

Opening

In the context of a KWR project in collaboration with a consortium of SMEs led by Awareness Groep, LaQuSo has an opening for a researcher in the project “*Measurement of Quality and Size in Dependable Systems*”

The research area of the project covers assessing quality and size of software systems. On the *size* side we will be developing new function-point analysis approaches for multi-language software systems, as well as systems involving process models and business rules. Traditional function-point analysis can be seen as consisting of three steps. First, **primitive software concepts**, for example, classes of an object-oriented program or screens of a GUI, **are classified as** outputs, inquiries, inputs, files, and interfaces. Second, **the number of software concepts** of each type **is calculated**. Finally, based on these computations the final result, called the number of function points, is computed. Main theoretical challenges are related to the first step above, i.e., identifying appropriate notions of a primitive software concept for such systems and extracting primitive software concepts from the code.

On the *quality* side, we will be looking for quality metrics for the above mentioned types of software. One usually distinguishes **model metrics** that can be automatically assessed but characterize quality indirectly, and **validation metrics** that characterize quality directly but their assessment is usually more costly due to, e.g., human involvement. Number of lines of code is an example of a traditional model metrics, while number of bugs an example of a traditional validation metrics. Proposing appropriate metrics for quality of multi-language software systems (systems involving process models and business rules) consists therefore in suggesting (a number of) model metrics and establishing statistical correlation of the values derived using these metrics with those obtained from existing validation metrics, such as the number of bugs, expert assessment or longevity.

Requirements

Candidates for this function should have a PDEng (in areas such as Software Technology) or a PhD degree (in areas such as Computer Science) and shall have the ability to use and extend advanced quality assessment and sizing approaches. A team player is required since multiple people with different backgrounds are working on this topic, and different visions have to be combined. A “self supporting innovator” attitude is required.

Position

LaQuSo is offering a position as researcher (UFO category “*Onderzoeker*”) at the Department of Mathematics and Computer Science of Eindhoven University of Technology for a period of 1 October 2009 until 31 December 2010. Employment and salary are in accordance with the Collective Labor Agreement of the Dutch Universities (CAO NU).

Information

For more information, please contact H.T.G. Weffers (h.t.g.weffers@laquso.com, +31 40 247 2526)