Towards Understanding the need for a Comprehensive Design Methodology for Rich Web-based Applications

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A paper presented at the 2018 FST Doctoral Conference, University of Westminster, 19 April 2018.

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Software design has marked a distinctive space within the software development life cycle, since the early stages of the timeline of software engineering, bridging between requirements phase and development. In this setting, dedicated design methods such as Interaction Flow Modeling Language (IFML) have been introduced for modeling the new breed of software systems called Rich Web-based Applications (RiWAs), which deliver rich user experience via the combination of rich Graphical User Interfaces (GUIs) and a special communication model named Delta-Communication (DC). We have identified the incompleteness and high complexity of these available design methods for RiWAs and we are proposing to introduce a comprehensive design methodology, dedicated to RiWAs.

However, due to many reasons – including the need for early software releases – agile software engineering methodologies like Rapid Application Development (RAD) and Scrum have become popular, which drastically cut down the design and documentation activities. They focus more on iteratively releasing working software versions, over comprehensive designs and documentation. In this environment, the necessity for a dedicated comprehensive design methodology for RiWAs can be questioned.

Conducting an in-depth literature survey, we noted that the actual setting of the aforesaid environment in the context of RiWAs engineering is not much clear. Therefore, we decided to conduct a data survey to identify the contemporary state of the RiWAs engineering industry, towards understanding the need for a comprehensive design methodology for RiWAs. Rather than only examining the design practices in the industry, we also expect to find facts to verify the importance of learning design methodologies in the direction of increased realization, which can support the development activities. We plan to use an online questionnaire for gathering initial facts to gain a structured understanding of the environment, and based on the knowledge gained by it, we expect to conduct deep discussions with the domain experts to identify more in-depth aspects.

Based on the facts identified through the data survey, we expect to identify the dimensions of the contribution of the design methodologies in the contemporary RiWAs engineering industry, by the means of cognitive aspects of the developers. Through the results, we expect to verify the need for a dedicated design methodology for RiWAs.