AN ANALYSIS OF AJAX BASED RICH INTERNET APPLICATIONS DEVELOPMENT COMPLEXITIES

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Rich Internet Applications (RIA) has gained attention, overcoming the main issues related to the traditional web applications, slow performance and limited interactivity. Asynchronous Javascript and XML (AJAX) plays a major role in RIA development; but due to various reasons, the adoption of AJAX within RIAs is considered difficult. During the literature survey, we noted that the AJAX based RIAs engineering was hindered by some complexities. The key finding/conclusion is that all these complexity issues are related to the fact, that there is a lack of a coherent and precisely described set of architectural formalism for AJAX RIAs; which makes the realization of the AJAX adoption is complex. A cross-sectional survey was conducted, using a structured questionnaire with close ended questions, and random sampling technique. The targeted population was the individuals, mainly system designers and developers, engaged in the RIA engineering. The analysis of the cross-sectional survey shows that even a single AJAX feature implementation in a web page is not considerably difficult, when the number of features per page increases, the difficulty level also increases. When the multiple AJAX features are needed to be implemented, the difficulty level is marked significantly high. Even though the frameworks, libraries and other tools are used, the analysis interprets that the complexities still exist and the tools have not helped a lot to overcome them. As the architecture plays an important role in system designing, to reduce the development complexities, it's essential to have a comprehensive system design based on a solid architecture. Based on this general knowledge, with the acquaintance gained from both literature and cross-sectional surveys, we conclude the result of the analysis as follows. To address and reduce the complexities related to AJAX RIAs, rather than another set of new tools or frameworks/libraries, what needs is a good architectural solution, which delivers a better abstract realization of the features of the RIAs, including AJAX adoption. We propose that general hybrid architecture would address the difficulties in AJAX based RIAs, by providing a higher realization to overcome the complexities, with a minimal learning curve.

Keywords: AJAX, Architecture, Rich Internet Applications, System Designing and Development