A Study on Satisfaction Level Among Amateur Web Application Developers Towards Pigeon-Table as Nano Web Development Framework

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ABSTRACT

Web applications are an important platform in today’s society, which humans rely on to complete daily tasks. Most of the web applications were developed with sophisticated, well-known, and powerful web development frameworks. While these frameworks evolve and grow at exponential rate, it become very complex, challenging to learn and no longer intuitive for web application developers, especially those who are inexperienced and amateur. There is a need for a simpler web development framework which is sufficient for contemporary web application development. Pigeon-table is a simple module developed under ngPigeon project with the aim to generate web content, i.e. table using data from MySQL database with a single html tag. Pigeon-table is intuitive and easy to learn as it was developed with the principle “web developer-centred design” in mind. A pilot test was conducted in this study to evaluate the satisfactory level among amateur web application developers towards pigeon-table as nano-framework.

KEYWORDS

Amateur Web Application Developer, AngularJS, Nano-Framework, ngPigeon Project, Pigeon-Table, Twitter Bootstraps, Web Development Framework

INTRODUCTION

A web application or “web app” is a software program that reside on a web server. Unlike traditional desktop applications, which are launched within operating system, web apps are usually accessed through a web browser (Christensson, 2014). Data-Driven Web Application on the other hand is an enhanced online platform or web-app that was developed mainly to handle, transfer, manipulate and share data from one entity to another entity. (Alfat, Triwiyatno, & Isnanto, 2016; Louridas, 2016; Vora, 2009).

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In today’s society, humans rely more and more on data-driven web application to complete daily tasks or to fulfill desires on all aspects from business, education, government, entertainment sectors, industry, even to human personal lives. (Doğan, Betin-Can, & Garousi, 2014). Web applications such as E-Commerce, Online Booking System, Online Banking System and Online Bill Payment System allow end user or consumer to interact with business entity conveniently at anytime and anywhere. In retail, Online Point of Sales System (POS), Online Retail System, Real Time Inventory and Supply Chain Management Systems (SCM) help to ensure business processes and operations run smoothly.

Doğan et al. (2014) claimed that web has been proven to be a powerful medium for delivering software service over the internet. They also pin-pointed four major reasons why web application is way much better and acceptable as compared with traditional desktop application from end user perspectives. The first one being no installation is required for the end user. Web application is normally deployed on the server in which end users could easily access or interact with it through web browser. Due to its deployment on the server, the application will be automatically updated for all users when new features are developed and deployed. Thus, there is no need for end user to perform any updates when accessing the new version of web application. The third reason Doğan et al. mentioned was web applications are accessible from any machine i.e. computer, tablet and mobile phone, which is connected to the Internet and finally, web applications are interoperable regardless of operating system even on mobile devices. Unlike traditional desktop application which are not universally compatible with all kinds of operating systems.

BACKGROUND

In line with the evolution of web technologies, many web application development frameworks were introduced and well accepted by web application developers (also known as web-app developer) in the past decade (German, Salmeron, Ha, & Henderson, 2016; Graziotin & Abrahamsson, 2013; Li et al., 2016; Prokofyeva & Boltunova, 2017; Samra, 2015). Front-end JavaScript framework (JSF) such as AngularJS, BackboneJS, EmberJS, ReactJS, MeteorJS, and VueJS. are commonly used and employed due to its efficiency, safety and open-source (DA-14, 2017; Malhotra, 2017). CSS framework such as Bootstraps, Foundation, Semantic UI, Material UI are among the contemporary framework for UI Design or decoration. While for the back-end, PHP framework such as Symphony, CakePHP, Codelgniter, Yii, and Laravel are commonly used. Table 1 shows the classification of some widely used frameworks and their year of initial release.

These frameworks become popular and mature within a short period of time due to their richness in features and are powerful. Besides, these frameworks were contributed and supported by the open source community. Hence, developing web application using these frameworks not only shortens the development time but also simplifies the development process as web-app developers do not need to rewrite every single piece code from scratch or “re-inventing the wheel” (Grant, 2014; Li et al., 2016). Instead, web-app developer just need to learn, adapt and apply the components that come along with the framework during the development (Alfat et al., 2016).

Motivation: The Challenges Encountered Among Amateur Web-App Developers While Developing Data-Driven Web Application

Typically, a web-app developer or the development team tends to start developing a prototype as quick as possible with preferred framework when initiating a new web application development project. The development team will then present the prototype to their client and gather more feedback at the same time observing how their client interacting with the prototype. This approach is also known as iterative development process, which follows the “Agile Manifesto” principle. It is understandable that development process can be simplified by using the above-mentioned well-known frameworks for experienced web-app developers. However, this may not be the case for inexperience or amateur web-app developer, in this case, the undergraduate students and fresh graduates. They often face challenges
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