

Cloud Based User Analytics and Dynamic Page Refreshment Application for Web Portal



Sundar Santhoshkumar, C.Balakrishnan, P.Subhasri, V.Lankeswaran, M. Sangeetha

ABSTRACT: *Dynamic web development [1] is one of the emerging fields in computer science. Dynamic updation [2] without disturbing the user environment is a challenging task. The modern technologies provide more support for dynamic web content development. The social network, user customization are the needful buzz words for a successful business on the web. The standard colors and static design with dynamic operations may get bored. Online bookselling and reading are one of the leading business industry in the world. The book readers are interested to know the feedback of a book before going to read or purchase. Today social media gives background information about anything in this world. For selling or buying well in digital medium every user needs some relevant information about the product. The searching and buying products based on the customer reviews are become increased. For that Web 2.0 and other new techniques and models are used to assist users during the search, promote products during the requirement and very useful in decision making. This work is extending the existing functionality to support the analytics. The proposed web analytics approach enables users to know about the same interest groups in the web portal and enables to collaborate. The new portal should be a social media platform for the readers. In the new portal, the end-user is not only a user of the application but also a participant by social networking, tagging, etc.*

Keywords: *Web Analytics, Cloud computing, Dynamic Dashboard.*

I. INTRODUCTION

Dynamic^[3] website provides an easy update and user customisation facility to the based on usage priority. The user customization is the key success of Apple products in the market. The same technique is used in web pages called dynamic dashboards. With the use of technology, the admin can provide an individual web page to each user. Based on the requirement and demand, the user get individual updates in their web pages. But when the website is more and more dynamic in nature, then it is not possible to update the same in each users pages. This is possible when the admin has a dynamic dashboard feature which enables the updates without refreshing the user's webpages. This work is done for an online bookselling website.

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* Correspondence Author

Sundar Santhoshkumar*, Assistant Professor, Department of Computer Science, Alagappa University, Karaikudi, Tamil Nadu, India.

C.Balakrishnan, Assistant Professor, Alagappa Institute of Skill Development, Alagappa University.ac.in.

P.Subhasri, Adjunct Faculty, Alagappa Institute of Skill Development, Alagappa University.ac.in.

V.Lankeswaran, Assistant Professor, Department of Bio Informatics, Alagappa University.ac.in.

M. Sangeetha, PG Scholar in Computer Science, Department of Computer Science, Alagappa University.ac.in.

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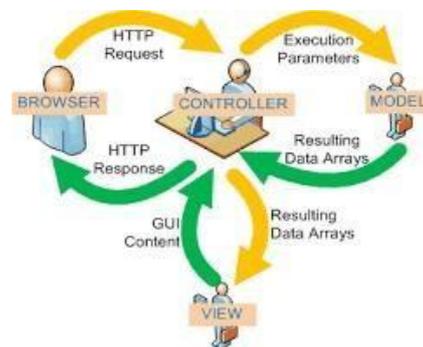
II. EXISTING WORK

There are many E-Book portal websites present in the Digital media market. For this experimental study, a familiar website for book shopping called “Pustaka” is taken. The present ebook website contains a list of books with corresponding authors.

Based on the interests and subscribed list of the users the portal sends an update of new book arrivals and offers. Since it is a successful approach each user have to perform a categorical search every time. The selected new arrival notification, customized offer request, and customized user page are the expectations of users in the site. The present portal framework has not a dynamic dashboard and user customization facility. There is no option to see the process details in the dashboard page. If we want to see the particular process the admin needs to access through by the SQL query in the database.

III. LIMITATIONS OF EXISTING WORK

The present dynamic webpage^[3,4] updates are available with refresh options. The leading websites like Amazon, Flipkart, eBay is having dynamic updating facility without refreshment in the on-screen window. The user can view a recently updated version of a particular webpage without knowing its changes happening in the background. The present web portal needs cross-linkage of social media sites



for reference, etc., The Pustaka web portal is developed to sell books and lend books online. For each time the existing user has to select submenu to choose his option. Suppose the user interest is ‘Novel’ means then the user has to choose author option and select novel as a submenu for author search. Even the user is a regular visitor of the same purpose if the particular novel author name is available in front of the dashboard as a separate option then it would be very useful for him. This user customization is not available in the site. The second one, there is no social media linkage availability in the web portal.

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If the social media linkage is available then the user can able to share the link, opinion with the same community across the world. This feature is not available in the present website.

IV. PROPOSED WORK

In the proposed work the new techniques are used to achieve dynamic dashboard without page refreshment[6]. For dynamic dashboard work, the Hicharts, Angular JS, MVC techniques are used.

With the use of these technologies, the admin can monitor and perform updation instantly without notifying the changes in the user page. The user page can be dynamically designed based on his usage and desires. The proposed application gives better user customization and dynamic management facility to the web administrator.

V. TECHNIQUES USED

PHP

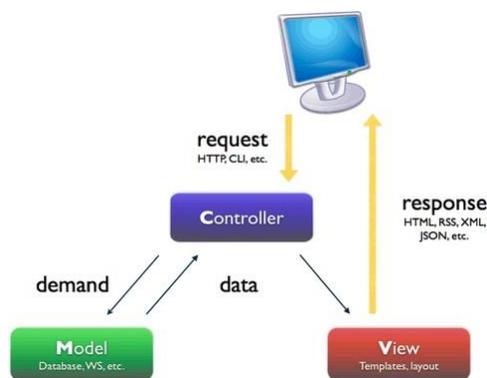
PHP is known for simple and open source^[3,5]. The PHP framework supports lightweight code generation with high security. It is one of the best alternatives for Microsoft ASP. For this book shopping application, the PHP is useful for the development of dynamic supported web pages.

CODE IGNITER (CI)

Code Igniter is cross-platform support framework for PHP code generation. It is recently developed one for speed code generation and updating. The lack of page refreshment in a dynamic environment^[4] can be possible with CI. It has many built-in functions and library for immediate code generation and implementation.

MVC FRAMEWORK

Model View Controller or MVC as it is popularly called, is a software design pattern for developing web applications. It is familiar for reusability of existing code with modifications. It also supports parallel environment.



WAMP SERVER

Acronym for Windows/Apache/MySQL/PHP, Python, (and/or) PERL The acronym WAMP refers to a set of free (open source) applications, combined with Microsoft Windows, which are commonly used in Web server environments. The WAMP stack provides developers with the four key elements of a Web server: an operating system, database, Web server, and Web scripting software.

The WAMP server^[5,11] is used to handle multiple queries in a dynamic environment.

AJAX

Ajax (short for asynchronous JavaScript and XML) is a collection of web developing techniques on the client side. The efficient feature of Ajax is one can send and retrieve data from a server asynchronously (in the background) without interfering with the display and behavior of the existing page. With the use of AJAX, the new arrival of a book and author information can be displayed instantly in the user screen. The user can get recent reviews, sold history and ratings of a particular book by connecting the website with social media.

ANGULARJS

The AngularJS^[5,10] framework used as an intermediary between front and script code. It interprets those attributes as directives to bind input or output parts of the page to a model that is represented by standard JavaScript variables. This framework is more useful to translate user queries as a code to back and vice versa. The author nickname search, year mentioning familiar releases are the high-level uses of ANGULARJS. It supports dynamic data exchange during the application runtime.

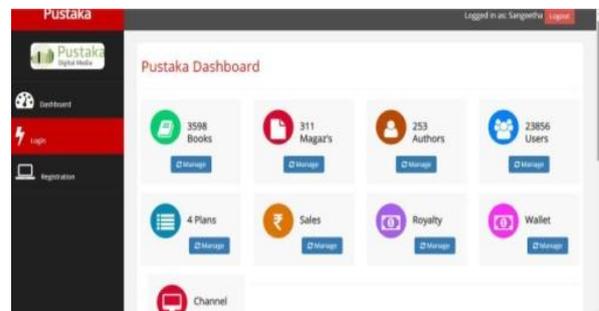
DATA USED

The web portal taken for the proposed research work is Pustaka Digital Media^[7]. which is one of the leading web portals for bookselling and lending. The official site has experimented with a collection of new technologies for Dynamic Dashboard^[4].

VI. EXPERIMENTATION

The collection of technologies and frameworks are used in the proposed work. The Dashboard allows the user to rearrange its position based on usage and selection. The icons in the front screen are reorganized in each time after usage. The following figure shows the front page as well as the dashboard of Pustaka web portal.

The following figure shows the individual user of Pustaka



Dashboard. It contains user registration and current book lending status. The next figure shows the user registration details.

USER_ID	USER_NAME	EMAIL	CREATED_AT
53	Rajesh	rajesh.devidas@gmail.com	2019-03-07 14:40:18

ORDER ID	DATE CREATED	PAYMENT MODE	AMOUNT	CART TYPE	PLAN	TOTAL BOOKS	BOOKS TAKEN
1423854118	2019-03-14 00:34:07	Credit Card	25.00	Buy	-	-	-
1423854305	2019-03-14 00:36:06	Credit Card	38.00	Buy	-	-	-
142848835	2019-07-18 23:51:17	Credit Card	175.00	Buy/Rent	Book Loans - Quarterly Subscription	10	10

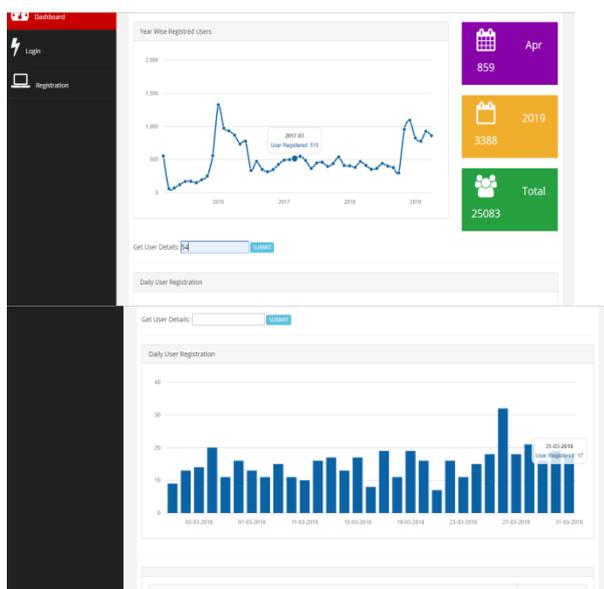
VII. PERFORMANCE ANALYSIS

The existing website of pustaka was a static panel with dynamic updation option. The user can view the changes in a panel after the changes done the admin of a site. The immediate updation is possible whne the page is allowed to refresh. The following web page shows the standard front page design The following web page shows the standard front page design

USER_ID	USER_NAME	EMAIL	CREATED_AT
53	Rajesh	rajesh.devidas@gmail.com	2019-03-07 14:40:18

ORDER ID	DATE CREATED	PAYMENT MODE	AMOUNT	CART TYPE	PLAN	TOTAL BOOKS	BOOKS TAKEN
1423854118	2019-03-14 00:34:07	Credit Card	25.00	Buy	-	-	-
1423854305	2019-03-14 00:36:06	Credit Card	38.00	Buy	-	-	-
142848835	2019-07-18 23:51:17	Credit Card	175.00	Buy/Rent	Book Loans - Quarterly Subscription	10	10

The proposed site of Pustaka has the facility of dynamic dashboard facility whereas the user can view the updates without refreshing the screen.



USER ANALYTICS

The user personal analytics^[8,9] feature provides additional facilities such as other user availability, social media access and cloud storage utilization. The Dynamic dashboard gives

a different environment and experience to the user. The icons and submenus are rearranged based on the usage and behavior. The following figure shows the user view of overall users registered on the site.

VIII. FEATURES OF PROPOSED WORK

In the programmer view, the Dynamic Dashboard is easy to code and different technologies are used for each operation. In Administrator view, the managing and updating the site is simple and easy. The modifications can be possible without page refreshment. In the user view, the proposed web application gives full-fledged user customization. The user can view the updates instantly without affecting the onscreen. The web application allows cloud storage facility with Amazon cloud storage support.

IX. CONCLUSION

An interactive dashboard has been developed using AngularJS, PHP, and HighCharts and deployed in AWS. The proposed work enables user customization, Dynamic webpage refreshment with cloud storage support. User-Based data analytics is introduced in this work. This will be useful for managing applications to both user and administrator. Since this is deployed in the AWS cloud, it is available at any time.

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