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Viewboard Implementation Based on Javascript Charts As a Media for Submitting Sales Information on a Green E-Commerce Website Light Cafe

Po Abas Sunarya, Zuroni Md Jusoh and Dian Maharani Damanik
Universiti Putra Malaysia – Raharja University
Malaysia - Indonesia

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Abstract

A media that can display information concisely is needed in presenting information effectively and efficiently. Information on the results of the Green Light Cafe sales report can now be easily accessed by top management and staff through the ledger. However, the process of presenting information with ledgers still uses tables, so it is not in line with current technological developments. In this study, 4 (four) methods will be described which are used to overcome 4 (four) problems, as well as 1 (one) solution, namely the implementation of a viewboard with Highcharts charts. The advantage of Green Light Cafe's viewboard is that it can be accessed through the website and mobile, as well as other advantages, namely minimizing the use of paper, so that it can help staff work in registering reports. By applying the graph as a medium for presenting information on the Green Light Cafe viewboard, it causes top management and employees to find out more about sales reports. Thus, it can be concluded that the use of Highcharts graphics is able to improve the quality and overcome the problems found in the Green Light Cafe.

Keywords: Viewboard, Graph, Green Light Cafe

Paper type Research paper

1. Introduction

The right and fast information is needed to support life activities. The process of delivering information from time to time is always changing, giving a big influence to the recipients of information [1]. The system and model used will also determine how well and effectively the process of delivering information is running [2]. At present, information is no longer absorbed only by relying on conventional and old-fashioned tools, thus the role of computers is very crucial to provide solutions to problem solving. In addition, computers are also very reliable tools to develop a system that is still lagging behind the age [3].

At this moment, every tertiary institution is required to compete globally. One of the keys to the success of global competition lies in how efficient and fast services can be provided by universities to students [4]. Effective services will improve the learning process of higher education, and can improve the learning system that is being applied [5]. Raharja College is a college that is always motivated to keep up with the dynamic times in the fields of technology and information. Effective learning methods at Raharja College are not only following the direction of the lecturer, but also inviting students to pray, work and play [6]. In addition, the Raharja College also provides facilities to meet the various needs of trusted and reliable students, namely Green Light Cafe.



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Green Light Cafe located in Raharja College provides a variety of services, such as printing, installing, scanning, and offering various tools such as USB, keyboards, computer books, etc. [7, 8]. Although with all the advantages, Green Light Cafe still has disadvantages, especially in sales reports, which have an important role for top management to monitor developments.

The reporting activities that run at Green Light Cafe are still using manual media such as paper, which are not in line with the times. For the sake of conveying information reporting smoothly, it must have a media that delivers the right information. The use of conventional methods in the reporting process must be changed in other, more sophisticated ways, so that the information presented can be more easily understood by end-users who want to find out about sales reports. The Green Light Cafe website is a web and mobile e-commerce system that can be accessed anytime and anywhere, with a proven level of system security, thus increasing efficiency for Green Light Cafe. With the use of the Green Light Cafe website, the conventional reporting process using paper media has decreased dramatically.

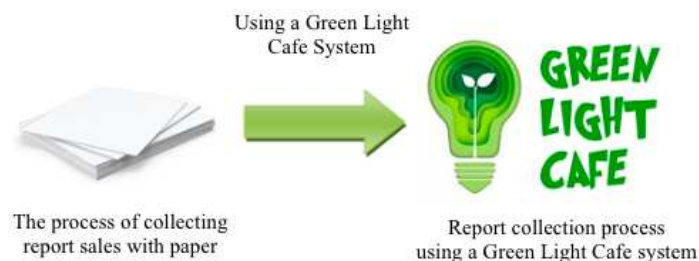


Figure 1. Transformation of reporting

Based on Figure 1, a transformation regarding the reporting process is explained. With the use of the Green Light Cafe website system, conventional reporting systems can be changed to online [9]. Thus staff can easily carry out the report input process, and top management can know the results of sales practically through a computer or smartphone, which is presented in the form of tables arranged in order. So that it can have a positive effect in increasing sales performance [10]. It is hoped that with the Green Light Cafe website system, it can minimize obstacles in the process of reporting to the Green Light Cafe.

2. Literature review

The following 7 (seven) scientific literature are used as references in this study [11]. "Viewboard research as a report on the overall number of articles on iLearning Raharja Ask and News". Discuss the use of the iRAN viewboard (iLearning Raharja Ask and News) as a special or general information media [12]. Then the research "Optimizing the Bootjap Based RhjFox Viewboard as a Decision Support System". This study discusses the use of RhjFox (Raharja Fox) as an online information provider forum [13].

ATT Furthermore, the research "Viewboard Implementation in Supporting Information Dissemination with Presentation of Artificial Informatics in Higher Education." This study discusses the viewboard for assessing statistics on student overview [14]. online scoring system [15].

Further research, "Development of Downtime Reporting Features and Summary Modules on Monitor Systems and eCRM Machine Operational Reporting". In this study, the system of Highcharts [16] is used in the display of the system. The next research is "A Framework for Web-based Data Visualization Using Google Charts Based on MVC Pattern". This research is about the crucial presentation of data, and one of the effective ways of presenting data is with Google Charts [17]. Then research "The Importance of Using Google API Chart as a Content of QR Code". This study discusses the use of Google API Chart on QR code [18]. Thus it can be concluded that the Javascript based interactive viewboard charts have the uniqueness and benefits for various online systems.

3. Research methods

There are some things to consider in designing the system so that problems and shortages can be addressed. In this study, the author uses 7 (seven) research steps, which can be seen in Figure 2 [19].

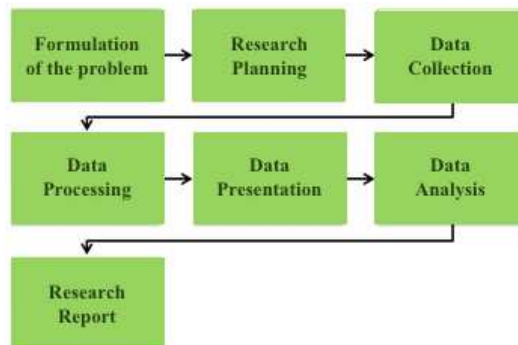


Figure 2. Sequence of research steps

The first step is the formulation of the problem, in this step the observation is carried out on the system. Then the second step is research design, the Green Light Cafe website concept is designed in the form of a prototype, intended to facilitate the understanding of researchers about the system to be accessed. Then data collection, some data is needed as a source of information. Next is data processing, where data contained in the database is then integrated. After that the data presentation, where the processed data will then be presented. Information is presented in graphical form that is useful as a basis for reliable decision making. The next step is data analysis, the results from the first method to the next method will be analyzed, to get information about what things are the cause of problems in the system. The seventh step or the last step is the research report, all the results of the research obtained are then reported in detail, so that in the end it is found that the right solution to the problem at hand.

For the sake of the smooth sales process, Raharja College has innovated in various IT fields. However, there are still a number of issues that must be addressed in order to support sales reports at Green Light Cafe. There are 4 (four) problems in presenting the report results. The first problem is, the system used in the assessment process used by Green Light Cafe staff in inputting reports still uses paper and Microsoft Excel. The second problem is, the possibility of human error is quite high, because accuracy in the data input process is needed. The third problem is, information about sales reports cannot be known online whenever and wherever [20]. And the last problem is the fourth one, after the application of the Green Light Cafe website, the sales report information can be conveyed well, but it is not effective because the data presented is still in the form of tables.

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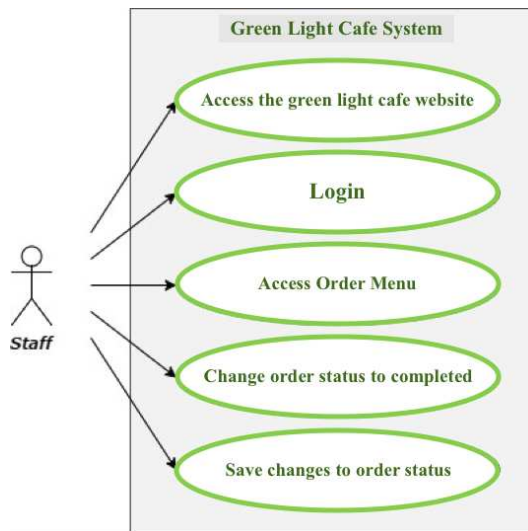


Figure 3. Use case the sales data input diagram

In Figure 3, it is explained about 5 (five) steps in the sales data input process, which is carried out by Green Light Cafe staff using the Green Light Cafe website system, namely: (1) Staff access the Green Light Cafe website. (2) Staff login. (3) Staff access the Order menu on the Green Light Cafe website back office. (4) Staff changes the status of orders that were previously pending to complete. (5) Staff keeps changing order status.

The sales reporting process on the Green Light Cafe website is already computerized, but it is still not effective because the information presented is still using tables. To deal with problems based on the explanation above, it is necessary to have a better media information media than tables, namely graphs that can present data more effectively and concisely, making it easier for end-users to understand information [21].

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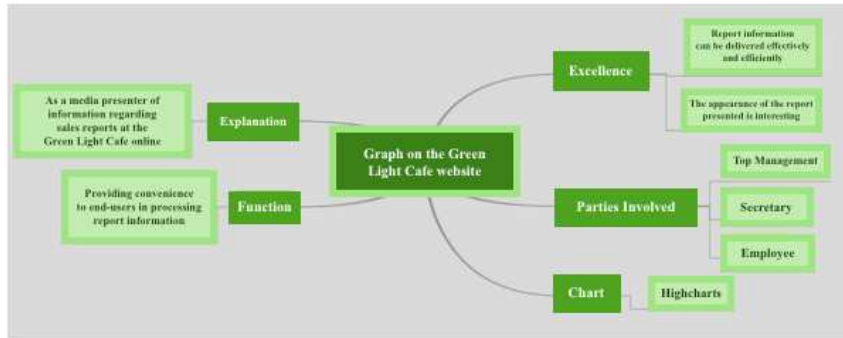


Figure 4. Mind map graph on Raharja Internet Café

Figure 4 is a mind map display that describes the graph on the Green Light Cafe website, which consists of: (1) Explanation: as a media presenter of information about sales reports at the Green Light Cafe online. (2) Excellence: report information can be conveyed effectively and efficiently, and the display of reports presented is interesting. (3) Function: provides convenience to end-users in processing report information. (4) Parties involved: top management, secretaries and employees. (5) Charts: Highcharts.

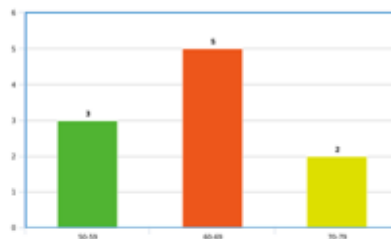


Figure 5. Highcharts chart prototype

Highcharts is a charting library for presenting data in the form of interactive graphics on websites that are easy to use. The Highcharts chart looks beautiful and neat, also works fast. In addition, Highcharts is also suitable for use in various browsers [22]. In the prototype in Figure 5, Highcharts bar charts are used with 3 (three) data displayed in various colors.

After examining the problems in the online reporting system that are running, the process flow of viewing the report using the Green Light Cafe viewboard carried out by the end-user is illustrated in the following flowchart:

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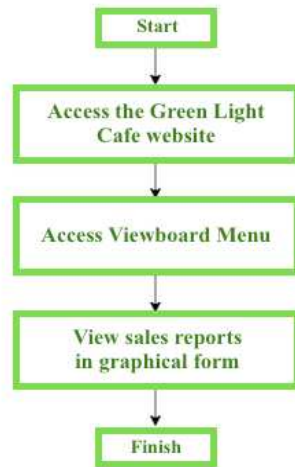


Figure 6. The research model

Figure 6. Flowchart view report

Figure 6 above explains 3 (three) steps in the process of seeing sales reports at Green Light Cafe online, as follows: (1) End-users access the Green Light Cafe website. (2) End-users access the Viewboard menu. (3) End-users see sales reports that are briefly presented in graphical form.

4. Findings

The result of the research is a viewboard that can be accessed at <https://greenlightcafe.com/>. The viewboard serves to display various sales reports at the Green Light Cafe in a certain period of time.



Figure 7. Daily product sales

In Figure 9, also displays sales information presented in the form of Highcharts bar charts, regarding the total of total sales that have been made in the period per month recorded by Green Light Cafe staff, of which the 5 (five) most purchased products are printed A4 black and white (5-500 sheets), A4 black and white print (1-5 sheets), A4 color printing, Ades (600ml) and NUTRIBOOST.

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Figure 10. Top product this year

Then in Figure 10 displayed sales information presented in the form of Highcharts bar charts, regarding the overall of the most comprehensive total sales, which have been carried out in a period of time per year. Recorded by Green Light Cafe staff, where the 5 (five) top most purchased products are A4 black and white print (5-500 sheets), A4 color print, A4 black and white print (1-5 sheets), A4 text color print 2 and Ades (600ml).

5. Conclusion

Based on the system that has been made, it can be drawn 4 (four) conclusions that with the implementation of the viewboard accompanied by Highcharts graphics, can provide progress in the reporting process, namely:

1. The applied reporting process is more effective and efficient, because the presence of a viewboard can facilitate top management and staff.
2. The occurrence of human error can be minimized, because the process of inputting sales data with the Green Light Cafe website does not require high accuracy such as inputting sales data using Microsoft Excel.
3. The sales data input process performed by staff can be well documented and recorded. Evident from the information presented on Highcharts bar charts that summarizes the overall sales and can be known online.
4. With the Highcharts bar graph that is up-to-date and full of color on the Green Light Cafe website, the information presented is more concise and interesting, so it can be used as the basis for making the right decisions.

There are 3 (three) suggestions recommended by the author based on the discussion described earlier, so that it can be useful for designing this system, namely:

1. Development is needed in the use of graphics so that it does not only display information about reports of items sold only.
2. Viewboard on the Green Light Cafe website can be further developed in order to provide more detailed and complete information.
3. The use of charts on sales reporting can be used on all e-commerce websites to support the sales process performance.

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