Online Library System to Dr. Richard Pathirana Public Library in Galle Area in Sri Lanka

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Abstract: In Southern province there are available 2,654,000 of population and 1,063,334 of people who are in Galle district. Also, there are 101,159 of people in Galle Municipal Council. At present 225,458 of school children are in Galle district. The members of the Dr. Richard Pathirana Public Library-Galle are 40988 and among these members most consists of students and other consists of adults in according to 2020 statistic of Dr. Richard Pathirana Public Library. Too Dr. Richard Pathirana Public Library, Galle consists of 118822 Books and among these Books 22200 of Reference Books are included in Public Library Galle and Public Library Galle has three branches which are situated in Maligaspe, MaGalle, Katugoda (Deveta). Dr. Richard Pathirana Public Library, Galle is a main library in Galle district and consists of large resources. At present there are no online library system for Dr. Richard Pathirana Public Library, Galle and maintain all its functions manually. Therefore, they have to put fair amount of effort to prepare the user registration, book reservation, late fine fee and annual reports. A large number of end-user currently use this library, therefore, it is a huge necessity to have proper information system. In this time library faces high cost for management and low income from external resources such as users. Using this online library system can help to reduce staff and retain income and also contain less expenditure. In order to get maximum benefits from this system, library needs at least several computers and related equipments. According to newly proposed system, system output maybe Electronic Books to End Users or/and Physical Books through the library staff delivery service. Library delivery system reduces the valuable time of End users. The major advantage of this online system will reduce the workload, less time consuming, less expenditure and retain income.

INTRODUCTION

In Sri Lankan context, Southern province is well known and popular province and it has great history and can be considered as a developing province in Sri Lanka. In Southern Province there are available 2,654,000[1] of Population and 1,063,334[2] of people who live in Galle District. Also, there are 101,159[3] number of people living in Galle Municipal Council. At present 225,458[4] school children are in Galle District. At present there is no online Library System for Dr. Richard Pathirana Public Library-Galle. This is the largest library in Southern Province. Maintained by Galle municipal council and it is recognized as a Super Grade library and Lot of people gather knowledge. Students come here to study too. Dr. Richard Pathirana Public Library was established in 1964 by Galle Municipal Council. This is a grade one library. Dr. Richard Pathirana Public Library is located in Galle. Dr. Richard Pathirana Public Library is working in Libraries, Book stores and newsstands activities. You can contact the company at 0912 222 440. Products of the Public Library are Book Lending, Reference, Periodicals, News Papers, Branch Libraries and Reading Rooms. This Library makes it its mission to provide the citizen of Galle with facilities to develop their education, knowledge and intelligence and also provide them with entertainment; further to function as an information Centre for the benefit of those who come to the city for various purposes such as education, employment and to avail themselves of various services as well as for visitors from abroad also to disseminate information to foster mutual understanding and goodwill among different communities and also contribute towards spiritual development. Dr. Richard Pathirana Public Library, Galle is a main library and it has a popular history. Today Dr. Richard Pathirana Public Library, Galle (Main Library) consists of lot of Books in variety of subject areas, Magazines, News Papers and Journals. The main Library of Galle set their name to Dr. Richard PitieraIa library as an honors of well educationalist and former minister Dr. Richard Pitierana. The members of the Dr. Richard Pathirana Public Library, Galle are about 40988[5] and among these members 60%[5] consists of students and other 40%[5] consists of adults in according to 2020 statistic of Dr. Richard Pathirana Public Library. Too Dr. Richard Pathirana Public Library Galle consists of about 118822[5] Books and among these Books 22200[5] are Reference Books that are included in Public Library Galle and it has three branches which situated in Maligaspe, MaGalle, Katugoda (Deveta). Also, Public Library Galle includes are some considerable amounts of journals and these journals can be categorized as Sinhala medium and English medium. Public Library Galle consists of 15[5] Sinhala medium journals and 6[5] English medium journals and all the journals are published in every month. The library offers seven newspapers which are published by Sri Lanka on each day and these newspapers included Sinhala, Tamil and English mediums. Dr. Richard Pathirana Public Library, Galle included the 200[5] Information Technology related books and all these books are attached to Reference Section. In this Information Technology related books collection include the 150[5] English medium books and 50[5] Sinhala medium books. Also, Public Library lending section includes 100[5] Information Technology related books collection and among this collection included 75[5] English medium books and 25[5] Sinhala medium books. According to schedules of the Dr. Richard Pathirana Public Library, Galle operates on every day of the week except Thursday of week after 12.30 PM. Dr. Richard Pathirana Public Library, Galle contains special functional unit called Braille and Talking Book Branch to blind library members who are living in Galle area. At present library faces high cost for their management and low income from external sources (Users). Also, students who are not near Galle library come from long distance in order to contact lIbrary. Using this online library system can help to reduce the staff and retain income and also less expenditure. In order to get maximum benefits from this system library needs at least several computers and related equipments. The online system output will be E-Book to End-user or Physical Book(s) through the library agent delivery service. Library deliver system reduces the valuable time of students. The major advantages of this online system will reduce the workload, less time consuming, less expenditure and retain income. In the End-user side user can access system by using Mobile phone, Laptops or Personal Digital Assistant. Also Personal Computer which directly connects to internet through the modem can also access the online system. Also End-User (She/He) can obtain E-Book or Physical Books through the new proposed system. Physical books order method charges fee in order to deliver books at home. End-User must pay annual fee for obtaining E-Books from library and Physical delivery must pay fee to library through the library officer who deliver books at home.

RESEARCH METHODOLOGY

Mainly this research project provides several important functions. All the important functions of the proposed online library system. First of all, end user must register to the online library system. To register, system user must enter the data to list of forms which are built in system. The system validates the user inputs and these data goes to reservation database server. Also, system introduces the user name and Password to end user after success. After that reservation database server machine generates the reference number and it is sent to user end.

This reference number needs for future reference and transaction. In the end user side, user can access the system using wireless devices or other fixed devices. Also, fixed devices can use the modem access the system. At the beginning user sends the data packets which include the Book details and his or her Reference Number (Id) to the modem. At the modem side it converts to analog signal and sends it modem which established in library side through the internet. The library side modem sends the data packets to firewall. In the firewall perspective it checks the security of the requested data packets and sends to both switch and Wi-Fi router. A switch sends the data packets to destination (library books reservation database) and database server checks the reference number of end user. After that database sends the correct E-Book with reference number to end user through the switch, firewall, modem through the internet and to the modem of end-user side. The users who are in the library premises can access the E-Books through the Wi-Fi router. User can access the library system using Laptops, PDAs and Mobiles. All this small segments can call small Intranet. Also, users in the Intranet can send their data packets to firewall. In the firewall side, it checks the security and sends it switch. Switch it re-sends to reservation database server. The users can get E-Book using reservation server computer and end-user must pay annual fee to library for E-Books. Personal Computer in the library, Chief- Librarian Personal Computer, Personal Computer at Book Reservation and Late fee section can access the System through the switch. Also, Chief-Librarian Personal Computer consists of Scanner and Printer in order to get system output and inputs. Too the Book Reservation System and Late fee section can get the system output. In this system has important section called the Physical Book Delivery System. End User can access this Library Book Reservation System database which is built in online system using web interface by providing his reference number. User can access the books (using website) in the reservation server computer. In the reservation unit (Database), tracks records of shipping location and users' books using user's reference number. Too it stores reservation Database and then the library agent delivers the books to end-user at home. Afterward receiving books end-user must pay fee for delivery charges to Library agent. Agent provides end user details, reference number and fee to billing section. Subsequently reading the books, End-user sends his message to online system using library website by providing reference number. After sending the message it goes to Books Reservation Database and verifies it. Afterward verification it goes late fee database and calculate fee with referring the reference number. Also, after computing the fees, the data goes to Billing Section Database and it updates the Database. Afterward completing the above tasks, the system produces the message sends it to end-user with having fees bill and Reference Number. Next receiving the memorandum user calls the library book reservation unit and requests the library agent using website. Finally, end-user gives his reservation (Books) and /or its associated late fee to agent and sends him/her feedback. Then the Agent visits the Library buildings and gives the fee to Billing section and updates the database. After completing updating function, he calls the reservation unit and updates the Database with referring the Reference Number. Those are the key functions of online library system which is proposed to Dr. Richard Pathirana Public Library in Galle.

RESEARCH PROBLEMS

The Dr. Richard Pathirana Public Library, Galle is the main library which is established in Galle District and it has a popular history. Today Dr. Richard Pathirana Public Library, Galle maintain all its functions manually. Therefore they have to put fair amount of effort to prepare the User Registration, Book Reservation, Late fine Fee and Annual Reports regarding the Library functions. Also library doesn't have a proper Computer Based Information System. Larger number of end-users currently use this library and therefore, it is a huge necessity to have proper information system to the library. At present there is no online library system for Dr. Richard Pathirana Public Library, Galle. Today this library consists of lot of books in Varity of subject areas, Magazines, Newspapers and Journals. At present library faces high cost for their management and obtains less income for external sources (Users). Also students who are not near the Galle public library, need to come from long distance in order to use library. Not having the proper online system and information system causes to face more expenditure, loss of profits (Net Loss) and need high staff to maintain the library functions. All the functions are done inside the library premises and therefore end-users must put fair amount of effort and more time consuming in order to borrow books. The major advantages of this online system will be reduced the workload, less time consuming, less expenditure and retain income. Other than that Online Library System can help to reduce the staff and retain income and also less expenditure.

RESEARCH SOLUTIONS

The main public library is set their name to Dr. Richard Pathirana Public Library, Galle as an honors and memorial of well-known educator and former minister of Higher Education Sri Lanka named Dr. Richard Pathirana. Also this is the main Library which established in Galle District has a popular and ancient history. At present Galle District, Dr. Richard Pathirana Public Library, Galle

does not have proper Information based online library system. The library system provides more efficient and reliable solution for reducing the effort, low expenditure, increase income and reduce work load of the Library. Today Dr. Richard Pathirana Public Library, Galle maintains all its functions manually and Library doesn't have a proper computer based information system. Larger number of end-users currently use this library and there is a huge necessity to have proper information system. Today Library consists of lot of books in variety of subject areas, Magazines, Newspapers and Journals. The major advantages of this online system will reduce the work load, less time consuming, less expenditure and retain income. Also, online Library system can help to reduce the staff and retain income and also less expenditure. First of all, end-user must register to the online Library System which establish in reservation unit. To register the system user must enter the data to list of forms which are present from system. Then system validates the user inputs and data goes to reservation database server. After that system generates the username and password, sends it to the end-user. After that reservation database server generates the reference number and it is sends to user. This reference number needs for future reference and transactions. In the end user side, user can access the system using wireless device or other fixed devices. Access point can use (Facilities) to access the system using the Wire-less device. Also fixed device can use the modem to access the system. At the beginning user sends the data packets which include the required books details and his or her reference number to the modem. A modem which is in user side sends data packets to modem which established in Library side through the Internet. Modem which is in the Library side sends the data packets to the Firewall. The Firewall, it checks the security of the data packets and sends it both Switch and Wi-Fi Router. The switch sends the data packets to its destination which is the library books reservation database and it checks the username, password and reference number of the end-user. After that, database sends the correct E-Books with having Reference of end-user through the Switch, Firewall, Modem, Internet and the modem of end-user side which can view in System website. The users who are in the Library premises can access the E-Books through the Wi-Fi Router. Users can access the Library System using Laptops, PDAs and Mobile with his/her Reference number. All this small segment can be called as a small Intranet. Also, user who are in the Intranet can send their data packets to firewall. In the firewall side, it checks the security and sends it to switch. A switch sends data packets to reservation database server. Users can get E-Books using reservation database server computer and end-user must pay annual payment to Library for E-

Books. The Personal Computer in Library, Chief librarian section and late fees section can access the system through the switch. In this system consists with important section called the physical book delivering system. End users can access the library book reservation system database which builds in online system using web interface by providing his reference number. Also, user can access the books (Using Websites) in the reservation unit database server according to their preferences. The Reservation unit Database keeps track of record of shipping locations, books and user Reference number. After it is stored Reservation Database and after that Library agent delivers the books to end-user's home with referring the number. Afterward receiving books, end-user must pay fee for delivery charges. Subsequently that complete the reading, end-user sends the message to system. After the message received to system, it goes to reservation database and verify it. Next verification message goes late fee section database and calculates the fees with referring the number. Also, after calculating the fees, the data goes to billing section database and it stored the database. After completing the above functions, the system generates the message sends it to end-user with having fees bill and Reference Number. After receiving the message user calls the library book reservation unit and requests the library agent using website. Finally end-user gives his reservation (Books) and/or its related late fee to agent and sends him/her feedback. Then the agent visits the library premises and gives the fee to billing section and update the database. Completing updating he visits the reservation unit and update the Database with referring the reference number. Those are the major functions of online library system which is proposed to Dr. Richard Pathirana Public Library, Galle.

CONCLUSION

The main outcomes of this online library system are responds to clients and can get advantages from using library system. It observes all the functions through one main location. At present there is no online library system for Dr. Richard Pathirana Public Library, Galle. Today it consists of lot of books in varity of subject areas, Magazines, Newspapers and Journals. At present library faces high cost of their management and it gets low income regarding external sources (Users). The major advantages of this online system will reduce the workload, less time consuming, less expenditure and retain income. As a future work, Researcher aim at deploy this system in several district libraries in Matara, Hambantota and more. Because of that it will be helpful to reduce the time, save money, efficiency and effectiveness. As a forthcoming work the Researcher proposes to increase the Access Points. It causes larger

number of end-user attraction of Galle district and others also. In the future, researcher expects to increase the modem's capacity and increase the access points and it helpfully gets maximum benefits from proposed system. Also, it is a must to increase the physical capacity of all the databases in online system in order to get maximum advantages from online system.

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