

Data Sharing Application with SMS Notification

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Abstract— The result of the research is the application that allow user to retrieve information through News and Event Agenda Feature. This application also allows the member to keep in touch with their stuff with SMS notification. The application is easy to control by an administrator through a message system and capabilities of administrator of any file, also by a user hierarchy system.

Keywords—data sharing, sms notification

I. INTRODUCTION

Good communication in an organization will make the working condition more conducive. Data sharing among members of the organization is one form of communication. There are many ways for people to share data with others. Today, there are many applications or web sites that allow the user to upload and download any data. In many organizations, the accesses to web sites that have this functionality are often blocked because the company sees them as a threat that can harm work productivity of the worker.

The number of websites that provide this functionality has been increased from time to time. This fact shows that the number of users of that web site is also increased. Youtube.com as one of the largest data sharing site has their daily data transfer equal to 75 billion text email. It means many people need to share something to others. This communication can lead to a better relationship in a community. This kind of communication can be brought into office environment. Data sharing among the members can lead to a better communication of the member.

In most organization, file sharing is an inseparable part of daily activities. Easy and smooth sharing of data and files leads to work efficiency. Data sharing tool can also act as a news centre for the organization. Therefore, the need to have a reliable file sharing system is crucial. Unfortunately, many organizations do not equip themselves with this tool.

The beneficial of data sharing application will be reduced when there is no enough controlling by an administrator. Enough control is needed to enhance the beneficial of data sharing. And also the sense of belonging from data that been shared is highly needed as a sense of responsibility when sharing a data.

The application created in this research is divided into three main parts. The first part is “News” part. This part will show any news that written by administrator and moderator. The entire member can read the news and also give a comment on it. Whenever a member writes a comment to News there will be a SMS notification to the writer of the particular News.

The second part is “Event”. In this part, the administrator and the moderator can write down an event that will be shown

in the format like calendar. The event can be shown in daily, weekly, and monthly. Just like in News part, whenever a member writes a comment to an Event there will be an SMS notification to the writer of the particular Event.

The last part is “File” part. In this part, the entire user can do uploading and downloading data. The entire file that has been uploaded will be checked to determine the type of the file. In the download section, there will be a list that shows the entire file that already uploaded before. The file will be arranged in its name order or its uploaded date order. There is also a search feature that will make file browsing become easier. In the downloaded section, member also can put a comment in every file, SMS notification also sent to the owner of the file.

The application can be access through a local area network. This application works like a digital library with more variety of content. This application will develop using PHP technology with additional java script and using NowSMS application to send SMS Notification.

II. THEORY

A. Data Sharing

Data sharing is the practice of making data used for scholarly research available to other investigators. Many funding agencies, institutions, and publication venues have policies regarding data sharing because transparency and openness are considered by many to be part of the scientific method. A number of funding agencies and science journals require authors of peer-reviewed papers to share any supplemental information (raw data, statistical methods or source code) necessary to audit or reproduce published research. A great deal of scientific research is not subject to data sharing requirements, and many of these policies have liberal exceptions. In the absence of any binding requirement, data sharing is at the discretion of the scientists themselves. In addition, in certain situations agencies and institutions prohibit or severely limit data sharing to protect proprietary interests, national security, and patient/victim confidentiality. Data sharing (especially photographs and graphic descriptions of animal research) may also be restricted to protect institutions and scientists from misuse of data for political purposes by animal rights extremists.

Data and methods may be requested from an author years after publication. In order to encourage data sharing and prevent the loss or corruption of data, a number of funding agencies and journals established policies on data archiving. Access to publicly archived data is a recent development in

the history of science made possible by technological advances in communications and information technology.

Despite policies on data sharing and archiving, data withholding still happens. Authors may fail to archive data or they only archive a portion of the data. Failure to archive data alone is not data withholding. When a researcher requests additional information, an author sometimes refuses to provide it. When authors withhold data like this, they run the risk of losing the trust of the science community.

B. Digital Library

A digital library is much more than just the collection of material in its repositories. It provides a variety of services to all of its users (both humans and machines, and producers, managers, and consumers of information). There are a large and varied set of such services, including services to support management of collections, services to provide replicated and reliable storage, services to aid in query formulation and execution, services to assist in name resolution and location, etc. The basis for a digital library, however, must be the information objects that provide the content. A basic characteristic of the digital library is that the information objects are found in collections with associated management and support functions.

The goal of the digital library is to assist users by satisfying their needs and requirements for management, access, storage, and manipulation of the variety of information stored in the collection of material that represents the "holdings" of the library. Users may be humans or they may be automated processes acting on behalf of or in support of human needs. Users also vary and include those who are "end" users (those not involved in the management and operation of the library but rather are the customers), library operators, and information "producers" who want their material available through the library.

The key to effective collections management is to implement simple structural organizations and be able to present those organizations in a way that library users find useful and can understand easily. In traditional libraries, books are primarily stored by subject, title, author, and date, and accessed by following signs to the appropriate floor, room, bookcase, shelf, and spine-labeled book. The size and relative celebration of each portion of the collection gives patrons information about the collection and can reveal the library's collection management objectives as well.

A library is created to serve a community of users. Users who participate in the digital library should be aware of its design and be able collectively to refine that design to better serve their own information needs. Therefore, the ongoing human usability of a digital library depends on the clear and unobtrusive exposure of the library's design, its near-term goals, and its overall objectives.

Furthermore, digital libraries should continue the ongoing tradition of coupling utility with aesthetics in the organization and presentation of materials.

C. Existing Application

4shared.com

4shared.com is a Ukrainian file sharing service based in Kiev. This application allows user to upload and download file to their account. 4shared.com start operating in 2005. 4shared.com is a free online file sharing service.

Megaupload

Megaupload is a Hong Kong based company that allow user to do file sharing. Every user that done the uploading process will have a unique URL as a address to download. Every file that has not been downloaded for 21 days will expires.

Table 2.1. Comparisons

Point of View	Your One Way	4shared.com	Megaupload
Upload	OK	OK	OK
Download	OK	OK	OK
Searching	OK	OK	Not OK
News	OK	Not OK	Not OK
Event Agenda	OK	Not OK	Not OK
Advertising	Not OK	OK	Not OK
Large Size File Sharing	Not OK	Not OK	OK
File Preview	Not OK	OK	Not OK

III. METHODOLOGY

Your one way application is made by a methodology called Rapid Application Development. Rapid Application Development (RAD) is a methodology for compressing the analysis, design, build, and test phases into a series of short, iterative development cycles. This has a number of distinct advantages over the traditional sequential development model. Rapid application development promotes fast, efficient, accurate program and/or system development and delivery. Compared to other methodologies, RAD generally improves user/designer communication, user cooperation, and user commitment, and promotes better documentation. The author use RAD system due to a fast system that RAD shows to give the author more time to do preparation and post production.

IV. RESULT AND DISCUSSION

Data sharing system is about the communication among the user and transferring the data itself. The main components of a data sharing software are the administrator, the user client, and the system manager. The sequence diagram of Upload File, Add Member, Add News and Add Event is shown in Figure 4.1.

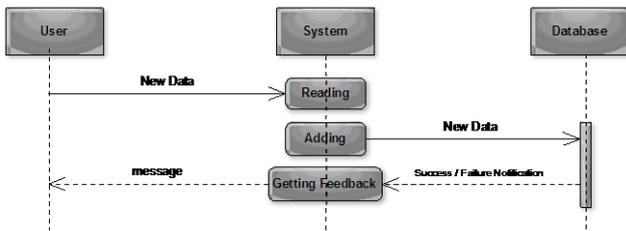


Figure 4.1 Upload File, Add Member, Add News and Add Event Sequence Diagram

In order to download file, user will send a request to the system about the ID of the desire file that he/she want to download. Then the system will make a query to database to get the data about the file and also send the message box about the file and the download process. The user will validate that he/she want to download, then the system will do the process download from database to user computer. The system also sent a SMS notification to the owner of the file and the dowload sequence diagram is shown in Figure 4.2.

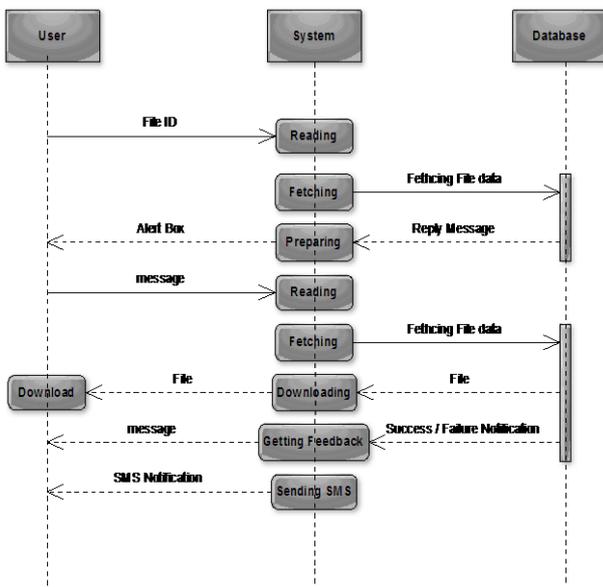


Figure 4.2. Download Sequence Diagram

Searching features is used to make the Member easier to browse the file inside the database. The search system also makes the member faster to found their wanted file.

Member will fill the search form, then the system will process it end send a relevant query to database to get the expected result.

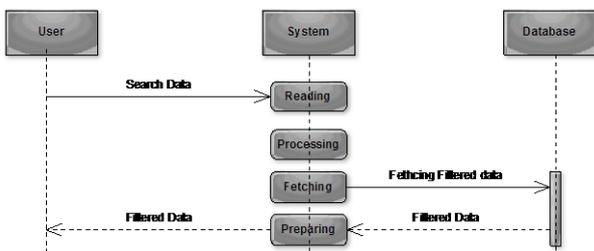


Figure 4.3. Searching Sequence Diagram

To send the SMS notification, the author use NowSMS software. This is an SMS gateway that easy to use and have a user friendly interface and the Intranet schema is shown in Figure 4.4.

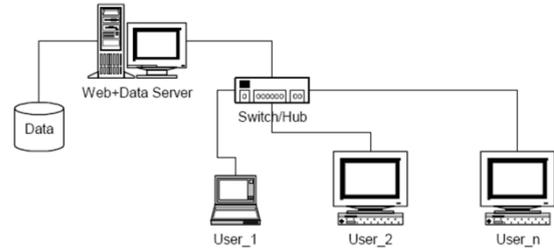


Figure 4.4. Intranet Schema

The ERD shows how all the database entities relate each other. There are 9 tables in the database to store the information regarding to each class

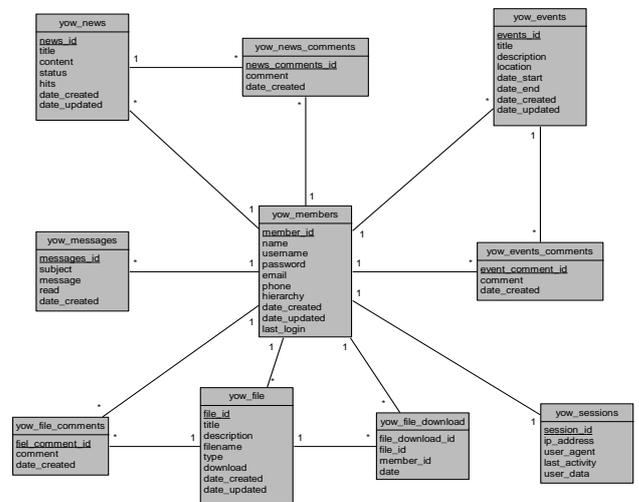


Figure 4.5 ER Diagram

The interface of this application will adopt a common pattern of any application with menu in the left side.



Figure 4.6 Interface

V. CONCLUSION

The author has developed an application that can be used to do data sharing in an organization. The data sharing application also has several additional functions beside data sharing that can enhance the quality of communication along the member of the company. The additional functions are “News” and “Event”. This application tries to provide information to the user with the latest activities that happen in the organization. This kind of information can enhance the sense of belonging of the member in the organization. This application also can add the awareness of the member of an organization. This application used PHP technology with Rapid Application Design.

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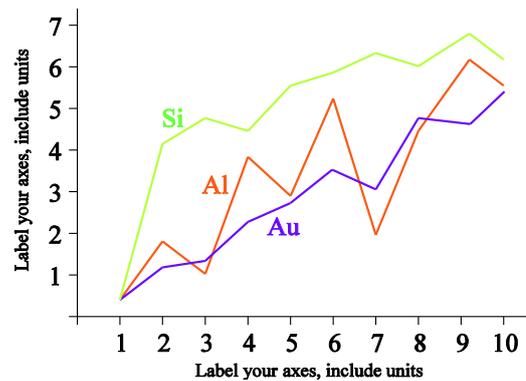


Fig. 1 A sample line graph using colors which contrast well both on screen and on a black-and-white hardcopy

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