Web Based Centralized Cooperative Information Management System

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Abstract— *Recently, there has been an upsurge in the information about capital base investments profit-sharing or dividends in the co-operative society. In Nigeria, cooperative has since become a strong instrument of achieving rural, communal and national development. In this paper, a Web-Base Centralized Cooperative Information Management System is presented. It was develop to enhance the operations of cooperative society where they can log on using unique password to register their society and also provide detail of their financial statement such as (membership saving, loan issued, loan repayment, loan out-sand, net surplus or dividend, interest rate, number of register member etc.) at end of each fiscal year. Macromedia Dreamweaver was used to design the user interface; Java Programming Language was used to implement the business logic while MySQL was used for the database. Results from the evaluation shows that the system will greatly assists the government in the collation of data on cooperative societies for planning and also assist other government agencies in gathering, collating and analyzing data that can facilitate further development in the area of commerce and industry.*

Keywords — *Information management system, Government empowerment, Cooperative society.*

I. INTRODUCTION

Cooperative society may be described as a group of people with the common objective of committing funds to be lent to its members while the entire members must be residing in the same village or group of the villages [1]. Cooperative society can also be described as the coming together (freely) of a group of people called co-operators for the purpose of improving their financial position or standing by putting their resources together which would have been difficult or almost impossible to achieve individually. The procedure can be informed of sharing; saving and deposit; out of which will be lent to any member in need with reasonable interest [2].

Cooperatives are community-based, rooted in democracy, flexible, and have participatory involvement, which makes them well suited for economic development [3]. The process of developing and sustaining a cooperative involves the processes of developing and promoting community spirit, identity and social organization as cooperatives play an increasingly important role worldwide in poverty reduction, facilitating job creation, economic growth and social development [4].

Over some years, substantial work has been put into the use of the computer in cooperative society for carrying out daily activities such as membership registration, loan monitoring and deduction and all other operations and transactions within and outside the society. Recently, there has been an upsurge in the information about capital base investments profit-sharing or dividends a co-operative society in Nigeria used. Thus, it has become an as strong instrument of achieving rural, communal and national development [5].

According to [6], centralized system is a multi-user system that contains more disks, memory, multiple CPUs and serves a large number of users who are connected via terminals.

In line with the forgoing, there is an urgent need for the development of a centralized system for cooperative society particularly in Nigeria, so as to help in keeping their large volume of data and performing necessary operation thus, reducing the number of hours spent on compilation and other manual activities.

The system will eliminate the problem of the manual method of awarding the certificate of registration to each cooperative society who registers under the ministry. Being a web-based system, each cooperative society will have the opportunity to register her society online. Also, much of the manual processing of fiscal year report and paperwork done by the auditors and inspectors sent from the ministry to each cooperative society to monitor and supervise the account of the society will be reduced. Each cooperative society will have the opportunity to send their end of year report to the ministry directly online.

The remaining sections of the paper are structured as follows: section 2 explains cooperative society in detail. The methodology was presented in section 3 while the results obtained were in section 4. Section 5 concludes the paper.

II. COOPERATIVE SOCIETY

Cooperatives represent a strong, vibrant, and viable economic alternative. Cooperatives are formed to meet peoples' mutual needs. They are based on the powerful idea that together, a group of

people can achieve goals that none of them could achieve alone [7].

As noted in [8], for over 160 years now, cooperatives have been an effective way for people to exert control over their economic livelihoods. They provide a unique tool for achieving one or more economic goals in an increasingly competitive global economy.

As governments around the world cut services and withdraw from regulating markets, cooperatives are being considered useful mechanisms to manage risk for members in agricultural or other similar cooperatives. It has also helped salary/wage earners save for the future through a soft-felt monthly contribution that is deducted from source. It generally provides an economic boost to the community [8].

- *Co-operative society registration procedure*

To register a co-operative society at the office of the registrar of co-operative societies under the ministry of Commerce and Empowerment, the following procedures are required:

- *Minimum Membership*
  A minimum of 10 adult is required for a co-operative organization.
- *Application*
  An application for registration is to be made to the registrar of the co-operative societies with the following details [9]:
  - o Name and address of the society intended to be registered.
  - o The aims and objectives of the society.
  - o The details of share capital held by the members.
  - o The bye-laws of the society which contains rules and regulations for the management of the society signed by at least 10 members who have signed the application for registration.

III. METHODOLOGY

The development of the system starts by interviewing the staff under the ministry and the cooperative societies to study their business processes.

A. Requirement analysis

The goal of the planning segment is to capture an accurate representation of business processes and user's perceptions. Business processes are processes that encompass the flow of data (input, storing, processing, and output) throughout an organization.

B. System design

The system design follows the architecture of web-based applications where the applications serve

as a link between the cooperative society and ministry. The waterfall model used makes the design process easy since it has distinct goals for each segment of system development. This model states and represents the fundamental process, activities of specification, development, validation, and evolution in their separate segment. The waterfall model was depicted in Figure 1[10].
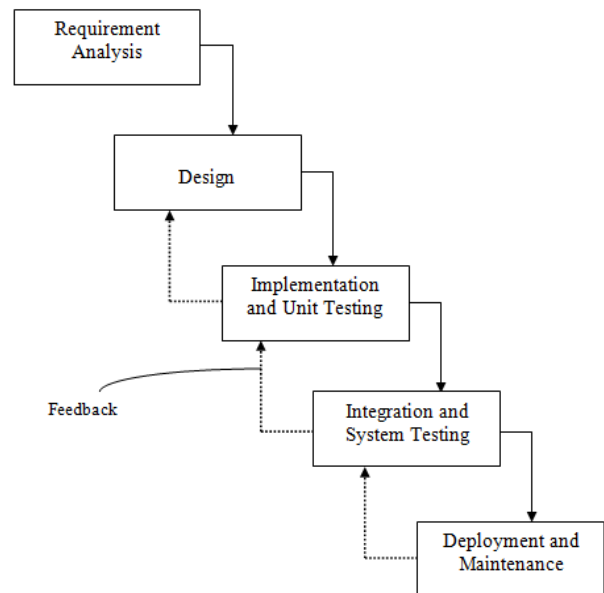

Fig. 1: Waterfall Model Adopted

Unified Modelling Language (UML) [11] was used to design the system structural and behavioral states. The use case diagram in Figure 2 shows the interactions between the system and users where user can log-in, register, supply financial year's information and view reports. The class diagram is also shown in Figure 3 respectively.

C. Development tools

The main tools used are: WAMP server, Macromedia Dreamweaver and Java programming language

IV. RESULTS AND DISCUSSION

All the system components were unit-tested (separately). The testing was done by feeding predetermined sets of data to the component being tested and observing the output produced. Integration testing was performed to verify that the system components work together as described in the system design specifications. Functional testing was performed to evaluate the system in order to determine if the functions described by the requirements specification actually performed as expected.

The designed system pass all noted test and its evaluation shows that the system can be deploy for use.
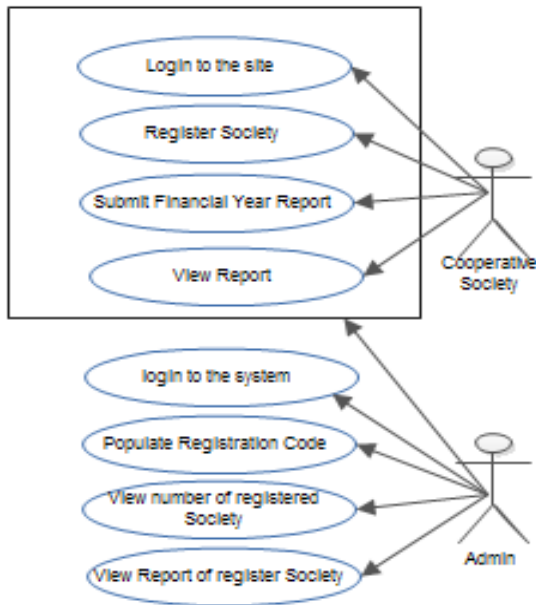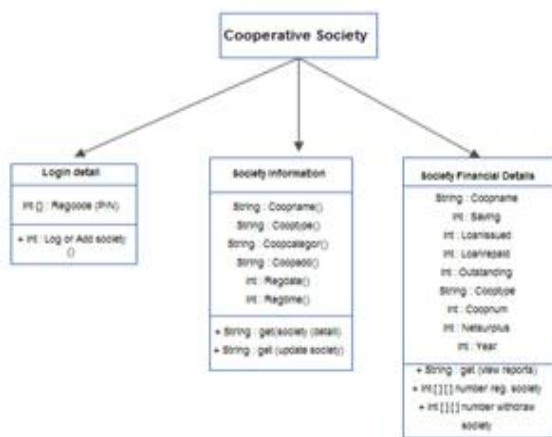
Fig. 2: The System Use Case Diagram

Fig. 3: The System Class Diagram

Figure 4 shows the system home page. Figure 5, 6 and 7 shows the registration page, financial report submission form and financial year report respectively. In Figure 8, the certification of registration for registered societies the ministry is shown.

Fig. 4: The System Home Page

Fig. 5: The System Registration Page

Fig. 6: The System Financial Report Submission Page

Fig. 7: The System Financial Report Page

Fig. 7: System Generated Certificate of Registration Sample

V. CONCLUSION

It is a clear and indispensable fact the technological advancement in the present world is increases at an alarming rate every day. Hence, there is need to get the right information tool to enhance the developmental progress envisage. More so, considering the advantages inherent ICT, efforts should be made to centralize most of the operations perform manually in various industries, companies and particularly government institutions/agencies.

It is noted that the system involves a large capital outlay. Nevertheless, its benefits cannot be overstressed especially to the society. Some future works had been noted in the course of this research which include; sending e-mail to societies, finding the location of a particular society on the map and so on.

REFERENCES

[1] Onuoha, E. (1986): Principles of cooperative Enterprise, Enugu Nigeria, Express Publishing Company Ltd.

[2] Epetimehin, F. M. (2006): Understanding the Dynamics of Cooperatives, Tadon Publishers, Ibadan.

[3] Gertler, M. (2001): Rural Co-operatives and Sustainable Development, Saskatoon SK: Centre for the Study of Cooperatives, University of Saskatchewan.

[4] Gibson, R (2005): The Role of Cooperatives in Community Economic Development, RDI Working Paper # 2005-3.

[5] Yusuff, S. A., Folajin Oyetayo Oyewale, and A. O. Oriowo (2015): "Appraisal of information and communication technology in cooperative societies management: A case study of cooperative societies in Osun State tertiary institution of learning, Nigeria." *The International Journal of Business & Management* 3(4):438.

[6] Valduriez. P (1993): Conference: Proceedings of IEEE 9th International Conference on Data Engineering, DOI: 10.1109/ICDE.1993.344035

[7] Akinlabi, Akintomide Joseph. (2015): "Informal financial institutions and sustainable housing finance in southwestern Nigeria." *The Business & Management Review* 7.1 95.

[8] Dogarawa A. B (2005): The Role of Cooperative Societies in Economic Development: Munich Personal RePEc Archive: https://mpra.ub.uni-uenchen.de/23161/1/The_Role_of_Cooperatives _in_ Economic_ Development.pdf.

[9] Government Press Cooperative Society Osogbo (2009). Financial year report submitted to the ministry of commerce and empowerment, Osun State of Nigeria.

[10] Aggarwal K. K and Yogesh S. (2007). Software Engineering: Programs, Documentation and Operating Procedure.

[11] Chonoles, M. J. and James, A. S. (2003). UML 2 for Dummies. Wiley Publishing. ISBN 0-76452614-6. *Layer (PHY) Specification*, IEEE Std. 802.11, 1997.