

Application of Informatics and Collaboration Platform for Ngos

E. Saraswathi, Yash Senjaliya, Soumya Shekhar Jana

Abstract: NGOs are set up by local citizens, and are committed to tackling social, political and environmental issues. They are basically non-for-profit bodies which gives them the freedom to focus on long-term issues such as poverty, crisis, protecting endangered species n much more. However, these organizations often go hand in hand with tight budgets and as a result the efficiency which can be gained easily with technological advancements could not be taken into considerations. This paper discusses about implementing a dynamic web application ecosystem that's based on informatics which may be taken in use for unifying the NGOs from all over the world and reduce the gap in-between the NGOs and the local public who want to willingly support for the noble causes through any means possible. This ecosystem will not only add up in the technological advancements keeping the costs low but also will increase the transparency of the working of the NGOs resulting in developing a trust among the local public encouraging them to donate more. This process of UC makes sure that the integration of real-time enterprise communication services benefits NGOs in effectively monitoring their employee's as well as other financial and social stats resulting in saving of both time and money that was being mismanaged previously.

Index Terms: NGOs (Non-Government organizations, crisis, ecosystem, UC (unified communication), heterogenous, informatics, ODBC (object. Oriented database connection).

I. INTRODUCTION

NGO is a non-profit organization that operates independently of any government, typically one whose purpose is to address a social or political issue such as encouraging deforestation, protecting wildlife etc. State NGOs include state level organizations and groups and some state NGOs also work under the guidance of national and international NGOs. National NGOs include organizations such as YMCAs (young men's Christian association) etc. Today problems are being faced by several NGOs because of lack of participation and volunteerism along with financial crisis.

Hence, we propose a decentralized unification ecosystem that implements the domain of Informatics and deals with heterogenous database integration which may be used as a common platform by the NGOs from all over the world to come together and add up their hands to overcome certain difficulties faced today and causes on which others are working on. Not only NGOs but local public would be now able to support and donate the NGOs who they really want to without interference of any intermediate person. The entire system would be transparent enough so that people develop trust on the system which would lead to increase in participation as well as be informed of all the campaigns or programs that are being conducted by the state or national NGOs.

II. EXISTINGSYSTEM

II.a Dilapidated structure of NGOs and lack of skills and knowledge management

Recent advancements in science and technology has completely changed the dynamic of human society. Many issues were resolved many aroused, many civil organizations today are actively working on these critical issues. However, these organizations do not have any volunteer training programs as these organizations is not well funded. For run training programs, professional staff and funding is a basic requirement. It is absence of these basic platform building factors that leads to unskilled volunteers. Volunteers are the ones which determines the NGOs functioning, lack of skills among volunteers directly affects core of an NGO. Also, there is no proper hierarchy levels in administration which is mandatory for proper functioning. Lack of administration creates lot of loopholes which can be used by ill minded individual for their personal benefits. Such weak administrative structure can easily be exploited. Corporates can use NGOs to hide their black economy. There are many possible consequences that destroys the mind set for which a NGO was made. Thus, need of proper hierarchy and controlling body has become a need these days. Enhancement of skills among volunteers is another very important aspect that should be looked for.

II.b Citizen participation

Citizen participation can be explained as a process in which individuals take part in decision making institutions, programs and environments that affect them. It is a collaborative procedure of communication exchange and sharing power among diverse participants. The significance of citizen participation in our research can be implied that it helps to show avenues on which.

Manuscript published on 30 April 2019.

* Correspondence Author (s)

E. Saraswathi*, (Assistant Professor), Computer science and engineering, SRM Institute of Science and Technology, Ramapuram, Chennai, T.N., India

Yash Senjaliya, (Student, B.Tech), Computer science and engineering, SRM Institute of Science and Technology, Ramapuram, Chennai, T.N., India

Soumya Shekhar Jana, (Student, B.Tech), Computer science and engineering, SRM Institute of Science and Technology, Ramapuram, Chennai, T.N., India

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an [open access](http://creativecommons.org/licenses/by-nc-nd/4.0/) article under the CC-BY-NC-ND license <http://creativecommons.org/licenses/by-nc-nd/4.0/>

NGOs can exploit participatory communication in order to pass intervention agendas, it can also be implied that levels in which citizens can be engaged through participatory communication and also shows which is the most ideal level of engagement by applying participatory methodologies. It can be viewed as a guide of deciding who has the power when decisions are being taken.

Many NGOs still exercise a variety of manipulation techniques as participation process and in the process hampering the true meaning of participation and by extending the agenda of sustainable development.

II.c Issues with Information sharing

Information sharing is an important aspect when it comes to NGOs. It is important to educate organizations and its workforces. However, this is an intricate process. Information sharing process has external dependencies such as willingness of volunteers to share the information or knowledge. Though we assume An NGO to be a group of voluntary people who have a common aim and perspective to bring a positive social change, volunteers working for an NGO might have an issue with the knowledge he possesses, to be shared with others. Volunteers like employees of profit-based organizations, might consider their personal upliftment as a priority. This may cause a hurdle in information sharing as volunteers may use abstractive information and share it with information. This hurdle can greatly reduce the pace at which an organization is functioning. Social issues can be resolved when people together collectively contribute with positivity keeping narrow personal aspects aloof. Many researches have shown that trust is a prominent parameter for information sharing. NGOs are more trusted than other public organizations and businesses. So, NGO owe a social responsibility to look after critical issues and work on them. But narrow personal aspects often hinder this process.

II.d To stay sustainable NGOs have to use the most budget-friendly means

NGO are not well funded enough as their contemporaries such as private or government organizations. In addition to that, they also have limited human resource and workforce. This is another hurdle for carrying out essential activities such as social campaigns or awareness camps. Lack of permanent financial aid structure is one of the main grievance of NGOs.

III. PROPOSED SYSTEM

Centralized or collaborated platform has completely changed the dynamic of various service-based domains such as food delivery platforms and platforms for online hotel booking. These domains succeeded as they shifted to collaborated platform. Together they were able to provide effective service to their customers. Also, they were able to attract more customers. Their business model was enhanced to whole new level. As decentralized network NGO system do not turn out to be effective, we propose the new approach to the problem. Similar model of the industries formerly mentioned can be designed for the NGOs who typically functions discreetly. NGOs, smaller or bigger, functions independently. Each NGO has its own separate database and track of activities. Though NGO might be functioning in different areas such as some work for welfare of children, or, on women empowerment, or, on environment issues such as

global warming or usage of plastics. These discreet NGOs can come together to form a common platform where they can share their data or finances. A platform which brings all the NGOs in particular geographical region under one roof to serve for broader and bigger purposes. Our model proposes to build a central body which regulates the unified network of NGOs. This unified body will function as a common platform where NGOs can connect with each other. NGOs will be acting as member bodies or as representing bodies. Any legal NGOs can be part of this platform. Member NGOs will be sharing their database and other details. Platform can be built on web where NGO can share their details through portal on web. Platform will be government recognized and will ensure security of the data given by the member NGOs. This model binds NGOs technically. Though NGOs may come under this unified body, NGOs will be free to function independently, thus ensuring the organization integrity.

Benefits of such unified platform are as follows:

Popularity

As NGOs come under one name, proper branding of NGOs can be done. One name or single platform can be effective in marketing which is essential to inspire people for philanthropy and understanding social responsibilities. One name can give these discrete NGOs maximum reach to people.

Extended Funds

NGOs can receive more funding from public as unified platform will cover different NGOs functioning in different areas. Due to multifunctional role of single body, people can get aware of new domains which needs funding.

Effective service to needy ones

As NGOs forms collaborative platform, a member NGO far from metropolitan area or an NGO without big recognition can have power to generate fund. Part of collective funding of unified body can be given to areas or people who are needy. So, such body can serve better than serving discreetly.

Platform for survey

As such body have maximum reach, efficient surveys can be carried out at increased pace. Also, body has more man power or workforce which can collect data required for a specified data.

Concrete structure

People by convention is not aware about NGOs and its functioning. Network of NGOs or unified body will define a strong and rigid structure which will ensure effective functioning of the body. More people will be influenced to contribute after seeing a proper organization.

Community building

Such people can effectively run a community. Camps, social events and campaigning can act as a basis or ground of a community. Community can boost people's moral to join social acts and events. Community can play a huge role to make youngsters understand their social responsibilities.

IV. CONCERNS IN PROPOSED SYSTEM

Heterogeneous database

Each NGO has its own database. Thus, it is very likely that database is heterogeneous in nature. So, in order to integrate it to form homogeneous, lot of effort is required. Professional experts of database will be required for accomplishing the task. Also, maintaining database is itself a big task.

Organization integrity

NGOs might not agree with the policy of unified platform. There can be chance of many preconditions of NGOs. Summing up the preconditions of all the member NGOs, handling them smoothly is a difficult task. Also, organization might not be willing any foreign intrusion in its functioning.

Politicization

Unified platform might face a situation of politicization. Unbiased contribution to every member and areas of welfare can be challenging. Transparency in fund management is tough challenge too. A large organization might not want to share it with smaller organization.

Privacy Concerns

Database sharing can make member organizations uncomfortable as they might be concerned with the privacy. Big organization might want to maintain the confidentiality of the organization. Concern for security of data is also chief concern for many of the organization.

Security Threat

Unified platform has web-based implementation. Thus, data breach by red hat hackers is a concern. Marinating a secure database can require professional help and expertise from specified domain.

V. SYSTEM ARCHITECTURE

Network of NGOs can be maintained and governed from a platform. Our model proposes the web model implementation for this task. As websites are readily accessed from smart phones, users can access the body more fluently and with less hurdles. Implementation through web will make it easy for users to get in touch with the ongoing of central body. Reasons for choosing web implementation are as follows:

1. Web services such as payment gateway can easily be used and can be embedded to platform.
2. Data security can be ensured with using new web technologies.
3. Popular and easy to access.
4. People can be easily notified of upcoming events and functions.
5. Individuality of member organization can be maintained by the portal on the web.
6. Web campaigning and branding can easily be done.
7. Can be controlled from any part of the world. Thus, no need to own huge estate for official works.

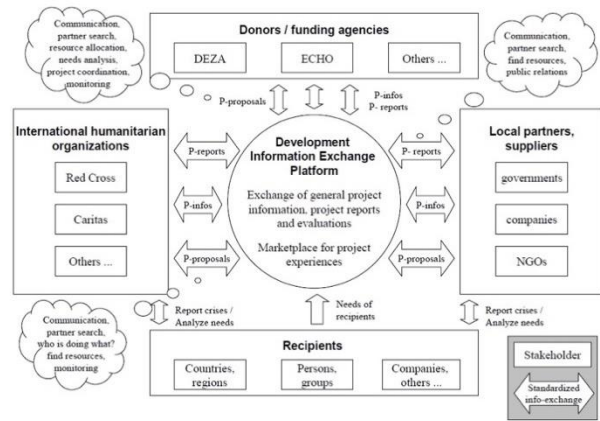


Fig. 1 System Architecture

VI. DATA MODEL AND ALGORITHM USED

The purpose of database integration is to achieve a gapless junction in-between different domain and form a unified retrieval system that allows users to pass one-time user authentication and achieve single-step retrieval and a versatile form of a complete service system.

Integration: The integrated database is an homogeneous integration of multiple forms of data type and the data are associated first and then stored, i.e. to integrate and relate the hard-wired relationship between different sorts of data rather than just stacking up the data in the database system in an isolated manner.

A. Construction of the platform

The Heterogeneous Database Retrieval System of unified platform is a distributed database system with mass data. The author expects to build heterogeneous database retrieval system based on the existing resources, including separate fund resources, personnel involved in the particular NGO database and domains they're currently working on database.

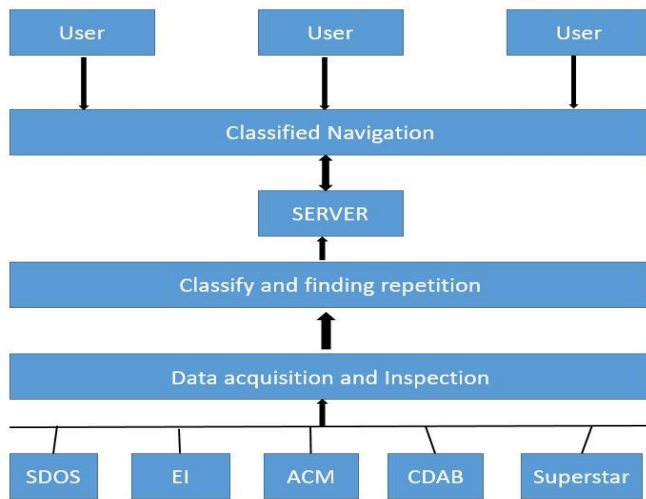
B. Platform modules components

The decentralized retrieval system comprises of three modules: NGO registration and administrator module, the retrieving module and output module.

The NGO registration and administrator module mainly decides the personalized retrieval settings and all the administrative rights including which function should be called a username for each participated NGO and authorizing of passwords, display style, etc.



Application of Informatics and Collaboration Platform for Ngos



VII. Fig. 2 Dataflow diagram

C. Job of the system

The aim of this system is to query the information of the database, including the domain as well as its goals and aims and current scenario. Each time the person only needs to input a term, such as campaigns, type of domain NGOs are working etc. Then, based on the term and the match pattern, the system will retrieve the background database, identify all similar organizations that meet the query and give the detailed information asked, as well as the full database as per the request.

D. Algorithm used

In this proposed platform, ASP technology is used as the backend technology. Firstly, there is a must to install the SQLite client-side server in the PC. Secondly, it is also required to configure the network with the administrator database server, including the network-name, IP-address and port number of the same. Finally, the SQLite data source on OODBC can be established now. When developing ASP, if the user wants to operate the database, he must first establish a connection to the OODBC. The code create the DB link are as follows:

```
"<%
```

```
Set
```

```
MyConn=Server_CreateObj("SSJDB.Connection")
```

```
MyConn.Open="FILEDSN=c:\Program
```

```
Files\dabase_files\OODBC\Data_Sources\ASPOpc.dsm"
```

```
%>"
```

The object-oriented database query algorithm is depicted as the DB query technology.

VIII. RESULT

The main features of the proposed system are as follows:

1) Supporting different domain resources in a single database

The unified integrated database will have enough versatility to provide end-users with various information resources uniquely and gather only the required information. The platform can integrate various types of database such as hierarchal databases, network databases, OODB, document databases and so on.

2) Intellectualized website analysis system

The unified platform adapts the dynamic website analysis structure which is discussed on the previous integrities in section V. The platform supports multi-threaded structure which allows retrieval of results at same time and display the most appropriate result to user at the unmatched speed.

3) Personalized result-displaying

The propose platform provides users with personalized format of data display. Users can manipulate the retrieval system on their own and choose various result display styles and everything would be displayed in the dynamic website that has been implemented as the front-end.

IX. CONCLUSION

NGOs have donated massively supported to several severe noble causes that if weren't looked into, might have caused severe loss to our society and social welfare. But due to lack of resources, funds and participation of people, they're getting diminished. Also, its creating lack of interest of local public. Hence, our proposed system can be a way through which NGOs can be benefitted in a major way. They can communicate with each other, publish themselves, help each other in their domains, get direct funding from the enlightened people, propagate their agenda and do so much more just by using our proposed work.

Currently the application is limited just to desktops and PCs as its not well adapted to the smartphone environment. We can do advancements in creating a native app particularly for this domain and create dual database i.e. local as well as cloud dataset for faster data retrieval and save storage spaces locally. Also this will maintain data integration of the same and will add up to the ease of use.

REFERENCES

1. Jiang Dongxing, WangJinZhan, Yuan Fang, "Research and Practice of University Level Unified Information System in Digital Campus", SAN YATSEN University journal(National Science Version), 2009
2. A. Joan S., B. Marc, and C. Enrico, "Some Unintended Consequences of Information Technology in Health Care: The Nature of Patient Care Information System-related Errors" in Journal of the American Medical Informatics Association, 2004, Vol. 11, No 2, pp. 104-112.
3. M. Zhu and T. Risch, "Querying Combined Cloud-Based and Relational Databases". International Conference on cloud and service computing (CSC) 2011, page 330-335.
4. R.-J. Raja-Yusof, A.-A. Norman, S.-S. Abdul-Rahman, N. Nazri and Z. Mohd-Yusoff. "Cyber-volunteering: Social media affordances in fulfilling NGO social missions," Computers in Human Behavior, 2016 No. 57, pp. 388-397.

Authors Profile



E. Saraswathi, (Assistant Professor), Computer science and engineering, SRM Institute of Science and Technology, Ramapuram, Chennai, T.N., India



Yash Senjaliya, (Student, B.Tech), Computer science and engineering, SRM Institute of Science and Technology, Ramapuram, Chennai, T.N., India



Soumya Shekhar Jana, (Student, B.Tech), Computer science and engineering, SRM Institute of Science and Technology, Ramapuram, Chennai, T.N., India