RESEARCH ARTICLE

Technology-Based Charity Model through Enterprise Architecture: An Elderly Case

Sarwat Iqbal*, Kamran Ahsan, Muhammad Azhar Hussain and Adnan Nadeem

*Corresponding author: s.iqbal@fuuast.edu.pk

Department of Computer Science, Federal Urdu University of Arts, Science and Technology, Karachi, Pakistan.

Abstract: - Every year a huge amount of charity is collected in Pakistan which is then used to provide different basic needs to needy population. Charity organizations face difficulties when they manage their activities. One of the most challenging tasks for the organizations is to verify donor and needy both. This work proposes a charity model based on Archimate in order to align the activities of charity organization. In the proposed model special attention and care has been taken in order to manage the charity so that the charity is used for the true cause for which it is donated by philanthropist. The proposed model bridges the gap between donors and charity organization and let donors feel contented. The model will act as a universal model which can be used in case when natural disasters such as earthquake, hurricane, volcanic eruptions, health disasters, droughts and flood etc. occur. The model keeps track of the donors, volunteers, donations, suppliers and needy so that activities can be aligned and on time delivery of charity stuff can be made possible to the true needy person. This model is aimed to provide one platform for all charities ensuring charity giving and charity taking transparent so that philanthropist may feel comfortable and satisfied that their charity is not going in unauthorized hands. This model provides peace of mind to the staff of charity organization in the sense that their activities are organized and pre-scheduled and they face no problems in synchronizing the activities of the organization.

Keywords: Enterprise Architecture, ArchiMate, Charity, Philanthropist, Mobile Technology, Information management

INTRODUCTION

Enterprise architecture is all about strategic planning. EA delineates the method and organizing guideline in order to make parallel the functional goals and policies with the help of IT policy and execution plan. EAs focus on maximizing investment returns. EA is all about returns, objectives and performances. As building plan, floor plan, electricity plan, plumbing plan, etc. are necessary to build a house likewise to build a business we need processes, organizations, locations, data, applications and technology. EA provides help in achieving the current and future objectives of a business completely defining the structure and operation of the organization (Ahsan et al. 2009).

Providing public service to some vicinity is a complex task because public services are delivered on large scale covering a great part of the population as well as geographical region. Offering the ranged, managed and aligned activities for a public services in one interface is a multifaceted assignment and result in a challenging task. In order to manage these complexities of public services the EA can be a very obliging and cooperative tool. By using EA techniques a mapping from present to future state will be possible (Ahsan et al. 2009).

The recent world has witnessed the advancement in Public sector, IT governance, healthcare systems, financial management systems but charity management as a public service has not been portrayed in a bigger umbrella. If charity management is seen as a public service then it resembles with other public services because in charity management the tasks are being performed in a large scale covering a large area with a great number of diverse population so the obvious problems of management tasks hinder the performance of the system. In this case EA can be used as a guiding tool to align the operational services, maximizing the availability of services and management tasks.
Pakistan is a country in which terrorist activities are recurrent and this is possible that charity given by philanthropist may be used in terrorist activities. Examples exist in Pakistan where the money collected with the name of charity used to support illegal activities such as terrorist activities. In Pakistan, most of the organizations dealing with charity are using technology in order to organize their processes. Organizations are managing fund raising activities through technologies like UPaisa, Mobicash, UBL Omni, NADRA- e-Sahula, etc. but mostly they are using the technology tools as a legacy system, however these can be used in a more sophisticated and refined way. These systems are being used by donors in small chunks. The donors are getting confused with these system, choices and heterogeneities of the interfaces provided by them. If these systems are used in a homogeneous and standardized way then more worth can be achieved. If a donor wants to pay for charity then questions like how can he pay, how receipt can be generated, how charity organization verifies the donor identity and how organization can inform the donor after the use of his donated amount, etc. need to be answered. In this case the gap between donor and services needs to be bridged. The aim of the proposed model is to use technology on a mainframe scale and embed the technology throughout the processes of charity organization so that maximum advantage can be achieved and charity contributed by philanthropist reach to the needy in effective way. The proposed model make philanthropist comfortable in order to donate stuff like money, food, clothes (stitched/ unstitched/woolen), medicines, household utensils, building materials (cement, bricks, etc.), soap and washing powder, beds and blankets, course books for students, etc.

Due to indecorous and less integration of different technology solutions the people are not receiving the true benefit as a needy as well as a donor. In order to bridge the gap between the services provides to donor and needy and proper integration of services provided by charity organization enterprise architecture suits as sterling tool. EA and technology tools help in reducing the cost of operations, reorganizing administrative operations and improving customer services. Through enterprise architecture the information assets as well as business processes of charity organization can be managed. Organizational structure can be supported through proper integration of enterprise architecture. The charity organizations can manage their information and application infrastructure and may be supported towards complete business visibility and agility.

Poorly Organized Organizations
Organizations working in today’s world without using technology and managed operations are facing numerous problems which cause different deleterious and negative impacts on the smooth running of the routine tasks as well as development of organization. The problems are diverse in nature but as far as the organizations which are using IT infrastructure are facing some common issues. Technological advancement is rapidly happening and for an organization to provide services to its customers in a way that it is compatible to the needs of the customer in a cost effective way is an exacting task. Dealing with fraudulent activities in organization is a leading cause to management difficulties. A substantial amount of money needs to be spent by organizations to overcome the fraudulent activities. A badly designed infrastructure to overcome fraudulent activities leads to create unavoidable loop holes and result in waste of money as well as waste of manpower. Government policies, climate changes, diverse workflow, multiple stakeholders and globalization are a few steeplechases which organization may face while providing services to its customers.

If processes and services are loosely defined, not properly documented and not organized suitably and fitly then organizations’ performance deteriorated and the staff as well as customer may feel displeased and unsatisfied. If processed and procedures are not well designed then the functions of the organization become late and in some cases the output will become impossible. Managing the tasks related to successful completion of the on-time operations to serve humanity can be done with the proper administration, supervision and skilled organization. Without proficient and competent workflow of the processes the entire system may collapse. IT tools may help to integrate the
necessary legacy systems. Organization may face waste of money and effort if their processes not designed in user friendly manner and do not utilize their technology resources. Unorganized processes can generate muddle and jumble on the workplace. Poor communication with the workers may result in the waste of precious organization time.

Charity organizations face the same type of problems when these organizations initiate and manage their work. The charity by donors may be targeted to different types such as a donor may want to contribute the amount towards food, towards health, towards education, towards environment, towards animals, etc. so in order to accommodate these all modes of charity within a single organization is difficult and needs proper management and execution plan so that charity can go to the mode for which this is contributed by donor. Furthermore in case of cross country donation the donor may need to be satisfied that the amount is going in proper hands and in what honor it will be used in the end. On the other side charity organizations may collect the donation through different modes of payment like bank cheques, bank drafts, SMS donation, through mobile phones etc. These payment methods are designed to make the process of payment stress-free but due to their diversity in nature these are also making the process difficult for donor. In Pakistan there is no regulatory authority responsible to look after the exercising autonomous authority and matters related to charity process in a supervisory capacity. Also there is no accreditation which can approve the processes. If the proposed model is used with regulatory authority accreditation better results can be achieved.

In this state of affairs the proper alignment and integration of services is exceedingly desirable because improved procedures can make the system valuable, efficient, effective and robust.

Using Archimate for Charity Organization

As charity organization need to work on large geographical area serving to large communities in different situations, the selection of appropriate architectural frame to fit for the specific requirement of the particular charity organization is a complex task. ArchiMate due to its communication facilities may be effectively used for charity organization. ArchiMate provides a strong relationship and communication between all stakeholders connected with the charity organization. The visual language of ArchiMate helps to integrate IT systems, organizational structure, organization strategy and business processes. Coherent and holistic approach of the EA leads the organization to its desired destination. It provides a blended approach connecting system, infrastructure, product, services, information, people/actors, business processes, and business units. Application of EA to charity organization is the core idea of the proposed work. The modeling language plays an imperative role in the framework developed for EA. ArchiMate is a leading language in all the language available for modeling EA. ArchiMate is simple in nature, has open specification and integrates all pieces of an organization. The most important feature of ArchiMate ate is that it mostly supports the communication purpose. The group of internal behavior at business level and application level can be reflected through function. The interface can be used to shows the functional behavior. There are various techniques available which can be used to document the architecture and their heterogeneity make it complex to find the relationship between the domains. Domains are strongly dependent to each other. In order to realize the product of an organization business processes are created and software applications which support business processes using the information presented to them are created through ArchiMate. Business processes needs the support of technical infrastructure which runs the application. Active structural elements (such as business actors, application components, devices that play the actual behavior), passive structural elements (the object on which behavior is performed) and behavioral elements (the activities that are carried out, the verbs) when combined provide the architectural ground for activities of organizations (ArchiMate).

Public Service Provisioning Pakistan

Pakistan government is also providing public services using modern technologies. For
example in Benazir income support program payment to needy woman is being made in the form of money order. In this mechanism Pakistan Post receives list of beneficiaries in electronic form along with cheques and then Pakistan Post prints money order through a digitized system and then money orders are paid to doorstep of beneficiaries.

Payment through smart card and mobile phone banking is also being made possible in test basis in nine districts and by using smart card beneficiaries can get money from bank in a very short span of time. This provides real time reconciliation of payments to 94% of the beneficiaries (BISP). Pakistan is a country where wealth distribution is highly dispersed and a great part of population is facing poverty crisis. On one side a family is using huge amount of money on its daily expenses and on the other sides some families cannot make their two times meal, even cannot avail the opportunity of drinking water. Due to poverty and hunger people are selling their body parts, killing their children, committing suicide, and going toward crimes. Issue of 9/11, earthquake of 2005, continuous flood, terrorism, bad law and order situation are being the cause of increase in poverty level. In spite of being an agricultural company having all four rich seasons, land with rich minerals and resources, a 1200 kilometer long cost line with Arabian Sea, the distribution of wealth is not reasonable and a lot of people are living under poverty waiting others for their daily needs.

**Charity Trend/ Inclination in Pakistan**

Pakistan is an Islamic country having its 97% muslin population following the rules of Islam. Zakat is the 3rd pillar of Islam and besides zakat Muslims also spend money (in the form of Sadaqah al-Fitr, Nadhr, Fidyah, Kaffarah, Qurbani, etc.) for the welfare of poor people as part of their religion but the sad fact is the poverty level is increasing day by day in Pakistan. And the basic cause is that the charity given by Muslims is not utilized in a manner in which it should be utilized. More than 40% of the population of the country is living under poverty line which is making the situation worse day by day. The average money earned by people under poverty level in Pakistan is Rs. 125 daily. In this depraved situation elderly population faces most bad ailment. Young population somehow overcome its hunger and poverty crisis but elderly population, due to its physical and mental weakness, could not overcome this this situation of hunger and discomfort.

Development assistance committee for the organization for economic cooperation and development Pakistan reports in 2010 that Pakistan stands 4th amongst the countries which gives as a percentage of their gross GNI (Gross National Income). Pakistan population contributes more than any other Muslim country which clearly shows that Pakistanis are keen to help their brothers and sisters. Although there are a lot of organization working in Pakistan which are collecting and distributing money in the needy people but a lot of money is being wasted because organization do not maintain a record of needy people. As the result no all the needy people are being facilitated. There should be a system through which it should be known that in which part of the country actual needy are available so that they can be facilitated. Once a database has been built, showing the population of needy people, than this can be shared among other welfare organizations providing help in different areas. If one organization is focusing on food and health services then it can share its data with other organization providing other services such as education and housing. Charity should not go to people who are not needy and pretend to be needy. Providing help to elderly is basic responsibilities of government. Keeping in view that a lot of Pakistani people take part in welfare services, and this money can be effectively used a comprehensive project is under consideration. For this project we are trying towards helping elderly for food and clothing at their doorstep as a public service.

**Charity as a Public Service through EA**

Public service is a service which is provided by government or private organization in order to fulfill some specific needs of the people living in its region. Public service could be provided by government directly to its people or government may facilitate them in the delivery of service. All those services which are considered indispensable for the healthy and
satisfied life of people are comes in the umbrella of public service. And providing these public services is considered obligatory for governments. Healthcare services, electricity, education, firefighting, waste management, etc. are a few examples of public services.

Typically the process of charity organization is as follows:

1. The organization announces about its work, working areas and the type of charity of it supporting. For example the charity organization which aims to provide help in healthcare services announces the domains in which the organization operates. Some charity organizations take the responsibility to provide medical services to needy, some provide medicines and some charity organizations provide full support to needy till needy reach to the perfect health condition.

2. Initially the focus of the organization is to gather donors into an umbrella so that an ample amount of people may sit together as well as donation collected. For this, organization takes help from different advertisement services. The organization may organize altered events for this task. In these events the donors are expected to gather not for their contribution but also these events may cause attraction to those people who could be the future donors of the organization. In this way new donors are added to the organization donor list.

3. After gathering the donors and funds the charity organization tries to estimate the amount of money which is expected to collect on monthly/yearly basis. The donation amount collected and added to the organization account.

4. After the estimation of the target amount the organization starts the make the list of needy that can be benefitted through the collected amount. As soon as it finds the needy population it starts the process of giving the stuff of their needs.

The charity organization faces different types of problems when perform activities according to the above steps. One of the problem faced by the organization that how to verify the needy person. Most of the organizations verify the needy on trust base. This trust based system creates problems as the person who is not needy in actual can register himself as a needy. The organizations do not have any authentication system by which they can verify the person’s identity. Verification of the donors is also a problem of charity organizations. Organizations do not have any system by which they can verify the identity of donor.

The critical and important aspect of the whole process is that how to best use the amount collected by donors in order to help needy. In the proposed work this is assumed that collected amount is always more than the estimated amount of a monthly amount to be spent on needy and organization always has amount to distribute to needy. For the proposed process needy and donors both need to be registered with the organization. The registration process authenticates the needy as well as donor through national database authority. This type of management will also ensure donor that his donation is not being used totally for the management of operations of the charity organization.

As there is an environment of miss trust in Pakistan, most of the persons who want to spend money for the welfare of needy do not come forward and contribute amount to organization ant try to give this amount privately to needy. This miss trust leads to non-participation of donors. And as the result charity on large scale could not be observed. The proposed work adds an extra layer to the normal process of charity organization. The propose model uses knowledge from different domain in order to facilitate elderly.

Technology Integration in Public Services

Different tools from information technology are helping in order to work more efficiently and to maximize productivity of the organizations which provide public services to citizens of certain vicinity. The technology tools provide faster communication, adaptability, secure electronic storage, on demand resource availability and educe down time etc. Technology provides superior tools than obvious process and user dynamics. Information system alignment through technology may bring useful and convenient process management for the organizations (HP, Technical Reports).
Healthcare provisioning may be considered as the foremost type of public service through technology tools. In different parts of the world healthcare facilities are provided through technology (Demirkan 2013; Lee et al. 2015; Kemis et al. 2012; Kavitha et al. 2014). Manifold applications have been presented which are fetching innovation and improvement for the alignment of operations of firefighting service management for the organizations (Feese et al. 2013 and Jones et al. 2015). Apart from these services a massive amount of work has been presented in literature in order to provide different public services like, community policing (Ezenkwu et al. 2013 and Oduor et al. 2014), Bus transportation (Srinivasan 2015), ambulance service (Lee and Huang 2014) (Venkatesh et al. 2012), emergency medical service (Thelen 2015 and Tan et al. 2012), etc.

The three aspect of Archimate are defined using active structure, passive structure and behavior. The active structural elements are elderly, money and some national authority containing the national database which can verify and validate the persons’ identity. This is the basic requirement that elderly and donor both need to registered. This registration could be facilitated by national database authority. According to the proposed approach the needy first apply for registration process. The registration process validates and approves the registration of elderly. After the successful registration of elderly the charity organization estimates the amount which can be allocated in order to buy to fulfil the promised needs (food and cloth) of elderly. For this the charity organization provides food to every month’s need of elderly. Charity organization also provides a total of 4 dresses to elderly, two in summer season and two dresses in the winter

PROPOSED ARCHITECTURE
The Figure-1 shows the representation of the proposed work through ArchiMate.
season. The donors know in which sense his donated amount is used. The system provides the complete list of elderly who are benefitted through the amount contributed by each donor on regular/monthly basis. There could be three cases about the amount donated by donor. In the first case the amount may be less than the need, in the second case the amount may be equal to the need and in the last case the amount may be over the need. In all three cases the list containing the names and addresses of the donor will be generated reflecting the percentage of the amount which has been used in order to fulfil the need. In this way the donor feels satisfied that his amount is being used properly. In the proposed work we are avoiding any legal complication which could be faced by charity organization. After sending the list of charity takers to donor the charity organization also send the details of amount which is used and the amount left to charity organization. In this way the donor remains update about his contributed amount.

The organization will run different campaigns in order to motivate new donors for the charity and also search for the needy population so that those who are in need can get benefit from the organization. The following processes will be ensured in order to smooth running of the system.

1) **Evaluation**

This process will be started by the event registration request. The needy and elderly both will be registered through this process. If the needy do not have access to technology then printed forms will be given to needy which need to submit in the organization office after filling them properly.

2) **Validation**

This is the most important process in which the validation of needy and donor will be done. For this registration process the charity organization can get support from national database authority. The needy and donor both will be validated through national database as national database is the only one authority which can provide validation for the residence of the state. In this case the validation of needy will requires two main validation parameters, one is the residence verification and the other is about the age of needy. As the

3) **Registration Approval**

This process will take input from request validation and will decide whether to register the elderly or not on the basis of information which have been provided by needy.

4) **Assets Decomposition**

For the transparent use of the assets the charity organization will decompose the price of each asset to an acceptable threshold level so that fractions of amount can be distributed to all donors. Hence by this process the assets will be allocated to donors. If charity organization is providing services in order to completion of a process then the total cost of the work will be decomposed. Hence the amount which will be deducted from the donors’ BANK. The temporal database will be maintained which will reflect all the time stamps of the activities and this data will be shared with donors. By this process every donor will be able to outlook his donation any time he wishes. The details will be provided to donor in a user friendly manner.

At this point the charity organization will also inform the donor that what percentage of his donation will be used for by the charity organization regularly in order to run its processes smoothly (overhead). An obvious overhead will be generated in this case as compare to the other organizations which are not providing the details of amount usage. The charity organization will inform its donors that what percentage of the donor contribution will not be used for needy help as this amount will be used by charity organization for smoothly running its operations. Different processes of the charity organization will be facilitated by this amount, for example salaries of its staff, the amount used for arranging charity collection events, the amount used for running the technology component which are providing backbone to charity organization and the amount which are used for transporting and delivering the stuff to needy.

5) **Authentication Application**
The proposed model claims that this model provides authentication to elderly that this amount has been used in order to provide help for needy to fulfil their needs. The process of authentication will exploit the latest available location based technologies and temporal database concepts. The charity organization will prepare a comprehensive database containing all the footprints of the activities performed in the organization. When charity organization spends money to fulfil some specific need then it tries to takes evidence/confirmation/sanction/endorsement/consent of the activity/event. For example in case of consumable resources (providing food to elderly) provided to needy the charity organization can take geotagged photographs of the event which will be shared with the donors for their satisfaction process. The geotagged photographs will be sent to organizations database server in real time manner so donor can get the update as soon as his donated amount fulfils the need of needy. The charity organization will also send SMS to the donor about each and every use of his donation. Emails will be sent on regular/monthly basis to inform donors about his contribution. The charity organization will provide only the name and location of the needy; no other information about the needy will be revealed to donor in order to protect needy individuality.

At his point charity organization will ensure that the identity of the particular needy that (who) is benefited by the specific donor will be revealed to donor, no other donors of the organization can view the name and location the needy.

If charity organization is involved in construction some building (home for needy, school for children) then geotagged photographs can also be taken which will be saved in the temporal database which will be updated in real time as soon as charity organization consumed the money donated by philanthropists. The organization will maintain a temporal database of its activities which will be populated as soon as the data gets available. This temporal database will store a time series data and then will change the data as soon as the changing is reflected from the organization processes. Hence real time monitoring of the processes can be done by organization as well as donor. Geotagging will help the donor to know the exact time and location on which the event arranged by his money will take place.

6) Financial Application
This process is responsible for making the budget and will allocate funds to fulfil different registered NEEDS. The amount will then be used to provide basic necessities to elderly. It will hold all the data about previous and current expenses.

DONOR SATISFACTION
The charity organization will register the donors and maintain a “DONOR_BANK” against each donor. This “DONOR_BANK” will contain the information about the donors’ amount and other necessary details (email, cell number, etc.) about the donors. In the proposed work the donor gets satisfaction about his donated amount by the defined process in the organization. According to the proposed method every request for help will be registered as a “NEED” with the organization. The organization will register every request for help as a NEED and collect the money from donors to fulfill the needs. The collected amount will be served to fulfill the needs (purchasing stuff for elderly help) and when any need has been fulfilled the process of informing donor will generate the detailed list to handover to donors for their satisfaction. The list will reflect the details of donor amount contributed towards different needs, the name and addresses of needy, percentage of donors’ amount which has been used by the organization as shown in Figure-2. The used amount of donor will be calculated on percentage basis.

The organization will prepare a budget according to the expense which needs to be done at the end of every month. The organization will allocate a percentage to each donor’s contribution which will reflect fraction of amount which can/will be used for each month in order to fulfil the needs. When a registered NEED desires to be pleased, the amount form the donor bank will be allocated for the NEED and then subtracted from the bank. The calculation list will be maintained reflecting the
details of NEED. This list will be send to donors so that donor can view the status of his donated amount. The organization will also update the donors with a separate letter when the donation money by specific donors has been utilized for different NEEDS. Fig-2 Shows a snap shot of the list which will be provided to each donor every month or when a specific need of from the needy has been fulfilled.

![Charity Forum](image)

**Fig. 2. List for Donors’ Satisfaction**

**MANAGEMENTS**

1) **Donor Management**

This will hold the information about the donor. Information about the donors will focus on two attributes. One is general information about the donor and the other is information about his donation. When a donor successfully registered within the organization then it will be provided access to its DONOR BANK. This access can be through web application or mobile application. The donor can check status of it DONORBANK any time by login to its account. The status of used and unused amount will be available to donor. The organization will also provide access to the lists which were sent to donor in different times in order to communicate about the use of its donation. Through this collaboration towards higher goals will be made possible. Automatic reminders will be sent to donors for participating in fund raising activities, date/time and location of upcoming events and steps empowering people to connect together.

2) **Needy Management**

This will hold the information about the needy (age, residence, needs, etc.). The needy personal information and the information about his delivered stuff will be saved. This will contain the details of the previously give to material to needy also. Through this way organization will keep track of the needy information and what stuff has been delivered to needy.

3) **Financial Management**

The charity organization will accept on-time donation on line with secure system as well as some other modes of contribution also. Financial management will be done by the organization in order to maintain its budget. Through financial management the organization will manage the collection. The organization will decide what stuff need to be purchased in the current month. The organization will keep track the amount which is left within the organization.

4) **Employee/volunteer Management**

This will hold the data about responsibilities and day to day assignments of the employees/volunteers. From this module the organization will manage its volunteers/employees in different manners such as attendance tracking, assignment tracking, etc. Staff collaboration will also be done in this management phase.

5) **Event Management**

The organization will conduct different events/activities in order to invite, encourage and attract donors for charity, collect charity and for needy registrations. A needy can itself register within the organization through filling printed forms or somebody can help needy in order to register them. Mobile application and web application both can be used for registration purpose. The charity organization will encourage the persons who can help the organization in...
order to find and identify needy population of some specific area. In this way if needy is so deprived and even could not approach charity organization the other members of society can help needy to reach to charity organization. The charity organization will accept request from the introducer (the person who is not needy itself but want to introduce some needy to organization).

SYSTEM DIAGRAM

The following is the system diagram of the proposed model.

![System Diagram](image)

**Description**

The main scope of the proposed framework is to best utilize the charity given by philanthropist and to use the money contributed by them to provide food and clothes to elderly who need them as elderly cannot earn their living and could not effectively manage their life needs. Special care will be taken in order to maintain the transparency about the use and distribution of stuff so that donor/Philanthropist feel satisfied that his contributed amount is actually fulfilling the needs of elderly and not being used in any unsanctioned way. Technology-based solution will be developed in order to avoid/minimize the wrong use of charity and to observe the best use of charity. Mobile technology is available to most of the persons who want to contribute through money to the welfare of needy elders. The proposed system will use mobile technology as a basic tool for helping elderly. Two applications will be developed to obtain the required objectives. One will be web-based application and the other will be mobile application. Both of the applications will be used to facilitate philanthropist as well as needy elderly. Not all the necessities of the elderly will be fulfilled; the focused areas are food and clothes. Both applications will be used to collect money from the philanthropist and also to maintain the data of needy elderly persons. A comprehensive system will be developed which will require human effort also for the detection and authentication of elderly in some vicinity. TV, radio, cable transmission and
pamphlets will be used to make people aware about the effectiveness of the service and project mission. Once the people are aware of the project mission the method of their participation will be revealed to them according to their convenience. Two broad categories of people may participate in this scenario.

1) Person who want to contribute through money (Donors/Philanthropist)
2) Person who want to inform/register an elderly

Web based application and mobile applications will be used to fill the information regarding the elderly in which the elderly itself or person who is aware of the web and mobile applications. Philanthropist will also register itself through mobile application or web application. The charity organization will use national database service in order to authenticate philanthropist. The philanthropists/donors need to register their cell phone number and email address which will be used for future communication with donors.

Provide help in order to fill the form containing necessary requirements (Name, Data of birth, CNIC, Complete Address, etc.). CNIC number will be considered necessary for the authentication of the needy elderly and elderly will be told to register one mobile phone number of his own or number of some relative, this number will be used to inform elderly when his food items and clothes are ready to handover to it. The national database authority will be used to authenticate elderly. The national database authority will also coordinate in case of death of elderly and to make sure that this particular person reaches to the age of elderly (60 years) and can be considered as elderly. If national database informs about the death of elderly than no stuff (food and clothes) will be allocated and the same stuff will be served for some other elderly. Printed forms will be distributed in case in which elderly could not avail the facility of web or mobile applications. These printed forms will be placed on government utility stores as these stores are located throughout the country and accessing these stores is not difficult for the person living in Pakistan. Contribution from philanthropist will be accepted through bank draft, cheques, Credit card, mobile phones, etc. so that philanthropist can easily contribute without any wasting of time and effort. A database will be maintained which will contain the information about elderly and philanthropist and in order to maintain the privacy of donors as well as self-respect of elderly will not be shared with any other entity/organization working in Pakistan.

After collecting money the authorities of the project/ charity organization will take decision about the distribution on money among needy elderly. Appropriate and healthy food items and clothes will be arranged according to the amount collected and then the distribution process will take place. Once necessary stuff bought for elderly and properly packed the stuff will be places to the collection centers.

Elderly will be informed through SMS. An SMS will be sent in order to inform elderly to collect its stuff from the nearest possible collection point (for example utility store). This will be necessary to show CNIC card by the elderly at the time of receiving the stuff. This is also proposed that the target system will provide the facility to philanthropists to send him alerts through SMS when and how their money is being utilized and provide them the list of elderly who are being facilitated. The organization will use some of its money to projects which can earn money to it in future. For the time being the we are proposing the system for only food and cloth for elderly but in future we are also planning to enhance the system to provide healthcare services and some other services to elderly and common population (such as well digging and building house) also as health is also a big issue for elderly.

In the proposed model activities are defined which enable the provision of food and clothes to elderly. ArchiMate framework help in aligning the activities also. The tuples helping organization to understand the holistic model of the work and how, when and where the system processes are going to be done. Which processes involve which entities in order to achieve the goal. The framework helps to organize activities location and how the locations will interact with each other to fulfill the required objective. Through mobile application as well as web application the data from eth elderly as well as philanthropist will be collected. In this data collection activity elderly can itself use mobile
or web application in order to share personal information or some other person who is technology aware can facilitate elderly. Philanthropist will also use mobile and web application in order to contribute money to help elderly. The staff of the organization will make sure that their data is received and saved in a permanent form so that it can be used in future needs. Developer will develop mobile and web application either in organization office or they can do the task at their homes. These all activities are performed in order to provide food and clothes to needy elderly at their doorstep or at their nearest utility store so that they can easily collect them.

CONCLUSION
The proposed work uses ArchiMate for the organization task of charity organization. Through ArchiMate the activities of the charity organization are aligned and structure and operation of the organization are described ArchiMate helps the organization to run its tasks in a smooth way. The proposed work describes the process of verification of elderly as well as needy through the use of some national database system. A process has been defined which provides regular statistics to the donors about the use of his donations. In this way the donors always remain up to data about his money and feel more satisfied. The donor is facilitated through technology and can provide his contribution to the organization in a very sophisticated way. The needy were facilitated through the defined process and were helped in a decent way.

REFERENCES


Received on 10th Sep 2015 Accepted on 12th Nov 2015
Manuscript can be seen online at www.luawmd.edu.pk