ST. XAVIER'S COLLEGE

(Affiliated to Tribhuvan University)

Maitighar, Kathmandu

Final Year Project Report

On

"Save Humanity: ICT for Reducing Human Trafficking"

[CSC-404]

A Final Year Project Report submitted in the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Information Technology awarded by Tribhuvan University

Under the supervision of

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Department Of Computer Science

Submitted By:

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Submitted To:

ST. XAVIER'S COLLEGE

Department of Computer Science

Maitighar, Kathmandu,

Nepal

August 6, 2017

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CERTIFICATE OF APPROVAL

The undersigned certify that they have read and recommended to the Department of Computer Science for acceptance, a project proposal entitled **"Save Humanity: ICT for Reducing Human Trafficking"** submitted by **Suman Malla (2708/070)** and **Susanta Gautam (2710/070)** for the partial fulfillment of the requirement for the degree of Bachelor of Science in Computer Science and Information Technology awarded by Tribhuvan University.

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ABSTRACT

Trafficking in persons is a serious crime and a grave violation of human rights. Every year, thousands of men, women and children fall into the hands of traffickers, in their own countries and abroad. Human trafficking is the trade of humans, most commonly for the purpose of forced labor, sexual slavery, or commercial sexual exploitation for the trafficker or others. While the majority of experts on human trafficking assert that the greatest number of victims of trafficking are women and children, there is little systematic and reliable data on the scale of the phenomenon; limited understanding of the characteristics of victims, their life experiences, and their trafficking trajectories; poor understanding of the modus operandi of traffickers and their networks; and lack of evaluation research on the effectiveness of governmental anti-trafficking policies and the efficacy of rescue and restore programs, among other gaps in the current state of knowledge about human trafficking.

The objective of Stop Trafficking aims to increase Public Awareness and facilitate the elimination of Human Trafficking. Technology Is a Double-Edged Sword to root out the Human Trafficking Organization. Technology is the best weapon for fighting the human trafficking through the special enthusiasm and direct support and coordination from the various agencies and organization. As the Information and Technology creeps to the top in the modern society there is major chances that the ICT sector is used for the good and bad in the human trafficking crimes and activities. Stop trafficking generally concentrates in the use of the ICT sector for part of the solution for illegal transaction of any human, organ and children from the trafficker's.

Many initiatives are taken to minimizing the effects of trafficking crimes, ICT is the revolutionary module for fighting the organized trafficking crimes through the literal awareness and knowledge in society to save the innocent and forced victim who are unwilling get trafficked.

Keywords: Information and Communication Technology, Road To Freedom, Human Trafficking in Nepal, SOS, Social Welfare

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LIST OF ABBREVIATIONS

1.	ICT	-	Information and Communication Technology
2.	IETF	-	Internet Engineering Task Force
3.	SCTP	-	Stream Control Transmission Protocol
4.	TCP	-	Transmission Control Protocol
5.	DES	-	Data Encryption Standard
6.	IDE	-	Integrated Development Environment
7.	HTML	-	Hyper Text Markup Language
8.	CSS	-	Cascading Style Sheet
9.	jQuery	-	JavaScript Query
10.	JS	-	JavaScript
11.	RTC	-	Real Time Communications
12.	DFD	-	Data Flow Diagram
13.	XML	-	eXtensible Markup Language
14.	PERT	-	Project Evaluation and Review Technique

CHAPTER 1: INTRODUCTION

1.1. Background

Trafficking in persons is a serious crime and a grave violation of human rights. Every year, thousands of men, women and children fall into the hands of traffickers, in their own countries and abroad. Human trafficking is the trade of humans, most commonly for the purpose of forced labor, sexual slavery, or commercial sexual exploitation for the trafficker or others. This may encompass providing a spouse in the context of marriage, or the extraction of organs or tissues, including for surrogacy and ova removal. Human trafficking can occur within a country or trans-nationally. Human trafficking is a crime against the person because of the violation of the victim's rights of movement through coercion and because of their commercial exploitation. Human trafficking is the trade in people, and does not necessarily involve the movement of the person from one place to another [1].

The role of ICT in facilitating information exchange is manifested in the way information flows faster, more generously, and less expensively throughout the local government for decision-making and for development of the country. It can be particularly powerful in providing a voice to people who have been isolated and invisible. the use of ICT is to promote more efficient and effective government, facilitate more accessible government services, allowing greater public access to information. With the emergence of information and communication technologies (ICTs), it is possible to improve efficiency and effectiveness for providing awareness among people and to re-locate victims and keeping them away from misleading from criminals involve. While the benefits of ICT in society cannot be disputed, there are several concerns about its success as well as the strategies to be adopted in implementation of systems in various countries [2].

This project therefore aims to link several people in remote areas through Internet and help them in any way possible. This project aims to help people by showing them the consequences if they got into the problem and help them to make them aware to protect

themselves and to lead the mass in each society to fight against the human trafficking [3].

1.2. Problem Statement

Human trafficking is a crime against humanity. It involves an act of recruiting, transporting, transferring, harboring or receiving a person through a use of force, coercion or other means, for the purpose of exploiting them. Every year, thousands of men, women and children fall into the hands of traffickers, in their own countries and abroad around the world including India. In the last year and a half about 13,000 women and children from Nepal have been victims of trafficking to other countries. Their number has increased by 60 percent compared to the previous year. The data was provided by a report of the National Commission for Human Rights in Nepal (NHRC), published in the capital Kathmandu on the occasion of the XIX General Assembly of the Asia-Pacific Forum. According to the NHRC, the majority of women have been victims of trafficking for forced prostitution, and children are forced to beg or forced labor and, in some cases, even used for organ transplants. The 2013 edition of the Global Slavery Index (Global Report on slavery) drawn from the homonymous humanitarian organization has ranked Nepal in the fifth place out of 162 countries around the world, to the modern practice of slavery.

1.3. Objectives

The objectives of the project are:

1. To develop accelerated data and news collection about the human trafficking in local and national level.
2. To request information from agencies responsible for preventing and combating trafficking in human beings and develop reports in the field.
3. To digitize the information in the crimes and working organization information and provide them platform to work easily.
4. To identify resources needed for the research in the field of preventing and combating trafficking in human beings.

1.4. Scope of the Project

In the developing countries, ICT is widely used to improve access to and increase the quality of socialization. ICT has proven its potential to increase the access, participation, and achievement of all members of society. ICT in the developing countries like Nepal have the potential to enhance the lifestyle of people who:

- live in rural areas of Nepal
- have been constrain from social awareness program.
- have limited interest in participating in the social welfare programs.
- have been deprived from knowledge upcoming activities in associated fields.

With today's modern technology that is taking a dynamic leap each day, one can easily get access to experts, professionals, and leaders in their fields of interest, around the world at any given time. This project can be used in following fields for different purposes:

- NGO's and INGO's for sharing their upcoming events.
- Government for sharing and releasing the reports on crime in relative field.
- Local social organization for managing and informing about events they are hosting in associated field.

1.5. Features of the Project

This project works on different application of ICT in society. It illustrates the use of ICT in various field of society for awareness programs against human trafficking and related crimes. Our project features for the online digitization of awareness programs for making people aware to eradicate human trafficking from local level.

This project aims to provide an online web platform for local member of society. The general public can directly view the online web application and get notified via. E-mail. The admin can update the online web applications and the latest news for the programs and event. The public can fill up the forms online and join the membership.

The design of the web application is done using CSS, HTML. The database used is MS SQL Server where all the information are stored. FileZilla is used to download and upload files. And the basic programming language used is jsp i.e. Java Server Page.

1.6. Feasibility Analysis

Feasibility analysis, in simple words is an analysis and evaluation of a proposed project to ensure if it is technically, economically and operationally feasible [4]. As the name suggests, a feasibility analysis is a study of the viability of an idea. It focuses on answering the essential question of "should this proposed project idea be proceeded?"

1.6.1. Technology and system feasibility

The technical issue usually raised during the feasibility stage of the investigation includes the following:

- Is there any proper online web application for interaction between the public and the social organization?
- Will the proposed application provide adequate response to inquiries and provides information to the users?
- Can the application be upgraded if developed?
- Are there technical guarantees of accuracy, reliability, ease of access?

The current application developed is technically feasible. Our application is built in HTML platform with CSS framework using Java programming language and can run in every Microsoft OS products later from windows XP having .net framework version greater than 3.5 or any other operating system. It's very reliable and can perform even in lower processor like pentium4 but its execution get a little slow with that because of less number of core processor [5]. Our product is more feasible and can run efficiently with current available any system.

1.6.2. Economic Feasibility

Developing and deploying this system has a very little economical cost. All the resources required to develop and deploy this system is computers. For development, PCs that support the visual studio and MS SQL server is sufficient. This can be any PC with 256 MB RAM, 40 GB hard disk and 1.4GHZ processor.

For deployment, a server is required which can be an IIS Server with MS SQL server database.

Also the operational and training cost of this application is minimal since the application comes in an easy to use interface. Moreover the users are the general public and other personnel and these people can be easily taught to run a utility web application like this.

1.6.3. Legal feasibility

This application will not violate any rules and regulation. Whatever the formulas and measures were researched and used are noted with references of their paper published and author names. Also this project will not violate copyright act because with full description of references we have documented each and every minor parts thinking sensitively. And in regards of codes, they are coded by our team members and the copyright solely goes to our team member only.

1.6.4. Operational feasibility

Proposed projects are beneficial only if they can be turned out into real world implemented System. That will meet the user's requirements. Operational feasibility aspects of the project are to be taken as an important part of the project implementation. Some of the important issues raised are to test the operational feasibility of a project includes the following:

- Is there sufficient support for application resources?
- Will the system be used and work properly if it is being developed and implemented?
- Will there be any resistance from the user that will undermine the possible application benefits?

This system is targeted to be in accordance with the above-mentioned issues. Beforehand, the user requirements have been taken into consideration. So there is no question of resistance from the users that can undermine the possible application benefits. The well-planned design would ensure the optimal

utilization of the computer resources and would help in the improvement of performance status.

1.6.5. Schedule feasibility

A system is said to be schedule feasible if it can be implemented within the planned schedule [6]. To make any system schedule feasible, the developer needs to use tools like project schedule, Gantt chart, etc.

We had given the period of this whole semester to fulfill the proposed project so now we think we had successfully accomplished the project with proposed time schedule though there were certain activity risk occurred in between they are represented in Time Schedule and Gantt chart.

1.7.System requirements

The minimum system requirements of the project are:

1.7.1. Development

- Platform: HTML, Java Server Page , CSS, MySQL.
- Operating System: OS later from Microsoft XP, Microsoft products.
- Processors: Pentium 4 or any greater processor.
- Ram: 512 MB minimum.
- Display: Graphical over 64mb.

1.7.2. Client (Users)

Since the project is web based, internet is required. User can browse from computers or mobiles both. A simple mobile with connection to the internet is enough for running the system. The use of mobile phones has been found to reduce information asymmetries, enabling users to access arbitrage, marketing or trade opportunities. So, for this system the minimum requirement is a mobile phone with internet connection or a computer with an internet connectivity is welcomed.

1.7.3. Developer Side:

Operating System	Windows XP or above
Application System	HTML, MySQL,CSS framework
Programming Language	Java

Table 1: Software Development Requirements

1.7.4. Client Side:

Operating System	Any
Web Browser	Any

Table 2: Client Software Requirements

1.7.5. Server Side:

Operating System	Windows
Application Server	Tomcat Server

Table 3: Server Software Requirement

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction:

A review of the literature pertaining to human trafficking reveals that human trafficking is a difficult crime to detect and prevent. Human trafficking involves the trafficking of human beings for the purpose of commercial sexual activities as well as forced labor. These crimes are occurring worldwide. Research indicates organized crime, prostitution, massage parlors, and brothels are closely linked to the crime of human trafficking. Government corruption and transnational criminal organizations contribute significantly to this crime and financial profit is usually the primary motivation. The objective of this report is to examine the various elements of human trafficking including the recognized definition, the prevalence of human trafficking, the characteristics commonly associated with both victims and offenders, as well as information regarding the Modus Operandi [7]. Various approaches to preventing the crime of human trafficking will be discussed. As a result of this lack of transparency in studying human trafficking, there have been few empirical studies done to date. A majority of the current literature is focused on qualitative data, such as victim interviews and identifying trafficking flows. However, within the literature that identifies causal factors of human trafficking, human trafficking is inextricably linked to migration flows. Furthermore, political factors have a large influence on human trafficking measures, in particular with regard to government respect of human rights, international treaties, as well as law enforcement of both immigration and organized crime [8][9].

2.2. Definitions and Prevalence:

Trafficking in persons is a serious crime and a grave violation of human rights. Every year, thousands of men, women and children fall into the hands of traffickers, in their own countries and abroad. Almost every country in the world is affected by trafficking, whether as a country of origin, transit or destination for victims. UNODC, as guardian of the United Nations Convention against Transnational Organized Crime (UNTOC) and the Protocols thereto, assists States in their efforts to implement the Protocol to Prevent, Suppress and Punish Trafficking in Persons (Trafficking in Persons Protocol) [10].

Article 3, paragraph (a) of the Protocol to Prevent, Suppress and Punish Trafficking in Persons defines Trafficking in Persons as the recruitment, transportation, transfer, harboring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation [11]. Exploitation shall include, at a minimum, the exploitation of the prostitution of others or other forms of sexual exploitation, forced labor or services, slavery or practices similar to slavery, servitude or the removal of organs.

The definitions of "human trafficking" include the use of force for the purpose of labor or sex. A major report published by the Anti-Human Trafficking Unit of the United Nations Office on Drugs and Crime (UNODC, 2006) Global Program against Trafficking of Human Beings (GPAT) specifically defines trafficking in persons as:

The recruitment, transportation, transfer, harboring, or receipt of persons, by means of the threat or use of force, or other forms of coercion, of abduction, of fraud, of deception, of the abuse of power, or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation. Exploitation includes, at a minimum, the exploitation of the prostitution of others, or other forms of sexual exploitation, forced labor or services, slavery or practices similar to slavery, servitude, or the removal of organs [13].

The U.S. Department of State, Trafficking in Persons Report states, "trafficking" includes forced labor, sex trafficking, bonded labor, involuntary servitude, forced child labor, child soldiers, and child sex trafficking. Wilson and Dalton (2008) clarified the distinction between "trafficking" and "smuggling," saying "smuggling" involves a transaction between willing parties, while "trafficking" is the attempt to profit from the exploitation of a trafficked person. Further distinctions are made by the Government Accountability Office (GAO) which states it is not necessary to be physically transported across borders to be considered an exploited victim and that human

trafficking violates labor and immigration laws and can include government corruption and organized crime [14][15].

First, the existing literature on human trafficking itself is useful in identifying trends in both reported cases and legislation; however, its qualitative nature is limiting, since it is based only on reported instances. The Trafficking in Persons Report issued by the United Nations Office on Drugs and Crime is the most quantitative report published on the issue, and it fails to account for any causality [16]. However, such reports are biased due to gathering information only from known instances of human trafficking. For example, it shows a strong bias towards the trafficking of women for sexual exploitation in Europe; however, this can be attributed both to the lack of a strong European market for labor exploitation, as well as the high legislative standards of European countries, which are vigilant in both combating and reporting instances of human trafficking. Such reports thus show why examining reported cases is futile in conducting an empirical study; a more comprehensive quantifier is necessary.

Action Against Trafficking in Human Beings pinpoints crucial causal factors of human trafficking. Poverty and lack of economic opportunity push people to seek new labor opportunities, and unfulfilled labor markets pull them to new countries. The more desperate people are to find new opportunities, the more vulnerable they are to being trafficked. Impunity is also cited as a root cause, as traffickers continue to reap profits as a result of a lack of transparency, poor enforcement, and a lack of identification techniques. Additionally, since minorities are often politically and economically disenfranchised, they are often most vulnerable to be targeted by traffickers.

Second, migration and human trafficking share several root causes. The desire to migrate is often exploited as a means of recruitment, only to be met with coercive methods once the trafficker has gained control; therefore, where people have a strong desire to migrate, they will be particularly vulnerable to human trafficking. Toolkit to Combat Trafficking in Persons identifies as factors influencing migration poverty, oppression, lack of human rights, lack of social or economic opportunity, and dangers from conflict (UNODC, 2008). The prevalence of human smuggling as a means of illegal immigration also exacerbates the problem. Migrants relying on human smugglers to access new labor

markets are exposed to both exploitative service providers and to immigration and immigration enforcement authorities, which promotes dependency on the safety granted by trafficking networks [17]. Fear of deportation also leads victims to elude law enforcement agents. To this extent, human trafficking is wrongly dealt with as an immigration concern, rather than a human rights issue, with victims simply being deported after being discovered. Additionally, more stringent immigration enforcement may lead to an increase of human trafficking, as people become more dependent on smugglers and traffickers to cross borders.

Third, there are a variety of political factors that contribute to the prevalence of human trafficking. Democracies establish the right to protection, guarantee freedom, and establish rights. Furthermore, while all democratic states are signatories to the Palermo Protocol to Prevent, Suppress and Punish Trafficking in Persons, few have changed their laws to accommodate adequate victim protection and improved law enforcement. Democracy, therefore, while certainly a necessary condition for the elimination of human trafficking, is not itself sufficient [18]. On the contrary, human trafficking is likely more prevalent in non-democracies, since these countries have less concern for the protection of their citizens and the guarantee of their rights. Additionally, effective law enforcement also affects human trafficking, since it leaves little room for the proliferation of organized crime. Where it is successful, organized crime undermines a state's sovereignty by corrupting officials in order to increase its profits. Social or cultural values, such as a lack of women's rights, also make women and girls particularly vulnerable to trafficking. On the contrary, where women are economically empowered, and thus financially independent to a certain degree, they are less likely to turn to desperate means of achieving employment. Furthermore, in countries where debt bondage remains culturally accepted, disrespect for women's rights means women are often the first to be offered as collateral when faced with bankruptcy.

2.3. Victims:

Obtaining reliable information is proven to be as difficult as finding one agreed-upon definition, as mentioned above in the previous section. Reasons for this are varied. For instance, individuals who might be considered victims of trafficking are already in vulnerable positions and often fear the consequences of explaining their situations to

authorities. In addition, the individual who may have been trafficked likely believes he/she has had some involvement in complying with the directions of the traffickers and may be reluctant to self-identify as a victim or provide relevant information pertaining to offenders. Victims of trafficking are often treated as criminals by authorities: After being abducted in their countries of origin they may be arrested, detained, and charged in countries of destination for working illegally, frequently as prostitutes, and for having false documentation. They could, however, provide information on the characteristics of the individuals. Most women were seeking new lives; some were seduced and recruited via a trusting relationship, then sold (some by their families), or kidnapped. In some cases, they were violently victimized and unable to escape. Most women then sought employment abroad through corrupt employment agencies. In many cases they were lured by being promised jobs and were given false promises in the form of high wages [20]. Similar problems in determining victims or volunteers in the sex industry were reported in other research, as victims seldom identify themselves as such, which leaves law enforcement personnel few options for providing assistance.

Even with the problems in identifying persons who are victims of trafficking, there are still a few things we can say about individuals targeted for this crime. Any person of any age can be a victim, though most are young women. Victims of juvenile prostitution are estimated to be 90% female and ages 14-17. Approximately 82% of victims of internet-facilitated sexual exploitation are female. Of these, 71% were 13-17 years old; and 21% were 6-12 years old [21]. More than half the victims lived in urban areas and had previously run away from home. Almost all were living in poverty prior to their human trafficking experiences. Human trafficking is also linked with immigrants, particularly those who are undocumented.

2.4. Offenders:

Our study reviewed eight articles pertaining to offender characteristics and factors associated with human trafficking. The articles provided information on offender demographics and motivations from a global perspective. The following information is a synopsis of what we learned.

Not only is human trafficking a difficult crime to detect, it is also challenging to determine who, exactly, the offenders are, as there are likely many people involved from recruiters in the country of origin, to transporters, and the receivers of trafficked humans in the destination country. Individuals involved in crimes of this type include investors, transporters, corrupt public officials, informers, guides, debt collectors, money launderers, and other exploiters. These are a few common characteristics of perpetrators: They tend to be older than their victims; 29% are in their thirties, and 70% are male. The majority of perpetrators who are specifically involved in sex trafficking (as opposed to other forms of trafficking) are also male (63%). Nevertheless, the number of females involved in these crimes is increasing (37%), as of 2008. In addition, the race and ethnicity of offenders varies [22]. Hispanics, Asians, and African Americans have all been identified as perpetrators of labor trafficking, while indications are that Hispanics are the most prominent labor trafficking offenders and often have ties to other countries. African Americans and Asians are the most frequently-mentioned racial category for perpetrators of sex trafficking and tend to be local for the most part. In cases of juvenile prostitution, where offenders were classified as third-party exploiters who profit from selling juveniles for sex, they were identified as persons who either support well-organized networks or are small-scale offenders [23].

People from Asia, Russia, and Africa, Europe (Albania and Italy) who engage in human trafficking work within organized crime operations and are often linked to organized crime throughout the world. The Italian organized crime group, La Cosa Nostra, is one of the most prosperous. The group is able to engage in human trafficking because it is well-connected in high places. State and political corruption have been linked to the success of sex trafficking, as well [24].

2.5. Modus Operandi (M.O.):

Our study reviewed six articles pertaining to human trafficking. In analyzing the M.O. and behavior of offenders of this crime, it becomes clear there is a consistent pattern on a global perspective. Offenders use “tried and true” methods to lure victims, and then intimidate them to keep them subservient, while they see a variety of opportunities to commit their crimes and relocated frequently to avoid apprehension. Sex traffickers often use women to train and recruit other potential victims, in many cases, having once

been victims themselves. Some offenders use violence and abuse to gain control (raping or otherwise physically and psychologically abusing victims). While there is little information on labor trafficking, these offenders‟ M.O.s are similar to those for sex trafficking cases, where offenders use physical and psychological violence or other fear tactics to keep victims trapped and to take advantage of the victims‟ lack of knowledge about alternatives to the situation in which they find themselves [25].

M.O.s for four stages of human trafficking has been identified. With stage one (recruitment); victims are lured by deception and fraud. Contact between the recruiter and the victim often originated from a personal relationship, where victims are recruited with false promises of legitimate and valid employment opportunities including, but not limited to, housecleaning, acting, waitressing, or working in factories. Stage two (transportation) involves the use of agencies, some of which are corrupt, for travel planning. Documents are forged and/or manipulated to facilitate border crossings. In the transportation stage, victims‟ legitimate identification documents must be submitted to the traffickers, further disabling them from escaping their situations. During stage three (delivery and marketing), arrangements are made with escort services, employment agencies, or entertainment agencies and organized crime groups for the sex trafficking to commence. In the final stage (exploitation), control, threats, and isolation are employed as means to keep victims subservient. At this stage, they are forced into "slavery" to pay off the debt (payment for travel and travel arrangements) they have incurred [26].

2.6. Prevention Strategies:

Our study reviewed 12 articles related to strategies to prevent human trafficking, focusing primarily on sex trafficking. Analysis of the articles revealed key areas for the implementation of successful prevention strategies. The areas include changing laws, increasing training for law enforcement, collaborating between agencies, and victim's interacting and cooperating with law enforcement. Central to the prevention of human trafficking are well-defined laws making such exploitation illegal. Central aspects of good anti-trafficking laws include a broad definition of the concept of coercion; a well-articulated definition of trafficking; a mechanism of care for suspected victims; explicit

relief for trafficking victims; specific protection for child victims; and legal access for the victims.

Changes in current prostitution laws may assist in the identification of victims. It emphasized the importance in the wording used in anti-trafficking laws and prostitution laws, suggesting a toughening of current prostitution laws relating to the buyers of sexual services, instead of focusing on prostitution as a commercial transaction. She also suggests identifying children and women as exploited victims, which would recognize the buyer as a part of the exploitation (along with the trafficker). This would carry more serious consequences and, it is hoped, curb the demand for services. Perkins argues anti-trafficking campaigns only increase the exploitation of sex workers and add to the discrimination against them [26]. She suggests decriminalizing sex work and making it a legitimate profession would reduce the exploitation factor greatly by empowering those who choose sex work and highlighting those who do not. Parmentier echoed this idea, but warned such legislation could have unintended consequences.

Several researchers contend the creation of anti-trafficking laws and reformation of prostitution laws would only be successful if victims and others at risk for exploitation could be accurately identified and treated no differently than they would treat any other victim of a trafficking. Along the same line of thinking, Newton further suggests law enforcement personnel protect victims and provide services like those for mental and physical health, as these types of nurturing environments could help convince victims to testify against offenders. Recommend making community resources such as bystander mobilization, prevention education, safe houses, victim resources, specialist interviewers and investigators available [27]. Harrington noted victims are often treated as 'innocent' and prostitutes are treated guilty, which creates a barrier in identifying true victims. The barrier arises in the form of victims being fearful law enforcement will treat them as prostitutes and charge them with crimes. Halter reinforced the idea and suggested an ad campaign to emphasize victim support instead of criminal prosecution for prostitutes.

CHAPTER 3: SYSTEM DEVELOPMENT

3.1. Project Management Strategy and Tools:

Project management can be defined as the process of applying knowledge, skills, tools as well as techniques to project activities to meet the project requirements. According to Project Management Institute's "A Guide to the Project Management Body of Knowledge", project management processes can be categorized into five groups- initiating, planning, executing, monitoring and controlling and closing.

3.1.1 Work breakdown structure

A work breakdown structure organizes a team's project into manageable sections. It defines the project into manageable chunks that a project team can understand. Each level of the work breakdown structure provides further definition and detail. In simple words, it is an outline map of the particular project. It is also used to identify the potential risks and their feasible solution.

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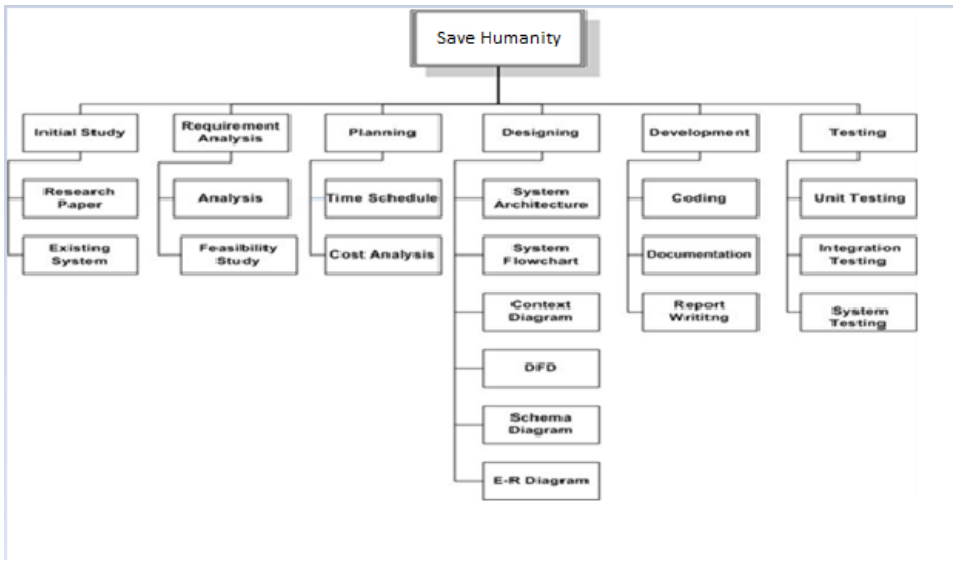


Fig 1: Work Breakdown Structure

The diagram shown in Figure 1 shows the work breakdown structure of the project. This project “Humanity” has been broken down into six stages such as initial study, requirement analysis, planning, designing, development and testing. In the initial study, the existing system and research papers have been studied.

Similarly, in the requirement analysis phase, the feasibility of the project has been studied and analyzed. During the planning phase, time schedule and cost analysis have been done. In the designing phase, system designs that define the components of the project have been made. The system design includes system architecture, system flowchart, context diagrams, data flow diagrams, schema diagrams as well as ER diagrams. Similarly, in the development phase, coding as well as documentation and report writing have been done simultaneously. All the testing like unit testing, integration testing and system testing takes place under the testing phase.

3.1.2 Development model

Development model, in general, is a conceptual framework used in making a diagnosis, understanding a developmental process and forming a prognosis for continued development. For this project, incremental model suits the best as each new feature is added only after the completion of the previous features as well as the project has been decomposed into number of components and each component is built separately [28].

The incremental developmental model is software development model where the project model is designed, implemented and tested incrementally. It means a little more features is added each time until the product is finished. It involves development as well as maintenance. The product is decomposed into a number of components and each component is designed and built separately. This allows partial utilization of product and avoids a long development time. However, it needs good planning and designing as well as a clear and complete definition of the whole system before breaking it and building incrementally.

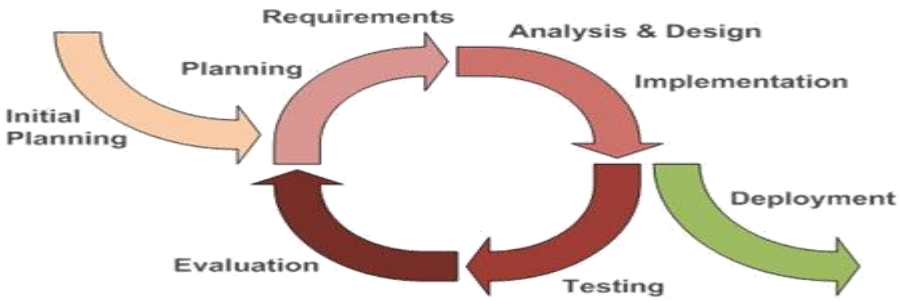


Figure 2: Incremental Model

The diagram in Figure 2 shows the incremental model of software development. In this model, a product is decomposed into several number of components. Each component is then designed and built separately. The main advantage of incremental model is that it is fast and flexible. Also, it is easier to test and debug during the smaller iteration.

3.1.3 System Development Tools

System development tools are the tools used for the completion of this project. Some of the tools are described as follows:

3.1.3.1 Microsoft Word 2013

Microsoft Word 2013 is a word-processing program that has been designed to help one create a professional-quality documents. It helps in organizing and writing the documents more efficiently. PCMag has rated it 4.5/5 as every imaginable formatting and convenience feature for creating a document is added and is considers as a world-wide standard for text documents. However, few features are still confusing to use [29]. Similarly, TechRadar has also rated it 4.5/5 as it has clean design and all the necessary features.

3.1.3.2. Microsoft Visio

Microsoft Visio is generally used to create simple as well as complicated diagrams. It gives a wide variety of built-in shapes, objects and stencils to work with. The basic driving ideal behind Visio is to make diagramming as easy as possible for the user. Visio is one of the easiest software to use and has many of the outstanding features that is looked for while making system designs like flowchart and ER diagrams [30].

3.1.3.3. Draw.io

Draw.io is a basic diagram web application that utilizes a large amount of equally basic images to create a project. With simple drag and drop techniques, it is easy to use this website that provides a method for design that virtually anyone can use. It is based on jGraph technology and is supported in all browsers. On top of all features, it provides the user with an option to save the diagram locally or in

cloud.

3.1.3.4. HTML5

HTML5 is the latest evolution of the Hyper Text Markup Language (HTML) standard. It is a new version of HTML and has new elements, attributes, and behaviors as well as a larger set of technologies that allow more diverse and powerful Web sites and applications [31]. Since this project is a web based application, HTML5 serves the best for the content of the application as it has more precise semantics, support for multimedia and higher performance.

3.1.3.5. CSS3

CSS3 is the latest evolution of the Cascading Style Sheets (CSS) language that styles the contents of a HTML document. It has a lot of new features like rounded corners, shadows, gradients, transitions, animations and new layouts like multi-columns, flexible box and grid layouts. CSS3 has been used in this project for the design of the canvas and to give users a full-fledged operations that a common paint application usually provides [32].

3.1.3.6. Bootstrap

Bootstrap is currently the most popular HTML, CSS and JS framework for developing responsive projects on the web. It has been used in this project for the responsiveness of the website as well as for the quick design of the login pages and navigation bars.

3.1.3.7. jQuery

jQuery is a fast, small and feature-rich JavaScript library. It has made things like HTML document traversal and manipulation, event handling, animation, and Ajax much simpler with an easy-to-use API that works across a different browsers. jQuery has simplified many functions in this project, whether it be for popping up option menu or taking input from the input fields [33].

3.1.3.8. JavaScript

JavaScript (JS) is a light-weight interpreted programming language. It is a most

well-known scripting language for Web pages. Many non-browser environments also use it, such as node.js. JS is a prototype-based, multi-paradigm, dynamic scripting language, supporting object-oriented, imperative, and declarative styles. It has been widely used throughout this project. Almost all features of this project revolve around JavaScript.

3.1.3.9. NetBeans

NetBeans is a software development platform written in Java. The NetBeans Platform allows applications to be developed from a set of modular software components called modules. Applications based on the NetBeans Platform, including the NetBeans integrated development environment (IDE), can be extended by third party developers.

3.2. System Analysis

System analysis is a detailed study of various operations performed by a system. It is a process of collecting and analyzing facts with respect to the existing system operation of the situation prevailing so that an effective computerized system may be designed and implemented if proved feasible.

That is a structural process related to four significant phases. They are study phase, design phase, development phase and implementation phase. A good analysis is essential for the development of a new improved system.

There are various frameworks available for web application development. The proposed system is supposed to work across various platforms and development environment should be able to run such that the developers need not go through difficult configuration procedure.

Web applications are computer programs allowing website visitors to submit and retrieve data to/from a database over the Internet using their preferred web browser [34]. The significant advantage of building and maintaining web applications is that they perform their function irrespective of the operating system and browsers running client side. Web applications are quickly deployed anywhere at no cost and without any installation requirements (almost) at the user's end.

3.3. System Design

System design is the process of defining the elements of a system such as the architecture, modules and components, the different interfaces of those components and the data that goes through that system. It is meant to satisfy specific needs and requirements of a business or organization through the engineering of a coherent and well-running system.

Systems design implies a systematic approach to the design of a system. It may take a bottom-up or top-down approach, but either way the process is systematic wherein it takes into account all related variables of the system that needs to be created—from the architecture, to the required hardware and software, right down to the data and how it travels and transforms throughout its travel through the system [35]. Systems design then overlaps with systems analysis, systems engineering and systems architecture.

3.3.1. Context Diagram

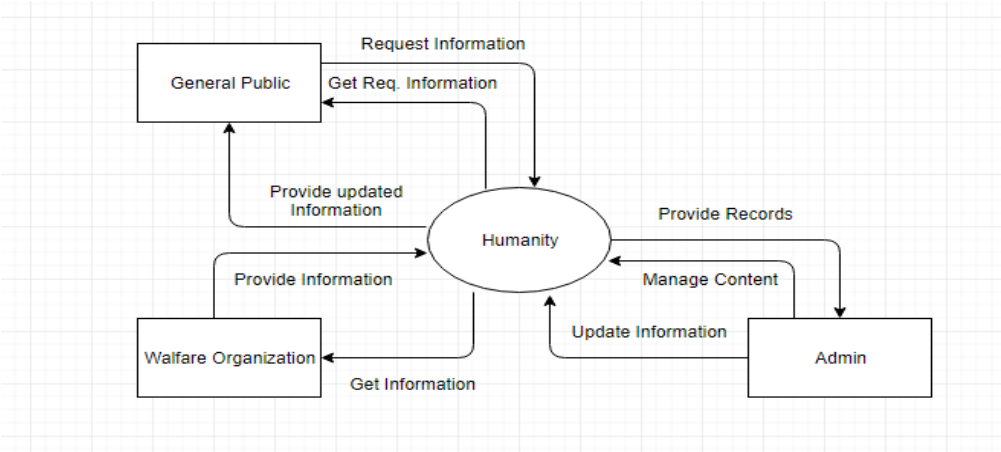


Figure 3 Context Flow Diagram

In Figure 3 a system context diagram of the project is illustrated. The viewer of the application can fill-up the form directly on it. The general public can get the required information through the page directly. The welfare organization can provide the general information to public through page. The admin of the application manage contents and update information. A System Context Diagram (SCD) in software

engineering and systems engineering is a diagram that defines the boundary between the system, or part of a system, and its environment, showing the entities that interact with the environment.

3.3.2. DFD up to Level 2 for major Processes

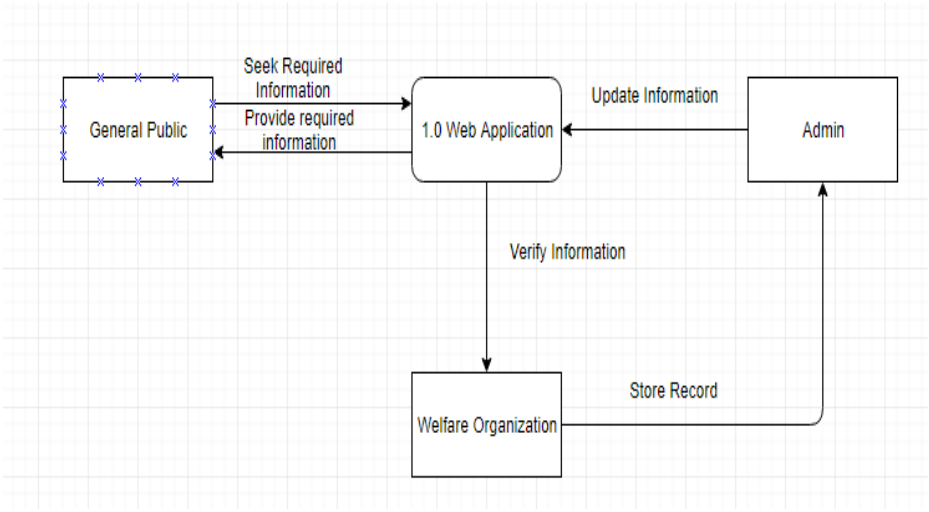


Figure 4 Level 1 DFD

In Figure 4, Data Flow Diagram level 1 is shown. Here the general public seeks for the required information through the web-application which is then provided accordingly. The admin can constantly update the information on the web-application. The general citizen can interact with the welfare organization through the web application where the information is checked and authenticated which is then passed on to the admin for final review.

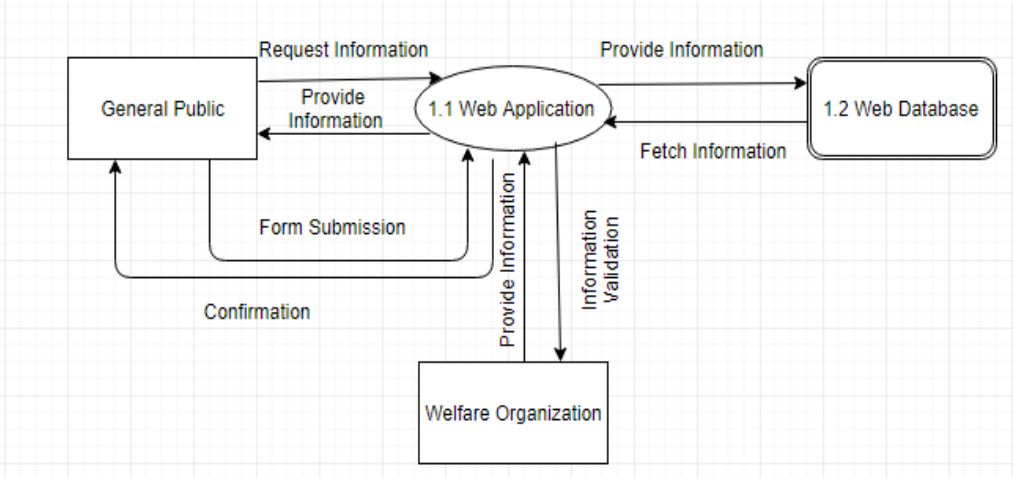


Figure 5 Level 2 DFD

In Figure 5, Data Flow Diagram level 2 is displayed. The DFD level 2 has a database where the web-application acquires for the required information. The general public requests the web-application for information, submits form to the web application, confirms and provide information. The welfare organization members also provide information.

A data flow diagram (DFD) is a graphical representation of the flow of data through an information system, modeling its process aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated. DFDs can also be used for the visualization of data processing (structured design). A DFD shows what kind of information will be input to and output from the system, where the data will come from and go to, and where the data will be stored [36]. It does not show information about the timing of processes, or information about whether processes will operate in sequence or in parallel.

3.3.3. Use Case diagram

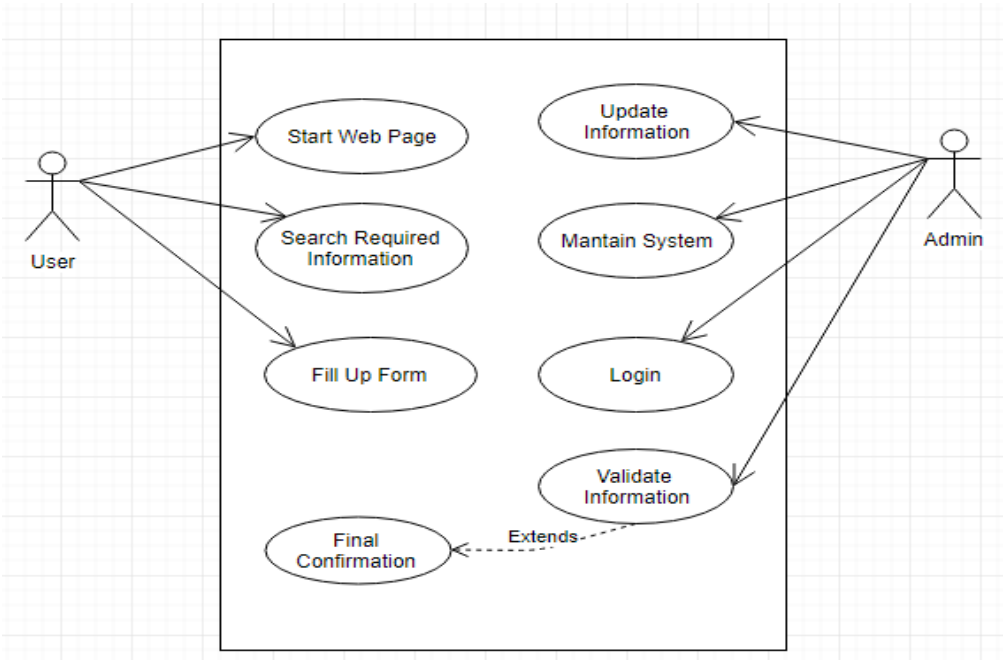


Figure 6 Use-Case Diagram

The Figure 6 shows the Use Case diagram of the project. Use case diagram consists of use cases and actors and shows the interaction between them. The key points are:

- The main purpose is to show the interaction between the use cases and the actor.
- To represent the system requirement from user's perspective.
- The use cases are the functions that are to be performed in the module.
- An actor could be the end-user of the system or an external system.

3.4. Project Schedule

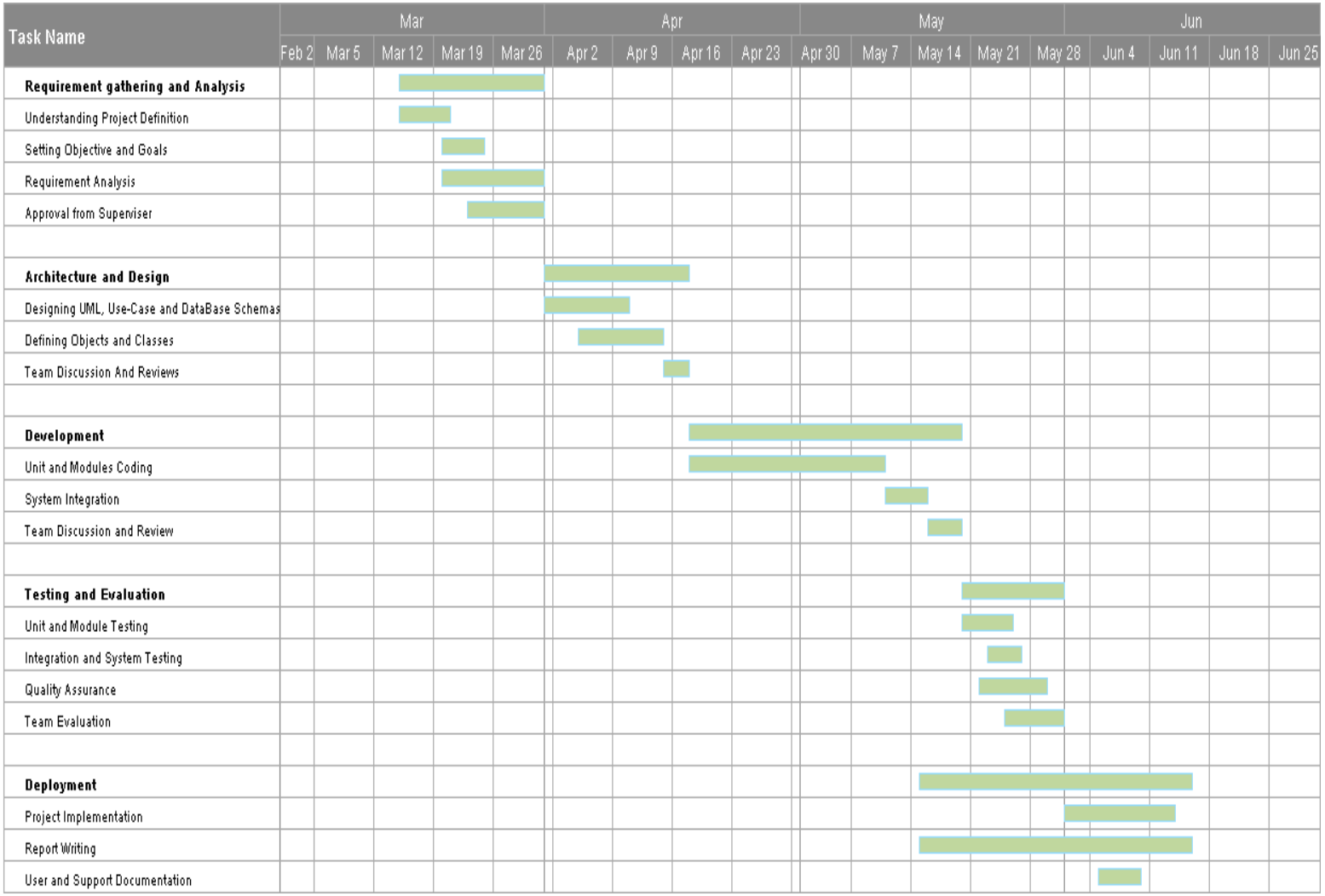
The project schedule is basically a tool that communicates what work needs to be performed, which resources will perform the particular work and the timeframes in which that work needs to be performed. It reflects all of the work associated with delivering the project on time.

3.4.1. Timing Schedule

Task Name	Start	Finish	Duration
Requirement gathering and Analysis	03/15/17	03/31/17	13d
Understanding Project Definition	03/15/17	03/20/17	4d
Setting Objective and Goals	03/20/17	03/24/17	5d
Requirement Analysis	03/20/17	03/31/17	10d
Approval from Supervise	03/23/17	03/31/17	7d
Architecture and Design	04/01/17	04/17/17	12d
Designing UML, Use-Case and Database Schemas	04/01/17	04/10/17	7d
Defining Objects and Classes	04/05/17	04/14/17	8d
Team Discussion And Reviews	04/15/17	04/17/17	2d
Development	04/18/17	05/19/17	24d
Unit and Modules Coding	04/18/17	05/10/17	17d
System Integration	05/11/17	05/15/17	3d
Team Discussion and Review	05/16/17	05/19/17	4d
Testing and Evaluation	05/20/17	05/31/17	9d
Unit and Module Testing	05/20/17	05/25/17	5d
Integration and System Testing	05/23/17	05/26/17	4d
Quality Assurance	05/22/17	05/29/17	6d
Team Evaluation	05/25/17	05/31/17	5d
Deployment	05/15/17	06/15/17	24d
Project Implementation	06/01/17	06/13/17	9d
Report Writing	05/15/17	06/15/17	24d
User and Support Documentation	06/05/17	06/09/17	5d

Table 4: Time Schedule

3.4.2. GANTT Chart


Task Name
Mar
Apr
May
Jun
Feb 2
Mar 5
Mar 12
Mar 19
Mar 26
Apr 2
Apr 9
Apr 16
Apr 23
Apr 30
May 7
May 14
May 21
May 28
Jun 4
Jun 11
Jun 18
Jun 25
1 Requirement gathering and Analysis
2 Understanding Project Definition
3 Setting Objective and Goals
4 Requirement Analysis
5 Approval from Superviser
6
7 Architecture and Design
8 Designing UML, Use-Case and DataBase Schemas
9 Defining Objects and Classes
10 Team Discussion And Reviews
11
12 Development
13 Unit and Modules Coding
14 System Integration
15 Team Discussion and Review
16
17 Testing and Evaluation
18 Unit and Module Testing
19 Integration and System Testing
20 Quality Assurance
21 Team Evaluation
22
23 Deployment
24 Project Implementation
25 Report Writing
26 User and Support Documentation

3.5. Testing

Testing is the integral part of the software development process. Software system testing identifies important defects, flaws, or errors in the application code that must be fixed.

Validation refers to the process of using the new software for the developed system in a live environment i.e., new software inside the organization, in order to find out the errors. The validation phase reveals the failures and the bugs in the developed system. It will be come to know about the practical difficulties the system faces when operated in the true environment. By testing the code of the implemented software, the logic of the program can be examined. A specification test is conducted to check whether the specifications stating the program are performing under various conditions.

During the designing process, this project had errors which were debugged one by one analyzing the problem occurred on each steps. This project has gone through following testing procedure.

3.5.1. Unit testing

Separately each and every functional module is tested and analysed the result of that module. The module interface is tested to ensure that the information flows in and out of the program under unit test [37].

3.5.2. Integration testing

While integrating all separate modules as one, errors that were detected were analysed and debugged.

3.5.3. System Testing

System testing is conducted on a complete, integrated system to evaluate the system with its specified requirements.

In this testing, whole application was tested to check the errors. The complete application was deployed in the IIS server remotely and access was given to laptops

and mobiles for surfing the site. The errors that arose were checked and improve accordingly.

3.5.4. User Acceptance Testing

User acceptance testing is done in order to verify whether the application is user friendly and meets the user requirements or not. The application was provided to number of friends and colleagues. The feedbacks were acknowledged the application performance was improved.

3.5.4.1. Test Cases

Following different test cases were conducted to verify the functionality of our website.

- **General Test Case Scenario**

  In this test the webpage test whether the user entered some valid data or null data.

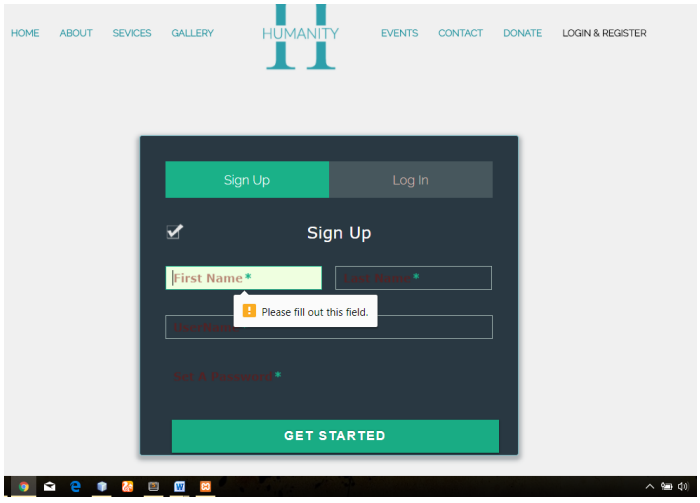


Figure 7: General Test Case of Birth page.

  Figure 7 shows that the user has input null value hence the following message "please fill out this field" has popped up.

- **Functionality Test Case Scenario**

  This test defines whether the application shows different error message in case of error in the message typing.

3.6. Implementation

Projects, especially web application development projects, can be a challenge from start to finish. The technical environment is more complex than designing. Coding is a blast, but then testing should be performed, which starts off okay but then gets tiresome. At the end, it just looks to get the darned project done. However, there is one more challenge ahead – implementation. Implementation refers to the final 26 process of moving the solution from development status to production status. It is very difficult to provide the infrastructure for the farmer to access the content through web application

System implementation specifies how the system is installed, operated and maintained. It also ensures that the system meets the quality standards. System implementation is the test program that exercises the complete system in its actual environment to determine its capabilities and limitations which also demonstrates that the system is functionally operative, and is compatible with the other subsystems and supporting elements required for its operational deployment.

The development of the web-application is developed in HTML5 platform using CSS bootstrap for the cascading. The basic programming language used is JSP. The database connectivity is done using MySQL.

Successful completion of the Implementation Phase should comprise:

- Deploying the new application in its target environment. We deployed the application in IIS server.
- Deliver system that meets all the user requirements. The application is host from the server to its clients.
- Training and awaking end-users. In our case, this is very important and compulsory step. A proper training should be given to the farmers in order to use this system.
- Strategies were carefully thought out and implemented with a range of solutions from systemic fixes to manual changes. Clean data at go live smoothed the implementation.

CHAPTER 4: RESULT ANALYSIS

4.1. Screenshots

The screenshots of main pages of the system are placed and explained below.

4.1.1. Login page

Functional Prototype:

```
protected void processRequest(HttpServletRequest request,
HttpServletResponse response) throws ServletException, IOException
{response.setContentType("text/html;charset=UTF-8");

        PrintWriter out=response.getWriter();

        try{

            user user=new user();

            user.setUsername(request.getParameter("username"));

            user.setPassword(request.getParameter("password"));

      if(user.LoginUser(request.getParameter("username"),
      request.getParameter("password"))){

                user us= new user();


us.setUsername(String.valueOf(request.getParameter("username")));

                us.getUser();

                HttpSession sessionUser = request.getSession();

                sessionUser.setAttribute("username",us.getUsername());

                RequestDispatcher rd1 =
request.getRequestDispatcher("index.jsp");

                rd1.forward(request,response);



            }else{

                out.println("Either username or password is
incorrect!");

                out.println("<a href=\"login.jsp\">Try again...</a>");

            }

        }finally{out.close();}
```

}

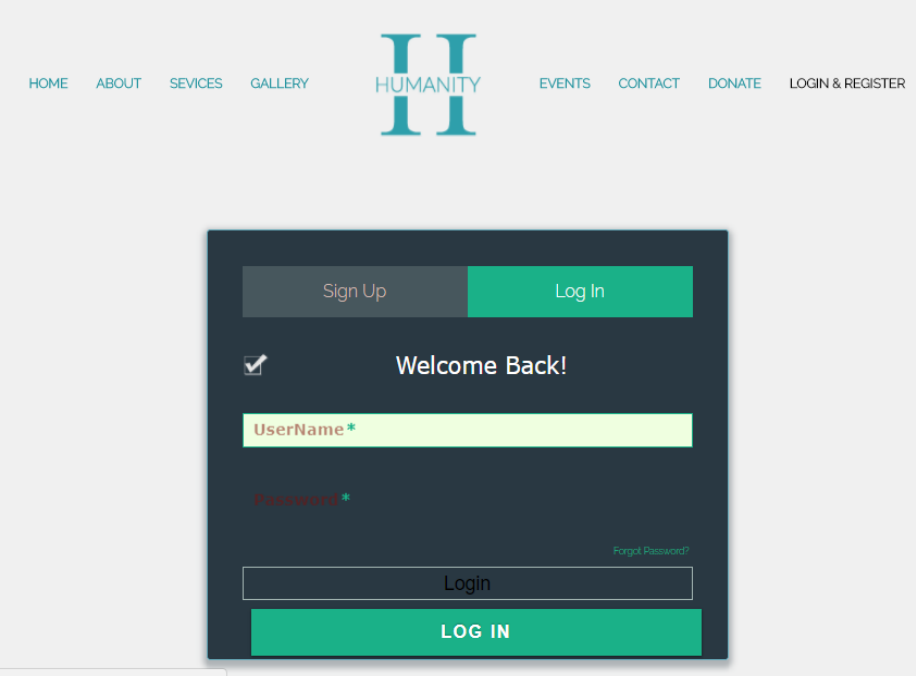


Figure 8 Login page

The image in Figure 8 is of a Login page of the system. As soon as a user opens the system, he is first directed to the login page. If a user is already registered, he has to enter his username and password, which if authenticated, will be redirected to the homepage of the system, i.e. the canvas from where a teacher and student can communicate in real time. The login success also creates a new session for each user which lasts until the user logs out or closes the browser.

4.1.2. Registration

```
protected void processRequest(HttpServletRequest request,
HttpServletResponse response) throws ServletException, IOException {

            response.setContentType("text/html;charset=UTF-8");

            PrintWriter out = response.getWriter();

            try{

                user user=new user();


                user.setFname(request.getParameter("fname"));
```

```
                user.setLname(request.getParameter("lname"));
                user.setUsername(request.getParameter("username"));
                user.setPassword(request.getParameter("password"));

                user.RegisterUser();

                RequestDispatcher rd =
request.getRequestDispatcher("extrainfo.jsp");
                rd.forward(request,response);

               }finally {out.close();}

    }
```

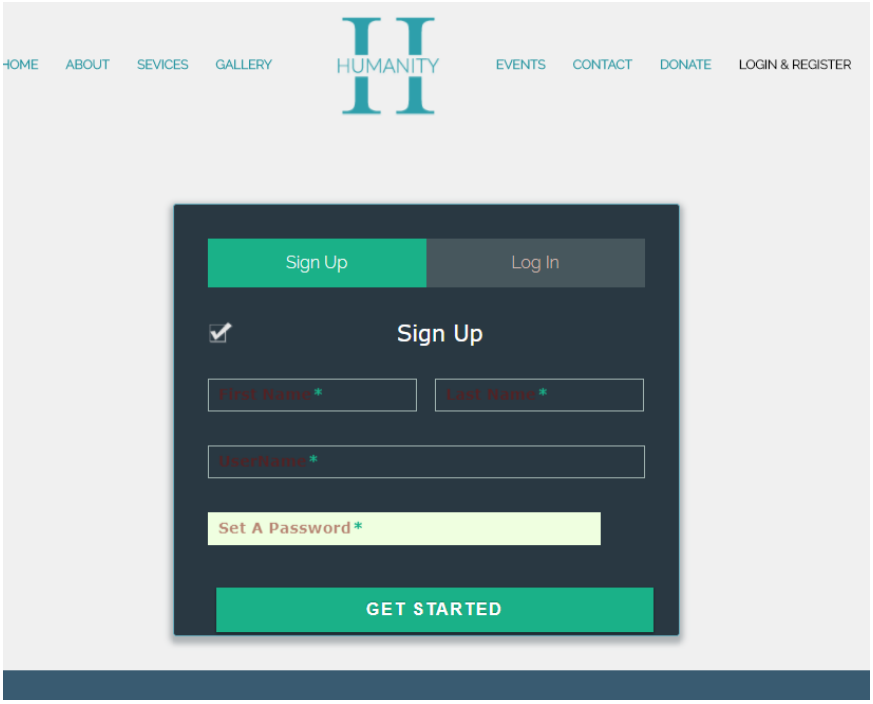


Figure 9 Registration Form

The image in Figure 9 is of a registration form. If a user is not registered yet, he has to click on the “Register” button on the page to receive this page. The user then has to fill up his personal details on the form. On submitting the button, the

user's request to get registered goes to the admin page where admin can approve the request if the user can be a valid user of the system.

4.1.3. Home Page

Function Prototype:

```
user us= new user();
us.setUsername(String.valueOf(request.getParameter("username")));

us.getUser();

HttpSession sessionUser = request.getSession();
sessionUser.setAttribute("username",us.getUsername());
RequestDispatcher rd1 = request.getRequestDispatcher("index.jsp");

rd1.forward(request,response);
```

Figure 10 Home Page

The image in Figure 10 is of a home tab. This tab display the information in the home page. This page consist of slider and other information that are related to the webpage.

4.1.4. About

Function Prototype:

```
user us= new user();
us.setUsername(String.valueOf(request.getParameter("username")));

                us.getUser();

                HttpSession sessionUser = request.getSession();
sessionUser.setAttribute("username",us.getUsername());
RequestDispatcher rd1 = request.getRequestDispatcher("about.jsp");

rd1.forward(request,response);
```

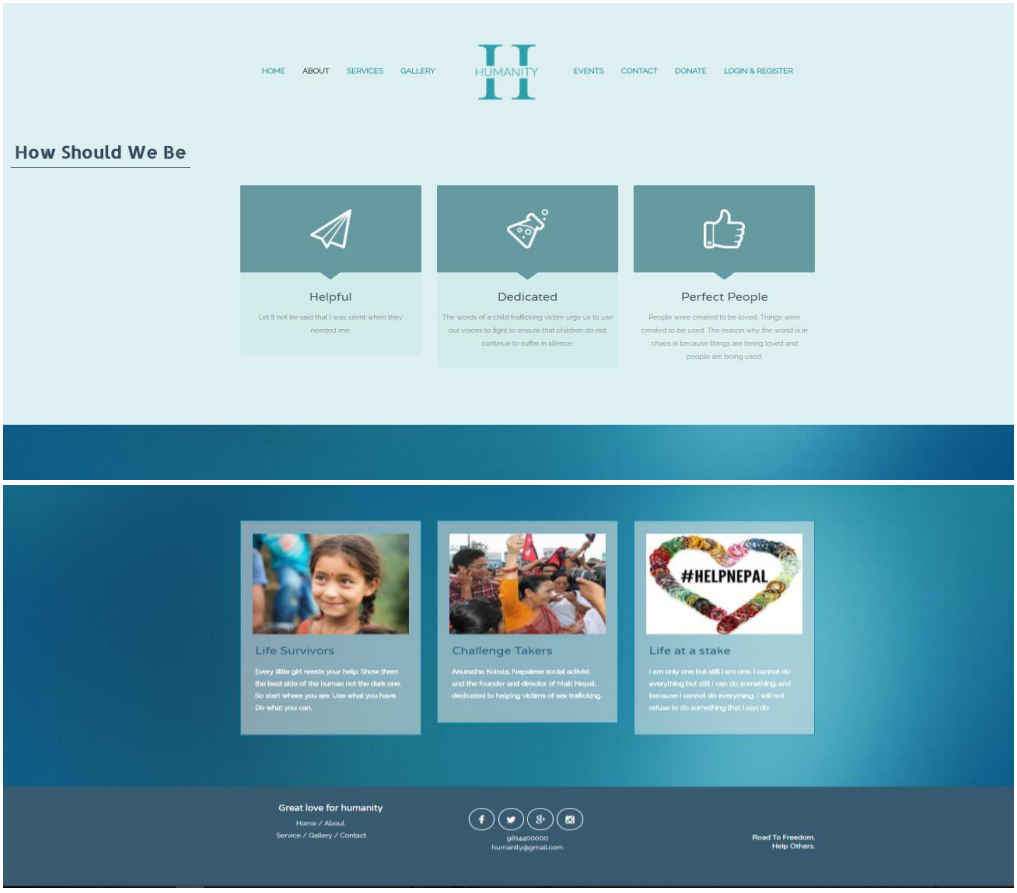


Figure 11 About Tab

4.1.4. Service

Function Prototype:

```
user us= new user();
us.setUsername(String.valueOf(request.getParameter("username")));

us.getUser();
```

```
HttpSession sessionUser = request.getSession();
sessionUser.setAttribute("username",us.getUsername());
RequestDispatcher rd1 = request.getRequestDispatcher("service.jsp");

rd1.forward(request,response);
```

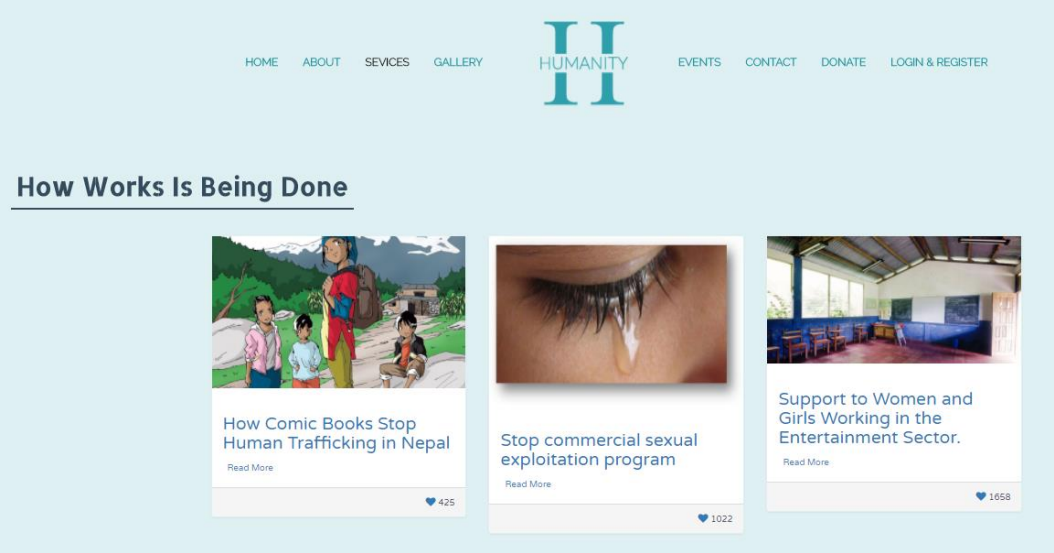


Figure Service

This tab display the service provided by the web application. In this page different work and activities organized by social welfare organization and government is displayed.

4.2. Critical Analysis

The ICT in social awareness is adopted in various parts of the world and seems to be very effective in many places. The general public are the ones who will be benefited from the project and also the social welfare organization if they ever really try to implement the ICT projects here in Nepal. The use of ICT for social awareness can enhance the local people to fight against the crime which has taken roots in the society. Recently ICT has provided a possible pathway to revolutionize the scenario for the development of our country. There are still several unresolved issues in discussing the role of ICTs for local awareness. These include: awareness program at the local level; news and statistics of crimes in relative field; the roles and responsibilities of the people

in eradicating crimes from the society; and the nature and level of people participation. ICTs pose a challenge in terms of control and freedom.

This study was conducted with the aim to critically analyze how the crime of human trafficking for sexual exploitation can be identified in order to develop practical guidelines to be used during the identification of this crime in Nepal. In this project the developer conducted a review of pertinent literature in national level, to gain an understanding of the problem being researched. The explanatory sequential mixed-method design was used with the main purpose to use the qualitative data to help explain in more detail the initial quantitative results obtained. The explanatory sequential mixed-methods design assisted the researcher to follow a procedure whereby the mixed-mode survey design was applied to collect data through questionnaires.

These questionnaires were in the form of mailed, self-administered surveys and in-person interviews with human trafficking provincial coordinators, police officials and investigators of human trafficking within the nine provinces country wide during the first quantitative phase of this study. The data were analyzed and followed up during the second qualitative phase with interview schedules that were used in semi-structured one-on-one interviews with the following persons: police investigators working at the organized crime units who dealt with and investigated cases of human trafficking where victims were trafficked for sexual exploitation; state prosecutors working at the Nepal Police who dealt with, identified and prosecuted human trafficking cases where victims were trafficked for sexual exploitation in Nepal; NGOs who work in the field of counter-trafficking and victim assistance; and national police investigator who dealt with, identified and investigated human trafficking cases where victims were trafficked for sexual exploitation.

In context of Nepal, use of ICT is found at a very minimal level and one the new pressing subject. There are some factors due to which these practices are not either carried continuously and effectively. The main reason behind this is the geographical structure of the country, un-education, either not reachable or not affordable. There are other issues regarding the use of ICT in Nepal. There is need to enhance the evidence base for the implementation of social, economic and cultural strategies. This requires

action both within local authorities and in terms of collaboration with other agencies, such as third level institutions and the social service organization. They have to establish themselves as local leaders in the assessment of needs, policy direction and delivery of public services. The next steps involve a move to shared decision making, shared resources and shared risk taking. But the ultimate success of social service organization taking a lead role in local development is not dependent on them alone.

We tried to deal with this problem to implement ICT effectively in Nepal focusing on every area of society. We took a survey with the locals of different village about the implementation of ICT for social awareness. To our amazement the locals were thrilled and excited about our project. Also, we read different articles and papers about the subject. We talked with the different social organization about the need of web application for the better interactivity between the general public and the member of organization. And hence we came up with the online web-application project.

There are three types of user in the application: general citizen, admin and social organization. So there need to be made a user log-in identity. The general citizen can upload their information to the application and it can be viewed by the appropriate admin only. The admin have the most authority. Some of the social organization members can be made as the admin. This project has got huge informational importance for the local people and social welfare organization.

The project still has its issues and challenges. If the users don't comfy the use of this application or the social welfare organization member doesn't make use of this application then this project will not work. The success of this project is dependent on users, how fast they adopt and how they adopt and whether they continue to use the application. In Butwal, we tried to establish the tele-center and for this we discussed with some member of the local organization. Our proposal was to establish school as the Tele-center and student will help user while using the platform. By this, users will also get the benefits from the platform. And the involvement of young generation gives them the idea about the latest technological changes as well. As mentioned above, internet connection is one of the most important aspects of our application usability. If we aim to use this application around the places where they lack connectivity, then this

application fails to work. This is one of the serious issues for its usability. So this prototype has to work from the local server which is quite possible in its way in the most rural areas. The hardware specifications have to be updated accordingly.

Illiteracy is another key challenge for the implementation of this project. Although if the people are keen to learn about the application then, there can be some progress. Because of this reason we have tried to create the application in native language so that it will be easier to use and understand it. To use this application, a user has to able to use a computer or a cell phone with internet connection. The users can be taught to make use of this program by the establishment of Tele-Centers where volunteers from the local organization can demonstrate the usage of this application.

The programming is another serious aspect of this project. A simple mistake in coding can lead to a project failure. In the aspects of the programmer, we tried to develop a platform with easy user interface and try to keep it simple but yet simplicity cannot be achieved that easily! There is a security issue which should be worked out as soon as possible once the application is started to use. Once the form fill-up is underway the database need to be updated constantly and secured too.

So if we have to look at our project in a critical approach, there are concerns about the hindrance for the project to be used at a practical level. The user must understand the usability of this application and we the developers should make an application that is user friendly. Only then the general public will make an elastic move and try to learn to use the application and understand its real purpose.

4.3. Limitation and Future Enhancement

4.3.1. Limitation

We have implemented the project and after its implementation and analysis we have found that there are some limitations to this application that can be improved in the future with the help of newer technologies that are in developmental stage.

- Lesser information in the web application
- Major limitations of the project would be the internet-based dependencies.
- No service for web-account for the application

- The web application is not fully in Nepali script. The web application is bilingual (Nepali & English)
- Interactivity between the user and the web application can be increased dynamically
- Accuracy and performance of the application could be improved.

4.3.2. Future Enhancement

- To create the service for web-account with required personal identification for each people.
- Creating an advanced forum to discuss the topics about agendas for awareness activities where each unique user and the social worker can discuss the matters in the application.
- Making the online notification more effective through text messages to the cell phones.
- Making the user interface easier and greater to look with both English/Nepali languages according to the user's choice.
- Upgrading a mobile app for using the application more effectively.
- Upgrading the application with new features.

4.4. Conclusion

The rise in the use of Information, Communication and Technology especially for the developing country is a hot topic. Until now any sector of Nepal have not yet fully implemented the use of ICT. From our project we have tried to bring about the awareness to the people for the use of ICT in their daily lives. Most of the people living in the urban areas at least have a little knowledge of ICT but if we can take this topic to the people around the rural areas then it may make a little bit of positive difference in their lives.

Information Communication Technology (ICT) is today widely recognized to underpin socio-economic development of communities. Its revolutionary impact affects the way people live, learn and work. The essence of the ICT-driven economic and social transformation is its power to help societies to use knowledge and ideas. Nepal is arguably the country where the adoption and impact of emerging information communication technologies has been least.

Currently, there are many technological establishments in Nepal while the trend only seems to be growing. Different software and IT companies are starting to make an impact on global scale and well as many students of engineering are inspired to establish their own business startups. Currently there are over 20 ISPs in Nepal and about 6 telecom companies which shows a promising future for internet and mobile network connections.

There are still several unresolved issues in discussing the role of ICTs for local society. These include: awareness using ITC at the local level; the needs and priorities of member of society; the roles and responsibilities of the different people in society; and the nature and level of people participation. ICTs pose a challenge in terms of control and freedom. They are capable of both reinforcing participation of few people. The development of local content is pivotal to ensuring equitable access to ICTs. Linguistic diversity and widespread illiteracy are of particular challenges. The availability of the appropriate skills base is an important determinant of the growth of ICTs supply and activities. Sector reforms are needed regarding training and the existence of quality, sustainable facilities to ensure requisite human resource development.

Our project provides a platform for building a gap between the general public and the social service organization by increasing the interactivity between them. We haven't built this project to be implement for a certain time and fade away after a while but we focus to continue what has been created which can be updated and used extensively in the future. The project tries to bring about the use of internet and its advantages for the betterment of their lives slightly although the current result seems to be of very nominal level. Our project aims to contribute to study the impact of ICT in the social activities for the betterment of the general public of the country.

CHAPTER 5: REFERENCES

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