



School of Computing & Informatics  
University of Nairobi

**A REAL TIME WEB BASED EMPLOYEE ABUSE REPORTING  
APPLICATION IN KENYA  
A CASE OF A UNIVERSITY COLLEGE**

BY

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A project report presented in partial fulfillment of requirements of Master of  
Science in Computer Science of the University of Nairobi

**DECLARATION**

This is to certify that this report which I submit to the University of Nairobi, School of computing and Informatics, Chiromo campus in partial fulfillment of the requirement for the award of degree of Masters in Computer Science comprises only my original work and due acknowledgement has been made in the text to all other materials used.

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This is to certify that this report which is submitted by Mr. Martin Kimeu Muli to the University of Nairobi, School of computing and Informatics, Chiromo campus in partial fulfillment of the requirement for the award of degree of Masters in Computer Science is a record of the candidate work carried out by him under my/our supervision. The matter embodied in this research is original and has not been submitted for award of any other degree.

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Supervisor signature\_\_\_\_\_

Name: DR.CHRISTOPHER CHEPKEN.

## **ABSTRACT**

This project presents a summary of the work covered in this research and the findings uncovered. This work analyses the potential of a web based applications to improve abuse reporting among employees in organizations. In particular, it focuses on abuse reporting using a web system developed to support the reporting process and be able to address the challenges of reporting procedures, reporting hierarchy, reporting language and communication barriers faced by the existing reporting systems. This study focuses on improving the routine abuse reporting of employees by identifying the challenges associated with real time reporting of traditional abuses and determines how web based system can be used to overcome the problem and thus enhance abuse reporting procedures.

This report presents the findings and a prototype employee abuse web based reporting application for a University College. A study was carried out among 75 employees comprising of teaching and non- teaching staff who were randomly sampled. A questionnaire was selected as the research tool given the nature of the issues we wanted to study. The results were tabulated, analyzed using qualitative analysis. A prototype web based application on employee abuse reporting was developed. The researcher developed reporting system prototype and tested it to provide solutions to the research questions. The tested web based abuse reporting application allows University College staff to report abuse, crime or work related concerns to the management or to the human resource department.

## **DEDICATION**

This work is dedicated to my beloved wife Rebecca Martin whose constant support and dedication enabled me to balance family, education and work experiences. I also dedicate it to my children Grace Muli, Peace Muli and Nathan Muli for their encouragement.

I also attribute this achievement to my parents for their continual support.

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Finally, I salute administration and staff of School of Computing and Informatics for their support.

## DEFINITION OF IMPORTANT TERMS

MUC	Machakos University College
ICTs	Information Communication Technologies
SMS	Short Message Service
NGO	Non-governmental Organization.
PC	Personal Computer
HTTP	Hypertext Transfer Protocol
SMTP	Simple Message Transfer Protocol
Abuse	Defined as the systematic pattern of behaviors in a relationship that are used to gain and/or maintain power and control over another. Also any behavior that hurts or injures the character of somebody. They include physical, emotional, Psychological and sexual.
Wifi	Wireless Fidelity.
<i>M</i> health	Mobile health
Designated manager	The officer given the mandate to handle the cases by the university.
Abused	This is the person who is subjected to any form of abuse.

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# **CHAPTER ONE: INTRODUCTION**

## **1.1 Introduction**

In chapter one, we discuss the background information, the statement of the problem, purpose of the study, objectives of the study, research questions, Significance of the study and limitations of the study. Chapter two covers the literature review; it contains the various variables, gaps to be filled, conceptual framework and theoretical framework critical review. In chapter three, the researcher has discussed the methodology that was used to conduct this study. Section 3.2 describes the research design that was used, section 3.3 describes the target population and sample size and how it was selected. Section 3.4 discusses data and data collection instruments. Section 3.5 identifies the method of data analysis. Chapter four presents the data from the questionnaires using table. The tables were further analyzed quantitatively using percentages and inferences deduced. The system testing, implementation and system screenshots were also covered in this chapter. Chapter five discusses the achievements, challenges encountered in the study, system evaluation and assessment. Conclusions and recommendations were discussed in chapter six.

## **1.2 Background of the study**

Globally, it is agreed that abuse in the society is common, and in most cases it is not reported. According to Smith (1993) abuse is an act of being aggressive, committing intentional act or a behavior that is carried out by a group or an individual repeatedly and over time against a victim who cannot easily defend him or herself. Abuse can take many forms , however, there are four major types of abuse that must be reported namely sexual abuse, physical abuse, emotional abuse, or physical and emotional neglect. The abuse must be reported to the proper law enforcement and protection authorities.

Wynne (2004) observes that emotional abuse includes bullying, intimidation, harassment, shame, coercion, exerting values of power, being overworked to extreme, lying, condescension, creating feelings of powerlessness, being made to feel insignificant or inferior, excessive demands of perfection and inconsistent application of practices. Employee abuse occurs among employees, managers and clients.

Recipients of employee abuse may feel harassed, insecure, intimidated, devalued, uncomfortable, withdrawn, embarrassed, trapped, hurt, worthless, unappreciated, exploited, powerless, furious,

revengeful, unacknowledged, hopeless, oppressed, lack of motivation, fearful, and inadequate. Costs or consequences of abuse can affect everyone involved. Consequences to the organization may include absenteeism, turnover, retraining, replacement, inefficiency, low morale, disruption, lawsuits, and lower productivity. Consequences to the recipient of abuse may include low self-esteem, loss of sense of belonging, and lower productivity.

Employees reporting abuse to an appropriate agency are encouraged, but not required, to notify the authorities as soon as possible after the initial report to the appropriate agency when so notified (Misha,2012). Poor reporting rates of abuses are evident in organizations and the researcher intends to develop a web based system to help employees in reporting abuses and also a real time handling of cases. This system will fill the gap since it provides a real time reporting and processing of the reported cases.

### **1.3 Problem statement**

The core intention in starting abuse reporting is to improve workplace and working environment devoid of victimization, fear and reporting bureaucracy. Hence improve privacy, productivity and service delivery in the organization. Despite the said good efforts by the organizations, there has been low abuse reporting rates by the employees. Should the poor reporting of abuse continue, the challenges of victimization, fear and low productivity will continue. Need therefore arises to evaluate why despite the good efforts by the organization there is still poor reporting of abuse. This study sought to assess the employee abuse reporting using a web based application in workplace in a university environment in Kenya.

### **1.4 Objectives of study**

The objectives of this study were as follows;

- i. To analyze the current employee abuse reporting procedures in an institution of higher learning a case of Machakos University College.
- ii. To establish gaps in employee abuse reporting that necessitates the need for a web based application for real time reporting.
- iii. To develop and test a web based application for employee abuse management in work place.
- iv. To demonstrate how a web based application can improve the abuse reporting among employees in an institution a case of Machakos University College.

### **1.5 Research questions**

- i. What are current abuse reporting procedures?
- ii. What are challenges in reporting employee abuse?
- iii. What is the need for a web based application in employee abuse reporting?
- iv. What is the role for a web based application in employee abuse reporting?

### **1.6 Significance of study.**

The researcher intends to study and analyze the potential of a web based application to improve abuse reporting among employees in organizations. In particular, it will focus on information interventions for real-time, broad-based data collection and dissemination among and by multiple agents of change such as employee unions. Such information interventions will be used not only to resolve immediate, short-term issues, but to facilitate the flow of information necessary for long term planning, monitoring, policy-making, governance and be able to address the challenges of reporting procedures, reporting hierarchy, reporting language and communication barriers faced by the existing reporting systems.

### **1.7 Assumptions and limitations of the research**

The study assumed that both employee abuses and reporting can be evaluated using questionnaire and a web based application. The respondents were assumed to be truthful when completing the questionnaires and answering the interview questions. The use of questionnaire was assumed to reduce on cost and time constrain.

### **1.8 Limitations of the study**

The deductions, findings and conclusions came from only one institution thus they can only be generalized to the rest of organizations in the country with caution. The system developed was tailored on abuse reporting in a learning institution in Kenya with the current challenges in mind and therefore caution should be taken when being generalized to other organizations since different organizations have different challenges.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

This chapter covers the literature review; it contains the various variables, conceptual framework and theoretical framework critical review.

### **2.2 Nature of employee abuse**

Employee abuse in the workplace is emotional, physical, and psychological. Often, national laws or corporate policies do not address workplace abuse from employees, managers and customers. These abuses includes bullying, intimidation, harassment, coercion, exerting values of power, being overworked to extreme and creating feelings of powerlessness. It also involves being made to feel insignificant or inferior, excessive demands of perfection, inconsistent application of practices, not providing employees sufficient information to perform, depriving of rights or benefits, inappropriate non verbal behaviors, ignoring others and setting up situations for failure (Wynne, 2013 ).

There are several reasons why people act abusively. Some of these are to protect themselves, to get their portion, to manipulate, to intimidate, to defend themselves and to maintain their territory. Others include for revenge, having a mental health disorder, acting out of control, fear, modeling from the organization, feeling threatened, insecurity, acting the only way they know how to act, habit. Feeling devalued, feeling trapped, being in a culture that condones abuse, anger, impatience, using abuse to achieve results, lack of social skills, having been treated like an object themselves, not having developed the ability to empathize and viewing others as a means to an end constitutes the reasons for acting abusively. (Wynne, 2013 ).

Recipients of employee abuse may feel harassed, insecure, intimidated, protective, rebellious, devalued, suspicious, uncomfortable, withdrawn, embarrassed, trapped, hurt, worthless, unappreciated, exploited, powerless, furious, revengeful, unacknowledged, hopeless, oppressed and inadequate. This is a sure recipe for de-motivation, emotional and psychological trauma leading to poor organizational performance. This is why all managers should be concerned over staff abuse.



The abused staff may have a variety of behaviors or reactions. If an employee, manager, or customer abuses an employee, that employee's reactions may include desire to retaliate, absenteeism, withdrawing, and low productivity. If an employee abuses a manager, the manager's reactions may include labeling the employee as a troublemaker, taking disciplinary action, or believing the employee is trying to make the manager look bad. If an employee or manager abuses a customer, the customer's reactions may include desire to retaliate, leaving, asking to see an upper level manager, and filing a complaint including to the police.

Costs or consequences of abuse can affect everyone involved. Consequences to the organization may include absenteeism, turnover, retraining, replacement, inefficiency, low morale, disruption, lawsuits, and lower productivity. Consequences to the recipient of abuse may include low self-esteem, loss of sense of belonging, and lower productivity. Consequences to the abuser may include lawsuits, time for meetings to resolve conflicts, and potential loss of friends. If an organization ignores abuse, expects that the abuse may escalate or spread and employees may take sides (Wynne, 2013).

### **2.3 Challenges of reporting employee abuse.**

Different scenarios have different recourses depending on who is receiving abuse. To start with, if a manager or employee abuses a customer, typical recourses available to the abused customer include leaving, removing all accounts from the organization, contacting the upper management of the organization, or filing a complaint with an entity such as the police. Typically, in this scenario, the customer may take any or all of the recourses available to him or her.

In addition, if a customer abuses an employee or manager such as giving physical threats, emotional threats, typical recourses available to the abused employee or manager include talking to the customer to resolve the abuse, telling an upper level manager, enforcing any organizational policies such as hanging up the telephone if the customer curses, telling the customer to call back or come back when they are calm, asking the customer to take his or her business elsewhere, or calling security. Typically, in this scenario, the employee may contact a manager. Employees and managers try to protect their own physical safety and would try to adhere to any organizational guidelines that exist. Not all organizations have guidelines for dealing with customer abuse by telephone or in person. Organizations need guidelines, policies, and

procedures for dealing with issues such as threats of physical harm to ensure employees are safe, particularly if employees are in danger of any physical harm.

Again, if an employee abuses a manager, typical recourses available to the abused manager include talking to the employee to resolve the abuse, disciplinary action, terminating the employee, or transferring the employee. Typically, in this scenario, the manager often terminates the employee. Exceptions include settings such as government and some educational areas where terminating an employee is difficult.

If an employee abuses another employee, typical recourses available to the abused employee include talking to the abuser to resolve the abuse, talking to the manager, asking witnesses to document their observations, the employee assistance program, human resources, labor relations, equal employment opportunity, ombudsmen, unions, training, counseling or therapy, employee relations, legal department, chief executive officer, organization's president, attorneys, minister, mediation, quitting, transferring, adapting, doing nothing. Typically, in this scenario, confronting the abusing employee sometimes helps end the abuse. When confrontation doesn't help, often the employee transfers to another area.

Finally, if a manager abuses an employee, typical recourses available to the abused employee include talking to the abusive manager to resolve the abuse, telling the manager's manager, the employee assistance program, human resources, labor relations, equal employment opportunity, ombudsmen, unions, training, counseling/therapy, employee relations, legal department, chief executive officer, organization's president, attorneys, minister, mediation, quitting, transferring, adapting, doing nothing, accepting any disciplinary action, and risking being terminated. Typically, in this scenario, the employee is often terminated. Technically, the abused employee can seek recourse, but the abusing manager typically has ultimate authority over the employee he or she abuses. Thus, in reality, the abused employee often has little or no effective recourse.

If a manager abuses an employee, and the employee tells the abusing upper level manager, the upper level manager may have the mindset that managers always support the others. The upper level manager may tell the abusing manager to handle the situation, then, the abusing manager, with the support of the upper level manager, often terminates the employee the manager has abused. Consequently, speaking up can be unsafe for the employee who is the recipient of abuse.

If an upper level manager does have the mindset that managers always support their managers, the upper level manager may be supporting a manager with a mental health disorder. While not all managers who are abusive have a mental health disorder, some may have one. Wynne (2013), reports on a study carried out in the USA in which more than one in five Americans have a mental health disorder, yet only 16% seek treatment. According to Wynne, the research claimed that approximately 5% of the U.S. population has a serious mental illness and that many states allow employers to terminate an employee without cause. When an abused employee tells the abusing senior manager about the abuse, if the abusing manager perceives the abused employee as a troublemaker, he or she may terminate the employee.

Some employees who are the recipients of abuse may lack the skills or incentive to leave an abusive work situation because the abuse reminds them of family of-origin issues where they experienced repeated abuse. As a result, the employee believes that abusive experiences are everywhere, so he or she has no incentive to leave. Helping professionals need to be particularly supportive of employees who are the recipients of abuse since those employees may lack the skills to help themselves.

Considerations for determining if a manager is abusive include numerous complaints and high turnover for that manager's area (Wynne,2013). Extenuating circumstances and frequency of abuse are significant factors to consider as to whether or not a situation qualifies as abuse. For example, if a sleep-deprived manager with a newborn baby snaps at an employee, does the occurrence qualify as abuse? Another factor to consider is how many occurrences qualify as abuse. When a customer, manager, or employee states they are experiencing abuse, whether or not abuse exists depends on the definition of abuse and the source of the definition.

#### **2.4 Reasons for non-reporting of employee abuse**

There are many and varied factors that contribute to employee abuse. Some of these include inappropriate mind sets, lack of organizational values regarding respect for employees, values that are not clearly defined, lack of clearly defined articulated consequences for employee abuse or in some extreme cases, no established or publicized policy regarding abuse in relationship to the organization's values. Wynne (2013) contends that in situations where there is no established

or publicized procedures for reporting abuse or where there is no policy statement protecting those who report abuse from retaliation or negative consequences, abused staff do not report.

Defining and publicizing organizational values relating to respect of employees as well as the consequences for not implementing is at the core of managing and discouraging employee abuse. Encouraging appropriate organizational values such as dignity, respect, honesty, equal and fair treatment, integrity, ethics, and listening either formally through policy documents or informally through organization culture is seen as key to dealing with abuse (Wynne, 2013)

Organizations articulate organizational values include through mission statements (such as respect for human dignity), orientation handouts, newsletters, staff meetings, bulletin boards, the organization's Web site or even informally. Consequences for not implementing organizational values include training, retraining, disciplinary action, demotion, and reassignments. It is also important to declare formally that those who report abuse will be protected. The incidences that constitute abuse should be set to the bare minimum (for example a first time abuse has the same consequence as the 10th abuse once reported).

Equally important is the articulation of consequences for employee abuse from customers. The guidelines and procedures for dealing with abusive customers on the telephone and in person should be made known to customers and employees advised on the steps to take once customers become abusive. For once, organizations must recognize the customer is wrong if they abuse staff (physically or emotionally). Abused staff should access help including but not limited to training, counseling and other support such as legal aid, payment of medical bills (in case of physical abuse) or compensation. To deal with customers staff should be trained on skills such as stress management, assertiveness, active listening, negotiating, sensitivity training, learning empathy, reframing skills, customer service skills, communication skills, diffusing hostility skills, paraphrasing, reflections, conflict resolution, supervisory training in intervention responses, and team building.

## **2.5 Current reporting procedures**

Although training is a key component of stemming abuse, organizations that use the open door policy together with clear and known consequences for abuse, are better placed to address the vice. Other resources and recourses include employee assistance programs, human resources and

labor relations, equal employment opportunity, ombudsmen, unions, counseling or therapy, employee relations, legal department, chief executive officer and mediation can be particularly helpful in addressing abuse.

According to Kenyan constitution (2010) article 27, every person is equal before the law and has the right to equal protection and equal benefit of the law. Equality includes the full and equal enjoyment of all rights and fundamental freedoms. The State shall not discriminate directly or indirectly against any person on any ground, including race, sex, pregnancy, marital status, health status, ethnic or social origin, Color, age, disability, religion, conscience, belief, culture, dress, language or birth. A person shall not discriminate directly or indirectly against another person on any of the grounds specified or contemplated in. The organizations should have structures to protect employees from any discrimination as enshrined in the Kenyan constitution.

The organization structure should also include roles that support employee and ones which encourage trust through legal and practical means. It is important for organizations to identify specific people or areas responsible for implementing each factor, an overall coordinator to ensure implementation occurs, time lines, and accountability on an ongoing basis. While organizations, employees, and managers are responsible for preventing and stopping employee abuse within their organization, outside sources such as helping professionals, consultants, lawyers, politicians, mediators, and the church can influence organizations, standards of practice, societal views, and laws relating to employee abuse.

Helping Professionals such as Counselors, Psychologists, psychiatrics and family need to consider various issues in working with the abused, the abuser and the Organization. An abused employee may need help with learning to control their temper, choosing whether to try to resolve the abusive situation and approaches to use to do so, choosing whether to try to leave or stay in their position, learning coping skills for staying in his or her current job while looking for another job.

It is also important to provide the abused staff with options such as identifying and accessing legal help or even identifying options in case the employee can't find another job, but also cannot tolerate the current position. Options in such a scenario may include a leave of absence, moving to a new location, returning to school or training for a new career.

The helping professionals also need to address the abuser either through direct contact or through the abuser's manager. The abuser also needs help and should be made to accept employee assistance programs, disciplinary action, ombudsmen, training, counseling or therapy.

Equally important is the need to document the abuse and the abuse reporting mechanisms for example specific dates, times, verbal statements, behaviors, actions, and reactions of the abuse, the abuser, and the organization as a record for him-or herself, for the organization, and for legal purposes if necessary.

According to the Kenyan Commission on Administrative Justice Act (2011), the procedure of complaining to the commission is to fill in Complaint form and Complaint assessed for compliance with commission Mandate. If within mandate, the commission commences inquiries and the Complainant is issued with copy of communication. If not within Commission's mandate, Complainant is advised accordingly and/ or redirected to appropriate agencies. In resolving a complaint, the Commission may conduct investigations, demand and obtain information or documents, Conduct an inquiry or undertake mediation, negotiation and reconciliation.

In the university college, abuse can be reported through writing a complaint and deposit it in the suggestion box. The complaint in the suggestion box may not be taken seriously or may not be investigated at all and so justice denied to the victim. The employee may also report through his or her immediate supervisor. This poses a danger to the abused especially if the abuser is the supervisor.

Although many options are available to access justice, many cases go unreported. According to Child Helpline International, Annual Report (2010), In Benin, acts of violence against children routinely go unreported, and even when they are reported, responses are often inadequate. Benin has been experimenting, with the use of text messaging (SMS) and the Internet, to support reporting of violence against children, and improve both immediate and longer term responses to the problem of violence. An important component of the project is the building of the capacity of young people to articulate and report on their experiences of violence, of social services to respond, and of social workers to make the violence prevention and response system work. However, the project was noted to have the following challenges: High volume of calls requires a high degree of response, which is not always possible, response to reported cases, seems

particularly challenging in remote areas. Dependence on technology and on skilled administrator for the website and need to ensure confidentiality and anonymity for children and adults who report violence

## **2.6 Gaps to be filled**

Reporting abuse with the help of a web based system can be an effective tool of employee protection. Systems for reporting abuse can be established through which cases of violence, mistreatment, sexual harassment, and physical can be reported directly by employees.

UNICEF (2011) report on mobile technologies for child-protection agrees that, mobile and digital technologies are becoming increasingly important for international development and humanitarian work such as abuse reporting. Currently, some of the most relevant mobile applications for child protection include: Frontline SMS and Ushahidi for violence reporting; RapidFTR for family tracing and reunification in emergencies; RapidSMS for data collection, awareness raising and violence reporting; and the Mobile Vital Record System and Nokia data gathering for mobile birth registration. Reporting violence against children with the help of mobile technology and mobile phones can be an effective tool of child protection. Systems for reporting abuse can be established through which cases of violence, mistreatment, sexual harassment, female genital cutting, child marriage and other rights abuses can be reported directly by children and adults. In addition to responding to individual demands for assistance, the data collected provides important information for advocacy and helps to plan further child protection interventions, including impact assessments of awareness raising campaigns.

SMS have been successfully used in violence reporting, enabling the use of information to trigger immediate responses to employee abuse and also raise awareness. For example, Ushahidi is a crowd sourcing software, which enables many individuals to enter data into a web-based system. Ushahidi can map data from text messages onto a website to consolidate and visualize complex information. ( Ushahidi Community Resource, July 2011).People send a text message to report an incidence of violence that is then automatically mapped on a website, using Frontline SMS (software for sending and receiving multiple text messages through a computer) and the Ushahidi crowd sourcing website. The website is monitored by an administrator, who verifies

and organizes the response to each case, working closely with local authorities and employee protection service providers. In the longer term, collecting and mapping the data will provide evidence for better planning of prevention and response services, as well as for awareness raising and campaigning.

The primary driver for SMS-based interactive mapping was the development of the open-source Ushahidi software platform, which is based on the idea of crowd sourcing. Ushahidi was designed to collect and display reports of violence during the 2007 presidential election in Kenya. Since then it has been heavily utilized in both election monitoring and real-time reporting after several natural disasters and it is currently the most widely used tool in mobile-phone-based citizen reporting. Ushahidi accepts user submissions via SMS, web, and phone and geocodes events onto a Google Maps interface. Unstructured messages containing an address can be manually geo-tagged and placed on a map (a process heavily utilized during the Ushahidi Haiti project). The Ushahidi project Harass Map additionally uses cell tower triangulation to assist in determining a location though this method in general is not always entirely accurate and often requires network cooperation. Finally, Ushahidi has also developed smartphone applications with automatic geo-tagging which has emerged as one of the most consistent and effortless forms of location tracking. The built-in GPS capability of smartphones has allowed for development of specialized mobile phone applications. There is also more general smartphone software available for collecting and mapping data, such as EpiCollect, which links GPS data and other information to a web database to display the data using Google Maps (or Google Earth). This software has been utilized for diverse purposes, including ecological and epidemiological studies (Aanensen et al. 2009).

According to Child Helpline International Annual Report (2010), in Benin, acts of violence against children routinely go unreported. The use of text messaging (SMS) and the Internet, to support reporting of violence against children has improved both immediate and long term responses to the problem of violence . An important component of the project is the building of the capacity of young people to articulate and report on their experiences of violence, of social services to respond, and of social workers to make the violence prevention and response system work. A mobile-web based reporting system was recognized as a quick and effective solution for



abuse reporting. Our experience suggests that mobile-based data collection tools can provide faster, cleaner, standardized, and shareable data for critical decision making.

According to Guo Yan et al (2009), mobile-based reporting system for infectious disease and symptom surveillance solved the challenge of data collection and transmission in the aftermath of a natural disaster. The system was important in improving report timeliness and interventions. Local staff could easily use the reporting method after a short training period.

Among the many functions of mobile phones, short message service (SMS) or text messaging is one of the most widely utilized. SMS-based systems, especially when compared with manual data entry into a computer (the most common form of data collection in developing countries), are extremely powerful as they facilitate regular data collection and have the potential to significantly improve the quality of information by reducing keying error. SMS-based systems can arguably also improve data collection even when compared to smartphone applications or other more sophisticated forms of data collection technology given the relative penetration and affordability of this mode of communication.

The SMS-based systems described in this section have been applied to a number of sectors of mobile for development. One of the most developed sectors is the incorporation of mobile and wireless technologies into healthcare (mHealth). Common uses include utilizing mobile phone forms to substitute for paper data collection, improving patient medication regimens through SMS-based communication, mobile telemedicine, and real-time disease tracking. (Mechael, 2009).

Methods of SMS entry for mobile phone users vary widely where the purpose of the system and the format of the message both inform the amount of information obtained and type of processing needed to pass and organize the resulting data (Loudon, 2009). The majority of projects use either the standard built-in SMS service, or phone-based applications.

Citizen reporting almost exclusively utilizes SMS messages, since it does not require specialized training, hardware, or downloading of a program. SMS messages can be entered in a structured or unstructured format, but they vary in terms of how the burden is distributed between the user and the server.

The spread of mobile phones in the developing world has transformed the costs of communication by greatly reducing the time and cost of acquiring and disseminating information from multiple, often remote areas. In the last decade, leading organizations have begun to leverage the ubiquitous nature of mobile phones to improve services to the internal and external customers (Loudon, 2009). In Kenya, Ushahidi, which was built in response to the post-election violence in Kenya in 2008, assists in gathering and mapping incidents of violence and peace efforts based on the reports, submitted either by web or mobile phone SMS from the public.(Okolloh, 2013).

## **2.7 Conceptual system architecture**

The nature of this study is to design a prototype for employee abuse data collection and reporting for the developing world. This follows a design and creation approach, an attempt to create things that serve human purposes; it is technology oriented. March and Smith (2006) have defined a research framework to model research activities in studies that follow a design and creation approach. In this framework there are four main artifacts that are mapped to the four main activities. The artifacts are constructs, model, method and instantiation. The activities are building, evaluate, theorize and justify. This study followed this framework to properly conceptualize and represent all the techniques to the solution. The activities are building and evaluating the instantiation of the prototype for mobile-web based employee abuse data collection in the university college. The procedure of developing a prototype started by studying the open data kit framework and thereafter followed by design of custom functionalities for employee abuse data collection.

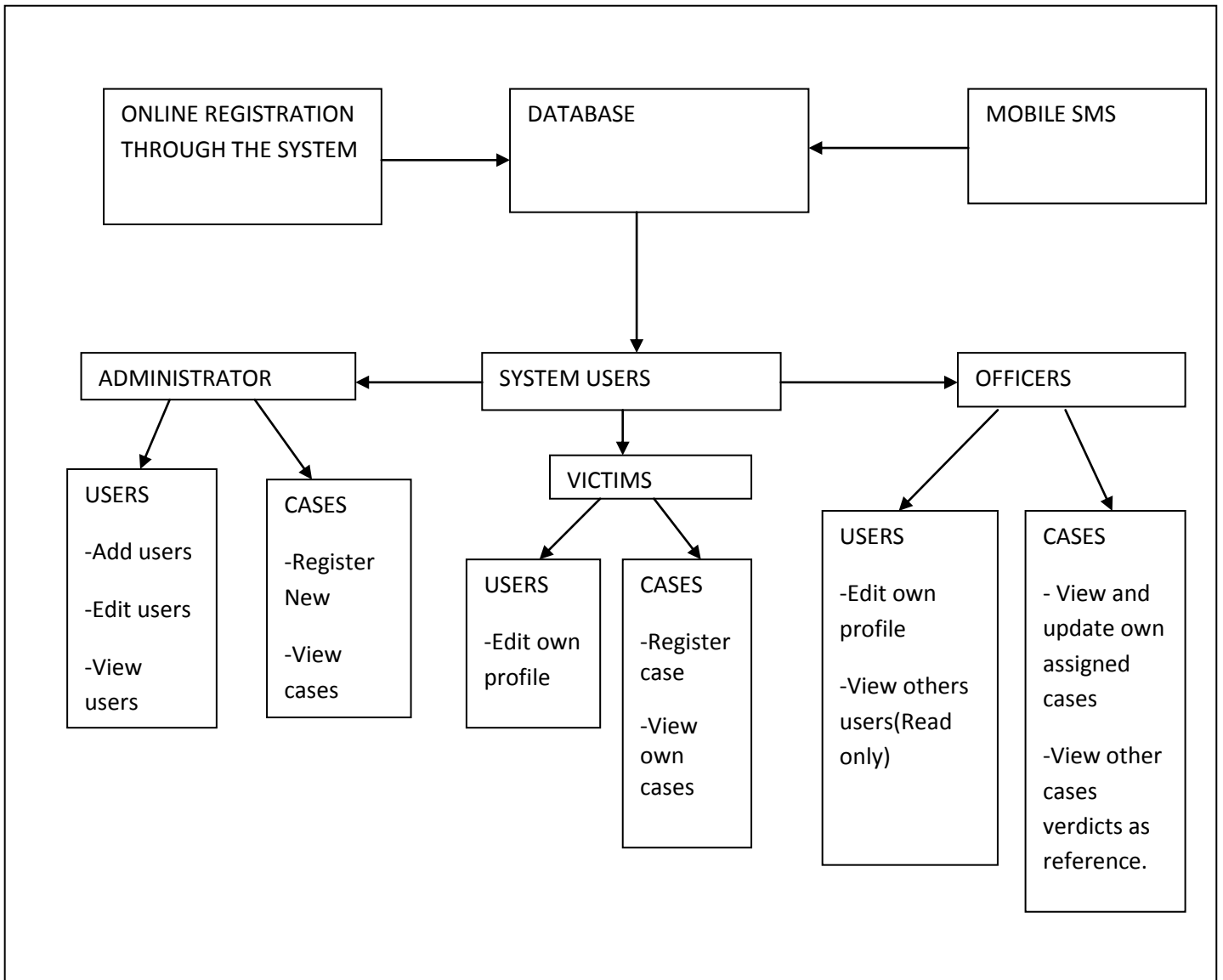


Figure 1: Conceptual architecture of the system. (Source : Author 2014)

The figure shows that the system has three users and each user has some defined rights in terms of handling cases. Information gets into the database through SMS and online registration through the system.

## **CHAPTER 3: METHODOLOGY**

### **3.1 Introduction**

In this chapter, the researcher has discussed the methodology that was used to conduct this study. Section 3.2 describes the research design that was used, section 3.3 describes the target population and sample size and how it was selected. Section 3.4 discusses data and data collection instruments. Section 3.5 identifies the method of data analysis.

### **3.2 Research design**

Research design is the plan and structure of investigation so conceived as to obtain answers to research questions. It is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure. The design is the conceptual structure within which research is conducted, it constitutes the blue print for the collection, measurement and analysis of data ( Kothari,2004).

For the purpose of this study, the researcher employed descriptive research design. A descriptive study is concerned with determining the frequency with which something occurs or the relationship between variables (Cooper and Schindler, 2003). This approach was appropriate for this study, since the researcher intended to collect detailed information through descriptions and is useful for identifying variables and hypothetical constructs

The research adopted a quantitative approach with a view of identifying the social reality (social interactions, work environment and organization policy e.g. rules that determine consequences to staff abuse) within which employees report abuse. The questionnaires were designed to elicit specific social, contextual and organizational context within which abuse is experienced, reported and appropriate or inappropriate measures taken. This research design was in a case of Machakos University College.

### **3.3 Target Population and Sample size**

According to Cooper and Schindler (2003), a population is the total collection of elements about which we wish to make some inferences. This was also observed by Mugenda and Mugenda (2003) who defines a population as the entire group of individuals, events or objects having

common observable characteristics. The target population consisted of the 300 employees in Machakos University College. The employees were not homogeneous and thus stratified sampling was used.

Sample size is a given number of members or cases from the accessible population which is carefully selected so as to be a representative of the whole population with the relevant characteristics. A sample is therefore a smaller group obtained from the accessible population. Mugenda & Mugenda (2003). The stratified random sampling procedure was preferred because this concept allows unbiased sampling and accords the research work more scientific feature thereby making the validity of the research findings more concrete. According to Mugenda & Mugenda(2003), a sample size of between 10% and 30% is a good representation of the target population and hence 25% is adequate for analysis. The sample size of this study was therefore 75 respondents. Out of these 46 respondents were obtained which represents 61.33% response rate. According to Babbie (2002), any response of 50% and above is adequate for analysis and thus 61.33% is even better.

### **3.4 Data collection method**

Factors that encourage and discourage employee abuse reporting in a University college were analyzed. Questionnaire was the main instrument of collecting data. This instrument was preferred because of its low cost even when the population is large, its free from biases of the interviewer and respondents have more time to give well thought answers ( Kothari, 2004).It also saved time on the part of the researcher.

The researcher used a questionnaire to collect data and developed a system prototype. Data will be collected and analyzed to determine the factors that encourage or discourage employee abuse reporting. The data will be analyzed and used to develop a system prototype that will address the reporting challenges identified.

This study employed a self-administered questionnaire as a sole means of data collection from respondents. Data was collected from the respondents by use of a questionnaire which had open and closed ended questions.

### **3.5 Data analysis**

Gay (1992) observed that data analysis involves organizing, accounting for and explaining that data; that is making sense out of data in terms of respondents definitions of the situation noting patterns, themes, categories and regularities. Closed questions were analyzed using quantitative analysis while open-ended questions were analyzed using qualitative methods.

Data was analyzed by use of quantitative techniques where the data was coded into computer system for processing. It was presented in tables and charts and graphs and interpretation made using percentages and frequencies. Ms Excel was used as the statistical tool.

## CHAPTER FOUR: DATA ANALYSIS AND FINDINGS

### 4.1 Introduction

This section presents the data from the questionnaires using table. The tables are further analyzed quantitatively using percentages and inferences deduced. System testing, implementation and system screenshots were also discussed.

### 4.2 Data presentation and discussion

A total of 46 questionnaires were analyzed and tabulated.

Gender	No. of Respondents	%
Female	30	65.22
Male	16	34.78
Total	46	100

**Table 1: Percentage of males and females who answered the questionnaire.**

The table 1 indicated that most of the respondents who were abused were female gender comprising 65% of the total respondents. This trend could be due to many aggressors being males against women who need protection from the abuse.

Education	No. of Respondents	%
Primary	1	2.17
Secondary	10	21.74
College	8	17.39
University	27	58.70
Total	46	100%

**Table 2 :Level of education of the respondents**

Table 2 shows that much of the respondents were educated with those attaining university educations being 58.7%.

<b>Abused?</b>	<b>No.of Respondents</b>	<b>%</b>
Yes	29	63.04
No , but I know a colleague	17	36.96

**Table 3: Results of those who had been abused at the work place or knew a colleague who had been abused.**

Table 3 indicated that 63% of the respondents were victims of the abuse and so had first hand information on the abuse.

<b>Reported Abuse</b>	<b>No. of Respondents</b>	<b>%</b>
Yes	7	15.22
No	39	84.74
Total	46	100%

**Table 4: Percentage of those abused or whose colleagues were abused that reported the abuse.**

This table 4 indicated that the number reporting the abuse was very bare minimum with only 15%. This was alarming since the previous indications were that most of the respondents were highly educated and had personally been abused.



<b>Reason</b>	<b>No. of Respondents</b>	<b>%</b>
Unconcerned Management	23	50
Privacy Concerns	40	86.96
No Guidelines for addressing Abuse	10	21.74
Serves no Purpose	5	10.87
Fear/Managerial intimidation	38	82.61

**Table 5: Reasons for non-reporting.**

From table 5, it is clear that majority of those who do not report abuse consider privacy as a major concern (86%). Not surprisingly of this, 40% were women who reported sexual abuse but could not report. A sizable majority of 82% identified fear and managerial intimidation as the reason for not reporting abuse. Of this, 13% were women who also identified long hierarchy as a barrier to reporting.

<b>Abuse Type</b>	<b>Men</b>	<b>Women</b>
Sexual	2	12
Physical	4	9
Verbal	7	17
Intimidation	0	4

**Table 6:Types of abuses prevalent**

The respondents indicated that there are instances of all sorts of abuse ranging from sexual, physical, verbal and intimidation. Most of these abuses were not reported. Most of the respondents indicated that the systems for reporting abuse were not effective.

### **4.3 Conclusion of the data analysis and findings.**

In conclusion, most of the respondents indicated that there was a need for a proper system of communicating abuse to be put in place in the university college. This will enhance reporting of abuse which is rampant in the institution. It will also do away with the many barriers of communication being experienced.

### **4.4 The proposed System**

Using the results from the research, it was noted that organization structure is a barrier to abuse reporting, particularly where the bureaucracy is long. A sizeable percentage, especially among women also identified privacy as a major concern. This formed the basis for developing a mobile application that will allow staff to report abuse securely and directly to the authority bypassing the line managers who are often the aggressors and gatekeepers.

We believe that the system will offer the abused staff the necessary privacy to report abuse.

### **4.5 System design**

#### **4.5.1 Introduction.**

During the system design phase, we focused on the logical solution to a system that can report abuse electronically. System design, which is also commonly known as logical design is the design of a solution blue print independent of what will be required to implement it. System design develops a procedure (or algorithm) for solving the problem. It defines the sequence of operations to be performed in the process of solving a problem.

#### **4.5.2 Data input**

The following dataflow diagram shows how the system gets an SMS input and forwards that SMS to a designated phone number (usually that of a manager such as HR manager or principal).The message is reported without necessarily following the long hierarchy of reporting that discourages employees from reporting their abuse. This breaks the barriers associated with organizational structure. It also increases privacy given that the people who need to know have been greatly reduced.

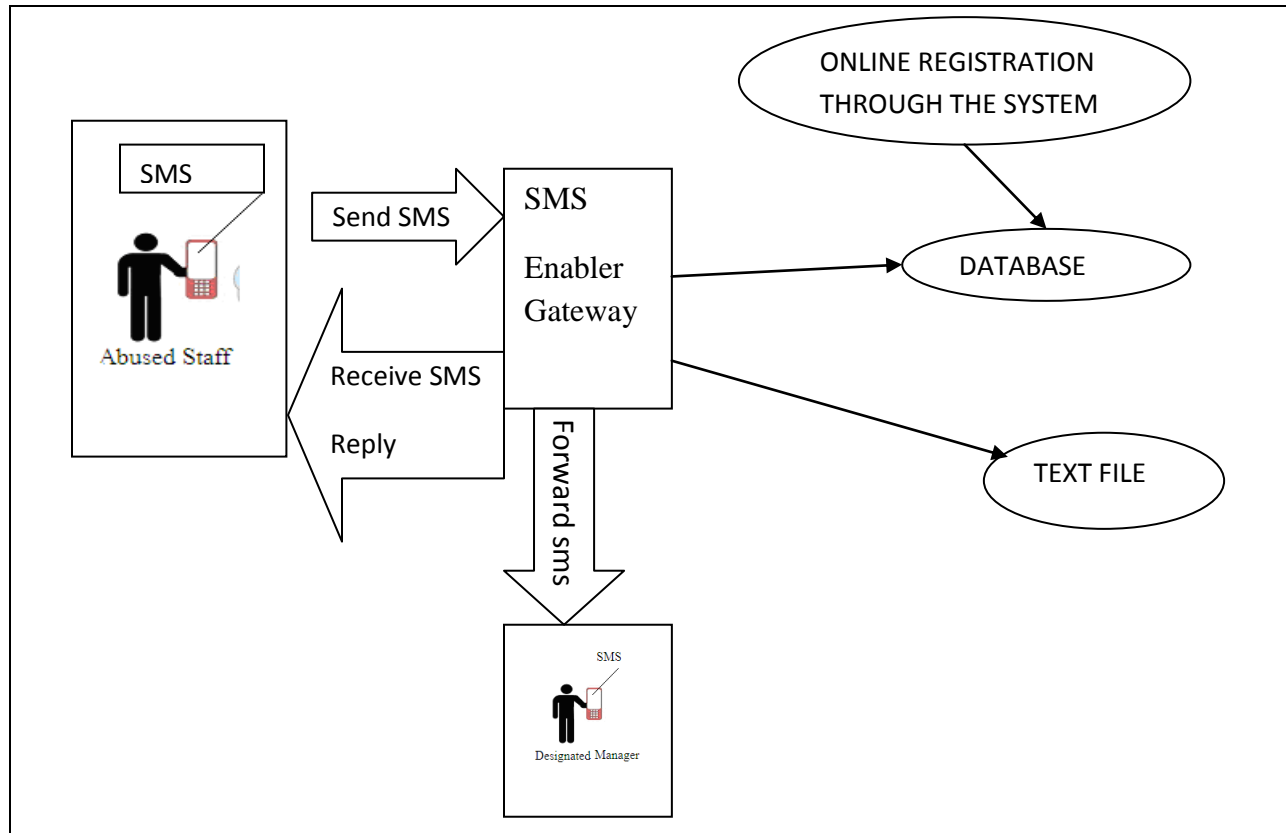


Figure 2: The flow of data into the system (Source :Author 2014)

This figure 2 explains events taking place when one reports the case. The reporting staff sends an SMS to report the abuse. The SMS is received in the SMS enabler gateway that processes the message. The gateway then forwards the message to a designated manager who uses the messages to follow up the proceedings of the case. The designated manager can investigate the case or assign the case to another authorized officer to handle it. The reporter gets a feedback message replying that the SMS has been received from the SMS enabler. The system writes the message into the database and text file for future reference. The staff can as well report direct into the system online after login.

#### 4.5.3 Technical Specifications

The abuse reporting mobile application had the following requirements:

- i. An SMS gateway for receiving and processing SMS

- ii. A modem or any supported mobile phone (phone drivers are needed) attached to a PC running an SMS gateway.
- iii. An optional database software such ms-access, sql server or mysql database for storing received and sent SMS allowing for audit trails.
- iv. An SMS service provider such as Safaricom.
- v. A SIM card loaded with airtime used for forwarding or replying SMS.

#### **4.6 Implementation**

At the base, the system requires a mobile phone or modem attached to a PC running an SMS gateway. For this project we used the SMS enabler gateway. The PC should be configured to start and run the system automatically on startup. To use the system is simple and can be done anywhere any time.

- i. The staff must be registered as a user of the system and assigned a client id. This registration can be done by a system administrator or one can register online and wait for the confirmation by the system administrator.
- ii. The reporting staff sends a message into the system for registering the phone number against the already awarded clientid in the format of *'reg\*clientId'*. The message is send to a publicized number e.g. 0719-225-728.The system returns a message that you have been registered successfully and automatically awards you a case identification number (case id).This is to ensure that those reporting the abuses are the legitimate members of Machakos University College staff.
- iii. The abused staff writes a message to report the case in the format of *'case\*message'*. This message is received into the system.
- iv. The Human resource administrator assigns the case to an officer to handle it.
- v. The assigned officer updates the case frequently depending on the evidence available. In case of completion the assigned officer marks the case as completed by giving a verdict.

#### **4.6.1 Reporting and Case Updates**

Once an abused individual reports by SMS to the system, a case ID, and an auto generated number in is created. The reporter gets an SMS reply stating that the case is registered successfully and states the case id. In case of any subsequent reference to the case, one must use the case id.

The human resource administrator assigns the case to an officer who will subsequently be handling the case. The officer in charge of the case will do all the updates up to the completion of the case and give the verdict. The abused can access all details pertaining the case reported by simply writing a message in the format '*prog\*case id*'. The system sends an SMS reply stating the progress of the case. A case can be updated many times (as investigation proceeds) but an update is specific to a case. To update a case, the officer must enter the case id. The officer in charge of a case can change two key parameters: the case status (say from ongoing to complete) and a verdict field that explains the final judgment / resolution. The case history on this form shows the conversations or discussions / actions taken.

#### **4.6.2 System Screen Shots**

This is the main interface which appears on running the project using a browser. The system has home button, contact us which shows the means of accessing the university. About the system shows the abstract of the system and a brief description of the system. Sign up button enables the user to create an account online. This means that the system offers a platform for online registration of the system users. Once the user registers online, the account becomes unauthenticated by default. The administrator must confirm that the registered person is a member of Machakos University College before authenticating or activating the user account .The user can log onto the system immediately the account is activated. The login button is for signing into the system. There are three users who are designated to use this system who are the system administrator, designated officer and the victim/client. The system administrator has all the privileges/rights on the usage of the system. He/she supervises the other users and awards them different rights on the system usage. Designated officer is the person given privileges to handle cases in the system. This can be human resource officer or any other person given rights to handle such cases. Victim/client is the person reporting the abuse. This user can report a case

through the system online registration or through SMS and view the progress of his/her reported case.

The system provides three different user-type interfaces each with different screenshots.



Figure 3: The main interface in the abuse reporting system

The interface shows various buttons such as home, contact us, about the system, sign up for registering online and login for signing into the system. Users can also send SMS using their mobile phones.

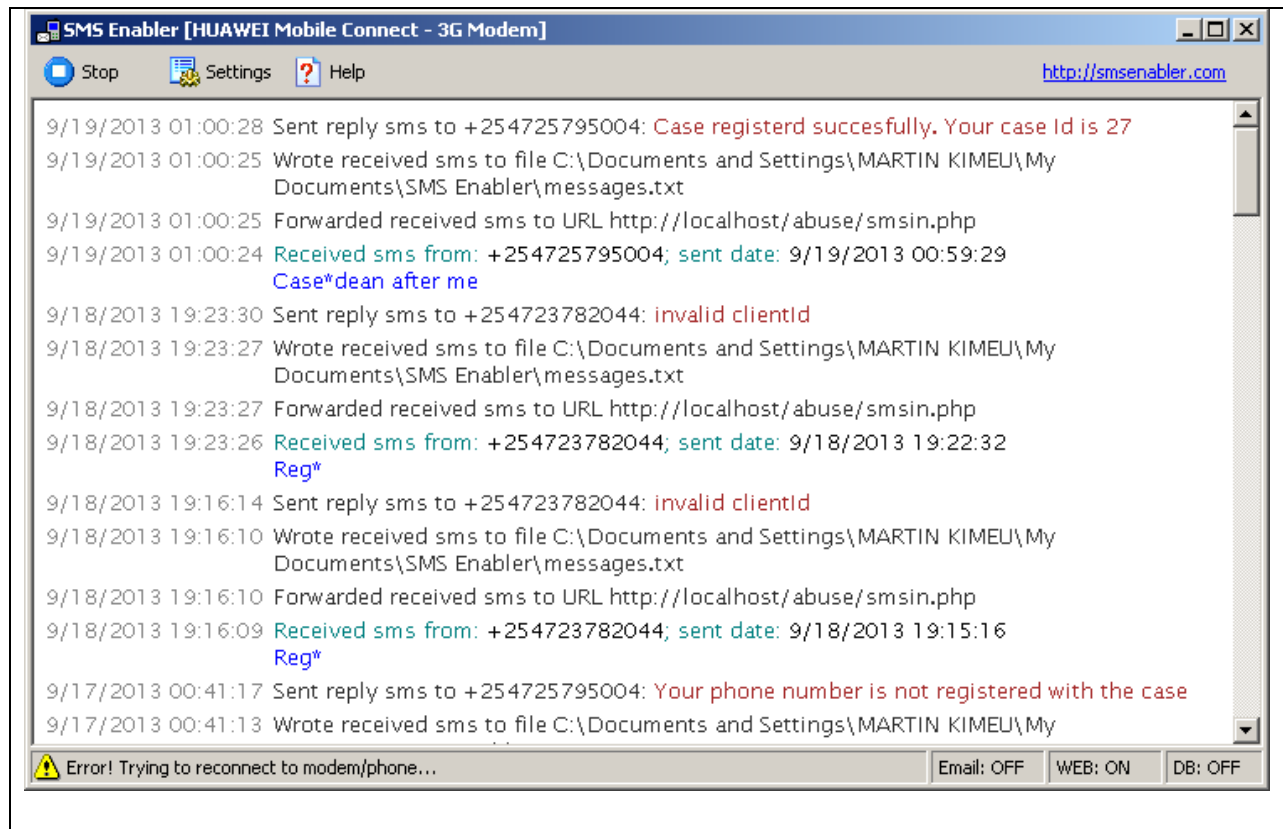


Figure 4: Message received, forwarded to another number and recorded into the database .

The interface in figure 4 shows how the SMS enabler receives message, forwards that message into sms-in.php, writes the same message to the message text and sends a reply to the reporter confirming that the case is registered successfully and specifies the case id.

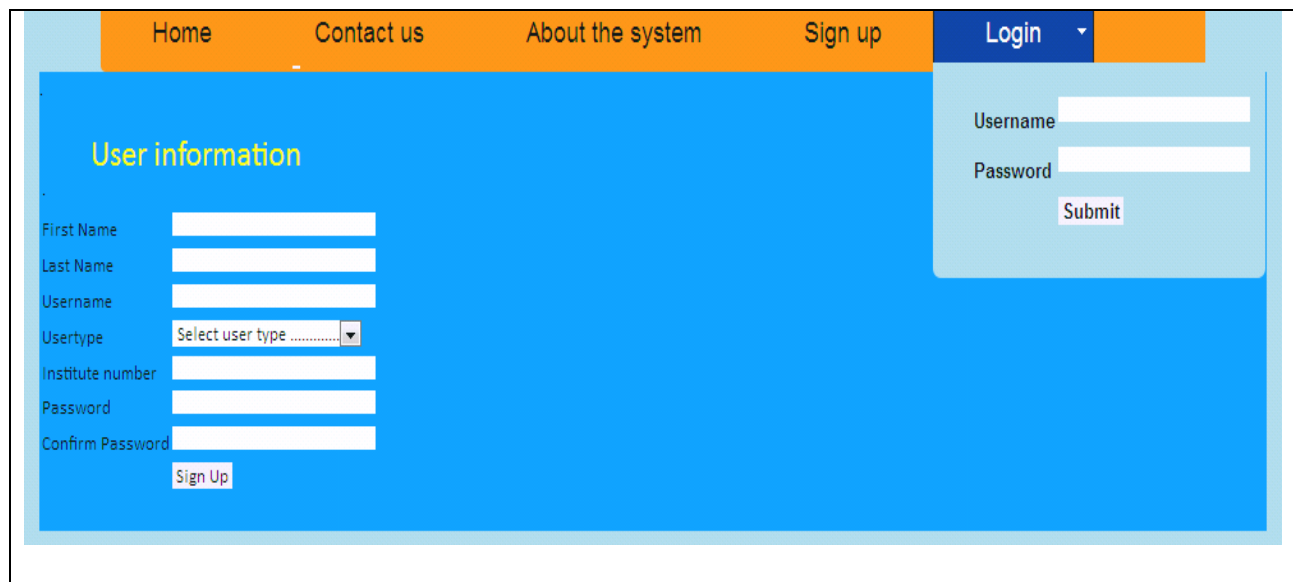


Figure 5: Login button and sign up user information.

Figure 5 is used for signing up by the new users and logging into the system in order to report the abuse. The new user registers their personal information that they require in using the system.

### Administrator Screenshots



Figure 6: Interface for adding users, edit users and view users

The figure 6 shows that on the users button, the administrator can add new users in the system, Edit existing users in the system and view all legitimate users of the system. Users who have a challenge registering themselves can be registered by the administrator.



Fig 7: Administrator registers a case of victims who reported via SMS to capture case type and case description.



The SMS may lack important details like the case type and the case description. These details must be captured before the administrator assigns a case to an officer to handle.

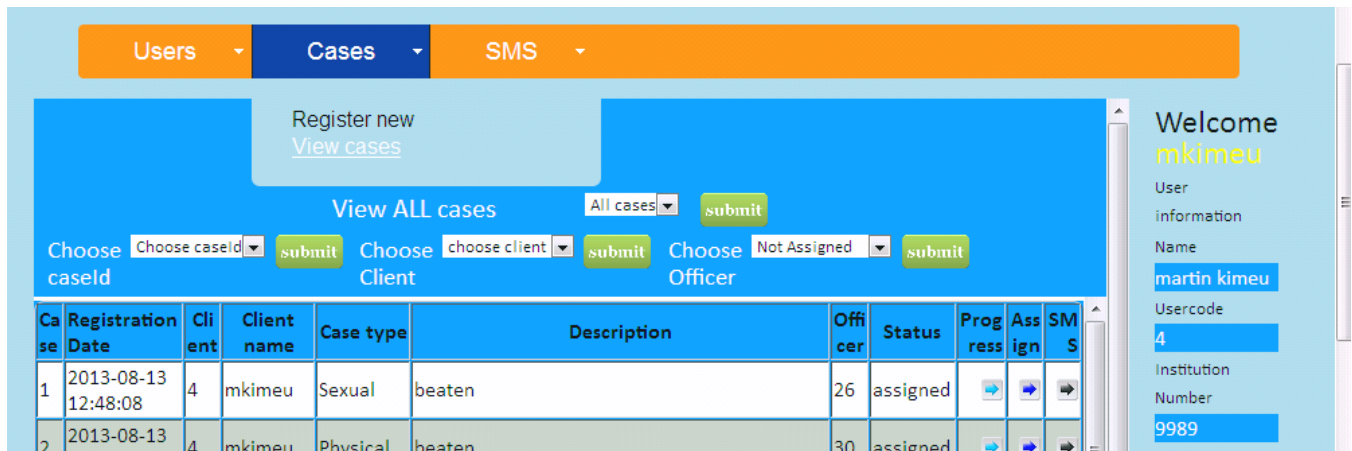


Figure 8: Administrator view cases in a number of options.

On the cases button, the administrator can view all cases reported, access individual case by case id, client or assignment status to an officer who will be handling the case. For individual cases, administrator can check the progress and assign them to officers to handle. The administrator can view progress of individual cases, assign a case to an officer and view the original SMS.

**Abuse Reporting**



**Machakos University College**  
A Constituent College of Kenyatta University

Users ▾ Cases ▾ SMS ▾

## View SMS Inbox

Choose message to view

mid	Date	Client	Client name	message	phone num	View case	Register new
1	2013-08-13 16:42:58	4	mkimeu	Case*beaten	+254725795004	→	→
2	2013-08-13 16:46:51	4	mkimeu	case*I was given unfair hearing in that case	+254725795004	→	→
	2013-08-13						

**Welcome**  
**mkimeu**

User information

Name  
**martin kimeu**

Usercode  
**4**

Institution  
**9989**

Figure 9: The SMS button will enable the administrator to view all messages in the inbox.

The administrator can view all messages reported to the system with the above details in figure 9. He/she can view the case and also register new cases.

## Officer Screenshots



Figure 10: Officers can Edit own profile and view other users.

The officer can only edit his/her own profile but cannot change the user id since its auto-generated from the system.

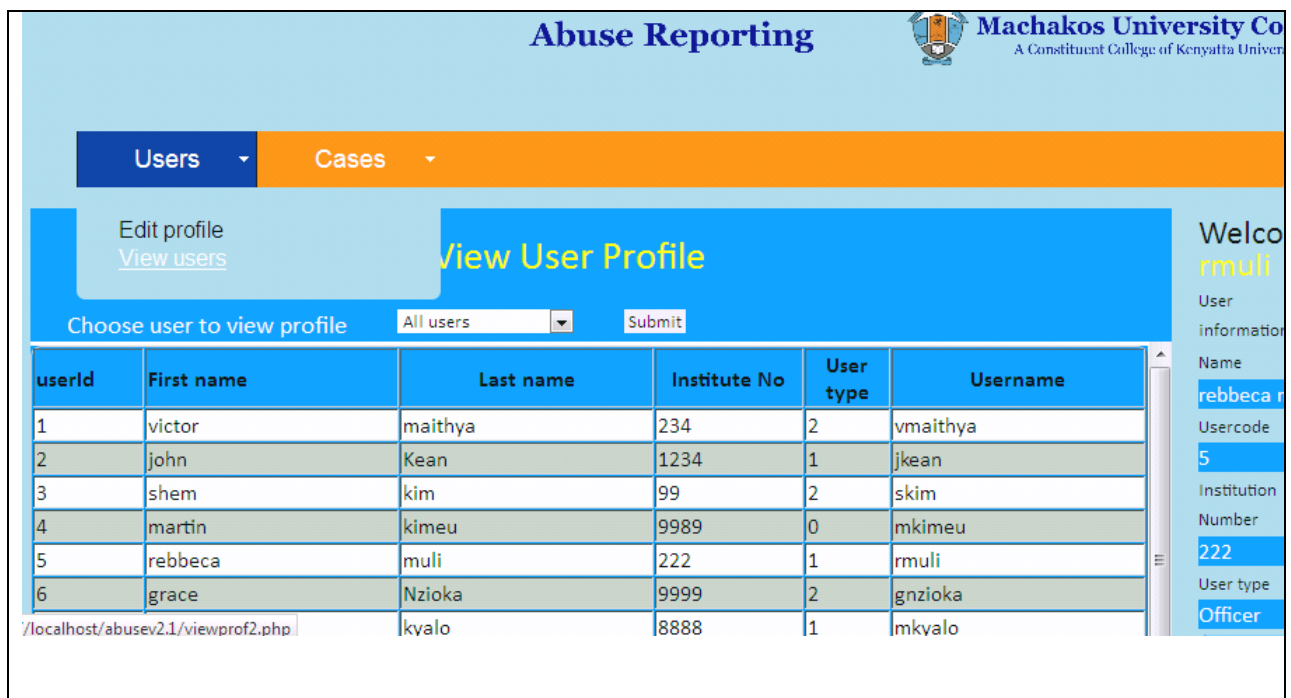


Figure 11: Officer can view details of other users but as read only.

The officers can view profile of all other users and also individual users but cannot modify them. The records appear as read only.

Case ID	Registration Date	Client	Client name	Case type	Description
3	2013-08-13 16:51:50	4	mkimeu	Emotional	insulted
4	2013-08-13 00:00:00	1	vmaithya	Physical & Emotional	underserved claim
5	2013-08-13 21:13:29	4	mkimeu	Others	now may the god of hope fill you with all joy and peace as you believe in him, so that you may abound in hope by the power of the holy spirit. (roma
	2013-08-13			Sexual	very sick

Figure 12: Officer can view own assigned cases in a number of options.

Officer can select the case assigned to him in a number of ways such as by case id or by client. He/she Can update the cases assigned to him as well as view case progress

## Victim/client Screenshots



Figure 13: Victim/client can edit his/her own profile.

A client/Victim can edit his/her own user information profile but not the user id which is auto generated from the system.



Figure 14: Victim /client can register a new case .

Victim /client can register a new case by selecting the case type and typing the case descriptions. Once through, the client can submit and the case is stored in the database for further processing by the officers dealing with the case.

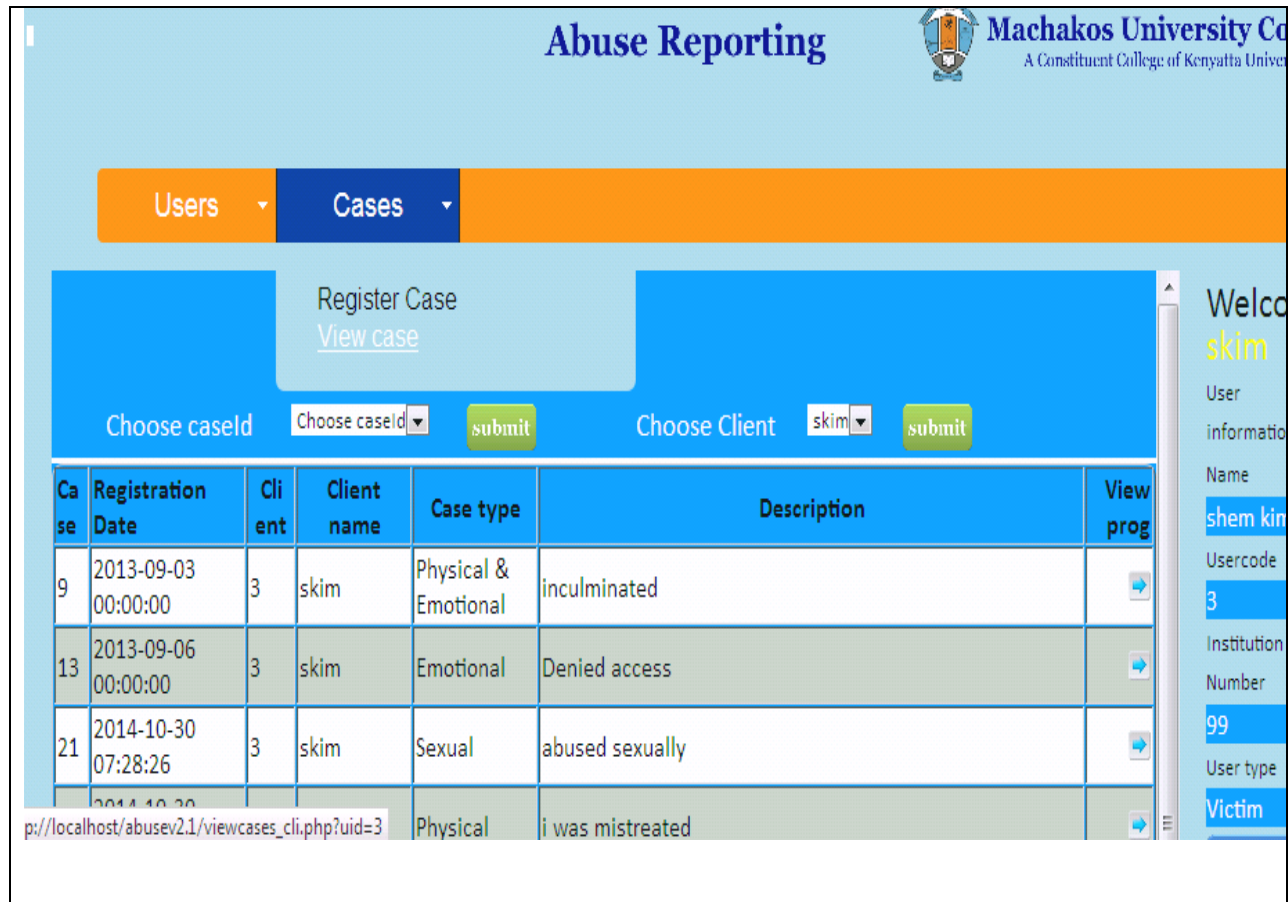


Figure 15:Victim can view all own reported cases and progress of individual cases.

Figure 15 shows that a victim can be able to view all his/her own reported cases with details such as case id, case type and case description. Victim can also view the progress of his/her own cases and get to know all the updates related to each case.

#### 4.6.3 System Reporting Mechanism

The system requires one to report either through SMS or on online platform. For the SMS, one is required to adopt the designated format of reporting such as case\*message. This is the designated way of reporting a case through the system. Once cases are reported and deposited in the database/inbox, the administrator has to register then afresh to capture specific details such as

case-type and descriptions before assigning them to the officer handling them. Online registering of a case requires one to capture key details such as case-type and case descriptions.

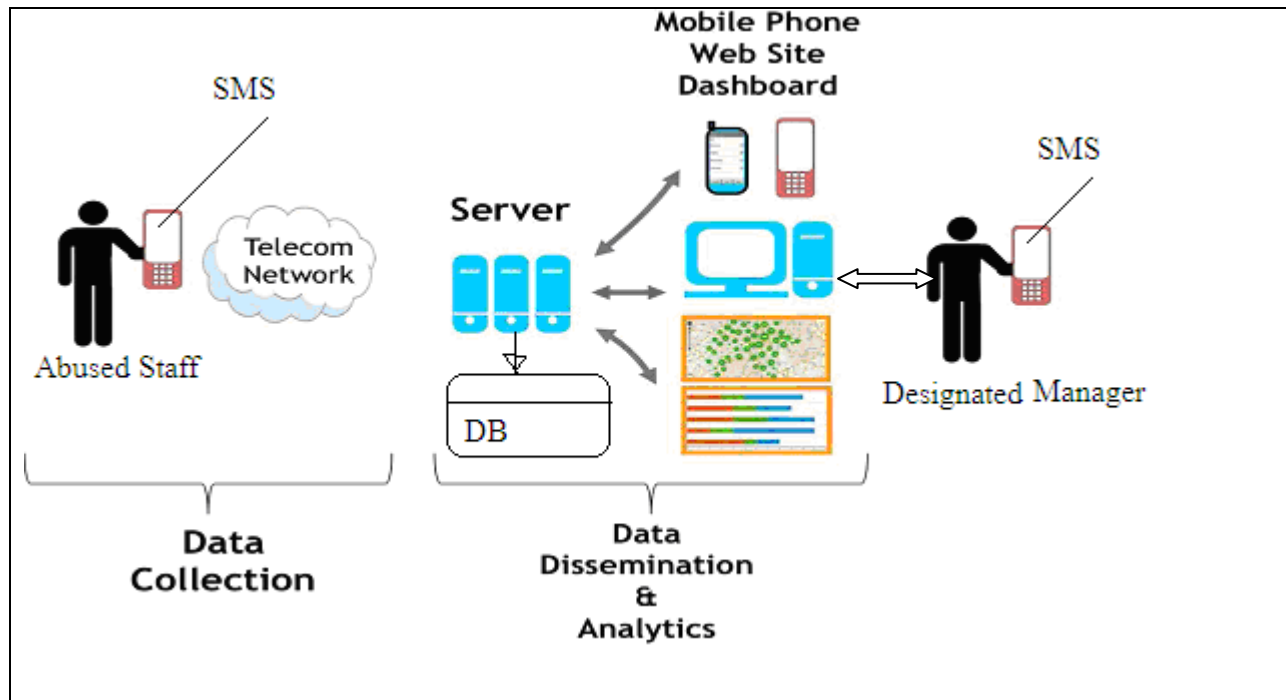


Figure 16 : Information flow in a mobile phone solution diagram (Source: Author 2014)

This figure shows how data is collected through SMS and conveyed into the database Server. Data is disseminated and analyzed by the designated officer.

## **CHAPTER FIVE: DISCUSSION**

### **5.1 Introduction**

This section provides discussion of the achievements, challenges and evaluation of the system by users. It is hoped that the mobile-web based application model developed can be replicated among all the institutions in Kenya who are facing serious challenges when employees are reporting their abuses. This chapter outlines the achievements in terms of answering the research questions and meeting the set objectives of the study.

### **5.2 Achievements**

The researcher was able to identify and analyze the current reporting procedures in the University College. Gaps were identified that necessitated the need of the mobile-web based abuse reporting system. The system was developed with a view to cut short the long hierarchy of reporting abuses which made it difficult for employees to report abuses. Privacy concerns were noted as the major challenge that discouraged employees from reporting their abuse. This system provides a solution to the problem by providing a secure and fast means of reporting abuse directly to the designated authorities in the university. In addition, the researcher was able to demonstrate how the mobile-web based application reporting can improve abuse reporting among employees at Machakos University College.

### **5.3 Challenges**

One major challenge experienced during the development of the project was in adequate sources of related work for doing research. Many researchers have hardly exploited the subject of employee abuse reporting and subsequently the need of mobile-web based application in reporting abuse in the workplace environment. Data collection was also a challenge as many respondents were not willing to disclose the kind of abuse they had gone through due to privacy reasons especially those sexually abused.

### **5.4 System testing and evaluation**

The testing phase ensured that the implemented system is usable as proposed and intended. This process involved engaging the targeted users, in this case, staff from Machakos University College as the end users. This provided platform for identifying any gaps to be worked on. This



process was carried out at Machakos University College, in Machakos. Thirty (30) respondents of those who filled initial questionnaire were randomly sampled to take part in the actual testing. This random sampled population was a good representation of the staff at Machakos University College. These respondents were first trained on how to use the system. They were given a test data, in this case, data used by researcher to test the system. Afterwards, the respondents were requested to use their own data to test the application. During testing, the respondents were provided with the following data to test the authenticity of the users of the system.

View User Profile						
Choose user to view profile		All users		Submit		
userid	First name	Last name	Institute No	User type	Username	Edi prof
1	victor	maithya	234	2	vmaithya	
2	john	Kean	1234	1	jkean	
3	shem	klm	99	2	sklm	
4	martin	kimeu	9989	0	mkimeu	
5	rebecca	muli	222	1	rmuli	
6	grace	Nzioka	9999	2	gnzioka	
7	mary	kyalo	8888	1	mkyalo	
8	stephen	musili	3333	2	smusili	
9	leah	wakanyi	233	2	lwakanyi	
10	Joseph	klmani	335	2	jklmani	
11	jones	kamau	9891	2	jkamau	
12	daniele	kamande	8736	1	dkamande	
13	mardrine	wambua	7826	2	mwambua	
14	faith	katunge	5547	2	fkatunge	

Figure 17: Test data provided for testing the system.

Once the targeted users were done with testing the system, they were kindly requested to assess the system by filling the assessment form which involved a number of questions. The objectives of the research were assessed to find out whether the system achieved them. Other factors considered during the testing exercise were correctness of the system, usability of the system, reliability of the system and the relevance of the system in solving reporting challenges that formed the research question. The results were interpreted, analyzed and conclusion deduced. The questions asked during assessing the system were based on the research questions that formed the research, to assess how the objectives were met. The questions were in reference to

the problems that discouraged abuse reporting to assess how much the mobile-web based application system solves the said problems.

Management bureaucracy and policies that encourage ladder-wise reporting mechanism making it difficult to report abuse to the aggressor or the aggressor’s boss is a major problem statement. High level hierarchy of reporting abuses has discouraged many employees from reporting the abuses they meet in their work environment. Delay in reporting abuses as experienced with formal means of reporting translates to delay in delivering justice regarding the abuse. Fear and privacy were also noted as part of the problem statement.

### 5.5 Results for the assessment of the system

This section presents the results from the assessment form using tables. The tables are further analyzed quantitatively using percentages. A total of thirty (30) respondents took part in the system testing

No. of Respondents	Responses	Percentage(%)
30	Yes	100
0	No	0
<b>Total</b>	<b>30</b>	<b>100</b>

**Table 7:** Percentage of those who felt the application solved the problem of long hierarchy

Table 7 indicated that all the respondents who participated felt that the system had greatly solved the problem of long reporting procedures and hierarchy that had discouraged the abused from reporting their aggressors.

Assessment	No. of Respondents	Percentage(%)
Yes	26	86.7
No	4	13.3
<b>Total</b>	<b>30</b>	<b>100</b>

**Table 8:** Percentage of those who felt that the system was effective for abuse reporting

Table 8 indicated that a sizeable percentage of the respondents who participated felt that the system was effective for abuse reporting. A small percentage(13%) indicated as in effective citing the reasons that not all people are computer literate .

<b>Assessment</b>	<b>No. of Respondents</b>	<b>Percentage(%)</b>
Very Good	<b>17</b>	<b>56.7</b>
Good	<b>12</b>	<b>40</b>
Fair	<b>1</b>	<b>3.3</b>
Poor	<b>0</b>	<b>0</b>
Total	<b>30</b>	<b>100</b>

Table 9: Overall assessment of the system by the respondents

Table 9 indicated that a sizeable percentage (96%) evaluated the system to be good and very good. This indicated high level of user acceptance on the system in abuse reporting.

Criteria	No. of Respondents		
	Highly Agree	Agree	Disagree
This system is accurate, correct and therefore effective.	16	13	1
The system is user friendly, with good graphical user interface and therefore suitable for its users.	19	11	0
The system is consistent and reliable.	22	7	1
The system is relevant to the research problem.	25	5	0
The system is authenticated and so only the registered users can use the system	23	7	0

**Table 10:** Assessment of the system in terms of factors considered.

From the results, it was noted that most of the respondents recorded to have either highly agreed or agreed with all factors used in assessing the system. This in turn confirmed that the system had won the users confidence and acceptability.

### **5.6 Conclusion on system assessment.**

The implemented abuse reporting application was evaluated to ascertain that it met the proposed objectives. It was also checked for efficiency, correctness, usability, consistency, reliability and relevance in solving the problems experienced that formed the research question.

The key objective was to develop and test a mobile-web based reporting application that would allow the Machakos University College staff to report abuse, crime or work related concerns to appropriate authority. Although the application should be able to report abuse through email and a website (optimized for mobile loading), the primary goal was to report over SMS. This objective was achieved since users would use the system to report their abuses. The other objectives were equally met from the responses of those interviewed.

## **5.7 Outcomes.**

This section shows how the objectives were met in the study.

The researcher analyses the current employee abuse reporting procedures in a University College. The procedures were found to be ineffective according to the data collected from the respondents. The research addresses the problem by providing a web based platform for real-time employee abuse reporting.

The gaps in employee abuse reporting that necessitates the need for a web based application were established and a system developed to fill the gaps that discourage employees from reporting abuses. The system was developed and tested and survey carried out from respondents on the suitability of the system in reporting abuses in a work place environment. The findings were analyzed to establish and demonstrate how a web based application reporting can improve the abuse reporting among employees in a University College.

## **CHAPTER SIX: CONCLUSION AND RECOMMENDATIONS**

### **6.0 Conclusion**

According to the data collected that informed the research problem and subsequent system development that provides solution to the problem, it was noted that many abuses occur and often they go unreported. This research project and its findings provides a platform for employee protection in a University College and in the long run improves the performance of the University Staff.

The gaps in employee abuse reporting that necessitates the need for a web based application were established and a system developed to fill the gaps that discourage employees from reporting abuses. The system was developed and tested and survey carried out from respondents on the suitability of the system in reporting abuses in a work place environment. The findings were analyzed to establish and demonstrate how a web based application reporting can improve the abuse reporting among employees in a University College.

The research project achieves objectives with a view to enhance integrity of all the staff and make use of a web application to report abuses in a faster, efficient, reliable and secure manner. The research was able to fill the gaps identified in the research questions and provide solutions to the challenges.

### **6.2 Recommendations**

Although this study focused entirely on the abuse reporting process for employees in Machakos University College, the deductions, results and findings can be replicated in many private and public organizations. It is strongly recommended that MUC should take the following actions to ensure that the a web based reporting application meets both their current and future needs, in line with set policies concerning abuse reporting: MUC should recognize the need to develop a culture of employee orientation on the use of a web based application to report their abuses. All employees of the University should be sensitized on the application and this may reduce the attempts of the aggressors to abuse others since they know that they can be reported anytime anywhere to higher authorities for action. The university policy concerning the protection of the abused should be made known to all university staff and awareness made to both the aggressors

and the abused. The University College should develop an Integrity and abuse policy that will guide its abuse reporting, implementation and disciplinary criteria. The publicized number for reporting should be made available to all MUC staff. The University College should also introduce and carry out employee satisfaction survey regularly on this web based abuse reporting system to identify its relevance in current and future reporting.

The researcher recommends that future research be carried out to establish how the use of the web based application in abuse reporting affects service delivery in Organizations, employee satisfaction in organization, improves performance in organization and morale of employees in a workplace environment.

Further recommendations are made to the Government of Kenya to introduce policies that will protect employees against abuse in their workplace environment. Government agencies dealing with employee abuse as it is with child abuse should be given priority and constituted in the attempt of protecting employees against abuses.

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## Appendix 1

### Questionnaire

**NB.** 1. Kindly do not indicate your name or contacts in this questionnaire.

2. All the information given would be very confidential and will be used only for the purpose of this study and not any other.

*(Tick where appropriate)*

### SECTION A

#### Personal information

1. Gender

Female

Male

2. Indicate highest education level

Primary

Secondary

College

University

3. Indicate age interval

20-30 years

31-40 years

41-50 years

Above 50 years

4. Length of service

- Less than 1 year
- 2-10 years
- 11-20 years
- 21-30 years
- Above 30 years

**Current abuse reporting procedures**

1. Have you been abused in your work?

- Yes
- No

If yes, what kind of abuse?

- Sexual
- Physical
- Verbal
- Intimidation

If no, what cases have you experienced from your colleagues?.....

2. Did you report such cases?

- Yes
- No

If yes, to who and how did you report?.....

If No, why? Please explain.....

3. Do you think the systems currently employed by the institution are effective for abuse reporting?

Yes

No

4. If No, select one or more reasons:

a) Privacy Concerns

b) Serves No Purpose

c) No Guidelines for addressing abuses

d) Unconcerned Management

e) Fear / intimidation

f) Long reporting hierarchy

**Hierarchy of communication**

	<b>Highly agree</b>	<b>Agree</b>	<b>Don't agree</b>
Clear communication channel supports abuse reporting			
Supervisors encourage abuse reporting			
Employee Awareness on Abuse Reporting Procedures			
Organization hierarchy is an hindrance			

to abuse reporting			
--------------------	--	--	--

**Barriers to communication**

	True	False
There are many barriers to reporting abuse in the institution		
Employees cannot access the principals' office		
There are many procedures to follow before ones' issues is taken up		
There is no effective process of communication		

## Appendix 2

The following questions were used as the basis of assessing the system in terms of solving the problem statement. The respondents were requested to tick appropriately. The researcher summarized the assessment questions into the following three questions.

i) Do you think this mobile application solves the problem of long hierarchy?

Yes

No

If No, Kindly explain what to add in the system

.....

ii) Do you think this system upholds the privacy of the victim in abuse reporting?

Yes

No

If No, please give reasons.....

iii) Kindly, give the overall assessment of the system

Very Good

Good

Fair

Poor

In addition, the following statements were also used to evaluate the system. The respondents were kindly requested to tick appropriately according to the scales given below.

	Highly Agree	Agree	Disagree
This system is accurate, correct and therefore effective.			
The system is user friendly, with good graphical user interface and therefore suitable for its users.			
The system is consistent and reliable.			
The system is relevant to the research problem.			
The system is authenticated and so only the registered users can use the system			

## Appendix 3

### Sample code

```
<?php
require_once("dbsetting.php");
?>

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html>
<head>
    <meta http-equiv="content-type" content="text/html; charset=utf-8" />
    <meta name="description" content="Your description goes here" />
    <meta name="viewport" content="width=device-width; initial-scale=1.0; maximum-
scale=1.0; user-scalable=0;" />
    <link rel="icon" type="image/png" href="mastermind logo.png">
    <link rel="stylesheet" type="text/css" media="all" href="css/mtk.css" />
    <link rel="stylesheet" type="text/css" media="all" href="css/style.css" />
    <script type="text/javascript" src="js/jquery-1.7.1.min.js"></script>
    <script type="text/javascript" src="js/jquery.nivo.slider.js"></script>
    <link rel="stylesheet" type="text/css" href="css/mtk2.css" />
    <script src="js/stuHover.js" type="text/javascript"></script>
    <link href="ddmenu/ddmenu.css" rel="stylesheet" type="text/css" />
    <script src="ddmenu/ddmenu.js" type="text/javascript"></script>

    <title>Abuse reporting system</title>

    <style type="text/css">
<!--
.style4 {color: #D2AC67}
-->
    </style>
</head>
<body>
<?php
$con = mysql_connect(cfg_server, cfg_username, cfg_password);
if (!$con)
{
    die('Could not connect: ' . mysql_error());
}
mysql_select_db(cfg_db, $con);
$result = mysql_query("SELECT * FROM users");
$stat=0;
```



```

while($row = mysql_fetch_array($result)){

if($row['username']==$_POST['username']){
    if($row['password']==$_POST['pass']) {
        if($row['userType']==1){
            if($row['athentication']==0){

                echo "@hhh";
                header( 'Location: index3.php?id='.$row['userId'].");}

            }
            else if($row['userType']==2){
                if($row['athentication']==0){
                    echo "@";
                    header( 'Location: index4.php?id='.$row['userId'].");}

                }

                $uname=$_POST['username'];
                $fname=$row['firstName'];
                $lname=$row['lastName'];
                $userId=$row['userId'];
                $instNum=$row['instNo'];
                $utype=$row['userType'];
                $stat=1;
                }
                else{
                    //header( 'Location: indexpass.php' );
                    }
                    }
                    //header( 'Location: indexpass.php' );

}
if ($stat==0){
    header( 'Location: indexpass.php' );

}

mysql_close($con);
?>

```

```

<div class="transparent">
<div id="wrapper960" class="clearfix">
<div id="header" class="clearfix" >

<div id="sitetitle" class="clearfix">
<table width="931" border="1">

```

```

<tr>
  <td width="801"></td>
  <td width="114"> </td>
</tr>
</table>

      </div>
</div>
      <span class="preload1"></span>
<span class="preload2"></span>
<nav id="ddmenu">
  <ul>
    <li><a href="#"><span style="color : white">Users</span></a>
    <div>
      <div class="column">
        <a href="sign_up.php" target="iframe1">Add users</a>
        <a href="editprof.php?id=?php echo $userId?" target="iframe1">Edit users</a>
        <a href="viewprof.php" target="iframe1">View users</a>

      </div>
    </div>
    </li>
    <li><a href="#"><span style="color : white">Cases</span></a>
    <div>
      <div class="column" >
        <a href="rnew.php" target="iframe1" >Register new</a>
        <a </a>
        <a href="viewcases.php" target="iframe1">View cases</a>

      </div>
    </div>
    </li>
    <li><a href="#"><span style="color : white">SMS</span></a>
    <div>
      <div class="column">
        <a href="viewinbox.php" target="iframe1">View
inbox</a>

      </div>
    </div>
    </li>
  </ul>
</nav>

```

```

<table border="2" width="100%" cellspacing="15">
<tr>

<td width="90%" bgcolor="#0099FF">
<iframe src="#" width="100%" height="600" frameborder="1" name="iframe1">
  </iframe>
</td>

<td width="10%" bgcolor="lightblue">
<table bgcolor="lightblue" width="100%">
<tr>
<tr>
<td height="20">
<table>
  <tr>
  <td><b><h3>Welcome</b></td></tr><tr><td><b><h3><?php echo
$uname?></h3></b></td></tr>

  </tr>
</td>
</tr>
<td height="120" >
<table width="100%" bgcolor="lightblue" >
<tr><td>User information</td></tr>
<tr><td>Name</td></tr><tr><td bgcolor="#0099FF" style="color: white ; font-size :
16px"><?php echo $fname." ".$lname?></td></tr>
<tr><td>Usercode</td></tr><tr><td bgcolor="#0099FF" style="color: white ; font-size :
16px"><?php echo $userId?></td></tr>
<tr><td>Institution Number</td></tr><tr><td bgcolor="#0099FF" style="color: white ; font-
size : 16px"><?php echo $instNum?></td></tr>
<tr><td>User type</td></tr><tr><td bgcolor="#0099FF" style="color: white ; font-size :
16px"><?php if($utype==0){
                                echo "Administrator";
                                }
                                else if($utype==1){
                                echo "Officer";
                                }
                                else if($utype==3){
                                echo "Human resource";
                                }
                                else{
                                echo "Victim";
                                }?></td></tr>

<tr></tr>
<tr>

```

```

<td><a href="index.php">
</a></td></tr>
</table>
</td>
</tr>

<tr>

</tr>
</table>
</td>
</tr>
</table>

```

```

<div id="wrapper" class="home">

```

```

</div>

```

```

<div class="copy_right">

```

```

<p class="left_col">&copy; Abuse reporting system. All Rights reserved</p>

```

```

<p class="right_col"><a href="#">Terms & conditions</a>|<a
href="contacts.php">Contact us</a>

```

```

</div>

```

```

</div>

```

```

</div>

```

```

</div>

```

```

</div>

```

```

<script type="text/javascript">

```

```

    $(window).load(function() {
        $('#slider').nivoSlider();
    });

```

```

</script>

```

```

</body>

```

```

</html>

```