A WEBBASED EMMI GRATION SYSTEM FOR TRACKING OF CLIENTS RECORDS

CASE STUDY: BUSIA IMMIGRATION AND CUSTOMS OFFICE

COMPILED BY:

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A PROJECT REPORT SUBMITTED TO THE SCHOOL OF COMPUTER STUDIES
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD
OF THE BACHELORS OF INFORMATION TECHNOLOGY OF
KAMPALA INTERNATIONAL UNIVERSITY

JULY, 2011
DECLARATION

We the undersigned students hereby declare that this project report is original and has not been presented or submitted for this or any other purpose to any college, university or institution of learning.

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Name: Namugaya Zida BIT/10199/81/DU

Sign: ................................................

Sign: ................................................
APPROVAL

This project report has been submitted to me as part of the requirement of the award of bachelor degree in information technology of the Kampala International University which has been done under my direct supervision.

Mr. Talemwa Danison
Department of Information Technology
School of Computer Studies
Sign ..........................................
Date  ........................................
DEDICATION

This piece of work is dedicated to our dear parents who have been with even when the whole world seemed to be falling on us. We thank them for their financial, material, and spiritual support they gave us when we needed it and to all those who strongly contributed towards the success of this project research. May the Almighty reward them abundantly.
ACKNOWLEDGEMENT

We wish to extend our sincere gratitude to our supervisor Mr. Talemwa Danison for dedicating his time to supervise this work. Thanks to our lecturers and our friends for their guidance and encouragement throughout the entire process of compiling this piece of work.

Contributing to the success of this project were a team approach and the formation of initial pairings. Collaboration within the group kept the level of discussion high the investigators shared what they knew to the advantage of the project. The project environment was non-threatening, and the group provided a forum that fostered creativity. We are also equally grateful to our parents for their financial support. Above all, to the almighty God who made everything possible for us to finish this project in time.
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<thead>
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<td>Records Management System</td>
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<td>SQL</td>
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<td>DFD</td>
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<td>I.S</td>
<td>Immigration Service</td>
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<tr>
<td>SKTR</td>
<td>System for Keeping Track of Records</td>
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<tr>
<td>MoIA</td>
<td>Ministry of Internal Affairs</td>
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<tr>
<td>ID</td>
<td>Immigration Department</td>
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<tr>
<td>GoU</td>
<td>Government of Uganda</td>
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<tr>
<td>NGOs</td>
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<tr>
<td>SALW</td>
<td>Small Arms and Light Weapons</td>
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<td>Database Management System</td>
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<td>DRMS</td>
<td>Dynamic Records Management System</td>
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ABSTRACT.

This system is a web based Immigration System for Tracking of Records (ISTR) for Ministry of Internal Affairs, Busia Immigrations and Customs Office. It is going to solve the problem of manual tracking of records, updating of immigrants data. It gives the methods of (ways) of solving the current problems faced by the Immigration department and provides results to the records tracking office. The objectives of this project are to establish an online system for keeping track of records that would help in automating the process of records tracking exercise, enhance the quality of services to better standards since it will be accessible to travelers of various categories anywhere in the world over the internet.

Different methods were used to obtain the relevant information about records tracking at Busia Customs and Immigration Office and these include interviews, hard data sampling, document review and observation. The results of this system for keeping track of records include handling the boarder post daily transactions, store all relevant data and provide information to both Immigrants and boarder post verification officers for easy transaction in tracking of immigrants information and verification exercise.
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CHAPTER ONE:
INTRODUCTION

1.1 BACKGROUND OF THE STUDY

A Records management system is a piece of software that collects data in real-time from multiple sources across the supply chain of an event and converts it into information that gives managers a clear picture of how their event is performing and in turn they can make selected data available to other participants in the process. Records management systems should: New City Media (2006) [4]

Systems for tracking Records are usually more specifically designed to meet the client’s requirements. A useful online system should supply information to users on availability, program and other details as well as retrieve and verify the information for the reservation and track submissions. According to New City Media (2006), the dynamic concept of records Tracking system as well as dynamic website development has become the basis of managing and disseminating information in modern immigration points. Dynamic Immigrants management systems are designed for change and growth.

Globally, immigration departments are of great benefit to the security of any nation, essentially, they collect information about the movement of people across several boarders and are the channel through which illegal aliens are deterred from entering certain country without permission. The ministry of Internal Affairs is one of the ministries of the Ugandan government formed in 1964, primarily responsible for; Issuing identity documents and passports, issuing visas for visitors to Uganda (although visa applications pass through embassies or consulates which are part of the ministry of foreign affairs), managing immigration to Uganda and naturalization of permanent immigrants. Handling refuges and asylum seekers in Uganda and controlling ports of entry at land boarders, seaports and airports. Today, the Ugandan immigration department is estimated to employ more than 2500 skilled manpower to regulate and facilitate the movement of people in and out of the country, to provide forensic and scientific analytical testing and services. Ensure safe custody, humane treatment and rehabilitation of
offenders. Implement the amnesty act 2000. Coordinate and address the proliferation of illicit small arms and light weapons (SALW).

The services offered by the immigration department can be summarized as issuance of the following; Ugandan passports, special passes, entry permits (work permits), dependants passes, pupils passes, certificate of residence, granting of citizenship visas. To effect this, the researcher maintains that systems for keeping track of records is a must as they provide information about immigration policies of and events that is useful to a wide range of points in Uganda. Users in making immigration decisions. As per the researcher topic, the study will be confined at Busia boarder immigration and customs office as it is the busiest entry/exit point in Uganda. The Busia immigration office is used by over five categories of immigrants; this qualifies to give a fair presentation of all immigration

1.2 STATEMENT OF THE PROBLEM.

The ministry of internal Affairs, Immigration Department, Busia immigration and Customs Office tracks clients records manually which leads to mismanagement of immigrants’ data that leads to delays in clearing of immigrants traveling.

Similarly Verifications have mostly been done manually by travelers checking in at the boarders or making phone calls amongst boarder offices for emergence verification. Updating information has also been mainly through such phone calls, physical transportation of data from one boarder to another. These means not been so efficient especially at handling the passport and visa verification in the day to day running of the boarder post transactions.

1.3 OBJECTIVES OF THE STUDY.

1.3.1 General objectives of the study.

The general objective of the study was to develop an online record keeping system for immigration clients.
To establish an online system for keeping track of records that would help in automating the process of verification and validation exercise making it quicker and less taxing to the government, local and foreign travelers who are usually time conscious.

To enhance the quality of services to better standards since it will be accessible to travelers of various categories anywhere in the world over the internet.

1.3.2 Specific objectives of the study.
   i. To identify information that will be used to build a web based immigration system.
   ii. To design a Immigrants records management system for Busia boarder post.
   iii. To implement the system developed.
   iv. To test and validate the system developed during the course of study.

1.4 SCOPE OF THE STUDY.
The study was conducted at the Busia boarder post and focused on developing a dynamic Immigrants’ records management system for the boarder post which provides up-to-date information regarding the border post transaction and offer online verification services to the esteemed Immigration clients.

The system captures clients’ bio data, background of origin, it stores their information concerning where they come from and where they are going, and it outputs immigrants details at the real time when it is needed.

1.5 SIGNIFICANCE OF THE STUDY.
The study was to replace the existing mostly manual system of managing immigrants’ inquiries, records and verification and to a bigger percentage do away with current system. An advanced and fully web based alternative system is what the project was aimed at. The researchers developed a centralized database that hold details of all transactions, reservation, boarder post,
staff details, position and boarder crossing status of all the immigrants. The boarder post database administrators will be in position to access the database, update the details on a timely basis which will help the Immigration department get an overview of the Busia boarder post daily performance.

The study was intended to develop a system for keeping track of records which was to enable the boarder post to manage transactions effectively. This online system was to be accessed by Immigrants to get up-to-date information and prepare relevant documents required at the post and also be able to offer a clear picture to the Immigrants’ department which will be essential in enabling the Internal Affair Ministry to improve its services. Therefore the study was to help improve on the immigrants department’s efficiency in handling their immigrants’ information and helped to enhance worldwide immigrants departments as many more people were to get to learn of its services through and the significance of a web based system for keeping track of records developed.
CHAPTER TWO:
LITERATURE REVIEW

The purpose of literature review was to provide a detailed survey of the related literature as regards web based systems for tracking records that simplify the process of managing day-to-day immigration events. Instances where web based immigration systems for tracking records are used include online updates, online verification, and many other daily activities.

2.1 WEB BASED SYSTEMS.
The UK academy for web based systems defines web based systems as “the means by which people and organizations, utilizing technologies, gather, process, store, use and disseminate information electronically.”

According to Comptroller (1995), [3] a web based system’s qualities include the following:

i. Consistency. A good web based system should be reliable. Data should be processed and compiled consistently and uniformly. Variations in how data is collected and reported can distort information and trend analysis. This kind of system is especially useful for organizations that have branches all over the world, when certain users need access to data stored in another part of the world. It facilitates multiple users with proper security rights to view documents simultaneously.

ii. Security. Security is strict as these systems have a user log to show who accessed specific data and what changes they made to the data. Features like the preservation of the original document are added advantages.

2.1.1 Advantages of web based Systems in tracking immigration records.
According to New City Media (2006), the dynamic concept of a database as well as dynamic website development have become the basis of managing and disseminating information in modern immigration offices. Web based systems are designed for change and growth. We define “web based” immigration systems for tracking of records as some combination of these aspects:
i. Merging information from data bases and other sources with web page templates to provide up-to-date content. This also enables large sites to be built without creating each page by hand.

ii. Encouraging timely, frequent updates by making it easy for everyone in the organization to manage their content.

iii. Enabling complex user interactions such as online verification, database searching and workflow management.

iv. Responding to the unique needs and inputs of the organization's vision.

v. Adapting to the organizational needs for growth and change while allowing new content and sections to be added with ease.

2.2 CURRENT SYSTEMS USED TO TRACK IMMIGRATION RECORDS


According to DHS/ICE-011 - Immigration Enforcement Operational Records System (ENFORCE) May 3, 2010, 75 FR 23274 The Alien Response Information Management System (ARIM) is an information system used by U.S. Immigration and Customs Enforcement (ICE) to receive and respond to immigration status inquiries made by other agencies about individuals, subject to background checks, or otherwise encountered by those agencies. The Enforcement Integrated Database (EID) is an ICE case management system that captures and maintains information related to the investigation, arrest, booking, detention, and removal of persons encountered during immigration and criminal law enforcement investigations and operations conducted by ICE and U.S. Customs and Border Protection. ICE is combining ACRIME and EID data via the ICE Integrated Decision Support (IIDS) System, a reporting sub system of EID, to enable and enhance comprehensive tracking of records about aliens throughout the alien identification, apprehension, and removal process. To effectuate this reporting, ICE is modifying ACRIME to expand its user base within the agency, implementing new user functionality in
ACRIMe and EID, and updating IIDS to support enhanced reporting of ACRIMe and EID data. ICE is further expanding ACRIMe support for the Secure Communities initiative. ICE is conducting this PIA update to address these modifications and enhancements.

Limitations of the above system

- Immigration and naturalization records—regardless of when they were created—tell the story of your ancestor making that momentous decision to immigrate, travel, or become a citizen of a different country. Like many types of records, earlier immigration records typically don't contain as much detail about immigrants.
- Failure to properly vet visa applicants overseas.
- Lack of information with which to thoroughly screen immigrants at ports of entry.

Online Immigration Records Management System (OIRMS), April 9, 2010.

The Online immigration Records Management System (OIRMS) is a publicly accessible, Web-based system owned by U.S. Immigration and Customs Enforcement (ICE). OIRMS allows the public to conduct online Internet-based queries to locate people's details by ICE for civil violations of the Immigration and Nationality Act. OIRMS is intended to allow members of the public, especially family members and legal representatives, to determine whether an individual is currently in ICE records. ICE conducted this PIA because this system makes available to the public personally identifiable information (PII) about individuals recommended by ICE.

Limitations of the above system

- One of the most important missed tasks is the systems failure to report any progress on the development of an integrated biometric-based database, dubbed Chimera, that would give the State Department and the immigration Department real-time access to law enforcement, immigration, and intelligence information on every client who seeks admission to the country.
- An inability to determine the true identity of aliens;
And a lack of information sharing between federal, state, and local agencies.

Migrant Information Tracking System (MITS) February 3, 2011.

The United States Citizenship and Immigration Services (USCIS) developed the Migrant Information Tracking System (MITS) to serve as a centralized repository for information relating to migrants interdicted at sea. MITS facilitates USCIS' ability to record and track information pertaining to a migrant’s illicit maritime migration into the United States and respond to information requests regarding interdicted migrants from Members of Congress inquiring on behalf of a family member of the migrant. USCIS conducted this privacy impact assessment (PIA) because MITS collects, uses, and disseminates personally identifiable information (PII).

Limitations of the above system

- The absence of a system to track aliens and determine whether visa requirements, including time limits on permission to remain in the country, are complied with once the alien is in the United States;
- The failure to remove those who do not honor the terms of their visas.
- Significant numbers of foreign visitors overstay their authorized periods of admission. Based in part on its long-standing I-94 system for tracking arrivals and departures, the immigration Department estimates the overstay population at 2.3 million. But this estimate excludes an unknown number of long-term overstays and by definition and it excludes short-term overstays from these and other countries.

ICE Electronic Travel Document System (ETDS), October 17, 2006.

According to Laura Michalee Olszewski December 2008[2], the Electronic Travel Document System (ETDS) maintains personal information regarding aliens who have been ordered or have been removed from the United States. The ETDS also maintains information on U.S. government
employees and foreign consular officials required to access the system. The ETDS system also presents and share alien information with the foreign consular officials and associated governments for their use in the expedited issuance of travel documents.

Limitations of the above system

Delays exist in matching names of immigrants with names of visa holders and in forwarding necessary information to the State immigration Department. In at least 3 of the 35 cases, it takes them 6 months or more to revoke visas after receiving a recommendation to do so. In 3 cases, it takes a week or longer after deciding to revoke visas to post a lookout or notify the Department of immigration.

Generally, past EPI research has shown that the current immigration system in the United States is so seriously flawed that many immigration policies, such as the cap on green cards, have not been adjusted in close to 20 years. In 2009, EPI's research on immigration established a new framework for immigration reform legislation. The EPI book *Immigration for Shared Prosperity*, by Ray Marshall, who served as Secretary of Labor in the Carter administration and is now a member of EPI's board, proposed a five-part framework for reform that would preserve the country's long tradition of welcoming immigrants, while at the same time protecting the needs of U.S.-born workers. Marshall said that a new commission that would measure labor shortages across different regions and industries would help the country adopt policies that were more in line with labor demands. He also said it was critical to put unauthorized immigrants on a path to citizenship. These ideas have been adopted in legislation introduced in Congress this past December by Rep. Solomon Ortiz, H.R. 4321, the Comprehensive Immigration Reform ASAP Act of 2009.

2.3 ARCHITECTURE AND DEVELOPMENT OF ONLINE SYSTEMS.

A Records management system is a piece of software that collects data in real-time from multiple sources across the supply chain of an event and converts it into information that gives
managers a clear picture of how their event is performing and in turn they can make selected data available to other participants in the process. Records management systems should:

- Automate the process of registration and submissions of records
- Make provision for the recoding of various information
- Simplify the verification and validation process
- Collect information from users to create a knowledge base
- Provide managers with the necessary content and financial administration tools
- Provide users and managers easy access to information

Systems for keeping track of records are usually more specifically designed to meet the client’s requirements. A useful records system should supply information to users on availability, program and other details as well as retrieve and verify the information for the immigrants and track submissions.

2.3.1 Implementation of web based systems.

Web based systems are designed and implemented using Dream Weaver 8.0, Cascading style sheets for designing the interface and PHP framework alongside Java Script as server side scripting language. MySQL is also used for designing the database and implementing it.

2.3.2 Validation and Testing of web based systems.

According to Christa Kowalczyk (2008), argues that records management systems have many forms when used in verification and validation:

i. Interstitial notifications are pages that appear when you tick to go from one location to another. Regularly this spot has a timer and subsequently a user can propose to stick with the site they were primarily trying to open or proceed to another.

ii. Poster ads are normally graphics that occasionally contain words. They are anticipated to catch the attention of surfers and have them to visit whatever they notify. Banner ads are
an exceptionally good category of promotion, and there are variety of unusual posters that
come in unusual shapes and dimensions depending on the consumer's request.

iii. Pop-up statements are infinitesimal (and occasionally huge) windows that pop up while a
supplementary page opens and rarely when it is closed. They are usually reasonably
showy in the anticipation of the web surfers' awareness.

iv. Decide on mailing is a form of notification that is rapidly rising in attractiveness. Decide
on mailing is the delivery of emails to lists of people that have agreed to obtain more
information pertaining to a specific topic.

v. Investment ads constantly come out in a discreet place of Immigrants management
system, often to catch your attention to give the impression of being on a sponsor's call to
facilitate the site to remain. They also occasionally proceed through a sponsor's call as
you download something.

vi. Text ads are presently one of the biggest forms of online notifications. The right words in
the right place. Text ads usually have a couple of lines with a link. They are normally
determined on the basis of a CPC or CPM.
CHAPTER THREE:
METHODOLOGY

This chapter describes the methods and procedures on how the project was conducted. It involves explanation on how the data was collected, tools that were used to build the system, how it was implemented and finally tested.

3.1 REQUIREMENTS IDENTIFICATION.
The following are some of the methods that were used to collect data from the organization. These include:

3.1.1 Questionnaires.
The efficiencies and inefficiencies of the current system were reviewed by issuing questionnaires to the intended users of the system. This helped the researchers to understand the specific needs of the system.

Questionnaires will help the researchers to understand the functionalities and features to be implemented on the new system such as online verification, as well as other important features to enhance the system.

The questionnaires will be issued to the senior personnel of the Ministry including officers at the boarder and IT departments, as well as those from the document verification section.

Advantages of using questionnaires

i. They ensure the anonymity of the respondent in accordance with the pre-requisites that will come in the line of work.

ii. There’s quick response from the respondents.
3.1.2 Interviews.
Interviews were conducted with the Immigration staff and other employees especially from the verification and validation section to find out what features they propose the new system should have. These interviews were held to verify the information collected using the questionnaires since there was room to probe for further information during the interview. This method ensured that data was got from the intended personnel.

3.2 DESIGNING THE WEB BASED SYSTEMS.
Web based systems for business and educational purposes are on an increase due to the available internet technologies (HTML, CSS, PHP, and MYSQL). Relational database have been developed during the web based systems platform development, whose goal is storing and managing information pertaining to entries of website users and administrators. Connection of the database from the internet browser is carried out using the PHP scripts. The major advantage of this platform (web based system systems) is that it enables users access wherever, whenever as long as there is internet connection.

3.3 IMPLEMENTATION OF THE DEVELOPED SYSTEM.
The system was designed and implemented using Dream Weaver 8.0, Cascading style sheets for designing the interface and PHP framework alongside Java Script as server side scripting language. MySQL was used for designing the database and implementing it.

3.4 TESTING AND VALIDATION OF THE DEVELOPED SYSTEM.
This involved testing the system to check whether it fulfils its required features which were proposed by the users.

The system gave the user an immediate feedback within a certain period of time. To ensure complete system functionality the following two types of testing were employed:

A random number of potential users (employees) were selected to test the system and comment on its usability. The users offered feedback to the developers on what should be improved upon.
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A random number of potential users (employees) were selected to test the system and comment on its usability. The users offered feedback to the developers on what should be improved upon.
Using real input data, finished system was tested for conformance to requirement specification which was set up.
CHAPTER FOUR:
SYSTEMS ANALYSIS AND DESIGN

This chapter describes the processes that take place from the time emigrants arrive at the border to the time of clearance.

4.1 SYSTEM ANALYSIS
The existing system used by the Busia Customs office particularly the Emigrants’ Department was dominated or characterized by paperwork, time wastage, loss of information, inconsistencies of information among others.

The information is then extracted and drawn using Ms Excel and then printed for records keeping which is very tiresome, inconsistent and costly.

4.1.1 Functional requirements
When considering the instruments that were used to collect data from the users, it was found out that the following are the function requirements for the system:

- The system should be able to capture all user profiles (details) and stored into the database.
- The system should be able to capture the daily activity data at the custom, registered emigrants, stock, quantity needed to be stocked.
- The system should be able to provide information to Emigrants through the Custom officers.
- The system should be provide the Custom officers the opportunity to update stored information.
4.1.2 Non – functional requirement
Due the need to design a system that is unique and original for the Century Bottling Company, the following requirements were found to fall under non-functional requirements:

- The software application should be designed using organization colors
- System allows easy use and maintenance
- Backups/_recovery procedure should be done twice a week on Monday and Friday
- Integrate all activities (co-ordinate all Customs activities) into one system
- System should allow easy use and maintenance

4.2. DATA FLOW DIAGRAMS
Data Flow Diagrams (DFDs) are used to show the process and determine the sequential flow activities. DFDs were used to show the logical flow of data and represent processes in the system. They help to give a graphical representation of system components, processes and the interfaces.

4.2.1 Data flow diagram for the proposed system
The DFD shows the processes that take place in the Emigrants’ management information system and external entities that interact with the system. The Entities head of department, system administrator, Customs officers, and the Emigrants.
Dataflow diagram (level 1) for the web based immigration system for tracking of clients’ records.
4.2.2 Enhanced entity relationship diagram of the proposed system
Enhanced entity relationship diagram for the immigration system for tracking of clients records

Staff
- Id (pk)
- Fname

Equipment
- Id (pk)
- Equip name

Donor
- Don id (pk)
- Fname
- Sname

Client
- Id (pk)
- Fname
- Sname

Belongs
Support
Clears
### 4.2.3 Data Dictionaries of the major System entities

**Table 1: Data dictionary of major entities**

<table>
<thead>
<tr>
<th>Entity</th>
<th>Description</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td>staff</td>
<td>This contains employee details</td>
<td>Id int(15)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>fname varchar(30)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>sname varchar(30)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>gender varchar(30)</td>
</tr>
<tr>
<td>Donors</td>
<td>Contains all donors supporting the system applying for visas</td>
<td>Id int(40)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Category varchar(65)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>QStock varchar(65)</td>
</tr>
<tr>
<td>Clients</td>
<td>This contains all clients details,</td>
<td>Id Int (15)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sir name varchar(65)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other name varchar(65)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>address varchar(65)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>contact varchar(65)</td>
</tr>
<tr>
<td>Equipments</td>
<td>This contains all equipments used</td>
<td>Id int(15)</td>
</tr>
</tbody>
</table>
4.3 SYSTEM DESIGN
System design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy special requirements. It is concerned with how the system functionality is to be provided by the different components of the system (O’Brien, 2000). The data and the system were modeled using; a data flow diagram and enhanced entity relationship diagram.

4.4 USER INTERFACE DESIGN
The system interface were developed using Cascading style sheets, dream weaver and more so the web pages were designed in a manner that allows easy interaction and navigation through the system

4.5 ARCHETECTURE DESIGN
Architectural design was considered through identifying the different constituent module structures. This identifies relationships between major structural elements of the system and the different properties of element of the elements that comprises the system model. ERDs and DFDs were used to show subsystem relationships and interface models that define subsystem interfaces.
Architecture design diagrams

Figure 1: Architectural design of the Emigrants' management information system

Administrator
Administrative authentication
User account management

Graphical user interface
View of the stored information in the system.
User login

Emigrants' management system

Database
- Storage of data and mega data
- Updating, retrieval, search and deleting of data
- Data integrity

Security
User authentication
User account management
Data security
4.6 SYSTEM COMPONENTS DESIGN

In the system components design, focus is put on illustrating how different components interact together to solve a problem. These components can be categorized into front end, back end and linking components.

Figure 2: Figure representing the system components

Front end

- **USER INTERFACE**
  - Forms
  - Text boxes
  - Drop down list
  - Check boxes
  - Submit buttons

Back end

**Database**
- MySQL

**LINKING COMPONENTS**
- Visual basic .NET
- MySQL ODBC Connector
4.7 SYSTEM REQUIREMENTS

Hard and Software are expected to be in place to enable high performance and reliability

TABLE 2: Hardware Requirements

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Minimum system requirement</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel Pentium III with 1 GHz of speed</td>
<td>Affordable</td>
</tr>
<tr>
<td>Random Access Memory (RAM)</td>
<td>1GB of RAM</td>
<td>Faster performance</td>
</tr>
<tr>
<td>Hard Disk Space</td>
<td>80 GB</td>
<td>Relative storage capacity</td>
</tr>
<tr>
<td>Display (Monitor)</td>
<td>A resolution of 600 x 600 colours</td>
<td>Clear visibility</td>
</tr>
</tbody>
</table>

TABLE 3: Software Requirements for the system

<table>
<thead>
<tr>
<th>software</th>
<th>Minimum system requirement</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating systems</td>
<td>Windows XP</td>
<td>Relative affordable and available</td>
</tr>
<tr>
<td>Database</td>
<td>MySQL and wamp server</td>
<td>Free and cheap respectively</td>
</tr>
<tr>
<td>Browser</td>
<td>Internet explorer</td>
<td>Has many security features</td>
</tr>
</tbody>
</table>
4.8 SECURITY REQUIREMENTS

Security of the system is guaranteed through the use of passwords and user name which covers both the system and the database for which the passwords are provided by the systems administrator and the usernames are there by default(). If the password is correct then the user is logged in successfully into the system. If the password is invalid then an error message is indicated showing that the login is invalid.

After the system has finished loading the login form is displayed which prompt the administrator or any other user to enter a valid user name and password. Only the administrator can add and remove a user to the system. This is because the Administrator has got privilege to change or add anything to the system. The user can only view or add data in the system but cannot make changes into the system.
CHAPTER FIVE:
PRESNTATIONS OF RESULTS

The system has three types of users namely; Administrator, Staff where the Administrator users are in charge of managing system users, backing up data of the system among other tasks.

While the Staff includes customs officers who are responsible for transacting the day to day tasks of the system like registering Emigrants, capturing specific data in the system among others functionalities of the system.

The system was tested and the following functions were proved fully operational;

i. The system authenticates the users to have access to different functionalities of the system

ii. The system allows data manipulation and that is adding, retrieving, updating and deleting.

iii. The system generates report print outs for good management.

The screen shot below illustrates the interface that shows how the system captures Emigrants information coming to the country
5.1 The developed system.

Figure 3: This is the first form loaded and displayed when the user runs the system.

The user types in the username and password to be logged in.

After logging in the user can either work through administrator privileges or staff privileges. The administrator has the utmost privileges in the system. He manages all the other users passwords.
Figure 4: This form will appear when the user enters the wrong user name and password

For cases where the user makes wrong entries, the system generates an error message on the above form. This means the user should pass a security test by entering correct entries.
In case the system administrator wish to stop one of the staff users from accessing the system, he manages this by changing his/her passwords from this form.
Figure 6: System capture of the customized immigrants details

This screenshot displays one record entry of the immigrant details. It is also possible to print out the selected record for the immigrant.
Figure 7: The screen shot for the system administrator view of details entered by data clerks

This screen shot displays the number and details of registered passports for those immigrants who have entered the country and those held by the eligible citizens.
This screen shot displays the systems capabilities to print information on the form.
This screen shot displays the registration form where all the immigrants’ details can be captured and submitted.
Figure 10: The screen shot for the student immigration form

This screen shot displays a form for student registration. Students who wish to study from Uganda must provide all the required details in order to attain student privileges.
Figure 11: Screen shot for immigrants’ information updates

This is pop-up screen shot displaying the successful updates of the entered data by the users.
CHAPTER SIX
DISCUSSION CONCLUSION AND RECOMMENDATIONS

6.1 DISCUSSION
During the system study and analysis it was found out that for successful implementation of the project, the requirements given below were deemed necessary.

The main objective of this project was to develop an automated tool that will produce efficient and effective records tracking for the immigration Department resulting in easy verification of immigrants by 2012.

6.2 CONCLUSION
The system for keeping track of immigrants records is effective in the handling of data, verification and immigrants in their respective jurisdictions thus facilitating corporation, organization and efficiency since there will be proper management of data and immigrants at the right time and this will help in automating the process of verification and validation exercise making it quicker and less taxing to the government, local and foreign travelers who are usually time conscious.

The system will also reduce on the costs incurred at the immigration office while making phone calls and transporting data manually from one place to another, pens and paper files for keeping recorded data.

6.3 RECOMMENDATIONS
i. The system should be deployed and tested first in Busia immigrations and customs office during which errors identified should be corrected and when proved functional, it should be deployed to other immigration offices in Uganda.

ii. For enhanced efficiency, it is recommended that the system should be upgraded to cater for the whole immigration processes as well.
iii. The results of this study should be used to develop more comprehensive information systems for the immigration Department which can incorporate other functions such as the entire Ministry of Internal Affairs, Immigration Department and border immigration offices hence come up with a centralized system.

6.4 FUTURE RESEARCH WORK
It is recommended that more components like dubbed cameras be added to enhance performance of the system. Similarly, the aspect of developing an integrated biometric-based database be considered. This would give the immigration department real-time access to law enforcement, immigration and information on every client who seeks immigration services.
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