

**MOUNT KENYA UNIVERSITY**

**SCHOOL OF COMPUTING AND INFORMATICS**

**BACHELOR IN BUSINESS INFORMATION TECHNOLOGY**

**PROJECT TITLE: ALPHA TECH DATABASE AND PAYROLL MANAGEMENT SYSTEM**

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**This project proposal submitted in partial fulfilment of requirement for the Mount Kenya University award of BACHELOR OF**

# **DECLARATION**

I hereby declare that this project report is based on my original work except for citations and quotations which have been duly acknowledged. I also declare that it has not been previously and concurrently submitted for any other diploma or award at Mount Kenya University

Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ID No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**SUPERVISOR**

I, the undersigned do hereby certify that this is a true report for the project undertaken by the above-named student under my supervision and that it has been submitted to Mount Kenya University with my approval.

Signature……………………………………………………. Date…………………………….

**CHAPTER ONE**

**INTRODUCTION**

**BACKGROUND**

Payroll is the sum of all financial records wherein business or companies pay its employees for work performed during a specific period of time. A payroll system involves everything that has to do with the payment of employees and the filing of employment taxes on a computerized manner. A payroll system may be manual or computerized and handle in-house or outsourced to another provider. The payroll process typically includes calculating employee pay, recording payroll transactions and determining and paying payroll taxes. Without implementing this kind of system, the company would have difficulty in computing for payments for services or work done by employees. Payroll system isn’t just a requirement nowadays. It is now essential to companies. Computerization is a control system that manages process in industrial workplace. It reduces human errors and processing time, thus it can boost productivity and resulted into high quality product produce. In Information System (IS), computerization is concerned about interrelating different but interdependent transactions. This can result in a system with well-integrated processes that can perform much faster and more accurate than a manual system. The ALPHA TECH inc., is using a system that is out to date, often confusing and sometimes lagging, and that it is not user friendly. The system also is not liable or aware of the changes of the employee’s information.

**PROBLEM DEFINATION**

Managing employee’s information of a particular organization or for a small group is a tedious task. It has to store all the necessary records for each and every employee within the organization to assign correct task to correct person and right salary and perks to their eligible employees. Manual record keeping is time consuming.

**EXISTING SYSTEM AND ITS LIMITATIONS**

The organization is maintaining most of their day-to-day transaction data in the registers. The employee of the organization are doing whole work manually. All the work is done manually, so different employees are appointed for the maintenance of registers obtaining all the information related to the organization. It is very time consuming and is also not error free in some situation. In existing manual system database calculations are difficult to perform so report generation is very much difficult. Generally, whenever we implement a new system it is developed to eliminate the shortcoming of an existing system. The computerized system has more edge over the manual system. It is because of accuracy, high-speed, quick result, diligence etc. The existing system is totally based on manual system.

Existing system has many draw backs in comparison to computerized system;

* Time Consuming: High time consumption is the main weakness of the existing system. A lot of time is wasted in searching records from different files, which resulted in loss of time, and moreover workload is increases.
* The system of the ALPHA TECH inc. is not updated.
* Difficulties in retrieving Information: Sometimes, to get any type of instant information more than one document needs to be searched. This requires the opening of both files and then combining the information. Furthermore, these files may not be indexed according to the need, which causes difficulty in retrieving information.
* They are suing time cards when having a payroll check.
* Need more Space to store: Here by using a paper work system the users need to maintain all the documents in proper way to avoid the difficulty in action and need more space to store these documents because they can’t destroy the old documents.
* They are not aware of the changes of the employee ’s information.

**OBJECTIVES OF THE PROJECT**

Payroll management system is a set of processes that is aimed to streamline salaries, bonuses, deductions, taxes and other necessary aspects of the net pay of all the employees in the organization. The project aims to perform two functions; one is related with the sales strategy, revenue and taxes and the other is associated with the daily tasks of the business.

The system is aimed to help improve efficiency and to be time consuming in order to prevent it from affecting the strategic functions of the HR and the finance.

The system is aimed to improve security on employees information in an organization and helps to improve efficiency in managing a large organization with many employees.

It keeps the records of the functions performed by the individual employee playing a vital role at the time of performance appraisal

**Conceptual Framework**

**INPUT PROCESS OUTPUT**

Make a research Conduct an interview Systems Analysis using Data Flow Diagram

Computerized Payroll System for the employees of the ALPHA PAY Technologies Inc.

Research from: Books, Internet and Initial Interview

**Figure 1**

**THE NEED OF THE PROJECT**

The aim behind having a **payroll management system** is to automate and streamline micro tasks such that the HR team has time to focus on the macro tasks. The system will help improve employee engagement and regulatory compliance since without an efficient, accurate means of paying employees, depositing and filing taxes, and maintaining records, employers could face wage claims and expensive penalties.

**THE SCOPE OF THE SYSTEM**

This study is schemed to develop a Computerized Payroll System for ALPHA TECH Inc. This system deals with the financial aspects of employee’s Salary, Deductions, allowances, Net pay. The client can view the account of each and every employee’s and update their payments, and the client can also manage deductions, modify overtime and salary rate.

This system is meant to supply the power to line up all the tasks of employee payment, in which the client has got to undergo login system to urge access, then the client can add, list, update and take away the employee’s record.

The Proposed system does not support online program or transactions and will only be available for ALPHA TECH Inc Database and payroll management.

**PROJECT JUSTIFICATION**

The project is aimed to generate accurate payslips, calculate bonuses, expenses, holiday pay and others with minimal effort. It is to work out payroll calculations and deductions quicker.

Various techniques like Brainstorming can be used to evaluate risk factors. Various risks that may be involved in our project are listed below:

* There could be failure of database system so complete backup of system should be provided.
* Since it is a web-based software, so if internet is not available 24\*7 it would result in failure of system.
* Unauthorized access will result in system shut down and uncertain shut down might result in some problems.
* Unavailability of adequate testing facilities.
* Turnover of essential personnel.
* Lacking of training on new technologies.

## **PROJECT RISK AND MITIGATION**

There are basically various types of risks that may be experienced during project management.

They include:

* **Scope risk –** this involves changes in scope of the project due to changes in dependency or hardware and software changes.
* **Ghost employees-**They are either employees on paper alone, are dead but keep on the payroll, or they are real people who don’t even work on the business that sending out pay checks to them.
* **Technology risk –** this involves risks arising out of hardware or software failure as a result of being outdated.
* **Hour padding**-Padding hours is a nice way of saying that someone is lying about the time they actually worked.
* **Buddy Punching**-This is when one employee tells another to clock in for him
* **Resource issue –** includes risk due to outsourcing and personnel related issues as well as availability of funds to fund the project.

The mitigation measures include:

* **Regular Variance Analyses**

One should run payroll variance analyses monthly. Be sure to split the data by department, function or division and run the results against ones budget and prior year.

* **Check payment controls**

Be sure to remove check authorizers when they leave the company. Hand checks to employees to prevent paying those ghost employees. Pay employees from a separate checking account that mirrors exactly what you’re calculating on the books.

* **Updated system**

Ensure your system updates itself immediately An employee or the manager has updates changes so as to avoid confusion.

* **Enough capital**

Ensure that you have enough capital to fund your project so as to achieve the objectives of the project.

**BUDGET AND SCHEDULE**

**Budget**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Item** | **Description** | **Quantity** | **Cost** | **Actual price** |
| Desktop | HP Probook, 1TB internal storage, corei7 3.4 GHz | **1** | 45,000 | 43,000 |
| Printer | HP printer laser jet | **1** | 10,000 | 8,000 |
| External hard disk | Minimum of 500GB | 1 | 5,000 | 4,500 |
| **Total** |  |  | **60,000** | **55,500** |

**Figure 2**

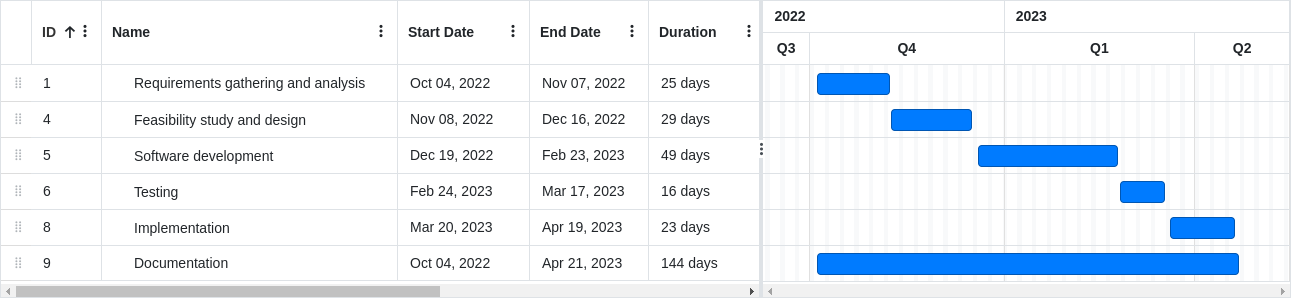
#### **Time schedule for the project**

|  |
| --- |
| **6 months** |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Activities** | **30 days** | **60 days** | **90 days** | **120 days** | **150 days** | **180 days** | Total days |
| Requirement gathering and analysis |  |  |  |  |  |  | 30  (1 to 30) |
| Feasibility study and Design |  |  |  |  |  |  | 60  (31 to 60) |
| Coding |  |  |  |  |  |  | 90  (61 to 90) |
| Testing |  |  |  |  |  |  | 120  (91 to 120) |
| Implementation |  |  |  |  |  |  | 150  (121 to 150) |
| Documentation |  |  |  |  |  |  | 180  (151 to 180) |
| **Total days** |  |  |  |  |  |  | **180** |

**Figure 3**

**GRANTT CHART**



**FEASIBILITY STUDY**

**Financial feasibility**

The capital cost of a project affects the economic evaluation, using a cost and benefit analysis. It involves comparing alternate investments. Cost and benefits can be categorized into the following categories:

* Technical feasibility
* Operational feasibility
* Economic feasibility
* Schedule feasibility
* Behavioural feasibility

The development process of ALPHA TECH Database and Payroll Management System would be advantageous to the organization because we would make use of only the currently available resources of the organization. All the tools needed for the development are already available with the organization and the organization does not have to acquire any new resources. The technical feasibility is also attributed to the fact that the system does not make use of any additional or external third party components which can lead to increased load on the system.

The aspects of our study included the following factors:

Front-end selection:

1. It must have a graphical user interface that assists employees that are not from IT background.
2. Scalability and extensibility.
3. Flexibility.
4. Robustness.
5. According to the organization requirement and the culture.
6. Must provide excellent reporting features with good printing support.
7. Platform independent.
8. Easy to debug and maintain.
9. Event driven programming facility.
10. Front end must support some popular back end like oracle.

Back-end Selection:

1. Multiple user support.
2. Efficient data handling.
3. Provide inherent features for security.
4. Efficient data retrieval and maintenance.
5. Stored procedures.
6. Popularity.
7. Operating System compatible.
8. Easy to install.
9. Various drivers must be available.
10. Easy to implant with the Front-end.

The technical feasibility is frequently the most difficult area encountered at this stage. It’s essential that the process of analysis and definition be conducted in parallel with an assessment to technical feasibility. It centre’s on the existing computer system (hardware, software etc.) and to what extent it can support the proposed system.

Operational Feasibility: The ALPHA TECH Database and Payroll Management System is intended to provide a very user-friendly and easy to use interface which is beneficial for both the visitors as well as the operators who help in providing support for the system. The system is operationally feasible as it very easy for the End users to operate it. It only needs basic information about Windows platform.

Economic Feasibility: The ALPHA TECH Database and Payroll Management System has a very low development cost. The low cost is attributed to the usage of the existing resources of the organization. As the website is very user friendly and easy to use, there is no need to provide special training to the users of the website, thus saving valuable time and money.

The financial and the economic questions during the preliminary investigation are verified to estimate the following:

* The cost to conduct a full system investigation.
* The cost of hardware and software for the class of application being considered.
* The benefits in the form of reduced cost
* The proposed system will give the minute information, as a result the performance is improved which in turn may be expected to provide increased profits.
* This feasibility checks whether the system can be developed with the available funds.

Behavioural Feasibility: Many times creates problem when someone tries to harm the system with malicious intensions. For this reason many people need some kind of network monitoring system.

**REQUIREMENT ANALYSIS**

Initially the work of project management was done manually and the data was kept in files but now the technology is such that each employee who is part of project management team has all the projects, their phases, reports all at hand. Due to which user can quickly know regarding the status of any project and its progress.

System requirements

1. Functional requirements

* Administration of the Application Function Purpose and Priority Administrator can create new roles/rights/users and edit the existing roles/rights/users.
* Manage Employee Data Function Purpose and Priority

It stores detailed employee profile including his/her personal information, qualification profile, experience profile and basic salary information.

* Scale Prediction Function Purpose and Priority

This is the analytical tool which allows to generate data showing the normal progress of any employee in future.

1. Non-functional requirements

Hardware Requirements: 233 MHz Pentium processor or other compatible Intel Chipset Motherboard 512 MB SD-RAM 4 GB hard disk Software Requirements: Operating System -Windows 7 onwards Application Software –Visual Studio 2013 Database Tool – Oracle 11g

**Methodology**

The project will take approximately 6 months to finish as we are an event driven methodology, thus be able to meet the deadline and launch the project on time. We will use the following technologies and languages to develop the web-based application;

1. Front End Development-

* HTML
* CSS
* Bootstrap

1. Back End Development-

* PHP
* My SQL

1. Web server- XAMPP Server
2. Tools used-

* Editor used- Visual Studio Code for PHP

-XAMPP server for MySQL

* Operating system-Windows 10

1. Development platform-Windows 10

**CHAPTER TWO**

**LITERATURE AND REVIEW**

This chapter is about studies and literature that are related to the online system that the proponents made use of different reading materials (such as thesis, articles and other web articles) that will help extend the knowledge of the proponents. These reading materials will also guide the proponents to improve and develop their proposed system more effectively.

1. Roubler.

[www.roubler.com/ke/](http://www.roubler.com/ke/)

Roubler is a cloud-based workforce management, HR and payroll software that let you recruit, onboard, manage, roaster and pay staff with one seamless system. At Roubler, they believe managing workforce should be effortless. They’ll help one work more efficiently and save time and money, so one can focus on driving business growth. Their workforce management software gives one everything one need to hire, onboard, roster, manage and pay your staff, all in one cloud-based system. Designed especially with shift-based teams in mind, Roubler brings everything one needs together in one seamless system, so there’s no need for messy integrations or multiple platforms.

Roubler’s all-in-one cloud-based system combines essential workforce management tasks with a simple, easy-to-use interface to give employees the power to manage their working lives. The team has the freedom to check rosters, accept and decline shifts, request leave, view payslips and update their personal details, all from the convenience of the employee self-service mobile app. It has several features like rostering, recruitment, onboarding, time attendance, employee self-service mobile app, leave management, expense claims and eLearning.

Recruitment is a software that was designed to meet the needs of in-house HR teams which includes everything one needs to attract and secure the best talent, including job posting, candidate screening, interview scheduling and customised recruitment web pages to make your brand shine. Onboarding helps to ensure the employees are brought on board correctly every time, with the data flowing seamlessly throughout our all-in-one workforce management and payroll system.

The employee self-service app lets the team stay connected 24/7 enabling them to check their schedule, swap shifts, manage expenses, request leave and more, all from the palm of their hand. Employee self-service helps eliminate the administrative burden of HR and payroll tasks. The feature provides employees with a seamless connection to schedules and payslips in real time, and any changes that are made in the ESS portal are automatically updated across the entire Roubler system, so there is no need for manual data entry.

Time and attendance; Their time clock feature lets a team easily clock in and out of their shift from their mobile phone or via kiosk in a common area. You can capture accurate attendance data and have full visibility over exactly who’s working, running late or on a break, and who has forgotten to clock off.

The Roubler is similar to the proposed system in that it will allow employees to check roasters, accept and decline shifts, request leave, view payslips and update their personal details. Nowadays the computer and internet have a big parts in their daily lives because it makes their work faster. The employer and the employee save time and effort by using the system to check roaster, accept shifts, clock off work attend eLearning classes and recruitment by making it easier example in interview scheduling.

1. Workpay

[www.myworkpay.com/ke/](http://www.myworkpay.com/ke/)

Workpay has helped to manage the key HR functions within the field operations. Integration is one of their unique value propositions where they are using time and attendance in their field operations to manage their workforce. Smart sales have been using Workpay for over a year to disburse allowances and salaries to  project staff straight to their mobile phones, while enabling them have the paper trail that supports their transactions.

The system is streamlined and paperless, where one can send out offer letters and compensation packages while new hires can easily submit their information, upload documents, an access company records as needed. Because the onboarding process is not the same for all new recruits, one can quickly build distinct onboarding tracks for each set of new hires and easily adjust your onboarding process.

The human resource management save time the onboarding process and give new hires a positive experience from the start. Workpay allows you to better manage every aspect of the onboarding process. For the convenient onboarding tracking, the dashboard and notifications give real time updates on who is at what stage of the onboarding process along with additional important information that will enable one to effortlessly and quickly make better decisions.Similarities of the proposed system and the workpay are the new hires can submit their information upload document and access company records needed.

1. CloudPay

https://www.cloudpay.com

Today's multinational organizations need a global payroll solution that is accessible, adaptable and accurate — and ready for any unexpected legislative and organizational changes.

CloudPay's unified cloud solution processes all payrolls on a single, automated platform, delivering unmatched data visibility and control while reducing errors and total processing time. They study the complex mechanics and requirements of multi-country payroll and obsess over improving the Payroll function at every level, enabling their customers to satisfy their global reporting and payroll needs with confidence and ease.

It is a business insight that drives automation, precision, compliance and performance. With powerful technology and unprecedented control of international payroll processes, our unified solution turns global payroll into an engine for business progress.As much as this is a global payroll, the proposed system also tends to meet the requirement of a payroll system that would engine business progress.

1. ADP

www.adp.com

ADP always has been more of a professional employer organization, but it has evolved to offer a payroll service that’s more suitable for small businesses. It’s a good idea to choose a payroll service that can grow with your business, though, if only so you can avoid migrating data to a different service in the future. ADP makes that possible with its ADP RUN service, which is best for businesses with fewer than 50 employees.

The brand recognition and years of experience for large companies or businesses that plan on growing fast. The lowest priced plan include full service payroll, direct deposit, reporting and a self-service employee portal. The system contains two pages which are the administrator page and the employee page. The administrator has the authority to access the whole system and will be able to update all records of the employee s, their time attendance, rostering, taxation, allocating the workstations and monitor pay checks. The Employee page has the authority to access the services of the payroll by storing the information of the employee and also can be able to request, submit, approve, and report all expense the simplest way on an intuitive platform.

1. Wagemaster

https://wagemaster.co.ke/

Wagemaster makes the computation of payroll taxes and production of payroll reports including payslips and tax returns such a breeze that it’s already being used by over 1000 organizations and businesses around you. Wagemaster Payroll software Kenya features complete computation of payroll from basic entries of earnings with automatic tax calculation and deductions tracking. It has a range of management reports as well as employee pay slips as well as the complete set of tax returns for PAYE, NSSF, and NHIF. The system produces bank transfer files for upload to bank software.

The payroll system can also import processed monthly regular, overtime, and absence hours from a suitable time attendance system. Timesheets ad project-based earnings ca also be processed. Casual employees and weekly payrolls are also supported. The system is fully customizable through user settings. Any company-specific earnings and deductions can be created.

The system is similar to the proposed system in that it can show monthly regular shifts, overtime and absence hours from a time attendance system. They are also cost-effective, customizable, and easy to use with powerful features for both single and multiple users.

**CHAPTER 3**

**METHODOLOGY**

**Research Design**

The research design to be applied in this study is the experimental and descriptive methods. Descriptive research describes and interprets what is. This methodology goes beyond more gathering and tabulation of data and it also involves the interpretation and analysis of the meaning or significance of what is described. The experimental research design is to be used to evaluate the proposed software using questionnaires. All the necessary data and information for this study were gathered from unpublished theses, books, and articles from the Internet.

**DEVELOPMENT METHODOLGY**

The software is to be developed to be used by the ALPHA PAY Technologies specifically the person in-charge of the payroll of the employee. The software was intended to run on Windows 10. Visual Studio Code will be used in the developing of the GUI while PHPmy Admin will be used for its back-end database application.

**Rapid Application Development (RAD)** is a software development methodology that uses minimal planning in favor of rapid prototyping. The “planning” of software developed using RAD is interleaved with writing the software itself. The lack of extensive re-planning generally allows software to be written much faster, and makes it easier to change requirements.

**Four phases of Rapid Application Development(RAD)**

1. **Requirements Planning Phase** - combines elements of the system planning and systems analysis phases of the System Development Life Cycle (SDLC). User, managers, and IT staffs members discuss and agree on business needs, project scopes, constraints, and system requirements. It ends when the team agrees on the key issues and obtains management authorization to continue.
2. **User Design Phase -** during this phase, user interacts with system analysis develop models and prototypes that represent all system processes, inputs, and output. The RAD groups or subgroups typically use a combination of Joint Application Development (JAD) techniques and CASE tools to translate user’s needs into working models. User Design is continuous interactive process that allows users to understand, modify, and eventually approve working model of the system that meets their needs
3. **Construction Phase** - focuses on program and application development task similar to the SDLC. In RAD, however, users continue to participate and can still suggest changes or improvements as actual screens or reports are developed. Its tasks are programming and application development, coding, unit-integration and system testing.
4. **Cutover Phase** - resembles the final tasks in the SDLC implementation phases, including data conversion, testing, changeover to the new system, and user training. Compared with traditional methods, the entire process is compressed. As a result, the new system is built, delivered, and placed in operation much sooner. Its tasks are data conversion, full-scale testing, system changeover, user training.

**Method Used in Evaluating the Software Product**

Descriptive research design will be used to determine the level effectiveness of the payroll system as a tool in easy computing the payroll of the employee in terms of reliability, accuracy, and convenience. Albert Rogers stated that descriptive research design involves gathering data that describe the events and then organize, tabulates, depicts, and describe the data.

Actual software demonstration and post interviews will be the most reliable way to identity the quality of the software. Two sets of questionnaires will be given to the respondents for the assessments of the study and the software. These questionnaires will determine whether the software meets the criteria and expectation of the user

**TARGET POPULATION AND SAMPLING TECHNIQUES**

**POPULATION**

The proposed study covers the administration and the payroll ALPHA PAY Technologies Inc. The respondents are selected by means of purpose sampling which is the desires of the proponent’s base on the requirement of the system.

**SAMPLING**

**Data Gathered**

Tools Gathering of information regarding the study was through internet, interview from the actual user, and other related materials for the study. Questionnaires are also to be used to gather data regarding the evaluation of the software, and the manual method.

**Instruments Used**

A two part self-administered questionnaires shall be used to evaluate the software and existing method. Information of the respondents is shall be gathered on the first part of the questionnaires. Data regarding evaluation of the software to determine line accuracy, reliability, and convenience of the software as compared to the evaluation of the existing method based on the same criteria shall be gathered on the second part of the questionnaire.

**Administration and retrieval**

A pertest of the software and the questionnaires shall be conducted to determine if the materials are ready for the evaluation. An actual test was then to be conducted to show the respondents capabilities of the software. Questionnaires shall be distributed to the respondents for evaluation of the software and the existing method.

## **DATA COLLECTION TOOLS AND TECHNIQUES**

The methods and techniques used in conducting the proposed study were interview, observation, internet research Survey and testing.

**Interview:** During requirements gathering stage, the developers conducted interviews with a variety of people, who gave the resources about the flow of the current system and the process of computing the salaries, monitoring and timekeeping of the employees, giving out payslip, deductions, allowances and net pay.

**Observation:** The developers had some inspection regarding the current system to gather more ideas on how to design our proposed system. From this observation, we noted some problems being encountered.

**Internet Research:** The developers also conducted an internet research to gather more data and topics that are related to our study.

**Library Research:** The developers also used library materials like thesis documentation and books that are related to our study in gathering significant information and validation of our study.

**Survey and Testing:** The developers conducted a survey and user testing to derive interpretations and inferences. The survey is presented in accordance with the statement of the specific problem.

## 

## **DATA ANALYSIS TOOLS AND TECHNIQUES**

#### **Context diagram**

It is a data flow diagram, with only one massive central process that subsumes everything inside the scope of the system. It shows how the system will receive and send data flows to the external entities involved. The context diagram shows how the main scope of the system wherein the customer will login and the system will read the information entered by the customer. The reservation system will manage the customer’s details as well as the accounts reports coming from the receptionist who computes the transactions made in a day.

#### **R programming**

It’s an analytical tool that is widely used for statistics and data modeling. It can easily manipulate your data and present it in different ways. It has exceeded other analytical tools in many ways like capacity of data, performance and outcome. Thus the reservation system will manage and store data about their customers and also perform effectively as per the user requirements.

#### **SAS**

SAS is a programming environment and language for data manipulation and a leader in analytics. It is easily accessible, manageable and can analyze data from any source. SAS contains numerous modules for web, social media and marketing analytics that is widely used for profiling customers and prospects. It can also predict their behaviors, manage and optimize communication.

## 

## **SYSTEM DEVELOPMENT TOOLS AND TECHNIQUES**

The database tool used in developing the system is My SQL and the programming language used was PHP programming language.

**My SQL:** My SQL is an open source Database Management System (DBMS). It uses Structured Query Language (SQL). My SQL has many advantages that include:

1. It is available in many different operating systems.
2. We can use in different platform.
3. It is free to use for personal, private, or development use.
4. It uses Indexes like primary key index and unique index to avoid duplicate row data.
5. We have the opportunity to optimize searching against even large amounts of text located in any field indexed as such.

**PHP:** PHP stands for Hypertext Pre-processor. It is mainly used as a general-purpose scripting language used to develop dynamic web content and can be embedded in HTML. PHP is easy to use and is very similar to structured programming languages like Perl. PHP is more than just a scripting language. It is a full programming language and can be used from a command line and also be used to develop Graphical User Interface Applications. PHP runs on many of the major operating systems, including Linux and windows and also supports many database systems, including MySQL. One feature that leads to the popularity of PHP is that it is dynamically typed. Variables do not have to be declared and they can hold any type of object. The arrays in PHP can hold objects of different types, including other arrays. PHP includes many open-source libraries and includes modules built in for accessing FTP and database servers.

**HTML and CSS:** Hypertext Markup Language (HTML) is based on the Standard Generalized Language (SGML). HTML is a language for describing the structure of a document, not its presentation. HTML defines a set of common styles for web pages: headings, paragraphs, lists and tables. HTML provides a means by which a documents main content can be annotated with various kinds of meta-data and rendering hints. Content and presentation can be combined using server-side scripting languages like PHP and ASP.Net to make the final HTML.