

SCHOOL OF COMPUTING AND INFORMATICS

COLLAGE OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF SOFTWARE ENGINEERING

PROJECT TITLE: HUMAN RESOURCE MANAGEMENT SYSTEM FOR HADIYA ZONE

MEMBERS OF PROJECT/TASKS

NAME ID

1. Kaleb Kaja 000833

2. Tsion Tamene 5979/09

3. Eshetu Yonas 000872

4. Muluken Shobiso 000887

Acronyms meaning

HRMS……………………………………human resource management system

SNNPR…………………………………. South nation nationalities and people region

HR ……………………………………….human resource.

CSS. …………………………………… cascading style sheet

PHP …………………………………….. Hypertext preprocessor

HTML …………………………………... hypertext markup language

OOSD ……………………………Object oriented system development

OOA …………………………….. Object oriented Analysis

OOD ……………………………… Object oriented design

**1.1. Introduction**

As there are many problems that human beings face throughout their life, it is obvious that we can use computer to solve many of the problems. When saying this, as the computer is the modern technology and problem solver. Nowadays hadiya zone human resource management use manual system and they are facing difficulty in their daily activities. So we can solve this problem by developing new system for hadiya Zone human resource management system. The proposal we have prepared is also the precondition for solving many of the problems of Human Resource Management System for hadiya Zone that is currently handled manually. Therefore, this work that is performed manually needs to be automated to reduce the problems happened.

The proposal includes the profile of the office and also the systems performances are described. In addition, the conditions like the problems in the office, our objective and scope of the project clearly specified .Finally, the tools and techniques we will use and the schedule is summarized as possible as to finish the project in the given time by using these methodologies.

**1.2. Background of organization**

Hadiya Zone is established in 1984 E.C. It is located in southern nation and nationalities of peoples region. It is 160 km far from the Hawassa, SNNPR town and 232 km from Addis Ababa. Hadiya Zone human resource was established with the establishment of hadiya zone.

Hadiya Zone human resource has much responsibility like keeping record of every employee and other workers, posting notice to absorb new employee, etc. registering new employee, evaluation, placement, and update employee information are also included in their daily responsibility. That is the number of employees during its establishment was not as much the number of as current day employees. Therefore, keeping every record manually was not very difficult. However, currently, because of expansion of faculties, departments and other employees increased simultaneously. So, keeping every record manually became difficult and complex.

**1.2.1. Background of the system**

In the existing system, all information is recorded on the papers documentation formats manually. Therefore the current system of the organization needs not more attention to reduce the work overload for the office on registering new employee they go here and there office to office for registration. Searching the specific employees information is also another more tiredness work for the HR office since it needs checking when a modification, update, deleting and arranging in orders. The main functions of the system are:

* Registering new employee/hiring employee
* Vacancy notice
* Describe the employee placement
* Modify employee information
* Evaluation
* Reward
* Retirement
* Professional development
* Recruitment
* Managing payroll
* Tracking and managing employee benefits
* Discipline/punishment
* Leave management

**1.3. Statement of the problem**

Nowadays, the numbers of employee have been increasing all the time. So, these affect the overall performance of the data storing process. These imply data storing will have more complexity and difficulty for manage for employee data. The main problem of HR office of hadiya zone is dealing with their daily job manually. Doing manual has a side effect and has many problems throughout the work. For this reasons the problems that the office currently facing is:

* Difficulty of searching and modifying employee information if they need.
* Time consumption because of manual work for simple jobs.
* Mistakes happened since the work has done manually (lack of accuracy).
* Lack of reliability because of manual work.
* Since the work is done manually buying the paper, pen pencil and etc. needs more cost.
* There is redundancy of data
* Need large space to store file
* Human energy loss
* Loss of employee data due to natural disaster or human error
* Difficult for preparing to organize the report
* Security issue problem
* Less customer satisfaction.

**1.4 objectives**

**1.4.1. General objective**

General Objective of our project is to develop web-based online human resource management system for hadiya zone.

**1.4.2. Specific objective**

The specific objectives of our project are:-

* Study and analyze the limitations of the existing system.
* Suggest alternative solutions in order to address the current problem.
* Understand functional and non-functional requirements of the system.
* Develop a system that facilitates fast report generation.
* Increase to the work efficiency of the office.
* Develop a system that makes retrieval of data efficient.
* Implementation of the proposed system in efficient way.
* Giving recommendation on further studies to be conducted on the areas of human resource management system.

**1.5. Proposed system**

After observing the current manual system and identifying all the problems that occurred during all activities of the existing system, the project team has decided to design a web-based system for them. Since the web-based system is fully flagged online at any time, it will solve the problem and limitation of the current manual system. And also the proposed project takes care of all the requirements of HR office and is capable to provide easy and effective storage of information related to employee.

The project uses information technology for managing all of the employee’s data. That will make more performance and more reliability of data storing. Therefore, this project is best for the HR office to organize and simplify the access of data and easy modification of the records of employee.

**1.6. Literature review and related work.**

We reviewed more documents i.e. articles, business rules and proclamation and project that done before. The following are some of literatures among those.

Sage HRMS, formally known as Sage Abra, is built for mid-size organizations which has core Human Resource functions such as talent management, work force management and learning management system in order to optimize employee lifecycle (HRMS, Sage HRMS, 2011).

Fi-es HRMS is developed locally in Maldives, and is in use in Maldives and other countries. This system has attendance management, calculating leave, absent days. System has reporting capabilities to generate monthly reports. Fi-es help the organization speeding up the decision making of the organization (fi-es, 2012).

HRMS for soddo referral hospital by Information System, 2008 E.C. is developed for wolaita soddo referral hospital which has human resource functionalities such as Registering new Employee, Updating employee information, Search employee information, Generate report, Employee placement.

HRMS for debre birhan university by computer science student, in 2011 E.C. which has human resource functionalities such as managing employee profile, vacancy announcement, Employee placement, leave management.

**1.7. Scope and Limitation.**

**1.7.1. Scope of project**

This project focuses on HRMS for hadiya zone particularly on:

* Registering new Employee
* Updating Employee information
* Search employee information
* Generate reports
* Employee placement
* Vacancy notice
* Evaluation and Reward.
* Retirement. (Additional feature)
* Professional development. (Additional feature)
* Discipline/punishment
* Leave management
* Payroll management. (Additional Feature)
* Amharic language support. (additional feature)

**1.7.2. Limitation of project**

* The system can only be accessed if there is an internet connection.
* Expense management is not included.
* Our proposed system is limited to only English and Amharic Language.
* Proposed system not includes online examination for hiring new employee.

**1.8 Methods and Tools**

Now days there are many tools and techniques available for developing software. But we are concerned on the programming courses and techniques we have learned.

This section discusses the use of software tools and techniques to alleviate the problems of development

**1.8.1 Requirement gathering techniques/methods**

Data collection methods are the most important part of our project to find the main requirements of system and how to understand the system works. To gather the information we use data collection methods that mentioned as following

* **Interview**: To determine the objective and scope of the system we have interviewed the HRM officer and those responsible employees for handling HRM and we will also interview for additional information.
* **Analyzing existing document (forms and queries)**: In addition to the interview we have observed existing documents that include organizational rules form and queries for allocating and controlling resources used by the system and in future we will analyze the existing documents as need of our system.
* **Observing the working environment**: Finally we have observed the working environment to assure those requests gathered using the interview and existing document stated above.

**1.8.2 System Analysis and Design Methods**

In this project, our team planned to use object oriented system development methodology (OOSD) for the design.

This technique has several phases some of them are:

* **Object Oriented Analysis (OOA)**

During this phase the team uses to model the function of the system (use case modelling), find and identify the business objects, organize the objects and identify the relationship between them and finally model the behavior of the objects in detail.

* **Object Oriented Design (OOD)**

During this phase our team uses Microsoft Visio software and edrawmax software to refine the use case model and rational rose for designing the sequence, collaboration, activity diagrams and to model object interactions and behavior that support the use case scenario.

**1.8.3 Requirement Validation and Verification**

Validation: Are we building the right product?

Building the right product implies creating a requirement specification that contains the needs and goals of stakeholders of the software product. Our requirement is valid because we gather it from the organization directly.

Verification: Are we built the product right?

If you do not collect requirements correctly it increases the gap between expected and delivery output/outcome. so we are collect requirements directly from stakeholders(users) of the system. Therefore our requirement is verified.

**1.8.4 System Implementation Method**

Implementation is an understanding of a technical specification or algorithm as a program software component or other computer systems through computer programming and deployment. In our project, implementation exists for a given specification or standard. so the team is in a position of converting all documents gathered and designed into the code so that the system would be implemented for the user to be used for the purpose it developed. To implement it, the organization must have a server on which the system would be hosted because this system can run on an internet site with connection available or internet connection.

Implementation is the phase where objectives of physical operations of the system turned into reality i.e. real working model. The process of converting as a new system into an operational one is known as system implementation. This includes all those activities that take place to convert from an old system to a new system. The model will be translated into source code, which includes implementing the attributes and methods of each object and integrating all the objects such that they function as a single system.

**1.8.5 Development Environment and Programming Tools**

The development environment is the environment that is responsible for developing the software. The development environment of this product will be net beans or eclipse to develop platform-independent software. Development Environments are:

Sublime text (visual studio)

Programming Tools are the programming languages that we will use to develop our system. These are

PHP: - for back end

XAMPP: - as server

HTML: -to describe the structure of the interface

Java script: - for form validation for the interface

CSS for:-

* Used to describe the presentation of documents
* Define sizes, spacing, fonts, colors, layout, etc.
* Improve content accessibility
* Improve flexibility.

**1.9 Significance of The Project**

Currently, we are living in a world that most of the thing is handled by technology. So, our system also adding great value to overall working environment of hadiya zone human resource office. Therefore, HRM System for hadiya zone gives many purposes some of them are:-

* Reduce the workload in the present system.
* Reduce time wasted in the data processing.
* It increases popularity and attracts the employee.
* Facilitates accessibility of information.
* It creates the opportunity for giving different feedback
* It is used to give effective and efficient services to employee.
* It enables to decrease the duplication's of data inputs
* It allows creating a secure, comfortable and easy way of data storage
* It also proclaims for the employee if there is new things or messages through the system etc.

**1.10 Beneficiaries of the system**

For HR Office: -

* Avoiding improper resource consumption like paper, pen…
* Avoiding data loss because of improper data storage
* Enhance security mechanisms to protect employee information.
* Simple process for posting job vacancy.
* To handle the applicant effectively and support the smooth functioning of the business.
* reduces work over load of the office

For Employee: -

* Can view notification send by the department and HR office from anywhere at any time
* Can be able to fill in leave application form in the appropriate fields online.
* Can also view their personal information through the system.

For Applicant: -

* Multiple channels to access services from the institution
* Simplified process for registering online
* Can view posted information’s from anywhere at any time.

For Department: -

* Facilitates fast and efficient retrieval of data
* Avoiding improper resource consumption like paper, pen, ledger…
* Reduced workload of the office activities such as preparation of reports
* Simplified process for managing employee information.

For Developers:-

* The proposed system will enhance and deepen our knowledge of programming and system development. This will improve our skills in analyzing and solving problems which may we apply in the real world.
* It helps students to improve their practical skills related to interpersonal, problems solving, research and reporting as well as soft skills.
* The proposed system will beneﬁt the future researchers by making this as their future reference in conducting similar studies.

**1.11 Feasibility Study**

The feasibility study is an evaluation and analysis of the potential of the proposed project which is based on extensive investigation and research to support the process of decision making.

**1.11.1 Technical Feasibility study**

The system is technically feasible; this is in the sense that the project team contains enough number of manpower and tools such as programmers, testers, debuggers and the programming tools. The proposed platform has sufficient capacity for future needs. The system is to be developed by using technological system development techniques such as PHP, CSS and MySQL database to solve problems and the system is developed with skill enough capability to develop the project in addition to this if the system is damaged for different reasons it will be easily fixed by the employees of the organization.

The system uses a technique to maintain security and backup of the system. There are many data encryption techniques or algorithms to secure the data. Among them the algorithm that we will use to make the system secure is hashing algorithm and to protect our system from unauthorized user we use session tracking. So unauthorized user cannot access and modify data in our system. The method we used to back up the file is physical backup method because the physical backup is the best way to backup and restore the large data. Therefore the system will be technically feasible.

**1.11.2 Economic Feasibility study**

**Cost benefit analysis:** The system which we are going to develop will have economic benefit. Those economic benefits may be tangible or intangible

* **Tangible benefit:** This means the concrete benefit that can be expressed in terms of dollars or birr. So the system proposed to develop will decrease a lot of birr that was expensive to buy the hard copy document material such as paper, pencil, rubber, and so on. Also reduce the loss of data that means if it reduces the loss of data it also reduces the cost of replacing the lost data. For example if the Zone have 1000 employees to handle these amount data there must be many people to manage the data and a lot of paper, pen ,and pencil will be bought. But after the system developed the data can be managed with one person and in one computer in very short time.
* **Intangible benefit:** Those benefits that cannot be expressed in terms of birr or dollar. e.g. time, knowledge… etc.

**1.11.3 Operational Feasibility study**

The system we develop will really solve the existing system problems. The system normally automates the existing processing system. Those employees have somewhat computer knowledge workers hence they can easily understand and use our system. Therefore, the system will be designed to be operationally feasible. In addition the system is practical and applicable.

**1.11.4 Legal Feasibility study**

Assuming ourselves as someone that has full privileges to perform such activities, and having enough deep knowledge about the problem, the law cannot permit us to work with and giving solutions to such problems. So we could.

**1.11.5 Political Feasibility study**

Political feasibility is used to predict the probable outcomes of a proposed solution to a policy problem through examining the actors, events and environment involved in all stages of the policy-making process.

This project purposely develops for eliminating the drawbacks and limitation that exists in the previous system which is manual and to initiate the user's interest to use the system. So, there is no impact on political as well as legal issues. Our system is not conflicting with the government of the past and the current because our system is based on previous activities in the Hadiya Zone human resource management and is politically accepted.

**1.11.6 Schedule Feasibility study**

Schedule Feasibility study is all about the probability of a project to be completed within its scheduled time limit, by a planned due date. If a project has a high probability to be completed on time, then its schedule feasibility is appraised as high.

It enables our project to organizational deadlines; our project will be completed in four month.

We scheduled our project into two parts in terms of time.

Part one: From March 25, 2021 up to April 25, 2021 G.C chapter one to chapter three.

Part two: From April 26, 2021 up to July 23, 2021 G.C Chapter for up to six.

Depending on this schedule our project is definitely feasible.

**1.12 Project Plan**

**1.12.1 Time Schedule**

Anything that is done without plan and schedule is like the person that his eyes cannot see (blind). Therefore, the schedule is the eye of any project.

To finish our project in time we have planned it as follows.



Table1. Time schedule

**1.12.2 Budget Plan**

The project we are planning to do needs some software and hard ware. And also require other material such as paper, pen, pencil, air time that are used when gathering the information, design our system manually and so on.

Generally, we can express in the following table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Quantity | | Unit cost per item(birr) | Total cost(birr) |
| Printing | 220 paper | | 2 | 440.00 |
| Paper | 1 mass | | 110 | 110.00 |
| Pen | 10 | | 5 | 50.00 |
| Mobile card | 20 | | 10 | 200.00 |
| CD(RW) | 5 | | 25 | 125.00 |
| Transport | 5 | | 80 | 400.00 |
| Contingency |  | |  | 1000.00 |
| Pencil | 10 | | 2 | 20 |
| PC | 4 | | 19,000 | 76000 |
| Flash disk | | 2 | 250 | 500 |
| Cell phone | | 4 | 5000 | 20000 |
| Internet | |  |  | 1000 |
| TOTAL | |  |  | 99,845 |

Table3: Cost of project table

**CHAPTER TWO**

**2. Description of Existing System**

**2.1 Introductions**

Describing and understanding the major functions of the existing system provides a way to identify problems in the existing system, to provide alternative solutions for the problem identified, to select the realistic solution among the alternative solution and to decide the functional requirements of the proposed new system.

In this chapter the existing system of hadiya zone HRMS was clearly defined by answering how existing system is working? In what way the employee managed? What are techniques being used to handle personnel file? What are the business rules of the existing system? And what are the problems in the existing system? After studying the existing system it is possible to understand that how the proposed system can solve the existing system problems. Studying the existing system will also use to determine both functional and non-functional requirements.

This is about the existing system of the human resource management system of the hadiya zone. The operations are carried out through manually announcing vacancy, hiring employee, manage employee data, generating report and the likes.

**2.2 Business rules and constraints**

**2.2.1 Business Rule**

In every organization or institution, there are rules and policy, which used to govern all activities in specified workflow and control the workflow, performed in the working environment. The main rules are:-

**BR1:** Employees evaluation (day of presence and absence) must be approved by department head.

**BR2:** Each Employee must have a unique ID.

**BR3:** When employees are leaving the organization by any means, they have to handover the organization resources or duties in proper manner.

**BR4:** Reports must be prepared and generated within a specified schedule.

**BR5:** Whenever the Employee is absent from his/her job his/her salary must be reduced, if he/she have no permission from department head.

**BR6:** When Employees are reregistered again by any means, the staff must fill employee description in the employee registration form and update the employee data base.

**BR7**: To get employee the departments who needs employee should write an application letter for their vacant position to HR department

**BR8**: when the vacant position is announced to external applicant on notice board on mass media externally for consecutive 5 to10 work days.

**BR9**: To be employed applicants should bring a clearance letter from previous Employer.

**BR10**: when the human resource hired the new employee to that of departments who needs an employee they must send a letter that has full documents about the new employee.

**BR11**: Access of information depends on the authority of the user.

**BR12**: the employee must have full reason to apply leave application.

**BR13**: if the employee wants to leave from the institution for different reason first they must apply to the department and the department must send their application to the human resource.

**2.2.2Constraints**

*The constraint* is the element factor or a subsystem that works as a block. It restricts an entity, project, or system from achieving its potential (or higher level of output) concerning its goal. Some of the constraints are:-

* Time: **-** The time required to produce a deliverable system that the team estimated the project is plenty of time and, in reality, the time given to finish this project is very short.
* Virus: **-**virus may attack our files.

**2.3 Naming Convention and Definition**

* **HRMS: -** human resource management system
* **ID:-** Identification Number
* **BR**: business rule

**2.4 Functions or Main Activities of Existing System**

The major and fundamental functions of the existing HRM system of Hadiya zone are the following:

* Employee registration:-Registering the new Employee to make the member of the organization and specifically in which department he or she works in.
* Update employees’ information:- the administrator updates every employees information as per new data.
* Search employee information:- It is done when the employee needs to get his /her file or information.
* Generate reports:-when necessary information is gathered from different departments.
* Recruitment: - training new employee
* Vacancy notice: - announcing vacancy for applicants.
* Evaluation: -evaluating employee performance
* Reward: - the HR manager rewards employee based on his/her performance.
* Leave management: -managing the application for leave from organization.
* Professional development: - level development for employee.
* Managing payroll: -HR manager calculates payroll of employee

**New employee registration**

Registration of a new Employee manually is the major function of the existing system of HRM office. It is done when new employee join the organization after the required evaluation criteria and procedures. The work is done by the HR officer.

**Work flow of Employee registration**

Having finished and passed the evaluation procedure; the new employee comes to the office and take the new employee registration form and fills necessary information.

* Employee passes the criteria.
* Personnel officer give the new employee registration form for employee.
* Employee fills necessary information on the form.
* Then the form is checked and submitted to the HRM office document manually.
* Then the personnel officer prepares ID and Letters that signifies the employee already member.
* The work flow ends when employee takes his/her ID.

Using table:

|  |  |
| --- | --- |
| Employee record | |
| The office performs new Employee registration process by checking the Employee information based on the specification of organization standard criteria and record Employee. | |
| Input | Employee Registration form.  Necessarily information about the employee. |
| Process | The HR officer will screen the document based on the criteria of organization.  Personnel officer fill employee record form and submit to the office document.  Personnel officer prepares Id number for employee. |
| Output | Employee issued id number.  Employee recorded. |

***Table 2.2: work flow of employee registration***

**Update Employees information**

Whenever employees acquire new skills or certificates the profile need to be changed based on the employee credentials/ID, the administrator updates every employee information as per new data.

**Work flow to update employee’s record**

* Work flow starts if employee information is changed. For example his salary, year or service, age, education level and so on;
* The administrator search for employees documents and update it.
* Work flow ends after employee information is updated.

Using table:

|  |  |
| --- | --- |
| Update employee record | |
| The HRMS office information sector always records the employee’s information whenever the employee information modified. | |
| Input | Employee files from different body. |
| Process | HRMS office information sector updates the employee information takes from different reports. |
| Output | Employee information is updated. |

***Table 2.3: Work flow of employee registration***

**Search employee information**

Searching employee information is done when the employee needs to get his/her file, and also when the office needs to look at employee’s information for various purposes.

**Work flow to Search employee information**

|  |  |
| --- | --- |
| Search employee information | |
| Input | Searching employee information |
| process | finding employee file from different document |
| Output | Employee information |

***Table 2.4: work flow to search employee information***

**Generate reports**

This process starts when necessary information is gathered from different departments. The HRM office is responsible to generate the reports about the employee daily, monthly, annually.

**Work flow to reports**

* Work flow starts by collecting different information from different departments.
* Then the office generates different reports such as employee skill, employee placement and employee registration and so on.
* Work flow ends after generating necessary reports.

Using table:

|  |  |
| --- | --- |
| Preparing general report | |
| The operation division prepares different level of report for operation manager. | |
| Input | Employee file |
| Process | Prepare different level of report based on Employee file that is already stored in the office then send to different body per month and annual. |
| Output | General report. |

***Table 2.5: work flow to generate reports***

**2.5 Players of Existing System or Application**

* Employee: - is a person who takes works in the organization.
* Manager: - in the current system, the HR office manager who is responsible regarding manage about the HR.
* Applicant:-is a person who apply for job
* Department head:-responsible to evaluate the employees in the department.

**2.6 Organization Structure**

Organization structure is the diagrammatic representation of the organization from top to bottom as follows:

**2.7 Documents used in the Existing System or Application**

The existing system use file and forms that are used to perform different operations such as to register trader and approve license (license) give the documents in the existing system shown as follow

**2.8 Strength and Weakness of the Existing System or Application**

**2.8.1 Strength of the Existing System or Application**

Some aspects could be considered to be strengths of the existing system, some of them are:

* The Business Rule: In the existing system of HRM the Organization have their policies and guidance rule, the OHRMS for hadiya zone also follow these rules to be automated.
* Make a payment: because the online payment is out of our scope all payment process for the HRMS of hadiya zone is through manual which is preserved from the current system.
* Communication is what you want
* The system doesn't require specialized software.
* The technological aspects like internet connections are not required for the customers as well as for the office.

**2.8.2 Weakness of the Existing System or Application**

The existing HR management system for the hadiya zone is done manually due to lack of experience, Budget and system development skill. So the existing system has the following drawback

* Because of the existing system is manual data handling and file searching is difficult for the offices
* More space and time needed to keep all records of employees and there is no use of the database for file storage paper takes a massive amount of room
* Difficulty in modifying and editing data regarding the employee: The existing employee record is difficult to be edited and updated. the information is very difficult to retrieve and search a particular trader's information, the user has to go through various lists of all employee information. This results from time-consuming.
* There is no data redundancy control, for example, the same registration number can be assigned to different employee due to human errors.
* Division of responsibility because it requires large human power
* It requires division of different classrooms such as file recorded room, tax officer room and others
* Reduced quality of work because of the service provider has different office

**2.8.3 Alternative Solutions**

There are different alternative systems of a possible solution for the trade license management system such as:

* Web-based human resource management system
* Mobile-based human resource management system
* Free mobile SMS based
* Desktop based human resource management

We select human resource management system for the hadiya zone HRMS (Web-based only) There are different reasons why we select an online human resource management system for the hadiya zone HRMS (Web-based only). Even though when we look at the web-based system it only considers the community who lives areas in which a high amount of internet connection exists and broadly uses a personal computer to access the system easily.

The mobile-based has its advantages and disadvantage, for instance, developing the system is very advisable in case of addressing the system to the whole of the people but the system becomes complex for the customers and it becomes difficult to retrieve data from the system through mobile easily than using computers.

The free mobile SMS based also cannot address the whole of the system functionality through free SMS, but if we use the only web-based system it is fastest to retrieve data and it becomes more acceptable for different reasons such as:

* It is an easy way of access data

Retrieving data purely and so on are the basic reason why we select only web-based.

**CHAPTER THREE**

**Requirement Specification and Analysis**

**3.1. Introduction**

Requirement gathering is a way of collecting information to improve the traditional system by the new system. In this project, our team used an object-oriented system development methodology in which it incorporates two principal phases. These principal phases are Object-Oriented Analysis an Object-Oriented Design. In this chapter, we will discuss the first phase of the methodology: Object-Oriented Analysis (OOA).

This chapter describes an overall description of the project which is mainly to the constraint of the system, functional and non-functional will be included. Then Use case modeling with their description and the development of Activity diagrams and sequence diagrams are performed. Lastly, Requirement Validation and Verification will be explained.