

**FINAL PROJECT DOCMENTATION**

Title:- Web Based Online Registration system On Rift Valley University Adama Campus

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# CHAPTEFR 1

## INTRODUCTION

* 1. **Overview**

The term **online** in regards to computer technology and communication mean that the computer is connected to a network. In a network, computers are allowed to share resources such as hardware, software, data and information. The access to the resources on the network is controlled by a server. (Shelly, Cashman, Vermaat, 2006). The term **online system** refers to a computer system which allows online users to transmit and receive information. (PublishingDictionary, 2011). Nowadays, an online system plays a major role in almost all organizations. One major advantage of using an online system is it provides a convenient way of doing things at anytime and anywhere as long as there is an Internet connection.

* 1. **Background of The System**

The aim of this study is to create a prototype of an Online Form of Student Registration System to assist students and registrars in managing the campus and hostel registration of students’ Form and is targeted on the students of Rift Valley University. Currently, the registration process is conducted manually which consumes time and energy and bears the cost of printing the bulk of campus and hostel registration forms, which is sometimes wasteful when number of users(students) are many.

**1.3 Statement of Problem**

The current registration system has many problems in relation to registration and database management .since it is manual system. The following are problems of the current system (manual system).

*Performance*

Since the registrar performs registration, grade submission, prepare student copy, slip, grade report and add/drop courses manually, it takes much time.

The searching and data retrieving mechanism of the system takes a lot of time.

*Information*

Input

Data collection is not accurate and it is not based on timely manner.

Duplication of data occurs when data input in to the system.

It is difficult to add, replace, delete and edit the required information.

Checking the validity of input data is difficult.

*Output*

Since information is not collected timely and accurately, the output is not precise and on time.

Processing the input data in order to get an output takes much time because of the manual system (like grade point calculation takes time). Due to this student do not see their grade report on time.

It is difficult to check whether the output data is valid or invalid

*Stored Data*

The data stored takes more rooms.

In addition to this it is difficult in order to add some additional requirements to the existing system’s stored data (i.e. it is not flexible).

There is the loss of data when storage place gets natural as well as manmade problems (like firing).

*Registration speed*

Since students fills different forms during registration and these forms are checked by concerned registrar employee on different offices this process takes much time.

After students submit registration form the registrar employee check the validity of student’s information line by line the student’s response time is low.

*Economy*

Since the system currently uses manual system it is not economically sufficient i.e. there is a redundancy of activities, unnecessary slip is given to departments and main registrar (wastage of material and time), grade report is prepared each and every semester with an unnecessary number of copies (wastage of material) and so on.

Number of rooms used to store registration information (wastage of resources).

*Budget*

Since everything is done manually by individual worker, the number of employees is high, this in turn makes the university to allocate high budget for employee’s salary.

High budget for different resources (like copy machine ink, paper, pen etc...).

*Control and Security*

Currently almost there is no control and security mechanism with in the office. Student’s information especially grade report is not secured that is it can be seen by other peoples, because there is no authentication mechanisms.

*Efficiency*

In addition to this there is wastage of materials and time due to redundantly storage of identical data on different offices.

The current system takes time during student registration because they use some workers for a number of students, which makes the student to wait a lot until they get their turn.

*Service*

The services provided by the office are not as fast as possible because the service providers are busy with the paper and paper related activities.

**1.4 Objective**

**1.4.1 General Objective**

The general objective of the project is changing manual registration process to automated way of registration.

**1.4.2 Specific Objective**

All the activities we do for achieving our general objective are taken as specific objective, this

include;

****Understand the current system & Identify problem of the system;

 Analysis the existing system;

 Identify requirements of the new system;

 Design the new system;

 Implement the system and

 Testing the system

**1.5 Scope and Limitation**

**1.5.1 Scope**

The o\*ce of registrar has many duties. Hence dealing with automation of service it provides doesnot go with the short time that we have. So we limit ourselves to the following areas.

Student registration

Student admission

readmission

Withdrawal/Adrop out

Add/Adrop courses

Prepare student copy. Our system does not include the following systems

Student placement

Grade reporting system

**1.5.2 Limitation**

The limitation that we face was time. The time given for this project was too short to go through, understand the system and come up with an updated, new and easily usable and understandably system.

Lack of cooperation of registrar.

We miss some class schedule while gathering information for sustaining our project.

The system does not cover the following;

The computations of students’ grades

Students monthly paying fees

Class schedules and notices

It cannot show schedule of the subjects per semester/year

**1.6 Constraint**

Students should be allowed to search the specific information and should not allowmaking any changes to the database.

The user must have the ability to use the internet.

The Database should be designed using mysql.

The project must be completed within the specified deadline.

**1.7 Methodology**

**1.7.1 System Development Approach**

There are many different development approaches available those are:

 Waterfall

 Prototyping

 Incremental

 Iterative

 Spiral

From those developments methodology we will use is incremental model. In this model, each module passes through the requirements, design, implementation and testing phases. A working version of software is produced during the first module, so we have working software early on during the software life cycle. Each subsequent release of the module adds function to the previous release. The process continues till the complete system is achieved. Additionally we choose the incremental model because it has advantages we listed below.

Incremental development is based on the idea of developing on initial implementation, exposing this to uses comment and refining it through many versions on adequate system has been developed as shown below.

Initial version

Intermediate Version

Final version

Specification, development and validation activities are interleaved rather than separate with rapid feedback access activities.

Each increment of version of the system incorporates same of the functionality that is needed by the customer. Generally, the early increment of the system includes the most instant and most urgently required functionality. This means that the customer can evaluate the system at relatively easily stage in the development to see of it delivers what is required, if not, then only the current increment has to be changed and possibly, new functionality defined for later increments.

Outline description

Advantages of Incremental model:

 This model is more flexible, less costly to change scope and requirements.

 It is easier to test and debug during a smaller increment.

 In this model customer can respond to each built.

 Lowers initial delivery cost.

 A new technology will be used during a smaller increment.

 Easier to manage risk because risky pieces are identified and handled during it’s incremental.

**1.7.2 Software Process Model Approach**

-Split the requirements into many parts

-Each part is delivered in single increment

-successive version model

Inc#1 Communication Planning Modeling Contraction Development

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**1.7.3 Data Collection Methods**

### Data Collection

Interview

Observation

### Interview:

We have used this method to gather information by asking the head and employers of the registrar some basic questions.

Some questions that we asked the registrar are;

* How registration process is going on?
* During registration time what are there any problems? If there are what are they?
* What requirements are needed for the process?

Before implementation and design requirement analysis is the first step. So, this data collection method is a precondition for requirement analysis. Knowing this fact we have collected information from the existing system and used it for proposed system. There are many methods used to collect data. Among them we have used two methods:

### Observation:

This is by observing:

 Written documents and procedural manuals

 Registration form,

 Add and drop form,

 Withdrawal form,

 Grade recording mechanism and

 Other activities.

**1.7.4 Tools**

**Software Tools**

XAMMP server v3. 2.4: we use it as server.

* Adobe Photoshop: for editing images.
* Notepad++ 6.7.4,

vs code: also, for text editing.

* Google Chrome 1.3.26.9: to run the system
* MS office 2019: used for documentation part of our project.
* Visio2016: to draw different diagram Edraw-max: to draw user interface prototype
* Snipping tools: to screen shoot the picture

Hardware Tool

* Flush disk: for backup and file transfer.
* Data cables: to transfer files from mobile to PC.
* Printer: to print the document.
* Laptop with the following specification o CPU Core I3, 500 GB disk space, 4GB RAM, Windows 10 operating system, Intel(R) Core(TM) i3-4005U CPU @ 1.70GHz processor

**1.7.5 Languages**

* HTML: for describing webpage and interface application.
* JS: designing to add interactivity to HTML through validation.
* CSS: we have used it add style to HTML elements for decoration and attractively.
* PHP 5.5.12: we used it as a server script because of it run on different platform like Linux, windows, and on other servers like Apache server.

**1.7.6 Testing Process**

Software testing is the process of evaluating and verifying that a software product or application does what it is supposed to do. The benefits of testing include preventing bugs, reducing development costs and improving performance

Software testing process consists of a series of actions that were planned, enforced, and the results recorded and documented. This process focuses on the existence of errors in software projects developed. As a matter of fact, one of the most important reasons of software faults is the inadequacy of the test process besides the faulty requirements definitions, inadequate communication between customer and developer, design and code faults, procedural and documentation faults [11, 12]. Jamil et al. discussed software testing life cycle steps and tasks realized during the software testing process in the following diagram. In addition, they said that there is no fixed standard of the testing process in software testing life cycle, and that it shows differences according to regions in the world [13].

**Figure x5. Software testing process**

In the **first phase** of the testing process of software projects, software requirements are reviewed, and the basic requirements for testing are performed by software quality team. If any problems arise, the development team takes charge of the task to better understand and solve the problem. Test planning is **the second** and most important phase of software testing process; this is the step defined by the entire test strategy. In the test designing phase, the test planning activities is stopped. The test cases are usuallyprepared by the quality team manually or in some cases, automated test cases are formed. Test case defines test data, execution terms, and expected outcomes. The defined set of test data should be chosen such that it generates expected outcomes. This is generally realized to control what terms the application ceases to perform. Test execution phase is consists of execution of the test cases based on the test plan that was produced before the execution phase. All test cases that result unsuccessful are associated with the error or defect. The results of this activity are in the form of a defect report.

Finally, test reporting is the document of the created results after the implementation of the test cases, which also consist the defect reporting. Then, this report is forward to the development team and so that defects or errors fixed.

**1.8 Significance of the system**

The need to utilize time wisely for those students who travel just to register at the institution and who find the unbearable queues just to collect a form that one has to move around to get it signed and sometimes finding the responsible personnel not in the office at the time of need. This brings more frustration especially when one has a lot of work to do other than being at the institution to register. The need to do all this process at the comfort of one’s home or work place thereby maximizing the time one puts on personal issues during the vacation time. There is a notable loss of time of the lectures on the first days when those who registered late could not attend the lectures in a bid to finish off the registration process. The aspect that the Information Technology is seen as another great supporter of the environment friendly development, this system by getting rid of the manual paper work would have complied with the Green IT initiative.

**1.9 Beneficiary of the system**

### University’s Registrar Office

Our system has a great deal on the issues concerned with registration by providing necessary information, easing the work and the working environment, and others. The registrar office gets different functionality from the system these are:

Manages student’s data easily and efficiently.

Gives registration activity on time.

Controls the readmission of students easily.

Solves add/drop courses conflicts.

Saving their time

Reduce complexity

### Adama University Students and Other staff

It minimizes the work load for instructors, schools, registrar employees and son.

This project used as reference or guideline for students when they conduct software requirement analysis.

It can be used as guideline for system designers on software developers.

### Group beneficiaries

The project has initiated our team to get knowledge of how to develop the required system application

While struggling with some difficulties, the team got a lot of experiences of solving problems

**1.10 Team Composition Budget and Schedule**

**1.10.1 Team Composition**

Team composition refers to the overall mix of characteristics among people in a team, which is a unit of two or more individuals who interact interdependently to achieve a common objective. It is based on the attributes among individuals that comprise the team, in addition to their main objective.

What Are Team Composition and Operations?

A project or program is ultimately designed and implemented by a specific group of individuals who comprise your project/program team. Over the life of your project, there are many different potential roles that you will need to fill on your team:

•

Simple break down potential team members for protect

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Person core Team | Org | Skill/knowledge | Roles | Comment |
| Ismail | RVU  student | Technician | Team leader | Good leader |
| Mahmud | RVU  student | Technician | Assemble info  & program develop | Good Developer |
| Hawinet | RVU  Students |  | Data Investigator & analyzer | Good Investigator |
| Tariku | RVU  student |  | Process coach | Good |
| Biftu | RVU  student | Technician | Economic analyzer | Good |
| Eyerus | RVU  student |  | Document Only | Good |

**Initial Project Team –** The specific people who initially conceive of and initiate the project. They may or may not go on to form the core project team. **• Designated Project Leader/Manager** – Although leadership responsibilities are often shared between team members, normally one individual is appointed as the overall project leader. Specific roles that the leader often plays include managing the performance of other team members, relations with key stakeholders, and the process of going through the project cycle.

• **Core Project Team** – A small group of people (typically 3-8 people) who are ultimately responsible for designing and managing a project. • **Full** **Project** **Team –** The complete group of people involved in designing, implementing, monitoring, and learning from a project. This group can include managers, stakeholders, researchers, and other key implementers. You need to have a wide range of skills on your project team. • **Project** **Advisors** – People who are not on the project team, but to whom the team members can turn for honest feedback and counsel and who can champion your cause. • **Project** **Stakeholders** – Individuals, groups, or institutions who have a vested interest in the natural resources of the project area and/or who potentially will be affected by project activities and have something to gain or lose if conditions change or stay the same. Just because someone is a stakeholder does not mean that you will want them on your project team. But if they are a key stakeholder, you also cannot ignore them in your analyses of the situation. Cultivation of key stakeholders can be a long process itself that may have to begin well before your process gets underway. • **Process Facilitator** – A process facilitator is a person who can help the project team through the planning process. A process facilitator is typically part of the initial and/or the core team. A good facilitator understands the key elements of the process, has good facilitation skills, and can keep your team from getting too bogged down in any one part of the process. This person does not need to be a “professional” facilitator, but should be someone who is intimately familiar with applying the planning process to “real-world” conservation problems.

**1.10.2 Budget**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| no | **Name of Item** | **Quantity** | **Single price** | **Total** |
| 1 | Paper | 1pack | 240 | 240 |
| 2 | Pen | 6 piece | 15 | 90 |
| 3 | Transport | 6 members | 52 | 310 |
| 4 | Flash disk | 1 | 300 | 300 |
| 5 | Mobile Card |  | 100 | 600 |
| 6 | Printing Paper | 150 | 3 | 450 |
| 7 | Launch |  | 600 | 12,000 |
| 8 | Laptop computer | 1 | 21,000 | 21,000 |
| Total | | | | **34,990** |

**1.10.3 Schedule**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NO | Task  Name | Start | Finish | Duration  (Days) | 2022(month) | | | | |
| January | February | march | April | may |
| 1 | Data collection | 04/11/2021 | 26/12/2021 | 21 days |  |  |  |  |  |
| 2 | Requirement  Analysis | 27/12/2021 | 17/01/2022 | 10days |  |  |  |  |  |
| 3 | System Analysis | 17/01/2022 | 28/01/2022 | 10days |  |  |  |  |  |
| 4 | implementation | 28/01/2022 | 28/03/2022 | 60 days |  |  |  |  |  |
| 5 | Testing | 29/03/2022 | 14/04/2022 | 15days |  |  |  |  |  |