University management System project report.

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INTERNSHIP REPORT

ON

UNIVERSITY MANAGEMENT SYSTEM

In partial fulfillment of the requirements for the degree of

M.sc

In

COMPUTER SCIENCE AND INFORATION TECHNOLOGY

Submitted To :

DEPARTMENT OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

TRIBHUVAN UNIVERSITY

Kirtipur, Kathmandu (Nepal)
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January,2022

ABSTRACT

N-Grade deals with the maintenance of university, department, faculty, student information within the university. N-Grade is an automation system, which is used to store the department, faculty, student, courses and information of a university.

Starting from registration of a new student in the university, it maintains all the details regarding the attendance and marks of the students. The project deals with retrieval of information through an INTRANET based campus wide portal. It collects related information from all the departments of an organization and maintains files, which are used to generate reports in various forms to measure individual and overall performance of the students.

Development process of the system starts with System analysis. System analysis involves creating a formal model of the problem to be solved by understanding requirements.

PURPOSE OF THE SYSTEM

The aim of the project is to develop a university management system that is able to deliver access to NSU students authorized anytime, anyplace on any device. N-Grade deals with the maintenance of university, department, faculty, student information within the university. This project of N-Grade involved the automation of student information that can be implemented in different department managements.

The uniqueness is being web based and for general-purpose. Being web based means this system available everywhere through internet. Being general-purpose means system can be used for all type of documents. The project deals with retrieval of information through an INTRANET based campus wide portal. It collects related information from all the departments of an organization and maintains files, which are used to generate reports in various forms to measure individual and overall performance of the students.

The principle of the system is :

- Keep it simple

  - Extensibility
  - Use-at-will architecture

- Showcase of current trend in web development
- Portability (develop once, run on all platform)
- Open Source (to suite the nature of this project)

EXISTING SYSTEM

The system starts with registration of new staff and students. When the subjects are to be allocated to the faculty, the Head of the Department should enter everything in the Excel sheets. Then the staff enters corresponding subject's attendance and marks of a student then those must also be entered in the Excel sheets and validations are to be done by the user itself. So there will be a lot of work to be done and must be more conscious during the entrance of details. So, more risk is involved.

PROBLEMS IN THE EXISTING SYSTEM:

Storing and accessing the data in the form of Excel sheets and account books is a tedious work. It requires a lot of laborious work. It may often yield undesired results. Maintaining these records as piles may turn out to be a costlier task than any other of the universities and institutions.

Risks involved in existing system:

Present System is time-consuming and also results in lack of getting inefficient results. Some of the risks involved in the present system are:

- During the entrance of marks and attendance, if any mistake is done at a point, then this becomes cumulative and leads to adverse consequences.
- If there is any need to retrieve results it may seem to be difficult to search.

PROPOSED SYSTEM

N-Grade makes management to get the most updated information always by avoiding manual accounting process. This system has the following functional divisions.

- University Administrator

- Department Administrator

- User (Students / Faculties)

University Administrator has the functionality of registering new faculties and courses.

Department Administrator has the rights of creating department, allocating courses to departments, creating faculties, students and allocating subjects to faculties, and modifications in the data entered by the user can also be done by the department administrator.

User of this may be faculty or students. Faculty has the facility of entering the marks, class related announcement and attendance of the students. Students can check their marks and attendance but there is no chance of modifications.

Reports must be generated for the existing data i.e. for attendance and marks of the students, which are used to assess the performance of the students. These reports should be viewed by the in charge and user.

INTRODUCTION

After analyzing the requirements of the task to be performed, the next step is to analyze the problem and understand its context. The first activity in the phase is studying the existing system and other is to understand the requirements and domain of the new system. Both the activities are equally important, but the first activity serves as a basis of giving the functional specifications and then successful design of the proposed system. Understanding the properties and requirements of a new system is more difficult and requires creative thinking and understanding of existing running system is also difficult, improper understanding of present system can lead diversion from solution.

Proposed Modules:

- ➤ **Student Office Information System:**

  - ➤ **Student Registration**
  - ➤ **Student Fee Control**
  - ➤ **Student Information Entering and Updating**
  - ➤ **Student Status**
  - ➤ **Statements and Orders**
  - ➤ **Course Registration**
  - ➤ **Student Success**
  - ➤ **Reports and Official Inquiry**

- ➤ **Faculty Information System:**

  - ➤ **Main Page**

- Entering Exam Results
- Course Registration
- Student Related Information
- Student Success
- Communication Facilities
- Weekly Class Schedule
- Exam Schedule
- Student Evaluation
- Library Electronic Catalog

- **Student Information System:**

  - Course Registration
  - Weekly Class Schedule
  - Exam Schedule
  - Exams Results
  - Attendance
  - Messages from Faculty
  - Online Publication Databases
  - Library Electronic Catalog

ANALYSIS MODEL

The model that is basically being followed is the WATER FALL MODEL, which states that the phases are organized in a linear order. First of all the requirement analysis and project planning begins. The design starts after the requirement analysis is complete and the coding begins after the design is complete. Once the programming is completed, the testing is done. In this model the sequence of activities performed in a software development project are: -

- Requirement Analysis

- Project Planning

- System design

- Detail design

- Coding

- Unit testing

- System integration & testing

Here the linear ordering of these activities is critical. End of the phase and the output of one phase is the input of other phase. The output of each phase is to be consistent with the overall requirement of the system. Some of the qualities of spiral model are also incorporated like after the people concerned with the project review completion of each of the phase the work done.

WATER FALL MODEL was being chosen because all requirements were known beforehand and the objective of our software development is the computerization/automation of an already existing manual working system.
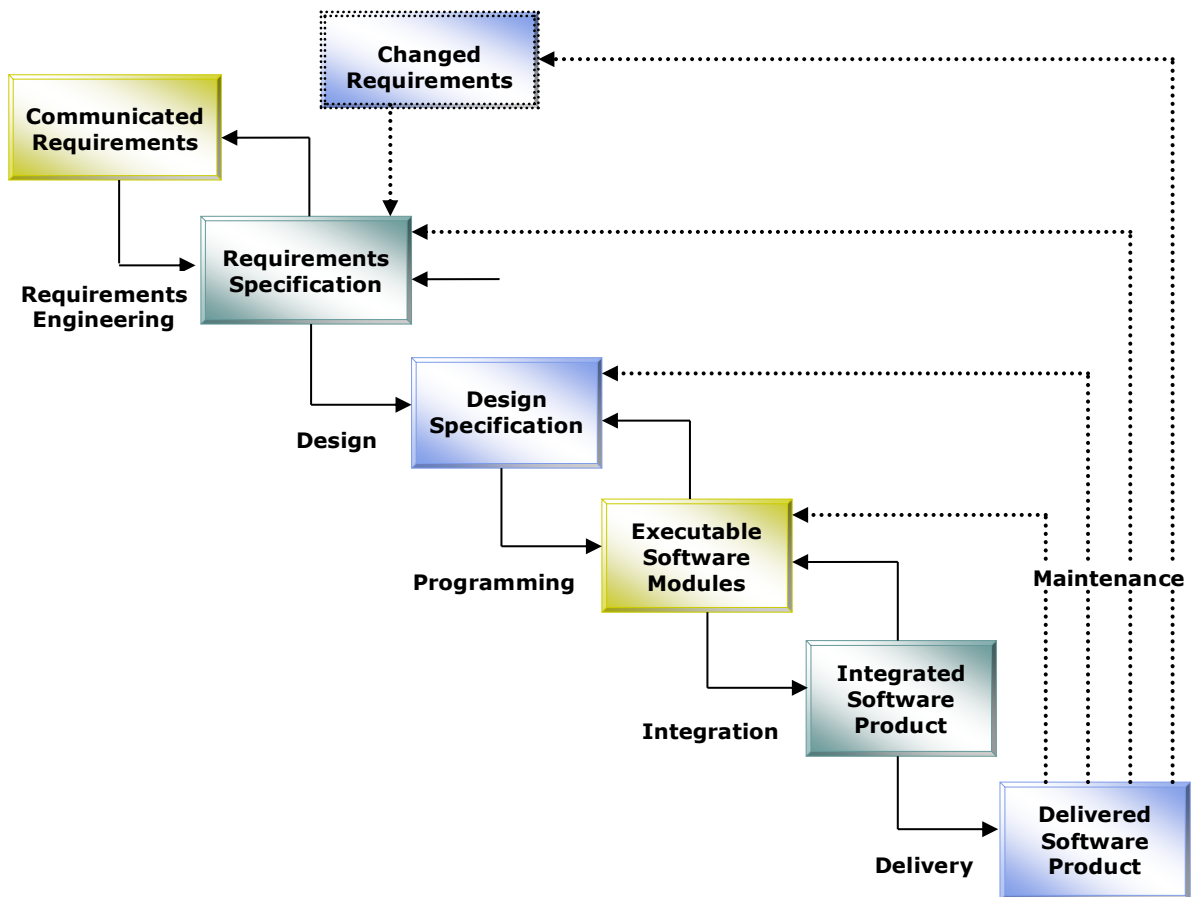
Figure: Water Fall Model

S/w and H/w requirements

1.Environment:

- **Servers:**
    - **Operating System Server: -** Microsoft Windows
    - **Data Base Server:**
- **Clients** **:** Mozilla Firefox, Google Chrome
- **Tools** **:**
- **User Interface:** PHP with AJAX
- **Code Behind :**

2. Requirements:

- **Hardware requirements:**

Number	Description
1	PC with GB hard-disk and MB RAM

- **Software requirements:**

Number	Description
1	Windows
2.	
3.	
4.	Mozilla Firefox, Google Chrome

INPUT AND OUTPUTS:

The major inputs and outputs and major functions of the system are follows:

Inputs:

➢ University Administrator enter his user id and password for login to authenticate in this system

➢ University Administrator creates the faculties and coursed

While registration Courses can able to provide their information like

1. Department id
2. Course name
3. Information of course
4. Password for the id

➢ Administrator can create the various course details in this website.

➢ Registered courses and faculties need to submit their log in information for change their password.

➢ For searching course details guest need to choose the courses or search course option for user interface.

➢ For upload their details a faculty must login to their profile

➢ For display they have to view the reports.

Outputs:

➢ Administrator can have his own home page. Courses and faculty and student have their own home page after completion of the authentication process.

➢ Admin get all courses and faculty and course details.

➢ The registered user's data can be stored in centralized database through the system user interface.

➢ Various types of information can be displayed to the users like course offered, courses faculty and course sections etc

➢ After successful submission of log in information users can got their new password.

➢ Profile can be update by the users individually.

PROCESS MODEL USED WITH JUSTIFICATION

ACCESS CONTROL FOR DATA WHICH REQUIRE USER AUTHENTICAION

The following commands specify access control identifiers and they are typically used to authorize and authenticate the user (command codes are shown in parentheses)

USER NAME (USER)

The user identification is that which is required by the server for access to its file system. This command will normally be the first command transmitted by the user after the control connections are made (some servers may require this).

PASSWORD (PASS)

This command must be immediately preceded by the user name command, and, for some sites, completes the user's identification for access control. Since password information is quite sensitive, it is desirable in general to "mask" it or suppress type out.

Input Design:

Input design is a part of overall system design. The main objective during the input design is as given below:

- To produce a cost-effective method of input.
- To achieve the highest possible level of accuracy.
- To ensure that the input is acceptable and understood by the user.

Input Types:

It is necessary to determine the various types of inputs. Inputs can be categorized as follows:
- External inputs, which are prime inputs for the system.

- Internal inputs, which are user communications with the system.

- Operational, which are computer department's communications to the system?

- Interactive, which are inputs entered during a dialogue.

Input Media:

At this stage choice has to be made about the input media. To conclude about the input media consideration has to be given to;

- Type of input
- Flexibility of format
- Speed
- Accuracy
- Verification methods
- Rejection rates
- Ease of correction
- Storage and handling requirements
- Security
- Easy to use
- Portability

Keeping in view the above description of the input types and input media, it can be said that most of the inputs are of the form of internal and interactive. As
Input data is to be the directly keyed in by the user, the keyboard can be considered to be the most suitable input device

Error Avoidance:

At this stage care is to be taken to ensure that input data remains accurate form the stage at which it is recorded up to the stage in which the data is accepted by the system. This can be achieved only by means of careful control each time the data is handled.

Error Detection:

Even though every effort is make to avoid the occurrence of errors, still a small proportion of errors is always likely to occur, these types of errors can be discovered by using validations to check the input data.

Data Validation:

Procedures are designed to detect errors in data at a lower level of detail. Data validations have been included in the system in almost every area where there is a possibility for the user to commit errors. The system will not accept invalid data. Whenever an invalid data is keyed in, the system immediately prompts the user and the user has to again key in the data and the system will accept the data only if the data is correct. Validations have been included where necessary.

The system is designed to be a user friendly one. In other words the system has been designed to communicate effectively with the user. The system has been designed with popup menus.

User Interface Design:

It is essential to consult the system users and discuss their needs while designing the user interface:

User Interface Systems can be broadly classified as:

1. User initiated interface - The user is in charge, controlling the progress of the user/computer dialogue. In the computer-initiated interface, the computer selects the next stage in the interaction.

2. Computer initiated interfaces - In the computer initiated interfaces the computer guides the progress of the user/computer dialogue. Information is displayed and the user response of the computer takes action or displays further information.

User-Initiated Interfaces:

User initiated interfaces fall into two approximate classes:

1. Command driven interfaces: In this type of interface the user inputs commands or queries which are interpreted by the computer.

2. Forms oriented interface: The user calls up an image of the form to his/her screen and fills in the form. The forms oriented interface is chosen because it is the best choice.

3. **Computer-Initiated Interfaces:**

The following computer – initiated interfaces were used:

1. The menu system for the user is presented with a list of alternatives and the user chooses one; of alternatives.

2. Questions – answer type dialog system where the computer asks question and takes action based on the basis of the users reply.

Right from the start the system is going to be menu driven, the opening menu displays the available options. Choosing one option gives another popup menu with more options. In this way every option leads the users to data entry form where the user can key in the data.

Error Message Design:

The design of error messages is an important part of the user interface design. As user is bound to commit some errors or other while designing a system the system should be designed to be helpful by providing the user with information regarding the error he/she has committed.

This application must be able to produce output at different modules for different inputs.

Performance Requirements:

Performance is measured in terms of the output provided by the application.

Requirement specification plays an important part in the analysis of a system. Only when the requirement specifications are properly given, it is possible to design a system, which

will fit into required environment. It rests largely in the part of the users of the existing system to give the requirement specifications because they are the people who finally use the system. This is because the requirements have to be known during the initial stages so that the system can be designed according to those requirements. It is very difficult to change the system once it has been designed and on the other hand designing a system, which does not cater to the requirements of the user, is of no use.

The requirement specification for any system can be broadly stated as given below:

- The system should be able to interface with the existing system

- The system should be accurate

- The system should be better than the existing system

The existing system is completely dependent on the user to perform all the duties.

Number of Modules

A module is a bounded contiguous group of statements having a single name and that can be treated as a unit. In other words, a single block in a pile of blocks.

Guidelines for Modularity

- Make sure modules perform a single task, have a single entry point, and have a single exit point.

- Isolate input-output (I-O) routines into a small number of standard modules that can be shared system-wide.

- Isolate system-dependent functions (e.g., getting date or time) in the application to ease possible future conversions to other computer platforms or to accommodate future operating system revisions.

A module is a bounded contiguous group of statements having a single name and that can be treated as a unit. In other words, a single block in a pile of blocks.

The system after careful analysis has been identified to be presented with the following modules:

N-Grade makes management to get the most updated information always by avoiding manual accounting process. This system has the following functional divisions.

- University Administrator
- Department Administrator
- User (Students / Faculties)
- Reports
- Authentication

University Administrator has the functionality of registering new faculties and courses.

Department Administrator has the rights of creating department, allocating courses to departments, creating faculties, students and allocating subjects to faculties, and modifications in the data entered by the user can also be done by the college administrator.

User of this may be faculty or students. Faculty has the facility of entering the marks and attendance of the students. Students can check their marks and attendance but there is no chance of modifications.

Reports must be generated for the existing data i.e. for attendance and marks of the students, which are used to assess the performance of the students. These reports should be viewed by the in charge and user.

Authentication: this module contains all the information about the authenticated user.
.   User without his username and password can't enter into the login if he is only the authenticated user then he can enter to his login.

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