INTERNATIONAL INSTITUTE OF PROFESSIONAL STUDIES, DAVV

Subject: System Analysis And Design

Project report-

Software Project Management Plan [SPMP]

Topic: Online Examination Software

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1. INTRODUCTION

1.1 BACKGROUND

The online examination system is being developed to reduce the amount of manual work that is required to conduct exams in various educational institutes and make it less tedious and complicated. Automation of the system makes it easier to manage all the process and use computer to store the database reducing paperwork and saving time.

This kind of software is very much important in today's scenario where the schools and universities are shut down due to covid. The entire teaching, learning and testing is done using the internet. Hence development of a comprehensive, secure and reliable system for conducting exams is extremely relevant.

1.2 PROBLEM DEFINITION

The problem is to create a web application that entirely automates a university's testing process.

To do this, the entire challenge has been broken into five sub-problems that can be readily solved and then integrated to create a fully functional application:

- Online Registration / Enrolment of Student
- Logging into the system
- Planning and scheduling
- Question bank management
- Examination conducting
- Declaration of the result
- Related report generation.

For student, expert, controller, and Exam Dept Admin, the user's name and password facility and credentials should be validated appropriately at the time of login in the Login module.

Send the exam schedule to the candidate in the schedule Module.
The examination's question bank module might be dynamically updated.
If possible, facilitate automatic verification of objective answers and manual inspection of descriptive replies.
In the objective response's module, the software will examine the answers from the data store, while the subjective answers will be checked manually by the test department.

1.3 OBJECTIVES AND GOALS

The goal is to develop a software that enables the students to register themselves, generate a unique login ID, see schedule of exams, attempt the tests in a limited time frame, be able to review their answers, receive results and detailed reports with a proper log of their activity on the system.

The goals to be attained with an examiner's, exam controller's and administrator's perspective include allowing the examiner to evaluate subjective questions manually and objective questions directly by the computer, setting up a proper exam schedule and result declaration. They also need to design the set of questions for the exam.

Some objectives can be listed as:

- Developing a comprehensive user interface.
- Enabling students to register themselves.
- Restricting the function of copying and pasting from other pages.
- Setting up an automatic timer when student start the test.
- Random selection of questions from the question bank.
- Marking objective questions directly from the database.
- Generation and authentication of login credentials.
- Develop a process to schedule and generate reports.

1.4 FEATURES

The software is:

- Automated
- Secure
- Reliable
- Robust
- Comprehensive
- Time saving
- Accurate and quick
- Irrelevant of user's device
- Independent of user's location
- User friendly

2. EXISTING SYSTEM ANALYSIS

Prior to the development of an automated online examination system, the entire process of assigning tests and analysing the scores thereafter is done manually. Without such a software, the entire process of making the question paper, evaluating and announcing the scores, consumed a lot of time. the entire procedure requires human effort and is tedious.

Disadvantages of the existing system:

- More manpower required for evaluation
- More manual workload
- Physical presence of students and examiners is required at same place
- More chances of unethical circumstances like paper leak etc.
- The result are prone to computational errors.

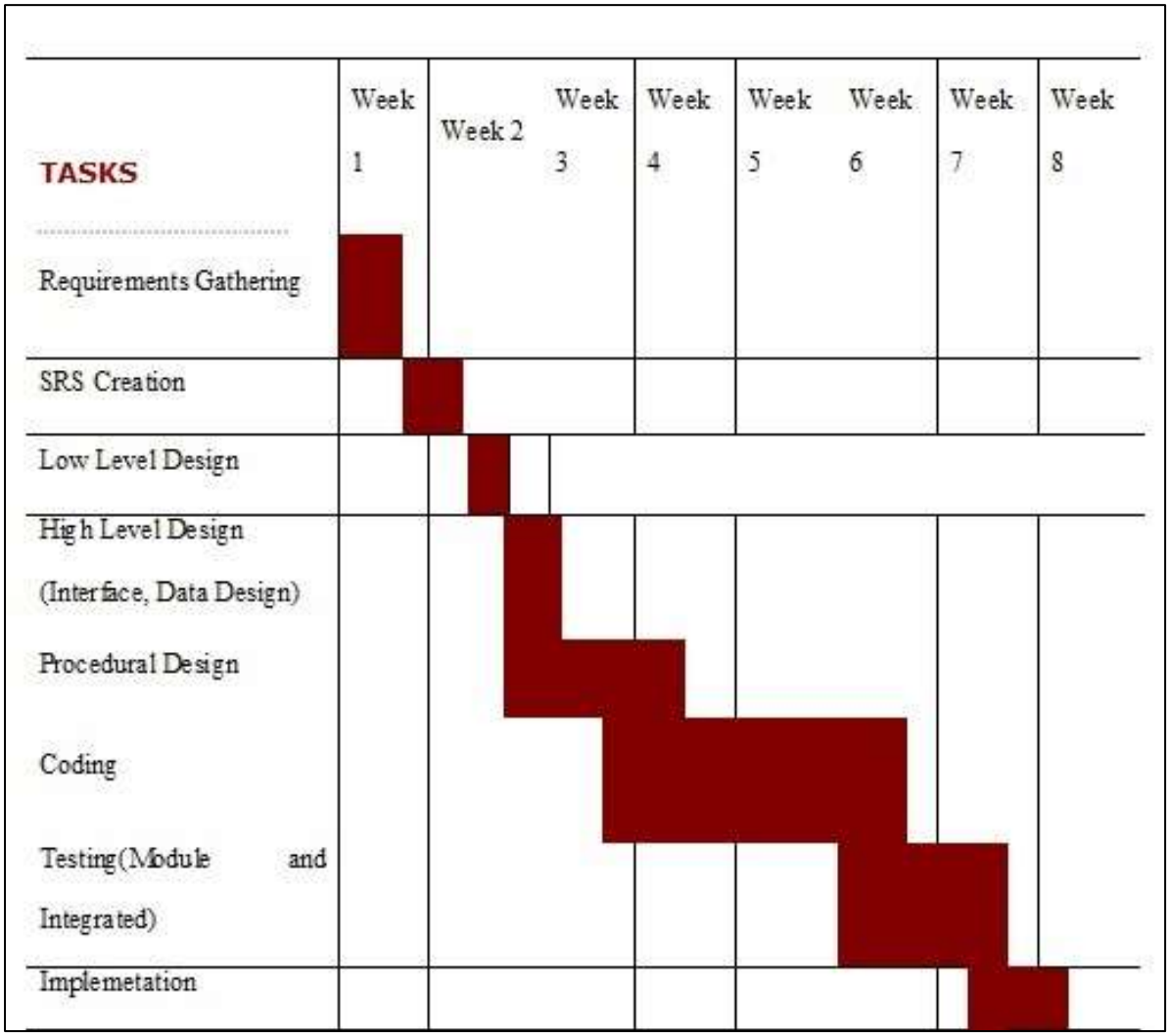
3. PROPOSED SYSTEM ANALYSIS

The online examination software is proposed to overcome the shortcoming of the existing manual system. The proposed system is easy to understand and incorporates a user-friendly interface. It is more productive, generates efficient reports in lesser amount of time. It makes it easier to manage the records of students and related database. It produces accurate and precise results. The new system is more robust and secure thus eliminating the chances of any unethical activity or misuse of information. It provides examiners a proper database to refer for their student's credential, details of other related activity.

4. PROJECT SCHEDULING

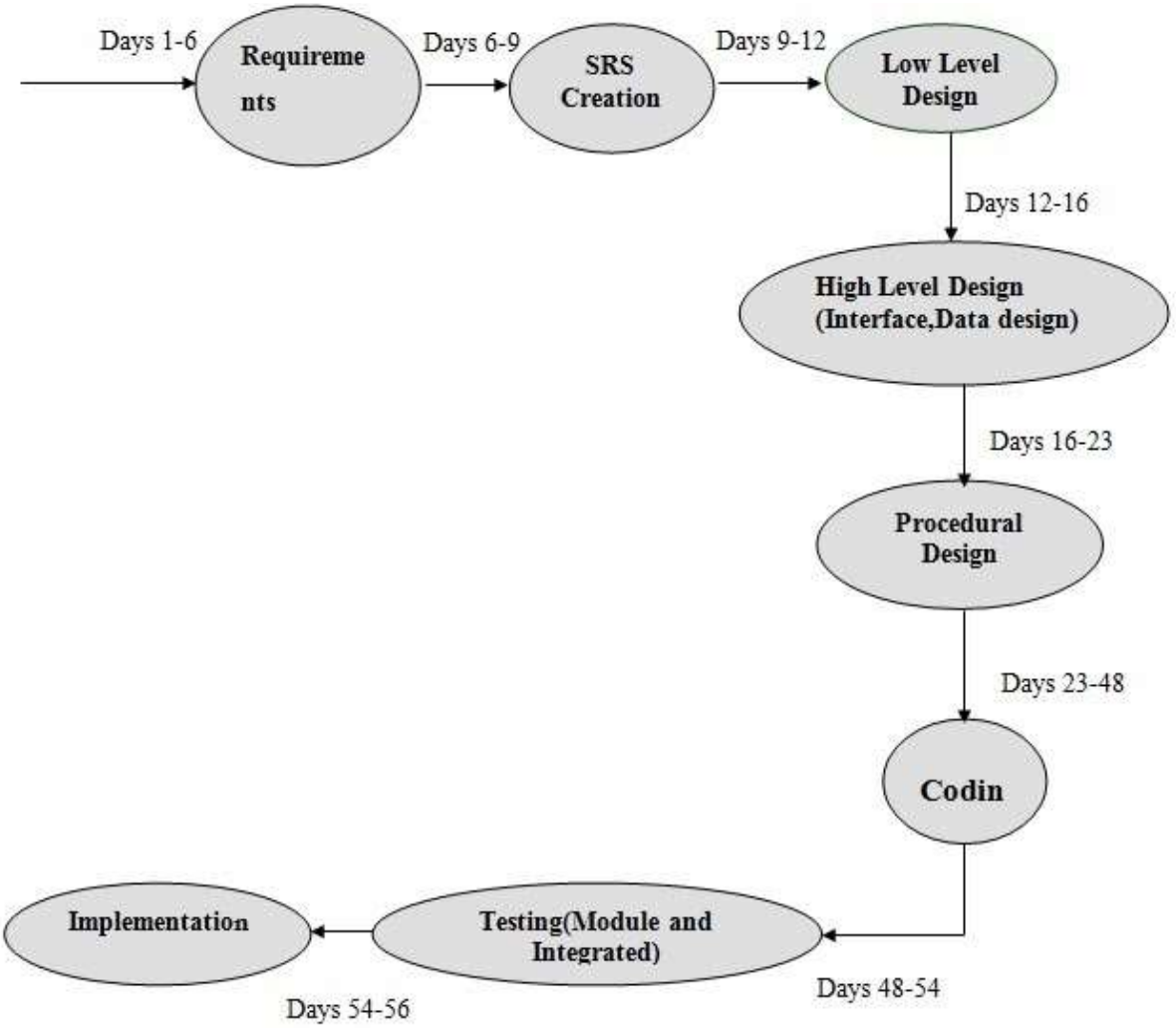
4.1 GANTT CHART

Gantt charts are a type of project management tool that can be used for a variety of tasks, notably scheduling and planning. Every box represents an operation on a Gantt chart, which is often known as a bar chart.



4.2 PERT CHART

Program evaluation and review methodology (Pert) is a term that refers to the process of evaluating and reviewing a programme. A combination of boxes and arrows constitutes a pert chart. The boxes in the pert chart can be customized with activity start and end dates.



5. FEASIBILITY STUDY

The purpose of a feasibility study for any system is to research and assess the developed methodology in order to determine whether it will be feasible after implementation. That is, it dictates the project's usefulness after deployment. To arrive at a conclusion, a set of questions is addressed while considering the software's effectiveness on the domain for which it was created. Its main focus is on the three main queries, which are stated as follows:

a) What are the objectives of the user, how would a potential system fulfil them?
b) What is the availability of resources for the systems that have been proposed? Is it worthwhile to solve the issue?
c) What will the suggested system's prospective impact be on the organisation? i.e., how would the current proposal integrate into the organisation?

5.1 TECHNICAL FEASIBILITY

In technical feasibility, we look at all of the technical aspects of the proposed system. It is largely concerned with the components and software specifications that best achieve the user's requirements.

This process of analysis necessitates a greater emphasis on system setup rather than actual hardware characteristics.

The configuration of the existing systems is:

- Processor : Pentium III, 500 MHz (or above)
- Memory : 128 MB (or above)
- Secondary storage : 20 GB (or above)

For Software there are following alternatives:

- Operating System **:**Window 98,2000,XP,NT
- Development tools :ASP.Net ,C# ,HTML,DHTML
- Database :Microsoft SQL server 7.0
- Documentation tool: MS-Word

5.2 ECONOMICAL FEASIBILITY

This will cover the following three key costs:

- Hardware and Software Expenses
- The cost of software to construct and run the product is a one-time expense.
- Purchasing a backend and database is a significant portion of the hardware and software costs.

This conclusion is based on a comparison of the Oracle database's significant expense and superior functionality vs the SQL server's low rates and high support for the same vendor operating system. Reduced current system expenses, time savings, and increased accuracy will result in cost, error, and time savings.

Future cost savings will come from a reduction in the number of administrative workers required and the maintenance of manual records in the organisation. A cost increase can be avoided.

5.3 OPERATIONAL FEASIBILITY

If the system is well-developed, there will be low resistance from users, which will increase the application's potential benefits. Because it is based on the DBMS model, no extensive training or new skills are necessary. It will aid in the saving of time and the quick processing and distribution of user requests and applications.

The new product will deliver all of the benefits of the current system, but with increased performance, such as better information, management, and report gathering. The goal of involving users in the development of the current system is to keep the user's individual requirements and demands in mind.

The user will be in charge of his or her own data. At the touch of a button, critical information such as test results can be generated.

6. PROJECT ORGANIZATION (TEAM)

JOB TITLE	JOB DESRIPTION
Project Manager	Keep in check all the processes of the project
Software Developer	Designing the models and diagrams to assist programmer during implementation
Testers	One from outside the team and the other from the inside the project team.
Programmers	Professional in ASP.NET and SQL To programming the processes of the project.
Software Analysts	To analyse the requirements of On-Line Exam System.
Writers	Collects drafts from each member. Rewrite and reformate the documents come from each member. Have good print skills. Have a good skill to correct grammars of statements.

7. PLAUSIBLE RISK ANALYSIS

7.1 PROJECT RISKS

RISK	PROBABILITY	EFFECTS	RISK PLANNING STRATEGY
The experience staff in the team leave the project before it is finish, or someone was ill	Low	serious	Use more than one staff for each section, which might minimize this risk. Also, manager tries to increase salary for him.
The methodology to solve the problem can't work in a proper manner.	High	Serious	Must be study more than one methodology to minimize this risk.
Budget does not enough or there is no budget.	Low	Catastrophic	Put a condition in the contract if there any more expenses, the funded side must be pay it. To avoid this risk.
HW requirement can't come in the time.	Moderate	serious	See if there is any more time to delay the project or not. If there is no more time work by the team computers, to minimize this risk.

4.2 BUSINESS RISKS

RISK	PROBABILITY	EFFECTS	RISK PLANNING STRATEGY
Can't found the suitable place for meeting the team.	Moderate	Tolerable	Monitoring the work by E-mail every day to avoid this risk.
Damage the electricity generator.	High	Serious	There is a spare generator to avoid this risk.
Marketing the software product	Low	Catastrophic	Distribution of advertisements, which minimize this risk.

4.3 PRODUCT RISKS

RISK	PROBABILITY	EFFECTS	RISK PLANNING STRATEGY
Packages and development tools are not enough	High	Serious	Put a condition in the contract to increase the time of project delivery depends on the problem occur. To avoid this risk.
Can’t find the suitable components	High	Tolerable	Programmer must have professional programming skills to write a new code, which minimize this risk.

BIBLIOGRAPHY

The information and details used in this document are mostly my original work referenced from some books and articles. I used google for problem solving, William S. Davis and David C. Yen's The Information System Consultant's Handbook and Analysis and Design of Information Systems by V. Rajaraman (PHI Publications). I referred to IEEE standard for the format of this document [https://tutorialsinhand.com/tutorials/] and to learn about various risks that any software development process may impose.

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