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Vellore Institute of Technology

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SCHOOL OF INFORMATION TECHNOLOGY & ENGINEERING

Department of Computer Application

ITA5001 – Software Project Management

Digital Assignment 1 - STEP WISE

on

ONLINE EXAM MANAGEMENT SYSTEM

By 22MCA0223 - Kamran Ansari

Faculty Incharge:

Prof .Karthikeyan

Step 0: Select project

We have selected the **Online Exam Management System** as the project. Since the pandemic, educational institutions have realised the importance of having a functional and reliable evaluation methodology. Taking online proctored exams and having their exams and examination management together at the same place is of huge value to the institute. It reduces the workload of the faculty by automating the correction and marking process, all while eradicating the need for physical space and paper for conducting exams. Even now that the world is returning to normal, most institutions find it easier to conduct exams online.

Step 1: Identify project scope and objectives

The activities in this step ensure that all parties to the project agree on the objectives and are committed to the success of the project.

Step 1.1: Identify objectives and practical measures of the effectiveness inmeeting those objectives

Project Objectives

- Students of the institute should be able to give exams online
- Instructors should be able to conduct exams online
- The institute should be able to register courses on the system
- The institute should be able to register students and instructors on the platform
- It should be possible to conduct proctored exams
- It should be possible for students to appeal for reevaluation

Step 1.2: Establish project authority

The project authority for this particular project is the development team which consists of a team of 3 members and a project leader among this 3 is

responsible for the development and out of this development team the project manager will be the project authority.

Step 1.3: Identify all stakeholders in the project and their interest.

Institute: The institute using this online exam system.
Students: The students enrolled in the institute.
Teachers/Instructors: The teachers assigned for and teaching the various courses to students.
Developers and Managers: The people involved in building the project.

Step 1.4: Modify objectives in the light of stakeholder analysis.

Sometimes according to the user needs there may be changes in the objectives like adding some extra features or modifying the available features etc. But while modifying or adding there may be chances where the whole project gets collapsed and it will affect the system. So, if any modification has to be made it should be done carefully without affecting other modules. As of now there is no modification of objectives needed from the stakeholders.

Step 1.5: Establish method of communication

Communication among the group members is the most important thing to determine the success criteria of a project. In order to improve communication with the staffs, project members, customer each and every week reviews, meetings should be conducted, so that they can establish the communication among all parties.

Step 2: Identify project infrastructure

Projects are rarely carried out in a vacuum. There is usually some kind of infrastructure into which the project must fit. Where the project manager are new to the organization, they must find out the precise nature of this infrastructure.

Step 2.1: Identify relationship between the project and strategic planning

The institutes need this project to conduct fair exams and all while minimizing the cost and effort required to organize the exams.

Step 2.2: Identify installation standards and procedures.

This project will be mostly used on frontend by the Instructors and Students but the data generated by the project will be useful to the University in preparing the marksheet. So, this project needs to be user friendly where it will be used for easing their job by means of this application. And the clear definition and description of the development works by the development team should be documented, because if any changes in team members the new team member should understand clearly what is happening? The user manual for the users should be provided. And the works done by the development teamshould be recorded and monitored by the project manager.

Since this will be a web application, the users need not have high end systems to run this, only a decently powered computer with a browser would suffice.

Step 2.3: Identify project team organization.

In this project the project manager should organize the team and he should separate of the works of each person in their team and he should have some control over the project as well as project team members.

Step 3: Analyze project characteristics

The general purpose of this part of planning operation is to ensure that the appropriate methods are used for the project.

Step 3.1: Distinguish the project as either objective- product driven

This project is an **"Product based Project",** because we are developing a product for interested university to use and replace their traditional methods of exam

Step 3.2: Analyze other project characteristics (including quality –based ones)

This, Online Exam Management System will be of crucial importance to the institutes implementing it. Every stakeholder from student to the university is concerned for the proper functioning of this project. Any malfunction or errors while won't cause any harm to human life, but will result in lost time and effort. It is advised to keep fallback methods of examination in case this system fails.

Step 3.3: Identify high level project risks

The Possibilities of risk could be avoided in our project if we follow "Incremental" model, through this model we can face the uncertain user requirements, in future if any requirement changed by the user we can handle this without affecting the other modules of the system.

Step 3.4: Take into account user requirement concerning implementation

The user doesn't specify any model or procedure that the development team should take into consideration while developing.

Step 3.5: Select development methodology and life cycle approach.

The development methodology which we selected for this project is **"Incremental or Iterative Based Development"**. Iteratively we will deploy the product with the user satisfaction.

Step 3.6: Review overall resources estimates

And finally a overall review should be done to check whether all this things which we planned is within the budget or it got increased. But as of now everything is happening within the resources.

Step 4: Identify project products and activities

The more detailed planning of the individual activities now takes place. The longer-term planning is broad and in outline, while the more immediate tasks are planned in some detail.

Step 4.1: Identify and describes project products (or deliverables)

In this we will document the relationship between the product and the components or a sub-sub component is documented in the form of **"Product breakdown Structure".**

Step 4.2: Document generic product flows

In this the Product Flow diagram will be drawn to specify the program.

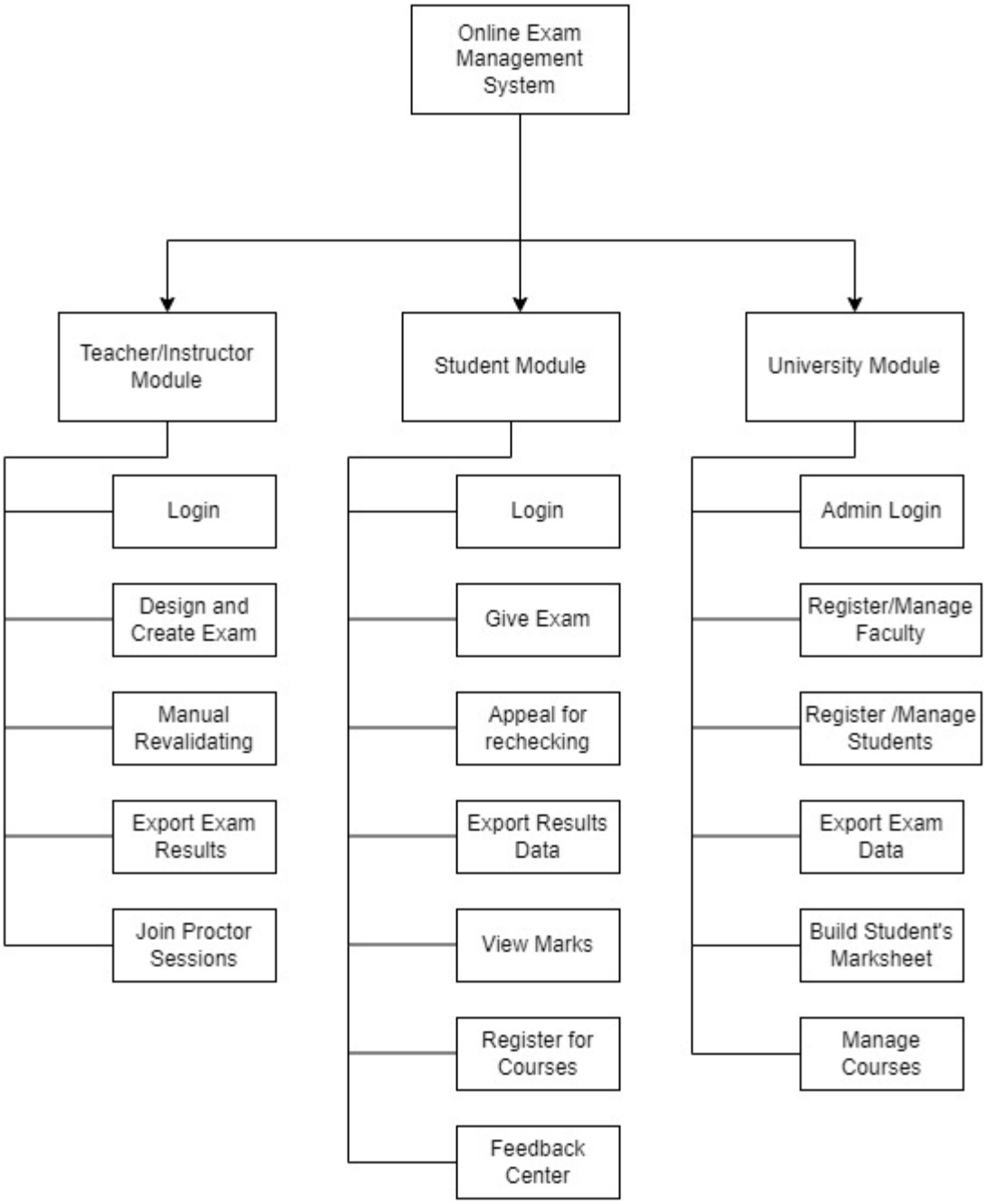
Step 4.3: Record product instance

Totally there will be four modules and each module.

Step 4.4: produce ideal activity network

It describes the activities and transformation

PRODUCT BREAKDOWN STRUCTURE



Step 4.5: **Modify the ideal to take into account need for stages and Checkpoints**

After completion of module 1 and module 2 we can have the checkpoints.

Step 5: Estimate effort for each activity.

Step 5.1: **Carry out bottom-up estimates**

Effort:

The effort needed for the system is 4 members of staff to work for two full ways each the effort expended is 8 days.

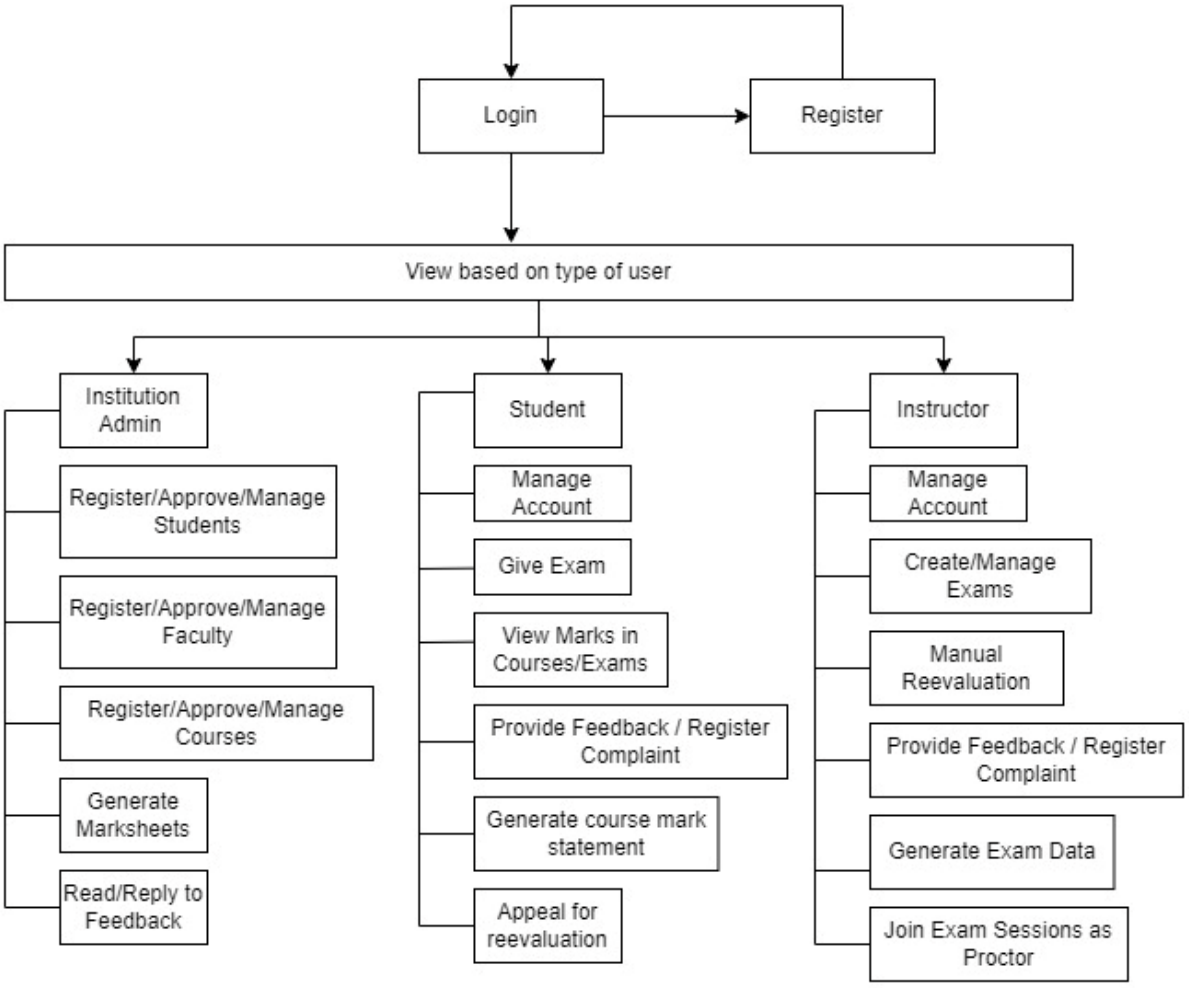
Elapsed Time:

If the four members of staff start and finish at same time then the elapsed time for the activity is 56 days.

Step 5.2: Revise plan to create controllable activities.

The long activities make a project difficult to control. In order to avoid this we must divide the product into sub-sub tasks, like coding for 2 weeks and testing for 1 week etc.

PRODUCT FLOW DIAGRAM



Step 6: Identify activity risks.

Step 6.1: Identify and quantify activity-based risks

Here the risk identification part is employee dropout or changes of employee and uncertain user requirements. The damages in terms are very big because these two risks will collapse the modules if the system is not properly planned.

Step 6.2: Plan risk reduction and contingency measures where appropriate

Base on the risks we need to plan. For example by Iterative model we can manage “Uncertain user requirements”. In order to face the employee risks we need to share each and every work to two numbers instead of an individual involved in a particular work.

Step 6.3: Adjust overall plans and estimates to take account of the risks

As we discussed above the same steps should be repeated.

Step 7: Allocate resources

Step 7.1: Identify and allocate resources

The allocation of Staffs for each and every phase is listed here:
Requirements: 2 Members
Design: 2 Members
Coding: 2 Members
Testing: 2 Members
Deployment: 2 members
After completion of requirements they will do parallel works like design and coding, testing and deploying the final Product.

Step 7.2: Revise plans and estimates to take into account resource constraints

In order to avoid this, we should have alternate staffs for the important phases. If one is not available then we can go with other. Similarly, the hardwarecomponents requirements delivery should be considered if it is needed.

Step 8: Review / Publicize plan

Step 8.1: Review quality aspects of the project plan.

If any of the work remains uncompleted in any phase that will lead to a great loss, so we should review each and every phase works weekly or monthly.

Step 8.2: Document plans and obtain agreement.

Proper Documentation of each and every work should be properly made and the person who is going to read this should understand clearly in this way the document should be made.

Step 9 & 10: Execute plan / lower level of planning

Description:
Once the project is underway, plans will need to be drawn up in greater detail for each activity as it becomes due. Detailed and lower level of planning of the later stages will need to be delayed because more information will be available nearer the start of the stage. Project planning is an iterative process. As the time approaches for the particular activities to be carried out they should be re-planned in more detail.

Execute Plan:

Now we can start executing this plan.

Development phase	Start date	End date	Manpower Required
Requirements Gathering and Analysis	06.04.23	15.04.23	2 People
Designing, Architecture and GUI	28.04.23	01.05.23	3 People
Implementation and unit testing	05.05.23	09.05.23	3 People
Testing	08.05.23	18.05.23	2 People

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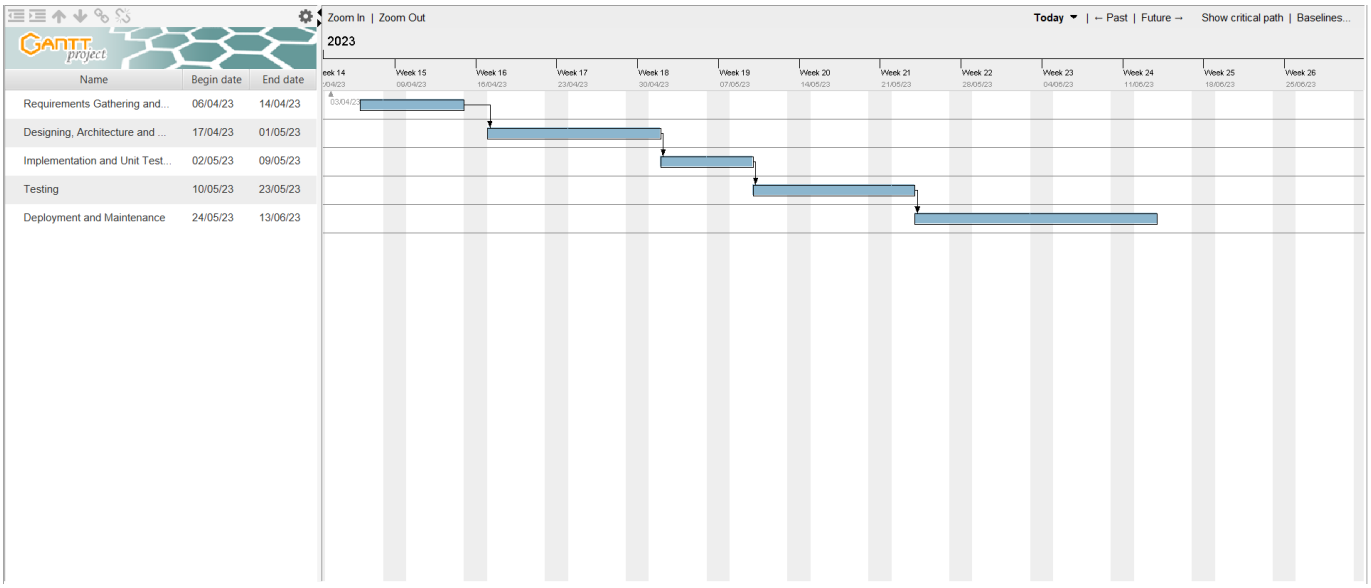
Zoom In | Zoom Out
Today | ← Past | Future → Show critical path | Baselines...
2023
Name
Begin date
End date
Requirements Gathering and...
06/04/23
14/04/23
Designing, Architecture and ...
17/04/23
01/05/23
Implementation and Unit Test...
02/05/23
09/05/23
Testing
10/05/23
23/05/23
Deployment and Maintenance
24/05/23
13/06/23
Week 15
Week 16
Week 17
Week 18
Week 19
Week 20
Week 21
Week 22
Week 23
Week 24
Week 25
Week 26