American International University-Bangladesh

Project Report – Final Term

Project Title: Learn and Teach

Course Name: Software Development Project Management

Section: C

Semester: Fall 22-23

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1.0 PROJECT TITLE:

Learn and Teach.

2.0 INTRODUCTION:

Learn and Teach is a platform that connects students and teachers. This is entirely student-centered. Challenges in understanding within the classroom, as a result they have to depend on the web and in some cases deceitful websites, which may negatively impact their scholarly execution. On the other hand, some students can utilize the lesson to the fullest extent while also being able to clarify concepts for others, easy to understand for others. Learn and Teach is particularly interested in these facts, created a platform to connect students who want to understand the struggle; a student who can explain things to others in an easy-to-understand manner. In this Students can register as either a student or a lecturer. Students can use this system to get online tutoring and homework help seven days a week, 24 hours a day. On the other hand, other users who are experts in the field (instructors) can assist students with their knowledge. At Learn and Teach, our goal is to enable every student to succeed both academically and personally.

3.0 OBJECTIVES:

The main purpose of this system is to provide an environment for learning online. This system has many objectives which are:

- Students who need a teacher immediately can get an instructor.
- This system enables instant learning opportunity.
- Provides earning opportunities for instructors or students.
- Boost up the education system.
- This system is more cost-effective than in-person tutoring.
- Schedule flexibility will be provided to students.
- This system will be more convenient and comfortable for students as it provides education online.

A personalized learning experience will be provided to students. Instructors will make the lesson fit and suitable for student's requirement or specific needs

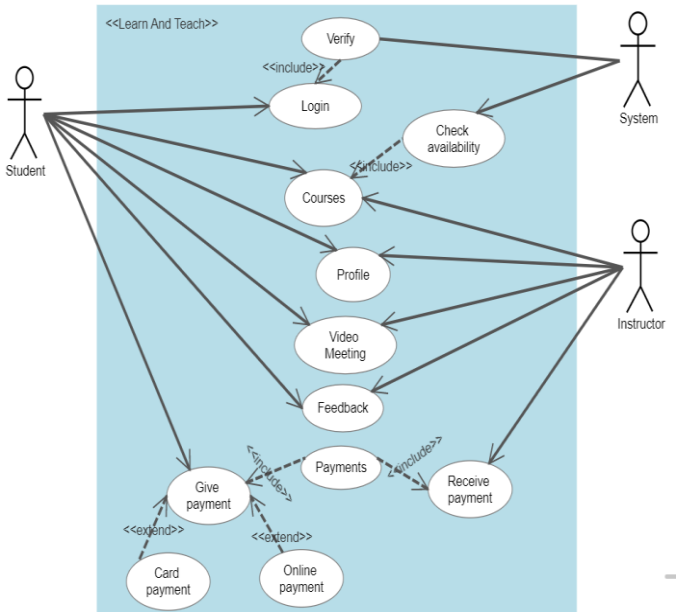
4.0 JUSTIFICATION:

The student community will gain from this arrangement. The student who is weak in a certain subject may join our site as a student, and the student who has competence specifically in one area can join our site as a teacher.

In this case, the student will profit from the information he learns from the teacher and the instructor will be compensated based on his time and labor. Students will have access to a learning environment at all times thanks to this technology, allowing them to learn whenever they wish.

5.0 SYSTEM OVERVIEW:

There are two ways for users to log in to this system. They can sign in as a teacher or a student. Both actors must select a specific issue in which they are interested after logging in. The technology will put students and instructors together in a private space where they may converse based on their shared interests. Pupils will rate each teacher, and they will also provide a list of the students they have taught. In order for the instructor's lesson to be counted, he must spend at least 10 minutes with the student in the virtual conference room. They will be paid according their rating and the number of students being instructed by them. Students and Instructor both have the skip option to skip one another and move to another instructor or student. After every virtual session student have to rate the instructor. There will be a payment method where student will pay and instructor will get the payment from students.



6.0 STAKEHOLDERS ANALYSIS:

Stakeholders are those who have a stake or interest in a project. Stakeholders can be individuals, group or organization who are involved in project, can influence it and whose interests maybe affected by the success or the failure of the project. Stakeholders for our project are given below:

Primary Stakeholders:

i. Students
ii. Instructors

Secondary Stakeholders:

i. Owners
ii. Board of Director
iii. Investor

Positive Stakeholders:

i. Developers
ii. Sponsor
iii. Media

Negative Stakeholders:

i. Some people from board of directors
ii. Some people from Investors

Internal Stakeholders:

i. Project Manager
ii. Development team

External Stakeholders:

i. Media
ii. Information management group

7.0 FEASIBILITY STUDY:

Feasibility study will help an organization to take a project or not. It analyses whether the proposed business ideas will succeed or fail. Here technical and financial feasibility is shown for the project:

Technical Feasibility:

A technical feasibility study is conducted to see if the company has the staff, equipment, software, supply, resource and technical to handle the project's completion. If it is possible with the company's equipment and human resource to complete the project, then the company is feasible technically to success. In our project, this is viable because we will use the ASP.Net framework with C# in backend and MySQL servers with VueJS and Tailwind(CSS Framework) as frontend. And we have our resources to complete our project. So, our project is technically feasible.

Financial Feasibility:

Financial feasibility means the ability of a project to achieve sufficient income, credit, and cash flow to financially sustain the project over the long term and meet all debt obligations.

The project will be financially feasible if we take six programmers to work and the project duration will be almost nine months to finish with the budget estimation of 4,397,900 TK. If customer agrees to pay the required money to execute the process, then we can say that the project maybe be successfully done. Other it is not feasible to implement or to take this

8.0 SYSTEM COMPONENT:

The Components of this projects are shown below:

1. Registration Component: If any user wants to use the system he has to login to the system. If a user doesn't have any account, he or she has to register him or herself. After successful registration a user can use the system.

2. Account View Component: if any user like student or instructor want to see their profile, update their profile, see history or activity this component of the system will be used.

3. Course Component: In this component student user will take course and can also see the courses that has been taken. Instructor will select or choose the courses that he/she is specialized on, also instructor can see the enrolled students of the course. There will also be a particular section for file uploads in the courses by the instructor.

4. Call Meeting Component: In this component student can join the classes of the courses and instructor can take class and give instructions. I/O devices will be use of the users

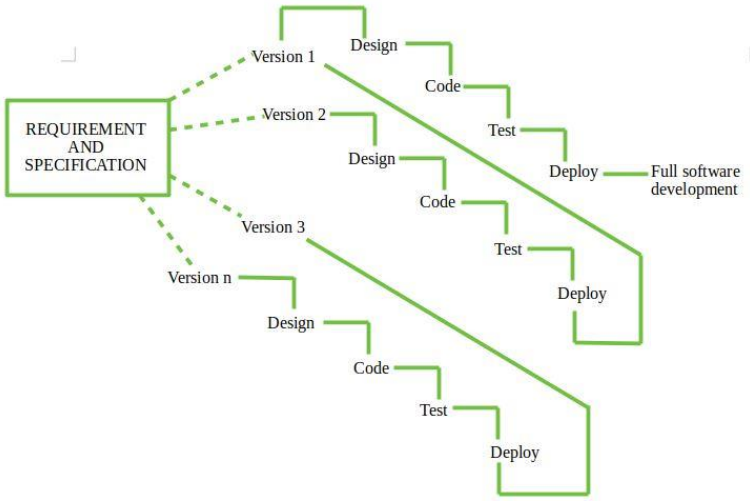
5. Payment Component: In this component, Student will give payment of the selected courses that have been taken using card or mobile banking. Instructor will receive the payment for the particular course.

6. Administrative Component: In this component, admin will have authority to verify users, check available course and maintain the system.

9.0 PROCESS MODEL:

In our Learn and Teach project we will follow the Incremental Model. We know that the incremental model divides the system's functionality into small increments that are delivered one after the other in quick succession. The most of the functionality is implemented in the initial increment.
In our project, we first thinking the need of the project in our country than we start a planning. After done planning session we start design our project than done coding, testing and other works.
In our project in first release, we try to maintain all requirement of customer. Then we analysis the customer needs and their satisfaction. If needs any development in project than in second increment we try to update this. We already know incremental development is based on developing an initial implementation

exposing it to user feedback, and evolving it though new version. The process activities are interwoven by feedback.
For the development purpose of each increment, we follow the incremental model.



Incremental Model Phases:

Requirement Analysis:
In the first phase of the incremental model, the product expertise identifies the requirements. And the system functional requirements are understood by the requirement analysis team.

Design:
In this phase the increment model of SDLC, the design of the system functionality and the development method are finished with success. When software develops new practically, the incremental model uses style and development phase.

Coding:
Coding of software is done by the developers according to the requirements and design during this stage.

Testing:
In the incremental model, the testing phase check the performance of each existing function as well as additional functionality. In the testing phase, the various methods are used to test the behavior of each task.

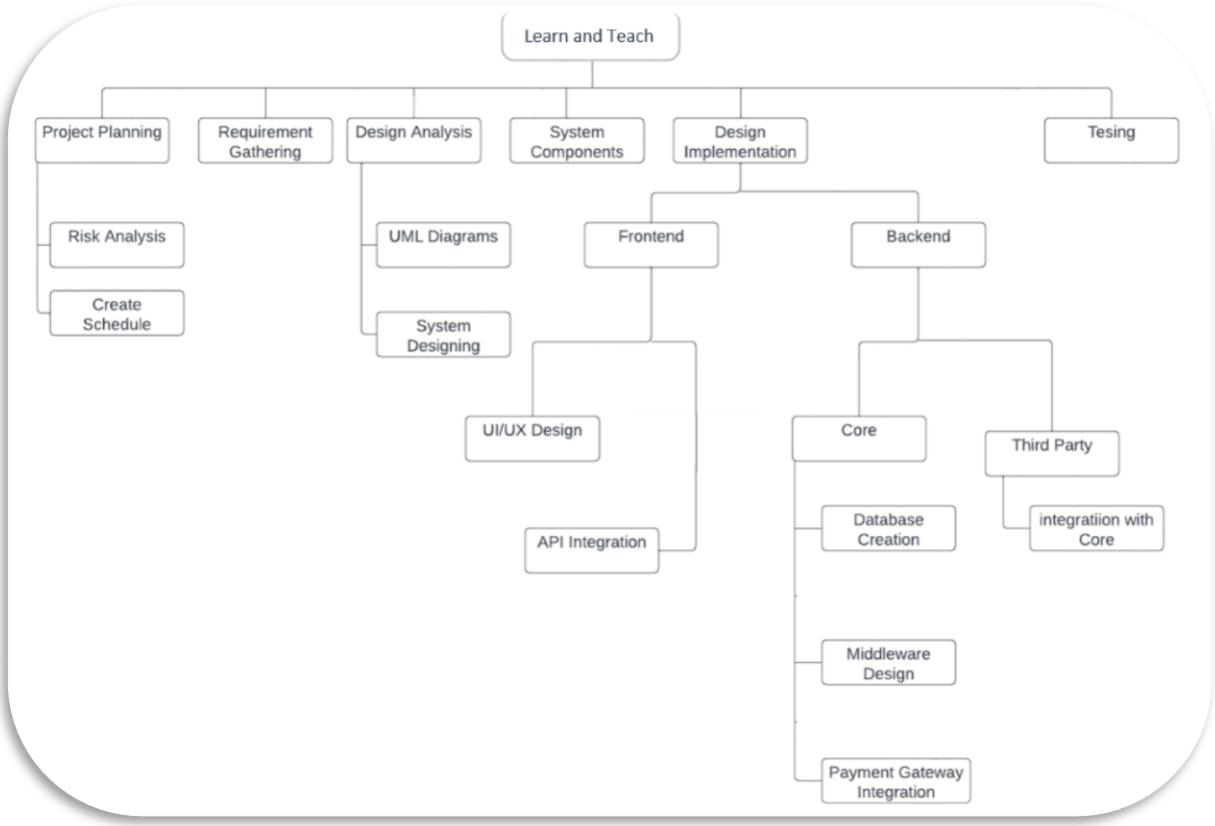
Justification of choosing Incremental Model:
In our project after first release, we try to gather feedback of customers as well as stakeholders. If the stakeholder doesn't like anything, everyone finds out a lot sooner. It is efficient as the developers only focus on what is important and bugs

are fixed as they arise. After findings bugs and other problems in next increment, we try to solve this problem.
We also know that the incremental model is great for projects that have loosely-coupled parts and projects with complete and clear requirements.
In our project, we need to full fill the customer requirements in updating our features, come out with new version as well as give extra facilities of user. For this reason we try to follow the incremental model that helps our project make good and also we hope that this project meet the customer requirements.

10.0 EFFORTS ESTIMATION:

In order to estimate the required effort, we need to breakdown the project into its component parts. We use the Work Breakdown structure (WBS) to break down the entire project into smaller components. The WBS outline will consist of the following tasks:

- Project Planning
- Requirement Gathering
- Design Analysis
- System Components
- Design Implementation
- Testing



COCOMO (COnstructive COst MOdel):

Task	SLOC
UI/UX Design	12000
API Integration	2000
Database Design	4500
Payment Gateway	2500
Integration with Core	1500
Middleware Design	4500
Total	27000

Effort = PM = Coefficient*(SLOC/1000)^P

Here, Coefficient=2.4

SLOC=27000

P=1.05

T=0.38

So, Effort=PM=2.4*(27000/1000)^1.05

= 76.41≈76

Development time = DM = 2.50*(PM)^T

=2.50*(76)^0.38

=12.99≈13 month

Required number of people = ST = PM/DM

=76/13

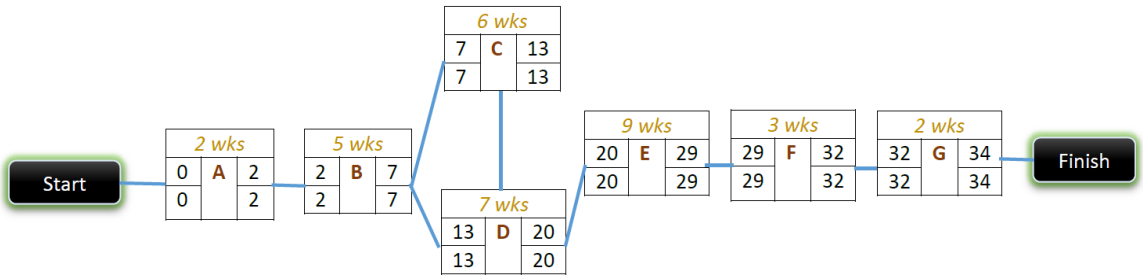
=5.85≈6 people

So there need Six programmers to implement this project

11.0 ACTIVITY NETWORK DIAGRAM:

First, we create a list of the activities that have been identified and specified in the WBS, along with the associated durations. The table includes the following information:

	Activity Name	Precedence	Duration
A	Planning	None	2
B	Requirement analysis	A	5
C	Design analysis	B	6
D	UI/UX Design	B,C	7
E	Implementation	D	9
F	Testing	E	3
G	Deployment	F	2



12.0 RISK ANALYSIS:

Assumptions must form the foundation of project planning. Risk is the likelihood that an assumption may be incorrect. When it occurs, it raises a problem. To control and comprehend the uncertainty during the system's development, we conduct risk analysis and management. The potential risks to our endeavor are listed below:

Risk	***Category***	***Probability***	***Impact***
Insufficient development member	ST	20%	3
Delivery deadline gets late	BU	15%	2

Low estimation/assumption	PS	40%	2
Complexity of a module is high	TE	30%	3
Late change to requirement from customer	CU	45%	2
Limited resources and tools	DE	10%	3
Server gets down	TE	50%	1
Limitation of budget	BU	5%	4

Impact values:

1. Catastrophic
2. Critical
3. Marginal
4. Negligible

13.0 BUDGET FOR THE PROJECT:

- Project development time = 8.5 Months
- Number of programmers will work = 6
- Working days= 5 Day
- Working hour per day= 8 Hours
- Working hour in 1 week= (5*8) = 40 Hours
- Charge for each programmer per hour = 300 TK
- Charge for each programmer
  - Per week = (300*40*) = 12,000 TK
  - For a month = (12000*4) = 48,000 TK
  - For 8.5 months = (48000*8.5) = 408,000 TK
- Charge for 6 programmers for 8.5 months = (408000*6) = 2,448,000 TK
- Project manager charge for 9 months = (9*40000) = 360,000 TK
- Other employees charge for 9 month = 250,000 TK
- Office rent for 9 months= (9*25000) = 225,000 TK
- Electricity and other bills = 100,000 TK
- Total Estimated cost = (2,448,000 +360,000 +250,000+225,000 +100,000) = 3,383,000 TK
- Total estimated budget [Considering 30% profit] = (3,383,000+(0.3*3,383,000)) = 4,397,900 TK

14.0 CONCLUSION:

“Learn & Teach” is an online platform which will help users to learn online that is effective. Additionally, it will enable teachers to make money. It is suggested that this project since it will benefit society. This system is adaptable because it allows students to get assistance whenever they need it, and it differs from traditional educational systems since it is web-based. Students can therefore adapt to technology. Students can save time with a virtual education system. Therefore, this system is quite helpful.