Software Engineering

Project and Assignment

Section:C.

Project Name: Online Course management.

Group:03

Members:

16-32764-3	DATTA, AVISHAKE KUMAR
17-34425-1	MITO, ALI HASAN
16-32697-3	PARVEN, SHAHANAZ
16-32717-3	SILVI, MUSHFIYA TASNIM

Assignment

1. By assessing the above stated case, we are going to use ''XP'' for -developing the above –mentioned project.

   For taking this decision, we will invite our client to share his opinion.
   As stated in Question, The working procedures of this software are being changed frequently.So, customer feedback is very important in these changes that developers will make to fulfill customer's required changes whether he likes it or not.So, we have to inform our customer that to fulfill the requirements and changes that will be made later we are using ''XP'' and your interaction is important for the development.
   Also, XP has a culture of oral communication and its practices are designed to encourage interaction
   The development team obtains feedback from the customers and it drives the development of each iteration .
   So, It will be helpful for the development if customer interaction is included and also in changing requirements and XP Model can do both.

2. Why we selected XP?
   1. No process fits every project, it should be tailored to suit an individual project and XP does that.
   2. In this project, requirements will be changed frequently that's when oral communication is necessary and xp does that.
   3. Build the product that a customer need rather than fulfilling unstated requirements.
   4. During the development process, customer feedback is necessary and xp allows that as well.
   5. Xp allows the developers to take risk in taking actions and decision making that will eventually help to fulfill the requirements.

6. Xp allows extra testing and checking the performance of the system before it delivered to the customer which will help to build a better product.
7. It stores postponed ideas and and suggestions for later implementation which will help to fulfill new requirements in future.
8. Xp allows small releases and does unit testing continuously as a result there are less errors in the development.

That's why we have choosen XP.

3. Time box works by concentrating on when a business objective will be met as opposed to the tasks which contribute to its delivery.

Benefits of 'Timebox' in business oriented projects –

1. Time between start and end of an activity. So, one activity is done means one requirement is fulfilled.
2. We can use nested timeboxes of a series of fixed deadlines for a series of requirements.
3. We can focus on the essentials using timeboxes.
4. Timebox helps in estimating and providing resources.

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Yes, we are going to use timebox concept in our project.
Usually, a timebox is ideally 2-4 weeks in length.

To Measure the length of the timebox for this project –
First we can initially set intial time for each timebox between 2-4 weeks.
If a requirement is assumed to take less time to build .we will set a lower limit for that timebox of that requirement .For example , in this project , the timebox for 'patient registration department' will be bigger in duration than the timebox of 'Accountancy department ' .

So, we can make a timebox of minimum 1 week to maximum 4 week depending on the size, complexity of that requirement.

Project

Conceptual Foundation of the project

Audience:

In our country education is not that affordable specially in Bachelor Degrees or university level higher studies. This software will help those people with basic technical knowledge from different sectors. Specially poor talented students.

Solving A Problem:

This software solves one basic educational problem that is making Higher level education free for all through some basic university level courses.

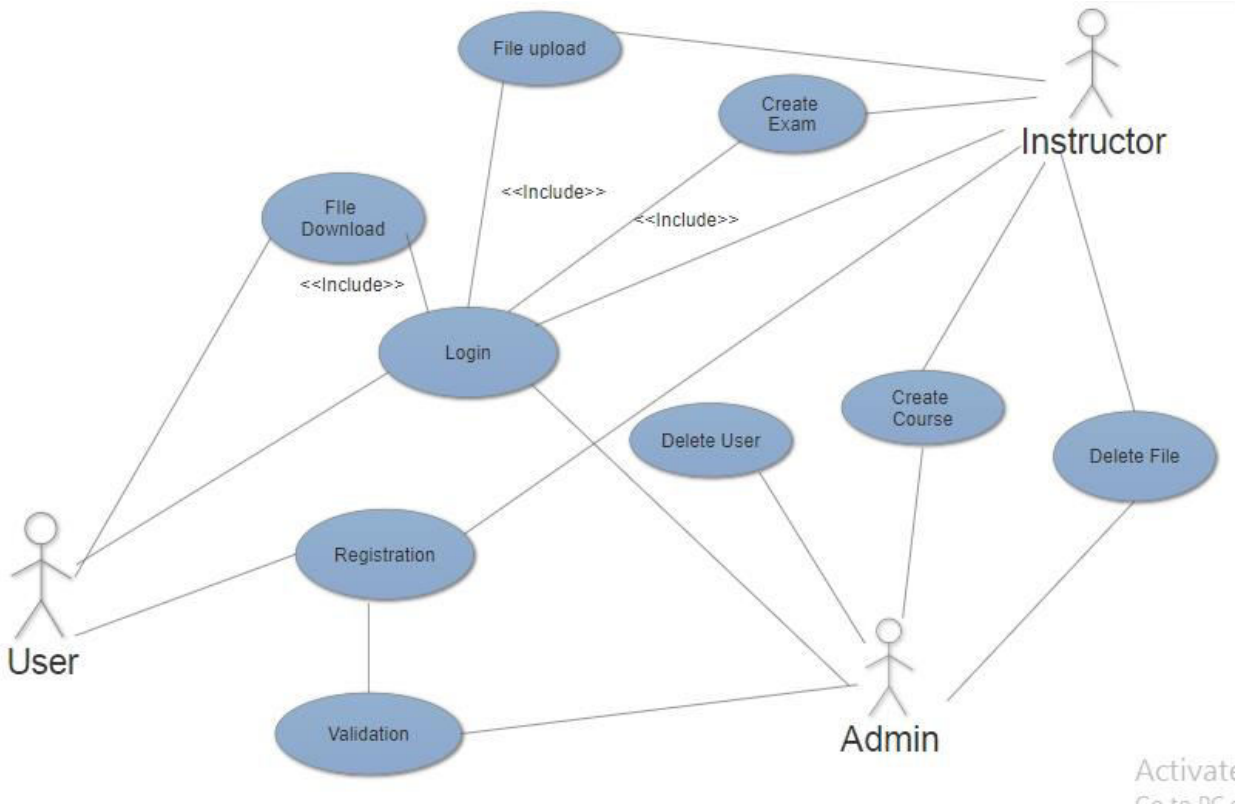
Thus creating an oppurtunity to be educated through online for free.

Purpose:

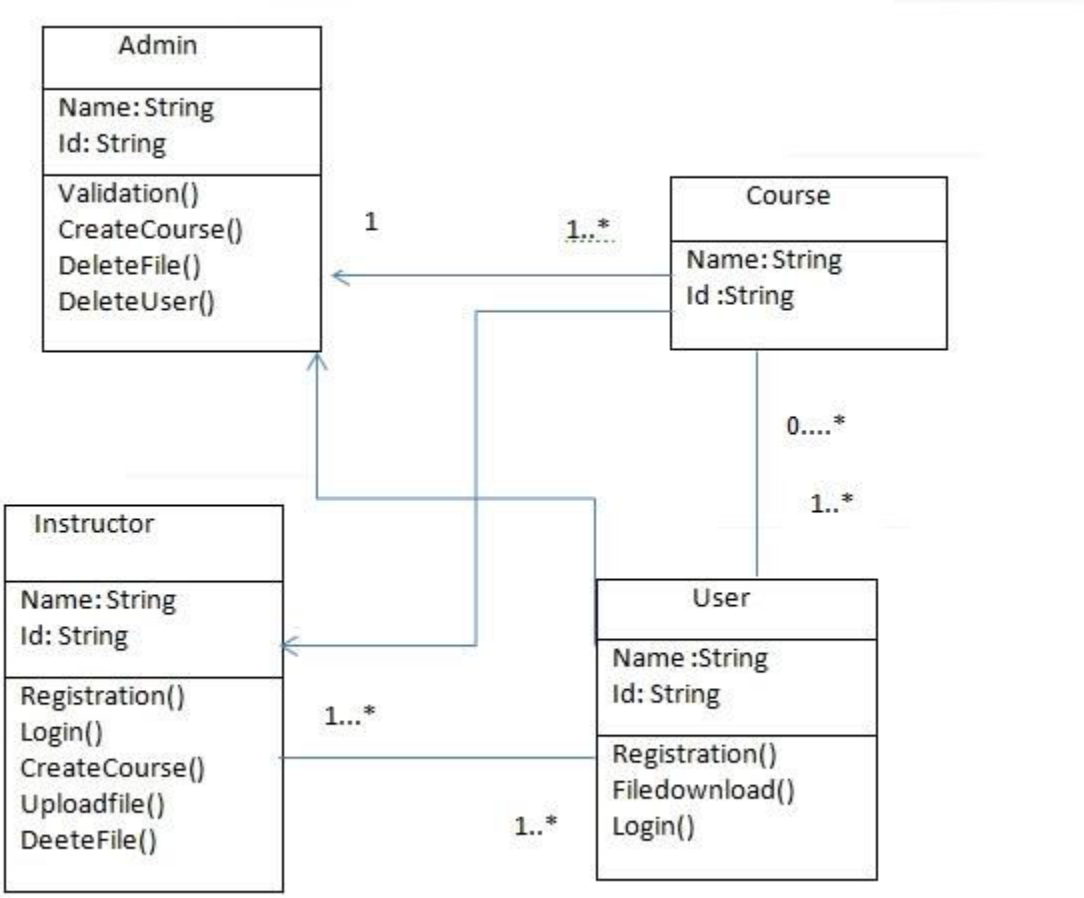
To offer free basic courses of higher studies through online for free.

Use Case Diagram

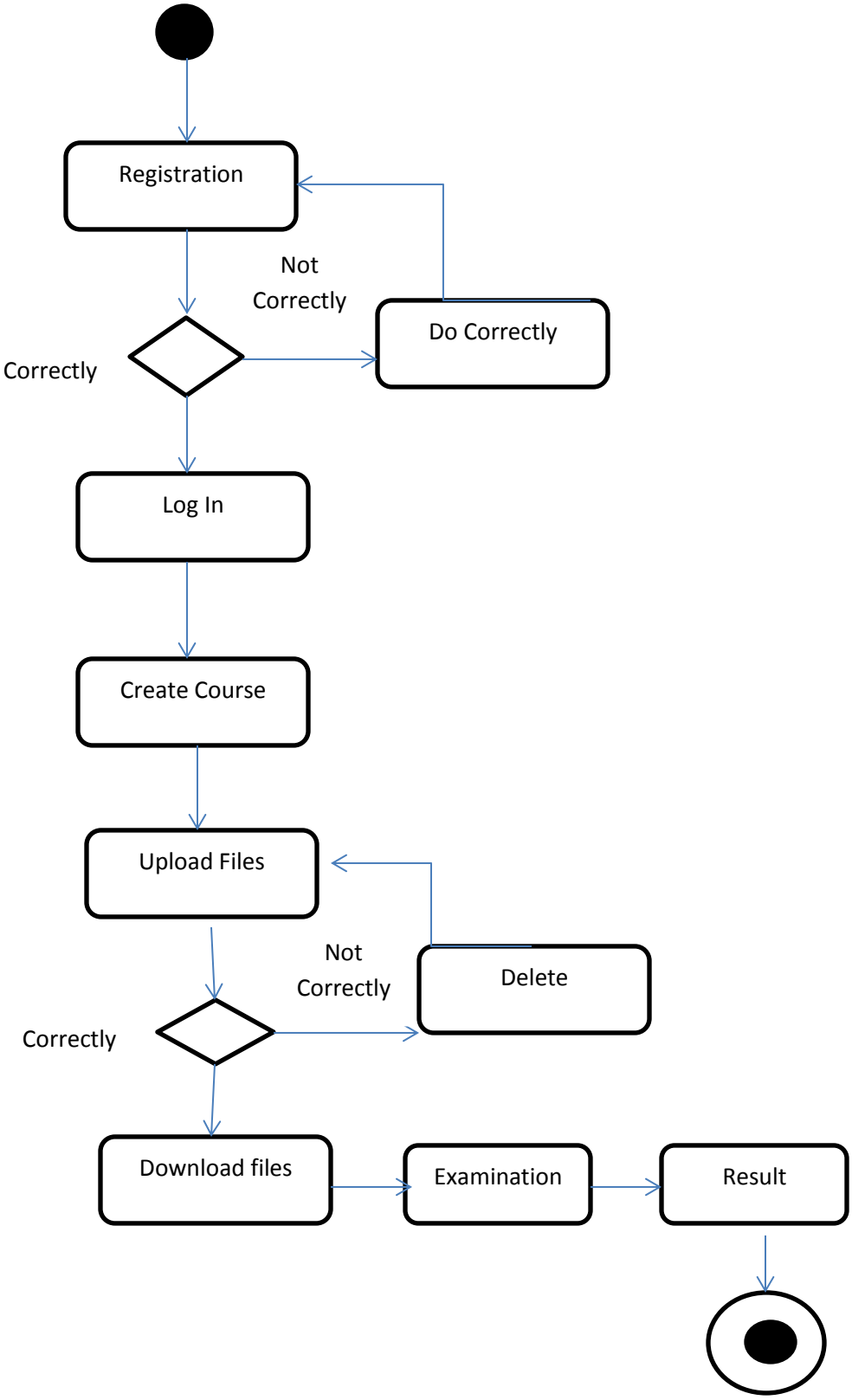
Online Course Management



Class Diagram



Activity Diagram



Effort Estimation:

We know,

$E=[LOC*B^{0.333}/P]^3*(1/t^4)$

LOC=7000(Assuming) =7k

B=0.16

This is an organic project, so

T=0.38

P=1.05

Now,

$E=[7*.16^{.333} / 1.05]^3 *(1/.38^4)$

=174.63 person-months

Budget :

Assuming estimated LOC=7000

Company's productivity = 2000 LOC/p-m

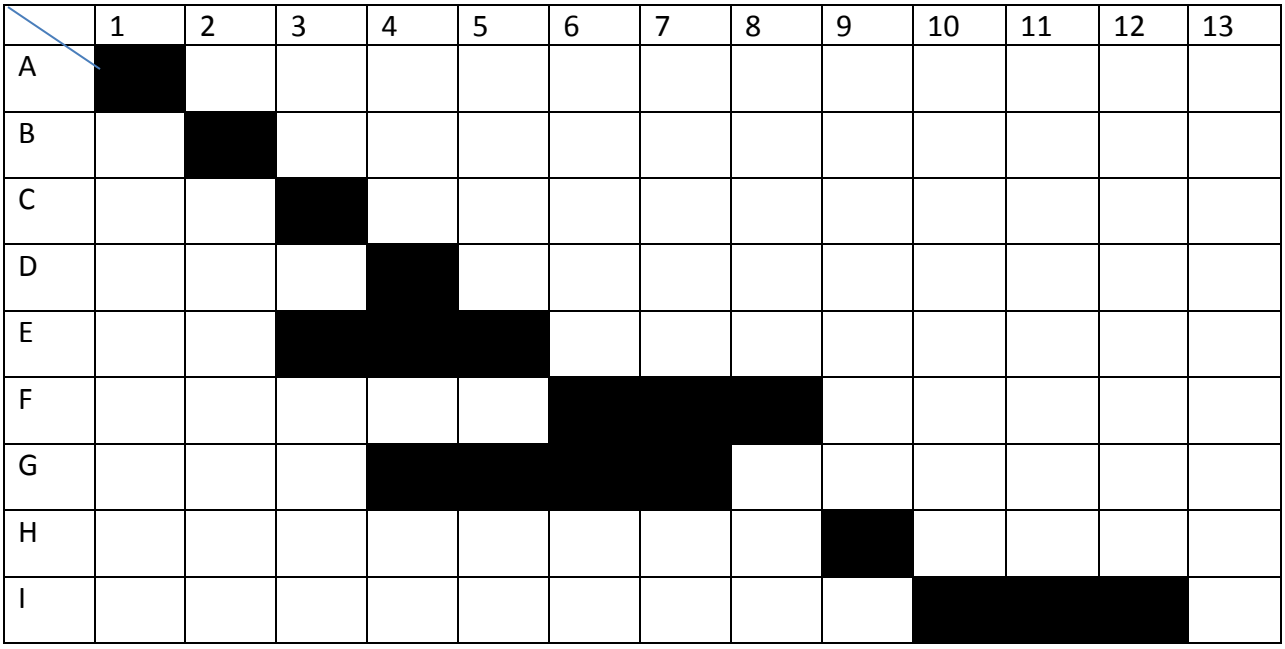
Burdened labor cost = 15000 tk/ p-m

Effort= 7000/2000=3.5

Cost per line of code=15000/2000=7.5 tk/LOC

Project total cost = 15000*3.5=52500 tk.

Scheduling:



A=Overall design.

B=Specify module 1

C= Specify module 2

D= Specify module 3

E=Code Module 1

F= Code Module 3

G= Code Module 2

H=Integration Testing.

I=System Testing.

Risk:

Risks	Category	Probability	Impact	RMMM
Size estimate may be significantly low	PS	60%	2	Critical
Larger number of users than planned	PS	40%	2	Critical
Less reuse than planned	PS	60%	3	Marginal
End –users resist system	BU	40%	1	Catastrophic
Delivery deadline will be tightened	BU	50%	2	Critical
Funding will be lost	CU	30%	3	Marginal
Customer will change requirements	PS	80%	1	Catastrophic
Technology will not meet expectations	TE	40%	1	Catastrophic
Lack on training on tools	DE	70%	2	Critical
Staff inexperienced	ST	30%	2	Critical
Staff turnover will be high	ST	50%	1	Catastrophic

Impact Values:

1 - catastrophic

2 – critical

3 - marginal

4 - negligible

The work product is called a Risk Mitigation, Monitoring and Management Plan (RMMM).