Indian Institute of Information Technology, Vadodara

Hostel Management System

Project Plan

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1 PURPOSE

The sole purpose of project planning is to identify the scope of the project, estimate the efforts and time required to complete each task in every phase and hence, create a project schedule. Plan is developed according to the time constraints, team members involved in the project and requirements need to be fulfilled. The purpose of project monitoring and control according to the plan is to keep the team and management up to date on the progress of the project.

2 SKILLS REQUIRED FOR THE PROJECT

Our team is set to build a software system of Web application. So the main skills required to develop such applications are –

- Knowledge of Django framework.
- Knowledge of any server-side web-framework for server-side processing and interaction with api.
- Grip over Web designing and solid concepts over the design of UI/UX.
- Knowledge of Database Management System, mainly ERD, relational
- databases, normalization techniques.
- Knowledge of REST api.

3 SKILL LEVEL OF TEAM MEMBERS

1. Shubham Singh - Frontend Development, Backend Development,Content Writing, Peer- Reviewing, Database Management,
2. Sankalp Gour - Frontend Development, Documentation, Content Writing, Peer-Reviewing

4 PROJECT EFFORT ESTIMATION -

We are using cocomo model for estimating the total efforts required for the project. COCOMO model works primarily according to size of the project along with other parameters. So we need to get an approximate idea about how many KLOC our project will be of. This can be done by using analysis of similar projects done in the past. So the estimated KLOC for our project is = 5, which is 5000 lines of code.

Now, as our team is small and consists of experienced members, so this will be a organic model.

According to COCOMO model -

Effort = a(KLOC)^b $(Unit : person - month)$

Tdev = $c(Effort)^d$ $(Unit : month)$

a = 3.2, b = 1.05, c = 2.5, d = 0.38, Expected KLOC = 5

Estimation of Project Size and Time duration using intermediate Organic model:

Cost Driver	Level	Value
Required Software Reliability	High	1.15
Size of Application Database	Nominal	1
Complexity of The Product	Nominal	1
Runtime Performance Constraints	High	1.11
Memory Constraints	Nominal	1
Volatility of the virtual machine environment	Nominal	1
Required turnabout time	High	1.07
Analyst capability	High	0.86
Applications experience	Nominal	1
Software engineer capability	Nominal	1
Virtual machine experience	Nominal	1
Programming language experience	High	0.95
Application of software engineering methods	High	0.91
Use of software tools	High	0.91
Required development schedule	High	1.04

Effort = E(f) x EAF

Effort = 3.2 x $(5^{1.05}) \times 1.15 \times 1 \times 1 \times 1.11 \times 1 \times 1 \times 1.07 \times 0.86 \times 1 \times 1 \times 1 \times 0.95 \times 0.91 \times 0.91 \times 1.04$

$Effort = 16.6652280PM$

$Tdev = 2.5 \times (Effort)^{0.38}$

$Tdev = 7.28Month$

It means almost 4 months will be needed to complete the project. But as the project have strict deadlines so, we will try to come up with the desired product(having the necessary functionalities which will be max used by the users) within the time constraints.

5 TASK ASSIGNED -

1. Shubham Singh - Front-end development, Database management and back-end development of Hostel Management System.

2. Sankalp Gour - Front-end development of Hostel Management System

6 PROJECT SCHEDULE –

According to estimated efforts and keeping in mind the time constraints, we have prepared the following schedule for the completion of each phase within a time period.

Phase	Description of work	Time period for completion
Requirement Gathering and Analysis	We would gather the necessary requirements for our Project and prepared a document for the same.	30 August- 25 September
Design Phase	We would try to complete the design of the software system including all the required features of the project	5 September- 8 October
Coding and unit testing	We would implement the features of the application (tasks) divided into modules and test those modules separately.	8 October - 28 October
Testing	In this phase, we would combine the all modules and do the integrated testing of the whole system software.	29 October - 1 November
Deployment	In this phase, we would deploy our applications for the users to interact with our application.	2 November - 4 November