

# NORTH SOUTH UNIVERSITY

Department of Electrical & Computer Engineering

## Assignment

Effort Estimation, Timeline Charts, Budget

### **Group 9**

Course: Software Engineering (CSE327)

Section: 10

Submitted To: Razib Hayat Khan (RHK1)

<b>Group Members Name</b>	<b>NSU Id</b>
Samiur Rahman Alif	2021088642
Md Sadikur Rahman Sadeed	2112251642
Md. Mehidi Hasan Khan	2013957642
Sadiqul Islam Shafi	2031384642

## Effort Estimation

Here we know,

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

Where,

E = Effort in person - months or person - years (the amount of time, personnel devote to a specific project)

LOC = Lines of Code, which is 5000.

B = Special skills factor, 3 (assuming moderate complexity).

P = Productivity parameter, 1 (assuming standard productivity).

t = Project duration in months, which takes 6 weeks in conversion of months it will 1.5 months.

Now,

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

$$E = [5000 \times 3^{0.333}/1]^3 \times (1/1.5^4)$$

$$E = [5000 \times 1.4422/1]^3 \times (1/5.0625)$$

$$E = [7211/1]^3 \times (1/5.0625)$$

$$E = 7211^3 \times 0.197$$

$$E = 3.46 \times 10^{15} \times 0.197$$

$$\therefore E = 6.81 \times 10^{14}$$

So, the estimated effort is approximately  $6.81 \times 10^{14}$  person - months or person - years.

## Timeline Charts

Work Tasks	WEEK 1	WEEK 2	WEEK 3	WEEK 4	Week 5	Week 6
Conduct Market Research and Identify User Needs						
Define Service Offering and Benefits for Pet Owners						
Schedule Meetings with Potential Customers for Feedback						
Refine Product Statement based on Customer Input						
Gather Requirements for Vet Doc Service Features						
Design System Architecture for Online Service						
Develop Frontend and Backend Components						
Implement Quality Assurance Processes and Test Cases						
Integrate Service Components for Seamless Functionality						
Deploy Service and Manage Integration with Existing Systems						
Provide Ongoing Maintenance and Technical Support						
Document System Functionality and Processes for Future Reference						

Figure: Timeline Charts of Vet Doc Service

## Budget

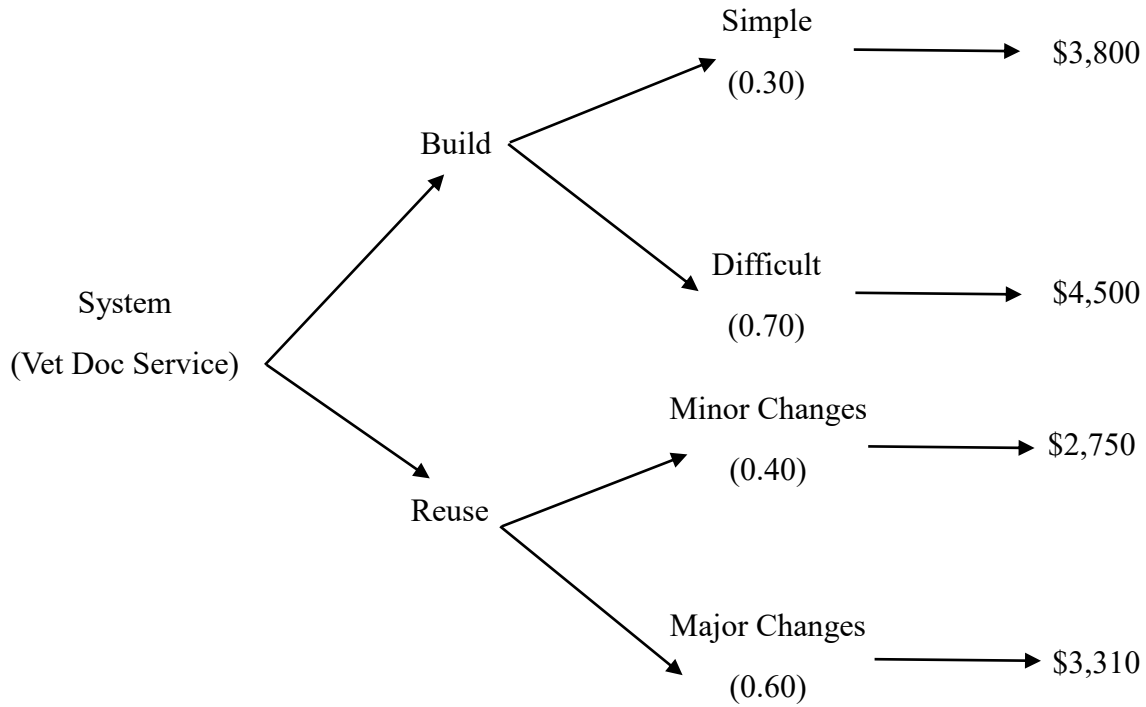


Figure: MAKE - BUY DECISION TREE

Here, we can see the Vet Doc Service system is consist of 2 segments: 1. Build and 2. Reuse

Computing expected cost from decision tree,

Expected cost = (path probability)<sub>i</sub> x (estimated path cost)<sub>i</sub>

$$\therefore \text{Expected cost}_{\text{build}} = 0.30 (\$3,800) + 0.70 (\$4,500) = \$4290$$

$$\therefore \text{Expected cost}_{\text{reuse}} = 0.40 (\$2,750) + 0.60 (\$3,310) = \$3086$$

$$\therefore \text{Expected cost}_{\text{overall}} = \$4290 + \$3086 = \$7376$$