Marmara University – Faculty of Engineering –
Department of Computer Engineering

Spring 2021 – CSE4053 Information Systems: Analysis & Design
Project #1

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1.

	Person. num	hour per each	hour price		
DEVELOPMENT COSTS PERSONNEL					
	Person. num	hour per each	hour price		
2 system analysts	2	400	50	$40.000,00	
4 prog. analisys	4	250	35	$35.000,00	
1 GUI designer	1	200	40	$8.000,00	
1 tele	1	50	50	$2.500,00	
1 system arch	1	100	50	$5.000,00	
1 database spec	1	15	45	$675,00	
1 system librarian	1	250	15	$3.750,00	
DEVELOPMENT COST TRAINING					
	num	cost per pers.			**ONE TIME COSTS**
4 oracle training reg	4	3500		$14.000,00	
DEV. COSTS - NEW HARDWARE AND SOFT					
	num	costs			
1 dev server	1	18700		$18.700,00	
1 server soft os etc	1	1500		$1.500,00	
1 DBSM server soft	1	7500		$7.500,00	
7 DBSM client soft	7	950		$6.650,00	
			Total	$143.275,00	
ANNUAL OP. COSTS - PERSONNEL					
	num	hour per each	hour price		
2 programmer analysts	2	125	35	$8.750,00	
1 system librarian	1	20	15	$300,00	
ANNUAL OP COSTS - HARDWARE SOFT AND MISC.					
1 Maintennance agg. for server	1	995		$995,00	
1 Maintenance agreement for server	1	525		$525,00	**COSTS PER YEAR**
Preprinted forms	15000	0,22		$3.300,00	
			Total	$13.870,00	

	Discount rate	9%			
Years	1	2	3	4	Total
Costs	$143.275,00	$13.870,00	$14.424,80	$15.001,79	
Discount factor	0,9174311927	0,8416799933	0,7721834801	0,7084252111	
Discounted costs	$131.444,95	$11.674,10	$11.138,59	$10.627,65	$164.885,30
Benefits	$45.000,00	$48.000,00	$51.300,00	$54.930,00	
Discount factor	0,9174311927	0,8416799933	0,7721834801	0,7084252111	
Discounted benefits	$41.284,40	$40.400,64	$39.613,01	$38.913,80	$160.211,85
Discounted benefits - costs	-$90.160,55	$28.726,54	$28.474,42	$28.286,15	-$4.673,44
Cumulative benefits - costs	-$90.160,55	-$61.434,01	-$32.959,59	-$4.673,44	
Grow rate	10,00%				
Inrease of sales	$30.000,00	$33.000,00	$36.300,00	$39.930,00	
Decrease of inventory levels	$15.000,00	$15.000,00	$15.000,00	$15.000,00	

Net Present Value (NPV) : -$4.673,44
Return on Investment (ROI): -2,83%
Break-Even Point (BEP): There is no break even point since we can not get positive revenue.

This project should not be accepted by the approval committee, since it does not have a break-even point, and net present value is negative, and return on investment is below 0%.

2. First of all we need to analyze the system. It will most likely take 3 days. Then, we need to create html form to input the résumés into a standard résumé template. Also, we need to display this résumé format in the html webpage. In addition, we need to create a database to store these résumé information. Designing all these, most likely to take 2 days.
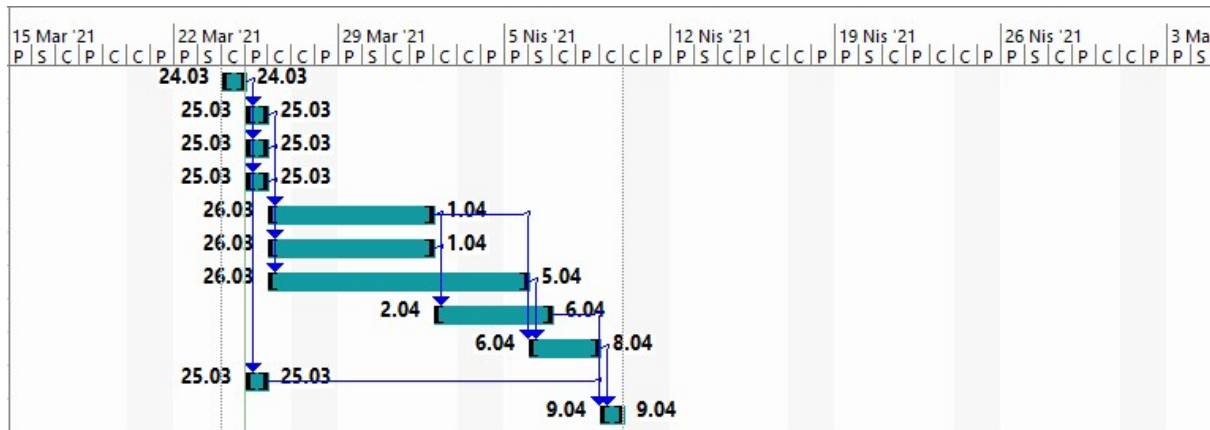
After these tasks are done, we can create the html pages and database. Creating the html pages most likely to take 5 days and creating the database would take 7 days. After creating the database, we need to make connections between the database and the html pages. This would most likely take 3 days for each task. Then we can migrate our system online after installing the server. Installing the server would most likely take 2 days and 2 days to migration.

Thus, the project would most likely take 17 days totally because of the predecessor tasks. You can see the predecessor tasks on the gantt chart in 4th question. However, the project duration estimation would pessimistically take 23 days while it would take 11 days optimistically.

3. Since we converted the project into specific tasks and we need 17 days to most likely build up the systems we would not be worried about. If we assume that the deadlines are unreasonable, then we should not accept the terms with these deadlines.

4. You can see the project development plan with estimation of durations for each task on the table. Also you can see the gantt chart of the project with most likely time durations.

Kimlik	Ad	Öncüller	Optimistic	Most Likely	Pessimistic	PERT Estimate
1	Analysis of the resume system		2 gün	3 gün	4 gün	3 gün
2	Design of the resume form	1	1 gün	2 gün	3 gün	2 gün
3	Design of the resume format	1	1 gün	2 gün	3 gün	2 gün
4	Design of the database	1	1 gün	2 gün	3 gün	2 gün
5	Creating resume form	2	3 gün	5 gün	7 gün	5 gün
6	Creating information resume format	3	3 gün	5 gün	7 gün	5 gün
7	Creating database	4	5 gün	7 gün	9 gün	7 gün
8	Connecting resume form with database	5;6	2 gün	3 gün	4 gün	3 gün
9	Connecting information format with database	5;7	2 gün	3 gün	4 gün	3 gün
10	Installing server	1	1 gün	2 gün	3 gün	2 gün
11	Migrating resume format, resume form and database to the server	8;9;10	1 gün	2 gün	3 gün	2 gün

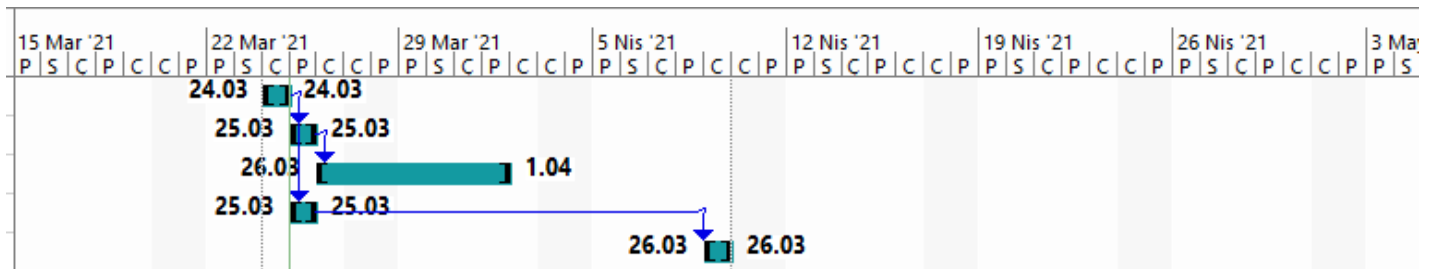*Project development plan table*

Gantt chart

5. Before starting the project we should be able to say that the people who will be worked with should know how to deal with the tasks. So, we can make small tests to measure their knowledge of the technologies. Since we will use html for the page structure and css to design that we should make a basic test about html and css. Also, we will use SQL to create a database so we should test the SQL knowledge.

6. I would be using the Evolutionary work breakdown project management technique to plan this project so that the project will break into small parts. Such shown on the project development plan table.

First of all we need to analyze the system to display the contents of the course. Such as displaying syllabus, the assignments, course book, slides, announcements etc. After deciding what the content should be, we need to come up with the idea of how to display them, meaning the design of the course webpage. Then, we need to build the website. After developing the webpage, we need to install the server and migrate the course webpage to the server.

Kimlik	Ad	Öncüller	Optimistic	Most Likely	Pessimistic	PERT Estimate
1	Analysis of the resume system		2 gün	3 gün	4 gün	3 gün
2	Design of the decription of the course webpage	1	1 gün	2 gün	3 gün	2 gün
3	Building the webpage	2	4 gün	6 gün	8 gün	6 gün
4	Installing server	1	1 gün	2 gün	3 gün	2 gün
5	Migrating couse webpage to the server	4	1 gün	2 gün	3 gün	2 gün

Project development plan table

Gantt chart