

Chapter-04

System Planning

This chapter attempts to describe the function of the system, system planning, Function Point Estimation, Project Schedule Chart and Cost Estimation.

4.1 Functions of Proposed System

1. Registration into the system.	[F1]
2. Login into the system.	[F2]
3. Admin can manage candidates.	[F3]
4. Admin can manage candidates.	[F4]
5. Admin can manage employees.	[F5]
6. Admin can manage applicants.	[F6]
7. Admin can manage exam panel.	[F7]
8. Admin can manage result by category.	[F8]
9. Admin can manage security code.	[F9]
10. Admin can manage application status.	[F10]
11. Employee can manage candidate's profile.	[F11]
12. Employee can manage applicants.	[F12]
13. Employee can manage job posts.	[F13]
14. Employee can manage questions.	[F14]
15. Candidates can update profile.	[F15]
16. Candidates can apply jobs.	[F16]
17. Candidates can view result by category.	[F17]

4.2 System Project Planning

Software project planning is the second activity of CPF. Software project management commences with a set of activities that collectively called software project planning. Before starting any project, it is compulsory to estimate the work to be done, the resources that will be required, the time will elapse from start to finish and to analyze the project to determine whether it is feasible or not.

The following activities of software project planning that have followed in this project are:

- ❖ System Project Estimation
- ❖ Function Oriented Metrics
- ❖ Process Base Estimation
- ❖ Task Scheduling
- ❖ Project Schedule Chart
- ❖ Cost Estimation

4.2.1 System Project Estimation

The accuracy of a software project estimate predicated based on a number of things:

- a) Properly estimated the size of the product to build.
- b) The ability to translate the size estimation into human effort, calendar time and money.
- c) The degree to which the project plan reflects the abilities of the software team or engineer.
- d) The stability of the product requirements and the environment that supports the software engineering effort.

Software size estimation is the most important matter that I have to consider during the software project. If the software size not calculate properly, then this will cause various problems such as scheduling problems, budget problem etc. As the project goes on, before estimating the software size, I have to confirm that software scope is bounded.

4.2.2 Function Oriented Metrics

Function point-based estimation focuses on information domain values rather than software values. Function points are computed by comparing five information domain characteristics. The information domain values are as follows

Number of external inputs (EI) – Each user input that provides distinct application-oriented data to the software is counted. Inputs should be distinguished from inquiries.

Number of external outputs (EO) – Each user output that provides application-oriented information to the user is counted.

Number of external inquiries (EQ) – An inquiry defined as an on-line input whose results in the generation of some immediate software response in the form of an on-line output. Each distinct inquiry counted.

Number of Internal logical files (ILF) – Each logical master file counted. Database table wherefrom input goes for modified by application.

Numbers of external interfaces files (EIF) – All machine-readable interfaces that used to transmit information to another system counted.

The weights of the domains are fixed, which are provided in appropriate table location. Weights can be divided into three categories according to the functionality of the system. They are simple, average and complex. The total system is a complex system but the part of the total system. Once these data has collected, a complexity value is associated with each count. To find out the FP count the following formula is used,

Value Adjustment Factor (VAF) = $(0.65 + (.01 \times \text{TDI}))$

UFP = UFP (Data Fn) + UFP (Transaction Fn) Adjusted

Function Point Count (AFP) = UFP X VAF Effort for

PHP = AFP x Productivity

4.2.2.1 Function Point Estimation: DET and RET

Table I shows the functionality with input and the outputs for Admin.

Table I. Function Point Estimation (Admin)

Functionality	Input	Output
Login	Email, Password	Enter the admin dashboard
View Admin Profile	Click on view profile button	Display ID, Photo, Name, Gender, Date of Birth, Contact, Address, Email, Password (invisible)
Update admin profile	Photo, Name, Gender, Date of Birth, Contact, Address, Email, Password (invisible)	Successfully Updated
View all Candidates	Click on all candidates button	Display ID, Name, Email, Contact, Application Status, CV
Search candidates	Keywords	Display id, name, gender, date of birth, email, contact
View all applicants	Click on all applicants button	Display ID, Name, Application Status, Job title, Security Code, CV
Accept/Reject Application	Click on status then click on accept/reject	Display ID, Job title, Security Code, Application Status,

		Email, CV, Accept/Reject
Send Pin Code	Click on status then click application then insert pin code	Display ID, Job title, Security Code, Application Status, Email, CV, Pin Code
Enter to Exam Panel	Click on exam panel button then insert security code	Enter to the admin exam panel or warning error message
View examinee ranking	Click on rank button	Display ID, Name, Score, Rank
View questions	Click on home button	Display S.N, Topic, Total question, Marks, Time limit
View feedback	Click on feedback button	Display ID, Comment, Email, By
Send exam result notification	Click on exam result button then click on result notify and insert notification	Display ID, Name, Score, Result status, Test status, Viva status, Technical status
View examinee result by category	Click on exam result then click on result button	Display ID, Name, Score, View result
Report of all candidates	Click on all candidates print	PDF/Print
Report of all applicants	Click on all applicants print	PDF/Print
Report of all examinee results	Click on all examinee result print	PDF/Print

Table II shows the functionality with input and the outputs for Employee.

Table II. Function Point Estimation (Employee)

Functionality	Input	Output
Login	Email, Password	Enter the employee dashboard
View Employee Profile	Click on view profile button	Display ID, Photo, Name, Gender, Date of Birth, Contact, Address, Email, Password (invisible)
Update Employee profile	Photo, Name, Gender, Date of Birth, Contact, Address, Email, Password (invisible)	Successfully Updated
View all candidates	Click on all candidates button	Display ID, Name, Email, Contact, Application Status, CV
View all applicants	Click on all applicants button	Display ID, Name, Application Status, Job title, Security Code, CV
Add Job	job_id, jobtitle, description, minimumsalary, maximumsalary, experience, qualification	Add Successfully

Delete job	Click on remove job button	Remove successfully
Update job	job_id, jobtitle, description, minimumsalary, maximumsalary, experience, qualification	Update successfully
Add State	id, State name, country_id	Add successfully
Add cities	Id, Cities name, state_id	Add successfully
Enter to Exam Panel	Insert security code	Enter to the admin exam panel or warning error message
Add question	Question title box, question box, option box, answer selected box, time limit box, marks box, minus marks box, submit button.	Display Successfully add
Delete question	Click on question button then click on remove question button	Display Successfully remove.
Update question	Question title box, question box, option box, answer selected box, time limit box, marks box, minus marks box, update button.	Display Successfully update
View examinee ranking	Click on rank button	Display ID, Name, Score, Rank

View questions	Click on home button	Display S.N, Topic, Total question, Marks, Time limit
View feedback	Click on feedback button	Display ID, Comment, Email, By
View examinee result by category	Click on exam result then click on result button	Display ID, Name, Score, View result
Report of all candidates	Click on Candidates Report	PDF/Print
Report of all applicants	Click on applicants Report	PDF/Print
Report of all examinee results	Click on examinee result report	PDF/Print

Table III shows the functionality with input and the outputs for Candidate.

Table III. Function Point Estimation (Candidate)

Functionality	Input	Output
Registration	Name, gender, contact, Email, Password	Successfully registered
Login	Email, password	Access to the candidate profile
View Candidate Profile	Click login	Change photo, name, address, gender, contact, email, change password, birthdate, graduation institute name, graduation degree name, graduation duration, cgpa, passing year, higher secondary school name, group, gpa, board, passing year, secondary school name, group, gpa, board, passing year, skills, language and communication efficiency, hobbies, experience, reference
Update profile	Change photo, name, address, gender,	Successfully update

	contact, change password, birthdate, graduation institute name, graduation degree name, graduation duration, cgpa, passing year, higher secondary school name, group, gpa, board, passing year, secondary school name, group, gpa, board, passing year, skills, language and communication efficiency, hobbies, experience, reference	
View jobs	Click on jobs	Display all available jobs list with job title, experience, cities, salary
Select jobs	Click on job title	Display job title, experience, cities, apply button
Apply jobs	Input job title	Successfully send
View notification	Click on notification	Display id, name, application status, security code, online

		test date, online test time
Enter to Exam Panel	insert security code	Enter to the candidate exam panel or warning error message
Exam start	Click on start	Display question id, question, options
View history	Click on history	Display id, question solved, right, wrong, score
View ranking	Click on rank	Display rank id, Name, Score
View questions	Click on home button	Display S.N, Topic, Total question, Marks, Time limit
View result by category	Click on status category	Display ID, Name, result status, next exam date, next exam time
Result report	Click on status category	PDF/Print
Download or print resume	Click on view cv	PDF/Print
Contact with the Company	Click on contact from menu bar	Email entry box, Comment text box, send button.

Table IV shows the identify complexity of transaction functions for Admin.

Table IV. Identify Complexity (Admin)

Transaction Functions	Files/Fields involvement	FTRs	DETs
Log in (EI)	Fields: Email, password File: admin	1	2
View admin profile (EO)	Fields: id, photo, name, gender, date of birth, contact, address, email File: admin	1	7
Update admin profile (EI)	Fields: Photo, Name, Gender, Date of Birth, Contact, Address, Email File: admin	1	7
Search candidates (EQ)	Fields: id, name, gender, date of birth, email, contact File: candprofile	1	6
Search employee (EQ)	Fields: id, name, gender, date of birth, email, contact File: empprofile	1	6

View all applicants (EO)	Fields: ID, Name, Application Status, Job title, Security Code, CV File: candprofile	1	7
Accept/Reject Application (EI)	Fields: id, status File: candprofile	1	2
Send Pin Code (EI)	Fields: id, status, pincode File: candprofile	1	3
View examinee ranking (EO)	Fields: ID, Name, email, Score, Rank File: rank	1	5
View questions (2XEO)	Fields: S.N, Topic, Total question, Marks, Time limit File: question, quiz	2	5
View feedback (EO)	Fields ID, Comment, Email, By File: feedback	1	4
Send exam result notification (EI)	Fields: id, status File: candprofile	1	2

View examinee result by category (EO)	Fields: ID, Name, Score, View result File: candprofile	1	4
Report of all candidates (EO)	Fields: ID, Name, Email, Contact, Application Status File: candprofile	1	5
Report of all applicants (EO)	Fields: ID, Name, Application Status, Job title, Security Code File: candprofile	1	5
Report of all examinee results (EO)	Fields: ID, Name, email, Score File: candprofile	1	4

Table V shows the identify complexity of transaction functions for employer

Table V. Identify Complexity (Employer)

Transaction Functions	Files/Fields involvement	FTRs	DETs
Log in (EI)	Fields: Email, password File: empprofile	1	2
View employee profile (EO)	Fields: id, photo, name, gender, date of birth, contact, address, email File: empprofile	1	7
Update employee profile (EI)	Fields: Photo, Name, Gender, Date of Birth, Contact, Address, Email File: empprofile	1	7
Search candidates (EQ)	Fields: id, name, gender, date of birth, email, contact File: candprofile	1	6
View all applicants (EO)	Fields: ID, Name, Application Status, Job title, Security Code, CV	1	7

	File: candprofile		
Add Job (EI)	Fields: job_id, jobtitle, description, minimumsalary, maximumsalary, experience, qualification File: job_post	1	7
Update job (EI)	Fields: job_id, jobtitle, description, minimumsalary, maximumsalary, experience, qualification File: job_post	1	3
Add State (EI)	Fields: Id, State name, country_id File: states	1	3
Add Cities (EI)	Fields: Id, Cities name, state_id File: cities	1	3
Add question (3XEI)	Fields: Question title, question, option, answer selected, time limit, marks, minus marks	3	7

	File: question, answer, quiz		
Update question (EO)	Fields: Question title, question, option, answer selected, time limit, marks, minus marks File: question, answer, quiz	3	7
View examinee ranking (EO)	Fields: ID, Name, email, Score, Rank File: rank	1	5
View questions (2XEO)	Fields: S.N, Topic, Total question, Marks, Time limit File: question, quiz	2	5
View feedback (EO)	Fields ID, Comment, Email, By File: feedback	1	4
View examinee result by category (EO)	Fields: ID, Name, Score, View result File: candprofile	1	4
Report of all candidates (EO)	Fields: ID, Name, Email, Contact, Application Status	1	5

	File: candprofile		
Report of all applicants (EO)	Fields: ID, Name, Application Status, Job title, Security Code File: candprofile	1	5
Report of all examinee results (EO)	Fields: ID, Name, email, Score File: candprofile	1	4

Table VI shows the identify complexity of transaction functions for Candidates.

Table VI. Identify Complexity (Candidates)

Transaction Functions	Files/Fields involvement	FTRs	DETs
Registration (EI)	Fields: Name, gender, contact, Email, Password File: candprofile	1	5
Log in (EI)	Fields: Email, password File: candprofile	1	2
View Candidate Profile (EO)	Fields: id, Change photo, name, address, gender, contact, email, change password, birthdate, graduation institute name, graduation degree name, graduation duration, cgpa, passing year, higher secondary school name, group, gpa, board, passing year, secondary school name, group,	1	32

	gpa, board, passing year, skills, language and communication efficiency, hobbies, experience, reference File: candprofile		
Update profile (EI)	Fields: Change photo, name, address, gender, contact, change password, birthdate, graduation institute name, graduation degree name, graduation duration, cgpa, passing year, higher secondary school name, group, gpa, board, passing year, secondary school name, group, gpa, board, passing year, skills, language and communication efficiency, hobbies, experience, reference File: empprofile	1	31
View jobs (EO)	Fields: job title, experience, cities, salary	1	4

	File: job_post		
View notification (EO)	Fields: id, name, application status, security code, online test date, online test time File: candprofile	1	6
View history (EI)	Fields: id, question solved, right, wrong, score File: history	1	5
View ranking (EO)	Fields rank id, Name, Score File: rank	1	3
View questions (2XEO)	Fields: S.N, Topic, Total question, Marks, Time limit File: question, quiz	2	5
View result by category (EO)	Fields: ID, Name, result status, next exam date, next exam time File: candprofile	1	3

Contact with the company	Fields: id, email address, comment File: contact	1	3
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4.2.2.2 Identify Complexity of Data Function

Table VII shows the Identify Complexity Data Function.

Table VII. Identify Complexity (DT)

Data Functions	Fields/File involvement	RETs	DETs
admin (ILF)	Fields: admin_id, name, email, pincode, contact, address, photo	1	7
candprofile (ILF)	Fields: id, photo, name, secpin, status, jobtitle, address, gender, contact, email, change password, birthdate, graduation institute name, graduation degree name, graduation duration, cgpa, passing year, higher secondary school name, group, gpa, board, passing year, secondary school name, group, gpa, board, passing year, skills, language and communication efficiency, hobbies, experience, reference, test, viva, demo, testexamdate, testexamtime, vivaexamdate, vivaexamtime,	1	43

	demoexamdate, demoexamtime		
empprofile (ILF)	Fields: ID, Photo, Name, Gender, Date of Birth, Contact, Address, Email	1	8
Job_post (ILF)	Fields: job_id, jobtitle, description, minimumsalary, maximumsalary, experience, qualification	1	7
states (ILF)	Id, State name, country_id	1	3
cities (ILF)	Id, Cities name, state_id	1	3
question (ILF)	Fields: Question title, question, option, answer selected, time limit, marks, minus marks	1	7
answer (ILF)	Fields: qid, ansid	1	2
History (ILF)	Fields: email, eid, score, level, right, wrong, date	1	7
options (ILF)	Fields: qid, option, optionid	1	3
questions (ILF)	Fields: eid, qid, qns, choice, sn	1	5

Quiz (ILF)	Fields: eid, title, right, wrong, total, time, intro, tag, date	1	9
Rank (ILF)	Fields: email, score, time	1	3
Feedback (ILF)	Fields: id, name, email, subject, feedback, date, time	1	7

4.2.2.3 Unadjusted Function Point Contribution for Transaction Function

Table VIII show the Unadjusted function Point Contribution for Transaction Function

Table VIII. Unadjusted Function Point Contribution for Transaction Function

Transaction Functions	FTRs	DETs	Complexity	UFP
Log in (EI)	1	2	Low	3
View admin profile (EO)	1	7	Low	4
Update admin profile (EI)	1	7	Low	3
Search candidates (EQ)	1	6	Low	3
Search employee (EQ)	1	6	Low	3
View all applicants (EO)	1	7	Low	4
Accept/Reject Application (EI)	1	2	Low	3
Send Pin Code (EI)	1	3	Low	3
View examinee ranking (EO)	1	5	Low	4
View questions (2XEO)	2	5	Low	4

View feedback (EO)	1	4	Low	4
Send exam result notification (EI)	1	2	Low	3
View examinee result by category (EO)	1	4	Low	4
Report of all candidates (EO)	1	5	Low	4
Report of all applicants (EO)	1	5	Low	4
Report of all examinee results (EO)	1	4	Low	4
View employee profile (EO)	1	7	Low	4
Update employee profile (EI)	1	7	Low	3
Add Job (EI)	1	7	Low	3
Update job (EI)	1	3	Low	3
Add State (EI)	1	3	Low	3

Add Cities (EI)	1	3	Low	3
Add question (3XEI)	3	7	High	6
Update question (EO)	1	7	Low	4
Registration (EI)	1	5	Low	3
Log in (EI)	1	2	Low	3
View Candidate Profile (EO)	1	32	Average	5
Update profile (EI)	1	31	Average	4
View jobs (EO)	1	4	Low	4
View notification (EO)	1	6	Low	4
View history (EI)	1	5	Low	3
View ranking (EO)	1	3	Low	4
Contact with the company(EO)	1	3	Low	3
				119

4.2.2.4 Unadjusted Function Point Contribution for Data Function

Table IX shows the unadjusted function point contribution for data function.

Table IX. Unadjusted Function Point Contribution for Data Function

Data Functions	RETs	DETs	Complexity	UFP
Admin (ILF)	1	7	Low	7
candprofile (ILF)	1	43	Low	7
empprofile (ILF)	1	8	Low	7
Job_post (ILF)	1	7	Low	7
states (ILF)	1	3	Low	7
cities (ILF)	1	3	Low	7
question (ILF)	1	7	Low	7
answer (ILF)	1	2	Low	7
History (ILF)	1	7	Low	7
options (ILF)	1	3	Low	7
questions (ILF)	1	5	Low	7
Quiz (ILF)	1	9	Low	7

Rank (ILF)	1	3	Low	7
Feedback (EIF)	1	7	Low	5
				96

4.2.3 Performance and Environmental Impact

Table X shows the Performance and environmental impact here.

Table X. Performance and environmental impact

GSC	TDI
Data Communication	2
Distributed Data Processing	1
Performance	4
Heavily Used Configuration	1
Transaction Rate	2
Online Data Entry	3
End-user Efficiency	3
Online Update	3
Complex processing	3
Reusability	2
Installation Ease	1
Operational Ease	2
Multiple Sites	0
Facilitate Change	3
Total Degree of Influence (TDI)(Range 0 to 70 -> influence size by +- 35%)	30

4.2.4 Function Point Estimation

Value Adjustment Factor (VAF) = $(0.66 + (0.01 \times \text{TDI})) = (0.6 + (0.01 \times 30)) =$

1 UFP = UFP (Data Function) + UFP (Transaction Function) = $96 + 119 = 215$

Adjusted Function Point Count (AFP) = $\text{UFP} \times \text{VAF} = 215 \times 1 = 215$

If 4-person 8 hour works then

Effort for C# = AFP x Productivity

= 215×15.5 [Productivity of PHP is 15.5]

= 3333 person hours / 8hours

= 417 person days / 24 days

= 17 person months / 4 persons

= 4.25 months for four persons

Approximately 4 months required for four persons to finish the project.

4.2.5 Task Scheduling

Project scheduling is an activity of distributing the estimated efforts within the planned project duration. There are some basic rules for project scheduling. They are as follows
Compartmentalization– The project must compartmentalize into a number of manageable activities and tasks.

Interdependency – The interdependency of each compartmentalized activity or task must be determined. Some tasks must occur in sequence while others can occur in parallel

Time allocation – Each task to be scheduled must allocated some number of work units.

Effort validation – Every project has a defined number of staff members. It should ensure that no more than the allocated number of people has scheduled at any given time.

Defined responsibilities – Every task that is scheduled should assign to a specific team member. **Defined outcomes** – Every task that is scheduled should have a defined outcome.

The outcomes normally a work product or a part of a work product.

4.2.6 Process Based Estimation

In process-based estimation, process is decomposed into a relatively small set of tasks and the effort required to accomplish each task is estimated. Process based estimation begins with a delineation of software functions obtained from the project scope. A series of software process activities must be performed for each function.

Table XI. Process Based Estimation.

Activity	CC	Planning	Risk	Engineering		Construction		CE	Total
				Analysis					
Function				Analysis	Design	Code	Test	N/A	
F1	.05	.08	.12	0.20	.20	.24	.12	N/A	1.01
F2	.05	.07	.11	0.20	.22	.21	.12	N/A	0.98
F3	.05	.09	.13	0.20	.20	.20	.13	N/A	1.00
F4	.05	.08	.11	0.23	.19	.20	.17	N/A	1.03
F5	.05	.09	.14	0.20	.21	.11	.20	N/A	1.00
F6	.06	.08	.13	0.20	.21	.09	.23	N/A	1.00
F7	.04	.10	.13	0.22	.20	.13	.26	N/A	1.08
F8	.04	.08	.12	0.18	.20	.11	.23	N/A	0.96
F9	.05	.09	.12	0.22	.19	.14	.20	N/A	0.94
F10	.05	.09	.11	0.20	.20	.19	.15	N/A	0.99
F11	.04	.09	.11	0.23	.21	.13	.11	N/A	0.75
F12	.05	.08	.13	0.21	.20	.15	.15	N/A	0.88
F13	.05	.07	.12	0.22	.19	.16	.16	N/A	0.95
F14	.04	.08	.12	0.20	.20	.18	.14	N/A	0.55
F15	.04	.09	.12	0.22	.21	.11	.18	N/A	0.90
F16	.05	.07	.13	0.23	.20	.26	.18	N/A	0.95
F17	.05	.07	.11	0.22	.20	.22	.22	N/A	0.99
Total	2.07	13.1	2.06	3.58	3.17	2.01	3.05		10.00
Effort	5%	9%	12%	25%	20%	16%	13%		100%

4.2.7 Effort Distribution:

The project estimation technique leads to estimates of work units required to complete the software development.

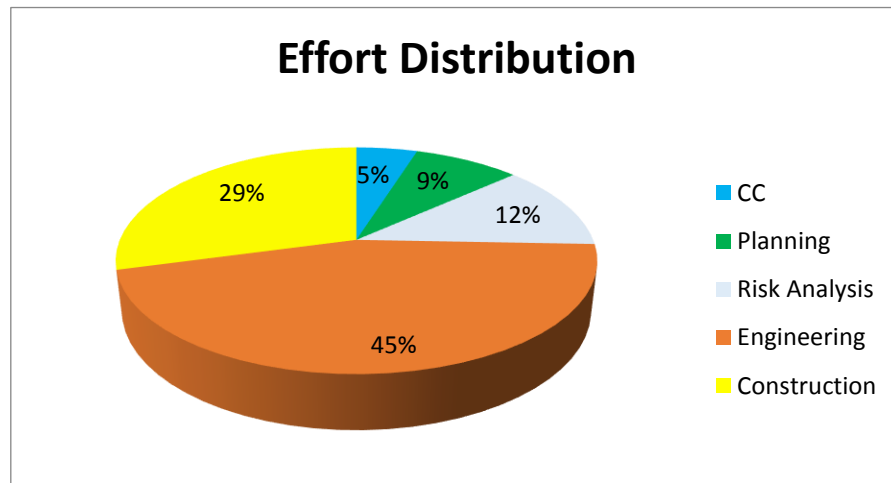


Figure 4.1 Effort Based Estimation

In this project, 45.00% of full software development has been allocated to engineering which consists of Analysis and design, 32.00% has allocated to coding and testing.

A detailed view of the effort distribution chart illustrated below-

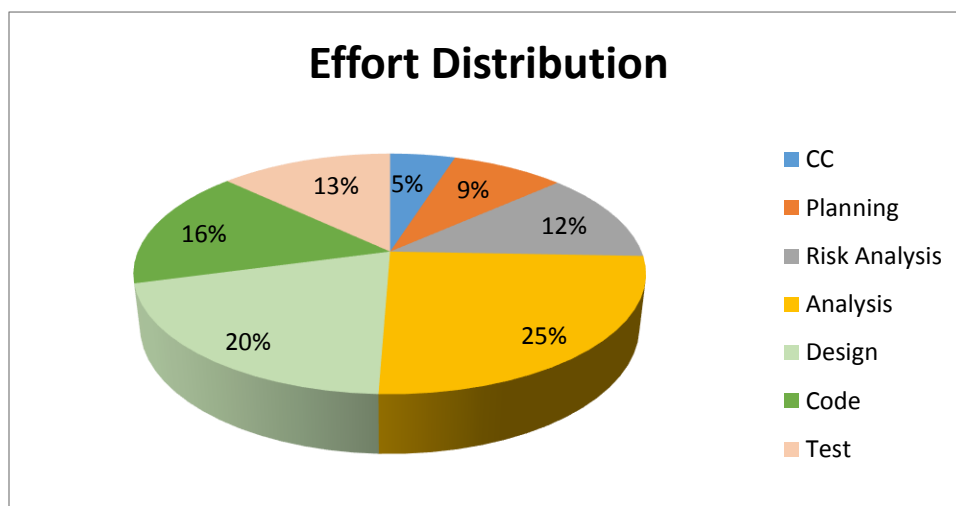


Figure 4.2 Details Effort Based Estimation

Description:

- ❖ Customer Communication – 5%
- ❖ Planning – 9%
- ❖ Risk Analysis– 12%
- ❖ Analyzing – 25%
- ❖ Designing – 20%
- ❖ Coding – 16%
- ❖ Testing – 13%

4.2.8 Project Schedule Chart

Total system development is a combination of set of tasks. These set of tasks should have done sequentially and timely. Project schedule works as the guideline of the system developer. The following is the schedule chart of this project:

Week Activities	W-01	W-02	W-03	W-04	W-05	W-06	W-07	W-08	W-09	W-10	W-11	W-12
Requirement Garthering												
Planning												
Analyzing												
Designing												
Coding												
Testing												
Implementation												

Figure 4.4 Project Schedule Chart

4.3 Cost Estimation

Cost analysis represents the total cost to complete any project. In this project, there are four factors to analyze and calculate the cost. The factors are personnel cost, software cost, hardware cost and other cost.

- Personnel cost: Personnel cost is the salary of the customer communicator, system analyst and designer, coder and tester. For estimating the cost, the analyzer used the minimum industrial average.
- Software cost: It is the cost of the software is which used in this project
- Hardware cost: cost of the computer that used to complete the project.
- Other cost: Other cost includes the cost of the house rent, telephone bill, electricity bill, convenience and so on.

4.3.1 Personnel Cost

Position	Salary/Month(BDT)	Salary/Hour(BDT)
System Analyst	28800	150
Designer	29150	110
Coder	31000	100

Duration of the project = 4 months

Total working hours per month = 192 hours

Total working hours for the project = $192 \times 4 = 768$ hours

Table XII: Personnel Cost Estimation

Designation	No. of Person	Working Hours	Person Working Hours Total Salary	Person Working Hours Total Salary First Payment at 60% of Salary	Remaining 20% Payment of Salary	Remaining 20% Salary Distributed Each Month	Total Salary
System Analyst	1	190	28800	17280	5760	5760	28800
Designer	1	265	29150	17490	5830	5830	29150
Coder	1	310	31000	18600	6200	6200	31000
Total							88,950 Tk

4.3.2 Hardware Cost

The first step is to sum the digits or numbers starting with the life and going back to one. For example, an asset with a life of 5 would have a sum of digits as follows: $5 + 4 + 3 + 2 + 1 = 15$. To find the percentage for each year divide the year's digit by the sum. In the example above the percentage would be calculated as follows:

Year 1	$5 / 15 = 33.34\%$
Year 2	$4 / 15 = 26.67\%$
Year 3	$3 / 15 = 20 \%$
Year 4	$2 / 15 = 13.33 \%$
Year 5	$1 / 15 = 6.67\%$

Table XIII: Depreciated Hardware Cost

Sl.	Hardware	Number	Depreciation Calculation	Depreciation Expense	Total
1	Laptop	1	$34000 * 33.34\%$	11334	$((34000 - 11334) / 48) * 4 = 1888$ Tk
2	Modem	1	$2800 * 33.34\%$	934	$((2800 - 934) / 48) * 4 = 155$ Tk
3	Printer	1	$3200 * 33.34\%$	1066	$((3200 - 1066) / 48) * 4 = 177$ Tk
					Total= 2220 Tk

4.3.3 Software Cost

It is the cost of the software is which used in this project.

Table XIV: Depreciated Software Cost

Sl.	Software	Number	Depreciation Calculation	Depreciation Expense	Total
1	Windows 10	1	12000*33.34%	39999	$((12000-3999)/48)*4 = 666\text{Tk}$
2	Microsoft Office	1	8000*33.34%	2666	$((8000-2666)/48)*4 = 444\text{ Tk}$
3	Xampp	1	Free	Free	-
4	Sublime Text	1	Free	Free	-
					Total = 1110 Tk

4.3.4 Other Cost

Table XV: Depreciated Other Cost

Particular	Cost(for 4 Month)
Office rent	24000Tk
Electric Bills	7000Tk
Others	6000Tk
Total	37000Tk

4.3.5 Depreciated Software Cost:

Total Cost (BDT) =Personal Cost+ Hardware + Software +Others

= 88950+2220+1110+37000

= 1,29,280 TK

In word: One Lac Twenty Nine Thousand Two Hundred Eighty TK Only.