American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science & Technology (FST)

Polythene and Plastic Collector

A Software Engineering Project Submitted
By

Semester: Fall_22_23		**Section:**	**Group Number:**	
SN	Student Name	Student ID	Contribution (CO1+CO2)	Individual Marks
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3	SHAH FAHIM CHOWDHURY	17-33640-1	20%	
4	N.S. SALMAN	18-38488-2	20%	
5	AKIF ZAMAN	17-33224-1	20%	

The project will be Evaluated for the following Course Outcomes

CO1: *Analyze* the impact of software engineering models over various context of software development to assess societal, health, safety, legal and cultural issues.	Total Marks	
Project Background Analysis and feasibility (needs, goal, benefits, etc.)	[5Marks]	
Analysis the impact of societal, health, safety, legal and cultural issues	[5Marks]	
Review of existing Studies and Relevant Example	[5Marks]	
CO2: *Explain* appropriate software engineering model, project management roles and their skills in the context of professional engineering practice and solutions to complex engineering problems in a software development environment.	Total Marks	
Appropriate Process Model Selection and Argumentation with Evidence	[5Marks]	
Evidence of Argumentation regarding process model selection	[5Marks]	
Submission, Defense, Completeness, Spelling, grammar and Organization of the Project report	[5Marks]	

1. PROJECT PROPOSAL

1.1 Background to the Problem

Plastic is a polymeric material that is, a material whose molecules are very large, often resembling long chains made up of a seemingly endless series of interconnected links. Natural polymers such as rubber and silk exist in abundance, but nature's "plastics" have not been implicated in environmental pollution, because they do not persist in the environment. The average consumer comes into daily contact with all kinds of plastic materials that have been developed specifically to defeat natural decay processes materials derived mainly from petroleum that can be molded, cast, spun, or applied as a coating. Since synthetic plastics are largely nonbiodegradable, they tend to persist in natural environments. Moreover, many lightweight single-use plastic products and packaging materials, which account for approximately 50 percent of all plastics produced, are not deposited in containers for subsequent removal to landfills, recycling centers, or incinerators. Instead, they are improperly disposed of at or near the location where they end their usefulness to the consumer. Dropped on the ground, thrown out of a car window, heaped onto an already full trash bin, or inadvertently carried off by a gust of wind, they immediately begin to pollute the environment. Indeed, landscapes littered by plastic packaging have become common in many parts of the world. Studies from around the world have not shown any country or demographic group to be most responsible, though population centers generate the most litter. The causes and effects of plastic pollution are truly worldwide.

Plastic pollution can afflict land, waterways, and oceans. It is estimated that 1.1 to 8.8 million tons of plastic waste enters the ocean from coastal communities each year. It is estimated that there is a stock of 86 (**the Korean Society of Environmental Engineers (KSEE)**) million tons of plastic marine debris in the worldwide ocean as of the end of 2013, with an assumption that 1.4% (**2017 United Nations Ocean Conference**) of global plastics produced from 1950 to 2013 has entered the ocean and has accumulated there. Some researchers suggest that by 2050 there could be more plastic than fish in the oceans by weight. Living organisms, particularly marine animals, can be harmed either by mechanical effects such as entanglement in plastic objects, problems related to ingestion of plastic waste, or through exposure to chemicals within plastics that interfere with their physiology. Degraded plastic waste can directly affect humans through both direct consumption, indirect consumption and disruption of various hormonal mechanisms.

1.2 Solution to the Problem

Recycling plastic has long been the main solution for plastic pollution, yet only 10% (**the Korean Society of Environmental Engineers (KSEE)**) of the world's plastics are recycled. The lack of large-scale infrastructures and convenient access to recycling bins or facilities can be attributed to people not recycling regularly. Our "polythene and plastic collector" which is web base software will play a huge role in plastic recycling. People in our country throw away polythene or plastic after using it. Some of these discarded plastics are collected by the cleaning staff but most remain in the environment. People are doing these things again and again despite the fear of

law and fines. As a solution to this, using our software, we used the money to buy used polythene and plastics from the people. Since they will get money for unused polythene and plastic, they will collect it without throwing it away. Those who will collect plastic and polythene using the software will be considered as buyers and those who will be collected from will be considered as sellers. Everyone will have their own account in the software. Prices will be determined based on the differences between plastic and polythene. Buyers will be able to collect plastic and polythene to make fuel oil from polythene and sell plastic bottles to build houses. Which will play a huge role in our country's economy and increase the recycling of plastics and polythene.

2. SOFTWARE DEVELOPMENT LIFE CYCLE

2.1 Process Model

The suitable model for this software is V-Model. The V model is a model in which the execution of the phases happens in a sequential manner in a v shape. It is an extension of the waterfall model and is based on association of a testing phase for each corresponding development stage of waterfall model. We select this model because it is easy to manage due to the rigidity of the model. Waterfall and V models are similar, however, their approach to software development is completely different. Each phase of V-Model has specific deliverables and a review process. Proactive defect tracking – that is defects are found at early stage. Moreover, the requirements are clearly defined and fixed for this software. This model focuses on verification and validation activities early in the life cycle thereby enhancing the probability of building an error-free and good quality product. The Waterfall Model is a sequential model where the process starts from the beginning and ends at the end. Unlike Waterfall Models where the development process is sequential, the V Model is a cyclical model which allows feedback from previous stages, to improve the next stage. In V Model, the first stage is to identify the problem or define a ‘requirement’. The requirements are gathered from various sources like User Interviews, Market surveys, etc. Then after the requirements are gathered, it is transformed into an analysis model using various methods like Brainstorming, Data Flow Diagrams, etc. This is called the first cycle of the V Model. If the first cycle is successful, then it can be taken into the development stage, and this is the second cycle of the V Model. Once the development is completed, it can be tested, and this will be termed as the third cycle of the V Model. Once the testing is done, it will be delivered to the customer, and this will be termed as the fourth cycle of the V Model. If there are any problems with the delivery, then it can be tracked down and corrected in the next cycle. This is how V Model works. The main advantage of the V Model is that it can deliver the software in a short period of time. During every cycle, changes can be made to the software if everything is not working according to the plan.

2.2 Project Role Identification and Responsibilities

Role: Manager, Customer, Programmer, Tester

At first the manager decides for time, cost, resources, schedule, risk management. Then Customers do the requirement and analysis phase. This phase involves detailed communication with the customer to understand his expectations and exact requirement. This is a very important activity and needs to be managed well, as most of the customers are not sure about what exactly they need. The acceptance test design planning is done at this stage as business requirements can be used as an input for acceptance testing. Decides when each requirement is satisfied. The customer sets the implementation priority for the requirements. The actual coding of the system modules designed in is taken up in the Coding phase. The best suitable programming language is decided based on the system and architectural requirements. The coding is performed based on the coding guidelines and standards. The code goes through numerous code reviews and is optimized for best performance before the final build is checked into the repository. Unit Testing->Integration Testing->System Testing->Acceptance Testing. Every single phase in the development cycle there is a directly associated testing phase.

3. REQUIREMENT ANALYSES

Functional Requirements

1. User Registration
   1.1. Software will allow users registration with email or phone number.
   1.2. The user can register as a buyer or seller.
   1.3. After the 1st step successful then software will take users personal information.
   1.4. Software forces the user to set a strong password.
   1.5. If all steps are done, then the software will send a verification code by email or phone number.

Priority Level: High.

Precondition: User should have valid email address or phone number.

2. Software Login
   2.1. The software shall allow users to login with their given username and password.
   2.2. Login successful users will see their interface of account.
   2.3. If the number of login attempts exceeds its limit (5 times), the system will check whether the user is a robot.

Priority Level: High.

Precondition: User should have user id and password.

3. Forget Password
   3.1. Unfortunately, if users forgot the password, the software would allow them to reset the password by verifying the email address or phone number.

Priority Level: High.

Precondition: User should have user id and email address or phone number.

4. Map System
   4.1. Software will give permission to access a map that both buyer and seller will find each other.
   4.2. The software shows all the nearest buyers on the map.

Priority Level: Low.

Precondition: User should have user id and password.

5. Add & Edit
   5.1. A seller could add or edit or delete product, price.

Priority Level: High.

Precondition: User should have user id and password.

6. Request
   6.1 Buyers can accept the request of seller and products.

Priority Level: High.

Precondition: User should have user id and password.

Non-Functional Requirements:

Security: As it is an e-commerce software must have appropriate encryption and security protocols in place to protect customer data and prevent unauthorized access.

Reliability: The software must have a high uptime and be able to handle large amounts of traffic and concurrent users without performance degradation.

Performance: The software must be able to quickly and efficiently process orders and handle large amounts of data.

Maintainability: The software must be easy to update and maintain, with clear documentation and a modular design.

Scalability: The software must be able to easily accommodate a growing user base and increasing amounts of data.

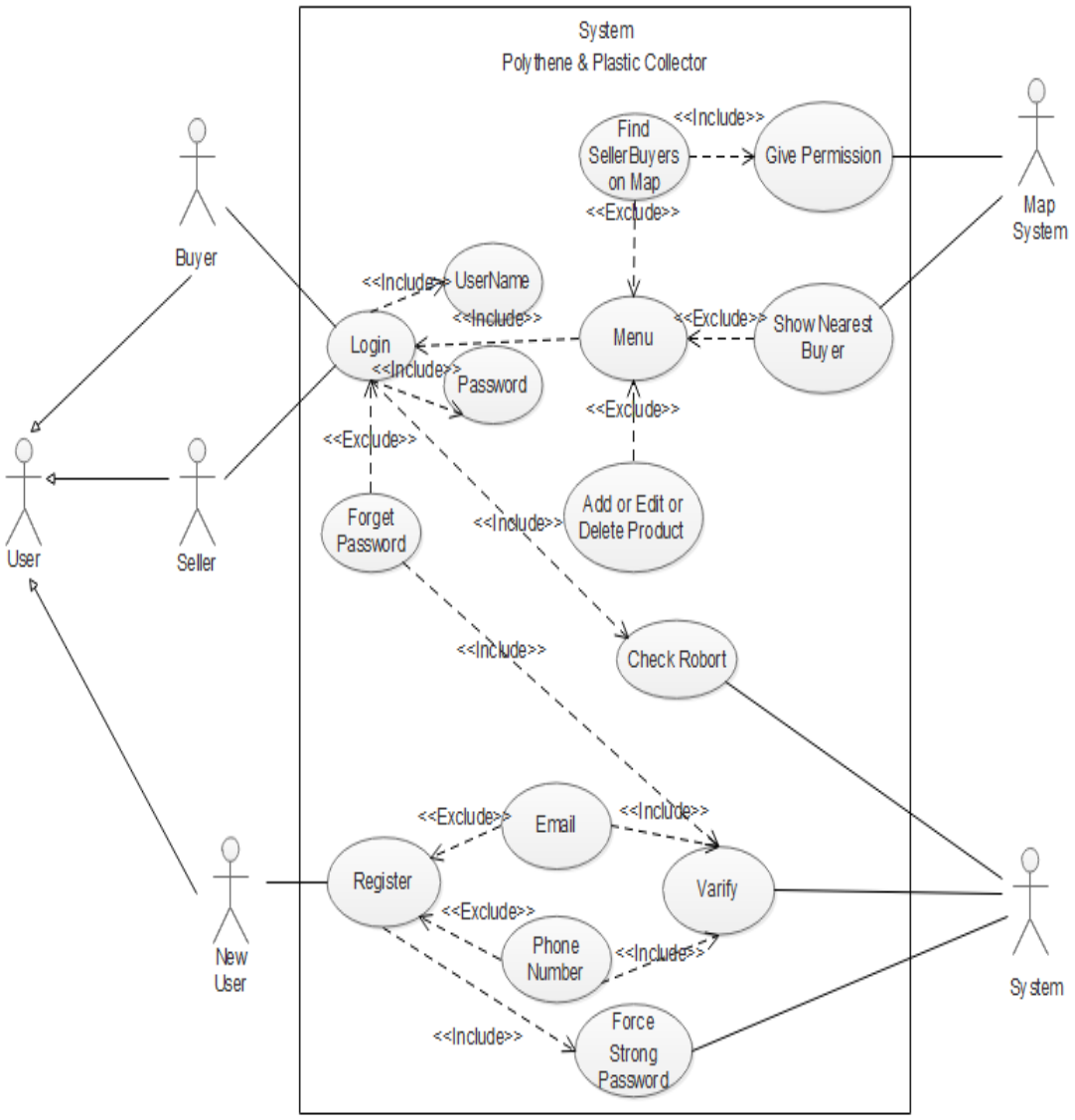
Usability: The software must be user-friendly, with a clear and intuitive interface for browsing and purchasing products.

Project Requirements:

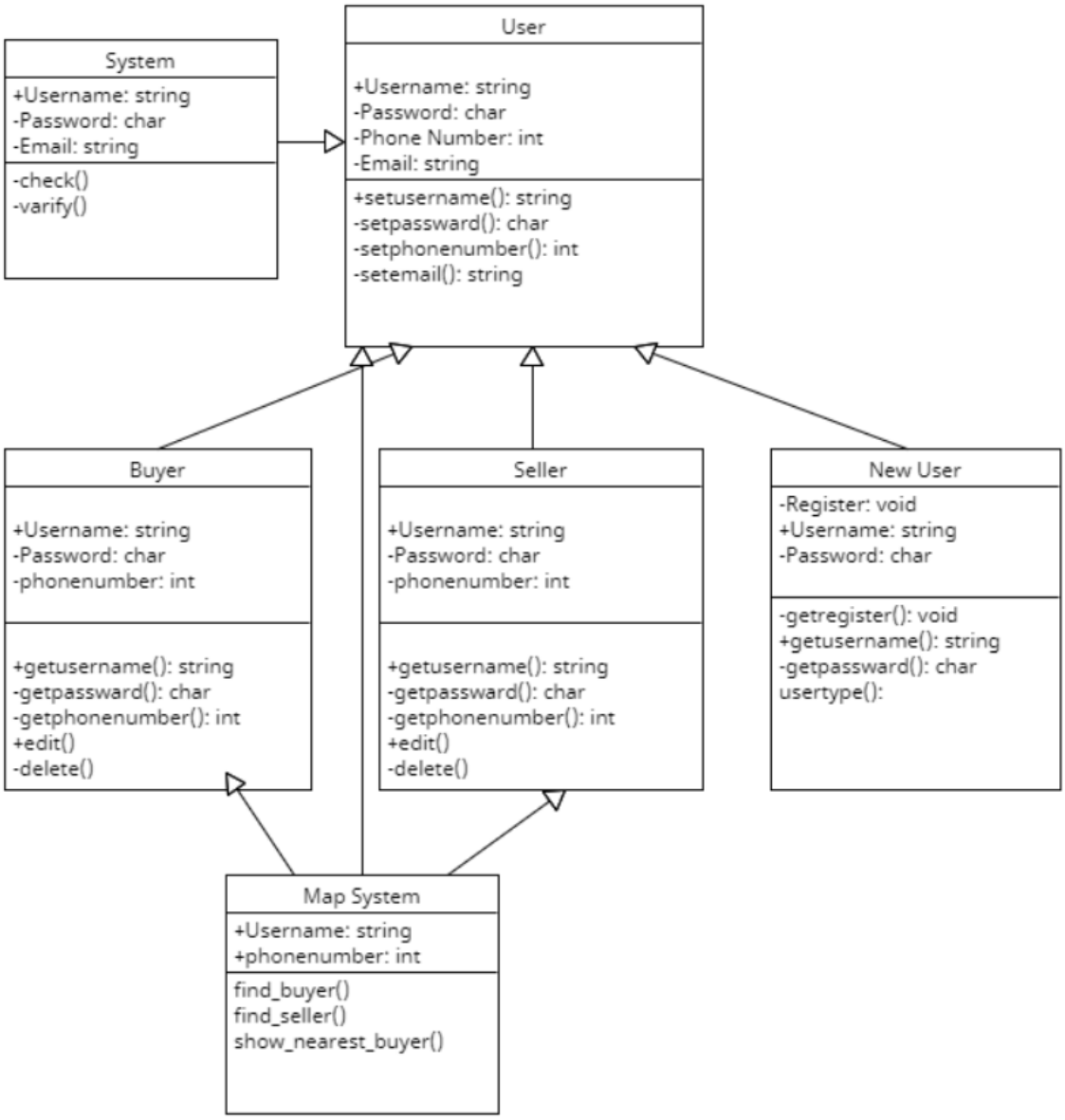
1. Time: We need 35 weeks to build this software.
2. Budget: We need around 3 lakhs to build this software.
3. Environment: We need an office space so that we can create our software flawlessly.
4. Resources: We need around 3 human resources to build this software.
5. Bandwidth: We need high speed internet support which is around 100 to 120 Mbps.

4. DIAGRAM

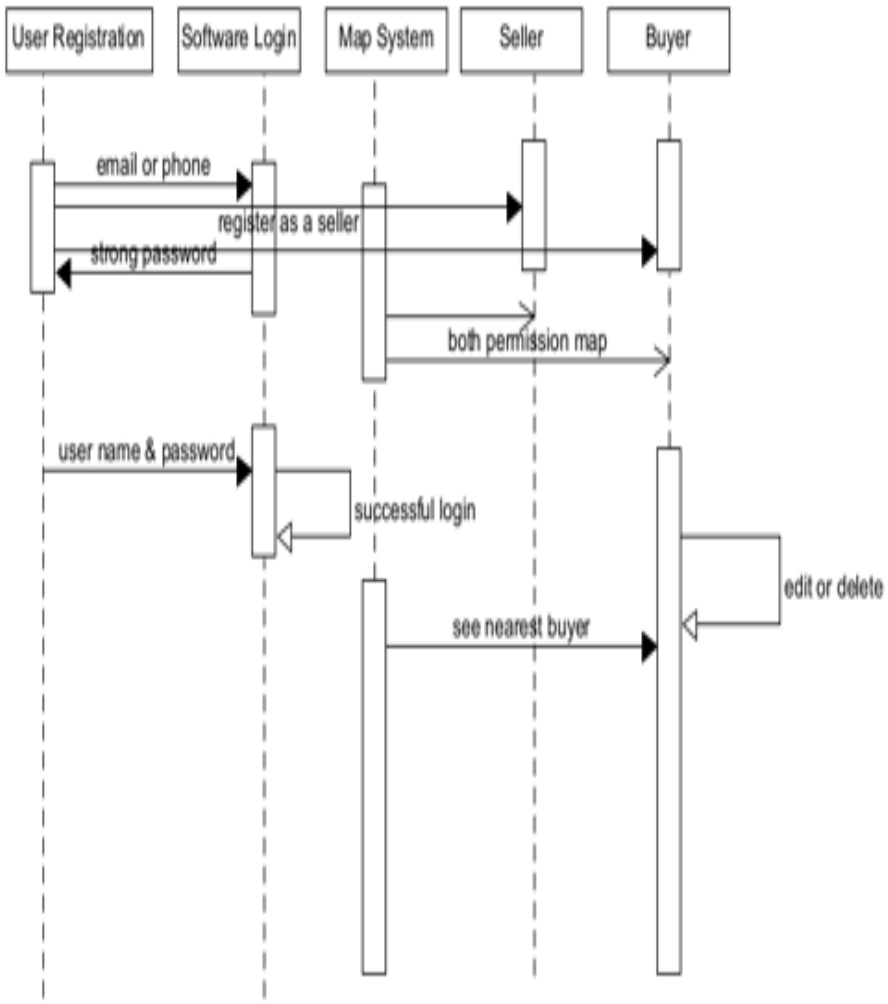
(1) Use Case Diagram:



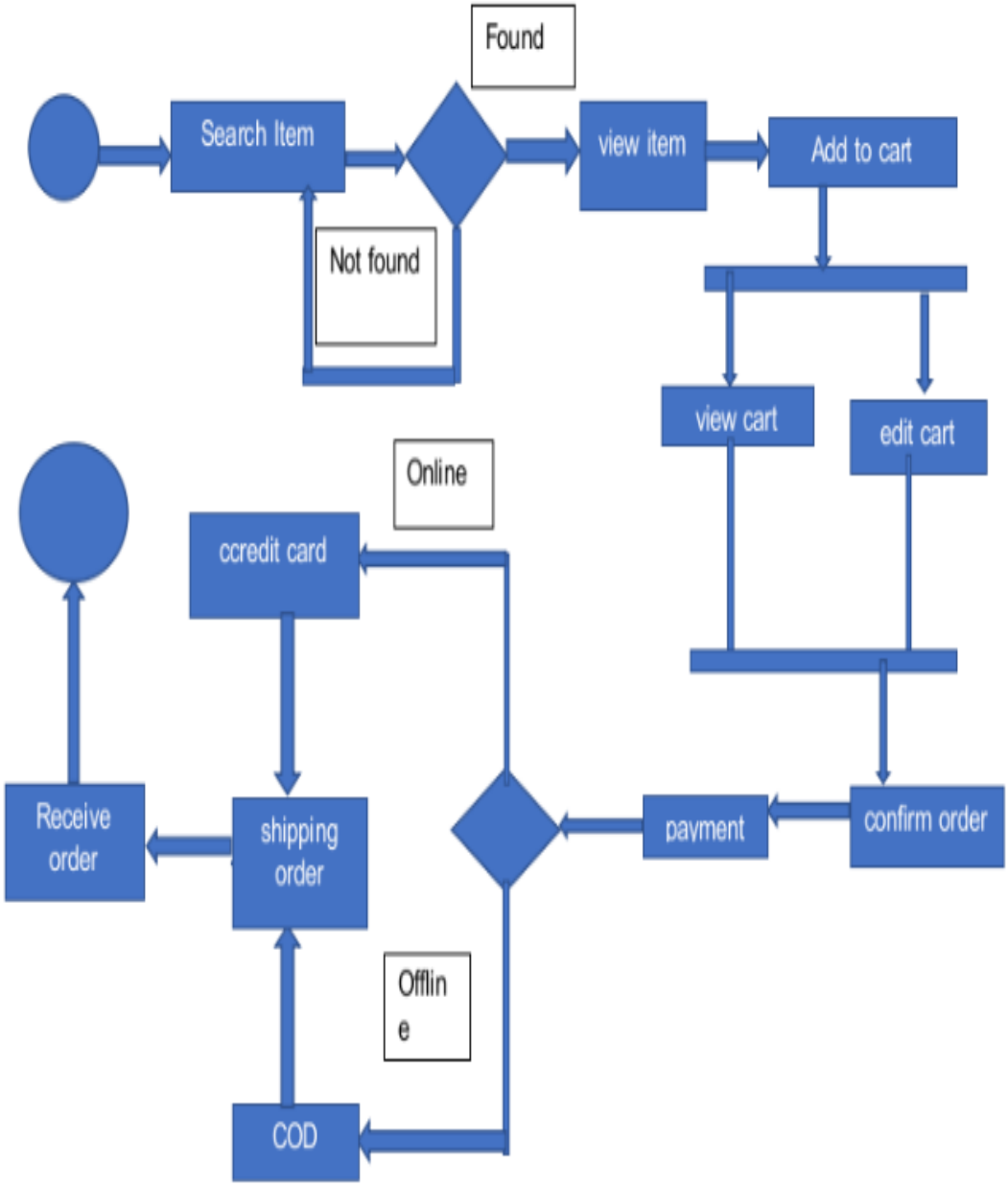
(2) Class Diagram:



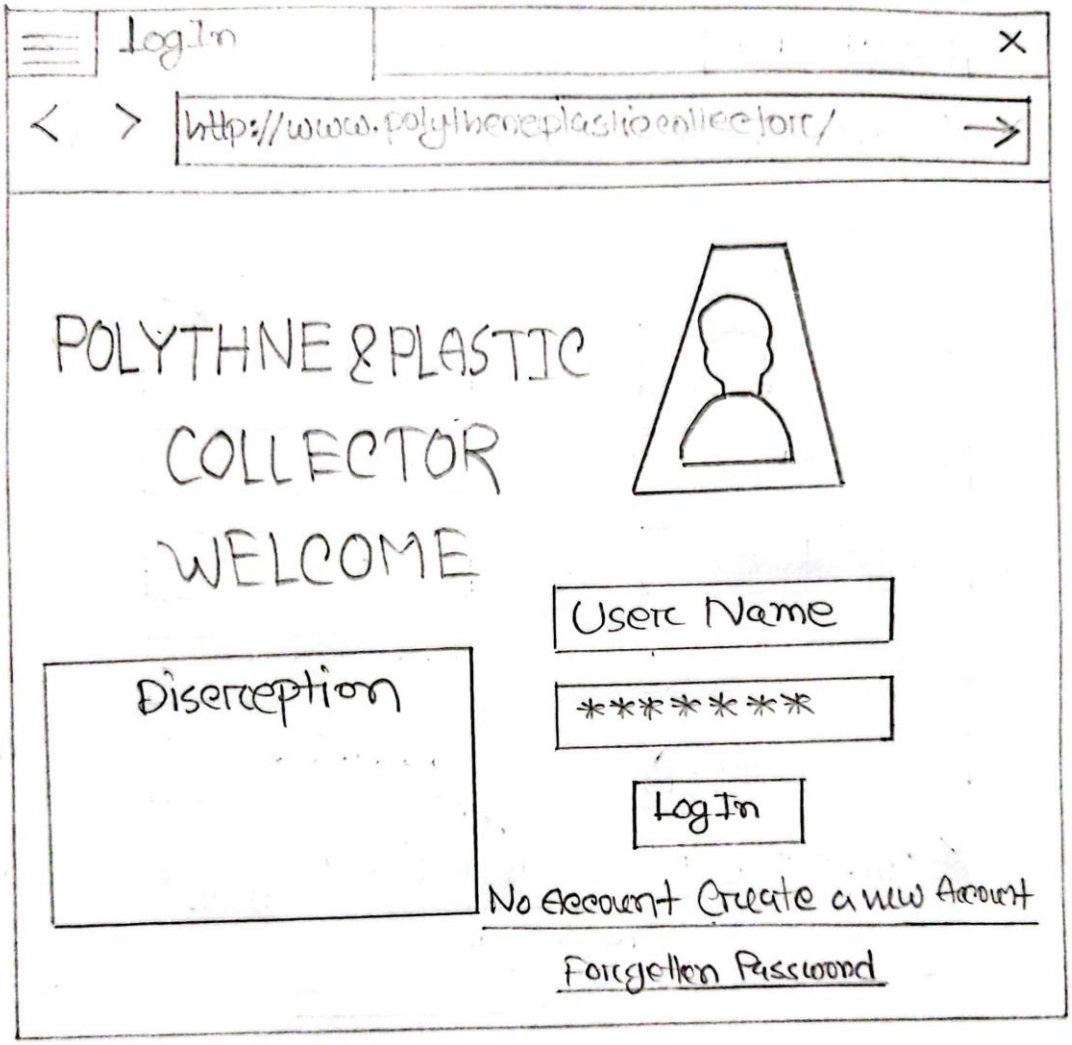
(3) Sequence Diagram:

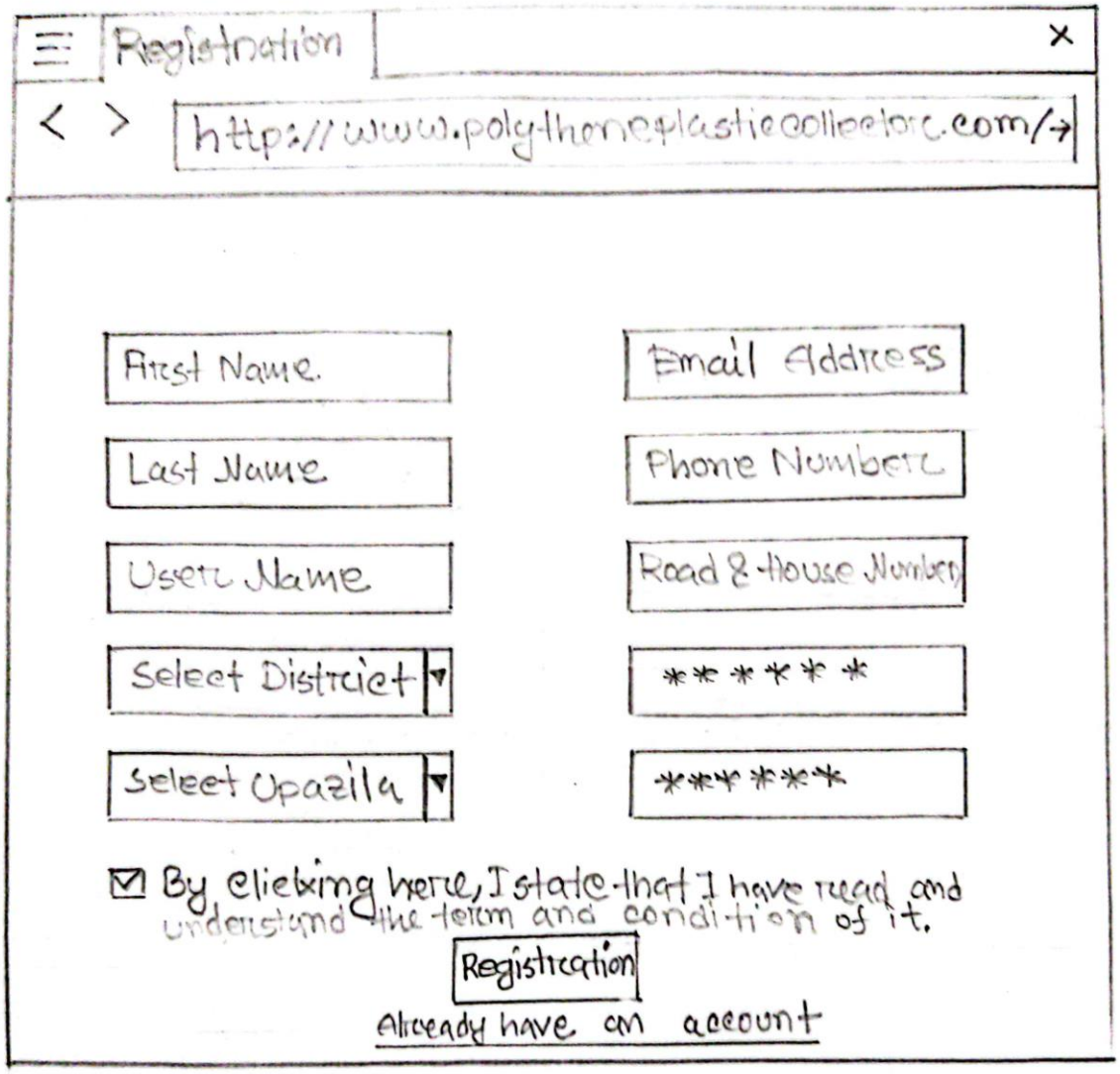


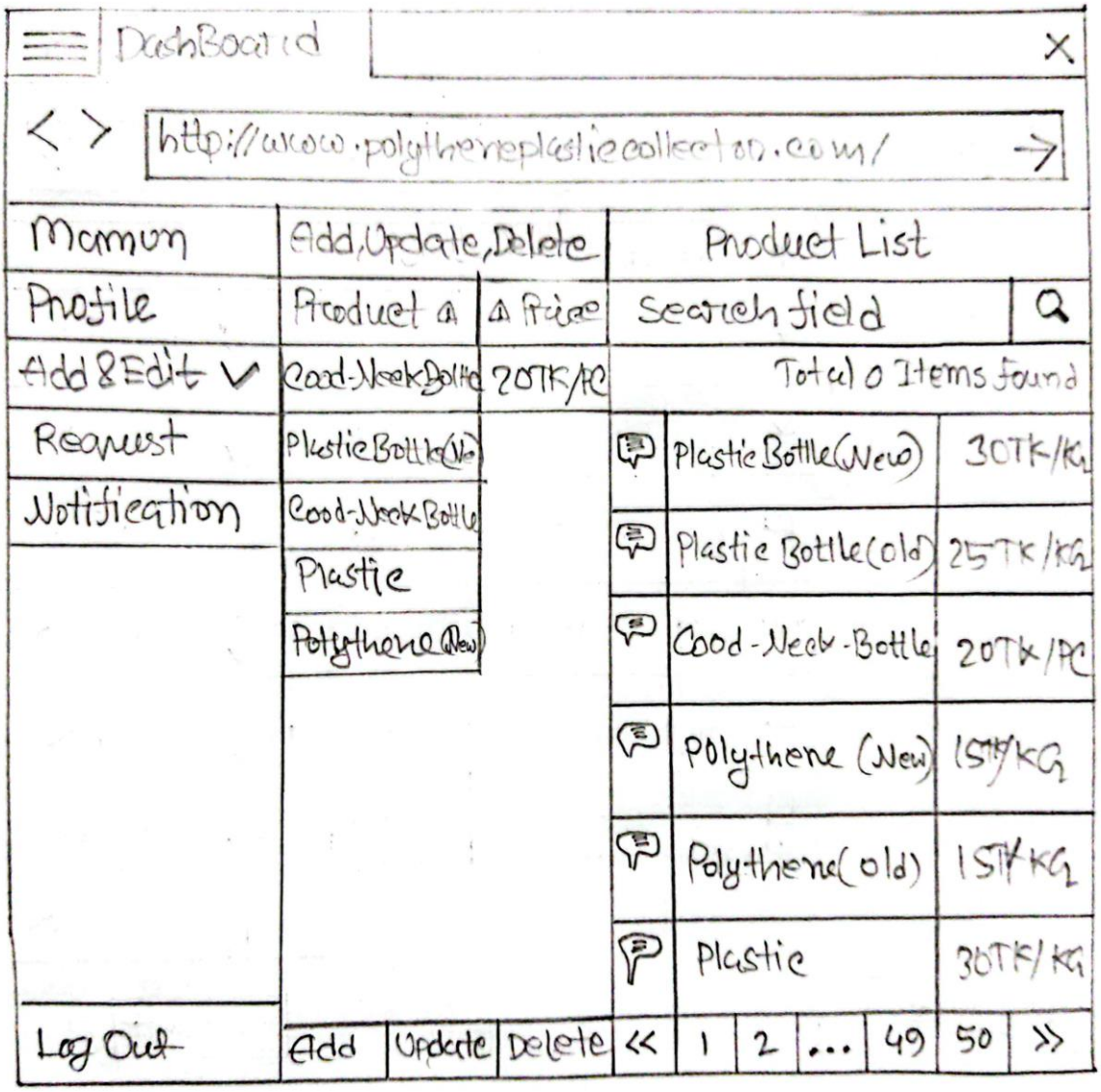
(4) Activity Diagram:

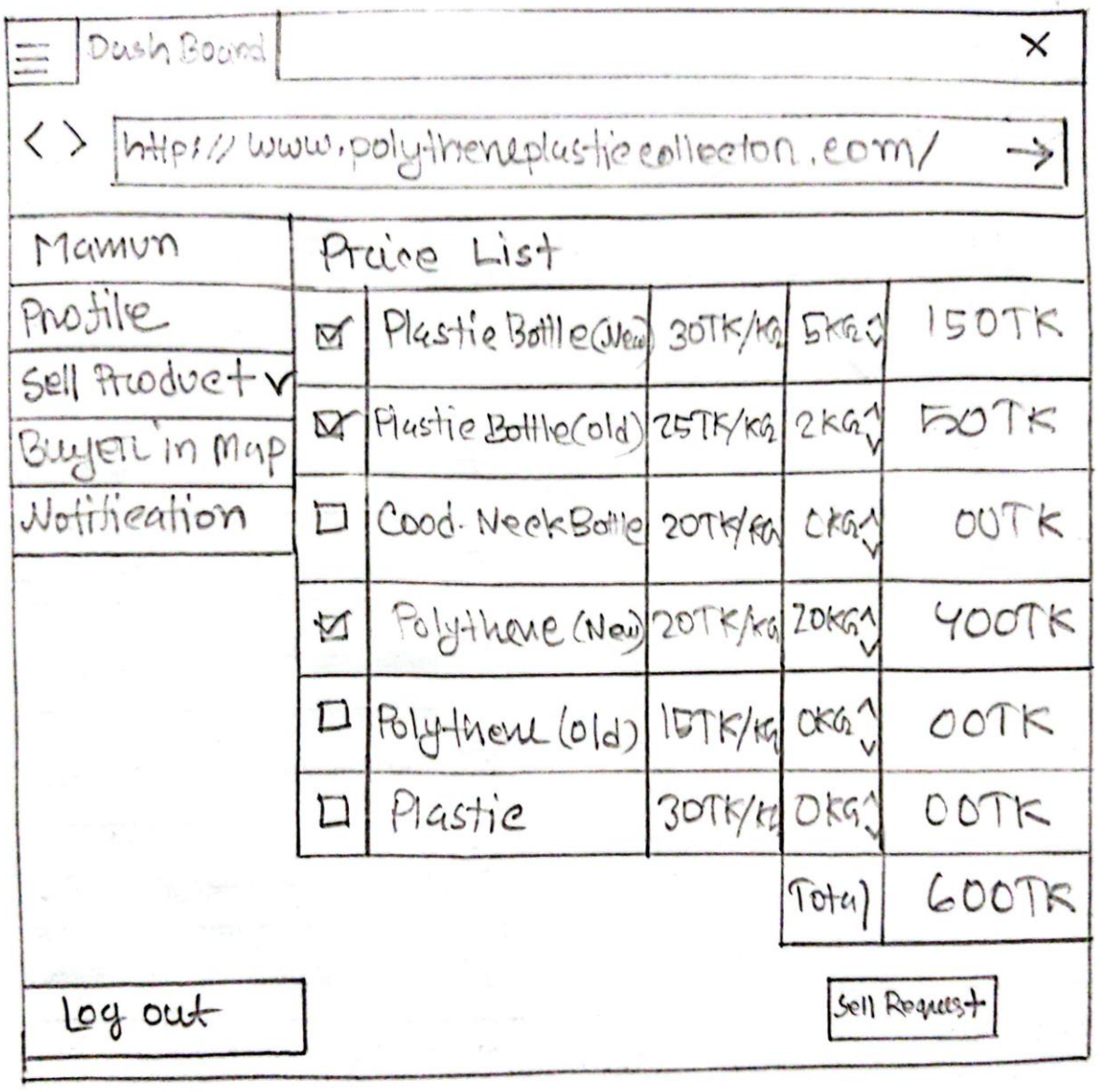


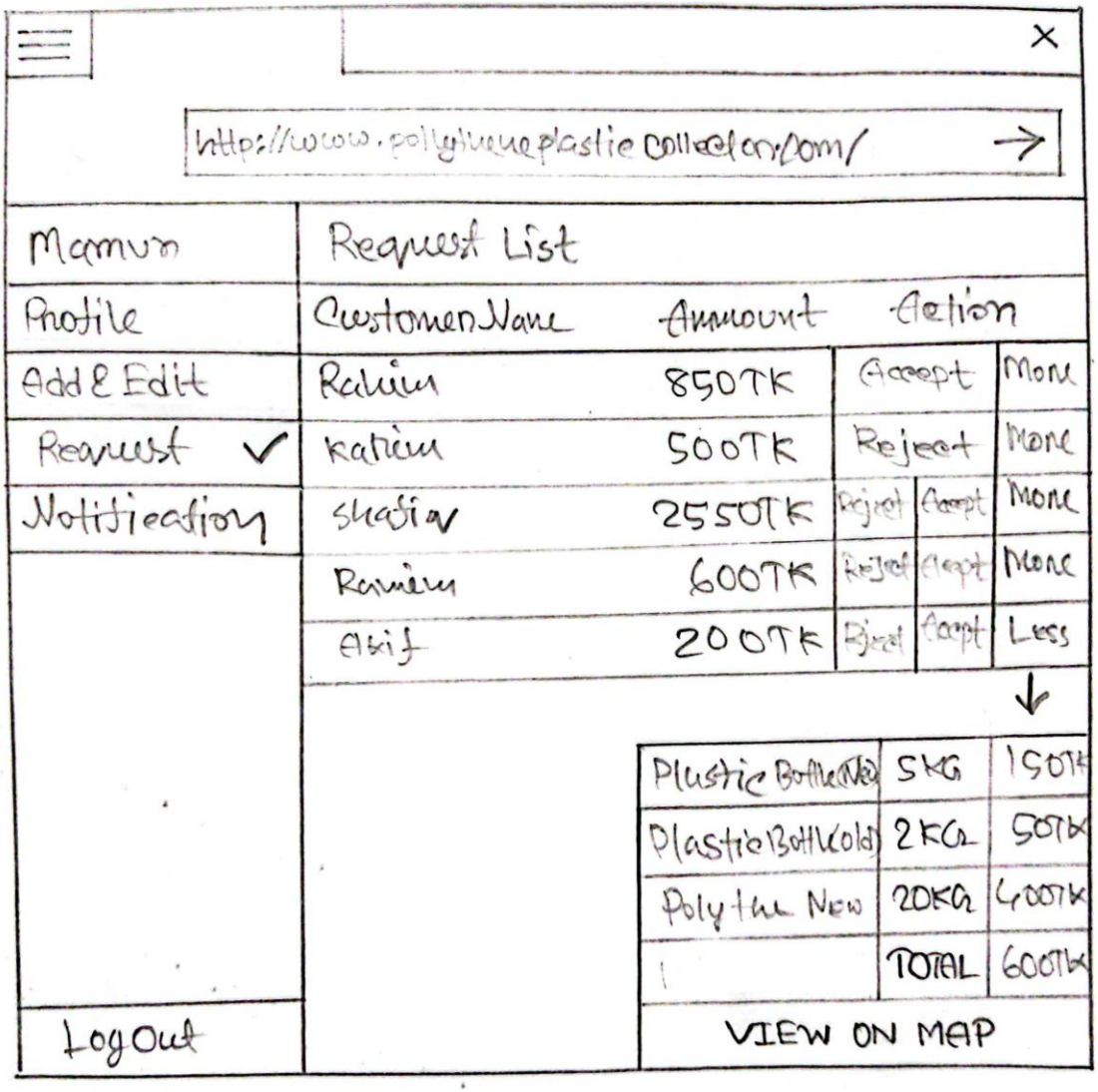
4. UI/UX DESIGN

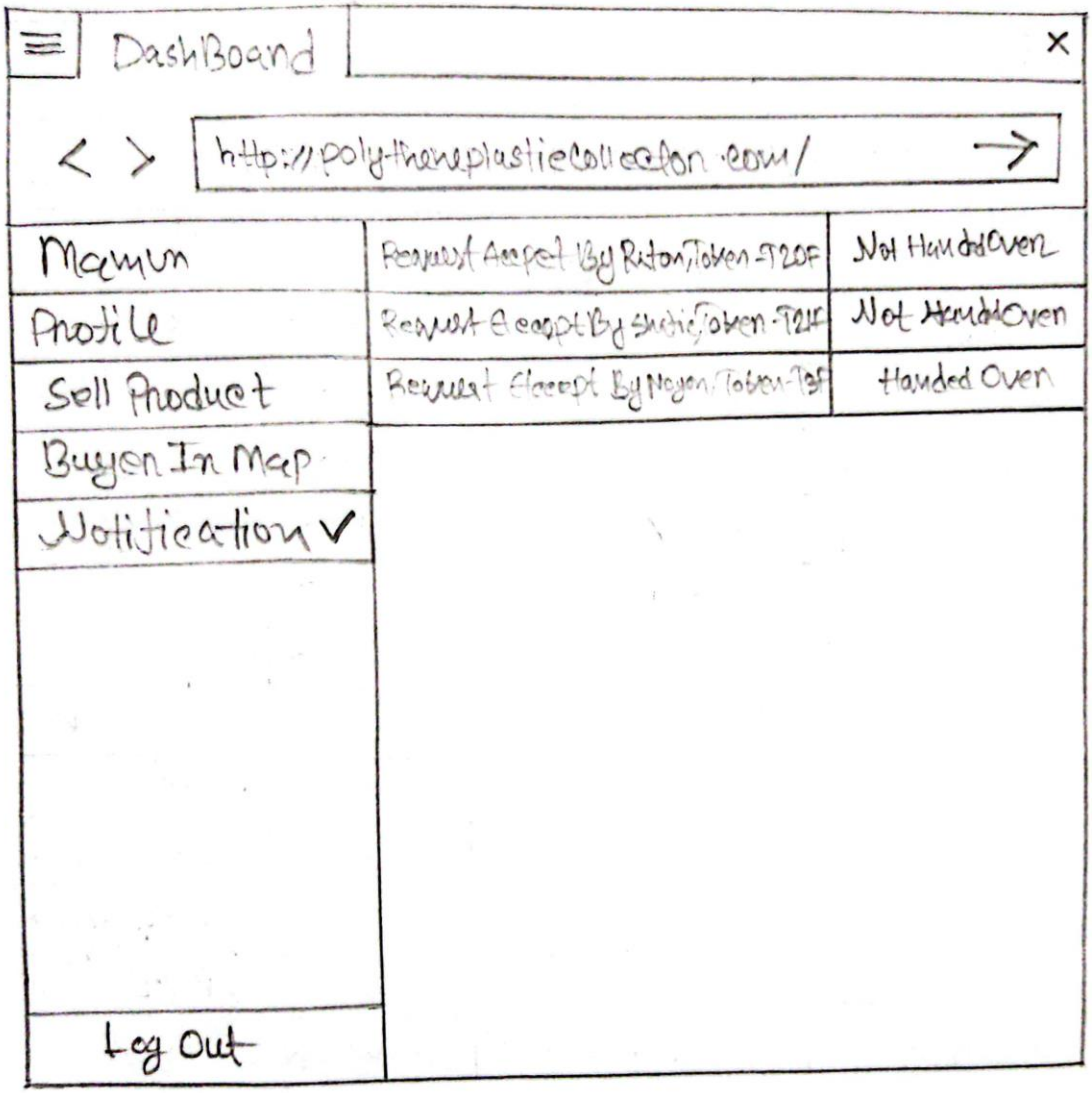



Registration
http://www.polythoneplastiecollectorc.com/
First Name.
Last Name.
User Name
Select District
Select Upazila
Email Address
Phone Numbers
Road & House Number
******
****
By clicking here, I state that I have read and understand the term and condition of it.
Registration
Already have an account


DashBoard
http://www.polythereplasticcollector.com/
Mamun
Profile
Add & Edit
Request
Notification
Log Out
Add, Update, Delete
Product
Price
Good-Neck Bottle
20TK/PC
Plastic Bottle(New)
Good-Neck Bottle
Plastic
Polythene (New)
Add
Update
Delete
Product List
Search field
Total 0 Items found
Plastic Bottle(New) 30TK/KG
Plastic Bottle(old) 25TK/KG
Good-Neck-Bottle 20TK/PC
Polythene (New) 15TK/KG
Polythene(old) 15TK/KG
Plastic 30TK/KG
<< 1 2 ... 49 50 >>


Dash Board
https://www.polythenplasticcollecton.com/
Mamun
Profile
Sell Product
Buyer in Map
Notification
Log out
Price List
Plastic Bottle(New) 30TK/KG 5KG 150TK
Plastic Bottle(old) 25TK/KG 2KG 50TK
Cood. NeckBottle 20TK/KG 0KG 00TK
Polythene (New) 20TK/KG 20KG 400TK
Polythene (old) 15TK/KG 0KG 00TK
Plastic 30TK/KG 0KG 00TK
Total 600TK
Sell Request


http://www.polythenplastiecollection.com/
Manu
Profile
Add & Edit
Request
Notification
Log Out
Request List
Customer Name
Amount
Action
Rahim
850TK
Accept
More
Karim
500TK
Reject
More
Shafiq
2550TK
Reject
Accept
More
Rahim
600TK
Reject
Accept
More
Asif
200TK
Reject
Accept
Less
Plastic Bottle(Hot)
5KG
150TK
Plastic Bottle(Cold)
2KG
50TK
Polythin New
20KG
400TK
TOTAL
600TK
VIEW ON MAP


DashBoard
http://poly-theneplastiecollection.com/
Mamun
Request Accept By RiderToken-T20F
Not HandedOver
Profile
Request Accept By RiderToken-T21F
Not HandedOver
Sell Product
Request Accept By RiderToken-T3F
Handed Over
Buyer In Map
Notification ✓
Log Out

5. PROJECT TEST PLANNING

Project Name: Polythene and plastic Collector			Test Designed by: Akif	
Test Case ID: FR_1			Test Designed date: 17/11/2022	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: User registration			Test Execution date:	
Test Title: Verify user registration				
Description: Test website user registration with required data				
Precondition (If any): User must input correct format of data				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1. Go to the website 2. Click a new account 3. Enter Fist Name, Last Name, Username. 4. Enter password Click submit 5. Allow user to register by email or phone number 6. Click Registration	First Name: Akif Last Name: Zaman Username: akif Password: Akif@123 Email: akifzaman1001@gmail.com Phone No.: 017542424242	User should be able to do registration successfully.		
Post Condition: User is validated with database and successfully can login into account.				

Table 1: Test Case for User Registration

<table>
<tr><td colspan="3">Project Name: Polythene and plastic Collector</td><td colspan="3">Test Designed by: Akif</td></tr>
<tr><td colspan="3">Test Case ID: FR_1</td><td colspan="3">Test Designed date: 17/11/2022</td></tr>
<tr><td colspan="3">Test Priority (Low, Medium, High): High</td><td colspan="3">Test Executed by:</td></tr>
<tr><td colspan="3">Module Name: User Registration</td><td colspan="3">Test Execution date:</td></tr>
<tr><td colspan="6">Test Title: Verify user registration to login page transition</td></tr>
<tr><td colspan="6">Description: Test website registration page transition</td></tr>
<tr><td colspan="6">Precondition (If any): User must have valid username and password</td></tr>
<tr><td>Test Steps</td><td>Test Data</td><td>Expected Results</td><td>Actual Results</td><td>Status (Pass/Fail)</td></tr>
<tr><td>7. Go to the website
8. Already have an account to log in
9. Click “Already have an account”</td><td>Username: akif
Password: Akif@123</td><td>User should login into the application with valid username and password</td><td></td><td></td></tr>
<tr><td colspan="6">Post Condition: User is validated with database and successfully login to account.</td></tr>
</table>

Table 2: Test Case for User Accounts Transition

Project Name: Polythene and plastic Collector			Test Designed by: Akif	
Test Case ID: FR_1			Test Designed date: 17/11/2022	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: User Registration			Test Execution date:	
Test Title: Verify error pop up messages with wrong data in user registration				
Description: Test website user registration error pop up messages with wrong data				
Precondition (If any): User input incorrect format of data				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
10. Go to the website 11. Enter wrong Format First Name, Last Name, Username, Email, Phone No, and Password 12. Click Registration	First Name: @! #! Last Nam: @### Email: 1234 Phone no.: 01000 Username: @34. Password: 1234	Error messages should pop up for all the textboxes and user should put in correct format data to complete the registration.		
Post Condition: Error massage pop up				

Table 3: Test Case for Error Pop Up Messages

Project Name: Polythene and plastic Collector	Test Designed by: Mamun
Test Case ID: FR_2	Test Designed date: 17/11/2022
Test Priority (Low, Medium, High): High	Test Executed by:
Module Name: Login Session	Test Execution date:
Test Title: Verify login with valid username and password	
Description: Test website login page	
Precondition (If any): User must have valid username and password	

Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
13. Go to the website 14. Enter username 15. Enter password Click submit	Username: User123 Password: Pass@123	User should login into the application with valid username and password		
Post Condition: User is validated with database and successfully login to account. The account session details are logged in the database.				

Table 1: Test Case for Log in

Project Name: Polythene and plastic Collector			Test Designed by: Mamun	
Test Case ID: FR_2			Test Designed date: 17/11/2022	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Login Session			Test Execution date:	
Test Title: Verify forgot password				
Description: Test website login page forgot password				
Precondition (If any): User must have created an account				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
16. Go to the website 17. Click forgot password 18. Enter email address or phone number 19. Click send code 20. Enter Code 21. Reset Password	Email: m@gamil.com Phone Number: 019* Verify: 343 New Password: 7384@#2	User should login into the application and reset new password		
Post Condition: User is validated with database and successfully login to account with new password. The account session details are logged in the database.				

Table 2: Test Case for Forgot Password

Project Name: Polythene and plastic Collector			Test Designed by: Mamun	
Test Case ID: FR_2			Test Designed date: 17/11/2022	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Login Session			Test Execution date:	
Test Title: Verify login attempts				
Description: Test website login attempts				
Precondition (If any):				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
22. Go to the website 23. Enter wrong username 24. Enter wrong password 25. Click login 26. Try over 5 times 27. Fill up captcha	Username: User456 Password: Pass@888 Captcha: *U7EC4*	User should login into the application with invalid username and password over 5 time then the system will give a CAPTCHA will appear the login page		
Post Condition: User can find the login page once more and can login into account.				

Table 3: Test Case for Login Attempts

Project Name: Polythene and plastic Collector			Test Designed by: Ramim	
Test Case ID: FR_4			Test Designed date: 17/11/2022	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Selling Product			Test Execution date:	
Test Title: Sell some product to buyer as seller.				
Description: Test some product from given list.				
Precondition (If any): User needs to create an account as a seller.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Login as a seller 2.Go to sell product 3.Thick mark to give listed products. 4.Click sell request.	Thick mark: Plastic, Polythene (New) Select Quantity: 5kg,7kg	User can sell their products		
Post Condition: User can see their sell request acceptance or rejection via notification.				

Table 1: Test Case for Selling Products

Project Name: Polythene and plastic Collector			Test Designed by: Ramim	
Test Case ID: FR_4			Test Designed date: 17/11/2022	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Buyer in Map			Test Execution date:	
Test Title: Find buyer in map				
Description: Test for buyer find in the map				
Precondition (If any): User needs to create an account as a buyer				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to the website 2.Login account 3.Go to Buyer in Map 5.Click action	Username: User123 Password: Pass@123	User should see all the buyers nearby him		
Post Condition: None				

Table 2: Test Case for Buyer in Map

Project Name: Polythene and plastic Collector			Test Designed by: Nafis	
Test Case ID: FR_5			Test Designed date: 17/11/2022	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Edit product			Test Execution date:	
Test Title: Edit a product by Buyer				
Description: Test edit a product from database.				
Precondition (If any): User needs to create an account as a buyer				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
28. Go to the website 2.Login account 3.Go to add and edit product 4.Click action 5.Click update	Click action: Plastic Input updated: Price:30Tk/KG	Buyer updated the product.		
Post Condition: All information update from database server successfully.				

Table 1: Test Case for Edit Products

Project Name: Polythene and plastic Collector			Test Designed by: Nafis	
Test Case ID: FR_5			Test Designed date: 17/11/2022	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Buyer Session			Test Execution date:	
Test Title: Buyer can accept the request of seller product				
Description: Test website buyer page accept request				
Precondition (If any): User must accept products which are above 150/-				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
29. Go to Request's 30. Checkmark the appropriate product price. 31. Enter accept request 32. Click submit	Number of selected products:3 Total price:600	User should accept the appropriate products for him by viewing the map.		
Post Condition: Seller can see the acceptance notification				

Table 2: Test Case for Buyer's Accept Request.

Project Name: Polythene and plastic Collector			Test Designed by: Nafis	
Test Case ID: FR_5			Test Designed date: 17/11/2022	
Test Priority (Low, Medium, High): High			Test Executed by:	
Module Name: Buyer Session			Test Execution date:	
Test Title: Buyer can reject the product which is not appropriate.				
Description: Test website buyer page reject request				
Precondition (If any): User mustn't reject 2 request in a row of the products.				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
33. Go to Request's 34. See the products, if it is not needed then go to the next step. 35. Enter reject request 36. Click submit	Number of rejected request:1 Mark the seller for inappropriate products for future buying	User should reject the inappropriate products by following map.		
Post Condition: Seller can see the rejection notification				

Table 3: Test Case for Buyer's Reject Request.

6. Constructive Cost Model:

→ Effort = PM = Co-efficient * (SLOC/1000)^ P
<Effort factor>

= (2.4) * (10000/1000)^ 1.05
= 26.92 Person-Months

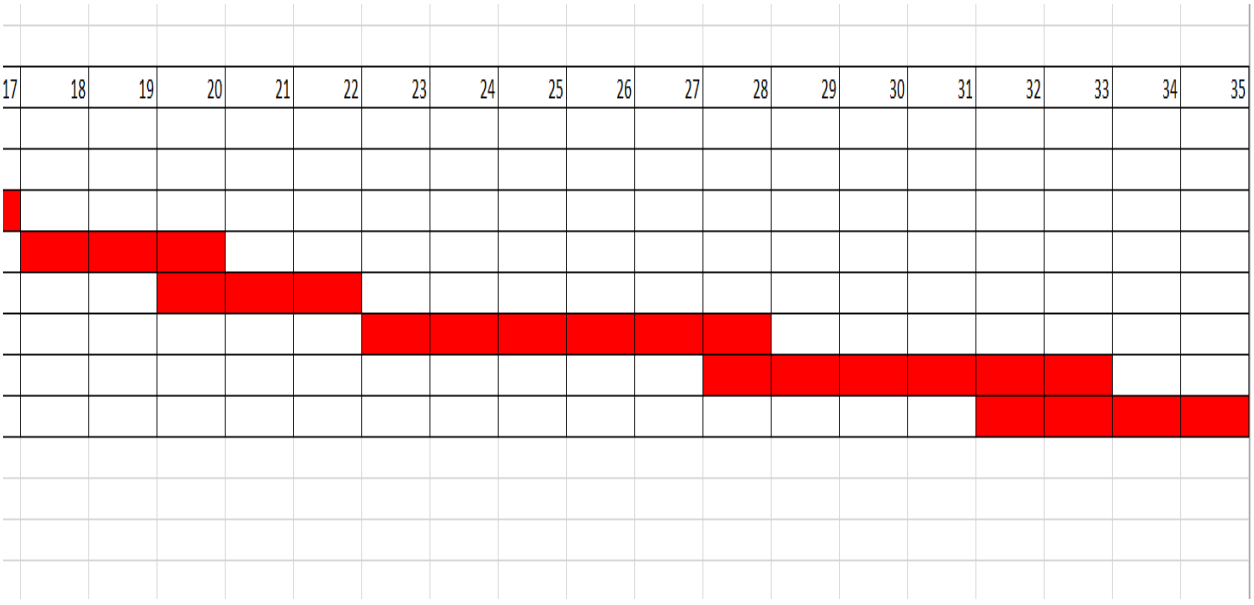
Development time = DM = 2.50 * (PM)^ T
= 2.50 * (26.92)^ 0.38
= 8.73 Months
= 34.92 weeks
≈ 35 weeks

Require numbers of people = ST = PM / DM
= 26.92/8.73
= 3.08
≈ 3

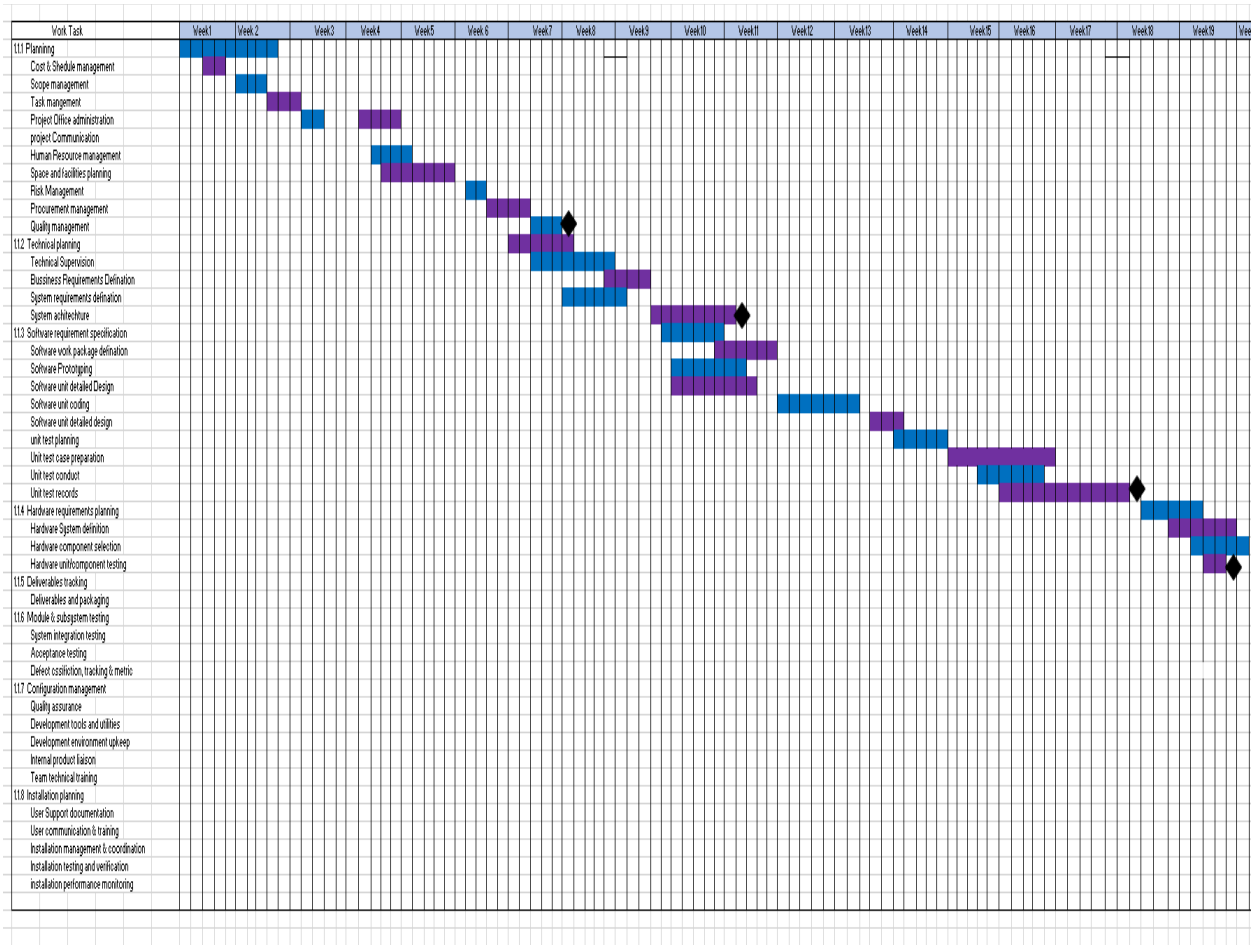
7.1 Timeline Chart:

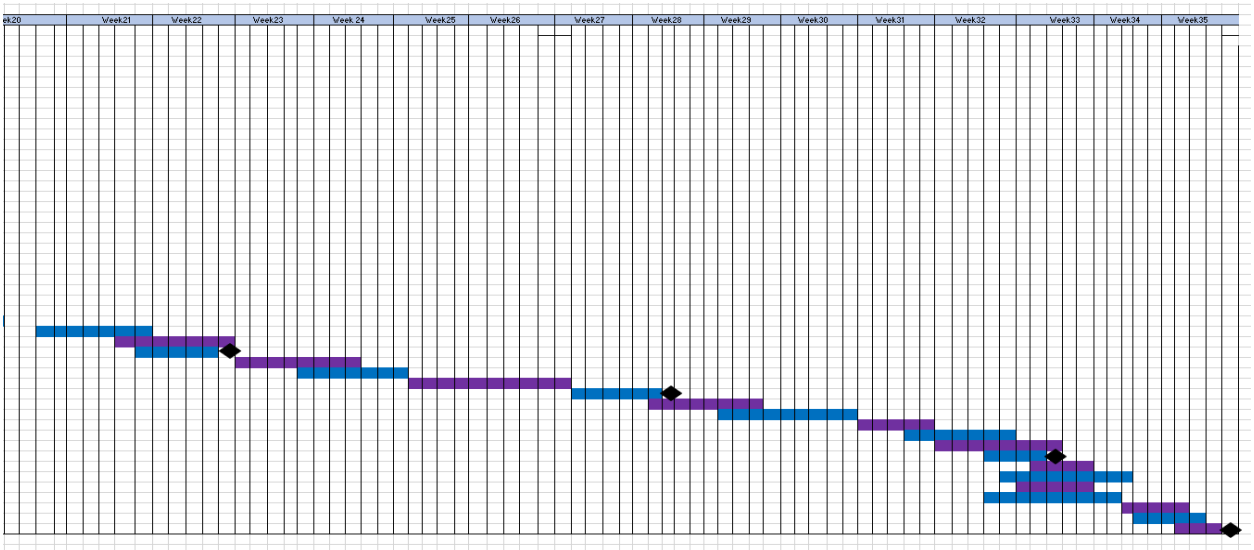
T:P\W	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 : A																	
2 : A																	
3 : B																	
4 : B																	
5 : B																	
6 : C																	
7 : C																	
8 : C																	

1-> Modeling
2 -> Architectural Design
3 -> Component Design
4-> Code Generator
5-> Unit Testing
6-> Integration testing
7-> System testing
8-> Acceptance Testing

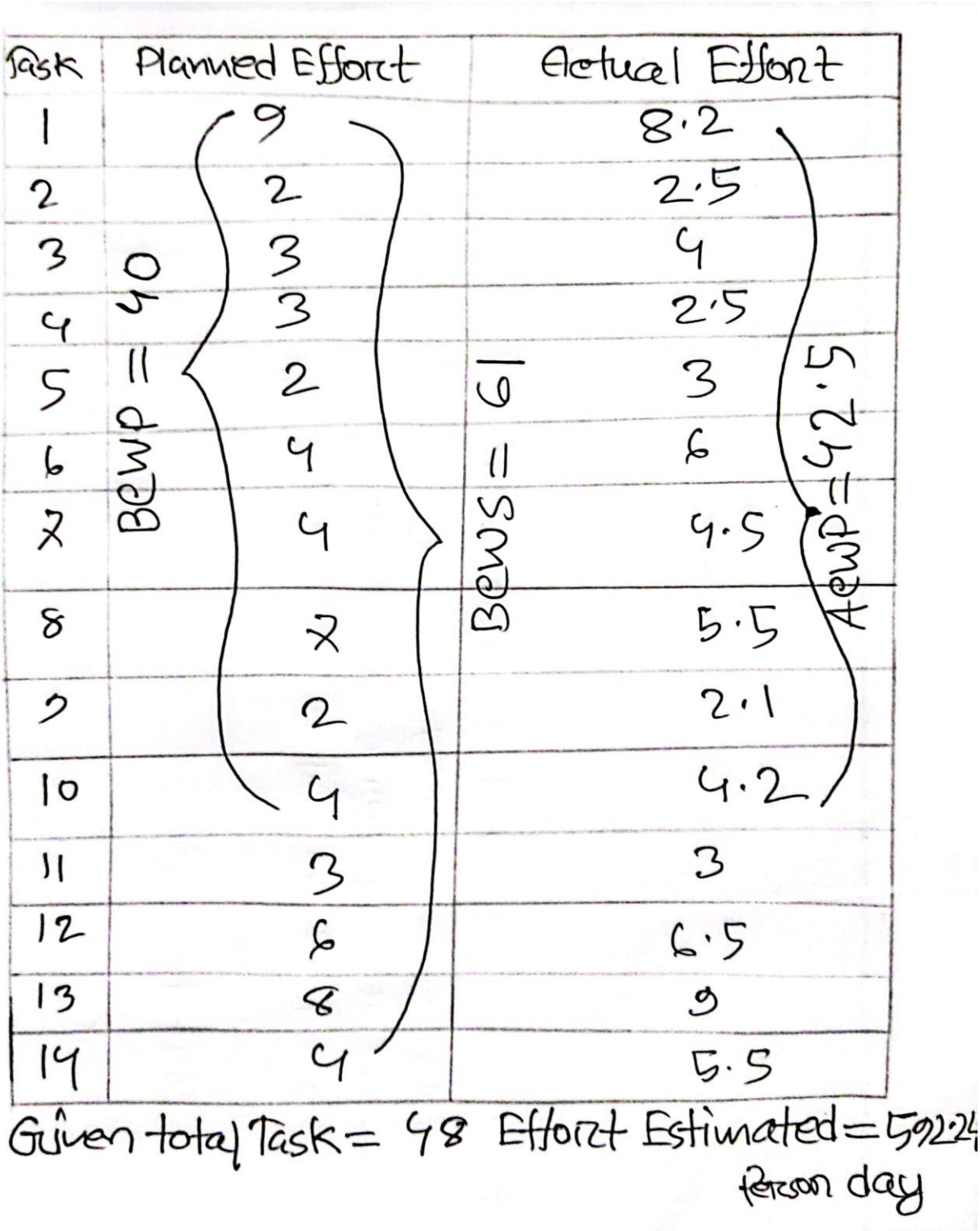


7.2 Timeline Chart:





8. Eva Exercise:



Task	Planned Effort	Actual Effort
1	9	8.2
2	2	2.5
3	3	4
4	3	2.5
5	2	3
6	4	6
7	4	4.5
8	2	5.5
9	2	2.1
10	4	4.2
11	3	3
12	6	6.5
13	8	9
14	4	5.5

BEWP = 40

BEWS = 61

AEWP = 42.5

Given total Task = 48 Effort Estimated = 592.24 Person day

BAC = 592.24

SPI = BCWP / BCWS = 40/61 = 0.66667

SV = BCWP - BCWS = 40 - 61 = -21 person-day

CPI = BCWP / ACWP = 40 / 42.5 = 0.9412

CV = BCWP - ACWP = 40 - 42.5 = -2.5 person-day

% schedule for completion = BCWS / BAC
= 61 / 592.24
= 10.29%

[% of work scheduled to be done at this time]

% complete = BCWP / BAC = 40 / 592.24
= 6.75%

[% of work completed at this time]

9. Building Risk Table-2:

Risk	Category	Probability	Impact
Funding will be lost	CU	30%	1
Largeer number of users than planned	PS	50%	3
Delivery deadline will be tightened	BU	60%	2
Customer will change requirments	PS	80%	2
Staff inexperienced	ST	20%	2
Size estimate may be significantly low	PS	50%	2
Staff turnover will be high	ST	50%	2
The Technology is too complex	TE	30%	1
Slack supervision to consolors, suppliers	DE	20%	3
Incorrect requirments	PS	10%	3
Deficult conduction and communication in large scale development team.	DE	30%	2
Instability of users business. environment	BU	40%	1

Rubric for Project Assessment (CO1)

Marking Criteria	Marks Distribution (Maximum 3X5=15)				Acquired Marks
	Inadequate (1-2)	Satisfactory (3)	Good (4)	Excellent (5)	
Background Analysis	No background information regarding the project is given; project goals and benefits are missing.	Insufficient background information is given; project goals and benefits are poorly stated	Sufficient background information is given; the purpose and goals of the project are explained.	Thorough and relevant background information is given; project goals are clear and easy to identify.	
Analysis the impact of societal, health, safety, legal and cultural issues	Student vaguely discuss the impact of societal, health, safety, legal and cultural issues in their project	Student provided with partial relevance to the impact of societal, health, safety, legal and cultural issues in their project	Student fairly provided the analysis to the impact of societal, health, safety, legal and cultural issues in their project	Student comprehensively provided the analysis to the impact of societal, health, safety, legal and cultural issues in their project	
Existing Studies and Relevant Example	Ambiguous representative example.	Partially identify / indicate towards real-life example.	Real-life example is fairly connected towards the definition.	Comprehensively defend with real life example.	
				Acquired Marks:	
				CO Pass / Fail:	

Rubric for Project Assessment (CO2)

Criteria	Marks distribution (Max 3X5= 15)				Acquired Marks
	Inadequate (1-2)	Satisfactory (3)	Good (4)	Excellent (5)	
Argumentation of Model selection with Evidence of Argumentation	Does not articulate a position or argument of choosing appropriate model. Does not present any evidence to support the arguments for the choice of the model	Articulates a position or argument for choosing models that is unfocused or ambiguous. Presents incomplete/vague evidence to support argument for model choice	Articulates a position or argument of choosing models that is limited in scope. Does not present enough evidence to support the argument for the choice of the model	Clearly articulates a position or argument for the choosing software engineering models. Presents sufficient amount of evidence to support argument for the model selection	
Role identification and Responsibility Allocation	The project has poor project management plans for identifying roles and assigning the responsibilities	Identify few roles in the project management where some of the roles are left alone with any project responsibilities	Identify most of the roles in the project management and assign their responsibilities	Well planned project with proper role identification and responsibility allocation in the project management activities	
Submission, Completeness, Spelling, grammar, and Organization of the Project report	Project report is not complete and Several errors in spelling and grammar. Present a Confusing organization of concepts, supporting arguments, and real-life example. Sentences rambling, and details are repeated.	Some errors in spelling and grammar. Some problems of organizing the answer in a logical order of defining, elaborating, and providing real-life examples.	Few errors in spelling and grammar. Presents most of the details in a logical flow of organization in definition, details, and example.	Project report is complete and No errors in spelling and grammar. Consistently presents a logical and effective organization of definition, details, and real-life example of the topic.	
				Acquired marks:	
				CO Pass / Fail:	