American International University-Bangladesh (AIUB)

Faculty of Science and Technology (FST)
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SDPM Group Project, Summer 2022

Project Title: Rare Handcraft Products and Famous Foods Buy, Sell
Section: C

Submitted by

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1.0 Introduction: In this modern world we are getting updated day by day and now we want to do shopping from our home. Online purchasing and selling of products and services is known as e-commerce. E-commerce has just lately become popular, but the concept already exists, and its advantages for conducting business are well recognized. Currently, it functions as a type of retail that may provide small, medium, and big enterprises, as well as individuals and freelancers, a variety of capacities. Customers and merchants can create accounts in our ecommerce website. The client, seller, and admin may all log in after creating an account. After that, the system will check the password; if it's incorrect, an error will appear. Customers may then browse and inspect items. Additionally, individuals may check their currency and enter coins when making an online payment. Additionally, consumers may pay online or with cash on delivery if they purchase any food or handcrafted goods from us. Additionally, the system will display an error if the payment is inadequate. They may follow their orders after confirmation if they place one, and if they receive them, they can rate the goods. The admin will verify the added items and store names after the sellers have added them with descriptions and photographs. The administrators can also delete, check the information about buyers and sellers, and monitor activity.

2.0 Project Title: Rare Handcraft Products and Famous Foods Buy, Sell, Distribution.

3.0 Objectives: The main objective of our system that user can easily buy and sell handicraft products and famous foods. Here buyer get benefit economically by using this software. On the other hand, seller get benefit to buy this thing at cheap rate. This system is easy to use. Here user select categories from the option and they can easily select food section and handicraft section. in the project our goal is simple. Our main goal to become world fastest, good quality food service and handicraft delivery software. The software helps you monitor food items with proper packaging from your restaurant's kitchen to the customer's plate. This software also includes menu management, recipe database, inventory management, cost control, and more. The main aim of the software is management of staff within your kitchen, improvement and monitoring of food quality, and management of customer orders and invoicing. On the other hand this software also selling good quality handicraft product. For using this software customer can also track their food and handicraft product information.

4.0 Justification: The Handicrafts Sector plays a significant & important role in the country's economy. It provides employment to a vast segment of craft persons in rural & semi urban areas and generates substantial foreign exchange for the country, while preserving its cultural heritage. Handicrafts have great potential, as they hold the key for sustaining not only the existing set of millions of artisans spread over length and breadth of the country, but also for the increasingly large number of new entrants in the crafts activity. Presently, handicrafts contribute substantially to employment generation and exports.

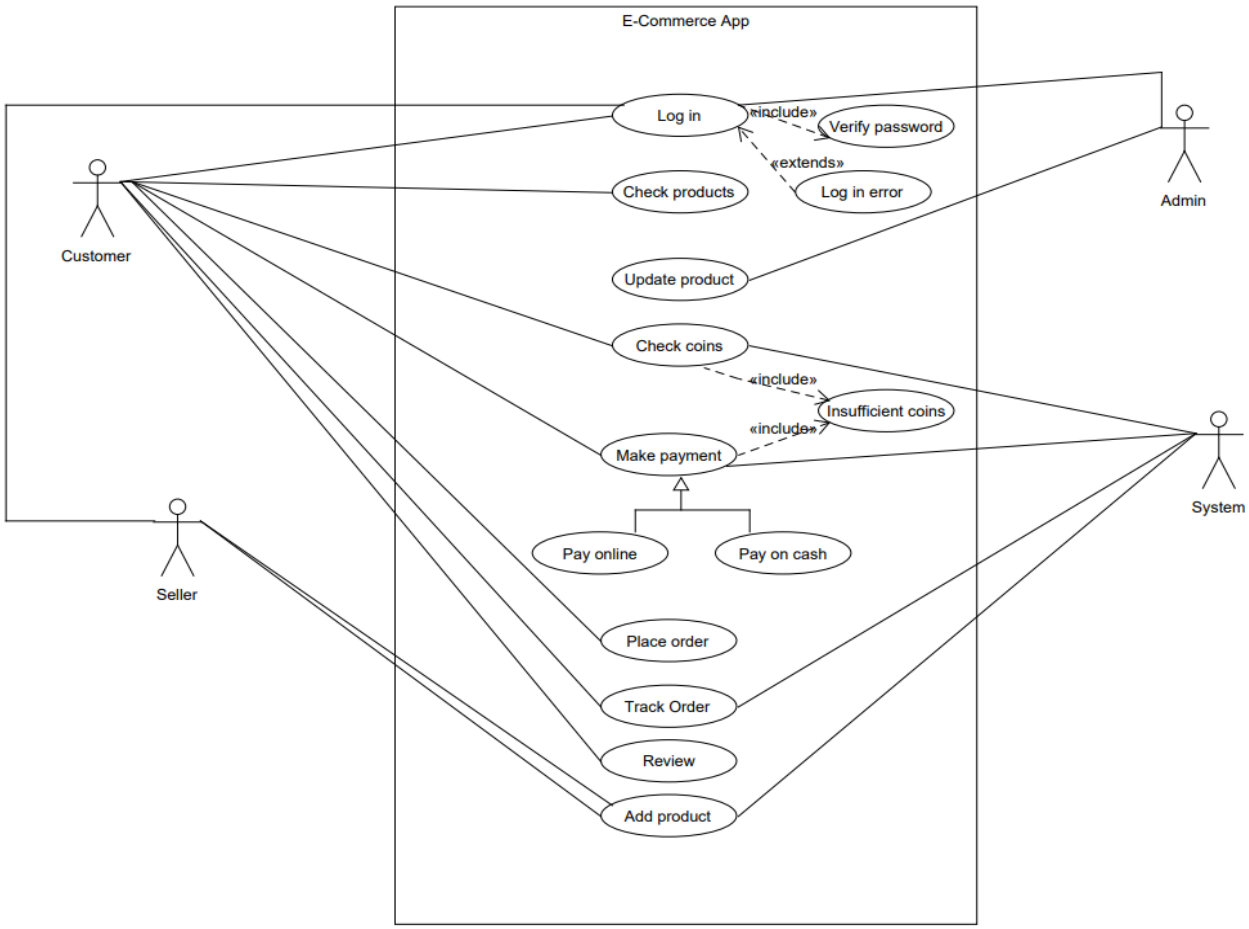
In this application, users can search for any kind of available products in the search box. In the search box, if user want to search for any products, they will get suggestions for the products. If users can't find any products, it will show "no products are found". There are food and handicraft section and fish, sweets, pitha, dry foods, and (etc. If needed). If the user selects the handcraft section, there will be options like terracotta, hand-made items, dining's and (etc. If needed). They can be found different types of unique things. Customers can order their products and confirm their payment by online methods. They can also return their products after receiving this. Also, if any customers buy any food or handcraft product from us, they can make payments online or by cash on delivery. And if the payment is insufficient, the system will show an error. And if the order is also placed, they can also track their orders after confirmation and after receiving them, they can give a review of the products

Handicrafts are handmade products representing the culture, values and traditions of a nation or region. They play a pivotal role in economic development as they are a prominent means for foreign exchange revenue. They are also perceived as a symbol of status on account of their uniqueness, quality, and the usage of natural materials, such as sheet metal, wood, natural fibers, beads, stones, wrought iron, textiles, paper, and ceramics.

And Handicrafts are very important. They represent people's culture and traditions. It promotes the heritage of a country through the use of indigenous materials. It preserves traditional knowledge and talents and are gifted every day.

5.0 Systems Overview: In our E-commerce application customers and sellers can create account. After creating an account, the customer and seller can log in along with the admin. And after that, the system will verify the password and if the password is wrong, there will be an error. Then the customers can search and check products. And they can also check their coins and they can insert coin my paying online. Also, if any customers buy any food or handcraft product from us, they can make payments online or by cash on delivery. And if the payment is insufficient, the system will show an error. And if the order is also placed, they can also track their orders after confirmation and after receiving them, they can give a review of the products. The sellers will be able to add products and shop names with details and images and they will be verified by the admin. The admins can also remove and see the customers and seller's details and they can overview the activities.

Identify and analyze various processes, **use-cases**, actors etc. of the system. And, use processes at various levels to draw the use-case diagram.



6.0 Stakeholders analysis:

In this Rare Handcraft Products and Famous Foods Buy, Sell, Distribution system there are Four types of users who will use this system:

1. Customer
    - Customer can Register and login
    - Customer can check products
    - Customer can make payment

- Customer can check coins
- Customer can place order
- Customer also can review

2. Admin: Admin can alter each thing. Additionally, can maintain entire system.
    - Admin can log in
    - Admin can update the product.

3. Seller:

    They can verify single-vote verification, which ensures members don't inadvertently vote more than once
    - Seller can log in
    - Seller can add products

4. System: The system will verify the password of customer and seller and also can generate many things.
    - System can verify password.
    - System can check coins
    - System can generate make payments
    - System can track order
    - System also can add products

7.0 Feasibility study:

A Feasibility study is used to access whether a proposed project should be undertaken.

Technical Feasibility:

The main objective of technical feasibility of this system is to determine whether the project is technically feasible, to produce the software profitably. It inspects whether software can be built at all with available tools and experts.

Our Project is a complete web-based project. The main technologies and tools that are used in this project are: HTML, CSS, MySQL, JavaScript, React.js, node.js, Laravel, React Bootstrap. Each of the technologies are freely available and the technical skills required are manageable. Time limitations of the project development and the ease of implementing using these technologies are synchronized.

In this Rare Handcraft Products and Famous Foods Buy, Sell, Distribution all system analysts, users, programmers and management have a good grasp of what kinds of tasks must be accomplished for software development. Initially the website of this project will be hosted in a free web hosting space and after that for later implementations it will be hosted in a paid web hosting space with a sufficient bandwidth. Bandwidth required in this application is very low, since it doesn't incorporate any multimedia aspect.

From these it's clear that the project Rare Handcraft Products and Famous Foods Buy, Sell, Distribution system is technically feasible.

Financial Feasibility:

As our project is a web-based project so that it will have an associated hosting cost. Bandwidth required in this project is very low. There will have an associated cost for bug fixes and maintaining tasks cost. All required cost for final development like software resource required, design and development cost and operational cost is not quite expensive. Labor costs like Managers, Graphic designers, UX designers, QA testers must include all the professionals involved in the development time. your project may necessitate infrastructure changes, such as an upgraded server setup or expanded cloud storage capacity.

We will try to establish a minimal-viable product requirements with the stakeholders, explaining the necessity of limiting the scope and the possibility of adding elements subsequently. These investments are often considerable and may extend beyond the initial launch of your software application. We will keep costs and timelines of this project in check, we will budget around the must-haves to get you to launch. In the future, you can address nonessential features.

From these it's clear that the project Online voting system is financially feasible.

8.0 Systems Component:

1. System Login:

Functional Requirements:

- The software will allow the users to login with their registered username & password.
- If password is found not matched with registered password, then they have to use **Forget Password** function for resetting password. A code will generate via email or phone number by the system.

- If login attempt is failed for limited times (5 times), then the account will be blocked for an hour (Optional function).

Priority Level: High.

Precondition: User must have valid Id and Password.

2. Restricted Sections:

Some sections will not appear in the user's interface. It will have different functionalities and features which based on user type.

Priority Level: High

Preconditions: Select the user type before register information (Buyer, Seller).

3. Update Information: Users can update their information in the software system.

Priority Level: Medium.

4. Live Tracking: Software will provide live data for ongoing product.

Priority Level: High

5. Online Transactions: Software system will track the online transactions and will keep the records in the system.

Priority Level: High.

6. Order List: Software will show the total list of orders.

Priority Level: High

Preconditions: All orders, contact info, price list.

9.0 Process Model:

Agile methodology is widely used for web app development projects. The agile method is often used for projects with no definite requirements and limited short time frames. The agile process model encourages continuous iterations of development and testing. Each iteration is designed to be small and manageable. So, it can be completed within a few weeks.

Each iteration is focuses on implementing a small set of features completely. It involves customers in the development process and minimize documentation by using informal communication.

1. Requirements are assumed to be changed.
2. The system evolves over a series of short iterations

Documentation is done only when needed.

10.0 Effort Estimation: Budget is an important part for any project and all investors need to know about the cost of project. To complete a project, it needs a specific time period to finish and a budget.

For this project, we are going to use COCOMO (COnstructive COst MOdel) to estimate the cost of this project. Suppose, our project is Organic type. The project is estimated to be **20000 SLOC**. Now we have to calculate effort, development time and required number of people.

Software Project Type	Coefficient <Effort Factor>	P	T
Organic	2.4	1.05	0.38
Semi-detached	3.0	1.12	0.35
Embedded	3.6	1.20	0.32

PM: Person-months needed for project

SLOC: Source lines of code.

P: Project complexity (1.04-1.24)

DM: Duration time in months for project.

T: SLOC-dependent coefficient (0.32-0.38)

ST: Average staffing necessary.

Our project is **Organic** type.

So, Effort = PM = Coefficient <EffortFactor>*(SLOC/1000) ^P

= 2.4*(20000/1000) ^1.05

= 55.75

Development Time = DM = 2.50*(PM) ^T

= 2.50*(55.75) ^0.38

= 11.52

Required Number of People = ST = Effort (PM)/Development Time (DM)

= 55.75/11.52 = 4.83

11.0 Network & Activity diagram:

Key:

<table>
<tr><td>Activity
Label</td><td colspan="2">Duration</td></tr>
<tr><td>Earliest
Start</td><td rowspan="2">Activity
Description</td><td>Earliest
Finish</td></tr>
<tr><td>Latest
Start</td><td>Latest
Finish</td></tr>
<tr><td colspan="2">Activity Span</td><td>Float</td></tr>
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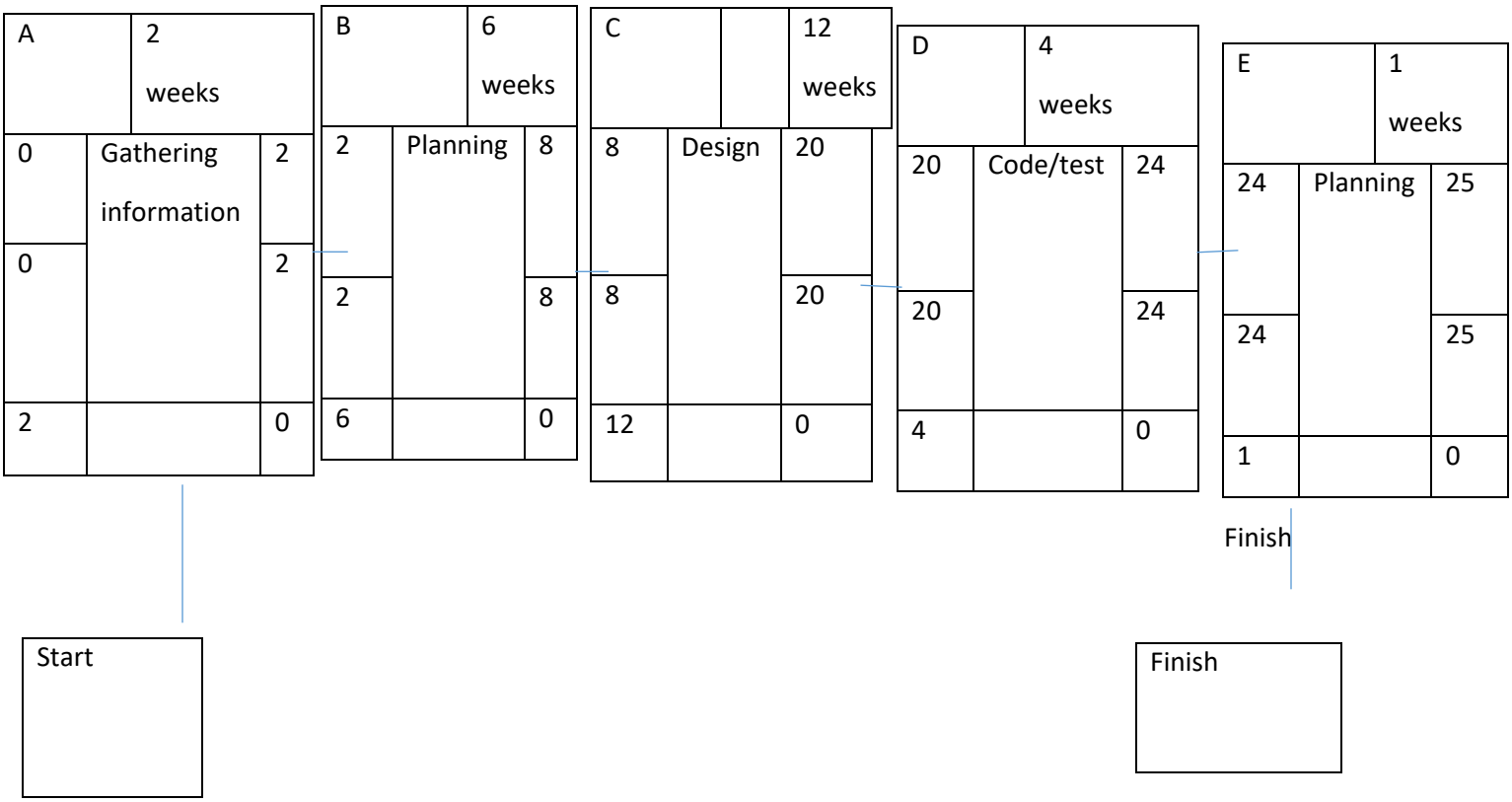
Activity	Duration
Gathering Information	2
Planning	6
Design	12
Code/Test	4
Review & Launch	1

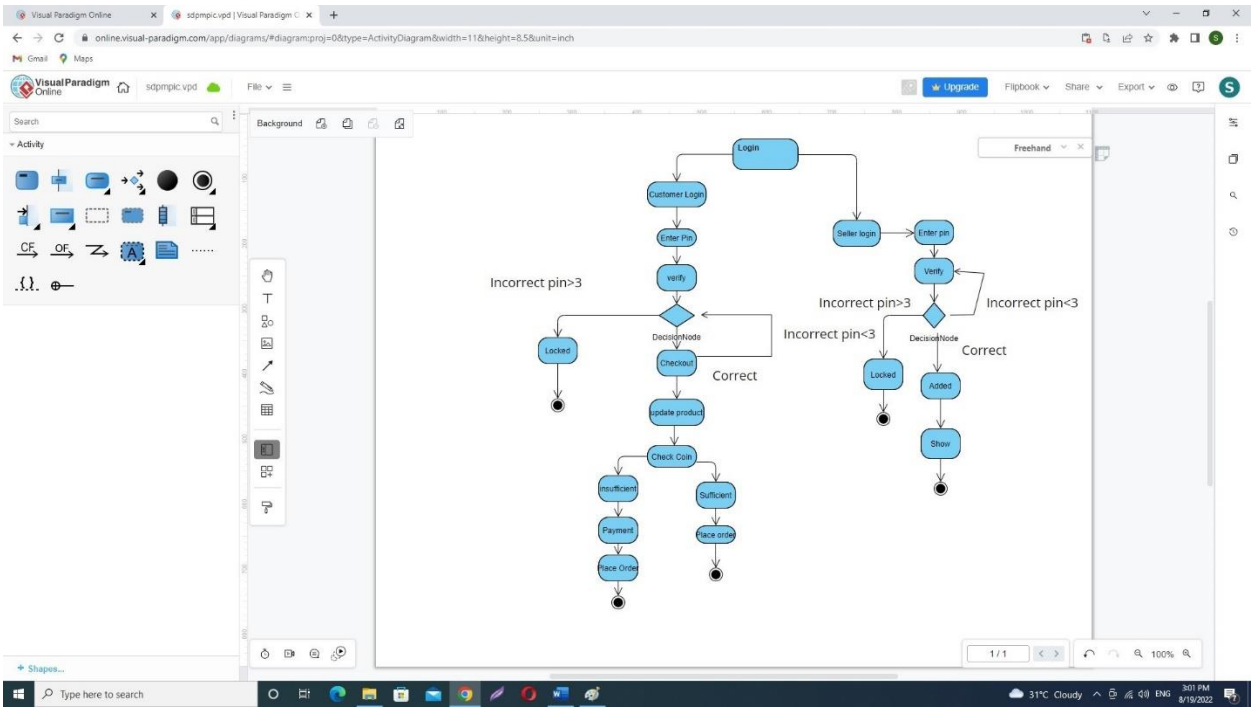


Scheduling Activities:

Serial	Tasks	Start	Duration	Responsibility
1	Gathering information	10-03-22	2 weeks	Developer/Tester
2	Planning	24-03-22	6 weeks	Testing team lead
3	Design	05-05-22	12 weeks	Testing team lead
4	Code/Test	28-07-22	4 weeks	Developer/Tester
5	Review and launch	18-08-22	1 weeks	Developer/Tester

Gant chart:

Task	1 WeeKs	2 WEEKs	3 weeks	4 weeks	5 weeks	6 Weeks	7 weeks	8 weeks	9 weeks	10 weeks	11 weeks	12 weeks	13 weeks	14 weeks	15 weeks	16 weeks	17 weeks	18 weeks	19 weeks	20 weeks
Gathering information																				
Planning																				
Design																				
Code/Test																				
Review and launch																				



12.0 Risk Analysis:

Project risks are could be prevent the achievements of the objectives given to the project manager and project team. Risks are potential problems that might affect our project. Risk analysis help the software team understand and manage uncertainty during the development process.

Risks	Category	Probability	Impact	RMMM
Size estimation significantly low	PS	60%	2	- Use multiple size estimation techniques to verify the estimation. - Have room for error in the budget
Developer inexperienced	ST	30%	2	- Define required experiences for the job clearly while recruiting.
				- Have senior developer with previous experience lead the development work
Customer changes requirement at development stage	PS	60%	2	- Communicate scope of changes and the change control policy clearly with the customer - Have a change control board
Technology will not meet expectation	TE	30%	1	- Use LTS versions where possible - Decouple as much as possible so replacements are possible.
Breaking changes in prebuilt packages	TE	20%	2	- Prevent automatic updates to the repository modules and packages - Analysis each update before applying the updated version - Use a version control system
Funding will be lost	CU	40%	1	- Communicate frequently - Secure early funding - Collect an upfront payment

Impact values:

Catastrophic -1

Critical - 2

Marginal - 3

Negligible – 4

13.0 Budget of The Project:

Development Cost:

Total working days = total days*DM

=20*11.52

=230.4 days

=230 days Working hour per day=8

Total working hours = 230*8

= 1840 hours

Total development cost = 1840*500 [per hour salary 500]

= 920000 BDT

Maintenance cost:

Monthly 10 Hours (6 months and per hour salary 1200) Cost=10 x 6 x 1200

=72,000 BDT

Requirement Cost:

Days=15 Working Hour=8 salary=400

Total Cost = 8 x 15 x 400

= 48000 BDT

Development Cost	920000
Requirement Cost	48,000
Maintenance Cost	72,000
Launching website Cost	80,000
Market promotion cost	1,00,000
Training Cost	1,00,000
Equipment Cost	1,20,000
Utilities Cost	1,15,000
Profit (20%)	3,11,000
Total	186,6000 BDT

So

Total budget of project is 186,6000 BDT

14.0 Conclusion: Now a days, people like to buy products, foods, even sell them via online selling platform. Besides, handicraft items are very attractive to people and they love to buy those at a reasonable price. For this, a good online platform is needed where people can buy those including buying foods and selling with a very good and fastest delivery service. But creating an online selling platform needs time. Besides, the stack-holders needs to show the interest for investment and fulfill the project. A project manager should monitor all the activities for the project. On the other hand, project manager needs to communicate with different stack-holders for this project. Because different stack-holders shows different kinds of interest within a same project. So, project manager needs to come up with a good strategy for fulfill the project.