WORK ASSIGN:

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- Feature list - Sharia Parvin_011191140
- Methodology - Tahmina Aktar_011192060
- Work breakdown structure - Md. Rafiul Islam_011191089
- WBS Delphi Wideband - Minajul Islam Siam_011183036
- Risk factor - Niloya Roy_011192057
- Gantt chart - All

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1. Introduction (Vision & Scope)

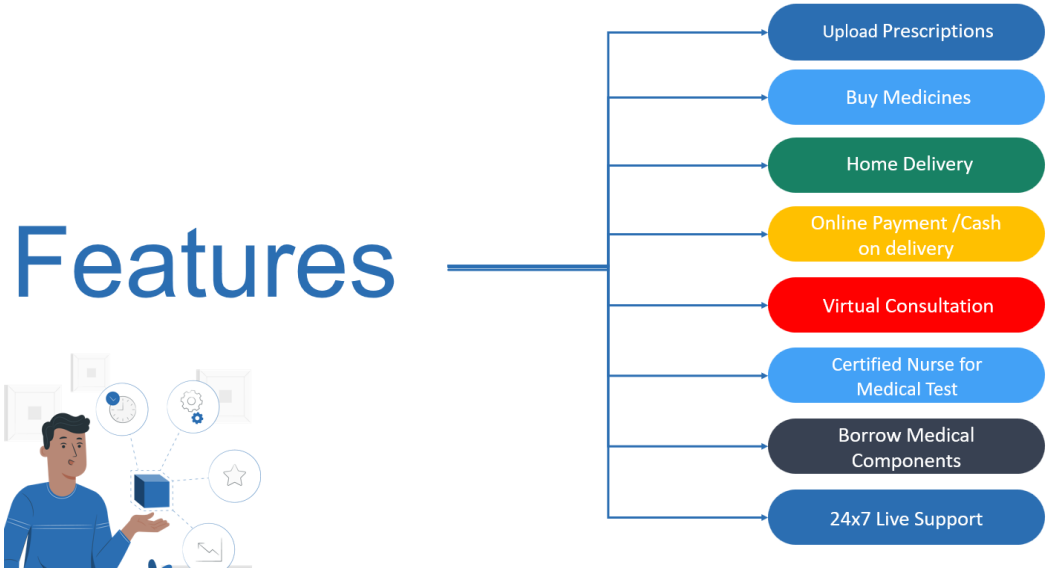
1.1 Problem Statement:

- **Objectives:** ‘Asclepius’ is founded with the goal of providing people in Bangladesh with high-quality pharmaceutical services. With the help of Asclepius, users now have access to a digital platform for all basic healthcare requirements, including legitimate medications, vitamins, doctor consultations, equipment rentals, and even lab testing with convenient sample collection from one's home.
- **Stakeholders:** Admin, Doctors, Patients, Employee, Hospital.
- **Users:** Users who necessitate any type of health-related assistance.
- **Risks:** Maintaining medical resources in storage. Sanitization of rented medical equipment. Ensuring the availability of staff for live assistance and quick response.
- **Assumption:** Once we set features into place, things might change.

1.2 Vision & Scope:

- **Vision Statement:** All medical services, with the exception of some urgent circumstances like surgery, will be available at home according to a platform we're developing. This portal makes it simple to purchase everything from pharmaceuticals to medical equipment and virtual doctor consultations. In this circumstance, features like prescription uploading will also be available. For any necessity from users connected to the platform, one can obtain live care here approximately. Users don't have to deal with any additional hassles due to the availability of both cash on delivery and online payment.
- **Scope:** Live support with quick response. Utilizing a distinctive and practical aspect to identify a valid prescription. Easy and fast delivery of products.

2. Feature List



2.1 Selected Features in descriptive form:

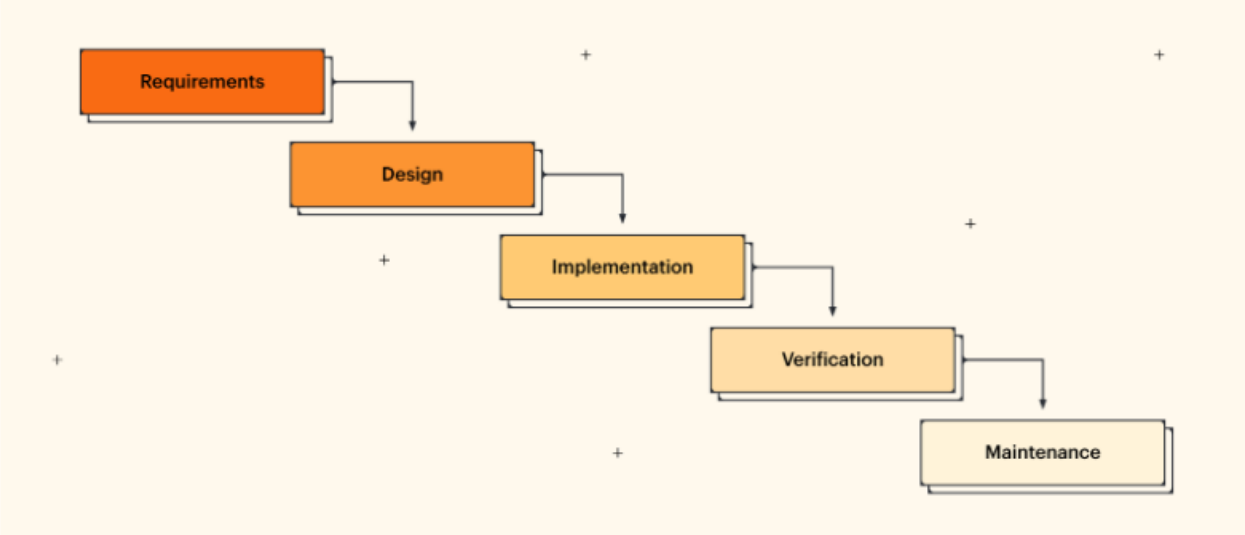
- **Upload Prescription:** a patient can upload his/her prescription & from them they can take consultation virtually from any specialized doctors & also according to that prescription they can buy medicines also
- **Buy Medicines:** Here will be another important feature that a buyer can buy or order any kinds of medicines.
- **Borrow Medical Components:** Borrow medical components from the dispensary or from a particular place.
- **Home Delivery:** Our service provider's person will deliver customers products at his/her door within a very short period.
- **Online Payment / Cash on Delivery:** Both online payment and cash on delivery will be applicable. .
- **Virtual Consultation with doctors:** A patient can consult his/her illness anytime with doctor via any social online platform like zoom, google meet or via call etc
- **24*7 Live Service:** Our services will be available whole day & even mid night & in holidays also.

3. Methodology

A methodology is a way of making or adopting a model to perform a task or a set of tasks so that the goal of that task can be achieved as predicted.

3.1 Waterfall Methodology:

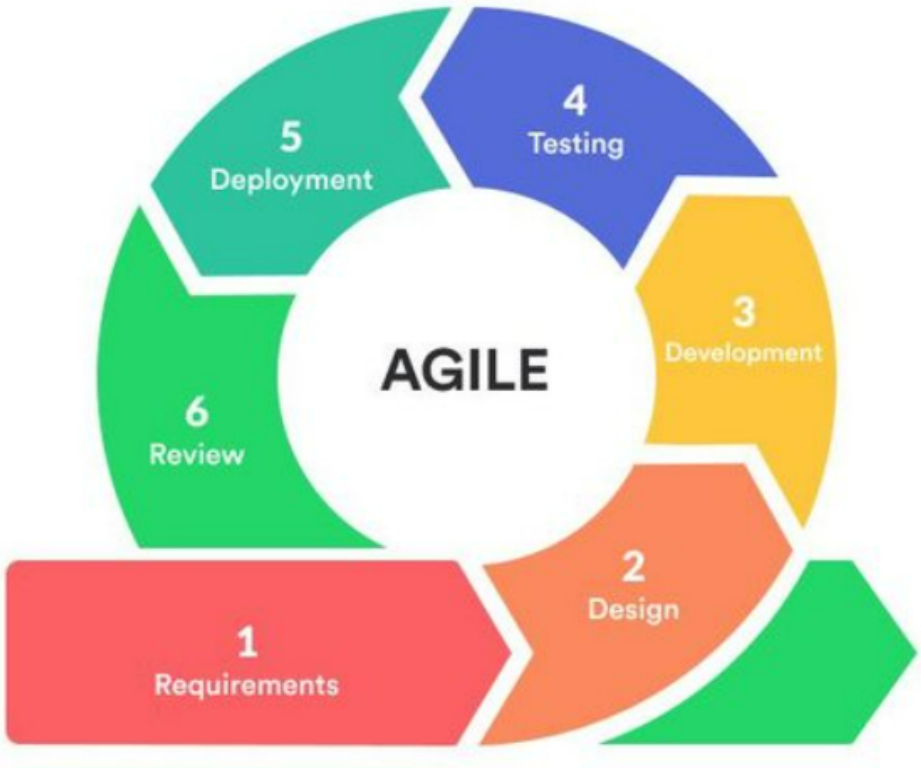
In Waterfall methodology,developers complete one stage entirely before beginning the next. Each stage has its own requirements and plan and is reliant on inputs from the previous stage.There's no overlap of work between any two stages.



3.2 Agile Methodology:

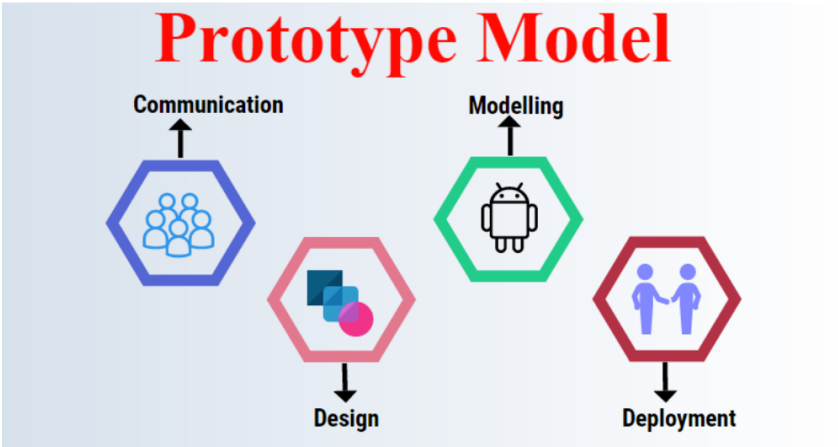
Ideal for the projects with fast changing or evolving requirements.

- Ready for any instant changes in the project.
- customer availability throughout the project.
- work on valuable features first to implement.



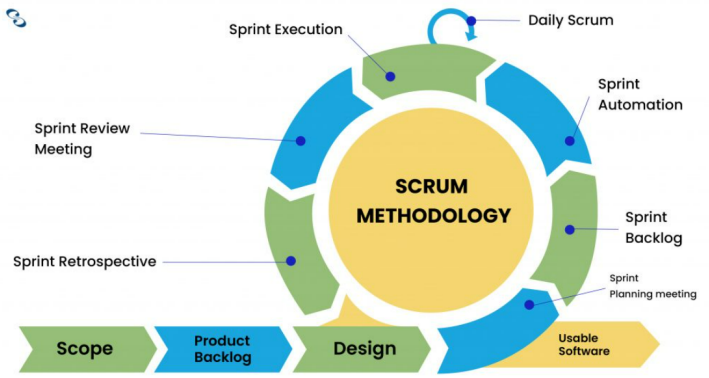
3.3 Prototype Methodology:

Instead of developing a full fledged software, the prototype model allows developers to work on the prototype version of the final product. The prototype is then made available for customer testing,evaluation, and feedback.



3.4 Scrum Methodology:

Scrum is arguably one of the most flexible software development methodologies available. It is based on the Agile philosophy and is favored for its incremental and iterative approaches. The Scrum methodology involves the Product Owner, Scrum Master, and the Development Team.



We choose waterfall methodology for our project management. Reasons of choosing this methodology given below:

- All stages of our project are clear and well-defined.
- As we have a list of features with no new features that might be added later.
- As we all are inexperienced developers,the linearity of the waterfall model makes it easy to understand.

3.5 Waterfall Project Management Phases

3.5.1 Requirements and Planning

The requirements and planning phase of waterfall project management identifies what the project should do. In this phase we identify and describe the project's risks, assumptions, dependencies, quality metrics, costs, and timeline.

3.5.2 Design

In this phase, we develop solutions that can solve the project's requirements. Design covers the project's schedule, budget, and objectives, and we can think of design as a blueprint or road map to the complete project.

3.5.3 Implementation

The implementation phase executes our project plan and design to produce the desired product.

3.5.4 Verification/Testing

Testing verifies that the product developed in the implementation phase fulfills the entire project's requirements. In this phase, we review the project from phase one to identify what went wrong. This phase uses various quality metrics and customer satisfaction to measure the project's success.

3.5.5 Maintenance

In this phase, we try to identify any errors we might have missed during the testing phase. We will monitor the project for further bugs that might come upon the user and fix it.

4. Work Breakdown Structure (WBS)

4.1 Introduction of WBS

A Work Breakdown Structure (WBS) is a fundamental project management technique for defining and organizing the total scope of a project, using a hierarchical tree structure. The first two levels of the WBS (the root node and Level 2) define a set of planned outcomes that collectively and exclusively represent 100% of the project scope. At each subsequent level, the children of a parent node collectively and exclusively represent 100% of the scope of their parent node.

4.2 Purpose of WBS

A work breakdown structure (WBS) is a tool that can be used for projects, programs, and even initiatives to understand the work that has to be done to successfully produce a deliverable(s). The benefits of creating a WBS include: it defines and organizes the work required.

4.3 Types of WBS

4.3.1 100% Rules

The 100% rule states that the WBS includes 100% of the work defined by the project scope and captures all deliverables – internal, external, and interim – in terms of the work to be completed, including project management. The 100% Rule assures that all costs are accurately recorded. The experienced cost will be compared to what was expected, at all levels of the work breakdown structure. Every level of decomposition must make up 100% of the parent level. It should also have at least two child elements. Mutually exclusive: All elements at a particular level in a WBS must be mutually exclusive. There must be no overlap in either their deliverables or their work

4.3.2 The 40-Hour Rule of Decomposition

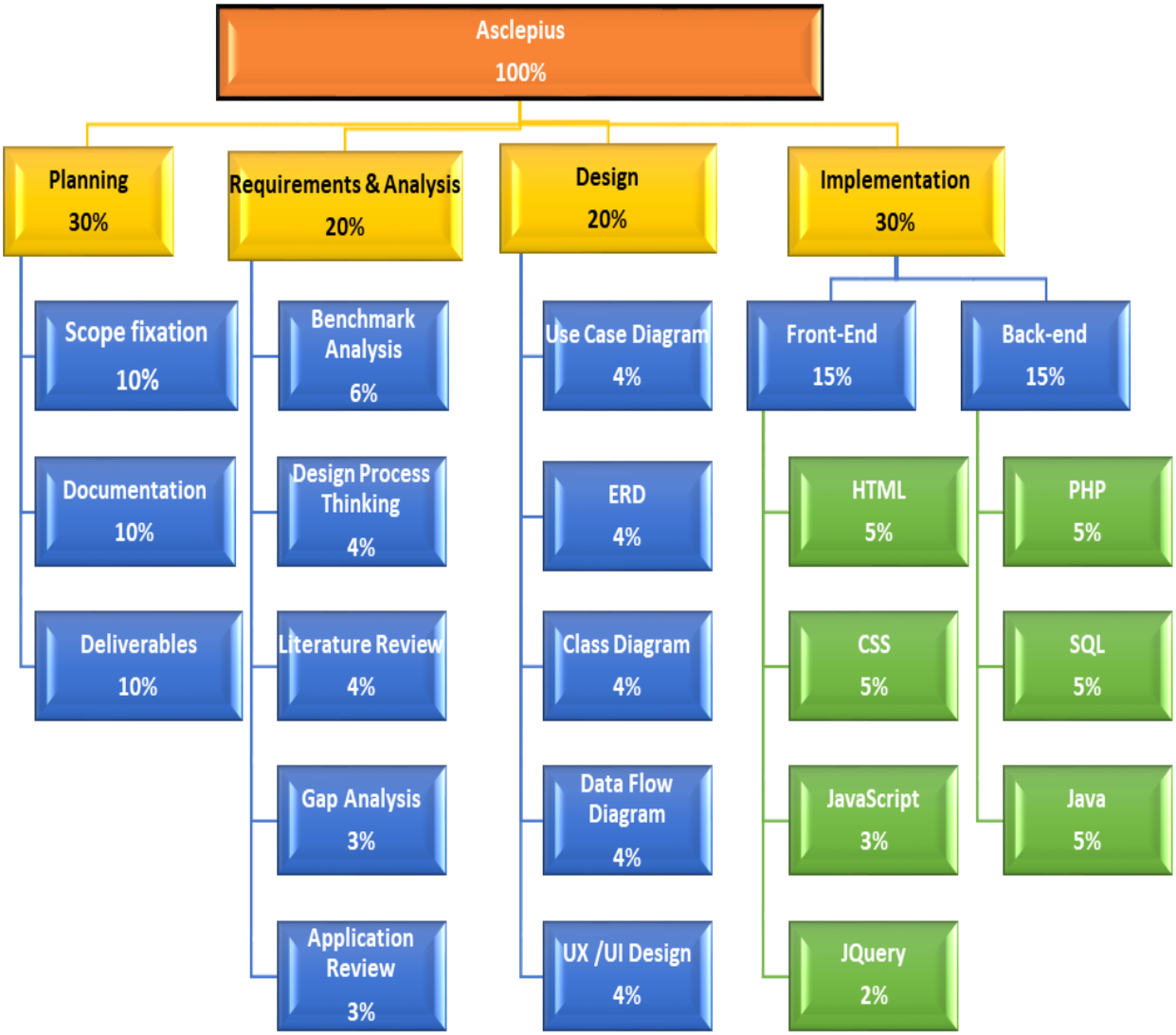
Another rule-of-thumb for determining how far down a WBS should be decomposed is called the "40 Hour Rule." Generally, when a project has been decomposed down to an element that has about 40 hours of allocated direct labor, there is no need to decompose further. The 40 Hour Rule is based on a 40-hour work week. Because of this, most WBS diagrams are not symmetrical. Some legs may go down to Level-4 while others may go down to Level-5.

4.3.3 The 4% Rule of Decomposition

Gary Heerkens suggests a 4% Rule for decomposing a WBS. With this rule a WBS is adequately decomposed when the lowest element is about 4% of the total project. 3 For a 26-week schedule, the lowest element should be about one week. For a $2.6M project, the lowest level should be about $104K.

4.4 WBS Approach of Our Project:

To break down all the tasks of our project we have used the 100% rule of WBS.



5. Wideband Delphi

5.1 Introduction of wideband Delphi

Wideband Delphi is a variation of the Delphi estimating method where subject matter experts complete multiple rounds of producing estimates individually, with a project team discussion after each round, until a consensus is achieved. For Wideband Delphi, those who created the highest and lowest estimates explain their rationale, following which everyone re estimates. The process repeats until convergence is achieved.

5.2 wideband delphi process

Input work product:

- Vision and scope document, or other documentation that defines the scope of the work product being estimated

Output work product:

- Work breakdown structure (WBS)
- Effort estimates for each of the tasks in the WBS

Entry Criteria:

- The vision and scope document has been agreed by stakeholders,users,managers and engineering team
- The kickoff meeting and estimation session have been scheduled (each at least two hours).
- The project manager and the moderator agree on the goal of the estimation session by identifying the scope of the work to be estimated.

5.3 Wideband delphi Steps

Team Selection: Product manager chooses the Estimation team and moderator team with 3 to 7 members.

Kickoff Meeting: The first meeting during which the estimation team creates WBS and discusses assumptions.

Individual Preparation: After kickoff meeting each team member creates an effort estimate of each task

Estimation Session: The moderator leads the team through a series of iterative steps to gain consensus on the estimates. The moderator charts the estimates on the whiteboard so the estimators can see the range of estimates. The team resolves issues and revises estimates without revealing specific numbers. The cycle repeats until either no estimator wants to change his or her estimate, the estimators agree that the range is acceptable, or two hours have elapsed.

Assemble Tasks: After the estimate session the product manager summarizes the results of estimation.

Reviewing results: The project manager reviews the final task list with the estimation team

Exit Criteria: The script ends after the team has either generated a set of estimates or has agreed upon a plan to resolve the outstanding issues.

5.4 Wideband Delphi Estimation

Goal Statement: To estimate the time to develop a web based e-doctor application for client
Estimators: Minhajul Islam, Ripon Kumar, Sharia Parvin, Tahmina Aktar, Niloya Roy, Rafiul Prince Units: days

WBS	Task Name	MI	RK	SP	TA	NR	RP	Best Case	Worst Case	Avg hi & low	Notes
1	planning	6	5	7	5	8	6	5	8	6	
2	Requirement & Analysis	10	13	12	15	10	11	10	13	12	
3	Design	9	14	12	11	12	10	9	14	11.25	
4	Implementation (front-end)	18	15	13	17	12	14	12	18	14.75	
5	Implementation (backend)	17	20	18	17	19	22	17	22	18.5	
	Total	60	67	62	65	61	63	53	75	62.5	

6. RISK MANAGEMENT

6.1 What is risk management?

Risk management in projects is the identification, analysis and treatment of potential project impacts based on livelihood and outcome assessments.

6.2 Risk Mitigation, Monitoring, and Management Plan (RMMM)

6.2.1 Risk Mitigation:

It is an activity used to avoid problems (Risk Avoidance).Steps for mitigating the risks as follows.

1. Finding out the risk.
2. Removing causes that are the reason for risk creation.
3. Controlling the corresponding documents from time to time.
4. Conducting timely reviews to speed up the work.

6.2.2 Risk Monitoring :

It is an activity used for project tracking. It has the following primary objectives as follows to check if predicted risks occur or not.

1. To ensure proper application of risk aversion steps defined for risk.
2. To collect data for future risk analysis.
3. To allocate what problems are caused by which risks throughout the project.

6.2.3 Risk Management :

Risk management and contingency planning assumes that mitigation efforts have failed and that the risk has become a reality. Continuing the example, the project is well underway, and a number of people announce that they will be leaving. If the mitigation strategy has been followed, backup is available, information is documented, and knowledge has been dispersed across the team. In addition, the project manager may temporarily refocus resources (and readjust the project schedule) to those functions that are fully staffed, enabling newcomers who must be added to the team to "get up to the speed"

6.3 Risk Plan:

A risk plan is a list of all risks that threaten the project, along with a plan to mitigate some or all of those risks. Adding a risk plan to a software project plan is an effective way to keep the project from being derailed by surprises or emergencies. Each of the risks in the plan must be assessed by the project manager and the team.

Risk Source	**Prob**	**Impact**	**Priority**	**Action**
Storage of medical components	4	4	16	Be more careful with database and data collection to know when a product expires
Sanitization of rented medical equipments	3	4	12	Responsible should be defined so that cleanliness is not compromised
Safe delivery and return of medical equipment to customers	2	5	10	Forming an effective and responsible team so that such tasks are never neglect
Ensuring staff availability for live support and immediate response	3	3	9	Availability of staff in a truck and sufficient staff for response and support
Cost Efficiency	2	3	6	Make a budget estimate of the entire project in advance and

				spend accordingly so that there are no cash crunches ahead of the process.
Difficult Promotion of website	1	4	4	Estimating a budget in advance for the promotion team and executing it properly and developing a strong peer team

7. Gantt Chart

Task No	Task Name	Start Date	Actual Start Date	End Date	Actual End Date	Assign	Progress
1 Planning							
1.1	Scope	15/10/22	16/10/22	17/10/22	18/10/22	Ripon	100%
1.2	Documentation	18/10/22	20/10/22	23/10/22	25/10/22	Sharia	100%
1.3	Deliverables	24/10/22	26/10/22	27/10/22	28/10/22	Tahmina	100%
2 Requirement & Analysis							
2.1	Benchmark	28/10/22	29/10/22	30/10/22	31/10/22	Minhajul	100%
2.2	Design process	31/10/22	01/11/22	02/11/22	03/11/22	Rafiul	100%
2.3	Literature Review	03/11/22	04/11/22	06/11/22	07/11/22	Niloya	100%
2.4	Gap Analysis	07/11/22	08/11/22	09/11/22	10/11/22	Ripon	100%
2.5	Application Review	10/11/22	10/11/22	11/11/22	11/11/22	Sharia	100%

3 Design							
3.1	Use Case	12/11/22	12/11/22	12/11/22	13/11/22	Tahmina	100%
3.2	ERD	12/11/22	12/11/22	12/11/22	13/11/22	Minhajul	100%
3.3	Class Diagram	13/11/22	13/11/22	1311/22	14/11/22	Rafiul	100%
3.4	Data Flow	13/11/22	13/11/22	13/11/22	14/11/22	Niloya	100%
3.5	Ux / UI Design	15/11/22		20/11/22		Ripon	
4 Implementation (Front-end)							
4.1	HTML	21/11/22		05/11/22		Sharia	
4.2	CSS	21/11/22		05/11/22		Sharia	
4.3	JavaScript	21/11/22		05/11/22		Tahmina	
4.4	Jquery	21/11/22		05/11/22		Niloya	
5 Implementation (Back-end)							
5.1	PHP	06/11/22		24/11/22		Minhajul	
5.2	SQL	06/11/22		24/11/22		Rafiul	