



**American International University- Bangladesh
(AIUB) Department of Computer Science**

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Final Project

Submitted to

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Subject: SOFTWARE DEVELOPMENT PROJECT MANAGEMENT

Section: (B)

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Tables of Contents

1. Introduction:

2. Project Title:

3. Objectives:

4. Justification:

5. Stakeholder's:

6. Feasibility Study:

7. System Component:

8. Effort estimation:

9. activity scheduling diagram:

10. Risk Analysis:

11. Conclusion:

1. Introduction: Every year thousands of vehicles are stolen within the roads and unsecured lot. Sometimes, steals attempt to steel the vehicle parts by opening doors or breaking glass. thanks to this people are afraid to park the vehicles within the road or unknown car parks. To avoid this problem many designs and techniques are designed and implemented within the vehicles. However, designing a vehicle security system and interfacing the monitoring by the owner's itinerant are absolutely the answer for the present situation and also the necessity.

2. Project Title: Vehicle Monitoring System

3. Objectives: First automate the vehicle selling and its enlistment to BRTA. Who is purchasing the vehicle checking if that individual is qualified to purchase the vehicle? Purchaser must show driving permit. At that point while the vehicle is running out and about continually checking if its obeying with the traffic rules or not. With advanced tag digital license plate and some other equipment our system will be able check the vehicle progressively. Along these lines our streets will be increasingly sheltered. At that point system will also monitor its parking records.

4. Justification: Road accidents in Bangladesh have reached epidemic levels, with newspaper headlines reporting casualties on a daily basis. Road safety is on of greatest issue of our country. Our system can prevent the problem.

5. Stakeholder's:

1. Business owner
2. Project manager
3. System engineer
4. system user
5. Car owner.
6. Vehicle Seller.
7. Vehicle Owner.
8. BRTA officer.
9. Parking manager

6. Feasibility Study: Feasibility is that the measure of how beneficial / practical a data system is going to be to a company. A feasibility study looks at the viability of a thought with a stress on identifying potential problems and attempts to answer one main question: Will the thought work and will you proceed with it? When assessing feasibility of a project following criteria will be identified.

Technical feasibility: The implementation of the Vehicle Monitoring System would be able to save time and efforts of employees of the corporate. there in way some information are attained. The practicality of getting result together with its automation would be more that what the manual way does from it.

Financial feasibility: It is how the system would be ready to work with the approved budget proposal. Any modification is visiting be made as long as some alternatives were applicable and approved. When exploring the economic feasibility of the system a price benefit analysis would evaluate the advantages of the system against its costs.

Cost Benefit Analysis:

Benefits:

- Very high levels of readily available information.
- Providing information of vehicles, drivers and dispatchers.

- Very interactive user experience.
- Providing a lesser work environment.
- Providing an inventory of availability of vehicles and drivers electronically.
- Providing electronically generating reports.
- Providing an easiest way to manage all the company's information.
- easiest way to book, dispatches, return, and replace a vehicle.
- Less time in tracking the status of every vehicles, drivers and dispatchers.

DEVELOPMENT COSTS

· Hard ware Costs -

No should buy new hardware. Existing resources in premises & the private hardware of the users are visiting be used.

· Software costs -

Free & open source software are visiting be utilized within the event

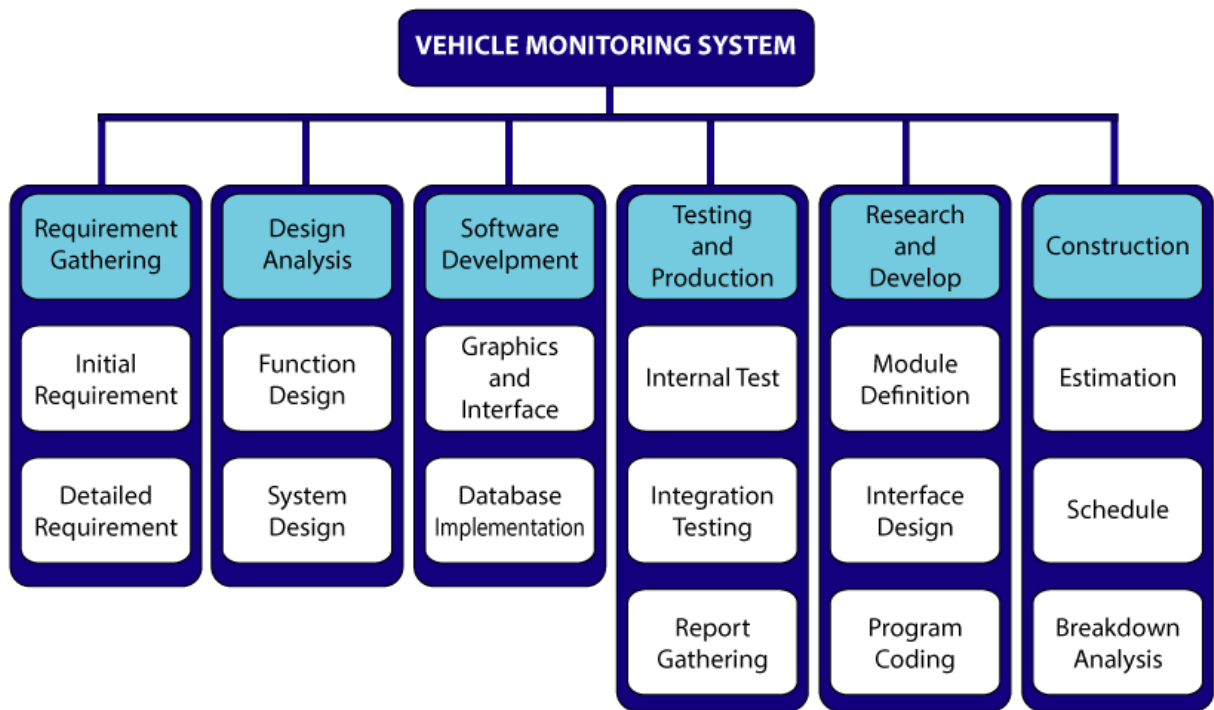
· Initial implementation Costs

No initial installation cost.

OPERATIONAL COSTS (to the client when using system)

- Salaries of the operations staff
- PCs and other technical equipment costs
- Software costs in development.

7. System Component:



8. Effort estimation: As the project does not have any historical data available and it contains unique characteristics, I have decided to follow bottom up approach of estimation.

$$\text{Effort} = \text{PM} = \text{Coefficient} \times (\text{SLOC}/1000)^P$$

$$= 3.0 \times (20)^{1.12} = 85.95$$

$$\text{Development Time} = \text{DM} = 2.50 \times (\text{PM})^T$$

$$= 2.50 \times (85.95)^{0.35} = 11.88$$

$$\text{Required Number of people} = \text{ST} = \text{Effort (PM)} / \text{Development Time (DM)}$$

$$= 85.95 / 11.88 = 7.23$$

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

9. activity scheduling diagram:

The project scheduling is the instrument that connects what work needs to be achieved, which properties of the association will achieve the work and the time frames in which that work needs to be performed. The project schedule should reflect all of the work related with distributing the project on time. Without a full and complete schedule, the project manager will be unable to link the complete effort, in terms of cost and resources.

- Project Activity:
Project specification with satisfied with estimated activity diagram and precedence requirements

Activity	Duration (Weeks)	Patterns
A Software design	3	A
B Hardware selection	4	C
C Install hardware	2	A
D Code and test software	6	B
E File take-on	3	B
F Write user manuals	1	-
G training	4	E, F
H test system	10	C, D

Table: Project Activity

- A network diagram is a graphical representation of the project and is composed of a series of connected arrows and boxes to describe the inter-relationship between the activities involved in the project. Boxes or nodes represent the description of activities and arrows show the relationship among the activities.

Formulating a Network Model

- Constructing Precedence Networks
 - A project network should have only one start node
 - A project network should have only one end node
 - A node has duration
 - Links normally have no duration
 - Precedents are the immediately preceding activities
 - Time moves from left to right
 - A project network should not contain loops
 - A project network should not contain dangles
- Shortening the Project Duration
- Identifying Critical Activities
 - The critical path
 - The near-critical path
 - Dynamics and monitoring
- Scheduling resources can create new dependencies between activities – recall *critical chains*
- It is best not to add dependencies to the activity network to reflect resource constraints
 - Makes network very messy
 - A resource constraint may disappear during the project, but link remains on network
- Instead, amend dates on schedule to reflect resource constraint

The Activity Network Diagram

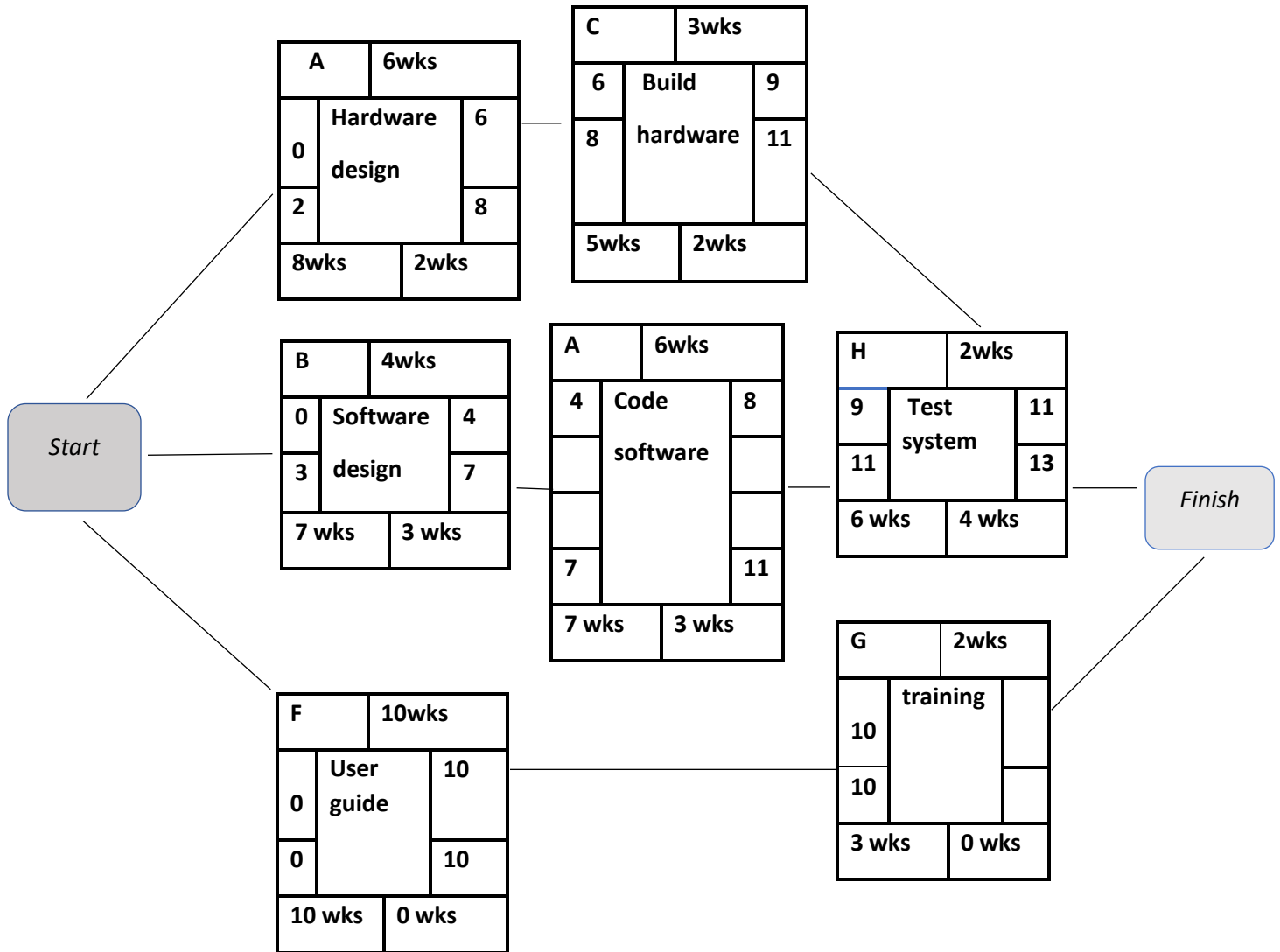


Figure:1.1 The Critical path

10. Risk Analysis: A risk is actually, in one sense, the flip side of assumptions. With an assumption, we expect something to happen. There are several parts of the project that are not within the control, which can be called as risk. Risk management of this online registration system includes:

- Risk Identification
- Risks Impact Analysis
- Risk Monitoring and Control

Some of the great risks of this project are given below-

○ Risk ID: R1

Risk title: Unavailability of team members

Impact: Delay of development process [Moderate]

Controlling idea: members need to work individually, decide to meet every week depending on the availability, if needed then hire more member

○ Risk ID: R2

Risk Title: Unrealistic idea about work load [Moderate]

Impact: Inability to deliver product on the due date

Controlling idea: Clear explanation of the scale of project, more time needed for requirements gathering more accurately

○ Risk ID: R3

Risk Title: Not enough time to finish the project

Impact: not able to deliver the product on time, all requirements are not met up [High]

Controlling idea: Asking more time from stakeholders, working time should be expanded, delivering the product part by part.

○ Risk ID: R4

Risk Title: Not have enough budget to complete the project

Impact: Late delivery of the project, team members can turn over [High]

Controlling idea: Asking more financial support from stakeholders, minimize the unnecessary tasks, reduce testing parts (less important testing)

○ Risk ID: R5

Risk Title: Delayed testing due to new issues

11.Conclusion: First automate the vehicle selling and its enlistment to BRTA. Who is purchasing the vehicle checking if that individual is qualified to purchase the vehicle? Purchaser must show driving permit. At that point while the vehicle is running out and about continually checking if its obeying with the traffic rules or not. With advanced tag digital license plate and some other equipment our system will be able check the vehicle progressively. Along these lines our streets will be increasingly sheltered. At that point system will also monitor its parking records.