STUDY ON APPLYING NETWORK MONITORING SYSTEM IN LOGISTICS COMPANY.

AT ARCHIMEDIS DIGITAL PRIVATE LIMITED.

Internship submitted to

Alagappa University

In partial fulfilment for the award of the degree of

BACHELOR SCIENCE OF INFORMATION TECHNOLOGY

(B.SC IT LOGISTICS & SHIPPING)

By

SUNSHE AISHWARYA A

(Reg. No: 208050043)

Under the guidance of

Mrs. W. ADELINE SHEEBA, B.E, M.E, ASSISTANT PROFESSOR

(Professor at GKM Institute of Marine Science and Technology)

ALAGAPPA UNIVERSITY

KARAIKUDI – 630 003

APRIL 2023

G K M

Institute of Marine Sciences & Technology

(Sponsored by SUGANTHI EDUCATIONAL TRUST)

G.K.M. Nagar, New Perungalathur (Near Tambaram), Chennai - 600 063.

LABORATORY RECORD

REG. No. [ ]

Name of the Lab ..... *Department* .....

Certified that this is a bonafide record of the work done by ..... *of* ..... *class in the* ..... *Laboratory during the year* .....

.....
Signature of
staff-in-charge

.....
Head of the Department

.....
Internal Examiner

.....
External Examiner

Name of the Examination : .....

Register No. : .....

Date of the Examination : .....

BONAFIDE CERTIFICATE

Certified that this "STUDY ON APPLYING NETWORK MONITORING SYSTEM IN LOGISTICS COMPANY" is the Bonafede work of "A. SUNSHE AISHWARYA (208050043)" who carried out the internship under my supervision. Certified further, that to the best of my knowledge, that this work reported, does not form part of any other project or dissertation, on the basis of which a degree or award was conferred on an earlier occasion on this for any other candidate.

Supervisor Head of the Department

Submitted for the university project viva voce held on _____

INTERNAL EXAMINER EXTERNAL EXAMINER

www.archimedis.io

INTERNSHIP CERTIFICE

This is To Certify Ms. Sunshe Aishwarya Completed her Internship.

Full Name: Sunshe Aishwarya

Designation: Software Engineering Intern.

Department/Division: IT

Period of Internship: 26th December 2022 to 27th January 2023.

She did the internship with Archimedis Digital, learnt Software Development and Testing in Service Delivery...

We would recommend her for her sincerity, willingness to learn.

Your's Sincerely

Nivash Gopalasamy
Chief People Officer

DECLARATION

In partial fulfilment of B.SC IT during the year 2022-2023. I hereby declare that the Internship entitled “STUDY ON APPLYING NETWORK MONITORING SYSTEM IN LOGISTICS COMPANY IN ARCHIMEDIS DIGITAL PRIVATE LIMITED”. It is the record of original work done by me, under the guidance of Mrs. W. ADELINE SHEEBA, B.E, M.E, Associate Professor, Department of B.SC IT, GKM INSTITUTE OF MARINE SCIENCES & TECHNOLOGY, Chennai. It is assured that this study has not been submitted to any other university for the award of B.SC IT degree.

PLACE: Signature of the Student

DATE:

ACKNOWLEDGMENT

- I SUNSHE AISHWARYA A, I would like to express my deep gratitude to our beloved Founder, the late Dr. G. KATHAMUTHU.
- My deepest thanks to Dr. B. SUJATHA BALASUBRAMANIAM, CEO, for the continuous support and for always being a source of inspiration to us.
- I wish to express my sincere gratitude to Mr. R. SUNDARA RAJAN, Principal, who has always helped us whenever we approached them during the course of our project.
- I am more grateful to Dr. M. MAHALAKSHMI, Vice Principal who is the key motivator for all the students to perform well in the academics and research works.
- I would also like to thank the Founder & M.D of ARCHIMEDIS DIGITAL PRIVATE LIMITED, Manager.
- I’m eternally grateful to my professor and guide, Mrs. W. ADELINE SHEEBA, B.E, M.E, Department of B.SC IT, and I extend my profound thanks to him for all the guidance and encouragement.
- I would also like to thank all our teaching and non-teaching staffs for the support and guidance that they have showed me.
- I thank my parents and my family who stood by me and assisted me, satisfying all my needs towards my successful internship experience.

CONTENT

INTRODUCTION

The "Logistic Monitoring System" has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and, in some cases, reduce the hardships faced by this existing system. Moreover, this system is designed for the particular need of the company to carry out operations in a smooth.

The application is reduced as much as possible to avoid errors while entering the data. It also provides error message while entering invalid data. No formal knowledge is needed for the user to use this system. Thu by this all it proves it is user-friendly. Logistic Monitoring System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus, it will help organization in better utilization of resources.

It provides real-time monitoring of shipments and inventory levels, allowing logistics companies to optimize their operations, reduce costs, and increase efficiency.

The system typically integrates with other business systems, such as ERP, WMS, and TMS, to provide a comprehensive view of the entire supply chain. It can also generate reports and analytics to help businesses identify trends, make informed decisions, and improve their logistics strategies.

With a logistic monitoring system, logistics companies can manage their entire logistics process from a single platform, ensuring timely and accurate delivery of goods and services

to their customers. It is an essential tool for any business that relies on logistics to deliver their products or services.

Every organization, whether big or small, has challenges to overcome and managing the information of Monitoring, Product, To Address, Place, Customer. Every Logistic Monitoring System has different Product needs; therefore, we design exclusive employee management systems that are adapted to your managerial requirements. This is designed to assist in strategic planning, and will help you ensure that your organization is equipped with the right level of information and details for your future goals. Also, for those busy executive who are always on the go, our systems come with remote access features, which will allow you to manage your workforce anytime, at all times. These systems will ultimately allow you to better manage resources.

The system can track the movement of goods from the point of origin to the destination, and it can also monitor the conditions in which the goods are being transported. The logistic monitoring system provides companies with valuable insights into their logistics operations, which can be used to optimize their supply chain management and improve customer service. Overall, a logistic monitoring system is an essential tool for any company that wants to improve the efficiency of their logistics operations and stay competitive in the marketplace logistics operations and stay competitive in the marketplace.

INDUSTRY PROFILE

- The main objective of the Project on Logistic Monitoring System is to manage the details of Product, Monitoring, From Address, To Address, Customer.
- It manages all the information about Product, Place, Customer, Product. The project is totally built at administrative end and thus only the administrator is guaranteed the access.
- The purpose of the project is to build an application program to reduce the manual work for managing the Product, Monitoring, Place, From Address.
- It tracks all the details about the From Address, To Address, Customer.
- Provides the searching facilities based on various factors. Such as Product. From Address. To Address, Customer.
- Logistic Monitoring System also manage the Place details online for To Address details, Customer details, Product.
- It tracks all the information of Monitoring, Place, To Address etc Manage the information of monitoring.
- Logistic Monitoring System also manage the Place details online for To Address details. Customer details, Product.
- It tracks all the information of Monitoring, Place, To Address etc Manage the information of monitoring.

- Editing, adding and updating of Records is improved which results in proper resource management product resource. Manage the information of To Address. Integration of all records of Customer.
- Key features: A network monitoring system in a logistics company should be able to monitor the entire network infrastructure, including routers, switches, servers, and storage devices. It should also be able to identify and diagnose network issues quickly and accurately, and provide real-time alerts to network administrators.
- Benefits: The main benefits of a network monitoring system in a logistics company are improved network performance, reduced downtime, and increased security. By monitoring network traffic and identifying issues before they become major problems, logistics companies can ensure that their operations run smoothly and efficiently.
- Challenges: One of the biggest challenges of implementing a network monitoring system in a logistics company is the complexity of the network infrastructure. Logistics companies often have multiple locations, each with its own set of network devices and connections. This can make it difficult to monitor the entire network from a central location. Another challenge is the cost of implementing and maintaining the system, which can be significant.
- Market trends: In recent years, the use of cloud-based network monitoring systems has become more common in the logistics industry. These systems offer greater flexibility and scalability than traditional on-premises solutions, and can be more costeffective in the long run. Additionally, the use of artificial intelligence and machine learning technologies is on the rise, which can help logistics companies predict and prevent network issues before they occur.

COMPANY PROFILE

ARCHIMEDIS DIGITAL

The Evolution of Archimedis Digital

- In 2015, Archimedis Healthcare, our group company, realized the need for a digital business vertical focused on life sciences. Capitalizing on its rich domain and technology expertise, Archimedis successfully developed a digital solution called eCapsule for life sciences businesses to be agile, efficient, and compliant.
- Encouraged by clients' and auditors' feedback, we realized Archimedis could similarly empower other life sciences firms to navigate the rapidly-evolving digital landscape.

  Thus, was born Archimedis Digital.

Project Brief:

- Archimedis Digital was approached by a pharmaceutical manufacturer known for producing niche generic formulations (developed for highly regulated markets). Undoubtedly, digital systems played an immense role for the client in realizing this objective.

- The company looked to amplify its growth by converging business segments like people, processes, and technology under a single platform.

Solution:

Archimedis Digital proposed the eCapsule solution; designed for niche requirements of life sciences firms. The solution was to be customized to serve specifically as per the client's needs.

Execution:

Archimedis Digital assigned a team to understand the client's requirements in detail and the deliverables that would be essential to best serve a solution the client needed.

- After establishing the deliverables, the project scope was designed. To cater to the client's needs the existing out-of-the-box solution was to be customized as per specification.
- A custom solution was designed which would function as the integrated platform to streamline business processes and boost productivity.
- The platform was validated and tested to ensure there were no inaccuracies in the implemented solution. The solution was subjected to installation qualification (IQ) which documented the procedure to install the solution. Secondly, operational qualification (OQ) was carried out by executing scripts to ensure the solution provided was in line with the client's requirements.
- Production qualification (PQ) was carried out by the client and assisted by Archimedis Digital to ascertain solution meets the manufacturing processes, equipment, and procedural needs.
- Lastly, the end users were then trained and supported as they shifted from native systems to the new platform.

LITERATURE REVIEW

TESTING:

Software testing is a process of evaluating the functionality of a software application to detect any defects or errors in the software. The primary objective of software testing is to ensure that the software meets the specified requirements and works as expected.

The different types of software testing include unit testing, integration testing, system testing, acceptance testing, and regression testing. Unit testing involves testing individual components or modules of the software application, while integration testing involves testing how the components work together. System testing involves testing the entire software application, while acceptance testing is performed to ensure that the software meets the customer's requirements. Regression testing is performed to ensure that changes or updates to the software application do not introduce new defects or issues.

AUTOMATION TESTING:

Automation testing is the process of testing software and other tech products to ensure it meets strict requirements. Essentially, it’s a test to double-check that the equipment or software does exactly what it was designed to do. It tests for bugs, defects, and any other issues that can arise with product development.

ROBOT FRAMEWORK:

Robot Framework is an open-source test automation framework for acceptance testing and acceptance test-driven development. It follows different test case styles – keyword-driven, behaviour-driven and data-driven for writing test cases.

This feature makes it very easy to understand. Test cases are written using keyword style in a tabular format. Robot Framework provides good support for external libraries, tools that are open source and can be used for automation.

The most popular library used with Robot Framework is Selenium Library used for web development & UI testing.

JAVASCRIPT FUNDAMENTAL:

JavaScript is a programming language that allows you to implement complex features on a website, such as dynamic elements or interactivity. JavaScript is executed once the information from the HTML and CSS in the source code has been parsed and constructed.

OBJECT-ORIENTED JAVASCRIPT:

Object-Oriented Programming is a programming style based on classes and objects. These group data (properties) and methods (actions) inside a box. OOP was developed for make code more flexible and easier to maintain.

Inheritance is also an important concept in object-oriented JavaScript. Inheritance allows objects to inherit properties and methods from a parent object. In JavaScript, inheritance is implemented using the prototype chain, where objects inherit properties and methods from their parent object's prototype.

Object-oriented JavaScript is widely used in web development, particularly for creating interactive user interfaces and web applications. Popular JavaScript libraries and frameworks, such as React and Angular, are built using object-oriented principle.

RESEARCH METHODOLOGY

1. Primary Data:

In this phase, the system is designed at block level. The blocks are created on the basis of analysis done in the problem identification phase. Different blocks are created for different functions emphasis is put on minimising the information flow between blocks. Thus, all activities which require more interaction are kept in one block.

2. Secondary Data:

In the secondary phase the detailed design of every block is performed.

The general tasks involved in the design process are the following:

- Design various blocks for overall system processes.
- Design smaller, compact and workable modules in each block.
- Design various database structures.
- Specify details of programs to achieve desired functionality.
- Design the form of inputs, and outputs of the system.
- Perform documentation of the design.
- System reviews.

Chi-square test:

In chi-square test found that there is an association between product and factors influenced to become customers.

Identify the objectives of the network monitoring system:

Before starting the research, it is essential to identify the objectives of the network monitoring system. This includes understanding the key performance indicators (KPIs) that the logistics company wants to monitor and the specific requirements for the monitoring system.

Define the research objectives:

Once the problem has been identified, the next step is to define the research objectives. In this case, the objectives may include determining the key features and requirements of a network monitoring system for the logistics company, identifying the most appropriate tools and technologies to implement the system, and evaluating the potential benefits and ROI of the system.

Conduct a literature review:

The next step is to conduct a comprehensive literature review of existing research and literature related to network monitoring systems in logistics companies. This will provide a solid foundation for the research and ensure that the study builds upon existing knowledge in the field.

Develop a research methodology:

The research methodology should outline the specific research methods that will be used to achieve the research objectives. This may include conducting surveys or interviews with logistics company employees and IT staff to gather information on current network monitoring practices and identify areas for improvement, analyzing existing network data to

identify trends and potential security risks, and testing different network monitoring tools and technologies to evaluate their effectiveness.

Collect and analyse data:

The next step is to collect and analyse data based on the research methodology. This may involve collecting data through surveys, interviews, or network monitoring tools, and analysing the data using statistical methods or other data analysis techniques.

Test the monitoring system:

Test the monitoring system in a controlled environment to ensure that it meets the identified requirements and objectives. This includes testing the system's accuracy, reliability, and performance.

Implement the monitoring system:

Once the testing phase is complete, implement the monitoring system in the logistics company's network environment. This includes configuring the monitoring tools, setting up the data collection process, and defining the reporting procedures.

Monitor the system:

Continuously monitor the system to ensure that it is functioning as expected. This includes monitoring the KPIs and analysing the data collected to identify any issues or trends.

Evaluate the system:

Evaluate the system periodically to determine its effectiveness in meeting the logistics company's objectives. This includes analysing the data collected and identifying areas for improvement.

In summary, developing a network monitoring system for a logistics company requires a comprehensive research methodology that includes identifying the objectives, reviewing existing systems, identifying relevant network components, determining monitoring parameters, identifying monitoring tools, developing a monitoring strategy, testing the system, implementing the system, monitoring the system, and evaluating the system.

Research design:

The research design could be a survey research design, where questionnaires are distributed to employees in the logistics company to gather information on their experiences and opinions of different network monitoring systems.

Data collection:

Data collection could be through surveys, interviews, or observation. Surveys can be conducted online or in-person, and should target employees with different roles in the logistics company, including IT personnel and logistics managers.

Data analysis:

The data collected can be analysed using quantitative and qualitative techniques. Quantitative techniques can be used to analyse the survey responses, while qualitative techniques can be used to analyse the interviews and observations.

Results and conclusions: Finally, the results of the study can be presented and conclusions drawn based on the data collected and analysed. Recommendations can be made for the implementation of the most effective network monitoring system in the logistics company.

Analytical:

Analytical methods involve the use of mathematical and statistical tools to analyse and interpret data.

Here are some analytical methods that can be used in research methodology for a network monitoring system in a logistics company:

Descriptive statistics:

Descriptive statistics can be used to summarize and describe data collected from the network monitoring system. These statistics can be used to describe the central tendency, dispersion, and shape of the data.

Data mining:

Data mining involves using statistical and machine learning algorithms to extract patterns and insights from large datasets collected from the network monitoring system.

Network analysis:

Network analysis can be used to analyse the structure and behaviour of the logistics network and the flow of goods and information through the network. This can help identify key nodes, routes, and relationships in the network and optimize the logistics operations of the company. There are several steps involved in network analysis, including:

Identifying the entities and their relationships within the network: This involves defining the nodes (entities) and edges (relationships) within the network.

Collecting data: The next step is to collect data on the entities and their relationships. This can be done through surveys, interviews, or by analysing existing data sources.

Creating a network model: Once the data is collected, it is used to create a network model that represents the relationships between the entities. This model can be visualized as a network diagram or graph.

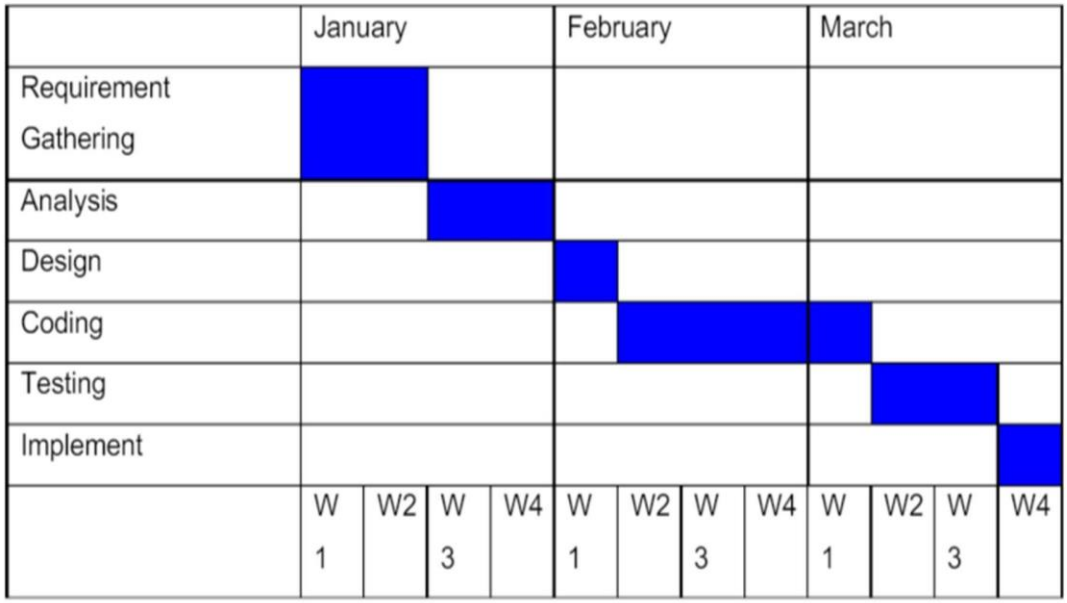
Analysing the network: Various network analysis techniques can be applied to the network model to identify patterns and trends. Some common techniques include centrality analysis, community detection, and clustering analysis.

Interpreting the results: The final step is to interpret the results of the analysis and use them to inform decision-making. This can involve identifying areas of the network that need improvement or opportunities for optimization.

Overall, network analysis is a powerful tool for understanding complex systems and identifying opportunities for improvement. It is widely used in various fields, including social sciences, engineering, and business management.

DATA ANALYSIS AND INTERPRETATION

An elementary Gantt chart or Timeline chart for the development plan is given below.



Wi's are weeks of the months, for i =1, 2, 3, 4

REQUIREMENT GATHERING:

Requirement analysis for a network monitoring system in a logistics company can be divided into several key areas, including:

Monitoring Network Infrastructure: The network monitoring system should be able to monitor all components of the logistics company's network infrastructure, including routers, switches, servers, and other network devices.

Real-time Monitoring: The system should provide real-time monitoring of network traffic, bandwidth usage, and device status. It should also be able to send alerts to network administrators in case of any network issues.

Performance Metrics: The system should be able to monitor key performance metrics such as latency, packet loss, and uptime, to ensure that the network is operating optimally.

Security: The system should have strong security features to prevent unauthorized access to the network and protect against cyber-attacks.

Scalability: The system should be scalable and able to accommodate growth in the logistics company's network infrastructure over time.

Reporting and Analysis: The system should be able to generate reports and provide analytics to help network administrators make informed decisions about the network infrastructure.

Ease of Use: The system should be easy to use and intuitive, with a user-friendly interface that allows network administrators to quickly identify and resolve any issues.

Integration: The system should be able to integrate with other tools and systems used by the logistics company, such as inventory management and transportation management systems.

Overall, the network monitoring system should be reliable, flexible, and responsive to the needs of the logistics company, providing the necessary visibility and control over their network infrastructure to ensure smooth and efficient operations.

ANALYSIS:

A network monitoring system in a logistics company can provide many benefits, including improved network performance, increased security, and better decision-making capabilities for network administrators. Here are some key advantages of implementing a network monitoring system in a logistics company:

Improved Network Performance: With a network monitoring system in place, network administrators can identify and address issues before they affect network performance. Real-time monitoring of network traffic and performance metrics such as latency, packet loss, and uptime can help administrators optimize the network and ensure it is running at peak efficiency.

Increased Security: A network monitoring system can help protect the logistics company's network from cyber threats and unauthorized access. The system can alert administrators to any unusual network activity and provide insights into potential security vulnerabilities. This allows for quicker response times and proactive security measures to be implemented.

Better Decision-Making: A network monitoring system can provide network administrators with valuable insights into network performance, usage patterns, and trends. This information can be used to make informed decisions about network upgrades, capacity planning, and other improvements that can enhance the logistics company's operations.

Reduced Downtime: By providing real-time monitoring and alerts, a network monitoring system can help minimize network downtime. This can reduce the impact of network issues on the logistics company's operations, helping to maintain business continuity and reduce lost revenue.

Scalability: A network monitoring system can be designed to accommodate the growth and changing needs of the logistics company's network infrastructure. The system can be configured to monitor new devices, networks, and locations as needed, without compromising performance or security.

In conclusion, a network monitoring system is an essential tool for logistics companies that rely on technology to manage their operations. By providing real-time monitoring, increased security, better decision-making capabilities, reduced downtime, and scalability, a network monitoring system can help logistics companies optimize their network infrastructure, improve efficiency, and maintain a competitive edge.

DESIGN:

In this phase, a logical system is built which fulfils the given requirements. Design phase of software development deals with transforming the client’s requirements into a logically working system.

User Interface Design

User Interface Design is concerned with the dialogue between a user and the computer. It is concerned with everything from starting the system or logging into the system to the eventually presentation of desired inputs and outputs. The overall flow of screens and messages is called a dialogue.

The following steps are various guidelines for User Interface Design:

- The system user should always be aware of what to do next.
- The screen should be formatted so that various types of information, instructions and messages always appear in the same general display area.
- Message, instructions or information should be displayed long enough to allow the system user to read them.
- Use display attributes sparingly.
- Default values for fields and answers to be entered by the user should be specified.
- A user should not be allowed to proceed without correcting an error.
- The system user should never get an operating system message or fatal error.

CODING:

Developing a network monitoring system for a logistics company involves several steps. Here's an overview of the process:

Define the system requirements: The first step is to define the requirements for the monitoring system. This includes the network infrastructure that needs to be monitored, the types of devices and software that need to be monitored, the metrics that need to be tracked, and the alerts that need to be generated when issues are detected.

Select the appropriate monitoring tools: There are several network monitoring tools available in the market. Some popular options include Nagios, Zabbix, and PRTG. It's important to evaluate these tools based on the requirements defined in step 1 and select the one that best meets the needs of the logistics company.

Configure the monitoring system: Once the monitoring tool is selected, it needs to be configured to monitor the network infrastructure. This includes setting up monitoring

agents on devices, configuring the metrics that need to be tracked, and defining the thresholds for generating alerts.

Test the monitoring system: After the monitoring system is configured, it's important to test it thoroughly to ensure that it's working as expected. This includes testing alerts, verifying that metrics are being tracked accurately, and ensuring that the system can handle the expected volume of traffic.

Integrate with existing systems: The monitoring system needs to be integrated with existing systems used by the logistics company. This includes integrating with incident management systems, helpdesk systems, and other tools used for managing the network infrastructure.

Monitor and maintain the system: Finally, the monitoring system needs to be monitored and maintained on an ongoing basis. This includes monitoring the system for alerts, upgrading the monitoring tool as new versions are released, and periodically reviewing the system to ensure that it's meeting the needs of the logistics company.

TESTING:

To test a network monitoring system in a logistics company, you can follow these steps:

Define the scope of the testing: Determine the specific areas of the network monitoring system that you want to test, such as the performance, scalability, security, and reliability.

Create a test plan: Develop a comprehensive test plan that outlines the testing objectives, methods, and timelines. Make sure to include the test cases, test scenarios, and the testing environment.

Set up a testing environment: Set up a testing environment that mimics the production environment as closely as possible. This will help you to replicate the actual network conditions and identify potential issues.

Conduct functional testing: Test the basic functionality of the network monitoring system, such as network performance monitoring, device monitoring, and alerting capabilities.

Perform stress testing: Test the system under a heavy load to determine its ability to handle peak traffic and bandwidth usage. This will help you to identify potential bottlenecks and scalability issues.

Conduct security testing: Test the security features of the system to identify any vulnerabilities or loopholes. This can include penetration testing, vulnerability scanning, and access control testing.

Evaluate the results: Evaluate the test results and identify any issues or areas for improvement. Create a report that outlines the test findings and recommendations for improvement.

Perform regression testing: Once any issues have been resolved, perform regression testing to ensure that the fixes have not introduced new issues.

Repeat the testing process: As the network monitoring system evolves and changes over time, it is important to repeat the testing process periodically to ensure that the system remains reliable and effective.

IMPLEMENT:

To implement a network monitoring system in a logistics company, you can follow these steps:

Define the monitoring requirements: Start by identifying what aspects of the network you need to monitor. This may include bandwidth usage, latency, uptime, security, and other key performance indicators (KPIs).

Choose a monitoring solution: Once you have identified your monitoring requirements, you need to select a suitable monitoring solution that can meet your needs. There are many network monitoring tools available on the market, such as Nagios, PRTG, SolarWinds, and Zabbix.

FINDINGS AND RECOMMENDATION

MODULES OF LOGISTICS MONITORING SYSTEM

- Product Management Module: Used for managing the Product details.
- Customer Module: Used for managing the details of Customer.
- Place Module: Used for managing the details of Place.
- Monitoring Management Module: Used for managing the information and details of the monitoring.
- From Address Module: Used for managing the From Address details.
- To Address Module: Used for managing the To Address information.
- Login Module: Used for managing the login details.
- Users Module: Used for managing the users of the system.

Input Data and Validation of Project on Logistic Monitoring System

- All the fields such as Product, From Address, Customer are validated and does not take invalid values.
- Each form for Product, Monitoring, Place cannot accept blank value fields.
- Avoiding errors in data.
- Controlling amount of input.
- Integration of all the modules/forms in the system.
- Preparation of the test cases.
- Preparation of the possible test data with all the validation checks.
- Actual testing done manually.
- Recording of all the reproduced errors.

- Modifications done for the errors found during testing.
- Prepared the test result scripts after rectification of the errors.
- Functionality of the entire module/forms.
- Validations for user input.
- Checking of the Coding standards to be maintained during coding.
- Testing the module with all the possible test data.
- Testing of the functionality involving all type of calculations etc.
- Commenting standard in the source files.

Features of the project Logistic Monitoring System:

- Product and Component based.
- Creating & Changing Issues at ease.
- Query Issue List to any depth.
- Reporting & charting in more comprehensive way.
- User Accounts to control the access and maintain security.
- Simple Status & Resolutions.
- Multi-level Priorities & Severities.
- Targets & Milestones for guiding the programmers.
- Attachments & Additional Comments for more information.
- Robust database back-end.
- Various level of reports available with a lot of filters criteria.
- It contains better storage capacity.
- Accuracy in work.
- Easy & fast retrieval of information.

- Well-designed reports.
- Decrease the load of the person involve in existing manual system.
- Access of any information individually.
- Work becomes very speedy.
- Easy to update information.

Software Requirement Specification

The Software Requirements Specification is produced at the culmination of the analysis task. The function and performance allocated to software as part of system engineering are refined by establishing a complete information description, a detailed functional and behavioural description, an indication of performance requirements and design constraints, appropriate validation criteria, and other data pertinent to requirements.

The proposed system has the following requirements:

- System needs store information about new entry of Product.
- System needs to help the internal staff to keep information of monitoring and find them as per various queries.
- System needs to maintain quantity record.
- System needs to keep the record of From Address.
- System needs to update and delete the record.
- System also needs a search area.
- It also needs a security system to prevent data.

Identification of need:

- The old manual system was suffering from a series of drawbacks. Since whole of the system was to be maintained with hands the process of keeping, maintaining and retrieving the information was very tedious and lengthy.
- The records were never used to be in a systematic order. there used to be lots of difficulties in associating any particular transaction with a particular context.
- If any information was to be found it was required to go through the different registers, documents there would never exist anything like report generation.
- There would always be unnecessary consumption of time while entering records and retrieving records.
- One more problem was that it was very difficult to find errors while entering the records. Once the records were entered it was very difficult to update these records.
- The reason behind it is that there is lot of information to be maintained and have to be kept in mind while running the business. For this reason, we have provided features Present system is partially automated (computerized), actually existing system is quite laborious as one has to enter same information at three different places.

Feasibility Study:

- After doing the project Logistic Monitoring System, study and analysing all the existing or required functionalities of the system, the next task is to do the feasibility study for the project. All projects are feasible - given unlimited resources and infinite time.
- Feasibility study includes consideration of all the possible ways to provide a solution to the given problem. The proposed solution should satisfy all the user requirements and should be flexible enough so that future changes can be easily done based on the future upcoming requirements.

A. Economical Feasibility

- This is a very important aspect to be considered while developing a project. We decided the technology based on minimum possible cost factor.
- All hardware and software cost has to be borne by the organization.
- Over all we have estimated that the benefits the organization is going to receive from the proposed system will surely overcome the initial costs and the later on running cost for system.

B. Technical Feasibility

- This included the study of function, performance and constraints that may affect the ability to achieve an acceptable system. For this feasibility study, we studied complete functionality to be provided in the system, as described in the System Requirement Specification (SRS), and checked if everything was possible using different type of frontend and backend platforms.

C. Operational Feasibility

- No doubt the proposed system is fully GUI based that is very user friendly and all inputs to be taken all self-explanatory even to a layman. Besides, a proper training has been conducted to let know the essence of the system to the users so that they feel comfortable with new system. As far our study is concerned the clients are comfortable and happy as the system has cut down their loads and doing.

Analysts working on the preliminary investigation should accomplish the following objectives:

- Clarify and understand the project request.
- Determine the size of the project.
- Assess costs and benefits of alternative approaches.

- Determine the technical and operational feasibility of alternative approaches.
- Report the findings to management, with recommendations outlining the acceptance or rejection of the proposal.

Benefit to Organization

The organization will obviously be able to gain benefits such as savings in operating cost, reduction in paperwork, better utilization of human resources and more presentable image increasing goodwill.

The Initial Cost

The initial cost of setting up the system will include the cost of hardware software (OS, add-on software, utilities) & labour (setup & maintenance). The same has to bear by the organization.

Running Cost

Besides, the initial cost the long-term cost will include the running cost for the system including the AMC, stationary charges, cost for human resources, cost for update/renewal of various related software.

Need for Training

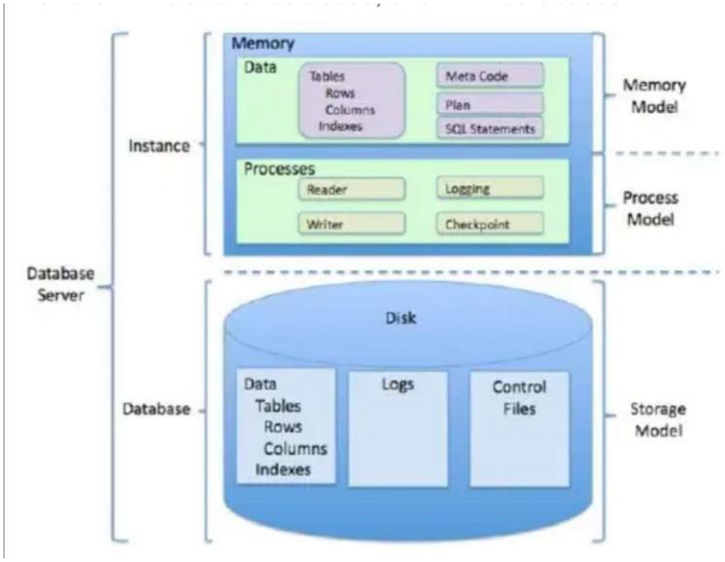
- The users along with the administrator need to be trained at the time of implementation of the system for smooth running of the system. The client will provide the training site.

- We talked to the management people who were managing the financial issues of the centre, the staff who were keeping the records in lots of registers and the reporting manager regarding their existing system, their requirements and their expectations from the new proposed system. Then, we did the system study of the entire system based on their requirements and the additional features they wanted to incorporate in this system.
- The new system proposed and then developed by me will ease the task of the organization in consideration. It will be helpful in generating the required reports by the staff, which will help them to track their progress and services.
- Project Category
- Relational Database Management System (RDBMS): This is an RDBMS based project which is currently using MySQL for all the transaction statements.
- MySQL is an opensource RDBMS System.

Brief Introduction about RDBSM:

- A relational database management system (RDBMS) is a database management system

  (DBMS) that is based on the relational model as invented by E. F. Codd, of IBM's San Jose Research Laboratory.
- Many popular databases currently in use are based on the relational database model.
- However, relational databases have been challenged by object databases, which were introduced in an attempt to address the object-relational impedance mismatch in relational database, and XML databases.



Implementation Methodology:

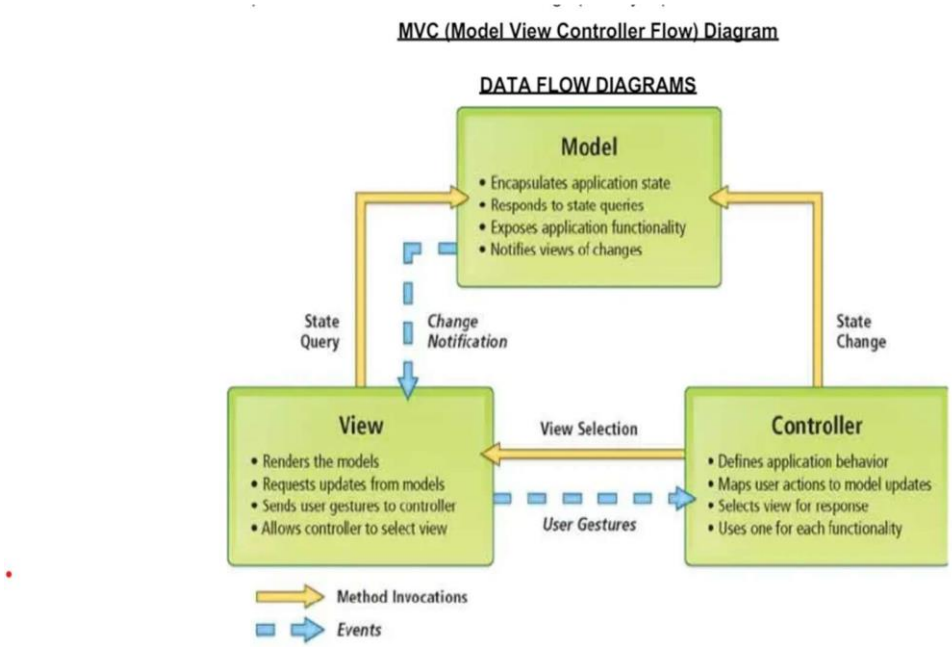
Model View Controller or MVC as it is popularly called, is a software design pattern for developing web applications. A Model View Controller pattern is made up of the following three parts:

- Model - The lowest level of the pattern which is responsible for maintaining data.
- View - This is responsible for displaying all or a portion of the data to the user.
- Controller - Software Code that controls the interactions between the Model and View.

MVC is popular as it isolates the application logic from the user interface layer and supports separation of concerns. Here the Controller receives all requests for the application and then works with the Model to prepare any data needed by the View.

The View then uses the data prepared by the Controller to generate a final presentable response.

The MVC abstraction can be graphically represented as follows.



For a successful software project, the following steps can be followed:

- Select a project
    - o Identifying project's aims and objectives o Understanding requirements and specification o Methods of analysis, design and implementation o Testing

techniques o

Documentation

- Project milestones and deliverables
- Budget allocation
    - Exceeding limits within control
- Project Estimates
    - Cost o Time
    - Size of code o

      Duration
- Resource Allocation
    - Hardware o

      Software o

      Previous

      relevant project

      information o

      Digital Library
- Risk Management
    - Risk avoidance

      o Risk detection

Cost estimation of the project:

- Software cost comprises a small percentage of overall computer-based system cost. There are a number of factors, which are considered, that can affect the ultimate cost of the software such as - human, technical, Hardware and Software availability etc.
- The main point that was considered during the cost estimation of project was its sizing. In spite of complete software sizing, function point and approximate lines of code were also used to "size" each element of the Software and their costing.
- The cost estimation done by me for Project also depend upon the baseline metrics collected from past projects and these were used in conjunction with estimation variables to develop cost and effort projections.
- We have basically estimated this project mainly on two bases -
- Effort Estimation - This refers to the total man-hours required for the development of the project. It even includes the time required for doing documentation and user manual.
- Hardware Required Estimation - This includes the cost of the PCs and the hardware cost required for development of this project.

Software Requirements:

Name of component	Specification
Operating System	Windows 98, Windows XP, Windows7, Linux
Language	PHP Runtime Environment
Database	MySQL Server
Browser	Any of Mozilla, Opera, Chrome etc
Web Server	PHP
Software Development Kit	PHP
Scripting Language Enable	Javascript
Database JDBC Driver	MySQL Jconnector

Hardware Requirements:

Name of component	Specification
Processor	Pentium III 630MHz
RAM	128 MB
Hard disk	20 GB
Monitor	15” color monitor
Keyboard	122 keys

About ER Diagram: Entity Relationship Diagram: E-R Model is a popular high level conceptual data model.

This model and its variations are frequently used for the conceptual design of database application and many database design tools employ its concept.

The mapping of E-R diagram to the entities are:

- Attributes
- Relations
    - o Many-to-many o
      Many-to-one o
      One-to-many o
      One-to-one
- Weak entities
- Sub-type and super-type

The entities and their relationships between them are shown using the following conventions.

- An entity is shown in rectangle.
- A diamond represents the relationship among number of entities.
- The attributes shown as ovals are connected to the entities or relationship by lines.

CONCLUSION

- Our project is only a humble venture to satisfy the needs to manage their project work.
- Several user-friendly coding has also adopted.
- The objective of software planning is to provide a frame work that enables the manger to make reasonable estimates made within a limited.
- A description of the background and context of the project and its relation to work already done in the area.
- Made statement of the aims and objectives of the project.
- The description of Purpose, Scope, and applicability.
- We define the problem on which we are working in the project.
- We describe the requirement Specifications of the system and the actions that can be done on these things.
- We understand the problem domain and produce a model of the system, which describes operations that can be performed on the system.
- We included features and operations in detail, including screen layouts.
- We designed user interface and security issues related to system.
- Finally, the system is implemented and tested according to test case.

BIBLIOGRAPHY

- Google for problem solving
- http://www.javaworld.com/javaworld/jw-01-1998/jw-01-Credentialreview.html
- Database Programming with JDBC and Java by O'Reilly
- Head First Java 2nd Edition
- http://www.jdbc-tutorial.com/
- Java and Software Design Concepts by Apress
- https://www.tutorialspoint.com/java/
- http://www.javatpoint.com/java-tutorial
- https://docs.oracle.com/javase/tutorial/
- http://www.wampserver.com/en/
- http://www.JSP.net/
- http://www.tutorialspoint.com/mysql/
- httpd.apache.org/docs/2.0/misc/tutorials.html

QUESTIONARY

1) Within the organization: How the project is to be implemented?
2) What are various constraints (time, cost, staff)?
3) What is market strategy?
4) Project milestones and deliverables are also presented to the customer – YES or NO
5) Classes shows implementation of software components –

   YES or NO