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Name: Manasa Devi *Roll No.:* 24CS128

Class: I - CSE B *Branch:* B.E CSE

Place:

Date: ***HoD*** ***Faculty Incharge***

Register No.: 722824104128

Submitted to the Autonomous Semester End Practical Examination held on

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Internal Examiner ***External Examiner***

Index

Sl. No.	Date	Name of the exercise	Page No.	Practical Class Assessment(10)	Presentation and maintenance(10)	Viva Voce (5)	Total (25)	Signature of the Faculty Member
1.		Business Letter	1					
2.		Negotiation Email	3					
3.		Business Report	4					
4.		Minutes of a Business Meeting	7					
5.		Business Proposal	9					

BUSINESS INQUIRY LETTER

Mr. Aravindh
Project Manager
TechNova Solutions Pvt. Ltd
Banglore, India
April 28, 2025

Mr. Rahul Mehra
Sales Manager
Infotech Systems Ltd.
Mumbai, India

Subject: Inquiring for Information Regarding Enterprise Inventory Management software.

Dear Mr. Rahul,

I hope you are doing well.

At TechNova Solutions, we are currently working towards upgrading our inventory management system to better support our expanding operations. During our search for a suitable technology partner, Infotech Systems has stood out for its solid industry reputation and proven expertise in delivering innovative solutions. In this regard, we would like to request detailed information about your Enterprise in delivering, including its capability for real-time synchronizing accross multiple warehouse, its

integration compatibility with our existing ERP and CRM platforms, and its scalability to accommodate future business growth. We are also particularly interested in learning more about any AI driven features your software offers for demand forecasting and inventory optimization.

Additionally, we would appreciate it if you could provide insights regarding your standard deployment timelines, the support and maintenance services included, and any customization options available to align the solutions with our specific operational workflows. As we are aiming to finalize our vendor selection process by mid-May 2025, an early response from your side would be greatly beneficial. Should you require any further details or clarifications from us to assists you in preparing a comprehensive response, please feel free to reach out.

We look forward to receiving your reply.

Sincerely,
Aravindh
Project Manager
TechNova Solutions Pvt. Ltd.

Sri Eshwar College of Engineering
An Autonomous Institution

MANASA DEVI CHAPAGAIN CSE <manasadevichapagain.2024cse@sece.ac.in>

Proposal Format And Way Format

1 message

MANASA DEVI CHAPAGAIN CSE <manasadevichapagain.2024cse@sece.ac.in> Mon, Apr 28, 2025 at 12:36 PM

To: mathumitha.s2024cse@sece.ac.in

Dear Mathumitha

I hope you're doing well.

Thank you for the detailed proposal and the time your team at Zoho has invested so far. At Juspay, we truly value the opportunity to collaborate with Zoho and believe that together we can build a strong and lasting partnership.

After reviewing the proposal internally, we feel there's an opportunity to align better on the project timelines. Given the scope of work and the long-term partnership potential between our companies, we would like to propose slightly more flexible timelines that would allow both teams to deliver quality outcomes without compromising on key objectives.

We are committed to moving forward swiftly and are confident that with a small adjustment here, we can set a strong foundation for a sustainable and scalable relationship. If this sounds reasonable, or if you have a counter-suggestion, we are happy to discuss and find the best way forward.

Looking forward to hearing your thoughts. Please let me know if you'd like to set up a quick call to finalize the details. We are excited to get started and build something meaningful together.

Best regards,
Manasa Devi
Strategic Alliances Lead
Juspay

BUSINESS REPORT

Report Title : Analysis of Server Downtime Incidents (January–March 2025)

Prepared for : Technology Operations Division

Prepared by : Manasa Devi, IT Systems Analyst

Date : April 27, 2025

1. Introduction

This report analyzes the server downtime incidents recorded between January and March 2025. The objective is to present the findings of the investigation, interpret the underlying causes, and explain the implications of these incidents on the organization's overall operations.

2. Methodology

To perform this analysis, the following steps were taken:

- Collected server logs and downtime records from Datadog monitoring tools.
- Conducted interviews with system administrators and network engineers.
- Reviewed server hardware health reports and network traffic statistics.
- Examined environmental factors such as server room temperature control records.

These methods provided a detailed and comprehensive view of both technical and operational aspects contributing to the server downtimes.

3. Findings

During the three-month review period, a total of twenty-two server downtime events were recorded. Most incidents occurred during peak business hours, mainly between 9:00 AM and 11:00 AM.

The major causes identified were:

- **Hardware failures**, particularly disk and power supply issues in servers older than five years.
- **Software update errors**, where patches failed during manual deployment due to insufficient testing procedures.
- **Network congestion**, especially during periods of high concurrent user access.

- **Environmental factors**, such as elevated server room temperatures during weekends when active monitoring was limited.

The impact of these downtimes was significant. Core services, including web applications and cloud-based document systems, were intermittently unavailable. As a result:

- IT helpdesk ticket volume increased by 32% during downtime periods.
- Employees experienced delays in accessing shared files and communication systems.
- Customer experience was negatively affected, with reports of login issues and transaction timeouts.

Analysis and Interpretation

The findings indicate that the server downtime incidents were largely systemic rather than isolated.

Firstly, the prevalence of hardware failures points to aging infrastructure. Servers that have exceeded their recommended operational lifespans are inherently more prone to malfunction. The data shows that servers older than five years accounted for over 70% of hardware-related failures.

Secondly, software update errors suggest a breakdown in the change management process. Manual patching without automated validation or backup rollback options left systems vulnerable to instability. This process gap increases the risk of introducing new faults during routine maintenance.

Thirdly, network congestion during peak periods highlights a capacity planning issue. The current network architecture appears insufficient to support the growing volume of data traffic generated by both internal and external users.

Lastly, although less frequent, environmental issues such as server room overheating placed additional stress on hardware components, accelerating wear and contributing indirectly to system failures.

The cumulative effect of these technical failures was operational disruption, leading to lost productivity, higher support costs, and a gradual erosion of user trust. Persistent downtime incidents, if unaddressed, could escalate into broader organizational risks.

Conclusion

In summary, the server downtimes between January and March 2025 were primarily the result of aging hardware, ineffective update processes, growing network demands, and minor environmental management issues. The recurrence and patterns of these incidents demonstrate that the problems are deep-rooted within the infrastructure and operational practices rather than being random occurrences.

Understanding these root causes is essential for planning any future IT resilience strategies. Without addressing these underlying factors, the frequency and impact of downtime incidents are likely to increase, posing greater challenges to business continuity and service reliability.

Appendices

- Appendix A: Downtime Incident Summaries
- Appendix B: Interview Transcripts (Administrators and Engineers)
- Appendix C: Environmental Monitoring Data (January–March 2025)

MINUTES OF MEETING

Meeting Title : Quarterly Financial Review Meeting
Date : April 25, 2025
Time : 2:00 PM – 3:30 PM
Venue : Boardroom 1
Chairperson : Ms. Emily Davis

Minutes of the Meeting

1. **Welcome and Opening Remarks**
   - Ms. Emily Davis welcomed all participants and introduced new financial analyst, Mr. Thomas Green.
   - The chairperson briefly reviewed the agenda and objectives of the meeting, which was focused on the company's financial health and projections.

2. **Review of Previous Meeting Minutes**
   - The minutes of the last meeting (held on January 25, 2025) were reviewed and approved.
   - Action items from the last meeting were discussed, with most completed except for the audit report, which was rescheduled for the next quarter.

3. **Financial Performance Review**
   - **Q1 2025 Results**:
     - The finance department presented the company's Q1 performance, highlighting a 5% increase in revenue compared to Q1 2024.
     - Profit margins increased by 3% due to cost-cutting initiatives in operations and supply chain.
   - **Expense Breakdown**:
     - Marketing expenses rose by 8% as a result of increased digital campaigns, but the return on investment (ROI) was higher than expected.
   - **Cash Flow**:
     - A positive cash flow of $2.5 million was reported, with improvements in receivables collection and inventory management.

4. **Budgeting and Financial Projections**

- **Q2 2025 Budget Proposal:**
  - The finance team presented a revised budget for Q2, which includes a planned increase in R&D expenditure by 12% to support the new product development.
  - A proposal to allocate additional funds for sustainability initiatives was discussed and approved in principle.
- **Financial Projections:**
  - Projections for the rest of the year were optimistic, with expected revenue growth of 7% by Q4 2025.

5. **Risk Management and Mitigation Plans**
   - The risk management team presented a report on potential financial risks, including inflation and currency fluctuations affecting global markets.
   - Several mitigation strategies were discussed, including hedging options and diversification of investments.
6. **Employee Compensation and Benefits**
   - The HR department presented a proposal for adjustments to employee compensation due to the company's improved financial outlook.
   - A bonus structure based on performance metrics was discussed and will be finalized by next month.
7. **Action Plan and Next Steps**
   - The finance team will implement the new Q2 budget and track its execution.
   - A task force will be formed to finalize the bonus structure and the sustainability budget allocation.
   - The HR department will conduct a survey on employee satisfaction with current compensation and benefits.
8. **Closing Remarks**
   - Ms. Emily Davis thanked all attendees for their contributions.
   - The next quarterly financial review meeting is scheduled for July 25, 2025, at 2:00 PM.

Minutes Prepared By: Ms. Manasa Devi (Secretary)
Approval By: Ms. Emily Davis (Chairperson)

TECHNICAL PROPOSAL

le : Implementation of a Smart IoT-Based Irrigation System for Corporate Campuses

pposed by : GreenTech Solutions Pvt. Ltd.

te of Submission : April 27, 2025

ecutive Summary

his proposal presents the plan for implementing a Smart IoT-Based Irrigation System for XYZ orporation's corporate campuses. The objective is to optimize water usage, reduce maintenance costs, nd support the company's sustainability goals. The solution will include the installation of soil moisture ensors, smart irrigation controllers, and a cloud-based monitoring platform. GreenTech Solutions will rovide a full system delivery including installation, integration, training, and ongoing support.

Table of Contents

Introduction

The purpose of this proposal is to introduce a Smart Irrigation System that can help XYZ Corporation achieve better water management across its corporate campuses. Traditional irrigation methods have proven to be inefficient, leading to excessive water usage and high operational costs. By using IoT technology, real-time monitoring, and automated control, the new system will ensure that water is used efficiently, resulting in significant savings and healthier landscapes. The project scope includes the installation of soil moisture sensors, weather integration, cloud-based management, and mobile access. This system will cover approximately 150 acres across three major campuses.

Problem Statement

XYZ Corporation's existing irrigation system is based on manual operation and fixed timers. These

systems do not respond to real-time environmental conditions, leading to several inefficiencies:

- Overwatering due to the absence of soil moisture feedback.
- Higher water bills and operational costs.
- Limited ability to monitor and manage irrigation schedules remotely.
- Challenges in meeting sustainability and environmental standards.

A smart system is required to overcome these challenges by utilizing real-time data and automation.

Objectives

The main objectives of this project are:

- Reduce irrigation water consumption by up to 35% in the first year.
- Improve the quality and health of the landscapes.
- Decrease maintenance costs related to irrigation.
- Contribute to XYZ Corporation's sustainability targets.

Technical Approach/Methodology

The proposed solution involves installing wireless soil moisture sensors at key locations across the campuses. These sensors will continuously collect data on soil conditions and transmit it to a centralized cloud platform. The platform will also integrate local weather data to predict irrigation needs based on rainfall and temperature forecasts.

Automated irrigation controllers will adjust watering schedules dynamically based on sensor inputs and weather predictions. Facilities managers will be able to monitor and control the system remotely through a secure mobile app and web dashboard. The system will also generate detailed reports on water usage and system performance, supporting the company's reporting needs.

Work Plan and Schedule

The project will start with a detailed site survey to plan sensor placement and system design. After the planning phase, installation of sensors and smart controllers will be completed. Following installation, the system will be integrated with the cloud platform and thoroughly tested. A full training session will be provided for XYZ Corporation's facilities team. The total project timeline is expected to be three months from initiation to final handover.

Team and Qualifications

The project will be handled by an experienced team from GreenTech Solutions:

- Project Manager with 12 years of experience in smart infrastructure solutions.

- IoT Solutions Engineer specializing in environmental systems.
- Cloud Integration Specialist for secure and efficient system setup.
- Certified Field Technicians skilled in sensor installation and calibration.
- All team members have a proven track record of successful IoT system deployments in large landscapes.

Budget and Cost Breakdown

The total estimated cost for the project is $70,000. This includes $40,000 for hardware such as soil moisture sensors and smart controllers, $12,000 for cloud-based software licensing for two years, $15,000 for professional installation and system integration, and $3,000 for training and support services. The investment is expected to be recovered within two to three years through savings on water usage and reduced operational costs.

Risk Management

The project team has identified potential risks and developed mitigation strategies. To address network connectivity issues, a backup mesh networking system and cellular failover will be implemented. User adoption challenges will be mitigated by providing comprehensive training sessions and user-friendly manuals. Data security risks will be managed through encrypted communication and cloud security protocols, ensuring that the system remains reliable and secure.

Conclusion

GreenTech Solutions proposes a practical and cost-effective Smart Irrigation System that will help XYZ Corporation achieve better water management, lower operational expenses, and meet its sustainability objectives. Our solution is designed to be reliable, scalable, and easy to manage, providing long-term benefits for the company's corporate campuses.

References

Smith, J. (2022). *Smart Landscapes: Integrating IoT in Urban Green Spaces*. Sustainability Journal.

Brown, L. (2021). *The Impact of IoT on Corporate Sustainability Initiatives*. Green Tech Publishing.

Johnson, K. (2020). *Innovative Irrigation Systems for Modern Corporate Facilities*. Environmental Engineering Reports.

Appendices

Appendix A: Specifications of Sensors and Controllers

Appendix B: System Architecture Diagram

Appendix C: Sample Dashboard Screenshots

Appendix D: Staff Training Program Outline