Development of a World-Class Network Infrastructure for uThukela District Hospital

Project Plan

LEHLOGONOLO TSHEHLA-LEADER

FAHIMA PATEL-SECRETARY

ROFHIWA MONTJANE

Feint Soviet

Polokwane, Limpopo

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# Executive Summary

The objective of this project is to enhance the IT infrastructure and network systems at uThukela District Hospital. The project will upgrade existing IT systems, implement a new network infrastructure, and integrate advanced technologies to support the hospital's operations. The focus is on improving healthcare service delivery while ensuring compliance with industry standards and regulations.

# Milestones and Deliverables

Milestones are critical points in the project timeline where significant progress is achieved. Each milestone represents the completion of a phase or a major deliverable. The following milestones and deliverables are planned for this project:

## Milestones:

### Project Initiation

* + Duration: 2 weeks
  + Start Date: 01/09/2024
  + Finish Date: 14/09/2024
  + Total budget: R70 000,00
  + Tasks:
    - Finalize project charter and scope
    - Secure project approval and funding
    - Assign project team roles and responsibilities

### Requirement Analysis

* + Duration: 4 weeks
  + Start Date: 15/09/2024
  + Finish Date: 12/10/2024
  + Total budget: R170 000,00
  + Tasks:
    - Conduct stakeholder meetings
    - Gather and document system requirements
    - Review existing IT infrastructure

### Design Phase

* + Duration: 6 weeks
  + Start Date: 13/10/2024
  + Finish Date: 23/11/2024
  + Total budget: R130 000,00
  + Tasks:
    - Develop detailed system design
    - Prepare network architecture plans
    - Finalize system specifications

### Implementation Phase

* + Duration: 16 weeks
  + Start Date: 24/11/2024
  + Finish Date: 15/03/2025
  + Total budget: R60 000,00
  + Tasks:
    - Procure necessary hardware and software
    - Install and configure new IT systems
    - Integrate network infrastructure
    - Conduct initial testing

### Testing and Quality Assurance

* + Duration: 8 weeks
  + Start Date: 16/03/2025
  + Finish Date: 10/05/2025
  + Total budget: R60 000,00
  + Tasks:
    - Perform system testing
    - Conduct user acceptance testing (UAT)
    - Resolve identified issues
    - Finalize system documentation

### Deployment

* + Duration: 4 weeks
  + Start Date: 11/05/2025
  + Finish Date: 07/06/2025
  + Total budget: R140 000,00
  + Tasks:
    - Roll out the system to all departments
    - Provide user training sessions
    - Monitor system performance

### Project Closure

* + Duration: 2 weeks
  + Start Date: 08/06/2025
  + Finish Date: 21/06/2025
  + Total budget: R190 000,00
  + Tasks:
    - Conduct final project review
    - Prepare project closure report
    - Handover to operations team

### Deliverables:

* Project Charter
* Requirements Document
* Detailed System Design
* Implementation Plan
* Testing and UAT Reports
* System Documentation
* Deployment Report
* Project Closure Report

# Work Breakdown Structure (WBS)

The WBS outlines the hierarchical decomposition of the total scope of work to accomplish the project objectives. Each level of the WBS provides further definition and detail. Here is a detailed WBS for this project:



# Risk Management

Identifying and managing risks is crucial for the successful completion of this project. Below is a table detailing potential risks, their probabilities, associated costs, and management strategies:

| Risk Name | Probability | Cost | Management Strategy |
| --- | --- | --- | --- |
| Scope Creep | Medium | High | Strict scope control; formal change request process |
| Technical Challenges | Medium | Medium | Engage IT specialists; conduct thorough testing |
| Budget Overruns | Low | High | Close cost monitoring; implement contingency plans |
| Resource Availability | Medium | Medium | Ensure key resource allocation; resolve conflicts early |
| Hardware/Software Delays | Medium | Medium | Buffer time for procurement; consider alternative suppliers |
| System Downtime | Low | Very High | Schedule maintenance during off-peak hours; create redundancy |
| Security Breaches | Low | High | Implement robust cybersecurity measures; regular audits |

# Technical Feasibility

The proposed solution is technically feasible given the hospital’s existing IT infrastructure. The project will involve integrating modern technologies with the current systems, ensuring compatibility and scalability. The hospital’s current network is capable of supporting the new systems after the proposed upgrades.

# Economic Feasibility

The cost-benefit analysis indicates that the project is economically viable. The benefits of improved system performance, reduced downtime, and enhanced data security outweigh the costs involved in implementing the project. Funding for the project has been secured, and the expected return on investment (ROI) will be realized within the next two years.

Project Plan Conclusion

This project plan outlines a detailed approach for upgrading the IT infrastructure and network systems at uThukela District Hospital. The plan is structured to ensure timely delivery within the budget, with a strong focus on risk management and technical feasibility. The involvement of key stakeholders and clear communication channels will be essential for the project’s success. Regular monitoring and control mechanisms will be employed to keep the project on track, ensuring that the hospital’s operations continue without disruption during the upgrade process.