# Project Report for Print Management System

Practice Module for Graduate Certificate in Architecting Scalable Systems


Team 07

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# 1. Introduction

## 1.1 Background

The printing industry continues to rely on manual processes for order submission and management, leading to inefficiencies and errors. Currently, print orders are handled through various methods including email, phone calls, and paper forms. This project aims to digitize and streamline the print order process through a locally-hosted web application that integrates directly with printing systems via XML hot folders.

## 1.2 Business Needs

1. **Process Standardization**
   - Standardize print order submission across all departments
   - Reduce manual data entry and associated errors
   - Create consistent workflow for order processing

2. **Operational Efficiency**
   - Automate order submission to printer systems
   - Reduce order processing time
   - Improve order tracking and status updates

3. **Cost Reduction**
   - Minimize errors in order specifications
   - Reduce administrative overhead
   - Optimize printer resource allocation

## 1.3 Stakeholders

| **Business Stakeholders** | **IT Stakeholders** |
|---|---|
| - Print Shop Managers<br>- Print Operators<br>- Customer Service Representatives<br>- End Users (Order Submitters)<br>- Company Management | - System Administrators<br>- IT Support Team<br>- Print System Engineers<br>- Network Administrators<br>- Security Team |

## 1.4 Project Scope

This project aims to address inefficiencies in the printing ordering process by introducing a digital, cloud-native solution that seamlessly integrates into the existing infrastructure. The system focuses on digital order management, tracking, reporting, and security.

This section defines the key functional components, architectural considerations, and deployment strategies.

### 1.4.1 Functionality in scope

| | |
|---|---|
| **Containerization** | Docker container set up<br>Docker compose for local set up<br>Build Image and Configurations |
| **Infrastructure** | Local MongoDB Deployment<br>Network isolation setup<br>Integration with existing systems |
| **Dev Sec Ops** | CI/CD pipeline setup<br>Security scanning<br>Automated testing frameworks<br>Automated Build Process<br>Deployment Frameworks |
| **Security Framework** | Container Security<br>Security Logging<br>Secrets Management |
| **Application Features** | Login and Register Page<br>Order Form<br>Dashboard Page<br>User Management Page<br>Order Management Page |

### 1.4.2 Functionality out of scope

| | |
|---|---|
| **Application Features** | Custom report generations<br>Advanced analytics in dashboard |
| **Infrastructure** | Multi-database center set up<br>Automated infrastructure |

# 2. Project Conduct

## 2.1 Project Plan

| | |
|---|---|
| **Phase 1 - Requirements & Architecture** | - Application Design<br>- Infrastructure Design<br>- Database Design<br>- Features and Functionalities<br>- Gitlab Setup and Configurations |
| **Phase 2 - Core System Development** | Frontend and Backend for:<br>Login and Register Page<br>- Order Form<br>- Dashboard Page<br>- User Management Page<br>- Order Management Page<br><br>Environment: SIT |
| **Phase 3 - Integration & Testing** | - System functionality testing<br>- Security vulnerability assessments<br>- Integrate the system with local architecture<br><br>Environment: UAT |
| **Phase 4 - Documentation & Deployment** | - User and technical documentation<br>- Implement deployment strategies and monitoring tools<br>- Dockerise application<br><br>Environment: PROD |

## 2.2 Project Planned Mandays

**Requirements & Architecture:** ~10-12 man-days

**Core System Development:** ~30-35 man-days

**Integration & Testing:** ~15-20 man-days

**Documentation & Deployment:** ~10-15 man-days