**TO DEVELOP A NENO SACCO ONLINE BOOKING SYSTEM**

**BY**

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**SCT121-0825/2022**

**A PROJECT PROPOSAL SUBMITTED TO THE DEPARTMENT OF INFORMANTION**

**TECHNOLOGY IN THE SCHOOL OF COMPUTING AND INFORMATION**

**TECHNOLOGY IN JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND**

**TECHNOLOGY**

**JUNE 2024**

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# **ABSTRACT**

This project proposal aims to develop an online booking system for Neno Sacco, a transportation company operating between Embu and Nairobi. The current manual booking system presents significant challenges for passengers, including long wait times, inefficiency, and lack of real-time seat availability information. The proposed solution is the development of the Neno Sacco Online Booking System, a user-friendly digital platform that will allow passengers to book and manage their reservations online, access real-time seat availability, and effectively plan their journeys. The system will also feature secure online payment options, robust customer support, and a feedback mechanism. The main objectives of this project are to develop the online booking system, integrate real-time seat availability and scheduling features, and document the project. The implementation of this system aims to enhance operational efficiency, reduce travel expenses, and improve overall customer satisfaction for Neno Sacco passengers.

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# **CHAPTER 1**

## **1:1 INTRODUCTION**

Neno Sacco, a leading transport service provider operating between Embu and Nairobi, is dedicated to offering reliable and efficient travel solutions. Currently, the booking process requires passengers to visit the boarding station in person to secure their seats and complete their travel arrangements. This manual method involves a series of steps where customers queue at the booking office, select their preferred travel times, and make payments on-site. The entire process demands considerable time and effort, especially during peak travel periods. To modernize and streamline this operation, the proposed online booking system will enable Neno Sacco passengers to book and manage their reservations via a digital platform. By incorporating real-time seat availability and scheduling features, this system aims to provide passengers with immediate access to travel information, ensuring a seamless and convenient booking experience. This initiative seeks to enhance Neno Sacco's operational efficiency and elevate the overall customer experience.

## **1:2 BACKGROUND**

Neno Sacco is a well-established public service transport operator based in Embu and Nairobi, Kenya, providing reliable transportation services to passengers traveling between Embu and Nairobi. Currently, clients engage with Neno Sacco through a manual booking system. Passengers must visit the boarding station in person to book their seats for the journey. This process involves interacting with booking agents who handle seat allocations and scheduling manually. Upon arrival at the station, customers typically queue at the booking office, where they provide their travel details and payment for the service. The booking agent then issues a physical ticket, indicating the seat number and travel time. This traditional method, while straightforward, requires passengers to plan their trips in advance and be physically present at the station to secure their bookings.

## **1:3 PROBLEM STATEMENT**

Travelers using Neno Sacco services between Embu and Nairobi face significant challenges due to the current manual booking system. The necessity for passengers to physically visit the office to book a seat often results in long queues and wait times exceeding three hours. This inefficient process leads to wasted time, increased travel expenses, and overall inconvenience for travelers. The manual system lacks the capability to effectively manage seat availability, further complicating the travel planning process. There is an urgent need for a digital solution that can streamline bookings, enhance operational efficiency, and improve customer satisfaction by providing a more convenient and reliable way to secure travel reservations.

## **1:4 PROPOSED SOLUTION**

I propose to develop Neno Sacco Online Booking System.

## **1:5 OBJECTIVES**

**General Objectives**

1. Develop Neno Sacco Online Booking System.

**Specific Objectives**

1. Project planning defining the project scobe, objectives and goals.
2. Requirement Analysis, I will gather and analyze the project requirements, engage with stakeholders and potential users of the Neno Sacco Online Booking System.
3. Design the system. Creating the User Interface and the Systems architecture of Neno Sacco Online Booking System.
4. Implementation. I will write the code based on the design and specifications of the Neno Sacco Booking System.
5. Testing the system and debugging to ensure Neno Sacco Online Booking system functions as required.
6. Deploy the system from production environment to users environment to use it.
7. Maintain the system by updating the system to fix any bugs and improve performance.
8. Document the system.

# **CHAPTER 2**

## **1:1 PROPOSED SOFTWARE METHODOLOGY**

The proposed software methodology of my project is Agile Methodology. Agile methodology with a focus on Scrum framework could be highly effective. It provides a structured approach while allowing flexibility to adapt to changing requirements and priorities. Moreover, Scrum's emphasis on regular feedback loops and incremental delivery aligns well with your goal of developing a user-friendly online booking system that enhances customer satisfaction and operational efficiency.

Steps I will use in software development using Agile Methodology:

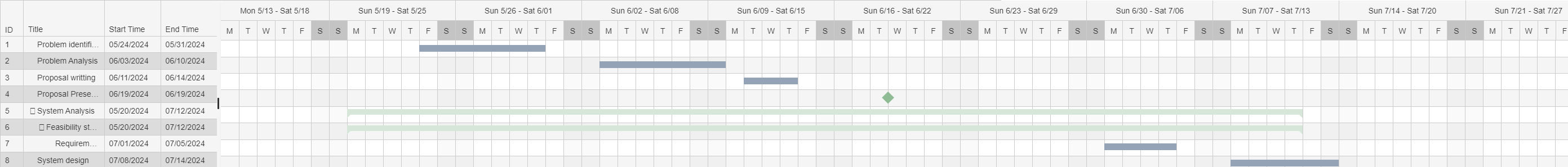
1. **Planning**  
   The first step in the software development process is planning. This involves defining the project scope, objectives, and goals, such as enabling online booking, seat selection, and real-time availability updates. This phase it will also includes resource allocation, timeline estimation, and risk assessment to ensure the project starts on a solid foundation.
2. **Requirement Analysis**  
   In this phase, I will gather and analyze the requirements of the project, engage with stakeholders, including potential users and Neno Sacco management, to understand their needs and expectations. Document these requirements in detail, focusing on features like user registration, seat selection, payment integration, and ticket generation. Clear and thorough requirements are crucial to guide the design and development phases.
3. **Design**  
   The design phase involves creating the architecture of the software system. For the Neno Sacco Online booking system, design mockups for the user interface, outline how users will interact with the system, and detail how data will flow between different components.
4. **Coding/Implementation**  
   During the coding phase, the actual development of the software begins. I will write the code based on the design documents and specifications created in the previous phase. For the Neno Sacco system, this includes developing modules for user management, booking, payment processing, and real-time updates. Agile practices, such as iterative development and continuous integration, can be particularly beneficial in this phase to ensure steady progress and early detection of issues.
5. **Testing**  
   Testing is a critical phase where the software is rigorously tested to identify and fix bugs and ensure it meets the specified requirements. This involves various types of testing, including unit tests, integration tests, system tests, and user acceptance tests. This is to ensure that all features in my Neno Sacco Online Booking System, from seat selection to payment and ticket generation, function correctly and provide a seamless user experience.
6. **Deployment**  
   Once the software passes all testing phases, it is ready for deployment. This phase involves moving the software from a development environment to a production environment where users can access it. For the Neno Sacco Online Booking System, this means launching the application so users can start booking their seats online. Ensure a smooth transition by preparing for any potential deployment issues and having a rollback plan in place if needed.
7. **Maintenance and Operations**  
   The final phase is maintenance, which involves updating the software to adapt to changes, fix bugs, and improve performance. Regular maintenance ensures that the system remains reliable and continues to meet user needs. For my project, this includes adding new features based on user feedback, optimizing system performance, and ensuring security updates are applied promptly.

## **CHAPTER 3**

## **3:1 PROJECT TIME PLAN**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Activities** | **Duration**  **(days)** | **Start**  **Date** | **End**  **Date** | **Deliverables** |
| Problem  Identification | 30 | 27/5/2024 | 30/6/2024 | Report |
| Problem  Analysis | 14 | 3/6/2024 | 18/6/2024 | Report |
| Proposal  Writing | 5 | 10/5/2024 | 15/6/2024 | Report |
| Proposal  Presentation | 1 | 19/6/2024 | 19/6/2024 | System requirements |
| System analysis | 12 | 20/6/2024 | 2/7/2024 | System requirements, both functional and non-functional requirements |
| System Design | 3 | 3/6/2024 | 5/7/2024 | User-Interface and System Architecture |
| Proposal presentation | 1 | 16/7/2022 | 16/7/2024 | Report |
| Ongoing research | ongoing | ongoing | ongoing | System features |

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**RESOURCES**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ITEMS | SPECIFICATION | QUANTITIES | UNIT PRICE  (Ksh) | TOTAL  (Ksh) |
| Internet | Fiber internet | 1 | 3000 | 3000 |
| Laptop | Lenovo T460  Intel Core i7  Windows 11  8gb RAM | 1 | 35000 | 35000 |
| Stationeries:  Notebooks | Karatasi | 1 | 150 | 150 |
| Softwares :  IDE  Design tool  Database  Test tools  Deployment tools | Intellij IDEA  FIgma  Xampp  Selenium  Docker | 1 | 0 | 0 |
|  |  |  |  | Total 38150 |

**Justification for Resources**

1. Internet.

A reliable internet connection is crucial for accessing cloud services, downloading updates, and maintaining continuous communication with stakeholders and users. Fiber internet offers high-speed connectivity, which is essential for real-time data processing and user interaction in the Neno Sacco Online Booking System.

1. Laptop (Lenovo T460).

Development and Testing: The Lenovo T460 with an Intel Core i7 processor and adequate RAM ensures smooth operation of development tools and IDEs such as Intellij IDEA. It supports efficient coding, debugging, and testing of the Neno Sacco Online Booking System, contributing to project productivity and quality.

1. Stationeries (e.g., Notebooks).

Documentation and Note-taking: Notebooks are essential for jotting down meeting notes, ideas, and project requirements during stakeholder meetings, development discussions, and training sessions. They facilitate organized documentation, which is crucial for maintaining project clarity and continuity.

1. Software (e.g., IDE, Design Tool, Database, Test Tools, Deployment Tools).

These software tools are essential for developing, testing, and deploying the Neno Sacco Online Booking System. They facilitate coding, designing user interfaces, managing databases, automating testing processes, and deploying applications efficiently.

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