Project Report:
UNG Parking Services System

Prepared For:
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I. Project Overview

Background: Currently, the university outsources the system used for parking services. This is a costly service that does not provide the full support an institution like UNG requires. The outsourced service offers very little management features for system users and it doesn't provide an intuitive and/or aesthetically pleasing user interface. Citation fees have been reviewed and while they may provide some additional profits, we believe the intangible benefits of a better system would outweigh the slight monetary loss. The university can greatly increase their students and other institutional members' satisfaction by implementing the proposed system. An in-house developed parking service system will negate the cost of the current outsourced system and allow the university to realize a greater perceived reputation. The institution will gain the ability to customize the system to better fit their needs for better decision making, greater customer satisfaction, and an increased operational effectiveness.

Opportunity Statement: Ung currently outsources the current system used for parking services. This service has a cost that could be easily negated by developing a custom system using in-house resources.

Project Summary: This project will create a parking services system for replacing the current outsourced parking services system. The purpose of the system is to provide auxiliary support services for the institutions administrators and parking permit users.

Project Benefits: The project will provide the following benefits:

- Increased Valid Permit Usage
- Increased Customer Service Support
- Enable Automated Service
- Increased Customer Satisfaction

Project Deliverables: Upon the project's completion the organization will receive the following integrated items:

- A Web Application
- Documentation for Training Procedures
- A Database Schema
- Documentation from System Analysis & Design

II. Assumptions

Functional Requirements: The system must maintain the integrity of parking records for the institution by providing accurate and consistent data collection, storage, retrieval, and modification functions. The automation must provide full support and require little maintenance. Permit users must be able to access the system and its features. UNG administrators must be able to receive the requested data for increasing their decision-making abilities, and furthering the institutions operational effectiveness.

Scope of Work: The system will allow users to manage their UNG parking permit account and provide administrators access to parking permit data, which includes the following:

- Account Creation
- Viewing Account Balances
- Vehicle Registration
- Viewing Citation Information
- Permit Requests
- Paying Fees

An application will process the users requests and provide results from the database accordingly. The application will also provide a webpage interface, allowing users to view their accounts from anywhere they have web access.

Project Objectives: To meet the functional requirements the following objectives have been identified:

- Requirements analysis must be thorough for identifying data objects in parking service systems.
- A database must be developed for storing data objects.
- Data manipulation instructions must be written for the database to process requests.
- An application must be developed for data transmission between components.
- User-friendly web forms and reports must be designed and developed.

Required Technology: The following hardware and software technologies are required in developing the proposed system:

- Computer with network access
- Web browser with internet access
- .NET Framework
- Microsoft SQL Server Management Studio
- Microsoft Visual Studio

III. Learning Experience

Acquired Project Knowledge: During the project's development, experience was gained regarding the importance of having a team leader or authoritative group figure. The project would not advance unless a member initiated communication amongst the other members.

Inaccurate Assumptions: The project's initial work requirement assumptions were too generalized leading to challenges during development. Ambiguous requirements were acknowledged as the source of the issue. After resolving the challenge, further insight was gained regarding the importance of fully defining project task requirements.

Acquired Technical Knowledge: The project enabled the developers to advance their technical skills from the CASE tools used during development. Specifically, the developers added multiple hours of experience in using Microsoft SQL Server and Microsoft Visual Studio. In addition, the developers gained a greater understanding of technologies and processes within those software tools. Examples of the technologies and processes are Microsoft's .NET Framework and the data access methods used in web application projects.

IV. Challenges

The following challenges occurred while developing the proposed system:

- Lack of Authority
- Ambiguous Requirements
- Ill-Defined Scope
- Learning Curve Delays
- Scope Creep
- Under Communication

The lack of authority was resolved when a member initiated a leadership role and assigned tasks for completion. An Outlook group was created for solving the under-communication challenge. The ambiguous requirements, ill-defined scope, and scope creep challenges were resolved by stalling further development for further defining the project's details. The learning curve delays were

resolved by committing extensive research time for the current task. Persistence led to greater knowledge which led to capabilities for solving the task-delaying challenge.

V. Expected Outcome

Successful implementation will provide UNG with a custom parking service system. The system will maintain the integrity of the institutions parking records by providing accurate and consistent data collection, storage, retrieval, and modification functions. The system will increase UNG's ability to provide a quality user experience through the permit management services offered in the system. Users' perceived reputation regarding the institution will increase, thus increasing the opportunities to realize superior status. UNG administrators will be able to extract valuable information from the collected data, increasing their decision-making abilities, and furthering the institutions operational effectiveness.

VI. Implementation Plan

To complete the project, the following items were identified as necessary development components for integration:

Component	Function	Source
Database	Collects, stores, retrieves, and manipulates permit user data for use in the web application	Developed In-House using SQL Server
Application Server	Processes incoming data requests for data transmission between users and the database	Developed In-House using C# and the .NET Framework
Web Application	Provides a web portal for system users to view account data and for administrators to maintain the features and services offered	Developed In-House using the .NET Framework

VII. Maintenance and Support Plans

Maintenance Services: As an information system development team, corrective maintenance services will be offered for up to six months after the project has been formally accepted and implemented. The following maintenance services will also be available for the institution to request:

- Adaptive Maintenance
- Perfective Maintenance
- Preventive Maintenance

These services will be available when the institution would like to make changes to the system for evolving its functionality, when the institution would like to add new features or to improve performance, or when the institution would like to avoid risk from potential problems in the future.