



Online Parking Reservation for University of Jeddah

Team Members:

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Business Case

for Online Parking Reservation Project

1.0 Introduction/ Background

This project aims to introduce a smart parking system at various attraction sites in Jeddah. The objective is to enhance the parking experience for visitors by implementing an advanced and organized parking solution that leverages technology. The current challenge involves inefficient parking management and congestion at popular attractions, leading to frustration and inconvenience for visitors.

2.0 Business Objective

The primary objective of this project is to optimize parking operations at diverse attraction sites in Jeddah. By implementing a smart parking system, we aim to improve the overall visitor experience, reduce parking congestion, and maximize parking space utilization. This will ultimately contribute to enhancing the reputation and attractiveness of these sites.

3.0 Current Situation and Problem/Opportunity Statement

The existing parking situation at diverse attraction sites in Jeddah suffers from poor organization and inadequate management. Visitors often encounter difficulties in finding available parking spaces, resulting in congestion and delays. This problem presents an opportunity to introduce a technology-driven solution that efficiently manages parking, addresses congestion issues, and provides a seamless experience for visitors to these popular attractions.

4.0 Critical Assumption and Constraints

- Assumption: Visitors to diverse attraction sites in Jeddah will embrace the smart parking system and actively utilize its features.
- Constraint: The implementation of the parking system should be feasible within the available resources and infrastructure at each attraction site.

5.0 Analysis of Option and Recommendation

Based on careful analysis, it is recommended to develop a centralized smart parking system that offers real-time parking availability information and reservation capabilities. This system should utilize technologies such as sensors, mobile applications, and data analytics to optimize parking space allocation, facilitate efficient traffic flow, and provide a seamless parking experience for visitors. By adopting this approach, diverse attraction sites in Jeddah can effectively address parking challenges and improve visitor satisfaction.

6.0 Preliminary Project Requirements

- Develop a user-friendly mobile application or web platform for visitors to check real-time parking availability and make reservations.
- Implement smart parking sensors and a centralized system to track parking occupancy and provide accurate availability information.
- Incorporate traffic management features to guide visitors to available parking spaces and optimize traffic flow within the attraction sites.
- Establish a robust backend infrastructure for data storage, analysis, and reporting to optimize parking space utilization.

7.0 Budget Estimate and Financial Analysis

The budget estimate for this project is approximately SAR 2.5 million. The cost breakdown is as follows:

- Development of mobile application or web platform: SAR 750,000
- Purchase and installation of smart parking sensors: SAR 1,000,000
- Backend infrastructure and data storage: SAR 500,000
- Traffic management features: SAR 250,000

The financial analysis of this project indicates a positive return on investment (ROI). Assuming an average parking fee of SAR 20 per hour and an estimated daily parking capacity of 300 cars per attraction site, the system is expected to generate approximately SAR 18,000 per day per attraction site. With an estimated implementation cost of SAR 2.5 million, the system is expected to break even in approximately 139 days.

8.0 Schedule Estimate

The estimated project timeline for implementing the smart parking system varies depending on the attraction site and its existing infrastructure. However, a general timeline estimate is as follows:

- Requirements gathering and analysis: 4 weeks
- Development of mobile application or web platform: 12 weeks
- Purchase and installation of smart parking sensors: 8 weeks
- Backend infrastructure and data storage: 4 weeks
- Traffic management features: 6 weeks
- Testing and deployment: 4 weeks
- Training and support: Ongoing

Based on this schedule estimate, the entire project is expected to take approximately 6 months to complete.

9.0 Potential Risks

This project entails certain risks that need to be acknowledged and mitigated. The primary risk involves a lack of interest and engagement from both our internal consultants and external clients. Their active participation and input are essential for successfully populating the system with relevant information and realizing the expected benefits. While the technical risks associated with selecting appropriate software, implementing robust security measures, and processing payments exist, the features of this system rely on proven technologies. However, the main business risk lies in investing significant time and resources into the project without achieving the projected benefits. It is crucial to closely monitor the project's progress and ensure that the anticipated outcomes are being achieved.

10.0 Exhibits

Exhibit A: A_Financial_Analysis

Stakeholder Register

Prepared by: Muath Saad

Date: May 22, 2023

Name	Position	Internal/ External	Project Role	Contact Information
Khalid Naif	CEO	Internal	Sponsor	<i>Khalid.Naif@example.com</i>
<i>D.Saud</i>	<i>Lab Instructor</i>	<i>Internal</i>	<i>Investor</i>	<i>Saud@example.com</i>
<i>Ahmad Mohamed</i>	<i>Course Instructor</i>	<i>Internal</i>	<i>Investor</i>	<i>Ahmad.Mohamed@example.com</i>
<i>Abdulaziz Tahr</i>	<i>Software Expert</i>	<i>External</i>	<i>Expert</i>	<i>Abdulaziz.Tahr@example.com</i>
<i>Saad Ali</i>	Consultant	<i>External</i>	Team Member	<i>Saad.Ali@example.com</i>
<i>Jennifer Lee</i>	Business Analyst	<i>External</i>	Advisor	<i>Jennifer.Lee@example.com</i>

Stakeholder Management Strategy

Prepared by: Muath Saad

Date: May 22, 2023

Name	Level of Interest	Level of Influence	Potential Management Strategies
Khalid Naif	High	High	Engage in regular communication, provide clear project goals and expectations, provide necessary resources and support.
D.Saud	High	High	Have a lot of short, online meetings and focus on achieving the benefits of the project.
Ahmad Mohamed	High	High	Regular updates, involvement in decision-making, clear communication of project benefits and progress.
Abdulaziz Tahr	High	Medium	Engage in technical discussions, leverage expertise, provide opportunities for collaboration and recognition
<i>Saad Ali</i>	Medium	Low	Clearly define roles and responsibilities, provide necessary resources and support, regular check-ins for progress updates, involve in relevant discussions and decision-making.
<i>Jennifer Lee</i>	Medium	Low	Seek input on requirements and deliverables, involve in discussions related to business analysis, provide feedback and guidance on project deliverables.

Project Charter

Project Title: Online Parking Reservation for University of Jeddah

Project Start Date: May 20

Projected Finish Date: November 4

Budget Information: The firm has allocated \$50,000 for this project. The majority of costs for this project will be software. An initial estimate provides a total of 10 hours per week.

Project Manager: Dr.Soud , 0550309251, a3mr.azx@gmail.com

Project Objectives: Introduce a smart parking system at various attraction sites in Jeddah. The objective is to enhance the parking experience for visitors by implementing an advanced and organized parking solution that leverages technology. The current challenge involves inefficient parking management and congestion at popular attractions, leading to frustration and inconvenience for visitors.

Main Project Success Criteria: Key project success criterion: Parking lots should be less congested within two months of completion.

Approach:

- Develop a survey to determine critical features of the system and solicit input from instructors and students.
- Develop the system using an iterative approach, soliciting a great deal of user feedback.
- Develop a way to measure the value of the system in terms of reduced costs and new

Roles and Responsibilities

Name	Role	Organization/ Position	Contact Information
UJ	Sponsor		a3mr.azx@gmail.com
Dr.Soud	Project Manager	Lab Instructor	Saud@example.com
Saad Ali	Team Member	Consultant	Saad.Ali@example.com
Ahmad Mohamed	Team Member	Software Expert	Abdulaziz.Tahr@example.com
Jennifer Lee	Advisor	Business Analyst	Jennifer.Lee@example.com

Sign-off: (Signatures of all above stakeholders. Can sign by their names in table above.)

Comments: (Handwritten or typed comments from above stakeholders, if applicable)

Just-In-Time Training Project

Kick-off Meeting

Date

Meeting Objective: Get the project off to a great start by introducing key stakeholders, reviewing project goals, and discussing future plans

Agenda:

- Introductions of attendees
- Background of project
- Review of project-related documents (i.e. business case, project charter)
- Discussion of project organizational structure
- Discussion of project scope, time, and cost goals
- Discussion of other important topics
- List of action items from meeting

Action Item	Assigned To	Due Date
Introductions of attendees	D.Saud	Jun 1, 2023
Review of project- related document	Khalid Naif	Jun 1, 2023
Discussion of project organizational structure	D.Saud	Jun 1, 2023
Discussion of other important topics	Jennifer Lee	Jun 1, 2023

Date and time of next meeting: Jul 24, 2023

Scope:

Project Justification:

The Smart Parking System project is justified as it addresses the current inefficiencies and challenges faced by visitors to various attraction sites in Jeddah. The existing parking situation suffers from a lack of organization and management, resulting in congestion and delays. Implementing an advanced and organized parking solution using technology will provide a seamless and improved parking experience for visitors, which will enhance the reputation and attractiveness of the attraction sites.

Product Characteristics and Requirements:

The Smart Parking System will require several product characteristics to provide optimal functionality, as follows:

- User-friendly mobile application and web platform that allows visitors to check real-time parking availability and make reservations.
- Smart Parking Sensors track and monitor parking occupancy and provide accurate availability information.
- Traffic Management features to guide visitors to available parking spaces and optimize traffic flow within the attraction sites.
- A robust Backend Infrastructure for data storage, analysis, and reporting to optimize parking space utilization.

Summary of Project Deliverables:

The project will deliver several items, as follows:

- A Smart Parking System.
- A User-Friendly Mobile Application or Web Platform.
- Smart Parking Sensors for tracking and monitoring parking occupancy.
- Traffic Management Features for optimal routing and traffic flow.
- Robust Backend Infrastructure for data storage, analysis, and reporting.

Project Success Criteria:

The following are the success criteria for the Smart Parking System project:

- Improve visitor satisfaction by providing a seamless and user-friendly parking experience.

- Reduce parking congestion by providing real-time parking availability information and optimal routing guidance.
- Optimize parking operations by maximizing space utilization.
- Enhance the reputation and attractiveness of the attraction sites.
- Achieve a positive return on investment (ROI) within 139 days.

Work Breakdown Structure

1. Project Management

- 1.1. Monitor project progress.
- 1.2. Address any issues that arise.
- 1.3. Ensure project is completed on-time and within budget.

2. Requirements Gathering and Analysis

- 2.1. Identify key stakeholders.
- 2.2. Gather requirements.
- 2.3. Analyze requirements.

3. Development

- 3.1. Web Platform
 - 3.1.1. Develop user interface.
 - 3.1.2. Develop front-end functionality.
 - 3.1.3. Develop back-end functionality.
 - 3.1.4. Testing.
- 3.2. Mobile Application
 - 3.2.1. Develop user interface.
 - 3.2.2. Develop front-end functionality.
 - 3.2.3. Develop back-end functionality.
 - 3.2.4. Testing.

4. Purchase and Installation of Smart Parking Sensors

- 4.1. Identify sensor requirements.
- 4.2. Purchase sensors.
- 4.3. Install sensors.
- 4.4. Testing.

5. Backend Infrastructure and Data Storage

- 5.1. Identify data storage requirements.
- 5.2. Develop data storage infrastructure.
- 5.3. Testing.

6. Traffic Management Features

- 6.1. Develop traffic management algorithm.
- 6.2. Implement algorithm.

6.3. Testing.

7. Testing and Deployment

7.1. Test the entire system.

7.2. Address any issues.

7.3. Deploy system.

8. Training and Support

8.1. Provide training to key stakeholders.

8.2. Offer ongoing support.



