**Business Context:**

Dern-Support is a small IT technical support company that specializes in repairing computer systems for businesses and individual customers. They offer on-site support for business clients, while individual customers either drop off their computers at one of Dern-Support's offices or arrange for courier delivery.

**Summary of the Problem:**

Dern-Support currently manages customer interactions, support requests, and job scheduling manually, leading to inefficiencies and errors. This manual process hinders their ability to respond quickly to customer needs, track job statuses, and identify common issues. Additionally, there is no centralized knowledge base for customers to troubleshoot minor issues on their own. Therefore, Dern-Support requires a comprehensive full-stack solution to automate these processes, improve service delivery, and enhance customer satisfaction.

Description of the Proposed Solution

The proposed solution is a web-based application developed using Laravel (PHP framework) and MySQL database. This application will streamline customer account management, support request submissions, job scheduling, and provide a centralized knowledge base.

**Key Features:**

**1. Customer Account Management:**

- Registration and login functionality for both business and individual customers.

**2. Support Requests:**

- Submission of support requests with detailed issue descriptions.

- Tracking of support request statuses.

**3. Job Scheduling:**

- Manual job scheduling based on customer preferences and technician availability.

- Updates on job statuses.

**4. Knowledge Base:**

- A searchable knowledge base containing articles on common issues and their solutions.

- Step-by-step guides for troubleshooting minor hardware and software problems.

Functional and Non-Functional Requirements

**Functional Requirements:**

**1. User Management:**

- User registration and login.

- Password recovery functionality.

**2. Support Request Management:**

- Form for submitting support requests.

- Dropdowns for selecting customers and issue statuses.

- Status updates and notifications for support requests.

**3. Job Scheduling:**

- Form for scheduling jobs linked to support tickets.

- Dropdowns for selecting ticket IDs and job statuses.

**4. Knowledge Base:**

- Displaying the title and content of knowledge base articles.

- Search functionality for articles.

**Non-Functional Requirements:**

**1. Performance:**

- Efficient handling of concurrent user sessions.

- Fast response times for database queries and page loads.

**2. Security:**

- Secure user authentication and authorization.

- Data encryption for sensitive information.

- Regular security audits.

**3. Usability:**

- Intuitive and user-friendly interface.

- Accessibility features for users with disabilities.

**4. Scalability:**

- Ability to handle an increasing number of users and data volume.

**5. Maintainability:**

- Clean and modular codebase for ease of maintenance and updates.

- Comprehensive documentation for developers.

Key Performance Indicators (KPIs)

To measure the success of the proposed solution, the following KPIs will be monitored:

**1. Customer Satisfaction:**

- Feedback ratings from customers post-service.

- Reduction in average response time for support requests.

**2. Operational Efficiency:**

- Decrease in manual processing time for job scheduling.

- Increase in the number of support requests handled per day.

**3. System Performance:**

- Average load time of web pages.

- Number of concurrent users supported without performance degradation.

**4. Knowledge Base Utilization:**

- Number of searches and views of knowledge base articles.

- Reduction in the number of minor support requests due to self-service.

Risks and Implications of the Proposed Solution

**Risks:**

**1. Technical Risks:**

- Potential bugs and performance issues during the initial deployment phase.

- Security vulnerabilities if not properly addressed.

**2. Operational Risks:**

- Resistance to change from employees accustomed to the manual process.

- Downtime during the transition to the new system.

**3. Financial Risks:**

- Initial investment in development and deployment.

- Ongoing maintenance and support costs.

**Implications:**

**1. Positive Implications:**

- Improved efficiency and productivity of the support team.

- Enhanced customer satisfaction and retention.

- Better data insights for informed decision-making.

**2. Negative Implications:**

- Initial learning curve for employees and customers.

- Dependence on the new system for critical operations.

Conclusion

The proposed full-stack solution for Dern-Support aims to streamline operations, enhance customer experience, and provide valuable insights through customer feedback analysis. By addressing functional and non-functional requirements and monitoring the identified KPIs, the solution is expected to significantly improve Dern-Support's service delivery and operational efficiency. A thorough risk assessment and mitigation plan will ensure a smooth transition and sustainable success.

**Next Steps:**

- Review this proposal with the client and stakeholders.

- Incorporate feedback and gain approval to proceed.

- Begin detailed design and development of the solution.