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System analysis and Design

**Introduction**

Precision Electronic Parts (PEP) is a small Kansas-based private company. PEP has lately expanded its services outside of the healthcare field by producing low-voltage motors, which are more ecologically friendly. Since then, the business has exploded, and client needs have risen. The Mills Firm has devised a method to assist PEP with its IT problems. Also, the Mills Company would develop a unique strategy by working closely with ITSC for invoicing and accounts receivable that would meet the demands of both the company and customers.

**Problem to be solved**

The pressure from PEP's inventory management, finance department and ordering and shipping are the primary sources of concern. The new platform will have to manage and simplify a huge volume of data flow across departments, including pricing, invoice and databases, and processing fees and discounts. In addition, the proposed program must address the absence of electronic invoicing through email, lockbox account, and enhanced security measures to secure client, invoicing, and payment information.

**Findings**

1. **Scope of proposed System**

The IT Steering Committee (ITSC) seeks to change the information system and integrate an upgraded system with new processing, invoicing, and payment platforms. Also, to satisfy the ITSC's standards, it is advised that PEP investigate a cloud-based system model. PEP may keep existing hardware characteristics with a cloud-based software system, lowering total budget expenses. In order to use a cloud-based system safely, the company should strengthen improved network security elements like firewalls.

1. **Constraints**

The cloud-based platform and applications will be used only for invoicing; thus, any outages in the cloud system will be restricted. Once PEP's system is fused into a cloud-based platform, Microsoft Access may no longer be able to offer the safeguards needed to keep business operations running smoothly. In order to maintain business activities, the cloud-system reports must be duplicated to a safe off-site address and then posted back to the cloud after the restoration of the system.

1. **Fact Findings**

The present systems are not expandable, and the increased demand created by the additional motor has resulted in severe system discord. Also, when conducting interviews, specific departments have backlogs due to many orders, which strains the department's ability to maintain and update product codes and pricing. Accounts receivable reports would need a better-structured system to update overdue bills to assist the sales department automatically.

1. **Current costs**

At this time, no funds have been set aside to replace or upgrade the current infrastructure. The proposed system will use the current Microsoft Access capability and incorporate its features and functionalities; therefore, no extra expenditures will be incurred. Furthermore, there will be no additional expenditures associated with user education for PEP's current employees.

**Feasibility Analysis**

1. **Technical Feasibility**

Upgrades to the billing, processing and payment systems are significant for PEP since they can sustain small businesses and help them grow even more. Finance needs to enhance its invoicing and payment procedure. The technological improvement would streamline the client experience by providing all departments with access to the relevant channels. PEP's clients will benefit from the changes, which will allow for the processing and generation of invoices and receipts. With the modifications, suitable security measures are also required, ensuring client protection when making and processing transactions.

1. **Financially Feasibility**

The ITSC is in charge of analyzing proposals and allocating money depending on the data gathered from them. The company must allocate some money to the new system to benefit fully. The modifications will assist in the increase of the flood of orders and make transactions and ordering easier for clients. The simple ordering mechanism will enhance the number of orders received and products sent.

1. **Behavioral Feasibility**

Due to the adjustments, it will be a period of adjustment for both the personnel and the consumers who utilize PEP. This begins with including the employees in the improvements that are being implemented—organizing workshops and training to keep employees up to speed. The upgraded system will be user-friendly, making it easier for clients to comprehend and buy lower voltage motors. Highly specialized and individual training will be required to help staff grasp the proposed platform and mitigate negative responses.

**Future Recommendations**

1. **Estimated Cost and Timeframe**

The expected completion time for system installation will be four months because of integration simplicity and the reuse of existing hardware and software. The period comprises the design, execution, verification, and validation of the system. A cloud-based solution is projected to cost between $2,500 and $3,000 monthly. Also, a monthly cost of $1,000 for an off-site redundancy domain with security and surveillance is projected.

1. **Expected Benefits**

PEP will get both intangible and tangible advantages from a cloud-based solution.

One of these advantages is a simplified billing procedure that is accessible from anywhere. Long-term advantages include an endlessly expandable platform that will scale with the business, increasing production and profitability.

1. **Tangible**
* All information is updated in real-time.
* When handling massive task requests, fewer people are needed.
* Maintenance needs result in less downtime.
* E-invoicing will provide easier access and quicker processing.
* The system is cloud-based and can be assed anywhere.
1. **Intangible**
* Customer information can be retrieval easily, thus eliminating duplication.
* Thanks to automated software features, staff will have less work to do and be more productive in other areas.
* Expedited procedures result in a quicker turnaround time, which leads to increased earnings.
* Because simplified and integrated applications make it easier to use and access, productivity will rise.