Creative

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Creative Instinct Building Supply

Capstone Project

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The goal of this system design for Creative Instinct Building Supply is to meet the needs of customers and to be maintainable, efficient, and reliable. In addition, our system shall be produced in a way that meets project budgets and schedules and will be done in an economical fashion. To make this system successful our team will need to avoid issues we have faced in the past that caused previous projects to fail such as over budgeting, the system being too difficult for users to use, performance not meeting our expectations, missing market windows and/or schedule delays, low quality, and not meeting customer requirements, inadequate test coverage, unrealistic project goals, and inaccurate estimates of needed resources. This system will require the coordination of our stakeholders who will be organized into teams. Their primary objective will be to build a system that will meet our defined requirements.

We are a small, family-owned company that is new with only three years in the construction industry. We are a building supply company that caters to contractors and customers in the construction industry. We sell competitively priced, high-end products that consist of asphalt roofing shingles, siding, windows, doors, decking, costagra, and many other building materials. We need an application that will enable our outside sales team to easily view new vendor products at vendor events and order their products quickly and efficiently. We will need a system where contractors and customers can order, buy, schedule appointments, and receive quality prompt service to supply their needs. Our mission statement is to strategically and successfully deliver and install building materials to customers in a way that will positively impact and improve their quality of life. Our short-term goal is to slowly roll out this system in as little as six months and have this system completely active throughout our entire organization between one year to one year a half, to increase online orders by thirty percent within one year. Our critical success factors include involving our users, receiving support from our executives, clear business objectives, optimization, Agile processing, skilled resources, emotional maturity, and strong project management.

We will use is agile software development life cycle which is a structured series of stages that our system will cycle through as it moves from beginning to end. We will use an agile project management methodology which places value on individuals and interactions over processes and tools, response to change over following plans, customer collaboration over contract negotiation, and working software over comprehensive documentation. Our scrum teams will have clearly defined roles and work in sprints similar to iterations. During the concept phase the scope of our system will be defined and once that is underlined, it is time to build our software development team during the inception phase. In the construction phase our developers will combine system requirements and customer feedback and turn our system design into code. After testing our system will be ready for release. It will then be deployed and made available to our customers. Today, mobile devices such as smart phones and tablets have become omnipresent, and they hold enough computing power. I believe a mobile platform will be beneficial for the organization. And, with responsive web design the web content will be delivered correctly regardless of the device being used.

I think prototyping this system is a good idea as well. This will allow the users to “test-drive” the system and give feedback. Their feedback can then be used to validate user requirements or to help formulate the final product. Agile development methods may be used as well, which will entail the developers building a series of prototypes and constantly making revisions according to user requirements and feedback received from users.

Our business requirements consist of:

* The need to identify slow- or fast-moving building supplies so our inventory department can manage our building supply inventory more efficiently.
* We need accurate recordkeeping and timely order processing so management can better equip staff so they can provide effective crane operators and installers scheduling, up-to-date inventory, and efficient appointment scheduling.
* We need prompt notification of any security issues so IT can mitigate any security threats that may arise in a timely, cost-effective manner.
* We need effective training provided to all internal users of the new system to provide effective and efficient service to customers.
* Our store managers need accurate and up-to-date reports from system developers to accurately assess the TCO of the new CIBS system.
* Our owners need concise strategic objectives in place to make the new system run smoothly.

We will send our questionnaires to our staff for feedback and any concerns they may have about the new system. We will also conduct one-on-one interviews in a neutral setting because I believe our staff will be more honest with how they are feeling, requirements they may need and their concerns.

What are the benefits of the new system?

A picture containing table

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Diagram

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Diagram

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“Men do not attract that which they want, but that which they are. Their whims, fancies, and ambitions are thwarted at every step, but their inmost thoughts and desires are fed with their own food, be it foul or clean. Man is manacled only by himself; thought and action are the jailors of fate—they imprison, being base; they are also the angels of freedom—they liberate,” (Allen, 2003). The risk of cybersecurity incidents severely increases as companies around the world increase their analysis capabilities, storage, and data collection. Cyber criminals or hackers utilize a plethora of hacking styles to acquire access to data stores and infrastructure, taking advantage of network vulnerabilities, insufficient IT security frameworks, and human error. A passive approach to risk management may leave companies open to being exploited and data theft, which can diminish their productivity and dissolve their reputation. Our IT department requires the most information and security is of the utmost importance. We must constantly review our security standards and stay on top of new IT developments to neutralize the threat of data breaches and ransomware. “A 2019 report from Accenture found that the average cost of cybercrime for an organization increased $1.4 million from the previous year and now falls around $13 million in total. According to the National Institute of Standards and Technology, information security is defined as “the protection of information and systems from unauthorized access, use, disclosure, disruption, modification, or destruction in order to provide confidentiality, integrity, and availability,” (Certitude Security, 2020). We achieve this objective by establishing strategies for managing security risks, IT policies, and internal processes. To be effective the Defense in Depth may include tools, policies, and best practices such as patch management, strong passwords, the principle of least privilege, network segmentation, Endpoint Detection and Response (EDR), Intrusion Prevention or Detection Systems, (IDS/IPS), and Firewalls. “Cheng described the violation of information security policy in organizations. The results of the study revealed that employees with a stronger bond to their organization are less likely to deviate from policies and participate in delinquent behavior (Cheng et al., 2013). Policy compliance are goals that an organization sets to encourage employees/members to comply with the organization’s policies. Our end users such as outside sales and appointment setters will work remotely. Our employees will have the ability to work remotely away from the office or organization while retaining access to business networks or computers. “Deploying remote access control provides a secure connection. It minimizes the risk of data theft or loss and malicious activities since you are controlling the connection, therefore not allowing unknown entities to access private or corporate data” (Yfantis, 2018). Our ISP outlines how our organization should react when encountering unauthorized use and includes instructions on acceptable and unacceptable use. GDP in 2010. In May 2013, the Commission of the Theft of American Intellectual Property released a report that concluded that the scale of international theft of American intellectual property is roughly $300 billion per year and 2.1 million additional jobs in our economy” (Kahn, 2017). One instance of an information security breach is the massive hack of the federal government’s personnel office traced back to China, that compromised the data of more than 20 million Americans. Our remote access policy is a subsection of our network security policy, which presents the policies and rules for access to our organization’s network. Our remote access policies should include guidelines for access that may include the following:

* Password protocols
* Guidelines for connectivity
* Access privileges, hierarchy, and authentication
* Virtual and physical device security
* Encryption policies
* Confidentiality, information security, and email policies
* Software and hardware configuration standards for remote access
* Equipment ownership and access requirements
* Policy compliance, enforcement, and governance
* Third-party standards and protections

Controls are set in place and policy compliance is used to validate the controls that are set.

Related standards are standards that directly correlate to the remote access policy or information security policy. Some of which include:

* Personal and mobile devices
* Privacy regulations
* Data security policy
* Acceptable use policy
* IAM regulations
* SaaS and cloud policy
* Security incident response plan
* IT administration and operations

Security controls for laptops are different for those of other devices so the policy must entail what is secure, compliant, and allowed. I think we need to invest in streamlining and automating processes by leveraging a workplace management solution to eliminate bottlenecks, and time-consuming processes. We must focus on immediate goals and marketing strategies. I think a star topology is best because we can manage every node from one central switch and our central hub will be a server which will manage data transmissions across the entire network. The setup is simple, and we can add new computers without taking the network offline. This would be best when we think explore the possibility of expansion.

Although online processing will work well because it handles transactions in real time. It also requires lots of staff to maintain inventory, hardware problems create issues, and tons of requests become difficult to handle. I think batch processing is better because it handles large amounts of data that are processed on a routine schedule. Batch processing requires less training, hardware, and programming resources. We will roll out our new system using the pilot operation changeover. After the system proves successful the direct cutoff method will be implemented. This changeover method is less costly than direct cutoff and parallel operation methods and we will avoid major errors.

A worldview is your philosophy of life or the lens through which you view the world. Our worldview shapes the way we think about life, death, our values, principles, and so much more. Therefore, it is critical how we think because our thoughts and actions shape the world. You never know how you may impact someone else. Man originated when from the dust when God breathed air into his nostrils Genesis 1:7 (KJV). Therefore, it is critical to have a Biblical worldview. The Bible is the blue print to right living, and just as a gardener waters his plants and weeds his garden, we need to edify and weed our minds.

Graphical user interface

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Graphical user interface, application

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