Personnel Data Analysis and Retrieval of Phase 1 Move To LC-39 Area

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As a technology major from Jackson State University (JSU) I was called in as a summer intern at Kennedy Space Center (KSC) to work in the NASA Engineering, Control and Data Systems (NE-C) Division supporting the Spaceport Command and Control System (SCCS) at the Space Station Processing Facility (SSPF). I was given a two-part project; the first consisted of lending support relocating SCCS Computer Equipment and Project Personnel to the Launch Control Center (LCC). This task involved me using a Microsoft Office data processing tool to assist with the analysis and information management of logistics worth millions of dollars. With the assistance of two other interns, I was responsible for collecting data on equipment used, on a daily basis, by over 200 KSC employees. The many network servers, enterprise switches, desktop computers, and fiber optics had to be handled in an equally prompt and precise manner in order to ensure a minimal amount of equipment down time; which is critical in ensuring a properly secured networking environment. The second part of my project was to assist KSC in developing a more cost effective way of maintaining and taking full advantage of the functionality of some new kiosk units. Since KSC currently has no expert on the servicing and maintenance of the units, I, as a computer technology major, was given the opportunity to assess the hardware and software of the machines. The goal was to learn to establish a secure and remote environment for the kiosks; a goal highly valuing convenience by preserving valuable man-hours saved by not having to travel to each individual kiosk location. In addition, I was to leave a clear and precise plan for future users and administrators of the devices to follow.

I.   Introduction

During the summer of 2013 I was given the opportunity to intern at Kennedy Space Center (KSC) and assist the NASA Engineering, Control and Data Systems (NE-C) Division. During this internship I was assigned a project that consisted of two parts. The first objective of my two-part project was known as the phase 1 personnel move to Launch Control Center (LCC). This assignment required me to use Microsoft office programs to do an analysis and survey of employee data and logistics for the scheduled move from KSC's Space Station Processing Facility. The second objective of my two-part project involved me developing a user guide to servicing a recently purchased kiosk machine.

a.   Objective 1: Data Retrieval of Phase 1

The first part of objective 1 called for me to collect logistics and network data from 48 NE-C employees. The total number of personnel was divided amongst the number of interns giving each of us 16 employees to collect data about. I, along with 2 other interns, notified each employee that he or she was being identified as a part of the Phase 1 personnel move to the LC-39 area and that the move was stated to commence on or about August 12. Staff members were also informed that Phase 1 of the move was a data gathering stage and in addition, were to assist us in this process by emailing key pieces of information needed to further process them into the new database.

Data to be retrieved and analyzed from NE-C staff information include:

- AUID (the username used to log into NCAD/ACES, NOT LCS)
- ACES asset number of their ACES CPU
- Number of ACES monitors they have, if any
  - If applicable
- Number of boxes

Key pieces of logistics to be analyzed and transported:

- Enterprise Switches
- Workstation Printers
- Network Servers
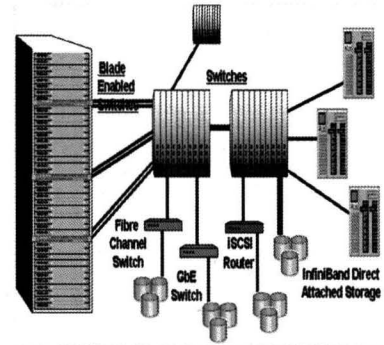- Desktop Computers
- HD Monitors
- Fiber Optic Cables

Figure 1.1: An institutional networking system involving blade servers, routers, and switches.
Courtesy of Creative Strategies Ventures Corporation

"Though unplanned outages are IT issues, they are, more importantly, business issues. Unplanned outages never produce revenue for the company experiencing them. In 2008, the average revenue cost of an unplanned application outage was estimated to be nearly US$2.8 million dollars per hour, according to a report by IBM Global Services. IT disruptions can affect the entire delivery chain of the products and/or services provided by a business." (Perlin, 2013)

b. Data Analysis of Phase 1

All information required about NEC employees and logistics during this data gathering stage was ultimately collected and processed within a 36 column spread sheet via Microsoft Office.[1] This stage of inquiry involved the use of Excel 2010 to assist with the analysis and information management of logistics worth millions of dollars. **(See figure 1.1)**With the assistance of two other interns, I was able to collect data on equipment used, on a daily basis, by over 200 KSC employees. And because of the high level of importance to ensure a properly secured networking environment, the many enterprise switches, network servers, and fiber optics had to be handled in an equally prompt and precise manner in order to ensure a minimal amount of equipment down time and of risk data corruption. (Mitchell, 2013) All involved with the Phase 1 move understood that these methods are deemed as standard operating procedure in order to preserve the institutions integrity.

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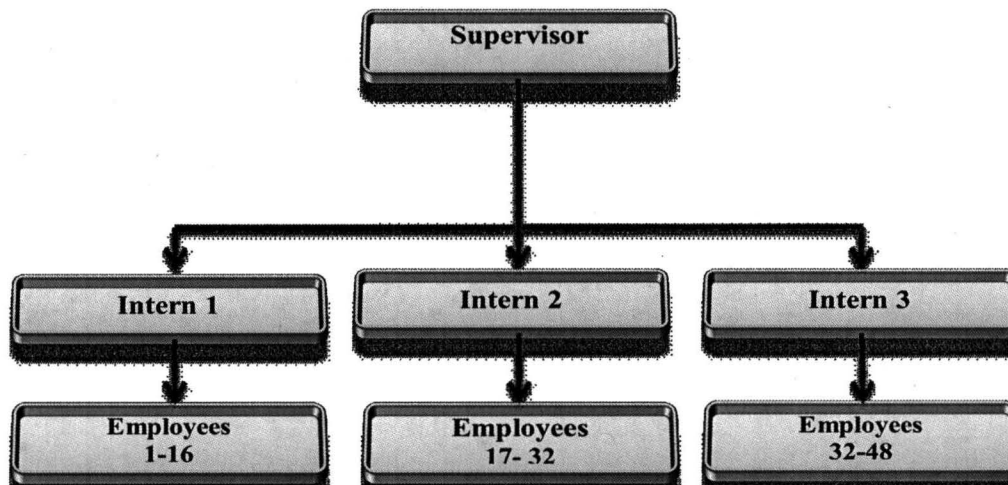
[1] NASA Summer Intern, NASA Engineering Control and Data Systems, Jackson State University, 1400 J.R. Lynch St. Jackson, Ms. 39217

II.   Part 2: More Than a Kiosk

The second part of my project was to prepare a service plan for a group of kiosks purchased for Kennedy Space Center. I was assigned to understand how the kiosks and its features work. I was to develop a user guide for setting up the kiosk, controlling it, loading new presentations/information to be displayed, develop a block diagram of the HW and SW components **(Refer to Figure 2.1)**, work with IT Security interns, develop a plan/instructions to ensure that they can be used in accordance with security requirements and demonstrate all of the above for the people using them in the future.

c.   Advertisement Functionality

Kiosks are advertisement displays usually consisting of a small to large metal frame with a display monitor and hidden computer console. These machines can be operated by either touchscreen or keypad. (Kual, 2005) The information loaded onto the computer within the kiosk is displayed using many different mediums. Some companies simply want their customers to be able to use the machines to input information into their databases. To save time and man hours the company will locate the kiosks in waiting rooms or lobbies and give the customers the convenience of being able to type information within a simple form. **(Refer to Figure 2.2)** Other businesses, such as banks, car dealerships, and restaurants often place kiosks both inside and outside of establishments. By making advertising more of a priority, these business owners choose to use mediums such as pictures, videos, and various audio files to attract the customer's attention. The genius of this method is using the kiosk to create a direct connection between user and institution. This interaction gives the visitor or customer the feeling of control over which of the institutions resources he or she chooses to pursue. This way, not only does the kiosk provide ways businesses can accommodate customers, but they save time and money as well.

Figure 2.2: Multiple people using kiosks in a place of business. Many corporations, across the globe, take advantage of the kiosk ability to cut down on man-hours and human error.

d.   World Wide Kiosk

Many kiosks have internet access leading some corporations, such as Kioware, to develop a fundamental software tools to provide vital lockdown security for browser-based applications. Key features of Kioware Systems Software (KSS) blocks access to certain websites and domains that are either known as harmful or not related to the interests of the administrator. KSS main focus is control of the kiosk's integrated software, including the ability to block certain keystrokes such as: the print screen and navigation buttons; which includes the capability to deny the user ability to print or download any unauthorized material to the kiosk. An additional security feature of the kiosk is the LogMeIn software. LogMeIn is a remote desktop application that gives an added sense of security and convenience to the daily operations of the kiosk. This software allows administrative users of the kiosk to perform updates, scheduled maintenance and other services from a remote location. Using a secure internet connection, users with admin rights are able to create an account with LogMeIn and assign up to 10 computers to be controlled remotely, highly valuing convenience while preserving valuable time saved by not having to travel to each individual kiosk location.
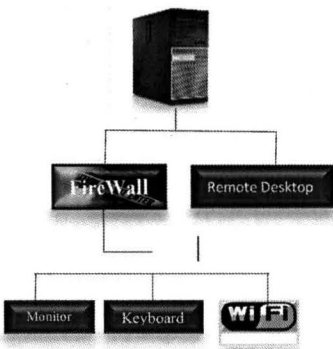

Figure 2.1: This diagram shows the methods in which the hardware and software of kiosk coordinate.

Overall, the kiosk is a great tool for any business or establishment to invest in. It's been discussed of how consumers benefit greatly when accurate, reliable self-service kiosks are employed. (Sam Kellenberg, 2013) The machines have also been proven to be economical, by the way of man hours saved, they are convenient, by the way of easy accessibility, more reliable with absence of human error, and when coupled with the ability of being remotely accessible, they are far more secure than the traditional employee.

III.   Conclusion

The information I collected for the Phase1 move to the LCC location has gone toward the support of the support of NASA Engineering, Control and Data Systems database. Due to the intricacy of this project there is a particular focus on the method needed to support the rest of the move. This information will be the starting point for the build of the database supporting the Launch Control System Division. Precision and care will remain the leading priority in getting this done in order and decency.

The user guide I developed for the kiosk will be of fundamental use for its future administrative users. It is very important for this guide to be easy to read and understand in order for its future uses to meet scheduled maintenance and software updates. Many key areas are covered in the guide will ensure its handlers the machine can be used in a safe and productive manner while guaranteeing the kiosk's security, reliability, and functionality for years to come.

IV.   Acknowledgments

V.   Works Cited

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