Wharton County Junior College
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Technology Report

Major Accomplishments

The first 9 months of 2022 saw the completion of many different projects that have improved the overall stability and functionality of IT systems at WCJC. The most notable projects are listed below.

1. **Successful upgrade of Oracle Database to version 19c.**
   - Aging version of Oracle database was at end of life and required additional interventions to support Banner ERP system. Upgrade had been in planning stages for close to 3 years and had been delayed due to other priorities. Upgrade required complete focus by Banner Technical team, pausing all other priorities and updates. Project was implemented with only minor configuration issues post installation.
   - **IT Teams Involved:** All (Banner Technical, Banner Functional, IT Technical & Help Desk)

2. **Full patching of Banner ERP system**
   - Due to issues with using an outdated version of Oracle, we were unable to automatically patch our ERP system, relying instead on manual implementations of patches. This increased the potential for user failures and required significant understanding of technical system to implement updates.
   - **IT Teams Involved:** Banner Technical and Banner Functional

3. **Successful integration between Banner ERP and D2L's Brightspace**
   - Now that the Oracle and Banner systems are upgraded and current, the IT team was able to integrate the new Learning Management System with the Banner ERP system. The requirements to make this transition from On Premise to Cloud Services included connecting 8 systems to allow data to flow automatically from Banner to D2L.
   - **IT Teams Involved:** Banner Technical and Banner Functional

4. **Implementation of multiple desktop technology upgrades**
   - Standardized and upgraded roughly 1,500 workstations to latest version of Windows 10. This improves the stability and security of devices installed on WCJC network. It also improves the process of moving to Windows 11, when the time comes to upgrade
   - Modified system settings on Instructional and lab machines to ensure that they are ready to be used by Faculty and Students
   - **IT Teams Involved:** IT Technical

Outages Experienced

The focus for the beginning of the year was to solve the root cause of some of our more impactful system issues and work towards providing a more reliable systems environment.

IT Systems

IT System failures were primarily related to various networking / connectivity issues. We have been working over the last year to further stabilize the WCJC network and have made significant progress in improving the overall quality of the network. In the first quarter of 2022, we focused on identifying the underlying issues for the network failures and worked towards resolving those issues. Additionally, we have continued to implement a network upgrade project for the Wharton campus that will deliver a better network experience, while including adding additional control and insights to the health of the network. The other system outages revolve around the use of our Single Sign On (SSO) service being disrupted. Typically, we alert the service provider of the issue and they promptly return our system to service. We are investigating ways to continue to have the flexibility and security that our SSO provides, while allowing us a work around in cases of disruption.

Date	System	Impacted Campus	Downtime
January 6th, 2022	Network	Richmond	1 Hour
January 6th, 2022	Banner	All Campuses	2 Hours
January 21st, 2022	Network	Richmond	1 Hour
January 21st, 2022	Network	Sugarland	8 Hours
January 26th, 2022	Network	Sugarland	3 Hours
January 28th, 2022	Network	Wharton – Reynolds Bldg	4 Hours
March 1st, 2022	MyWCJC Portal	All Campuses	1 Hour
March 21st, 2022	Network	Richmond	4 Hours
Q1 Total Outages: 8			
April 18th, 2022	Network	Sugarland	2 Hours
May 9th, 2022	MyWCJC Portal	All Campuses	1 Hour
Q2 Total Outages: 2			
August 22nd, 2022	MyWCJC Portal	All Campuses	2 Days Complete, 3 Days Partial
Q3 Total Outages: 1			

Phone Systems

As far as the telephony system is concerned, the majority of our issues were the result of a failing T1 line that is provided to WCJC from AT&T. In troubleshooting the issue, we had to eliminate many different possibilities before AT&T would repair the line that was not functioning properly. We were able to get this resolved and have upgraded our telephony servers and equipment, which should provide a more reliable system.

Date	System	Impacted Campus	Downtime
February 9t[h,] 2022	Phone – No Inbound Calls	Wharton	15 Min
February 14[th,] 2022	Phone – No Inbound Calls	Wharton	15 Min
March 21st, 2022	Phone – No Inbound Calls	Wharton	15 Min
Q1 Total Outages: 3			
April 19th, 2022	Phone – No Inbound Calls	Wharton	15 Min
April 25th, 2022	Phone – No Outbound Calls	Wharton	30 Min
April 29th, 2022	Phone – No Long Distance	Wharton	2 Hours
May 10th, 2022	Phone – No Long Distance	Wharton	1 Hour
May 23rd, 2022	Phone – No Inbound Calls	Wharton	30 Min
Q2 Total Outages: 5			
Q3 Total Outages: 0			

Current Concerns

After evaluating the current state of the technology landscape, several things have come to light

1. **Fiber Connectivity**
   - The Fiber connections on the Wharton campus that provide data transfers throughout the network are starting to age. To provide connectivity between the buildings, we need to have at least 2 functioning lines. Most of our buildings have multiple sets of lines to choose from, in case of failure. For some of our buildings, we have only 1 set of lines remaining and the quality of the lines is degrading. We recommend an assessment to evaluate the overall health of the fiber connections at the Wharton campus

2. **Computer Hardware**
   - Over the last 2 years, the IT team has been working to remove all of the Windows 7 installations and upgrade them to Windows 10. Though this has been completed, a portion of the computers met the minimum hardware requirements to support Windows 10. It is our estimate, that around 40% of our desktop environment will not be able to make the upgrade to Windows 11 when it is time. Typically, the useful lifespan of a desktop computer is between 4 to 5 years. We recommend planning for the replacement of these 40% within the next 2 years.

3. **Legacy Telephony Systems**
   - The telephone system was managed by an employee that has since left WCJC. The problem that this has created is that no one knows what services from AT&T are actually in use and which ones are not. This is an issue as several of the services that we get from AT&T are no longer under contract and the rates continue to increase. Through research, we have identified several services that we either no longer use or that cheaper solutions exist in the market. We have started modifying or terminating these services, however more research needs to be completed.