NORTHWEST NAZARENE UNIVERSITY

Project Denali - Documenting Reporting Requirements

Thesis
Submitted to the Department of Mathematics and Computer Science in partial fulfillment of the requirements for the degree of
BACHELOR OF SCIENCE

Carter S. Katzenberger
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Abstract

In the landscape of higher education, reporting requirements stand as pivotal elements for institutional governance, decision-making, and regulatory compliance. This report presents the documentation of a university's transition to a new software provider, specifically addressing the intricacies of managing reporting requirements throughout this process. This report will highlight some of the techniques used to find these reporting requirements, as well as some of these reporting requirements themselves. The purpose of this report is to offer valuable insights and actionable strategies for universities embarking on similar journeys, emphasizing the significance of prioritizing reporting needs, and implementing adaptive solutions to ensure a successful transition while safeguarding reporting integrity and efficacy

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Overview

Northwest Nazarene University (NNU) is currently transitioning to a new Enterprise Resource Planning (ERP) system provider; this project was titled “Project Denali”. This project entailed assessing NNU’s needs, vendor evaluation, contract negotiation, data migration, training and adoption, customization and integration, testing and quality assurance, communication and change management, go-live and support, evaluation, and feedback. The principle role within this project pertained to the documentation of documentation requirements. This was accomplished by engaging stakeholder requirements around processes, which was primarily accomplished by interviewing different department representatives and documenting their responses. Some of this documentation resulted in process mapping of the current states of these stakeholder processes. Following this, training videos to teach the staff how to use the software PowerBI were created.

Background

Documentation refers to the process of recording and preserving information about a system, process, procedure, or project. It encompasses various forms of written, visual, or multimedia content that provide instructions, guidelines, specifications, or explanations to users, stakeholders, or future contributors.

Technologies

Microsoft Teams is a collaboration platform designed to facilitate communication and collaboration within organizations. It combines workplace chat, video meetings, file storage, and application integration. Teams allow users to create teams or groups within

their organization, where they can communicate through text, voice, or video chats. It also integrates into Microsoft Office 365.

Microsoft Office 365 is a cloud-based platform that allows users to connect their other Microsoft-owned apps. Microsoft 365 applications such as Word, Excel, PowerPoint, SharePoint, and PowerBI, allow users to collaborate on documents within the Teams interface.

Power BI is a business analytics tool developed by Microsoft. It allows users to visualize and analyze data from various sources to gain insights and make informed decisions. Power BI integrates with other Microsoft 365 applications. Power BI provides built-in advanced analytics features such as predictive analytics, statistical analysis, and machine learning integration.

Users can leverage these capabilities to uncover trends, patterns, and insights in their data, and even build predictive models without needing advanced programming skills. Power BI offers a set of interactive visualizations including charts, graphs, maps, and tables. Users can easily create dynamic and engaging dashboards that allow for exploration and drill-down into data to gain deeper insights. Power BI is designed to handle large volumes of data and offers robust performance even with complex datasets. It can handle real-time data streaming, data refresh scheduling, and support for large-scale deployments, making it suitable for enterprise-level analytics.

Power BI is available both as a cloud-based service (Power BI Service) and as an on-premises solution (Power BI Report Server). This flexibility allows organizations to choose the deployment option that best suits their needs, whether they prefer cloud-based analytics or require an on-premises solution for data governance and compliance.

Camtasia is a video creation software akin to Adobe Premiere. Camtasia allows the user to create and edit videos. The software allows users to capture screen activity, audio, and webcam footage to create professional-looking videos. It provides a range of features including video editing tools, animation effects, audio enhancement capabilities, and the ability to add annotations and callouts to highlight important information.

Audacity is an audio recording software. Audacity allows users to record audio from various sources such as microphones and edit audio files. Once editing is complete, users can export their audio projects in various formats, including WAV, MP3, OGG, and FLAC. Audacity also supports batch processing, allowing users to apply the same edits to multiple audio files simultaneously. Audacity was used to record the voiceovers in the videos created and remove background noise in those recordings.

Project Lifecycle

A systematic approach was adopted, beginning with extensive interviews with department representatives to gather insights into the reports utilized across various university functions. A set of standardized questions was formulated to extract pertinent information regarding each report's purpose, criticality, existence, documentation, frequency of usage, potential for retirement or consolidation, automation feasibility, data storage, maintenance protocols, error handling mechanisms, and generation time. The specific questions were:

1. What reports does your department use? Examples?
2. What is this report used for? How critical is it? Is it legally required?
3. Does this report currently exist?

4. What documentation do we have for this report? Version number, changes, etc?

5. How often is this report used? Can this report be retired/combined with another report?

6. Is this report generated automatically? Could it?

7. How/where is the data being stored?

8. How is the data being maintained? Who's in charge of maintaining it?

9. How are errors being handled?

10. How long does this report take to generate?

Figure 1 Interview Questions

These interviews were conducted in person or virtually, depending on the availability and preferences of department representatives. Open-ended questions encouraged detailed responses, while follow-up inquiries ensured clarity and completeness of information. Meticulous notes were taken and interview sessions were recorded when permitted, ensuring accuracy in documentation.

Recognizing the importance of providing comprehensive support to university staff in adopting new software tools, an initiative was taken to create instructional videos on how to use PowerBI, a powerful business analytics tool. Understanding that visual aids can greatly enhance learning and retention, the choice was made to leverage the capabilities of video editing software to develop engaging tutorials.

Before creating the videos, a Udamy course was taken to gather information for these videos. The course, titled “Microsoft Power BI Desktop for Business Intelligence”, was utilized to gain insight into how to create visuals, utilize AI, optimize tools, etc.

After thorough research and experimentation, Camtasia was chosen to edit the videos. Camtasia offered the flexibility and functionality needed to create instructional

videos, allowing seamless integration of screen recordings, voiceovers, annotations, and transitions.

The video creation lifecycle began by outlining the content and structure of the PowerBI tutorials, identifying key topics and learning objectives. Using Camtasia, screen recordings were captured to demonstrate step-by-step processes within the PowerBI interface. Simultaneously, Audacity, a free audio editing software, records and fine-tunes voiceovers for narration was utilized.

Once the raw footage and voiceover recordings were acquired, the next step entailed editing the content using Camtasia's intuitive editing tools. This involved trimming footage, synchronizing audio with on-screen actions, adding annotations to highlight important features, and incorporating visual effects to enhance engagement.

Outcomes and Insights

Twenty-five departments were interviewed, and the results were aggregated into a master document. This document can be referenced by any project Denali team member, any member of the ERP provider, or any stakeholder who wishes to do so.

Some of the new insights that were gleaned from this project include the interviewing process, documentation process, and applications such as Teams, Camtasia, and PowerBI. Other insights include team member collaboration and stakeholder engagement.

Conclusion

In conclusion, the efforts on Project Denali unearthed critical information essential for successfully transitioning to a new software provider. By comprehensively documenting the university's reports, stakeholders were enabled to make informed

decisions regarding the migration process. Identification of redundant reports and opportunities for consolidation or automation emerged as key strategies to streamline operations and optimize resource allocation. Moreover, the documentation process facilitated cross-departmental collaboration and knowledge sharing, as department representatives gained insights into each other's reporting practices and identified areas for improvement. Clear communication of reporting requirements and expectations emerged as a crucial factor in ensuring alignment between departmental needs and software capabilities. The endeavor to create PowerBI tutorials exemplifies proactive engagement and initiative in supporting organizational learning and technology adoption. Through the judicious use of video editing software and instructional design principles, valuable knowledge and facilitated skill development among university staff members were disseminated. Twenty-five departments were interviewed, and the results were aggregated into a master document. Some of the new insights that were gleaned from this project include the interviewing process, documentation process, and applications such as Teams, Camtasia, and PowerBI. Other insights include team member collaboration and stakeholder engagement.

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