ARMALYTICS

TEKNOSPACE

Software Requirements Specification

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Software Requirements Specification

1. Introduction

The Software Requirements Specification (SRS) for TeknoSpace provides a comprehensive overview of the entire system, outlining its purpose, scope, definitions, acronyms, abbreviations, references, and an overview of the SRS itself. This document aims to thoroughly examine TeknoSpace, a web-based platform designed to enhance educational experiences at the Cebu Institute of Technology - University (CIT-U), by defining the problem statement in detail. It focuses on capturing and analyzing stakeholder needs to define high-level product features and detailed requirements for TeknoSpace.

1.1 Purpose

The purpose of this document is to present a detailed description of the TeknoSpace System. It will explain the purpose and features of the system, the interfaces of the system, what the system will do, the constraints under which it must operate and how the system will react to external stimuli.

In essence, the goal of this SRS document is to offer a comprehensive outline of our software product, including its specifications and objectives. It details the project's intended audience, user interface, and hardware and software prerequisites. Additionally, it outlines the perspectives of our client, team, and audience regarding the product and its features.

1.2 Scope

TeknoSpace presents a transformative solution to the communication gaps within the educational environment at Cebu Institute of Technology - University (CIT-U). By introducing a comprehensive web-based platform tailored specifically for the institution, TeknoSpace consolidates fragmented communication channels into a single, centralized hub. This initiative aims to streamline the dissemination of crucial updates and important information to students, ensuring that no communication is missed. TeknoSpace allows administrators, faculty, and students to effectively manage and communicate via the platform. Preformatted templates are used in every stage of the communication process to provide a uniform approach; the location of these templates is configurable via the application’s maintenance options. Additionally, TeknoSpace enhances efficiency by incorporating features such as a lost and found section, facilitating the recovery of misplaced items, and robust student engagement tools. The system also contains a relational database that manages a list of students, faculty, and administrative announcements, ensuring organized and accessible information.

1.3 Definitions, Acronyms, and Abbreviations

Term	Description
CIT-U (Cebu Institute of Technology-University)	An educational institution where TeknoSpace is implemented to enhance communication between students, faculty, and administration.
TeknoSpace	A web-based platform designed to centralize communication and provide updates and important information to students at CIT.
Preformatted Templates	Standardized forms used in every stage of the communication process within TeknoSpace to ensure a uniform approach.
Lost and Found Section	A feature within TeknoSpace that helps in managing and recovering misplaced items by allowing administrators to post about lost items and students to interact and provide updates.
Student Engagement Tools	Features within TeknoSpace that enable students to log in using their school ID or email, engage in discussions, and provide feedback directly on posts
Relational Database	A database within TeknoSpace that manages lists of students, faculty, and administrative announcements, ensuring organized and accessible information.
Centralized Hub	The main feature of TeknoSpace that consolidates various communication channels into a single platform to streamline the dissemination of information.
Administrators	Personnel responsible for managing and maintaining TeknoSpace, including posting updates and configuring templates.
Faculty	Educators and academic staff at CIT who use TeknoSpace to communicate with students and share important academic information.
Updates	Regularly posted information on TeknoSpace regarding academic,maintenance and administrative activities at CIT.
Communication Gaps	Issues or inefficiencies in the existing communication methods at CIT that TeknoSpace aims to address.
SRS	Software Requirements Specification

1.4 References

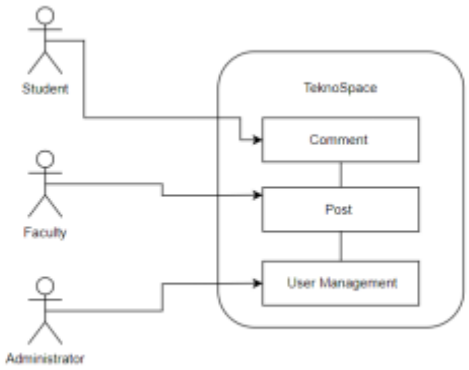
Bandakkanavar, R., & Mohanty, S. (2023, May 8). *Software Requirements Specification document with example*. Krazytech. Retrieved July 2, 2024, from https://krazytech.com/projects/sample-software-requirements-specificationsrs-report-airline-database

Krüger, G., & Lane, C. (2023, January 17). *How to Write an SRS (Software Requirements Specification Document)*. Perforce Software. Retrieved July 2, 2024, from https://www.perforce.com/blog/alm/how-write-software-requirements-specification-srs-document

1.5 Overview

The following sections of this document provide a comprehensive exploration of the software requirements for TeknoSpace. Chapter 2, the overall description section, offers a high-level overview of the product's functionality, outlining its key features and objectives. This section serves to establish a context for Chapter 3, the Requirements Specification section, which delves into the detailed technical specifications necessary for the development and implementation of the software. Chapter 3, requirements specification section specifies how the software should behave, including its features, performance, and interfaces. This section is crucial for guiding developers in the design, coding, and testing phases, ensuring that the final product meets the specified criteria and aligns with the overall project goals.

2. Overall Description



The TeknoSpace system has three active actors. Faculty, students and administrators can communicate through comments.The student can comment on the post created from faculty and administrators. Faculty can post about the school update, maintenance and lost and found management. Only the administrator accesses the entire system directly.

3. Specific Requirements

3.1 Functionality

Introduction

The TeknoSpace website aims to streamline and enhance communication within the university by providing a comprehensive, user-friendly platform. The system integrates several key functionalities designed to address the diverse needs of students, faculty, and staff, fostering a more connected and efficient campus environment. The following sections outline the specific functionalities of TeknoSpace, detailing how each feature contributes to the overall goal of improving university communications and interactions.

3.1.1 Centralized Communication

TeknoSpace provides a centralized platform for disseminating important updates and information to students, faculty, and staff.

Administrators and Faculties can post announcements, event details, and other relevant information to keep the university community informed.

3.1.2 Lost and Found Management

TeknoSpace includes a feature for reporting lost items and facilitating their recovery.

Users can search for lost and claim found items at the Lost and Found section through a user-friendly interface, making the process efficient and straightforward.

3.1.3 Discussion Forum

Users (students, faculty, staff) can create and participate in discussion forums on various topics related to university life, courses, and events, fostering interactive communication within the university community.

3.1.4 Event Management

TeknoSpace provides a feature for informing about events within the university through postings. Administrators or designated faculty members can post information about event time, location, and other relevant details, keeping everyone informed without directly managing the events through the system.

3.2 Usability

3.2.1 Intuitive User Interface

User-Friendly Navigation: TeknoSpace features a clear and consistent navigation structure, making it easy for users to find information and access various features. The main navigation menu is prominently placed and includes links to all primary sections of the website.

Visual Design: The interface uses a clean and modern design with an appropriate color scheme, typography, and icons that enhance readability and aesthetic appeal. Elements such as buttons, forms, and links are designed for ease of use.

Accessibility Standards: The design adheres to accessibility standards, such as the Web Content Accessibility Guidelines (WCAG), ensuring that the platform is usable for individuals with disabilities. This includes providing text alternatives for non-text content, ensuring sufficient color contrast, and enabling keyboard navigation.

Feedback Mechanisms: The system provides immediate feedback for user actions, such as form submissions and navigation, through visual cues (e.g., loading indicators, confirmation messages) to improve the user experience.

3.2.2 Personalization

TeknoSpace shall allow users to manage their profiles, including uploading profile pictures and cover photos.

3.2.3 Responsive Design

Cross-Device Compatibility: TeknoSpace is fully compatible with various devices, including desktops, tablets, and smartphones. The design adapts to different screen sizes and orientations to ensure a consistent user experience across all devices.

Fluid Layouts: The platform uses fluid layouts and flexible grids to automatically adjust the placement and size of elements based on the screen size. This includes reflowing content and resizing images to fit smaller screens without compromising readability or functionality.

Browser Compatibility: TeknoSpace is tested and compatible with all major web browsers, including Chrome and Edge. This ensures that users have a consistent experience regardless of their preferred browser.

3.3 Reliability & Availability

3.3.1 Trusted Source Reliability

The users for the TeknoSpace will be specifically the students and faculty staff, ensuring the reliability of the information put in the web, it will also only be the faculty staff posting information for the users to seek information regarding the school.

TeknoSpace uses a free yet readily available site to deploy the website to the net, it also has a 24/7 service which makes TeknoSpace available anytime.

The website also has a SSL certificate, which means it is safe and secure for anyone to use.

3.4 Performance

As stated on the availability section, TeknoSpace uses a free deployer which makes the website not run the smoothest, it lacks on that department due to the pictures embedded on the website. This is only the issue found in the system, all the needed process for it to work is functioning properly.

3.5 Security

3.5.1 User Authentication

User access to TeknoSpace requires verification by administrators to ensure they are current students, faculty, or staff of the university. This verification process is essential to maintain security and restrict access to authorized personnel only.

3.5.2 Data Privacy

TeknoSpace shall encrypt sensitive user data (e.g., passwords, personal information) to protect it from unauthorized access.

The database contains a password when accessing, further protecting it from data breaches.

Users will sign up through their unique email addresses and id numbers ensuring no data mix-up will happen.

3.6 Design Constraints

These are the limitations or restrictions that need to be considered during the development of the system.

3.6.1 Security Requirements

Ensuring the implementation of HTTPS for secure communication.

Robust authentication and authorization mechanisms.

Protection against common web vulnerabilities.

Compliance with data protection regulations.

3.6.2 Scalability and Performance

Designing a scalable architecture to handle increasing traffic and data volume.

Performance optimization to achieve fast response times.

Testing and monitoring to ensure efficient resource utilization.

3.6.3 Compatibility and Cross-Browser Support

The website should be compatible with modern web browsers including Chrome, Firefox, Safari, and Edge.

Responsive design principles should be followed to ensure usability on various devices and screen sizes.

3.7 Interfaces

There are several types of interfaces supported by our website system, namely: User Interface, Hardware Interface, Software Interface, and Communication Interface.

3.7.1 User Interfaces

Browser Compatibility: The user interface shall be compatible with any modern browser such as Chrome and Edge.

Implementation Tools: The user interface shall be implemented using HTML, CSS, JavaScript, JSON, and frameworks/libraries such as PHP.

3.7.2 Hardware Interfaces

Internet Connectivity: The application requires hardware for internet connectivity, including modems, WAN/LAN interfaces, and Ethernet cables.

User Devices: Ensure compatibility with a range of user devices, including desktops, laptops, tablets, and smartphones.

3.7.3 Software Interfaces

The system will communicate with various internal components and external services to provide comprehensive functionality. Key software interfaces include:

1. **Database Management System (DBMS):**
   - **MySQL:** For storing and managing user data, posts, comments, and other relevant information.
   - **phpMyAdmin:** Used as the backend for managing the MySQL database, providing a web interface for database administration tasks.
2. **Email Communication:**
   - **PHPMailer:** For sending password reset emails ensuring secure and reliable email delivery.
3. **File Storage:**
   - **Z.com Storage:** Utilized for storing attachments and media files uploaded by users as part of the Z.com web hosting services.
4. **Deployment:**
   - **Z.com:** Used as the deployment site for hosting the web application.