Loyola ICAM College of Engineering and Technology

SOFTWARE REQUIREMENTS SPECIFICATION

For

Portfolio Website

Prepared by:-

Andrews Helwin X
Mary Shivani S
Annie Priya S
Sofia J

Academic Year: *2023-2024*

Department of Information Technology

1. Introduction

1.1 Purpose

A portfolio Website for an individual is a versatile online platform that serves as a comprehensive showcase of their work, talents, and achievements, It encapsulates professionalism, enabling them to present their expertise and unique style to potential clients, collaborators, or employers. Though storytelling, it not only highlights the finished projects but also the creative process and problem-solving skills, fostering engagement and understanding. The digital presence bolsters credibility, aids in personal branding, and functions as a marketing tool to attract a wider audience. Additionally. It provides an accessible, 24/7 platform for displaying growth and maintaining control over one's online identity, making it an indispensable asset for anyone seeking to excel in their chosen field.This project describes the hardware and software interface requirements using ER diagrams and UML diagrams.

1.2 Document Conventions

- Entire document should be justified.
- Convention for Main title
  - Font face: Times New Roman
  - Font style: Bold
  - Font Size: 14
- Convention for Sub title
  - Font face: Times New Roman
  - Font style: Bold
  - Font Size: 12
- Convention for body
  - Font face: Times New Roman
  - Font Size: 12

1.3 Scope of Development Project

Creating a portfolio website for a single person involves a comprehensive scope of activities. The project begins by defining clear objectives and content strategies, which determine the purpose and content to be showcased on the website. Design and layout considerations encompass the visual elements and style that align with the individual's identity. Functionality, such as navigation menus and interactive features, must be decided upon, with choices between website builders, content management systems, or custom development. Ensuring search engine optimization, responsive design, and thorough testing are essential before deployment. Post-launch maintenance, performance optimization, marketing strategies, analytics integration, and documentation complete the project. Legal considerations, backup, and security measures are also important aspects to address. Regular feedback and iteration are crucial to continually improve the website's effectiveness in achieving its goals

1.4 Definitions, Acronyms and Abbreviations

JAVA -> platform independence
SQL-> Structured query Language
ER-> Entity Relationship
UML -> Unified Modeling Language
IDE-> Integrated Development Environment
SRS-> Software Requirement Specification
ISBN -> International Standard Book Number
IEEE ->Institute of Electrical and Electronics Engineers

1.5 References

➢Books

- Bulman, C., & Schultz, S. (Eds.). (2008). Reflective practice in nursing. West Sussex, UK: Blackwell Publishing.
- Dennison, R.D., Rosselli, J., & Dempsey, A. (2015). Evaluation beyond exams in nursing education. New York, NY: Springer Publishing Company.
- Oermann, M.H., & Gaberson, K.B. 2017). Evaluation and testing in nursing education. New York, NY: Springer Publishing Company.
- Timmins, F., & Duffy, A. (2011). Writing your nursing portfolio: A step-by-step guide. Berkshire, England: McGraw Hill.

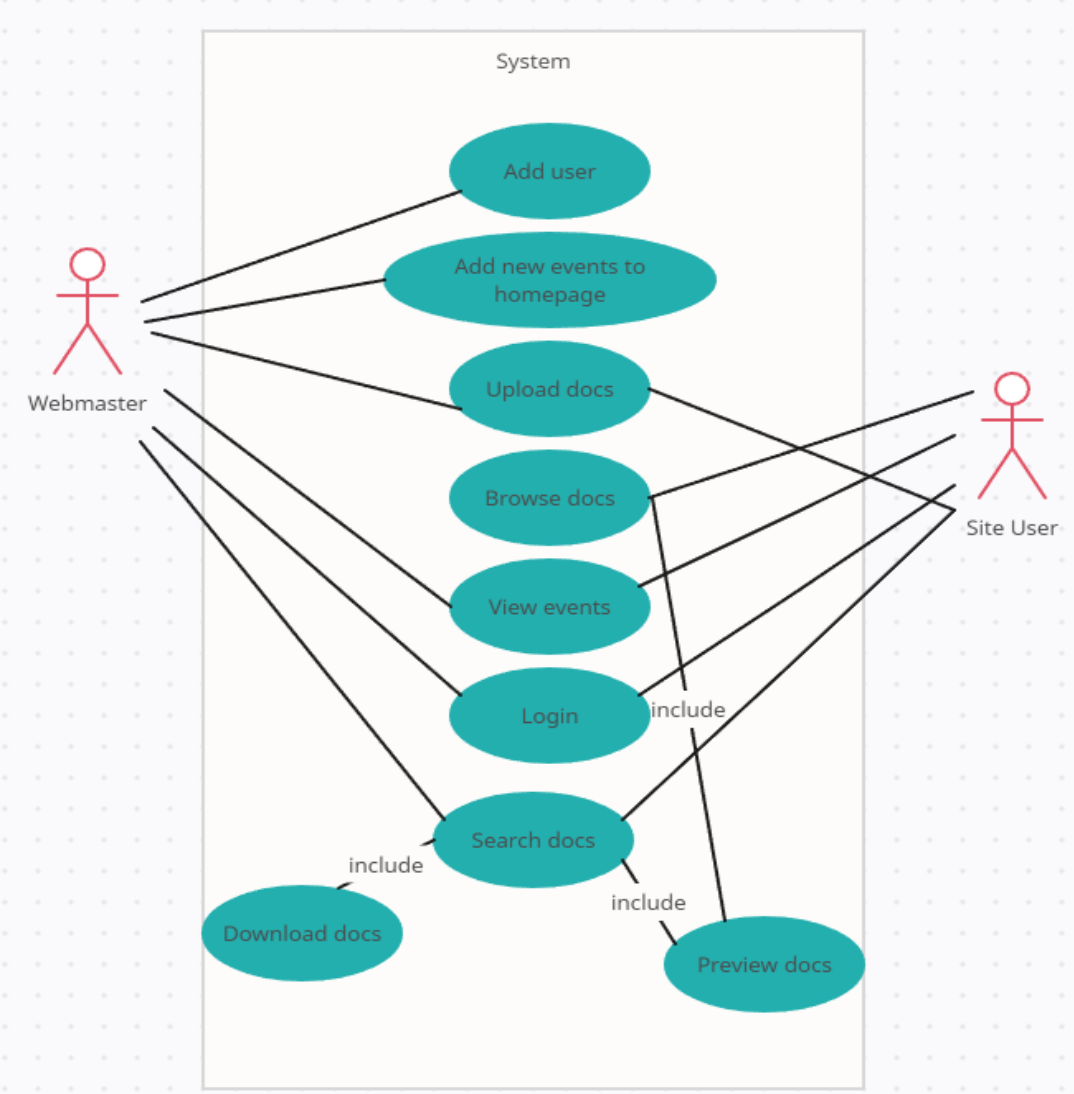
➢Websites

- **http://www.jarrekk.com/**
- **https://www.wix.com**

2. Overall Descriptions

2.1 Product Perspective

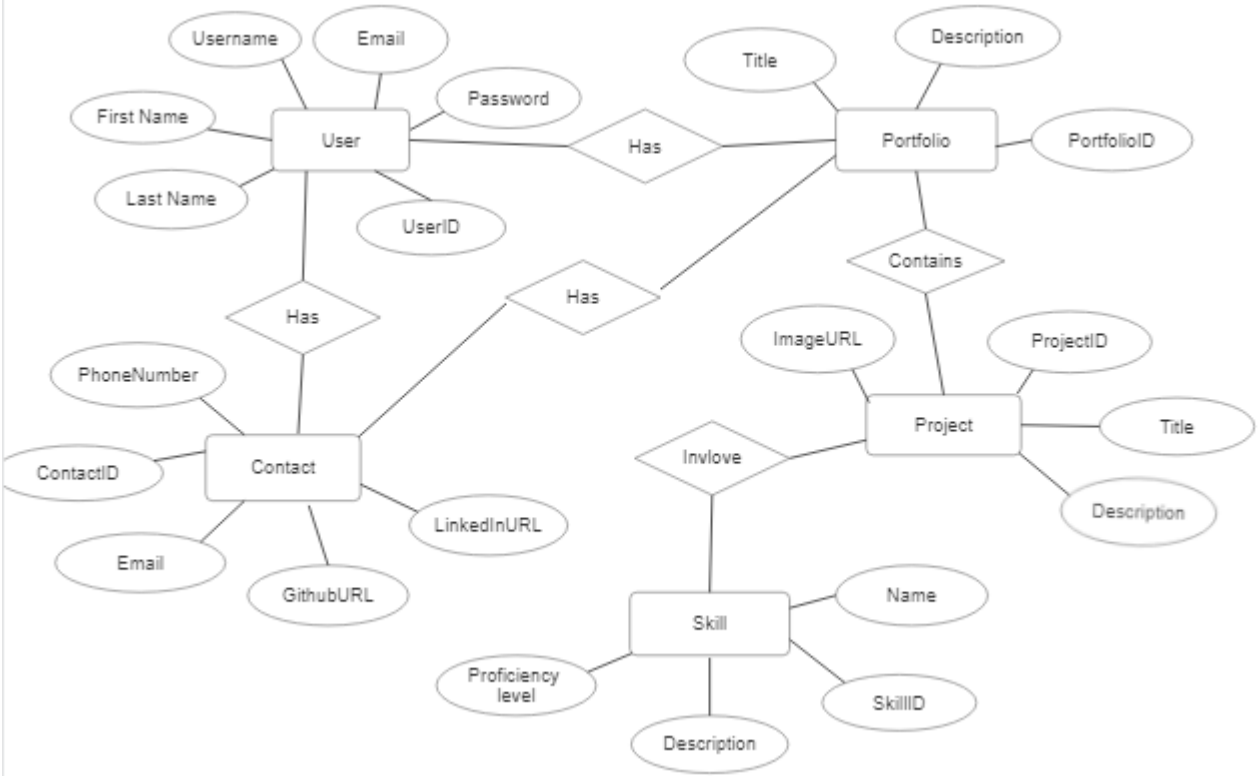
Use Case Diagram of Personal Portfolio Website.



The use case diagram outlines the high-level interactions and functionalities of the personal portfolio website from the perspective of the user. Depending on the specific features and functionalities of the website, additional use cases and actors may be added to provide a more detailed representation.This diagram outlines the primary interactions between users, the portfolio owner, and the contact functionality on the personal portfolio website.

2.2 Product Function

Entity Relationship Diagram of Library Management System



The Entity-Relationship (ER) diagram for the portfolio website project depicts the fundamental data entities and their associations within the system. It comprises five main entities: User, Portfolio, Project, Skill, and Contact. Users are central and can possess multiple portfolios, each containing numerous projects. Projects can involve various skills, facilitating a many-to-many relationship. Additionally, each User and Portfolio can have an associated Contact entity to manage communication details. This ER diagram serves as a blueprint for the database schema and data structure, enabling efficient organization and retrieval of information in the portfolio website, ensuring seamless user interaction and content management.

2.3 User Classes and Characteristics

Members (Students/Staff):
Characteristics: Students and university staff members are users accessing the portfolio website.
Key Actions: View portfolios and projects, explore skills, contact portfolio owners, and engage with project content.
Additional Features: Own an account to save favorite portfolios, request information, and view their interaction history.
Administrators/Controllers:
Characteristics: Librarians act as administrators or controllers with elevated privileges.
Key Actions: Manage portfolios and projects, edit content, handle user accounts, and access detailed reports.
Additional Features: Issue projects to members (students/staff), add, edit, or delete portfolios/projects, and

access accounts of all members for administrative purposes.

The system's user classes and characteristics for the Portfolio Website Project align with the specific roles and privileges of members (students/staff) and librarians (administrators/controllers). Members focus on exploring portfolios, projects, and skills, while librarians have additional responsibilities, such as content management and user account administration.

2.4 Operating Environment

The operating environment for the Portfolio Website Project is designed to be versatile and accessible, catering to a wide range of users across various devices and platforms. The web-based system ensures compatibility with commonly used web browsers such as Chrome, Firefox, Safari, and Edge, ensuring a seamless user experience regardless of the chosen browser. It is built to be responsive, adapting gracefully to different screen sizes and orientations, including desktops, laptops, tablets, and smartphones. The system leverages modern web technologies and frameworks to deliver optimal performance, while its server-side components are hosted on a secure and reliable infrastructure, guaranteeing high availability and efficient data handling. This versatile operating environment aims to provide users with a consistent, user-friendly, and accessible experience, enhancing their engagement with portfolios and projects.

2.5 Assumptions and Dependencies

Assumptions:

- Users accessing the portfolio website should have a stable internet connection to ensure uninterrupted access to the platform.
- The project assumes that users will access the website through modern web browsers with JavaScript enabled.
- The project relies on the availability and uptime of the hosting servers and associated services, assuming minimal downtime for routine maintenance and updates.
- It is assumed that users will provide accurate and up-to-date information when creating portfolios and projects.
- The project assumes that standard security practices and protocols will be followed by users, including strong password management and adherence to data access policies.

Dependencies:

- The project may depend on third-party services for features like email notifications, social media integration, or analytics.
- The project relies on the hosting provider for server infrastructure, security, and scalability.
- A stable and efficient database management system is essential for data storage and retrieval.
- The project may depend on specific web development frameworks, libraries, or plugins for various functionalities.
- The project depends on accurate and timely user input and content creation.
- The project relies on the global internet infrastructure, including DNS services, to ensure users can access the website.
- The project must comply with relevant laws and regulations, including data protection and privacy laws.

2.6 Requirement

Software Configuration:-

This software package is developed using java as front end which is supported by sun micro

system. Microsoft SQL Server as the back end to store the database.
Operating System: Windows NT, windows 98, Windows XP
Language: Java Runtime Environment, Net beans 7.0.1 (front end)
Database: MS SQL Server (back end)

Hardware Configuration:-
Processor: Pentium(R)Dual-core CPU
Hard Disk: 40GB
RAM: 256 MB or more

2.7 Data Requirement

The data requirements for a personal portfolio website project encompass user-related data, including user account information like usernames and emails for authentication, project details such as titles, descriptions, and images for showcasing work, feedback and comments from users on projects, contact messages sent to the website owner, owner information like bios and contact details, categorization data for organizing projects, and user preferences, particularly favorite projects. Additionally, metadata such as timestamps for tracking dates of project creation, feedback, and messages is essential. It's important to handle and store this data securely and in compliance with data protection regulations, with appropriate storage and retrieval mechanisms, and ensure data integrity and reliability throughout the project's lifecycle.

3. External Interface Requirement

3.1 GUI

The Project Portfolio Management System is designed to provide users with a robust platform for managing project portfolios. The GUI is user-centric, offering an intuitive interface that allows users to efficiently create, track, and analyze projects within their portfolios. The primary users of this interface include project managers, team leads, and stakeholders who need to oversee and make informed decisions about multiple projects. The interface is designed to accommodate both novice and experienced users.

Menus:

The system features a top-level navigation menu that provides access to core functionalities such as creating new projects, managing portfolios, and accessing user settings. Submenus are organized hierarchically for ease of navigation.

Navigation Bar:

The navigation bar remains fixed at the top of the screen, offering quick access to essential features like notifications, user profile settings, and search functionality.

Dashboard:

Upon login, users are presented with a customizable dashboard displaying key project metrics and portfolio overviews. Users can personalize their dashboard layout to suit their preferences.

Project List:

The project list provides a detailed view of all projects within a portfolio. It includes columns for project name, status, owner, and due date. Users can sort and filter projects for easy access.

Project Details:

Clicking on a project in the list opens a detailed project view. Here, users can access project descriptions, task lists, attachments, and progress tracking. Interactive charts and graphs offer a visual representation of project performance.

Filters and Search:
To facilitate project discovery, the GUI includes filters and a search bar. Users can filter projects based on status, owner, and other criteria. The search bar allows for quick project retrieval using keywords.
Forms:
Forms are used for project creation, editing, and data entry. They include input fields, checkboxes, and dropdown menus. Input validation ensures data integrity.
Notifications:
Users receive real-time notifications for project updates, task assignments, and important deadlines. Notifications are presented as non-intrusive pop-ups and in a dedicated notifications center.

4. System Features

- Users can create and manage multiple projects, categorizing them within portfolios.
- Efficiently create, assign, and track tasks with notifications for updates and deadlines.
- Generate reports, visualize data with charts, and access essential performance indicators.
- Enable real-time collaboration through messaging, forums, and document sharing.
- Ensure secure user authentication, role-based access control, and data privacy.

5.1 Performance Requirement

The Project Portfolio Management System is expected to exhibit robust performance characteristics to ensure an efficient user experience. This includes rapid response times, with a goal of responding within 2 seconds for standard operations. The system should comfortably accommodate a minimum of 100 concurrent users and support efficient data loading, report generation, and database queries, even with extensive datasets. Scalability is a key consideration, allowing for a 20% annual growth in data and users without significant performance degradation. Additionally, robust error handling, security measures, and data backup and restoration processes should be in place to maintain system availability and data integrity while ensuring seamless third-party integrations and cross-browser compatibility.

5.2 Safety Requirement

The safety requirement for the Project Portfolio Management System centers on data integrity and disaster recovery. The system must implement regular data backups and have a robust data restoration process in place to minimize the risk of data loss due to technical failures, ensuring business continuity and safeguarding critical project information. Additionally, user access controls and encryption measures must be implemented to protect sensitive project data and maintain confidentiality, thereby promoting a secure and safe environment for users.

5.3 Security Requirement

Security is paramount for the Project Portfolio Management System. The system must employ strong authentication mechanisms, including multi-factor authentication, to ensure that only authorized users access sensitive project data. Role-based access control should be in place to restrict data access based on user roles. Data encryption should be employed both in transit and at rest to protect data from

unauthorized access. Regular security audits and vulnerability assessments should be conducted to identify and mitigate potential security risks proactively.

5.4 Requirement attributes

Each requirement within the project must be tagged with specific attributes such as priority (e.g., high, medium, low), status (e.g., proposed, approved, implemented), and source (e.g., stakeholder request, regulatory compliance). These attributes aid in requirement management, tracking, and traceability, ensuring that the project team can effectively prioritize, monitor, and assess the status of each requirement throughout the project lifecycle.

5.5 Business Rules

The Project Portfolio Management System must adhere to a set of business rules to govern its operations effectively. These rules include project categorization and portfolio organization standards, project naming conventions, and approval workflows for new project creation. Additionally, business rules may specify how financial data, such as project budgets and expenditures, are handled and tracked. These rules serve as a foundation for consistent and standardized project and portfolio management practices, aligning the system with the organization's specific operational requirements and objectives.

5.6 User Requirement

User requirements for a personal portfolio website encompass several key elements to ensure a satisfying user experience. The website should feature an intuitive and visually pleasing design, adapting seamlessly to various devices. It must prominently showcase your portfolio items, allowing for detailed descriptions and images while enabling categorization for easy navigation. An "About Me" section introduces visitors to your identity and skills, accompanied by a professional photograph. Contact information, including email, phone, and social media links, should be readily accessible, along with an optional contact form. You may include a downloadable resume or CV in PDF format and a blog section for sharing insights. Testimonials and endorsements provide social proof, while a section for skills, education, and work experience establishes your credibility. Customization options, search functionality, and site performance optimization are vital. Prioritizing security, privacy, analytics, SEO, accessibility, and maintenance ensures a well-rounded and user-friendly portfolio website. Additionally, mobile app integration and compliance with legal requirements, such as privacy policies, may be necessary depending on your content and goals.

The admin provides certain facilities to the users in the form of:-

- User-Friendly Design
- Portfolio Display
- About Me Section
- Contact Information
- Skills and Expertise
- Education and Work Experience
- Security and Privacy

6. Other Requirements

6.1 Data and Category Requirement

A personal portfolio website necessitates comprehensive data and category requirements to effectively showcase your work and identity. Data elements include project titles, descriptions, images, your name, biography, contact details (email, phone, and social media links), resume/CV, blog posts, testimonials, skills, educational history, work experience, and customizable design attributes (colors, fonts, themes). Categories

should encompass projects, blog posts, and skill sets for organized presentation. These elements collectively offer a well-rounded profile, facilitating engagement, and easy navigation for visitors exploring your portfolio and getting in touch.

6.2 Appendix

A: Admin, Abbreviation, Acronym, Assumptions; B: Books, Business rules; C: Class, Client, Conventions; D: Data requirement, Dependencies; G: GUI; K: Key; L: Library, Librarian; M: Member; N: Non-functional Requirement; O: Operating environment; P: Performance,Perspective,Purpose; R: Requirement, Requirement attributes; S: Safety, Scope, Security, System features; U: User, User class and characteristics, User requirement;

6.3 Glossary

The following are the list of conventions and acronyms used in this document and the project as well:

- Administrator: A login id representing a user with user administration privileges to the software
- User: A general login id assigned to most users
- Client: Intended users for the software
- SQL: Structured Query Language; used to retrieve information from a database ➢ SQL Server: A server used to store data in an organized format
- Layer: Represents a section of the project
- User Interface Layer: The section of the assignment referring to what the user interacts with directly
- Application Logic Layer: The section of the assignment referring to the Web Server. This is where all computations are completed
- Data Storage Layer: The section of the assignment referring to where all data is recorded ➢ Use Case: A broad level diagram of the project showing a basic overview ➢ Class diagram: It is a type of static structure diagram that describes the structure of a system by showing the system's cases, their attributes, and the relationships between the classes
- Interface: Something used to communicate across different mediums
- Unique Key: Used to differentiate entries in a database

6.4 Class Diagram

The class diagram for the portfolio website project provides a comprehensive overview of the primary classes and their attributes, highlighting the core structure of the system. The central classes include User, Portfolio, Project, Skill, and Contact. Users are characterized by attributes such as username, password, and email, while Portfolios encompass properties like title and description. Projects feature attributes like title, description, and image, and can be associated with multiple Skills through a many-to-many relationship. Skills are defined by attributes such as name, description, and proficiency level. The Contact class, while versatile, holds attributes

like email, phone number, and social media links. The diagram also clearly illustrates relationships such as users owning portfolios, portfolios containing projects, and projects involving skills, thereby serving as a crucial reference for the project's software architecture and development process.