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**FINAL YEAR PROJECT PROPOSAL**

**Project**: University CSR Forum

**Student Name**: Do Khac Quan

**Student ID**: 001358195

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# 1. Project Overview

The “University CSR Forum” project was selected as the final year graduation project topic. The author chooses this topic because this is an essential for fostering a collaborative and innovative academic environment. Universities serve as hubs of knowledge and development, and by focusing on CSR, which is standing for Connect, Sharing, and Renovation, this platform will enable students, faculty, and industry professionals to bridge gaps, exchange valuable insights, and drive forward-thinking solutions.

**Front-End Stack:**

* **HTML:** HTML, which stands for Hyper Text Markup Language, serves as the standard markup language for crafting web pages. IT acts as the fundamental building block of the Worl Wide Web, outlining the structure if web content through various tags and attributes. These tags and attributes aid in formatting text, incorporating images, establishing links, and defining layout. Web browsers interpret HTML documents to present content to users. With HTML, web developers can construct organized documents by utilizing elements that delineate the document’s structure and meaning. These elements consist of tags enclosed in angle brackets, typically appearing in pairs where one marks the beginning of an element and the other marks its end. Furthermore, HTML permits the inclusion of scripts and style sheets, facilitating the creation of dynamic and visually appealing web pages (MDN, 2023).
* **CSS:** CSS, which stands for Cascading Style Sheet, is a style sheet language used to define the presentation and layout of HTML documents. It works alongside HTML to enhance the visual appearance of web pages by specifying how HTML elements should be displayed on screen, in print, or in other media. Through CSS, developers can manage different elements of a webpage’s look, such as colors, fonts, spacing, borders, and positioning. This separation of content and presentation enabled by CSS simplifies the maintenance and modification of a website’s style across numerous pages (MDN, 2023).
* **JavaScript:** JavaScript is a high-level, interpreted programming language primarily used for creating dynamic and interactive web pages. Initially conceived by Netscape as a scripting language for client-side operations, JavaScript has expanded its capabilities to become adaptable for server-side functions and for constructing applications for desktops and mobile platforms (MDN, 2023). With JavaScript, developers can incorporate interactively, animations, and intricate features into web pages. Its applications span a wide range of tasks including form validation, manipulation of HTML and CSS, event handling, creation of web-based games, development of web applications, and numerous other functionalities.
* **React:** Based on (GeekforGeek, 2023), React is a widely used JavaScript library designed for constructing user interfaces, especially in single-page applications requiring extensive dynamism and interactivity. Developed by Facebook, react is celebrated for its effectiveness and adaptability in generating reusable UI elements.
* **Tailwind CSS:** Tailwind CSS is a helpful tool for styling web pages. It offers a bundh of ready-to-use classes that developers can apply to elements to style them quickly. Unlike other CSS frameworks that give developers pre-made components and layouts, Tailwind CSS gives developers smaller classes that can use directly on HTML elements (Roy, 2022).

**Back-End Stack:**

* **JavaScript (NodeJS) with Express:** Node.js is a runtime environment that allows developers to run JavaScript on the serve-side. It used the engine that powers Google Chrome to execute JavaScript code outside of web browsers. With Node.js, developers can create powerful and scalable network applications, like web servers and APIs, using JavaScript. On the other hand, Express.js is a Node.js framework which comes with a wide range of tools for constructing web applications and APIs, such as routing, middleware support, and templates engines. Express.js streamlines the creation of server=side logic and management of HTTP request and responses within Node.js applications. Express.js is known for being lightweight, adaptable, and extensively utilized in the Node.js community for creating web applications (GeekfroGeek, 2023).
* **MongoDB:** MongoDB is an open-source database built for efficiently managing large-scale data. It is part of the NoSQL database category, meaning it doesn’t organize data into tables for storage and retrieval. Developed and maintained by MongoDB.Inc under SSPL license, MongoDB offers official driver support for popular programming languages like C, C++, C#, .NET, Go, Java, Node.js, Perl, PHP, Python, … This allows developers to create applications using their preferred language (GeekforGeeks, 2021).

**DevOps and Deployment:**

* **Git / GitHub**: Git is a distributed version control system (DVCS) designed to track changes in source code during software development. It was created by Linus Torvalds, the same developer who created the Linux Kernel, and it is widely used by developers and teams to collaborate on projects, manage code changes, and track revisions. On the other hand, GitHub is a web-based hosting service for Git repositories. It provides a platform for developers to host their Git repositories, collaborate with others, and manage their projects using Git’s version control features.
* **Cloud Platform** – Render: Render is a hosting service that offers a platform for developers to deploy and manage web applications, websites, and backend services. Render aims to simplify the deployment process by providing a streamlined platform with features tailored to modern development workflows.

**Development Methodology:**

* **Agile Methodology:** Agile Method is used to minimize risks (such as bugs, cost overruns, and changing requirements) when adding new functionality. There are many different forms of agile development methods, including scrum, crystal, extreme programming (XP), and feature-driven development (FDD). The main benefit of agile method that is allow software to be released in iterations. Iterative releases improve efficiency by allowing teams to find and fix defects and align expectations early on.

**Key Phase:** Web Technologies, Front-End Development, Back-End Development, Methodologies, Deployment, DevOps.

# 2. Project Aim

* The first goal of the project is given with a long-term development perspective. Currently the project is designed and developed independently, to create a long-term development path with this project, a team is needed. With a solid team, the project will be able to develop more things and each highlight of the product will attract many users interested in this social networking platform.
* The second goal of the project is aimed at the present time. With not many human resources, ensuring compliance with the planned schedule brings quite a lot of risks. But the result is an acceptable product. To achieve that, developers are required to focus and do their best.

# 3. Objectives

|  |  |  |
| --- | --- | --- |
| **Stage** | **Activities** | **Deliverables** |
| **Planning** | Gathering Requirements | SRS Documentation |
| Analysis and Prioritization | Wireframe Design |
| Develop User Stories | Product Backlog |
| Define Acceptance Criteria | Sprint Backlog |
| Prototyping (Wireframe) | Acceptance Criteria |
| Create Backlog |  |
| Write documentation |  |
| **Design and Development** | Design System Architectural | Design Documentation |
| Design User Interface | UI Assets (Mockup, Prototype) |
| Coding | Source Code |
| Write Unit Test | Testing Report |
| Review Code |  |
| Refactoring Code |  |
| Write Documentation |  |
| **Sprint Feedback** | Sprint Review | Sprint review report |
| Demo Product | Lessons Learned |
| Review Sprint Result |  |
| Update Product Backlog |  |
| **Repeat stages** | Planning | Updated Backlog |
| Design and Development | Updated Documentation |
| Sprint Feedback | Sprint Review Report |

# 4. Legal, Social, Ethical and Professional (LSEP).

**Legal Issues:** Legal issues in software development include many worries about who own the ideas, promises written down between parties, responsibility, following rules and other … (mDevelopers, 2023).

Below are the details of legal issue that the author needs to be considered when develop “Cuisine Hub” project:

Table 1: Legal Issues

|  |  |
| --- | --- |
| **Legal Issues** | **Description** |
| **Intellectual Property Rights** | Protecting intellectual property is crucial in software development. Issues can arise regarding copyrights, trademarks, and patents. Developers need to ensure they have the legal right to be use, distribute, and modify any code of assets they incorporate into software. |
| **Open-Source Licensing** | Many developers use open-source libraries and framework in projects. Understanding the terms of various open-source licenses is essential to avoid legal disputes. Some licenses require attribution, while others impose restrictions in commercial use or distribution |
| **Contracts and Agreements** | Clear and comprehensive contracts are vital for outlining the rights and responsibilities of all parties involved in software development projects. Contracts should address project scope, timelines, payment terms, intellectual property ownership, warranties, and liability limitations |
| **Data Protection and Privacy** | With the increasing focus on data protection regulations like GDPR and CCPA, software developers must ensure their products comply with relevant privacy laws. This involves implementing appropriate data security measures, obtaining user consent for data collection and processing, and providing transparency about how data is handled. |
| **Accessibility Compliance** | Accessibility laws require software products to be accessible to individuals with disabilities. Failure to comply with accessibility standards can lead to legal challenges and reputational damage. Developers should consider accessibility requirements from the early stages of product development. |

**Social Issues**: Social issues in software development include a lot of worries about doing the right thing, making sure everyone feels included no matter who they are, making programs easy for everyone to use. Keeping personal stuff private and safe and thinking about how technology affects society.

Below are the details of social issue that the author needs to be considered when develop “Cuisine Hub” project:

Table 2: Social Issues

|  |  |
| --- | --- |
| **Social Issues** | **Description** |
| **Ethical Considerations** | Software developers face ethical dilemmas in designing and implementing technologies that can have significant society impacts. Ethical consideration may include issues such as algorithmic bias, data privacy, surveillance, and the ethical use of AI. |
| **Diversity and Inclusion** | Diversity and inclusion in the tech industry have become increasingly important topics. Software development teams should strive to be diverse and inclusive, representing |
| **Accessibility** | Ensuring that software is accessible to individuals with disabilities is a social responsibility. Developers should consider accessibility requirements from the outset of the design process, including features such as screen readers, keyboard navigation and alternative text for images. |
| **Privacy** | Privacy concerns arise as technology becomes more pervasive in daily lives. Software developers must prioritize user privacy by implementing robust data protection measures, obtaining informed consent for data collection and processing, and being transparent about how user data is used and shared |
| **Security** | Cybersecurity is a critical social issue in software development. Developers must prioritize security throughout the development process, including secure coding practices, regular security testing, and timely patching of vulnerabilities. Failure to address security issues can lead to data breaches, identity theft, and other harmful consequences. |

**Ethical Issues**: Ethical issues in software development are about thinking about what is right or wrong when we make and use technology. These problems often mix with social worries and include thinking about being fair, making things clear, taking responsibility, and thinking about how technology affects people, and society (Scale, 2023).

Below are the details of ethical issue that the author needs to be considered when develop “Cuisine Hub” project:

Table 3: Ethical Issues

|  |  |
| --- | --- |
| **Ethical Issues** | **Description** |
| **Algorithms Bias** | Algorithms bias refer to the potential for algorithms to produce unfair or discriminatory outcomes due to inherited biases in the data used to train them or in the design of the algorithms themselves. |
| **Unethical data collection** | Unethical data collection in software development refers to the acquisition, storage, or use of data in ways that violate ethical principles or compromise individuals’ privacy, autonomy, or rights. |
| **Wrong Priorities** | Wrong Priorities refer to situations where software development projects or decisions prioritize factors such as profit, speed, or convenience over ethical considerations, societal impact, or the well-being of users. |
| **Weak Security** | Weak Security refers to the failure to adequately protect software systems, applications, and data from unauthorized access, breaches, or cyber-attacks. This can have serious consequences for individuals, organizations and society as a whole |

**Professional Issues**: Professional Issues in software development include thinking about how people behave, what they are responsible for, how they can get better at their jobs as software developer. These problems are important for being good at what they do, making sure programs are good, and making work a nice place to be.

Below are the details of professional issue that the author needs to be considered when develop “Cuisine Hub” project:

|  |  |
| --- | --- |
| **Professional Issues** | **Description** |
| **Code of Ethics** | Software developers should adhere to a code of ethics that outlines ethical principles and standards of conduct in their profession. Codes of ethics, such as those provided by professional organizations like the Association for Computing Machinery (ACM) or the IEEE Computer Society, help guide ethical decision-making and behavior in the industry. |
| **Professionalism and Integrity** | Software developers are expected to conduct themselves with professionalism and integrity in their interactions with clients, colleagues, and stakeholders. This includes being honest and transparent, delivering high-quality work, and honoring commitments and deadlines. |
| **Continuous Learning and Skill Development** | The field of software development is constantly evolving, and developers must engage in continuous learning to stay current with new technologies, tools, and best practices. Professional development activities such as attending conferences, taking courses, and participating in workshops are essential for maintaining and improving skills. |
| **Team Collaboration and Communication** | Effective collaboration and communication are essential for success in software development projects. Developers must work closely with team members, including designers, testers, and project managers, to understand requirements, share knowledge, and coordinate efforts effectively |
| **Project Management and Time Management** | Software developers must be proficient in project management and time management to deliver projects on time and within budget. This includes setting realistic goals, prioritizing tasks, and managing resources efficiently |

# 5. Project Planning

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**Figure 1: Product Backlog**

# 6. References

* Alliance, A., 2023. *What is Agile?.* [Online]   
  Available at: https://www.agilealliance.org/agile101/  
  [Accessed 13 September 2023].
* Brimble, L., 2020. *More than 70% of adults use social media for recipes instead of cookbooks, survey finds.* [Online]   
  Available at: https://www.independent.co.uk/tech/recipes-online-cookbooks-food-inspiration-social-media-facebook-instagram-b1397624.html  
  [Accessed 13 September 2023].
* GeekforGeek, 2023. *React Introduction.* [Online]   
  Available at: https://www.geeksforgeeks.org/reactjs-introduction/  
  [Accessed 13 September 2023].
* GeekforGeeks, 2021. *What is MongoDB – Working and Features.* [Online]   
  Available at: https://www.geeksforgeeks.org/what-is-mongodb-working-and-features/   
  [Accessed 13 September 2023].
* GeekfroGeek, 2023. *Node vs Express.* [Online]   
  Available at: https://www.geeksforgeeks.org/node-js-vs-express-js/   
  [Accessed 12 September 2023].
* mDevelopers, 2023. *Legal Issues in Software Development.* [Online]   
  Available at: https://mdevelopers.com/blog/legal-issues-in-software-development  
  [Accessed 2024 September 2023].
* MDN, 2023. *HTML: HyperText Markup Language.* [Online]   
  Available at: https://developer.mozilla.org/en-US/docs/Web/HTML  
  [Accessed 13 September 2023 2023].
* MDN, 2023. *JavaScript.* [Online]   
  Available at: https://developer.mozilla.org/en-US/docs/Web/JavaScript   
  [Accessed 13 September 2023].
* MDN, 2023. *What is CSS?.* [Online]   
  Available at: https://developer.mozilla.org/en-US/docs/Learn/CSS/First\_steps/What\_is\_CSS  
  [Accessed 13 September 2023].
* NodeJS, 2023. *About Node.js.* [Online]   
  Available at: https://nodejs.org/en/about  
  [Accessed 13 September 2023].
* Roy, S. D., 2022. *What is Tailwind CSS? A Beginner's Guide.* [Online]   
  Available at: https://www.freecodecamp.org/news/what-is-tailwind-css-a-beginners-guide/  
  [Accessed 13 September 2023].
* Scale, F., 2023. *Ethical Issues in Software Development: Balancing Technical and Moral Responsibility.* [Online]   
  Available at: https://fullscale.io/blog/ethical-issues-in-software-development/   
  [Accessed 14 September 2023].