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| ICT30017 - ICT PROJECT A |
| PROJECT SPECIFICATION |
| PORTFOLIO TASK 2 |

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| SUBMITTED: 08/0/2024.  SUBMITTED: 15/03/2024 |

GROUP 2

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1. **Acknowledgement of Country**

We acknowledge the traditional custodians of the land on which we gather, the Wurundjeri people of the Kulin Nation, and pay our respects to their elder’s past, present, and emerging. We recognize their continuing connection to the land and culture and honour the significant role they play in shaping the identity and history of this region.

1. **Contributions**

**2.1. Rubie Stannard: 103982732**

I contributed to this task by making the document, adding the cover page, table of contents, tables, headings, writing the acknowledgement of country, and the aim and purpose of the project.

**2.2. Qiao Jun Chan: 103490604**

I have contributed to defining the project scope by detailing the inclusions, exclusions, and limitations. Furthermore, the project's progress will be aligned with the established timeline.

**2.3. Dylan Morrison: 101111673**

I contributed to this task by developing the problem statements key points, and by contributing to discussion around the scope of the project and its features.

**2.4. Mingyuan Wang: 104195667**

I contributed to this document by editing the objective and brainstorming the features.

**2.5. Henry Hua Rong Wang Hong: 104792738**

I participated in the team discussion and completed the part about stakeholders.

**2.6. Tan Dat Do: 103498255**

I contributed to the team task by actively participating in the development of the requirement specification, where I provided ideas to enhance the document.

1. **Problem Statement**

Aged care services are currently marked by the widespread use of different and disconnected software solutions, leading to significant inefficiencies, risks, compromises in patient care, and multitudes of challenges stemming from this fragmented approach.

Using disconnected and different software systems requires data to be manually entered across multiple platforms which is likely to increase the risk of data errors in aged care services as the software is not shared at the same time. In addition, this results in excessive time waste meaning the navigation and management of various tasks leads to operational inefficiencies and excessive time wastage. As well as errors in data and time wasted, the effectiveness of communication and coordination between elderly people and caregivers can be hindered, impacting the timeliness and accuracy of care delivery, leading to missed tasks, overlooked concerns, and delayed responses. Lastly, mismatched information between multiple software platforms, such as medication dosages, and asynchronized inventory, could lead to incorrectly administered medications, resulting in harm to the elderly.

The purpose of this project is to address the inherent challenges mentioned above, and by addressing these shortcomings of using disconnected and different software, our aim is to deliver a platform to enhance operations and accuracy, improve quality of care provided to elderly individuals, and promote better outcomes for elderly individuals in aged care facilities, improving overall organizational effectiveness within aged care facilities.

Through the use of HTML, CSS, and JavaScript for frontend development, and the integration of a relational SQL database management system for storing data securely, our objective is to develop a fully functional, responsive, user-friendly, and accessible website over a 12-week period that implements separate web pages for each essential feature.

1. **Scope**

The primary objective of this project is to conceptualize, design, and develop a comprehensive aged care management system. The system will encompass administrative tasks such as inventory management, and service management, while featuring various modules tailored to different aspects of aged care, such as in-home and residential care management, resident management, staff scheduling, medication tracking, and communication with families. By integrating these various modules and functionalities, we will be able to achieve our goal of developing a fully functional platform that addresses critical aspects of aged care provision while prioritizing the well-being and satisfaction of elderly clients and significantly benefiting aged care facilities by streamlining their operations.

Included in our project will be elderly client management, carer profiles containing carer details, scheduling, up to date health and safety regulations, administrative tasks, and the asked for various software modules and features. We won’t include anything related to bill payment or management due to the team's lack of expertise and knowledge in implementing this specific feature, and the mutual agreement between the team about why we don’t need to incorporate this function.

As a team composed of university students, we recognize our constraints and limitations in professional knowledge related to aged care services, which could affect our ability to meet specific needs and compliance requirements. Our time constraints, stemming from academic commitments, have restricted the amount of effort we can dedicate to development, which will potentially limit the depth of development efforts and project outcomes. The complexity of the software system we are developing may also be impacted by our limited technical skills, influencing the complexity and functionality of the developed software. Finally, our resources are limited due to the project budget being $0, necessitating the utilization of free software solutions to develop this system.

The lifecycle of this project is 12 weeks, and over these 12 weeks we must complete a weekly worklog, amounting to 12 in total, 2 peer reviews, 7 reports, and a working website. The Gantt Chart below is representing our project’s timeline spread over 12 weeks. The project is divided into four stages which are preparation, planning, execution, and review, as well as the number of days allocated to each task. The chart is for tracking project progress and ensuring tasks are completed within the time frames.

A screenshot of a computer

Description automatically generated

1. **Stakeholders**

The success of any project is tied to the involvement and satisfaction of stakeholders, and in the case of this project, they encompass a diverse range of individuals and entities, each with unique interests, roles, and contributions. Recognizing and addressing the needs of these stakeholders will help ensure the effectiveness of what we deliver.

**5.1. Elderly People**

The elderly are the most important indirect stakeholders because the purpose of this management system is to improve their quality of life, and provide them with better services, care, and support.

**5.2. Carers**

Carers’ use the management system so they can reasonably allocate and arrange tasks according to the needs of the elderly. The updated system can reduce the workload for these direct stakeholders, allowing them to focus more on providing good care.

**5.3. Aged Care Providers**

For aged care providers, the emergence of the management system will improve operational efficiency, task allocation, family communication, and work efficiency. Their ability to understand organizational performance and maintain trust with family members is essential, underscoring their direct stakeholder role in the project's success.

**5.4. Administrative Staff**

Administrative staff managing resources and organizational data, cementing their role as a direct stakeholder whose workflow will be improved through better resource management and more secure data storage.

**5.5. Young Developers**

Our involvement and contributions are vital for project success, making us direct stakeholders in achieving project goals and objectives. We will be developing the new system, and through the completion of the project we will have experienced learning opportunities, developed new skills and abilities, and possible increased our reputation as developers.

**5.6. Family**

Family members of elderly individuals are deeply invested in their loved ones' well-being, and they rely on the system to stay informed and collaborate effectively with caregivers, making them indirect stakeholders of this project.

1. **Requirement Specifications**

In order to ensure the successful development and delivery of this project, we have to establish clear and comprehensive requirement specifications that provide a framework for effective planning, execution, and evaluation of the project's progress. Each specification plays a vital role in shaping the project's trajectory and ensuring its alignment with marking and time limits.

**6.1. Functional Requirements**

**User Authentication and Access Control**

* Process: Validate user credentials (username and password) against a secure database during login.
* Outcome: Grant access to specific features based on user roles (e.g., administrator, staff, family member).

**Data Management**

* Elderly Information:
  + Process: User enters information through web forms.
  + Validate data on the server-side to ensure accuracy and completeness.
  + Securely store data in a well-designed SQL database schema.
* Staff Information, Facility Resources, Inventory:
  + Similar process to Elderly Information, with specific data fields for each category.
* In-Home Care Booking:
  + Process: User selects service dates and checks availability.
  + System verifies availability and confirms booking upon user request.
  + Store booking details in the database.

**Communication**

* Process: Users interact with a real-time messaging interface.
* System transmits messages between authorized users and generates notification alerts.

**Information Display**

* Process: System retrieves relevant data from the database based on user access and feature requirements.
* Display information on web pages in a user-friendly format.

**Scheduling**

* Process: Users update staff roles and assignments through an interactive interface.
* System validates changes and reflects them in real-time on the schedule.
* Store updated schedules in the database.

**6.2. Non-Functional Requirements**

**User Interface and Design**

* Develop visually appealing and consistent layouts using HTML and CSS.
* Design user-friendly interfaces for all functionalities to ensure ease of use.

**Security**

* Implement secure authentication mechanisms to protect user credentials.
* Design a database schema that safeguards data integrity and confidentiality.

**Scalability and Performance**

* Choose technologies that can handle increasing data volume and user load.
* Optimize the system for efficient performance.

**Maintainability**

* Write clear and well-organized code to facilitate future modifications and updates.
* Create comprehensive documentation for developers and users.

**6.3. Processing Approach**

1. **User Interaction**

Users interact with the system through web forms, buttons, and the messaging interface.

1. **Data Processing**

The system validates, processes, and stores user input in the database.

1. **Business Logic**

The system applies business rules to manage tasks like booking availability checks and role assignments.

1. **Information Retrieval**

The system retrieves relevant data from the database based on user requests and feature requirements.

1. **Information Display**

The system presents information on web pages in a user-friendly format.