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| ICT30017 - ICT PROJECT A |
| SPRINT 2 REPORT |
| PORTFOLIO TASK 5 |

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| SUBMITTED: 08/0/2024.  SUBMITTED: 17/05/2024 |

GROUP 2

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5. **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 completing the report on sprint 2. Over the last 3 weeks of sprint 2, I coded multiple PHP pages, such as the inventory tables and forms, member tables and forms, staff tables and forms, and the corresponding CSS and HTML, for the team to look through and use. Once the code was put together, I went over it and looked at the spelling to make sure everything was alright.

**2.2. Qiao Jun Chan: 103490604**

I contributed to developing webpages for both general staff and admins, and created a database linked to them. In Sprint 1, I faced challenges in designing the structure of the webpages due to the unfinished wireframe and lack of technical skills. However, by browsing various aged care websites, I eventually finalized the design. During Sprint 2, I encountered difficulties using PHP to integrate the backend with the frontend, as I hadn’t been taught this before. I persisted in problem-solving and sought advice from online resources.

**2.3. Dylan Morrison: 101111673**

Through sprint 2, my contributions were creating JavaScript validation for forms, to ensure invalid data could not be used for the database storage of patients/staff. This was accomplished by limiting data to meet criteria such as length, type, or regular expressions in the more intricate cases such as phone number, email, and postcode. I also used enumerations that were suitable to simplify the data input for fields such as gender, state, and other binary options. Furthermore, I helped Maxy and Qiao with their implementations where possible, aiding them with consistency within pages, and against the test data Rubie had created for us.

**2.4. Mingyuan Wang: 104195667**

I mainly contributed to developing back-end web development for admins part based on Qiao Jun's design in sprint 2. We compared and combined the PHP pages and database with each other. At the same time, I helped fix Rubie's code and determined the final server. In Sprint 1, we faced challenges in designing the structure of the webpages. During that time, I developed pages of the patients and staff for the back end as the foundation of the frame. Because I know it needs a back end for software development, I started learning PHP from the start of semester. However, it's not very systematic and has some shortcomings. Even so, I got better improvement according to Qiao's innovative aged care websites design during Sprint 2.

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

In sprint 2 my main task was to review the HTML and CSS files designed in sprint 1. I also redesigned some HTML pages according to team members' requirements. In this report, I completed the lessons learned based on the teamwork experience in this project.

**2.6. Tan Dat Do: 103498255**

In sprint 1, I focused on completing the user interface. Initially, I encountered many difficulties because I was unaware of the group's progress and didn't know what to do. After conversing and discussing with the group, I realized the tasks I needed to accomplish. I completed other interfaces, such as creating separate interfaces for employees and admins. However, they needed to be consistent in colour and style while differing in content. With Qiao Jun help so I could finalize my task on time. In sprint 2, I did not contribute much because all the HTML files had been completed. My only task at this point was to provide feedback to other team members and finish the portfolio.

1. **Report on Sprint 2**

**3.1. Sprint 2 Plan**

**Week 8 - 22/04/2024 to 28/04/2024**

|  |  |
| --- | --- |
| **Task** | **Status** |
| Add code to the HTML pages | Complete |
| Add code to the CSS pages | Complete |
| Back-end PHP development | Complete |
| Write information for the databases | Complete |

**Week 9 - 29/04/2024 to 05/05/2024**

|  |  |
| --- | --- |
| **Task** | **Status** |
| Add the JavaScript | Complete |
| Add data to the databases | Complete |

**Week 10 - 06/05/2024 to 12/05/2024**

|  |  |
| --- | --- |
| **Task** | **Status** |
| Check for errors in the code | Complete |
| Review the website | Complete |

**3.2. Progress Made**

In the second sprint, the team made most of the planned progress, but had a difficult time checking everything due to server availability. Since the tasks for this sprint were the tasks from the first sprint, things went better in terms of progress. The tasks that were completed were all of the week 8 tasks of adding code to the HTML and CSS pages, coding the back-end PHP, and writing profile details for the databases.

A project requirement was scheduling. This was about aged care facilities having different types of staff to manage aged care services and their roles as well as the assignment of services needing to be kept track of. The timetable part of the scheduling feature is shown in the first image. Role assignment was added to the website.

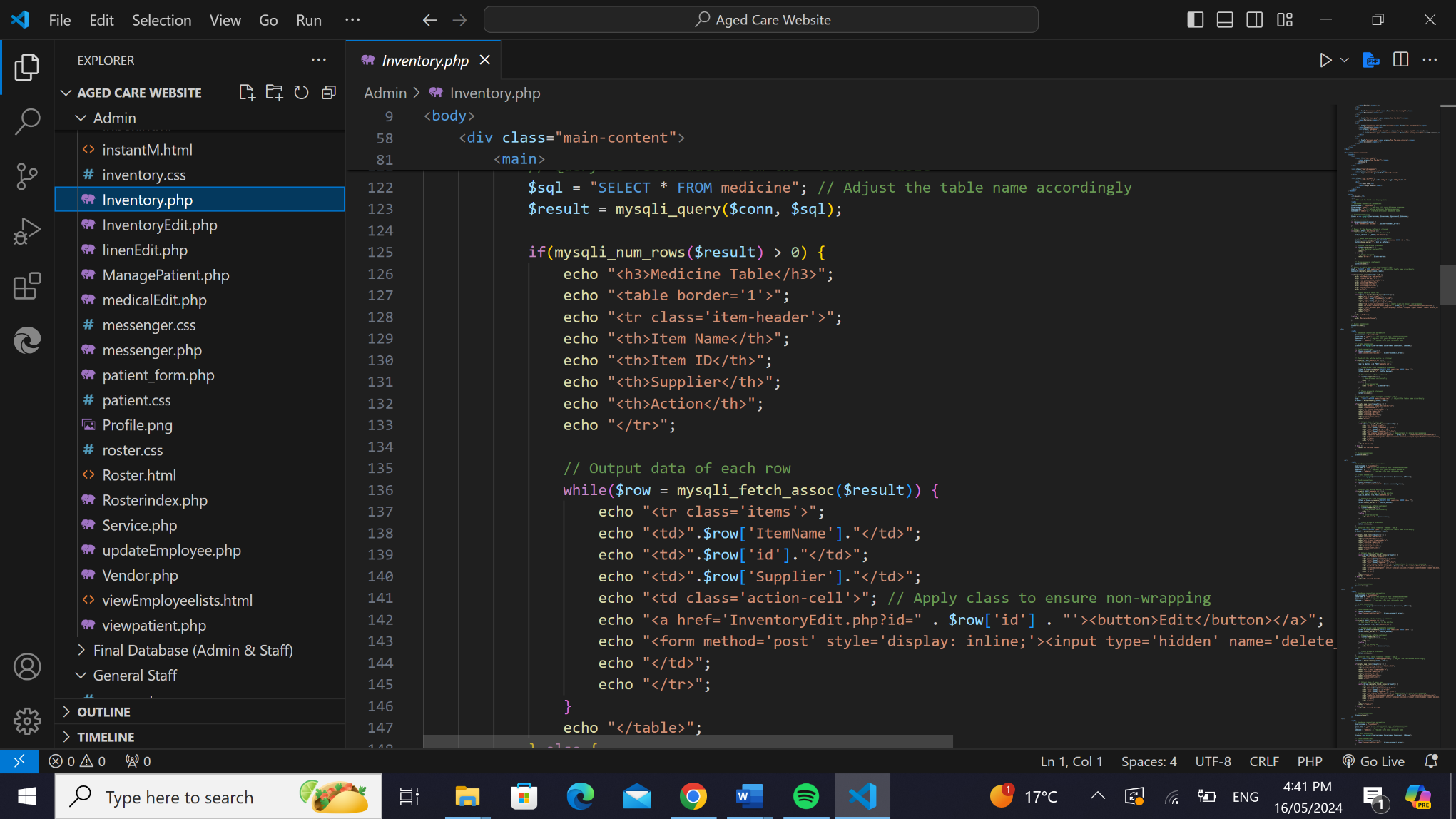
Another requirement was service management where different type of service offered to elderly people had the duration and up to date report on the service and staff associated with the services. This was implemented in the services page.

A screenshot of a computer

Description automatically generated

*Image 1: Week 8 task 1 and task 2 code added to HTML and CSS pages.*

The project requirements involved having inventory management to keep track of the daily commodities, medication, and other necessary goods. The inventory management was achieved through the use of PHP, which can be seen in the image below.



*Image 2: Week 8 task 3 back-end PHP.*

A screenshot of a computer

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*Image 3: Week 8 task 4 database information.*

Week 9 had 2 tasks which were adding JavaScript code to the website to calculate the total cost of the inventory and adding the data to the databases.

A screenshot of a computer

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*Image 4: JavaScript added to the vendor page.*

The project requirements involved having member management that kept a record of the elderly people, including personal details, care plans, medication requirements, family contacts, accessibility requirements and any other relevant information. Staff management was also required where a detailed profiles of the staff with their roles, qualifications as well as their type of employment, remunerations details and other relevant information. Adding data to the databases met this requirement.

A screenshot of a computer

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*Image 5: Week 9 data added to databases.*

Week 10 tasks involved reviewing the whole website, as everything was completed by now. Errors were fixed as the code was being done but reviewing it one last time ensured that there were no hidden errors and that all of the spelling was correct. This was done.

**3.3. Supervisor Feedback**

Vasudha didn’t ask us to change anything about the sprint 2 task list, unlike the sprint 1 task list, which was a good sign. She said this was an accomplishable task list, but with the trouble we had at the beginning of this sprint in terms of communication, servers, and the lack of progress we were making, Vasudha seemed sceptical about us effectively working as a team and us getting the coding done. We had an extra week to complete this sprint, so as the weeks progressed, Vasudha saw the website coming together more, even though there were some logical issues with information. Also, as we progressed, she saw that we could achieve all of the tasks. As a team we were expecting to not finish everything, but Qiao took charge of the code and made it possible for the website to be complete, thus allowing this increment to be deliverable.

**3.4. Critical Analysis**

The sprint 2 plan was the continuation of the tasks that weren’t completed in sprint 1. Tasks were defined, covering parts of continuing the HTML and CSS coding, back-end PHP and JavaScript development, populating the databases, writing information for the databases, and reviewing the finished project.

Compared to sprint 1 where the overall progress fell short of expectations, sprint 2 exceded the expectations with extra features and pages being added. The team encountered challenges in completing week 8 tasks related to PHP coding, but that was overcome in week 10 where a lot of progress was made with this to the point of completion.

Originally, Vasudha didn’t show much concern for the feasibility of achieving the outlined tasks within the allocated time frame, but concern was express in week 9 and 10 when not much progress was seen. Despite the team thinking this wouldn’t get done, subsequent progress demonstrated that the work could be done, and it was.

This analysis reveals minimal insights into the team's performance during Sprint 2 as things were a lot smoother than sprint 1. Efforts were made to stick to the planned tasks, and challenges still emerged, coming from resource constraints and skill issues. The completion of the sprint 2 tasks demonstrated the team's capability to initiate and finish tasks effectively. However, the challenge of finding a way to run the website, PHP code issues, and the timeline not being completely followed highlight areas for improvement.

Moving forward, reassessing people’s skills and roles might’ve been good since some members took charge and did the job of others. Finding resources early on would’ve been smart as we wouldn’t have had to worry about it this late in the sprint. Additionally, proactive measures should be taken to address challenges promptly, ensuring that future projects are completed in a better way. Support from the supervisor helped the team's performance.

In conclusion, while sprint 2 witnessed all of the project achievements, while also revealing areas for improvement. By critically analysing progress and feedback, the team can leverage lessons learned to enhance performance and achieve greater success in future projects.

1. **Lessons Learned**

Reflections on our team's experiences over 12 weeks of teamwork highlight valuable insights integral to effective project management.

* Seeking team members' help in time entails leveraging each other's strengths. Confronted with complex codes, our team encouraged prompt seeking of help from peers.
* Clear communication emerged as pivotal for project progress. As we progressed into the later stages, emphasizing communication significantly enhanced our project's pace and efficiency. In the sprint 2 phase, some tasks were completed repeatedly due to insufficient communication.
* Reasonable division of labour is crucial for projects like ours, related to elderly care system websites, so task allocation among team members became paramount for timely project completion. By assigning the tasks, roles, and responsibilities of team members in the project, we clarified what each member should do, enhancing efficiency and punctuality.
* Regular updates about the project progress on the team communication platform helped us solve problems and keep on track. By identifying tasks that have been completed, we prevented other members from completing the task twice.

Through the problems we encountered while working as a team, we outlined future improvements. Our goal is to successfully cooperate in order to complete the project.

* Recording all project progress, decisions made, and critical matters not only facilitates future reviews but also keeps team members informed and accountable.
* Establishing clear deadlines is important so team members can complete tasks in time. Creating a clear to-do list with specific steps and deadlines ensures accountability and progress tracking, helping to keep the tasks under control.
* Encouraging members to share their knowledge helps to speed up the completion of projects. When team members don’t know how to find information to solve the tasks, other members can share their own experience to help solve problems and enhance project efficiency.

From the initial stage to the completion of our project, our team experienced many challenges, including members not keeping up with progress, and tasks being completed multiple times, but these challenges were overcome through effective communication and collaboration. Moving forward, we recognize the importance of defining project requirements comprehensively. Ensuring that everyone understands their roles and responsibilities means that we can improve the efficiency and effectiveness of the project.

1. **Challenges**

**Sprint 1 challenges**

* Creating a prototype that was difficult to understand: It was unclear what content needed to be added to the interface, so many issues arose during the design process. We delt with this by using another, more understandable website frame design.
* Slow start to the back-end development: There wasn't systematic progress at this stage because everything had to start with completing the HTML and deciding on the content within the interfaces. We dealt with this by Rubie creating PHP to see how it would work.
* Server issues: There was a clash in the server use. While some were using XAMPP, others didn’t know how to, so not everyone could view the entire website. This was solved by reviewing the website in class on Tuesdays.
* Role assignment and skill level: Some members weren’t doing the tasks assigned to their role, and some members had issues with skill level and knowledge, meaning progress was behind. One member took charge of getting the code done which solved the issue.
* Duplicate files: Because members weren’t sticking to their role, some were making pages they weren’t meant to, meaning members were making the same pages, or members were making the same page multiple times. This was solved by having one member move on with the progress.
* Task completion and motivation: It seemed like some members didn’t want to complete the tasks they were assigned, so they just didn’t do them. This was fixed by having another member complete the task.

**Sprint 2 challenges**

* Another slow start to the PHP: This sprint started slowly again. Although progress was made with HTML and CSS, there was no progress with the PHP due to lack of skills. This was another challenge that was solved by having one member take charge and tell the other developers what to do.
* Server issues: The team was still having issues with the server in this sprint. Members were confused about which server to use since Rubie had said to use WinSCP, but not everyone could use it. While others moved on and used XAMPP, some remained confused about which one to use. This was dealt with by having members use XAMPP.
* Joining the code pages: Due to a lack of knowledge and skill, some members had trouble linking the pages of code. Even though examples were given, members still didn’t understand. This was dealt with yet again by having one member take control and do it.
* Code display errors: Some HTML pages of code had trouble displaying PHP elements as intended. This was solved by converting the HTML page to a PHP page. Another display problem was CSS not being shown properly after linking pages or converting them. This was solved by reviewing the code and fixing the error that prevented the CSS from showing.

**Overall sprint challenges**

* No code collaboration: Throughout the project we didn’t have a way to collaborate on the same code. We relied on file sharing through GitHub to solve this problem, and this way worked.
* Team availability: The team had trouble coordinating times to meet since everyone had different schedules. Instead of meeting, we relied on communicating through Discord, the facilitator meeting on Friday, and meeting in the workshop on Tuesday. Although this wasn’t the best, and didn’t work as well as it could have, we managed to complete the project this way.
* Lack of communication with the developers: During the coding, there was a lack of communication between the front-end and back-end developers. This caused members to create duplicate pages and not know what tasks had to be finished. Once members starting talking about what was done and what needed to be done, the project moved on a bit smoother.

1. **Comparative Analysis**

The primary focus of sprint 1 was on front-end development, including HTML and CSS coding. Initial communication challenges and design structures between the project manager and developers led to repeated adjustments in design structures to meet requirements. This meant we faced difficulties aligning technical implementation with the project's design vision.

The emphasis of sprint 2 shifted to back-end development, particularly integrating PHP and databases with the front end, which we struggled with. Patience is crucial, especially when language barriers exist. Non-native English speakers in the team encountered challenges in understanding technical concepts, necessitating patience and support from the entire team. Despite none of our team members having experience integrating a database with a website or using PHP code, we managed to achieve it in the end through persistent effort.

We learnt that many things, such as those listed above, and that no one is perfect as people have varying strengths. Some may excel in technical abilities but struggle with communication, while others might be creative but lack the technical skills to implement their ideas. We also learnt that persistence is key. Efforts will eventually pay off, even when faced with difficulties.

What worked well in sprint 1 was solid groundwork was laid with the front-end development, which provided a strong foundation for subsequent tasks. What worked well in sprint 2 was the team effectively tackled more complex back-end development tasks, successfully integrating PHP and databases with the website, and improved their communication.

|  |  |  |
| --- | --- | --- |
|  | **Sprint 1** | **Sprint 2** |
| **Goals and Objectives** | - List requirements from stakeholders.  - Design wireframes for the management system.  - Identify necessary features for general staff and admin web pages. | - Record database integration into the system.  - Ensure smooth transition between pages.  - Create interaction between frontend and backend. |
| **Task Completion** | Wireframe (HTML, CSS)  - Login page  - Homepage  - Patients form  - Employee form  - Roster page  - Service page  - Inventory page | Wireframe & Functionality  (HTML, CSS, PHP, SQL, JavaScript)  - Login page  - Homepage  - Patients form  - Employee form  - Table form to store the records of patients and employees.  - Roster page (including calendar and shift assignment)  - Messenger page included  - Service page (task assignment and management table)  - Inventory page (including a list of asset tables by category and inventory form)  - Account (where users can view their own details)  - Database |
| **Quality of work** | No interaction included | Interaction between frontend and backend form |
| **Team Performance** | - Confusing requirements  - Limited vision of the reality management system.  - Limited technical skills  - Communication issues  - Low motivation | - Clear requirements.  - Reference real management systems and final website structure form.  - Reskill our web development skill by seeking tutorials and advices on internet.  - Increased motivation from positive feedback. |
| **Time Management** | Done on time | Due date has postponed, providing more time for completion. |
| **Feedback** | - Chunky and messy structure  - Inappropriate heading information in forms/tables  - Roster, Service, Inventory features not meeting requirements | - Well-structured with consistent page layouts  - Appropriate and meaningful headings  - All requirements met |
| **Lesson learnt** | - Effective communication with patients  - Importance of teamwork  - Prioritize tasks for better time management  -Self-learning through online resources and peer advice | - Continued effective communication with patients  - Reinforcement of teamwork's importance  - Prioritize tasks for better time management  - Self-learning through tutorials and online resources |

1. **Future Work**

The developed project had all of the specifications we talked about in sprint 1, with some added pages and features. The initial requirement list and the extra features and pages are shown in the image below:

A computer screen shot of a white screen

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*Image 6: Original list of pages and additional pages.*

The developed projects initial expectation/specification and what was achieved include:

* Member management: Completed, including personal details, care plans, and medication requirements.
* Staff management: Completed, with detailed profiles and qualifications.
* Service management: Completed, providing up-to-date reports on services and associated staff.
* Facility management: Partially completed, focusing on utility management but requiring further development for room management and reservations.
* Scheduling: Partially completed, with role assignments implemented but requiring refinement for service scheduling.
* Inventory management: Completed, tracking daily commodities and medication.
* Family interaction portals: Developed but could have better implementation for family communication and engagement.

Although we did implement everything we had on the list, we didn’t include the billing feature listed on the project brief, and there are some remaining specifications for future development. These include:

* Facility management: Further development needed for room management and reservation systems.
* Scheduling: Enhancements required for service scheduling and roaster-based assignment tracking.
* Generation of bills: Not implemented, necessary for billing and invoicing functionality.
* Accessibility requirements: Not fully addressed, needing incorporation for better accessibility features.
* Integration testing: Requires thorough testing of all modules for seamless integration and functionality.

We suggest the best approach to develop the remaining part of the product would be an agile methodology where we utilize an agile development approach to iteratively address remaining specifications and incorporate feedback. By adopting this approach, the team can effectively address remaining specifications and deliver a 100% complete website that meets the initial expectations and specifications outlined for the project.