Project Management Plan

Version v1.0

Group: T24_02_Agile

Team members:

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1. Title

2. Executive Summary (10 points)

The purpose of this project is to build a web-based booking system for a hairdressing business in Brunswick, Melbourne. The key stakeholders are the business owner, the development team, and the customers. The initial release of this system includes a set of interfaces such as admin management, customer registration and customer booking. However, some advanced features like invoicing system and payroll system are out of current project scope. By the end of October, the team plans to deliver a functional website, which is able to help Beth with her appointment management.

Defining the scope of the project, the team decided to use the Agile SDLC model for developing this web-based system because agile does not require high cost, it is much more flexible and good to handle future changes. According to the Agile model, the team will apply a scrum team model to complete the project. The main roles of product owner, scrum master and scrum team are allocated to each team member.

Business and product risks have been identified and analysed, most of the risks can be mitigated with dedicated research. The methods could be applied for each risk are illustrated in this document. Technical background of the relevant fields have been investigated. Recommended techniques, such as HTML, CSS, Firebase, JavaScripts, WorkPress and Vue.js are selected and introduced from existing web development techniques. In order to provide a better understanding of the Agile approach, a detailed project plan has been presented, which includes Product Backlog, Sprint Backlog, Burndown Chart, and Swim-lane Board.

3. Content

4. Introduction (5 points)

4.1. Purpose of document

This document provides a formal guideline and comprehensive baseline to this project. A successful project must have a clear instruction, which all the members involved have to refer to it when working on the project. This document clarifies what should be delivered, what is not included in the project, who gets benefits, what model we use, what technology we use and what risks are we facing. The document will be a living document, and it evolves as we update the project progress or adjust the project planning.

4.2. Audience of document

The project is determined as a small-scale project so there are only a few audiences directly involved in it.

- Beth : the Business Owner
- SWEN90016 Students: Development team, the Product Owner and the Scrum Master
- Marion: Subject Coordinator, the Project Champion
- Lecturers and tutors

4.3. Evolution of document

version	Individual responsible	Date created	comments
1.0	Xudong Zhang Hao Liu Ziru Niu Xinpeng Zhang	5 Sep 2020	This is the first version of the document. It declares the initial management plan of the project.
2.0	Xudong Zhang Hao Liu Ziru Niu Xinpeng Zhang	28 Sep 2020	This document will be updated with all the changes happening in sprint 1. New part 7.1 (Week 9) will be completed.

2.1	Xudong Zhang Hao Liu Ziru Niu Xinpeng Zhang	8 Oct 2020	In this version, we improved the PMP document following Eileen's comments.
3.0	Xudong Zhang Hao Liu Ziru Niu Xinpeng Zhang	12 Oct 2020	All the changes happening in sprint 1 has been added to this document. In this version 3.0, we will start working on the second sprint and all the new information will be added to this PMP document.
4.0	Xudong Zhang Hao Liu Ziru Niu Xinpeng Zhang	19 Oct 2020	This is the last main version of this PMP document, which contains everything we have done and will do in this project. New changes of the third and the last sprint will be updated to this document. After this version, only small changes will be allowed.
4.1	Xudong Zhang Hao Liu Ziru Niu Xinpeng Zhang	25 Oct 2020	All the timesheets and meetings are moved to appendix and links have been added to increase the readability. The overall format was adjusted.

5. Project Information

5.1. Key Stakeholders (10 points)

This project is to develop an online booking system for a hairdressing service, which is a small private business, so most of the stakeholders are internal and only few external stakeholders are involved in this project.

Name[3]	**Position**	**Internal / External**	**Project role**	**Contact information**
Beth	Owner of business	Internal	Customer	beth@email.com
Trainee	Employee of the business	Internal	N/A	trainee@email.com
Xudong Zhang	SWEN90016 students	Internal	Development Team Member	xudongz1@student.unimelb.edu.au

Hao Liu	SWEN90016 students	Internal	Development Team Member	l11@student.unimelb.edu.au
Ziru Niu	SWEN90016 students	Internal	Scrum Master	zirun@student.unimelb.edu.au
Xinpeng Zhang	SWEN90016 students	Internal	Product Owner	xinpengz@student.unimelb.edu.au
Customers	Clients of the business	external	N/A	N/A

Stakeholder analysis [3]**:**

- Beth is our client and the owner of the business. She is the one who decides to have the software built by a group of students and pay all the cost. The software will help Beth with her appointment making and benefits her business. Therefore, she has medium power and high interest and her current engagement level is supportive.
- For the two students in the development team, they execute the project and develop the system following Beth's requirements and get paid after delivering a completed product. Therefore, the development team members have low power and high interest. Their current engagement level is supportive.
- The Product Owner and the Scrum Master have to schedule the plan and manage the team. Therefore, they have high power and high interest.
- The trainee is the employee of the hairdressing business and he is not very involved in this project, but he gets certain benefits from it. Therefore, he has low power and medium interest in it and his engagement level is neutral.
- The customers will benefit a lot from this product, but they do not know it until the booking website works. Therefore, the customers have low power and medium interest in it. The current engagement level of customers is unaware.

5.2. What is in-scope? (5 points)

The development team is required to develop a web-based booking system for appointment management to help Beth with her hairdressing business. Through this system, the customers are able to book Beth's hairdressing service with their information and selected time period. All the booking requests will be sent to Beth, the admin, and she can view and manage the services and appointments. The initial system will deliver the following functionalities:

- Authentication system: Beth, the only admin, has a pre-defined username and password. Other users have to register their own account before using the system.
- Admin: Beth is the system admin and she can create new beauty care services. Only the admin is able to view and manage all booking requests for all services.
- Customers: The clients are able to create a booking request with the required personal information. They are able to add or update personal information and biller information after login. The customers can view or cancel their created appointment.
- Booking: The booking requests contain the type of hairdressing service, the suitable time period and the location of the clients. An optional message can be attached to the booking request. Once the request is complete, the system will send an email to the service with essential information. It is created by customers and sent to system admin.

All the data including customers' personal information, hairdressing service information and appointment details will be stored in the database connected to the system.

5.3. What is out-of-scope? (5 points)

- Any other requirements after the project due date are not included in the scope. All future development is not included in this project.

- As the budget is limited, there will not be a good-designed and fancy user interface.
- As no payment is involved in this system, we do not provide high-level security services for the privacy of customer information and appointment details. Only basic security implemented by the database provider will be used on this system. Therefore, the invoicing system and payroll system will not be involved in this project.
- The database that the system is connected to is a free version, so the storage is limited.
- The system cannot change or reset the password. If the clients forget their password, they have to register a new account. They have the responsibility to keep their password safe.
- We are not going to do any maintenance and update after the due date.
- We cannot make sure that the layout of the website is perfectly compatible with mobile devices.
- We have no responsibility to host the website once it is delivered to Beth.

5.4. Delivery approach / SDLC - Agile (15 marks)

At the beginning, we have come up with two options to develop our system: Incremental model and Agile. We were meant to select Incremental model as our SDLC because our requirements are stable and incremental model is efficient in product delivery so that Beth can get the system into use very soon. But after a second consideration, we abandoned that thought, instead, we plan to choose Agile for our software development. Here are the reasons:

Firstly, in terms of cost, Agile does not require a high cost of technology. In this case, Beth wants a business website, based on our personal experiences, it is a small-scale project. Unlike modern mobile Apps, building a website is much less complicated, most functionalities of a website can be realised with a simple web-developing tool, where we can get most functionalities we need for free. This means that we can spend less budget on purchasing the services of the software development platform. As the origin tools we need are simple, we

select the Agile model to help us avoid wasting money on technology management. Incremental model, however, requires more resources and more effort for management. Since Beth has limited funds to invest, an Incremental model might not be appropriate. Moreover, we are a small group and have limited human resources, it will be hard for us to spare extra attention to managing the developing process. [1]

Secondly, Incremental model is a formal model, compared with Agile that embraces changes, it is not suitable for handling unpredicted risks. During the developing process of our product, we cannot predict all possible risks due to the lack of relevant expertise. In an Agile development life cycle, by holding regular ceremonies, we can keep track of the execution of the project and get informed every time we find a potential or existing risk, so we can respond as soon as possible.

Furthermore, as our product will eventually be used in a commercial way, it is influenced by the local market strongly. The environment of the market consists of many uncertain features and has high viability. We are not finance students and lack sufficient economy-related background knowledge. It is almost impossible for us to predict all possible circumstances at the very first beginning. What we can do is to increase the flexibility of our development lifecycle to make sure that if something unexpected happens (whatever it is a good or bad thing), we are able to deal with it, and Agile is the best choice to do that.

Last but not least, we are not new to Agile. When we were undergraduate students, we were required to develop our product using Agile lifecycle in the subject IT project. We all have more or fewer experiences of using various Agile frameworks to achieve our goal, such as Kanban, Scrum ceremonies and artefacts. It is convenient and comfortable for us to choose the SDLC that we are familiar with, we can quickly get into work without making many mistakes. What's more, we think using Agile is quite a good exercise for developing our project management skills, as Agile is becoming popular in software development process

nowadays, in fields of IT and software engineering, being proficient in Agile lifecycle can be a good promotion for us when we try to find a job after graduation [2].

5.5. Business Value (Financial & Non-Financial Benefits) (5 marks)

Financial:

Beth: This website will increase the efficiency of the current appointment process (answering machine and phone calls) and it prevents the loss of customers from the previous naive booking system. As it saves Beth and the trainee's time to answer phone calls, they will offer better service and serve more clients. For the customers, they are more likely to choose a service with online bookings rather than the one with traditional phone call booking [6]. All the factors above benefit her business and lead to more income.

SWEN90016 students: No financial benefits.

Trainee: Her financial benefits are associated with Beth's. The salary of the trainee will increase if they have more customers.

Customers: The customers can make an appointment online through the system instead of phone calls. They save money from long-time phone calls.

Non-financial:

Beth: Time-saving also brings Beth non-financial benefits. She will have better time management between business and her own life as she clearly knows the time availability provided by the booking system.

SWEN90016 students: The students practice their programming skills and project management skills through this IT project. They can include it in their resume and gain better employment opportunities.

Trainee: The trainee will have more time to relax or to practice hairdressing skills after saving the time to answer booking phone calls.

Customers: The customer will have a better booking experience with the new system. They do not need to make the next appointment during the current appointment, because it is difficult to know future time availability. No phone calls are needed for appointments making.

5.6. Constraints (5 marks)

The first constraint is the limitation of time, it usually takes a couple of months to complete a project management plan, but in this project, we are only given a few weeks from making a plan to the final release of our product. This means that it is very difficult for us to finish everything perfectly, in order to guarantee the main functionalities work, we probably need to abandon some details of our system, which might have some negative influences on the quality of our final product.

Another constraint is the shortage of resources. Since we have only got four members in our group, it is very challenging for us to build a business website that can serve huge numbers of customers. Besides human resources, we do not have enough money to buy a powerful server to support our website. As Beth's services are very popular, we can expect a large number of customers making an appointment through the website once it has been released, therefore, a big amount of data is generated during this process. Consequently, we need to build a server which is powerful enough to hold that amount of data, but since our fund is limited, we cannot afford that, so the website might have problems when it's running.

6. Project Governance

6.1. Roles and Responsibilities (5 marks)

Product Owner [4]**: Xinpeng Zhang**

- Deeply analyze the requirements and identify the user stories of the product.

- Defines the features of the product
- Decides on release date and content
- Is responsible for the benefits/ profitability of the product (ROI)
- Prioritises features according to market value
- Ensure the product backlog items are visible, transparent and clear to all team members.
- Adjusts features and priority every iteration, as needed
- Trial and give the feedback before releasing the final product.
- Accepts or reject work results
- Need to communicate with both team and other stakeholders

Scrum Master [5] **(team leader): Ziru Niu**

- Represents management to the project
- Responsible for enacting Scrum values and practices
- Removes impediments/roadblocks
- Ensures that the team is fully functional and productive
- Enables close cooperation across all roles
- Shields the team from external interferences
- Is a member & active participant of the Scrum Team
- Establish an environment where the team can perform at the maximum level.
- Remind the team to achieve the goals they set during each sprint
- Arrange meetings for different functions to communicate

Scrum Team(programmer, tester, designer): Xudong Zhang, Hao Liu

- Have a clear understanding of all user stories that is going to deliver
- Participate in all meetings and contribute ideas and opinions

- The designer should be able to design the UI of the web-based system
- According to the requirements, the programmers in the team should complete the functionality of the product before the due date.
- The tester has the responsibility to debug the code and test the product.
- Be alert to all of the risks of the project.
- Fully engage in the product development.

6.2. Communication Plan (5 marks)

Stakeholder	**Communication Objective**	**Format**	**Frequency**	**Owner**	**Importance**
Beth	Provide updates on project progress in each sprint, key issues, success and support required	Zoom online meeting, recorded in the document *(meeting with the client)*	Fortnightly	Scrum master	High
Scrum Team	Provide updates on project progress so members can keep on track, provide key issues, success and support required	Zoom online meeting, recorded in the document *(general group meeting)*	Twice a week	Scrum master	High
Scrum Team	Conclude: 1. What functionality of the product we have completed in this sprint. 2. What we did well in this sprint. 3. Which aspect we still need to improve. 4. What task we will do in the next sprint.	Zoom online meeting. Recorded in document *(Sprint retrospective)*	After each sprint	Scrum master	High
Scrum Team	After each sprint, the testing meeting will hold to test the functionalities completed in this sprint of the product. The testing result will be recorded in the test log.	Zoom online meeting. Recorded in the document *(test log)*.	After each sprint	Scrum master	High

Scrum Team	Scrum master will ensure the team is active and every member is fully engaged in the product development. The team members can text to ask questions, share ideas and share project progress. The scrum master can text to urge team members to complete tasks quickly at any time	Wechat communication *(Daily: text, voice chat)*	2 times a week	Scrum master	Medium
Risk analyst (Product owner)	Identify risks and mitigation strategies and ensure they are being followed	Risk Management Plan, recorded in the document	Monthly	Scrum master	Medium
Customers (clients)	Invite customers to use the product after all the features are completed, and receive some feedback from them for future improvement.	Zoom online meeting, recorded in the formal report *(user feedback meeting)*	After the last sprint.	Scrum master, Beth	Low

***** *Due to the covid19, the meeting type will be a zoom online meeting, mentioning that all meetings will be recorded in separate documents(meeting log) including:*

1. What we have discussed in the meeting. (agenda)

2. How we solved these problems. (outcome)

Contingency plan

During the project meeting, it may happen that a certain team member can not attend the meeting. In this case, the Scrum Master(zoom online meeting holder) has the responsibility to record that meeting as a video and send the video to that member for review, so that the member can keep up the pace*.*

6.3. Risk Management (15 marks)

Risk ID	Risk Type	Description	Probability (0-100%)	Impact	Justification
1	Business risk	Forget to cancel appointments by the customers.	30%	2	After the reservation is completed, the customers may not come at the appointment time for some reasons, and they did not cancel the appointment. As a result, the time for that time will be wasted. Thus, if this situation happens frequently, the income of the store will be impacted.
2	Business risk	Customer privacy leak	60%	5	For each customer, they are supposed to register a new account by entering their personal details. These private details are stored in the database. The Admin should ensure the safety of customers' personal details. However, network security is difficult to guarantee, and customers' private information can easily be hacked, as a result, it has a high probability to happen.
3	Business risk	The service quality may decrease as the appointment order number increases.	50%	3	As the space of the store is stable, if the appointment number increases and reaches the max in a day. The service quality to customers may decrease: (1). The space is limited, more customers means more waiting time, which may decrease the satisfaction of the customers. (2). The product may use up if there are too many customers in a day, for example the coloring product.
4	Product risk	Website server may not be able to carry a large number of customer capacity	20%	4	When a lot of users are booking the appointments at the same time for the same service, the system may be overloaded and can not handle these appointment requests. As a result, the system will crash. As this situation rarely happens, so the probability of this risk not not that high. However, if this happens, it will have a serious impact on both product and the business.

5	Business risk	Emergencies: Diseases caused by the product	5%	4	When the elderly men and women are booking through the system, the information that the admin gets from these elderly customers is limited. Because the elder are more likely to have some diseases. Although it may not happen, the allergies to hair dye or the heart disease caused by unqualified devices can not be ignored.

Risk ID	Trigger	Owner	Response	Response strategy type	Resources required
1	The customers may not come at the appointment time and they did not cancel the appointment.	Customer (Client)	(1). Call or text to inquire half an hour before the appointment time. (2). If the guest is unable to arrive as scheduled due to other plans and it is not convenient to cancel the appointment by himself, the Admin will cancel for him.	Mitigate	· need the communication before the appointment time · need the people to make the confirmation phone call. · re-plan the schedule.
2	System being hacked / the customers' information is selled for benefits.	Product owner & Developer	(1). Apologize for the mistake and fault occurred (2). Find the main reason for the privacy leak. (3). Make an assessment of the risk to every individual, and give compensation.	Avoid	· Communication skills · Information security developer · Compensation (money)

3	Appointment number increases in a day.	Product owner/ Customer	(1). Apologize for the inconvenience. (2). Purchase the product regularly to ensure the supply of the products. (3). Improve the system to achieve the functionality of customer control, and terminate the booking when the daily customers reaches a certain amount.	Mitigate	· communication skills · enough funds to ensure the supply of the products · good programmers to design a better customer control system
4	Many users make the appointments at the same time.	Developer /Product owner	(1). Apologize to these users, as their appointment can not be finalized, ask them to reschedule their appointments. (2). The development team has the responsibility to find a new way or a better algorithm to manage and support multi-users booking at the same time.	Mitigate	· Communication skill to suggest the customer to reschedule · good programmer to optimize the website
5	The elder customer has a disease.	Customer	(1). Pay compensation (2). Ask more information such as allergy or potential disease, especially for elder customers.	Accept / Ignore	· Money to afford the compensation, and products with the least harm to the human body · improve the system functionality, add more information required for booking

**High prob: 100% - 70% Medium prob: 70 - 30% Low prob: 0%-30%*

**Impact will have a scale of 1-5: (1)no impact; (2) minimal impact; (3) moderate impact; (4) severe impact; and (5) catastrophic impact*

6.4. Technology (15 marks)

This section discusses the technical background of the relevant fields that may be covered in this project, such as front-end skills, back-end skills, web development frameworks, database system and other supported software. There are a number of existing techniques of web development. According to team investigation and discussion, several techniques have been selected for this project. They are introduced in this section and intended to give readers a first-hand understanding of relevant expertise, to help understand the works in future work.

HTML

HTML (Hyper Text Markup Language) is at the core of every web page, it is not a programming language but it is a markup language that displays the contents on a webpage. HTML uses tags to identify different types of content and purposes they serve to the webpage, It structures a website and also contains data from the website's content, such as headings, format paragraphs, control line breaks, make lists, emphasize text, creamy special characters, insert images, create links, build tables, control styling and much more.

CSS

CSS (Cascading Style Sheets) is the language that defines the presentation of a document written in HTML. On the other hand, CSS helps to style provided content, so it can appear to the user the way it was intended to be seen, such as adding colors, sizing buttons, background images etc.. It is kept separate with HTML to ensure websites are built correctly before they are reformatted.

JavaScripts

JavaScript is a more complicated language than HTML and CSS, it is supported by all modern web browsers and used on almost every site on the web for more powerful and complex functionality. JavaScripts is a ;phoc-based programming language that can be used to modify website content and make it behave in different ways in response to a user's actions. Common uses for JavaScript include confirmation boxes, calls-to-action, and adding new identities to existing information. Dynamic and complex web applications need in-depth knowledge of JavaScript.

Frameworks & Platforms

Recommended development platform: WordPress

WordPress is a blogging platform developed in PHP language and it supports building your website on your own server with PHP/MySQL database. As one of the best web development tools, the software can be used as CMS (Content Management System) to set up a commercial website. Its features include: the text editor, co-authoring technique, permalinks optimizing, Trackback/Pingback, member registration/login,etc. Several advantages of WordPress is listed below:

- Easy to install and get started, with dozens of site-building tools included.
- Rich third-party plugins for the use of expanded features, flexible and powerful.
- Various site templates and themes are free to use.
- Robust community support, with thousands of developers contributing and reviewing

The pricing has also been investigated and presented in the table below:

Basic	Personal	Premium	Business	E-commerce
Free	$5/month	$8/month	$25/month	$45/month

Alternative development framework: Vue.js

There are three popular existing frameworks, which are Vue.js, React.js and Angular.js. The team decides to select Vue.js as an alternative method involved in PMP. Vue.js is a progressive framework for building user interfaces. Unlike other monolithic frameworks, Vue.js is designed from the ground up to be incrementally adoptable. The core library is focused on the view layer only, and is easy to pick up and integrate with other libraries or existing projects. On the other hand, Vue.js is also perfectly capable of powering Single-Page Applications

Firebase

Firebase is a platform developed by Google for creating mobile and web applications. Firebase is a cloud platform (BaaS) that makes the back end as a service. It is designed for developers to separate back ends and deploy them in the cloud. Most databases required to make HTTP calls to get and sync data. However, Firebase provides a real-time database and connection through WebSocket that are much faster than HTTP. It is recommended in this project for the purpose of reducing cost and time.

Git

Git is an important skill in our routine as software developers. Git is a version control system (VCS). On a basic level git allows you to track changes in your files and it simplifies working on files and projects with multiple people. This would be more efficient for teamwork projects, once team members write new code or change existing code, they can be stored in the GitHub. Other developers can work on the existing code base via Git.

6.5. Project Planning (10 marks)

As defined in the scope, the project has main feature-level stories as listed below:

1. As the admin (owner of the business), I want to be able to create services so that I can offer new hairdressing service in the future.
2. As a new visitor of the system, I must be able to register an account by providing my name, home address, phone number... ,and login with email and password so that I do not need to fill in my personal details over again and keep my information safe.
3. As a customer, I want to be able to view my personal profile, so that I can modify my personal information.
4. As the customer, i should be able to add or update my biller information so that i can pay for the service.
5. As a customer, I want the product to have a booking system so that I can make an appointment through this website.
6. As the admin (owner of the business), I want to receive an auto reminder of booking so that I know when I have a new booking and who I will serve.
7. As the admin (owner of the business), I want to be able to view a list of requests so that I can manage the booking requests.
8. As a customer, I want to cancel the appointmented i have made to avoid emergency situations.

The user stories are broken into more appropriate and detailed tasks, which is presented in the backlog below:

Product Backlog		Sprint Backlog
User Story	Story Point	Task Breakdown
Story 1	4	1. Authorise the administrator to add or delete specific types of ***Beauty_Care_services***. 2. Authorise the administrator to decide the price for one particular type of service.
Story 2	5	1. Add a register function, enabling new visitors to register an account by providing their personal information.

		2. Build a database where account information can be stored. 3. Add an authentication function, enabling users to login with their email address and password. 4. Detect duplicate usernames. 5. Detect login errors.
Story 3	4	1. Give the access to clients to update their personal details. 2. Authorise clients to change their personal information. 3. Update the database once some customers have changed their information.
Story 4	4	1. Build a biller information website, where customers can view and add their biller information.
Story 5	10	1. Build a database to manage services with existing options 2. Build a database to store appointment information 3. Establish appointment interface to clients for customized booking 4. Give the access to client to review and re-edit their appointments 5. Develop entries into database (booking request)
Story 6	3	1. E-mail the updated booking information to the owner.
Story 7	3	1. Establish authority hierarchy to separate admin and user 2. Give the access to admin to overview all bookings.
Story 8	5	1. View booking requests in admin page 2. Manage booking requests in admin page
Story 9	5	1. View booking requests in customer page 2. Manage booking requests in customer page

**** 1 story point = 2 hour***

Tasks are broken down in hours and scheduled in the sprint, week9 sprint backlog (First sprint) is presented in the table below:

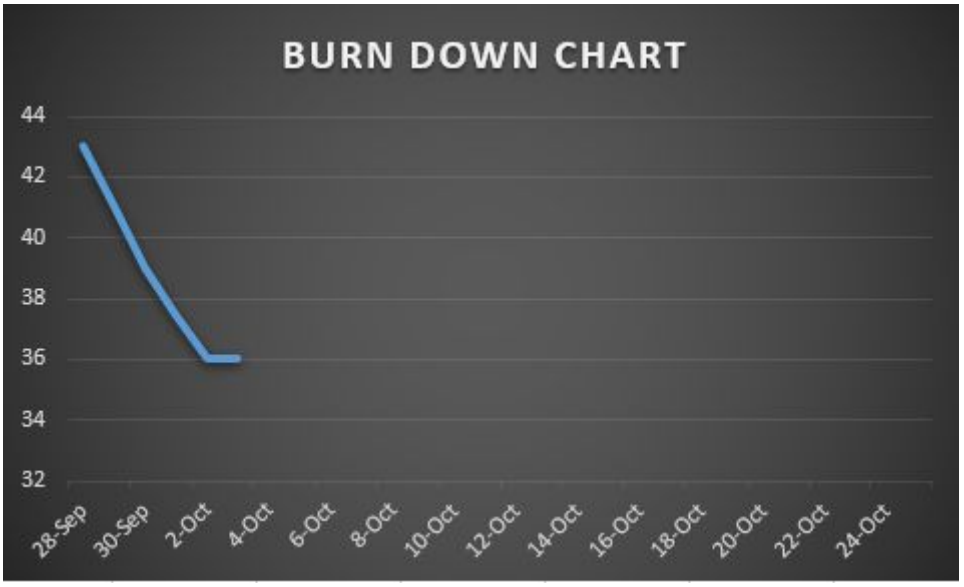
Task	Mon	Tue	Wed	Thu	Fri
1.1 Authorise the administrator to add or delete specific types of ***Beauty_Care_services***	2				
1.2 Authorise the administrator to decide the price for one particular type of service.	2				
2.1 Add a register function		1			
2.2 Build a database where account		2			

information can be stored.					
2.3 Add an authentication function		1			
2.4 Detect duplicate usernames			0.5		
2.5 Detect login errors.			0.5		
3.1 Give the access to clients to update their personal details.			1		
3.2 Authorise clients to change their personal information.			1		
3.3Update the database once some customers have changed their information.				2	

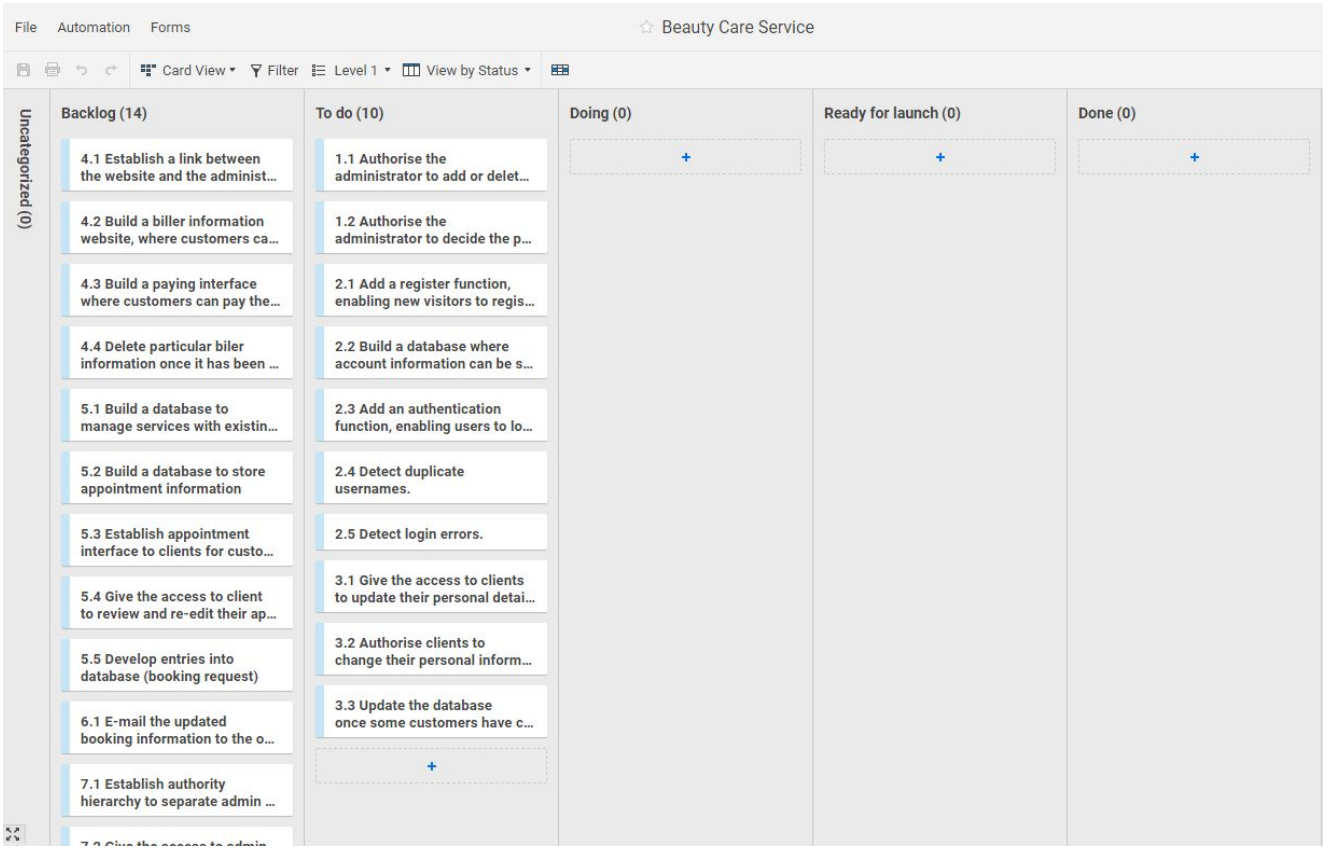
Velocity estimation

The number of story point completed is 7, time period of a Sprint is 7 days

Hence, the ideal velocity for 1st Sprint is: V= SP / Ti= 1



At the initial stage of the project, all tasks are listed in the backlog. Tasks required to be done in the first sprint are shifted into the planning section. Each of the tasks will be in the progress and move into the corresponding list.



7. Project Execution, Monitoring and Control

7.1. Project Status: Friday Week 9 (10 marks)

We plan to divide the execution of the project into three milestones, with each milestone consisting of one sprint, so we have three sprints in total.

Our first sprint has been finished by the end of week 9, with user story 2, 3 and a part of user story 7 completed, with ten story points in total. We have built a basic structure of the website, along with basic functionalities register and login. We wrote multiple HTML and CSS files and connected them together to establish fundamental interfaces for our product. The functionalities are realized by using JavaScript. The website is connected to a firebase store, where the information of clients is kept and managed. Now by providing basic personal information (name, home address, phone number and email address) and setting an arbitrary password, a visitor can register an account and become a user of our website, afterwards, every time he visits the website, he can login by entering his email address and corresponding password. Besides, we have also enabled the system to identify the administrator.

Specifically, Beth also has an account, we have added an identity feature to Beth's account so that the website can recognize Beth every time she logs in.

We have tested these basic functionalities, here are main aspects of our test:

- When a visitor does not enter all basic information required (name, home address, phone number and email address), the system denies the request.
- Check the validation of an email address.
- If one email address already exists in the firebase storage, when a visitor tries to register an account with that address, the system denies the request.
- If a user logs in with a non-existing account or wrong password, denies the request. Vice versa, if a user logs in with an existing account and correct password, accept.
- Make sure the data of clients are stored in the firebase.

Fortunately, everything went smoothly and no big bugs occured. However, the development of our product is still fundamental and cannot be delivered to our clients yet.

In our sprint meeting, we decided our next step is to complete User story 4 ~ 6 with 17 story points in sum, in order to accomplish these user stories, first of all we need to build a database to store the booking information. Then we need to classify all booking information by the customers and make customers able to see their personal bookings. Besides, we planned to fasten our speed of developing the product in the next two weeks, more sprint meetings are expected.

7.1.1. Process Related Artefacts (15 marks)

Sprint planning meeting

The sprint is determined as a one-week long sprint meeting is scheduled at the beginning of every week to discuss tasks that should be completed in the week. This would not only ensure everyone understands their responsibilities, but also refine the sprint goal and backlog. The meeting is organized online, participants include product owner, Scrum master and all members of the development team. The outcome of this meeting is the basis in checking the achievement at the end of a sprint. The meeting minutes and agenda are presented in Appendix - A (Sprint 1 Meeting)

Sprint planning input

i) Refine product backlog

Refined Product Backlog (week 9)

#	User stories	Story Points
2	As a new visitor of the system, I must be able to register an account by providing my name, home address, phone number and login with email and password so that I do not need to fill in my personal details over again and keep my information safe	5
3	As a customer, I want to be able to view my personal profile, so that I can modify my personal information	4
7	As the admin (owner of the business), I want to be able to view a list of requests so that I can manage the booking requests. (7.1 authority hierarchy)	1

ii) Definition of Ready

In the first meeting, requirements and responsibilities for each member are clarified, a clear awareness of this project is constructed, and the team is ready to launch the project.

iii) Key stakeholders

The key stakeholders are stated in section 5

Sprint planning outcome

i) Updated product backlog

Some items of the product backlog are pulled out for the first sprint, here is the updated product backlog with remaining stories.

Updated Product Backlog (week 9)		
#	User stories	Story Points
1	As the admin (owner of the business), I want to be able to create services so that I can offer new hairdressing services in the future.	4

4	As the customer, I should be able to add or update my biller information so that I can pay for the service.	4
5	As a customer, I want the product to have a booking system so that I can make an appointment through this website.	10
6	As the admin (owner of the business), I want to receive an auto reminder of booking so that I know when I have a new booking and who I will serve.	3
7	As the admin (owner of the business), I want to be able to view a list of requests so that I can manage the booking requests. (partly)	2
8	As a customer, I want to cancel the appointment I have made to avoid emergency situations.	5
9	As the customer I want to be able to view a list of requests so that I can manage the booking requests.	5

ii) First sprint Goal

1. Deliver a register interface and a login interface of the website

2. Setup database to store information

iii) Sprint backlog

Sprint Backlog for 1st Sprint (week 9)		
Product backlog	Task breakdown	Story Points
Story 2	As a customer, I can register an account with my personal information	5

	As a customer, I want my account information stored in the database	
	As a customer, I want to use my email address as an alternative login method.	
	As a customer, I do not want someone with the same username with me.	
	As a customer, I want to have error clarification when there is an error happens	
Story 3	As a customer, I want to access and update my personal details in the future.	4
	As an admin (business owner), I want to authorise clients to change their personal information.	
	As an admin (business owner), I want to synchronically update information in database	
Story 7	As an admin (business owner), I want to establish authority hierarchy to separate admin and user	1

Task	Mon	Tue	Wed	Thu	Fri
2.1. Build a database for user	3				
2.2. Add entries into users' database (name/ home address/ multiple contact phone numbers/ e-mail)	3				
2.3. Add an authentication (register) function		2			

2.4. Addition detecting function for duplicate name		1			
2.5. Addition error detecting function for login		1			
3.1. Give access to client to view their personal detail			3		
3.2. Authorize clients to change their personal information.			2		
3.3. Synchronization update in database				3	
7.1 Establish authority hierarchy to separate admin and user				2	

iv) Sprint review date

The team decide to hold a Sprint review meeting on 4th October 2020

v) Estimated velocity

The estimated tasks that we planned to accomplish have 10 Story Points. And we planned to complete them in 7 days.

Hence, the estimated velocity for 1st Sprint is: V= SP / Ti= 1.4

vi) Planned development activities

Planned Development Activities for Sprint (week 9)			
Planned Development Activities	Estimated hour	Time	assigned
Build a database for user	3	Tuesday	Xudong
Add entries into users' database (name/ home address/ multiple contact phone numbers/ e-mail)	3	Tuesday	Xudong
Add an authentication (register) function	2	Wednesday	Xudong

Addition detecting function for duplicate name	1	Wednesday	Xudong
Addition error detecting function for login error	1	Wednesday	Hao
Give access to client to view their personal detail	3	Thursday	Hao
Authorize clients to change their personal information.	2	Thursday	Hao
Synchronization update in database	3	Friday	Hao
Establish authority hierarchy to separate admin and user	2	Friday	Hao

vii) Definition of Done

This is a checklist for the items picked from Product Backlog to the 1st Sprint Backlog, which are considered to complete. Functionally, the website can be opened successfully by several mobile devices, the databases can be loaded and the ‘register’ and ‘log in’ systems can work without error.

Sprint Review input

i) Product backlog

Product Backlog (week 9)		
#	User stories	status
1	As the admin (owner of the business), I want to be able to create services so that I can offer new hairdressing services in the future.	Not Done

2	As a new visitor of the system, I must be able to register an account by providing my name, home address, phone number and login with email and password so that I do not need to fill in my personal details over again and keep my information safe	Done
3	As a customer, I want to be able to view my personal profile, so that I can modify my personal information	Done
4	As the customer, I should be able to add or update my biller information so that I can pay for the service.	Done
5	As a customer, I want the product to have a booking system so that I can make an appointment through this website.	Not Done
6	As the admin (owner of the business), I want to receive an auto reminder of booking so that I know when I have a new booking and who I will serve.	Not Done
7	As the admin (owner of the business), I want to be able to view a list of requests so that I can manage the booking requests.	Partly Done
8	As a customer, I want to cancel the appointment I have made to avoid emergency situations.	Not Done
9	As the customer I want to be able to view a list of requests so that I can manage the booking requests.	Not Done

ii) Product Increment

In this Sprint, the development team has completely finished user story 1 and 2 in the product backlog, which allows the admin to modify beauty service information and customer to login the website. The team also partly finished user story 3, updating customer personal information is not complete. Since this is the first releasable version of the product, there is no product increment compared to the last version.

The Kanban boards and timesheets per person are shown in appendix to view product process and individual effort.

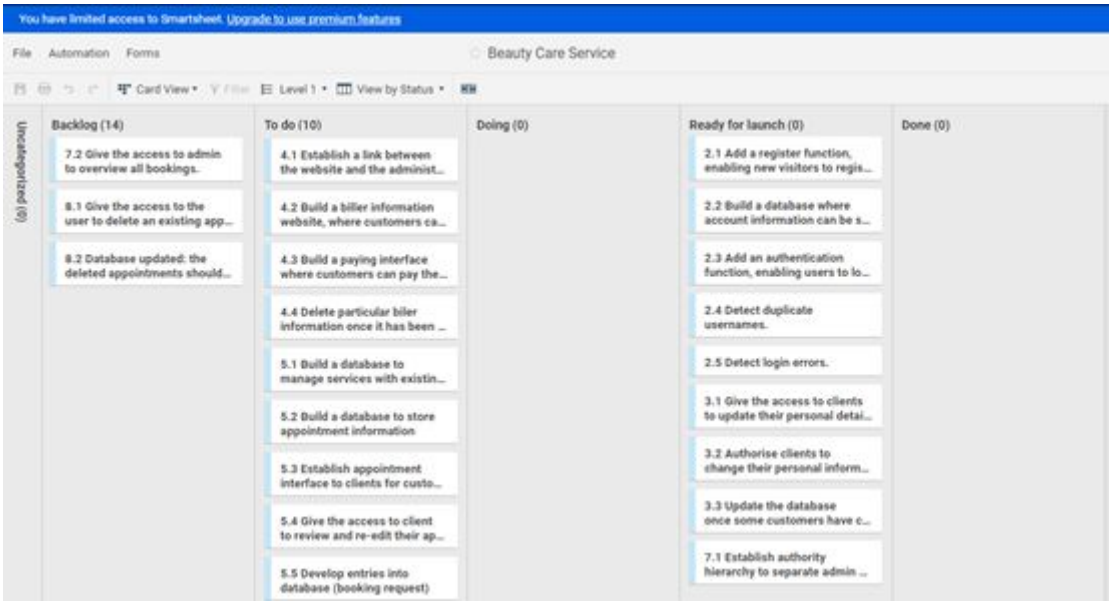


Figure: *Kanban board of the first Sprint*

iii) Sprint Goal: See Sprint input and outcome

iv) Sprint backlog: See Sprint input and outcome

v) Definition of Done: See Sprint input and outcome

vi) Business Condition: No communication with stakeholders

Sprint Review outcome

i) Revised Product Backlog

The meeting outcome decided to make a review of the product backlog. The user story 1 has been removed since the team found story 1 and 3 are reduplicative in some ways. The velocity of this week is on the schedule. In this Sprint, the development team focuses on the register system, in the next Sprint the team will focus on appointment functions.

ii) Inspected Product Increment

No new function is decided to be added, either from the stakeholder nor the management team. No inspected product increment is considered.

iii) Completion data Forecast

The next release date of the next version of the product is determined on 3 of October, which is Saturday.

iv) Velocity estimation

The number of story point completed is 10, time period of a Sprint is 7 days

Hence, the velocity for 1st Sprint is: V= SP / Ti= 1.4

Compared with the ideal velocity 1.4, the project is determined as in schedule.

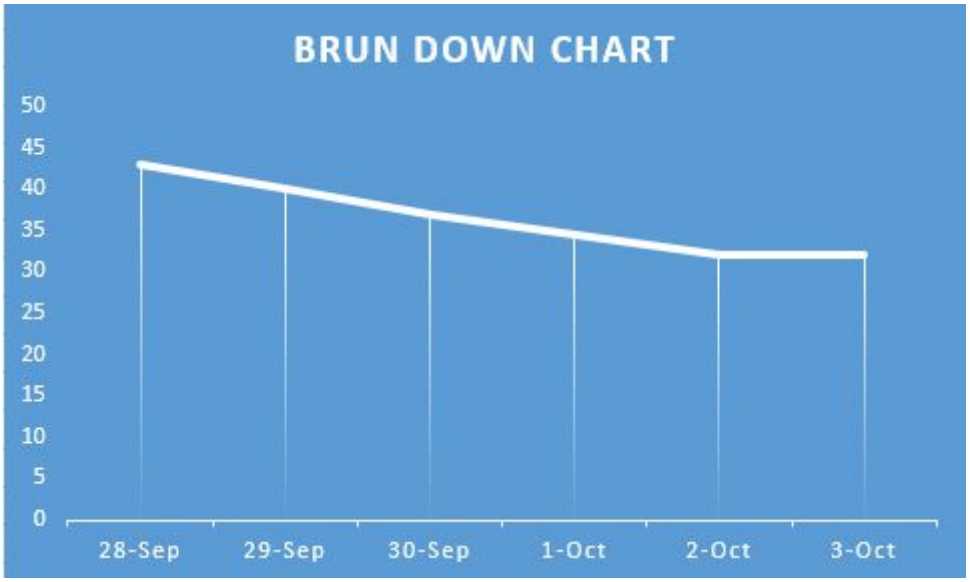


Figure: *Burn Down Chart of the first Sprint*

Sprint retrospective

Sprint retrospective is held every week after a sprint review for an hour through an online zoom meeting, inviting all members in the development team to conclude the feedback and outcome from the Sprint review. This aims to supervise the functionality of the team and plan for the future

Personal Timesheets

The timesheets of all team members are included in the appendix, here is the link to it.

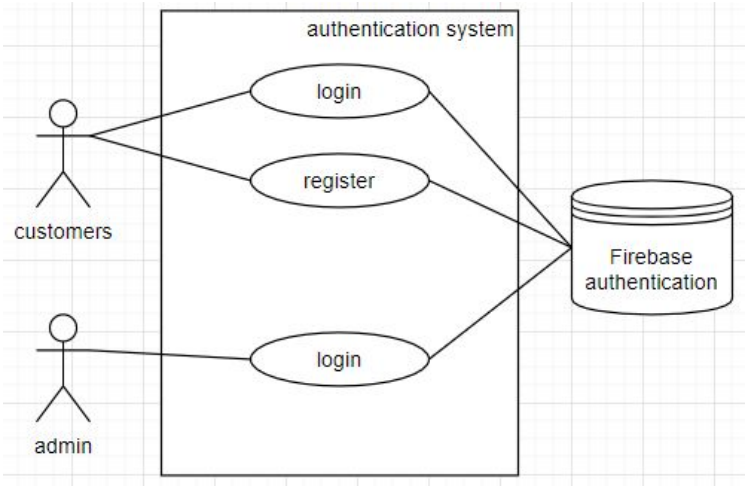
Sprint 1 Meeting Minutes

The details of meeting minutes for sprint 1 are included in the appendix, here is the link to is.

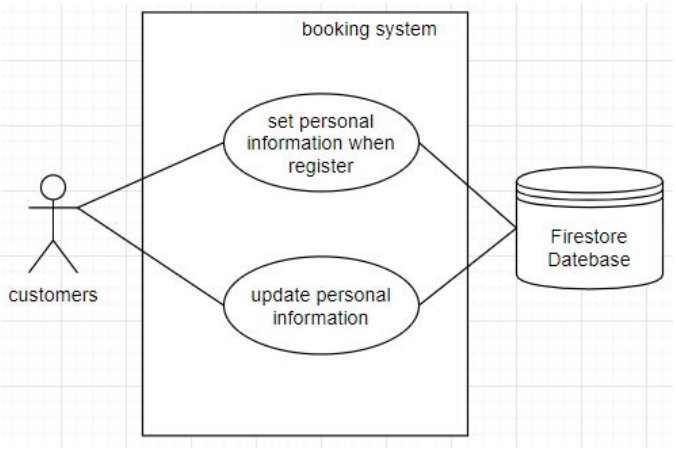
7.1.2. Product Related Artefacts (10 marks)

The main functionality of this print is the authentication system and it is associated with the following requirements, use cases and user stories:

- **Requirements:**
  - Beth, the owner of the business, has a predefined admin account
  - Customers are able to register in the web app with required information: name, home address, phone number, email address, password and extra information.
  - After registration, the customers are allowed to login to the website with the email address and password.
  - Logged in customers are able to update their personal information.
- **Use cases:**



  - **Scenario**:
    - Customers login to the website through login page
    - Customers create an account through the registration page
    - Admin login to the website using predefined account
  - The login action of both customers and admin is connected to the Firebase Authentication system.
  - The registration action of customers has two opponents: 1) email and passwords are stored in the Firebase Authentication system. 2) other personal informations are stored in Firestore (the database)



- **Scenario**:
  - Customers set personal information when creating account
  - Customers update their personal information on personal information page
- The updating action directly changes the data in Firestore.

- **User stories (Total Story point = 10):**
  - Story 2:

Story 2	5	1. Add a register function, enabling new visitors to register an account by providing their personal information. 2. Build a database where account information can be stored. 3. Add an authentication function, enabling users to login with their email address and password. 4. Detect duplicate usernames. 5. Detect login errors.

  - Story 3:

Story 3	4	1. Give the access to clients to update their personal details. 2. Authorise clients to change their personal information. 3. Update the database once some customers have changed their information.

  - Story 7.1

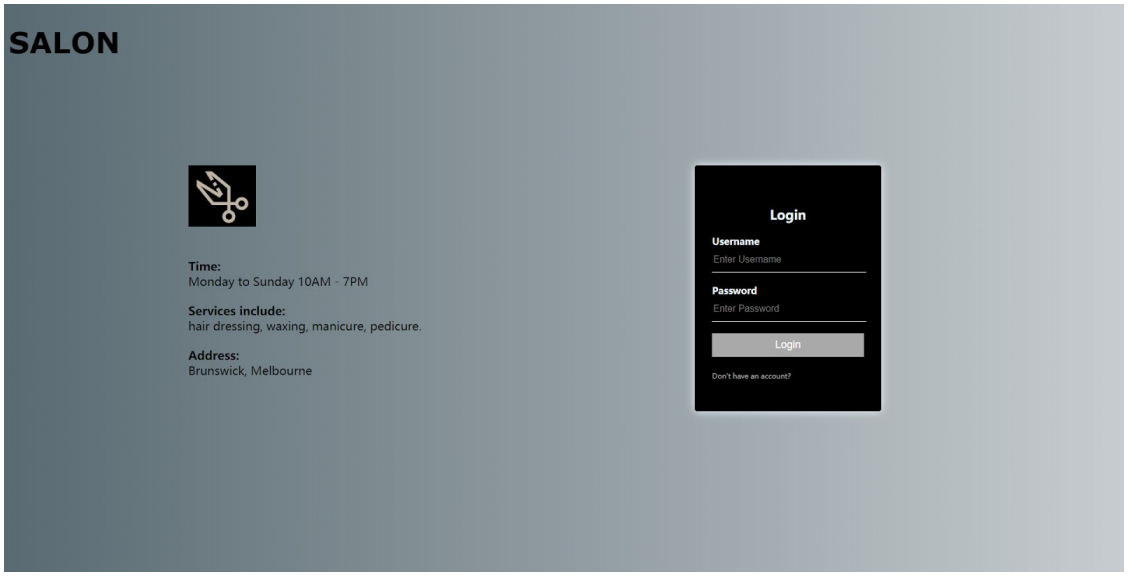
Story 7	1	1. Establish authority hierarchy to separate admin and user 2. Give the access to admin to overview all bookings.

- **Completed feature list**

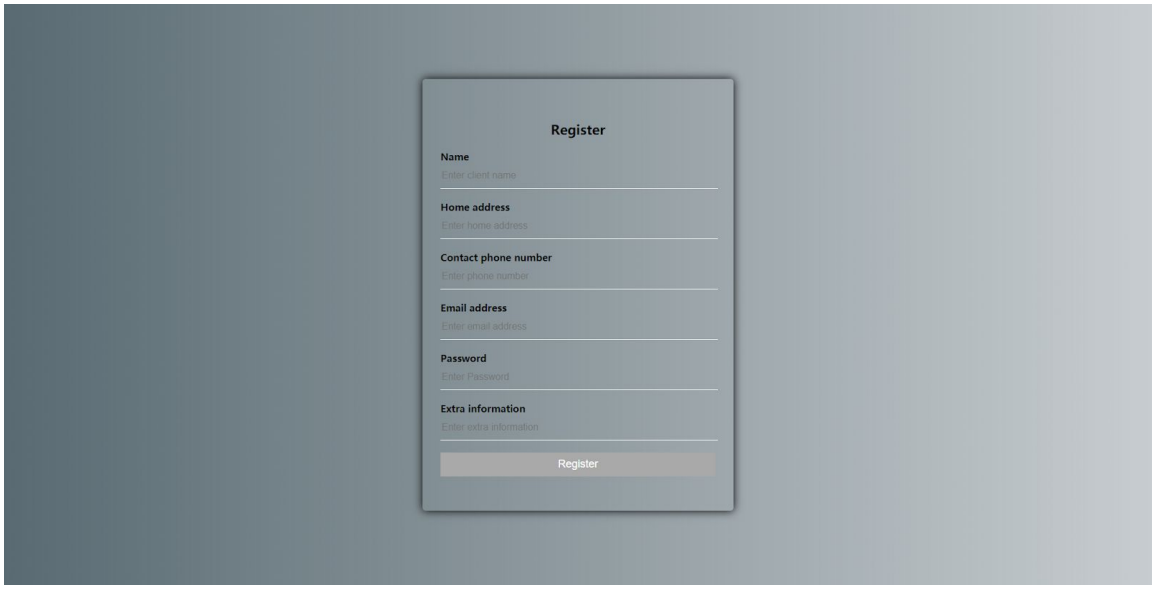
Web App	
Pre-defined admin account	√

Customer register function	√
User login function	√
Customer booking function	
Customer update personal information function	√
Customer update biller information function	
New booking request email notification function	
Admin add service	
Admin view booking request	
Admin manage booking request	
Customers manage booking request	
Database	√

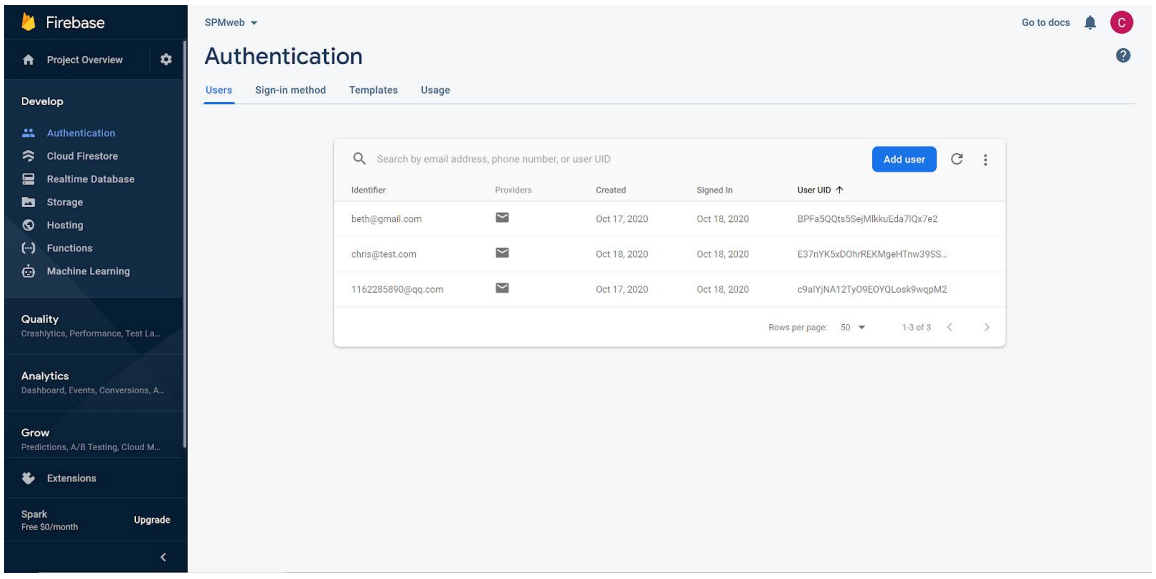
- **Screenshot of current product (authentication system)**



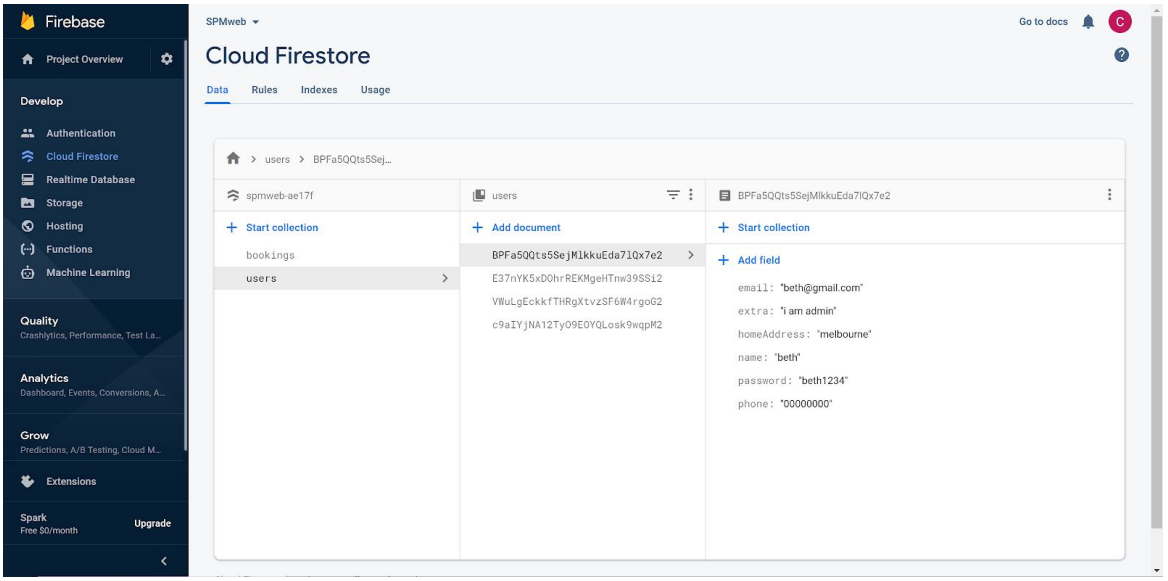
The login page: customers and admin have to login here.



The register page: only customers have to register their account from here.

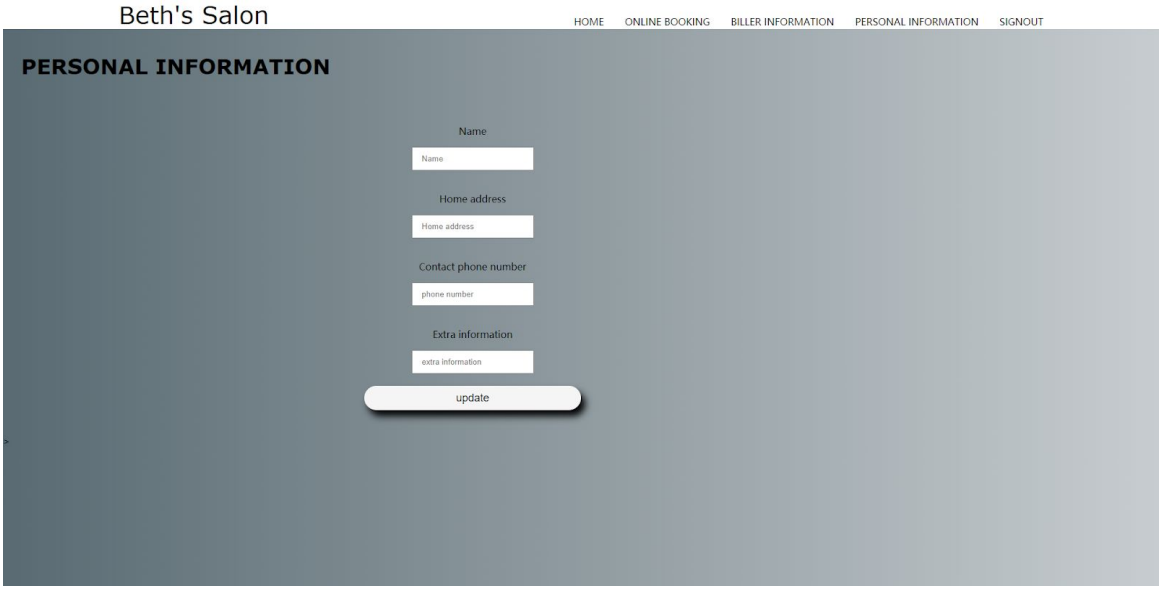


The authentication system of Firebase: 1) admin account is pre-defined in the system 2) customers' accounts will all be stored here with unique UID and detailed create date and last login date. 3) the developers can manually add/delete accounts, reset password or disable account.



The Firestore Database of Firebase: The data structure of users is designed as key-value structure with the rules: the key (document) is the UID of the current user and the values are their personal information including email, password, name, home address, phone number, and extra information.

- **Screenshot of Personal information related features**



The personal information page: The logged in customers can update their information here and the database will be updated in realtime.

- **Screenshot of remaining developed features**

The admin account will login to a different page with customers

7.1.3. Risk Monitoring and Control (5 marks)

At our first stage, program development becomes our main focus. Luckily the risks originally identified did not occur during sprint 1, however, we discover some new risks that are not mentioned before but indicating more serious impacts. Here's the investigation table relevant to the risks.

Member's Name	Current Location	Current project number
Hao Liu	China	2
Xudong Zhang	China	2
Ziru Niu	China	2
Xinpeng Zhang	Australia	3

We only have 4 people in our scrum team, the number of developers is limited. The team members may participate in more than one project at the same time. There is a high probability that our product can not be finished at the prescribed time. In this case, it is recommend that the project duration and deadline should be extended so that all the members can fully engage and have enough time to finish their task. Also, the scrum master do have the responsibility to strengthen the supervision of the project and host the test meeting to check the completed functionality to ensure tasks finished on time and qualified.

Because of the impact of Covid - 19 and travel ban, some members are still in China as well, so there is jet lag between members. It is difficult for group members to arrange meeting time due to jet lag. In order for the project to proceed normally, the scrum master should schedule the meeting during the free time of all team members. At the same time, each team member

should also adjust their own time table to attend each meeting and increase the frequency of communication with team members to alleviate the adverse effects of time lag.

According to the changes in risks, the corresponding risk managements and analyses have changed, the new risks are added below:

Risk ID	Risk Type	Description	Probability (0-100%)	Impact	Justification
6	Project risk	Number of member limited, time limited	70%	6	Different members may engage in not only this project.
7	Project risk	Time lag impact	30%	3	Members are currently in different countries, hard to time management for all of them.

Risk ID	Trigger	Owner	Response	Response strategy type	Resources required
6	Members engage in more than 1 project	Scrum team	(1) Extend project duration and deadline (2) Strengthen the supervision of the project	Accept/Ignore	· more time for project
7	Members currently in different countries	Scrum team	(1) scrum master should schedule the meeting during the free time of all team members (2) member should also adjust their own time table to attend each meeting and increase the frequency of communication	Accept/Ignore	· better time management skill

7.2. Project Status: Friday week 10 (10 marks)

By the end of sprint 2, we have completed user stories 4 - 6, accounting for 17 story points totally.

Concretely, we have updated the layout of our website, functionalities related to booking services have been added to the system and corresponding webpages and interfaces are also implemented. At this phase, Users are able to browse the newly created booking page where the information of all types of hair care services is available, he can select a particular service and make an appointment. He needs to provide his basic information (name, home address, phone number) and select an accurate period to make the appointment valid. Once the customer successfully makes an appointment, a new bill will be generated and he can view the bill on his bill information page. We have built a new database in firebase and connect it to our website, all booking information and bills will be stored in the database. Furthermore, the customer can also revise, re-edit or cancel his appointment, in real life, it is quite common that one customer cannot meet the appointment due to some personal issues, in that case he can go to his personal page and adjust or cancel the appointment.

Moreover, once a customer has booked a service, he will receive a verification email, confirming with him that his appointment is successful.

As usual, after we finished the implementation of functionalities described above, we spent a couple of hours testing and fixing bugs.

Now most part of our product has been finished, in our meeting of sprint 2, we have not only gone through the progress of the project, but also planned that in sprint 3, our next sprint, also the last sprint of this project, once we have completed all user stories, we will hold a meeting to summarize the whole project, including what we have learned and what we could have done to improve our work.

7.2.1. Process Related Artefacts (15 marks)

Based on the foundation of the week 9 process, the team completed the main functions of the product this week. Till now, customers can register, login, update personal information and admin can modify the beauty service information. This week, the team implemented a billing function, booking appointment function and e-mail notification functions. In week 10 Sprint, a

planning meeting is held at the beginning of the week, product backlog is refined. Brief meetings are held regularly before starting working. At the end of this Sprint, a sprint review meeting and a Sprint retrospective meeting are held to evaluate week 10.

Sprint planning meeting

Sprint meeting is scheduled at the beginning of every week to discuss tasks that should be completed in the week. This would not only ensure everyone understands their responsibilities, the progress of the whole team, but also refine the sprint goal and backlog. The meeting is organized online, participants include all members of the development team. The artefacts related to the meeting are presented in the following. meeting minutes and agenda are presented in Appendix.

Sprint planning input

i) Refine product backlog

Refined Product Backlog (week 10)		
#	User stories	Story Points
4	As the customer, I should be able to add or update my biller information so that I can pay for the service.	4
5	As a customer, I want the product to have a booking system so that I can make an appointment through this website.	10
6	As the admin, I want an email clarification when a booking is made	3

ii) Definition of Ready

The database includes a login database, user personal information, beauty service database, which are all completed during the first Sprint. These set up the foundation of the interface, which is considered as ready for week 10 Sprint.

Updated Product Backlog (week 10)		
#	User stories	Story Points

6	As the admin (owner of the business), I want to receive an auto reminder of booking so that I know when I have a new booking and who I will serve.	3
7	As the admin (owner of the business), I want to be able to view a list of requests so that I can manage the booking requests.	3
8	As a customer, I want to cancel the appointment I have made to avoid emergency situations.	5
9	As the customer I want to be able to view a list of requests so that I can manage the booking requests.	5

iii) Key stakeholders

The key stakeholders are stated in section 5

Sprint planning outcome

i) Updated product backlog

Some items of the product backlog are pulled out for the second sprint, here is the updated product backlog with remaining stories.

Updated Product Backlog (week 10)		
#	User stories	Story Points
6	As the admin (owner of the business), I want to receive an auto reminder of booking so that I know when I have a new booking and who I will serve.	3
7	As the admin (owner of the business), I want to be able to view a list of requests so that I can manage the booking requests.	3
8	As a customer, I want to cancel the appointment I have made to avoid emergency situations.	5

9	As the customer I want to be able to view a list of requests so that I can manage the booking requests.	5

ii) Second sprint Goal

1. Finish personal detail update function
2. Complete billing function
3. Complete booking system setup

iii) Sprint backlog

Sprint Backlog for Second Sprint (week 10)		
Product backlog	Task breakdown	Story Points
Story 4	As a customer, I want to view and add my biller information	5
Story 5	As the admin (owner of business), I want to manage existing beauty service	10
	As the admin (owner of business), I want to store all appointment information.	
	As the admin (owner of business), I want to allow my customer to make customized booking	
	As the admin (owner of business), I want to allow my customer to review and re-edit their appointment	
Story 6	As the customer I want to be able to view a list of requests so that I can manage the booking requests.	3

Task	Mon	Tue	Wed	Thu	Fri
4.1. Develop a biller information database	5				
4.2. Develop a biller information website		5			

5.1. Develop a website to manage existing services			4		
5.2. Develop a database for appointment information			4		
5.3. Add customized booking function			4		
5.4. Adding booking request entries into database				4	
5.5. Adding entry for customer to allow them review and re-edit their appointment				4	
6.1. E-mail the updated booking information to the owner.					6

iv) Sprint review date

The team decide to hold a Sprint review meeting on 16th October 2020

v) Estimated velocity

The estimated tasks that we planned to accomplish have 17 Story Points. And we planned to complete them in 7 days.

Hence, the estimated velocity for 1st Sprint is: V= SP / Ti= 2.4

vi) Planned development activities

Planned Development Activities for Sprint (week 10)			
Planned Development Activities	Estimated hour	Time	assigned
Develop a biller information database	5	Monday	Hao
Develop a biller information website	5	Tuesday	Hao
Develop a website to manage existing services	4	Wednesday	Hao
Develop a database for appointment information	4	Wednesday	Hao
Add customized booking function	4	Thursday	Xudong

Adding booking request entries into database	4	Thursday	Xudong
Adding entry for customer to allow them review and re-edit their appointment	4	Friday	Xudong
E-mail the updated booking information to the owner.	6	Friday	Xudong

vii) Definition of Done

This is a checklist for the items picked from Product Backlog to the Sprint Backlog, which are shown in product backlog (week 10) below:

Sprint Reviewing Input

i) Product backlog

Sprint Backlog for second Sprint (week 10)		
Product backlog	Task breakdown	Status
Story 2	As a customer, I can register an account with my personal information	Complete in week 9
	As a customer, I want my account information stored in the database	
	As a customer, I want to use my email address as an alternative login method.	
	As a customer, I do not want someone with the same username with me.	
	As a customer, I want to have error clarification when there is an error happens	
Story 3	As a customer, I want to access and update my personal details in the future.	Complete in week 9
	As the admin, I want all information synchronized in database	Planned in week 10

Story 4	As a customer, I want to view and add my biller information	Planned in week 10
Story 5	As the admin (owner of business), I want to manage existing beauty service	Planned in week 10
	As the admin (owner of business), I want to store all appointment information.	
	As the admin (owner of business), I want to allow my customer to make customized booking	
	As the admin (owner of business), I want to allow my customer to review and re-edit their appointment	
6	As the admin (owner of the business), I want to receive an auto reminder of booking so that I know when I have a new booking and who I will serve.	Planned in week 10
7	As the admin (owner of the business), I want to be able to view a list of requests so that I can manage the booking requests.	Partly Done
8	As a customer, I want to cancel the appointment I have made to avoid emergency situations.	Not planned
9	As the customer I want to be able to view a list of requests so that I can manage the booking requests.	Not planned

ii) Product Increment

In this Sprint, the development team has completely finished user story 4, 5 and 6, which allows the admin to manage existing appointments. The customer could view their biller information, make customized appointments and review and re-edit the appointment. It is incremented with the last version, which is released by the end of first Sprint (week 9). The Kanban boards and timesheets per person are shown in appendix to view product process and individual effort.

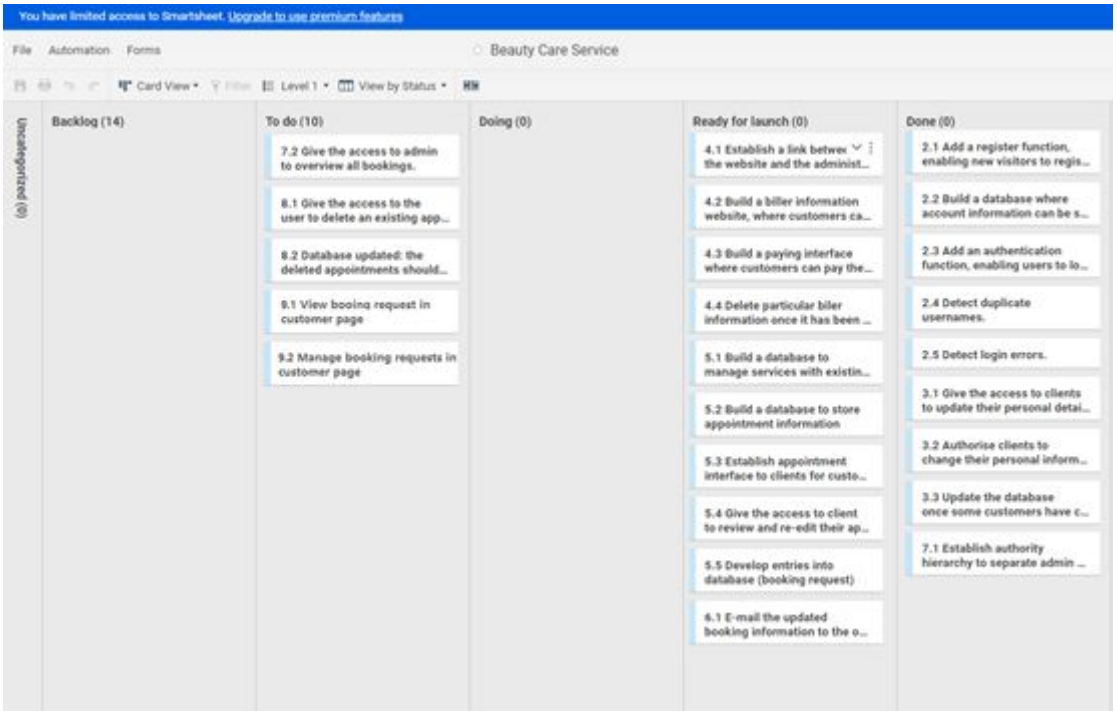


Figure: *Kanban board in second Sprint*

iii) Sprint Goal: See Sprint input and outcome

iv) Sprint backlog: See Sprint input and outcome

v) Definition of Done: See Sprint input and outcome

vi) Business Condition: No communication with stakeholders

Sprint Review outcome

i) Revised Product Backlog

The meeting outcome concluded that the current product backlog is reasonable, and decided not to refine the product backlog. There is only one Sprint left, the team argued that the product will be complete following the current product backlog.

ii) Inspected Product Increment

So far, the development team is satisfied with the interface. The colours on the page are matched and make the interface look harmonious. Some cartoon elements are added into logos and buttons, which makes it look cuter and is corresponding to the impression of dog grooming service.

iii) Completion data Forecast

The next release date of the next version of the product is determined on 17th of October, which is Saturday.

iv) Velocity estimation

The number of story point completed is 17, time period of a Sprint is 7 days

Hence, the velocity for 1st Sprint is: V= SP / Ti= 2.4

Compared with the ideal velocity 2.4, the project is on schedule. Compared to last week, the velocity is significantly increased to ensure the product can be completed in time. There were

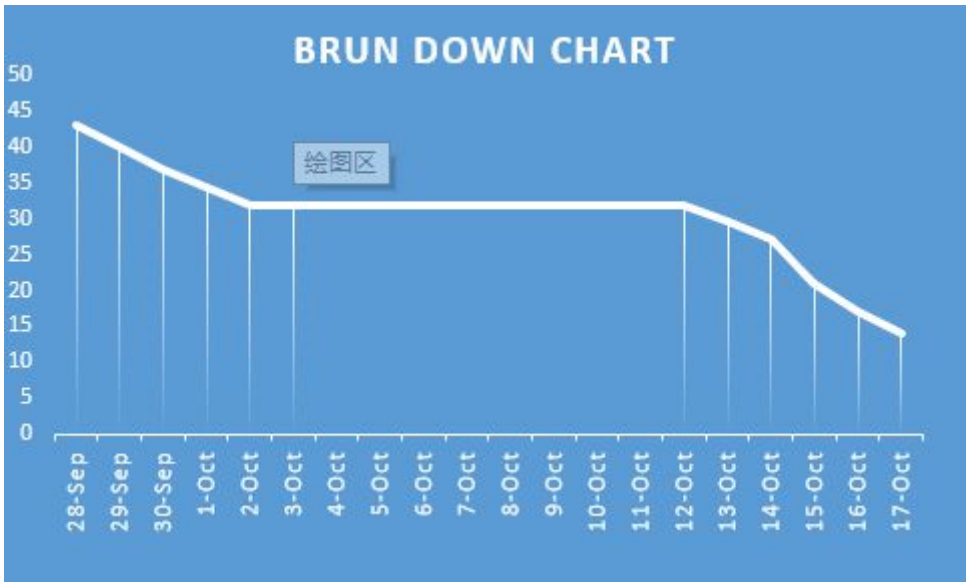


Figure: *Burn Down Chart of second Sprint*

Sprint retrospective

Sprint retrospective is held every week after a sprint review for an hour through an online zoom meeting, inviting all members in the development team to conclude the feedback and outcome from the Sprint review. This aims to supervise the functionality of the team and plan for the future

Personal Timesheets

The timesheets of all team members are included in the appendix, here is the link to it.

Sprint 2 Meeting Minutes

The details of all meeting minutes of sprint 2 are included in the appendix, here is the link to it.

7.2.2. Product Related Artefacts (10 marks)

During the second sprint, we plan to implement the features related to booking, which is the most important part of the product. To develop these functionalities, we need to design the layout of the website and organise a new data structure to store each booking request.

- **Requirements:**
    - There are 3 initially added beauty service option: 1) haircut 2) hair wash 3) hair colour
    - Customers are able to add their biller information with their name and biller email address
    - Logged in customers are able to update their biller information
    - Logged in customers are able to create a booking request with required details: name, home address, date, time (9-17) and optional message.
    - Email notification when new booking request generated.
- **User Stories (Total story point = 17):**
    - Story 4

Story 4	4	1. Build a biller information website, where customers can view and add their biller information.

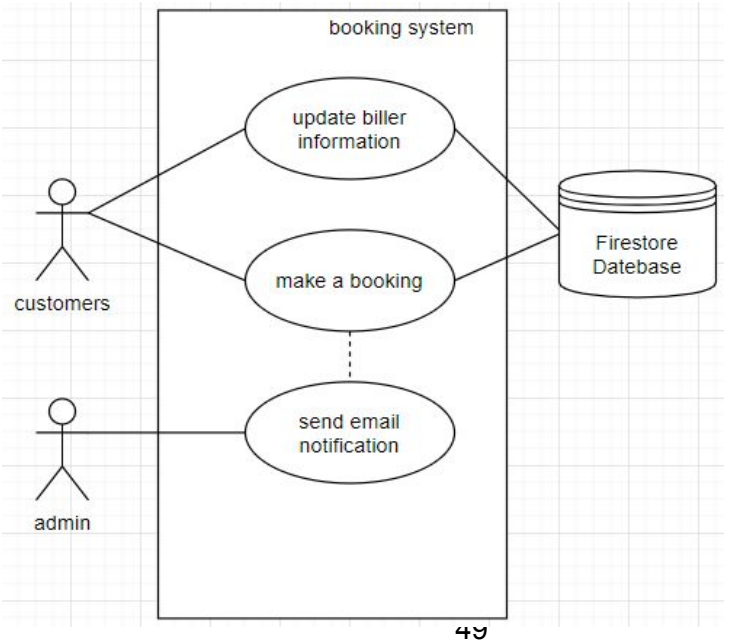
    - Story 5

Story 5	10	1. Build a database to manage services with existing options 2. Build a database to store appointment information 3. Establish appointment interface to clients for customized booking 4. Give the access to client to review and re-edit their appointments 5. Develop entries into database (booking request)

    - Story 6

Story 6	3	1. E-mail the updated booking information to the owner.

- **Use cases:**



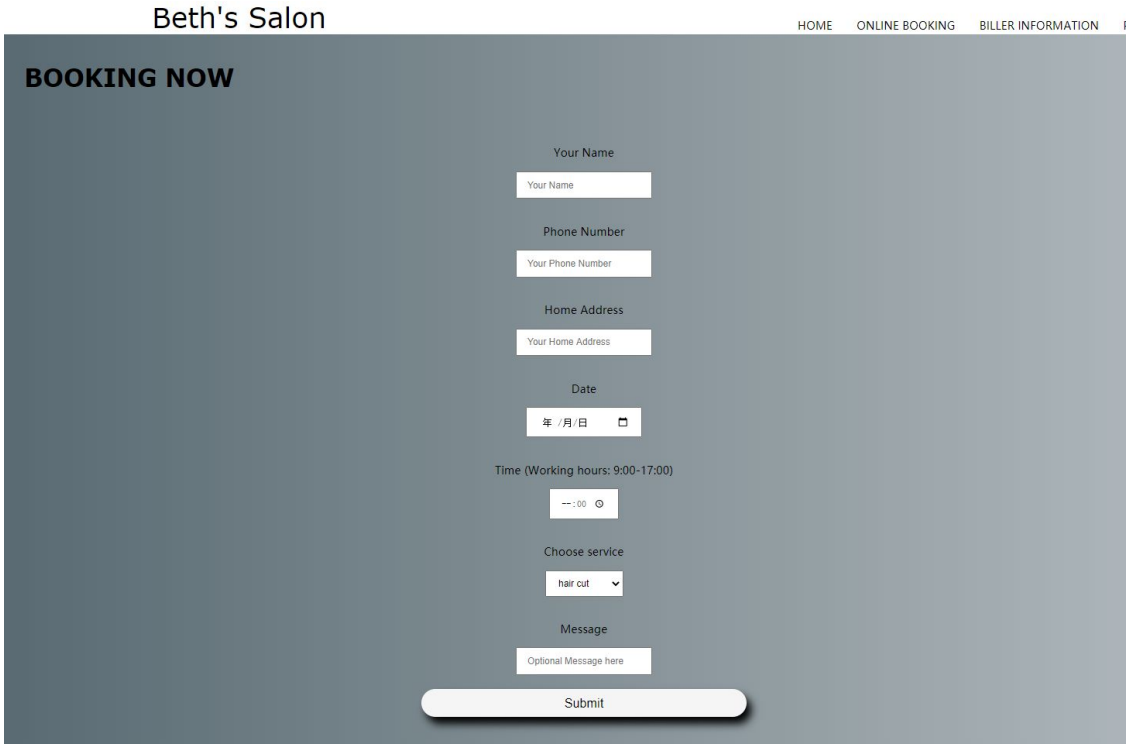
- **Scenario:**
  - Customers can update or add the biller information on biller information page
  - Customers can make a booking on booking page
  - A notification email will be sent to the admin if a customer makes a booking

  The customers can update their biller information and the new data will be updated to the database at the same time. The booking request can be created by a logged in customer and once a new request is created, it will be stored in the database and send a notification email with all the information to the admin's email address.

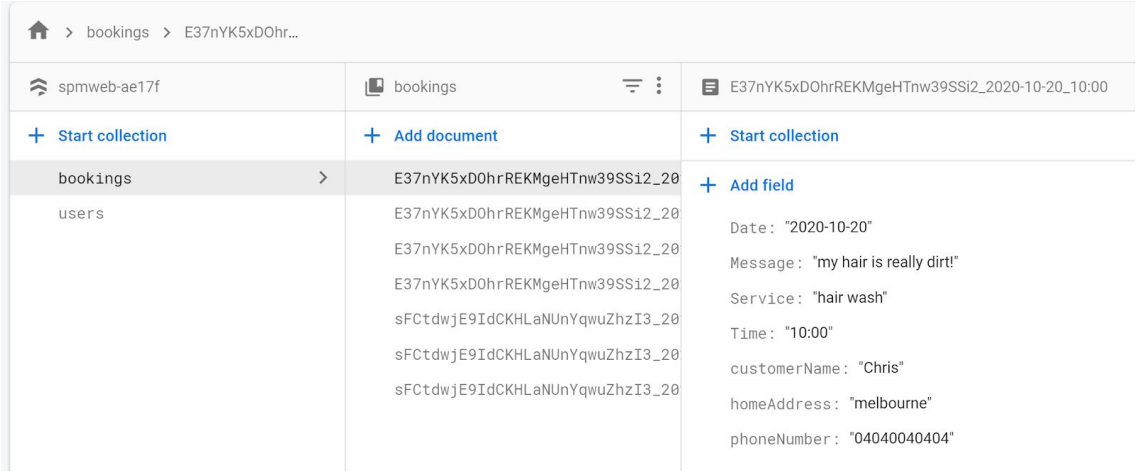
- **Completed feature list:**

Web App	
Pre-defined admin account	√
Customer register function	√
User login function	√
Customer booking function	√
Customer update personal information function	√
Customer update biller information function	√
New booking request email notification function	√
Admin add service	
Admin view booking request	
Admin manage booking request	
Customers manage booking request	
Database	√

- **Screenshot of current product (booking functionality)**



The booking page: Here is the place where the logged in customers make their appointment. They need to fill in all the information required and once they press the “submit” button, the booking request will be sent to the admin’s email and stored in the database.



The Firestore for booking requests: The database will store all the booking requests as key-value data structure. The key is formed as “UID_date_time” and the value is all the information required for a booking request.

new booking

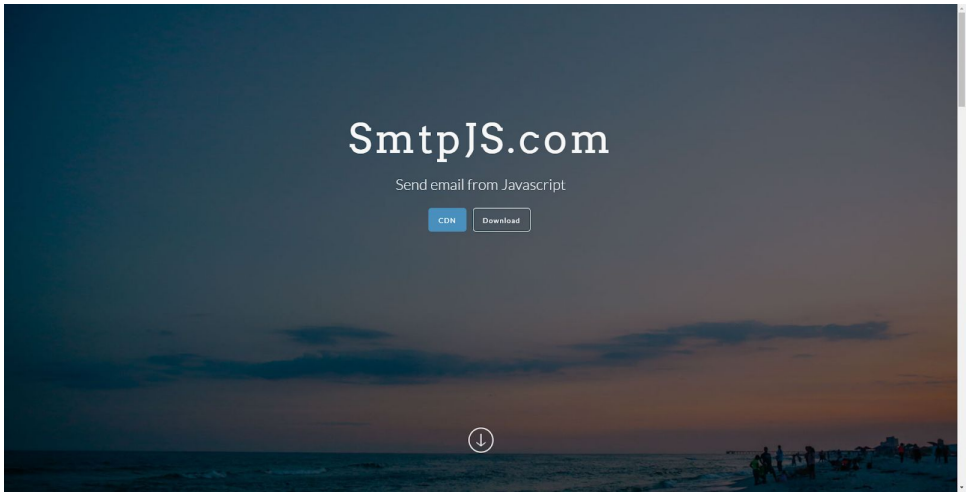
Xudong Zhang <xudong@gmail.com>

Hi Beth,

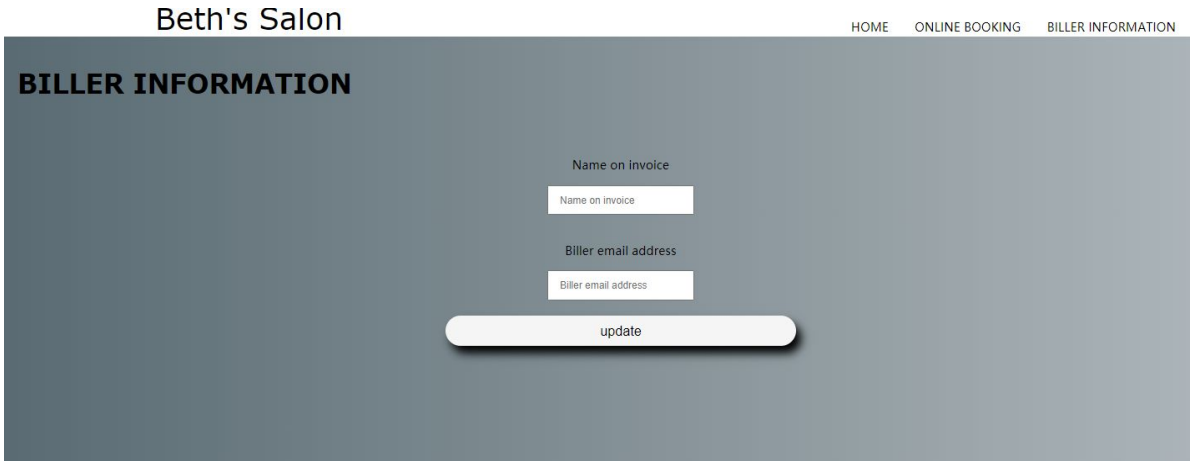
you have a new booking, here are the details:

---name: Chris
---phone number: 04040040404
---home address: melbourne
---Date: 2020-10-20
---Time: 10:00
---Service: hair wash
---Message: my hair is really dirt!

Auto generated notification email: At the same time as the data sent to the database, the system will automatically generate a notification sent to the admin's email with all the necessary information.



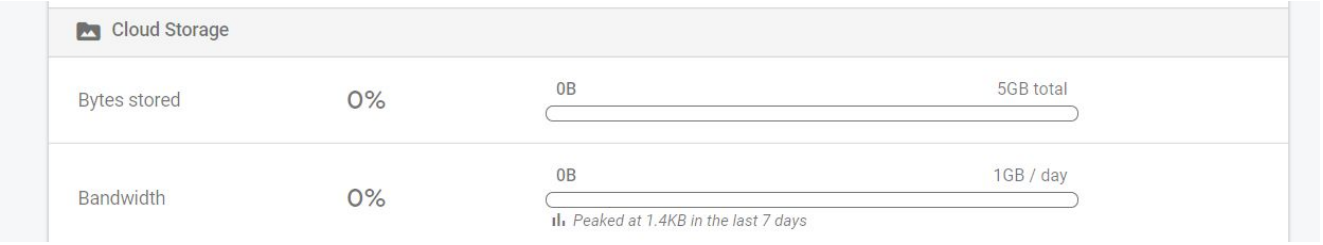
SmtpJS: The third-party library user for generating automatic notification.



Biller information page: If the customer does not have any biller information yet, it will add biller information to the user database after filling the biller name and address. If the customers already have biller information, they can update them through this page.

7.2.3. Risk Monitoring and Control (5 marks)

During sprint 2, we are focusing on the implementation of the booking system, what we have done is to store all the appointment information in our firebase, however, some new risk happened during our development.



Firstly, as we are using firebase as our database, we use the free storage plan given by firebase. As the picture illustrates, we have only 5 GB total storage space. We are thinking about after the product is finished and starting use for booking, with the increasing number of customers booking online, the booking request will increase. If all of the booking requests are stored in the firebase, the 5 GB limitation is easy to use up after a while. Consequently, the website may exist as an information storage problem, cause our firebase can not store a large amount of data.

In addition, during sprint 2, we thought the only challenge in development is the functionality of the website , however, attractive user interfaces in this system is also of great importance. It is because there a a various number of salon booking website as we are developing, all of these websites have similar functionality, in order to make our website more competitive in the market and stand out among similar salon websites, we need attractive user interfaces,
We need a UI designer. To reduce the risks, product owner can hire new UI designers to join the project team, however we need more investment.

Risk ID	Risk Type	Description	Probability (0-100%)	Impact	Justification
8	Product risk	Limited firebase storage space	20	6	As we are just using a free plan in firebase, we do not have a lot of space to manage, it is not convenient to store a variety of information in firebase.
9	Business risk	Lack of UI designer, low market competition	40%	5	Many salon websites have similar functionalities, in order to make our website have market competition and stand out among similar salon websites, we need attractive user interfaces. (UI designer)

Risk ID	Trigger	Owner	Response	Response strategy type	Resources required
8	With a huge number of booking request and customer registration, These data should be store in firebase	Scrum Team	(1) manage the data in firebase(for example: automatically delete some old booking requests, to ensure the firebase has enough space for future booking. (2) Change a plan that provides a larger	mitigate	· More investment to buy a better plan for firebase · Good manage skill to delete the old appointment details in firebase

			storage space.		
9	Low market competition	product owner	(1) more attractive UI design (2) UI designer required	mitigate	· more investment to hire a UI designer

7.3. Project Status: Friday week 11 (10 marks)

We have completed all rest parts of our product (the website), including user story 8, 9 and the remaining section of story 7 with 13 story points in total. At this point, our website provides full services as required in the study case. Now in addition to previous user stories mentioned in project status report 7.1 and 7.2, new functionalities have been added to the product. Specifically, Beth, as the administrator, can browse and edit all appointments in the “admin” page. On the other hand, a customer can also view his personal appointments in his customer page, he cannot access bookings made by other customers. Moreover, if a customer gets some emergency issues and cannot meet the appointment, he can cancel the booking by deleting the booking in his customer page.

As usual, we have tested the system, fixed bugs and errors and confirmed that all information is stored in the firebase database. Moreover, since this is the last sprint of our project, in order to make sure all functionalities work as an entirety and prepare the product demo in week 12, we went through the whole product, including repeating previous testing processes. Now the website are sufficient to be delivered as a final product

As sprint 3 is our last sprint, in our meeting, we summarized the whole project, we discussed what we have learned and what we could have done better for improvement.

We have learned:

- Necessary elements to be a good team, e.g. good communication, cooperation, tolerance of each other’s mistakes.
- How to write a basic project management plan.
- How to build a simple website.

What we could have done better:

- Apply knowledge from lectures more properly to improve PMP quality.

- Interact with the SWEN90016 teaching team more for help.
- Balance the project and works from other subjects better.

7.3.1. Process Related Artefacts (15 marks)

Based on the foundation of week 9 and 10 processes, the team completed the final product this week. Till now, customers can register, login, update personal information and admin can modify the beauty service information. This week, the team implemented a visualization function for all information. In week 11 Sprint, a planning meeting is held at the beginning of the week, product backlog remains the same. Brief meetings are held regularly before starting working. At the end of this Sprint, a sprint review meeting and a Sprint retrospective meeting are held to evaluate week 11.

Sprint planning meeting

Sprint meeting is scheduled at the beginning of every week to discuss tasks that should be completed in the week. In the third Sprint planning meeting, the team has discussed the work and requirement that define the completion of the product. The meeting is organized online, participants include all members of the development team. The artefacts related to the meeting are presented in the following. Meeting minutes are presented in Appendix.

Sprint planning input

i) Refine product backlog

Refined Product Backlog (week 11)		
#	User stories	Story Points
7	As the admin (owner of the business), I want to be able to view a list of requests so that I can manage the booking requests.	5
8	As a customer, I want to cancel the appointment I have made to avoid emergency situations.	4
9	As the customer I want to be able to view a list of requests so that I can manage the booking requests.	5

ii) Definition of Ready

The database includes a login database, user personal information, beauty service database, appointment database and management which are all completed during the first two Sprint. These set up the foundation of the interface, which is considered as ready for week 10 Sprint.

ii) Key stakeholders

The key stakeholders are stated in section 5

Sprint planning outcome

i) Updated product backlog

Some items of the product backlog are pulled out for the third sprint, the product should be complete and all remaining user stories should be completed.

Updated Product Backlog (week 11)		
#	User stories	Story Points
7	As the admin (owner of the business), I want to be able to view a list of requests so that I can manage the booking requests.	3
8	As a customer, I want to cancel the appointment I have made to avoid emergency situations.	5
9	As the customer I want to be able to view a list of requests so that I can manage the booking requests.	5

ii) Third sprint Goal

1. Admin could manage booking request on website
2. Customer could cancel the appointment for specific reason
3. Customer could view a list of request made

iii) Sprint backlog

Sprint Backlog for Second Sprint (week 10)

Product backlog	Task breakdown	Story Points
Story 7	As the admin, I want to overview all bookings	3
Story 8	As the admin (owner of business), I want to view booking request in on website	5
	As the admin (owner of business), I want to manage booking request website	
Story 9	As the customer I want to be able to view a list of requests on website	5
	As the customer I want to manage booking request on website	

Task	Mon	Tue	Wed	Thu	Fri
7.1 Give access to overview all bookings.	6				
8.1 View booking requests in admin page		5			
8.2 Manage booking requests on website			5		
9.1 View booking requests in customer page				5	
9.2 Manage booking requests in customer page					5

iv) Sprint review date

The team decide to hold a Sprint review meeting on 23rd October 2020

v) Estimated velocity

The estimated tasks that we planned to accomplish have 13 Story Points. And we planned to complete them in 7 days.

Hence, the estimated velocity for 1st Sprint is: V= SP / Ti= 1.8

vi) Planned development activities

Planned Development Activities for Sprint (week 10)			
Planned Development Activities	Estimated hour	Time	assigned
Give the access to admin to overview all bookings.	6	Monday	Hao
View booking requests in admin page	5	Tuesday	Hao
Manage booking requests on website	5	Wednesday	Hao
View booking requests in customer page	5	Thursday	Xudong
Manage booking requests in customer page	5	Friday	Xudong

vii) Definition of Done

This is a checklist for the items picked from Product Backlog to the Sprint Backlog, which are shown in product backlog (week 11) below:

Sprint planning input

i) Product backlog

Sprint Backlog for Third Sprint (week 11)		
Product backlog	Task breakdown	Status
Story 2	As a customer, I can register an account with my personal information	Complete in week 9
	As a customer, I want my account information stored in the database	
	As a customer, I want to use my email address as an alternative login method.	

	As a customer, I do not want someone with the same username with me.	
	As a customer, I want to have error clarification when there is an error happens	
Story 3	As a customer, I want to access and update my personal details in the future.	Complete in week 9
	As the admin, I want all information synchronized in database	Complete in week 9
Story 4	As a customer, I want to view and add my biller information	Complete in week 10
Story 5	As the admin (owner of business), I want to manage existing beauty service	Complete in week 10
	As the admin (owner of business), I want to store all appointment information.	
	As the admin (owner of business), I want to allow my customer to make customized booking	
	As the admin (owner of business), I want to allow my customer to review and re-edit their appointment	
6	As the admin (owner of the business), I want to receive an auto reminder of booking so that I know when I have a new booking and who I will serve.	Complete in week 10
7	As the admin (owner of the business), I want to be able to view a list of requests so that I can manage the booking requests.	Planned in week 11

8	As a customer, I want to cancel the appointment I have made to avoid emergency situations.	Planned in week 11
9	As the customer I want to be able to view a list of requests so that I can manage the booking requests.	Planned in week 11

ii) Product Increment

In this Sprint, the development team has completely finished user story 7, 8 and 9, which allows the admin to manage existing appointments. Both admin and customer could view and manage the appointments on the website. It is incremented with the last version, which is released by the end of second Sprint (week 10).

All product backlog, after this Sprint work is tested and launched, it is a call of completion of the product. The Kanban boards and timesheets per person are shown in appendix to view product process and individual effort.

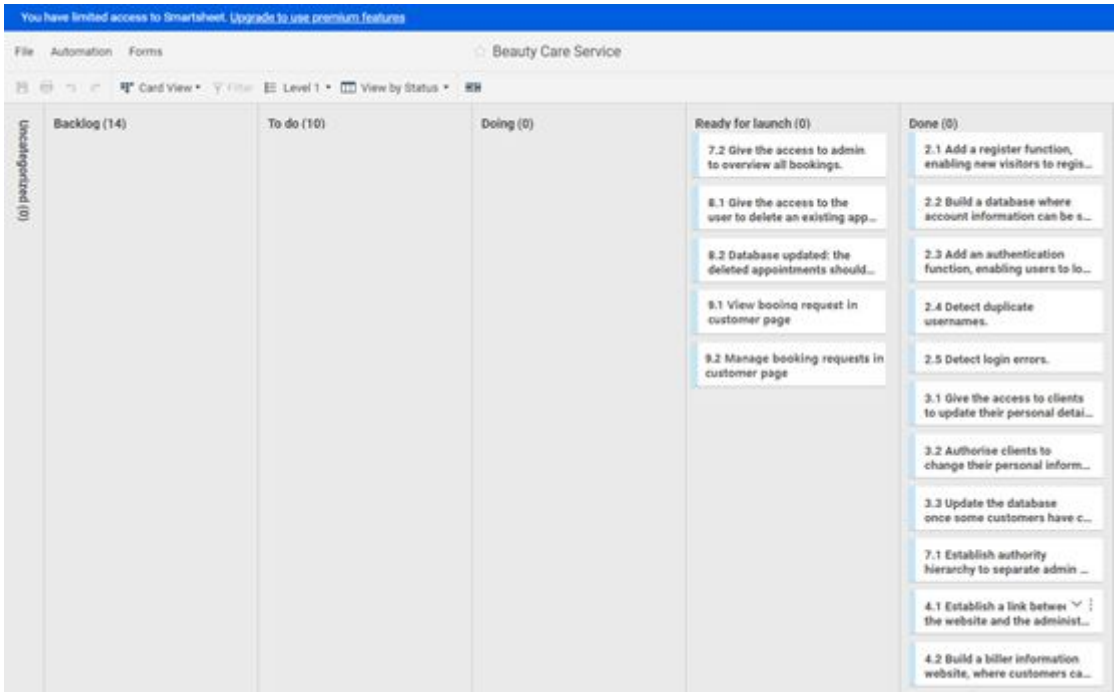


***Figure**: Kanban board for third Sprint*

iii) Sprint Goal: See Sprint input and outcome

iv) Sprint backlog: See Sprint input and outcome

v) Definition of Done: See Sprint input and outcome

vi) Business Condition: No communication with stakeholders

Sprint Review outcome

i) Revised Product Backlog

All product backlog is completed

ii) Inspected Product Increment

Since we have limited communication with Beth (no communication), the product owner represents her responsibility. So far, the product owner is satisfied with the interface. The design of the website is excellent, all functions are tested as functional and are determined as intuitive to use.

iii) Completion data Forecast

The next release date of the next version of the product is determined on 24th of October, which is Saturday.

iv) Velocity estimation

The number of story point completed is 13, time period of a Sprint is 7 days

Hence, the velocity for 1st Sprint is: V= SP / Ti= 1.8

Compared with the ideal velocity 1.8, the project is on schedule. Compared to last week, the velocity has slightly decreased since it is called for completion. The team has been taking more time for testing the performance of the product.

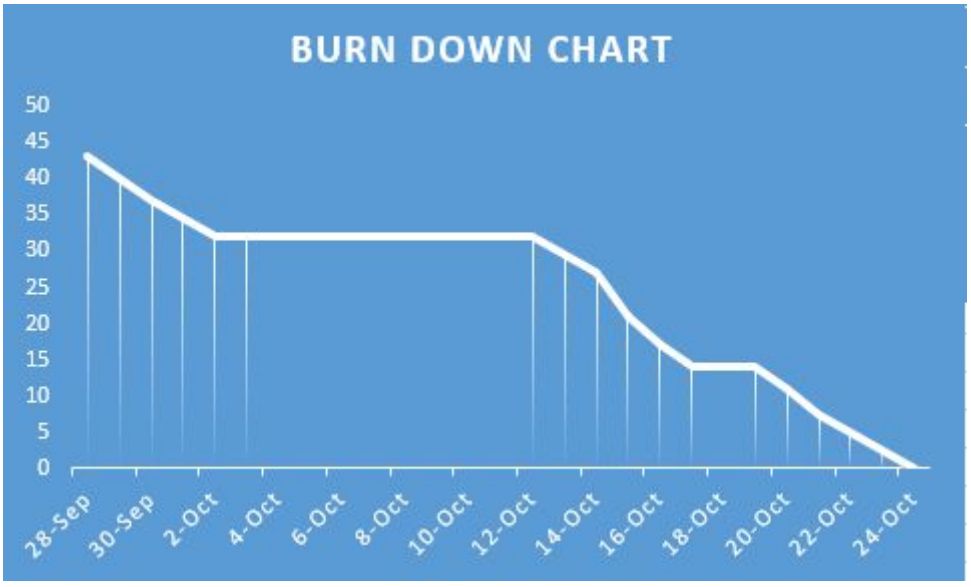


Figure: *Burn Down Chart for third Sprint*

Sprint retrospective

Sprint retrospective is held every week after a sprint review for an hour through an online zoom meeting, inviting all members in the development team to conclude the feedback and outcome from the Sprint review. This aims to supervise the functionality of the team and plan for the future

Personal Timesheet

The personal timesheets of all team members are included in the appendix, here is the link to it.

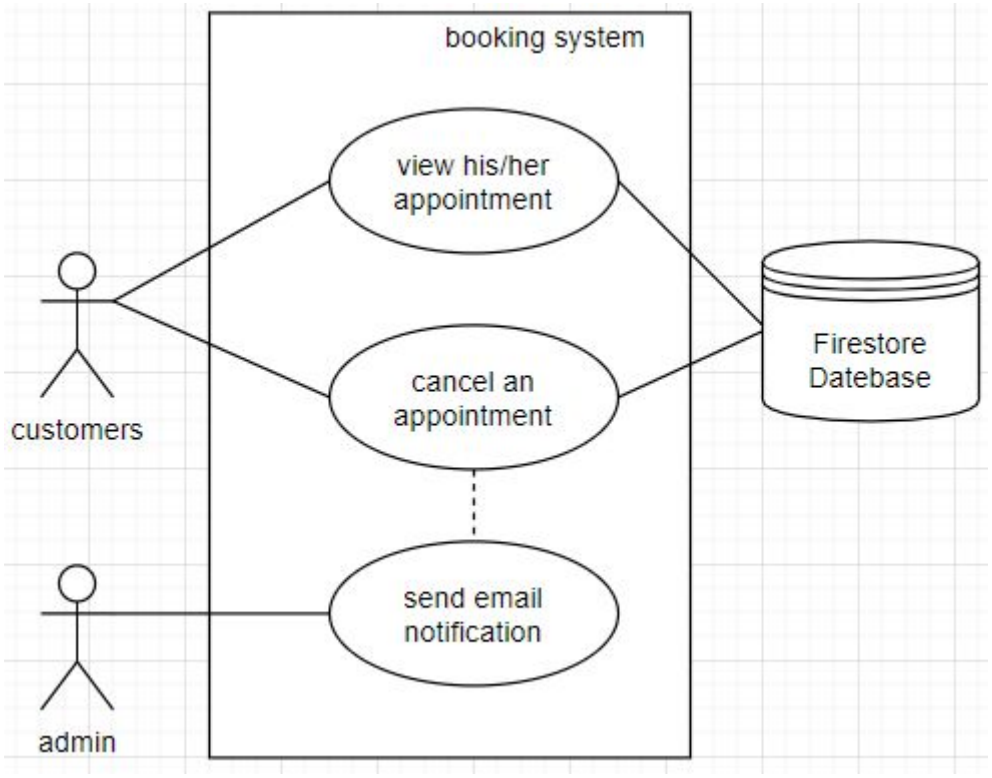
Sprint 3 Meeting Minutes

The details of meeting minutes of sprint 3 are included in the appendix, here is the link to it.

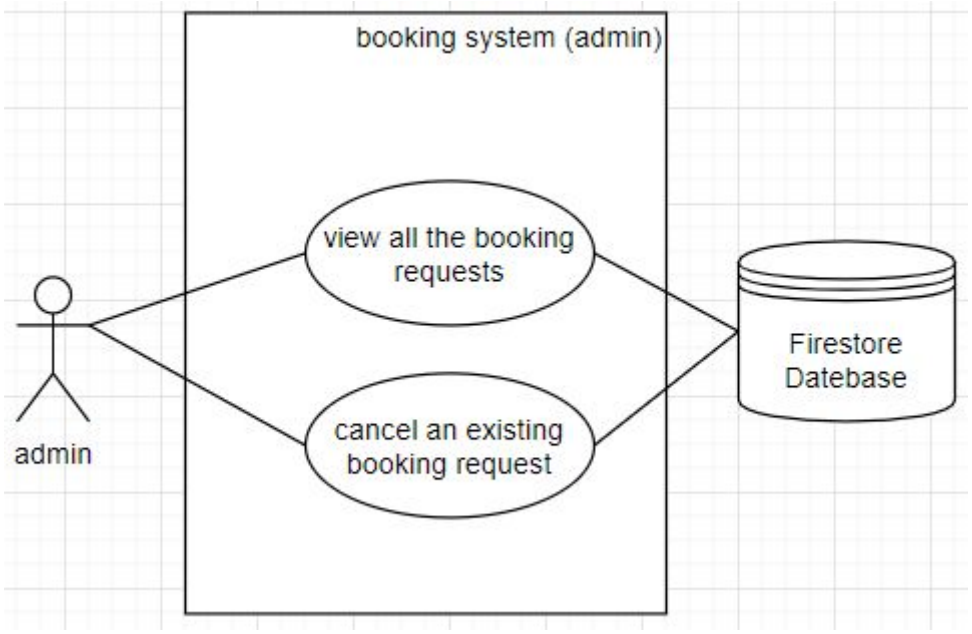
7.3.2. Product Related Artefacts (10 marks)

This is the last sprint of our project and we will finish all the remaining requirements and functionalities before the end of the third sprint. As we finished the booking system in sprint 2, the main functionality that we are going to implement is that the customers and the admin should be able to view and manage the booking requests. For the admin, he should be able to view all the requests and for customers, they should be able to only view the requests made by themselves.

- **Requirements:**
    - Logged in customers must be able to view or cancel their booking requests
    - A notification email will be sent to the admin if a customer cancels an appointment
    - The admin is able to view a list of all booking requests
    - The admin is able to cancel an appointment
- **Use cases:**



- **Scenario**:
  - Customers view their own appointments on the main page
  - Customers can delete an appointment request using the button after each appointment
  - Admin will receive a notification email if a customer cancels the appointment



- **Scenario**:

- Admin can view all the appointments (today, future, previous) on the admin main page
- Admin can delete an appointment using the button after each appointment

- **User stories (Total Story point = 13):**
  - Story 7-9:

Story 7	3	1. Establish authority hierarchy to separate admin and user 2. Give the access to admin to overview all bookings.
Story 8	5	1. View booking requests in admin page 2. Manage booking requests in admin page
Story 9	5	1. View booking requests in customer page 2. Manage booking requests in customer page

- **Completed feature list**

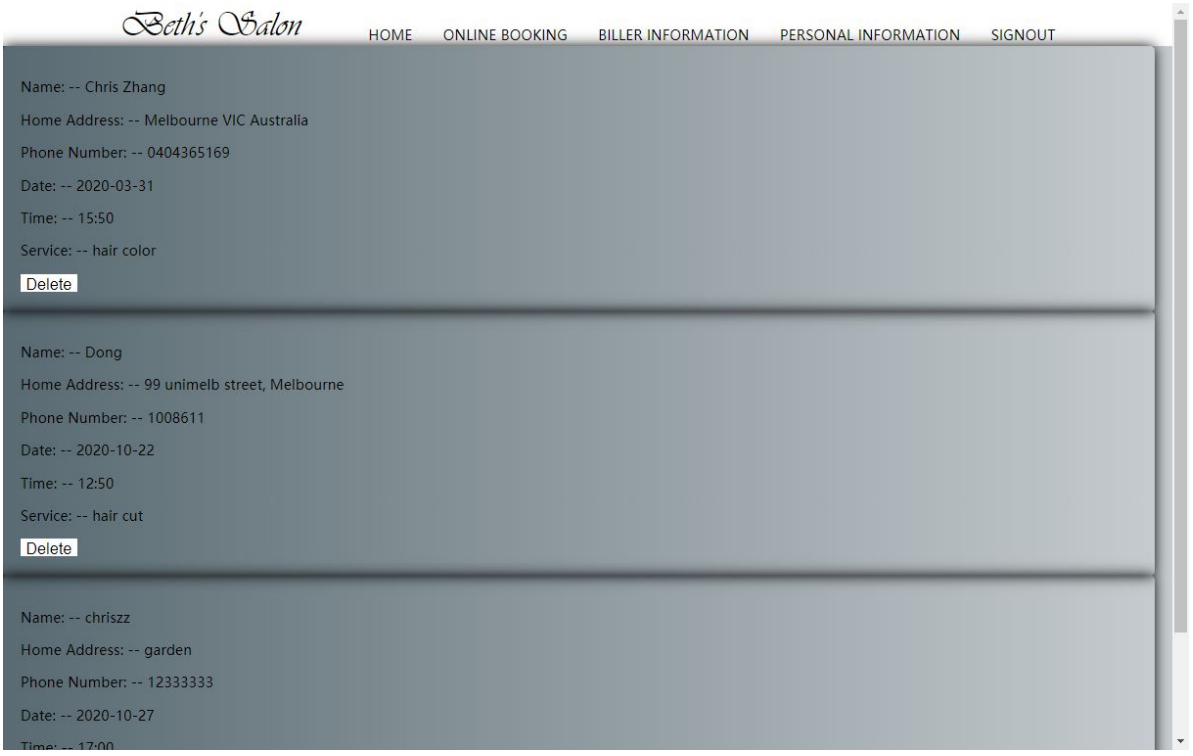
Web App	
Pre-defined admin account	√
Customer register function	√
User login function	√
Customer booking function	√
Customer update personal information function	√
Customer update biller information function	√
New booking request email notification function	√
Admin add service*	×
Admin view booking request	√
Admin manage booking request	√
Customers manage booking request	√
Database	√

Admin add service: this feature is deleted, we are not going to implement it.*

- **Screenshot of current product (booking functionality)**

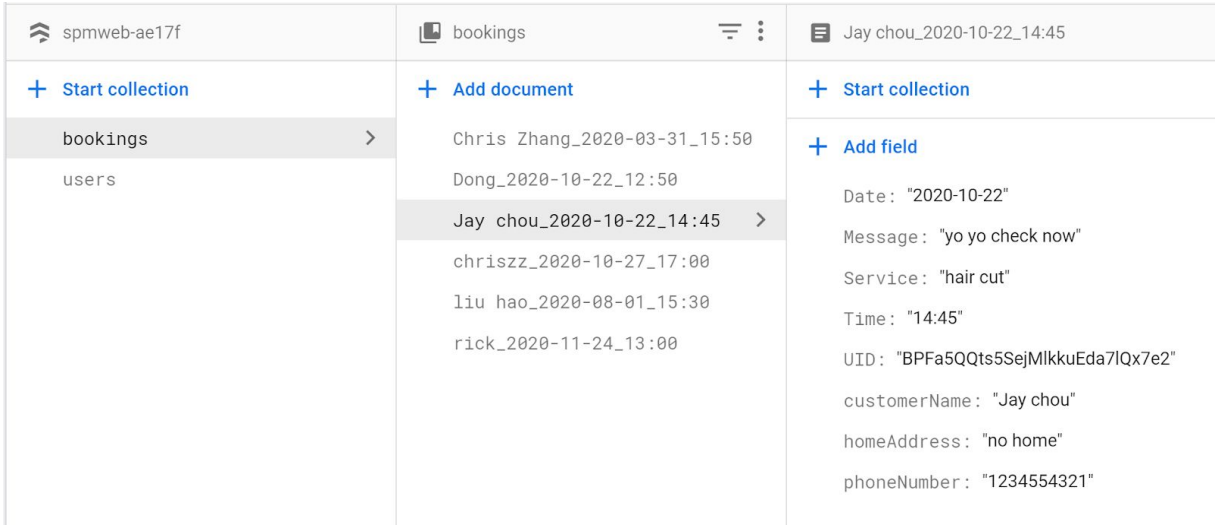
View booking request (admin): Now the admin can view all the booking requests and we categorise them into three parts, today's bookings, future bookings and previous bookings(finished), which are distincted by the date.

Delete booking request (admin): The admin can delete a booking if the booking time is not available or the customers ask to do that. This action will not generate a notification email as we consider that it is acted by the admin.



View booking request (customer): All the booking requests made by the current customer will be listed on the main page.

Delete booking request (customer): The customer can delete an appointment using the delete button followed by each booking request. If the customer deletes an appointment, a notification email will be sent to the admin.



Firestore data structure change: As new functionality is added to the web app, the previous data structure is not suitable for appointment deleting. In order to achieve it, we

change the data structure to name_date_time, which can be easily used to identify the booking request.

Cancellation notification email: This automatically generated email will be sent to the admin if a customer cancels his/her appointment, which contains customer name, date and time.

7.3.3. Risk Monitoring and Control (5 marks)

As the project is going to be finished and this week is our last sprint, we complete the website design and all functionalities that are required are achieved. The risks that mentioned before have not happened in the final sprint, however, we met a new risk. The email sending functionality after delete a booking does not always work. The smt website does help us to send deleting confirmation email to clients, however this function runs well for 4 to 5 times then stops working. We have debugged the code but haven't found any error in that part. However, after 20-30 mins, this functionality works again. Consequently, we have defined this situation as one of our new product risks.

Risk ID	Risk Type	Description	Probability (0-100%)	Impact	Justification
10	Product Risk	Email sending functionality after deletion sometimes not work	20%	1	Auto email sending functionality does not always works, it may because: (1) some potential code error (2) Auto email sending server issue

Risk ID	Trigger	Owner	Response	Response strategy type	Resources required
10	Auto email sending server issue or potential code errors.	Client	(1) The staff could make a phone call to the customer who has cancelled a booking. (2) Request more investment for a better and consistent auto mail sending server.	Avoid/Ignore	· Communication skills of staff · Strong mobility of staff, that the staff can make a phone call once the client cancel a booking · More Investment on the product

Appendix

Sprint 1 Timesheet

Name	Xudong Zhang	**Role**	The Scrum team (developer)
Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 28/9	4	1. Reviewed the study case and PMP document 2. Understand what product we are going to make and prepared for the sprint 1 planning meeting	16
TUESDAY 29/9	2	1. Search for web development tools (backend), Javascript and Google Firebase 2. Registered a new project in Firebase	
WEDNESDAY 30/9	4	1. Connected Google Firebase to our web app 2. Finish register function : store user information in firebase authentication and sent personal information to Firestore	
THURSDAY 1/10	3	1. Finish login function: the web app now can retrieve data from firebase authentication	
FRIDAY 2/10	2	1. Tested completed features 2. Fixed some bug and did some improvement	
SATURDAY 3/10	1	1. Summaries all information about current developed website 2. Prepared for test meeting	

Name	Ziru Niu	**Role**	Scrum Master

Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 28/9	4	1. Revise the study case and PMP document 2. Understand what product we are going to make and prepare for the sprint 1 planning meeting	15
TUESDAY 29/9	2	Update the content of PMP according to the given feedback	
WEDNESDAY 30/9	1	Revise the content of sprint 1 meeting	
THURSDAY 1/10	2	Check the process of the execution of the project	
FRIDAY 2/10	1	Check the integrity between the website and the firebase	
SATURDAY 3/10	5	Write the report of project status	

Name	Xinpeng Zhang	**Role**	Product Owner
Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 12/10	5	1. Revise the the user story done by last week 2. Refine the product backlog 3. Organize meeting 4. Investigating beauty service industry 5. Browse similar product as related work	15
WEDNESDAY 14/10	5	1. Evaluate the product done 2. Investigate what can be improved 3. Prepare for reviewing	

FRIDAY 16/10	5	1. Organize reviewing meeting 2. Writing documentation	

Name	Hao Liu	**Role**	The Scrum team (developer)
Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 28/9	4	1. Search for the web development tools, applications and language: WebStorm, html, css, javascript. 2. According to the user story, make a plan of the tasks that need to be implemented in sprint 1.	16
TUESDAY 29/9	3	1. Make the decision on the website interfaces: layout, color using, images. 2. Start on the html and css files, complete the demonstration of login and register page	
WEDNESDAY 30/9	4	1. Based on the authentication system in firebase, complete the demonstration for two main pages of the salon website for Admin and client separately. 2. Achieve the functionality: Admin can visit the admin main page. Client can visit client main page	
THURSDAY 1/10	2	1. Test current website pages 2. Did some research on how to complete the booking functionality on website	
FRIDAY 2/10	2	1. Tested completed features 2. Fixed some bug and did some	

		improvement	
SATURDAY 3/10	1	1. Summaries all information about current developed website 2. Prepared for test meeting	

Sprint 1 Meeting

Sprint 1 Planning Meeting Minutes

Meeting title	Sprint 1 Planning Meeting Minutes		
Date	28/9/2020	**Time**	6pm - 8pm
Type	Zoom online meeting		
Attendance			
Name		**If attended**	
Xudong Zhang		√	
Hao Liu		√	
Ziru Niu		√	
Xinpeng Zhang		√	
Introduction			
This is the first meeting in sprint 1 and we talked a lot about how to start our product. During this meeting, we discussed the details of user stories and had a more comprehensive understanding of the requirements. We divided user stories into small tasks and assigned them to different group members according to their position and responsibilities. After this meeting, we are all clear about what each of us should do and what we should finish before the next scheduled meeting.			
Meeting content			
How many user stories are we going to complete in the first sprint?		As this is the first sprint of the whole project, we decided to finish about 10 story points (20 hours in total). We will spend most of the time on research and designing.	
What is the overall designing style of our web app product?		As the product is for a hairdressing business, we have to make sure the style is suitable for it. The final discussion result is that we are going to make it simple and clean, with white, black and grey as the main colour.	
How do we assign tasks to each group member?		The product owner needs more time on planning. The scrum master needs time to check product progress. The developers will be assigned more story points for	

	developing.
When will the next meeting be held and what is the planned content for next meeting?	The next meeting is planned to be held on 11/10, which will be a test meeting of the current product at the end of sprint 1.
What should be delivered before the next meeting?	The layout of login, register and main page. The workable authentication system and a backend database.

Sprint 1 Test meeting and Test log

Meeting Information:

Date: 03/10/2020

Time: 3pm-4pm

Attendance: Hao Liu, Xudong Zhang, Ziru Niu, Xinpeng Zhang

Type: Zoom online meeting, screen sharing

Testing Log:

TestID	Feature	Relevant File	Test Environment	Result
1	Login page demonstration	loginPage.css loginPage.html	Web (Html)	Pass
2	Register page demonstration	registerPage.css registerPage.html	Web (Html)	Pass
3	Jump to register page (click register button)	loginPage.html loginPage.js	Web (Html, javascript)	Pass
4	Enable to register an account by entering correct information	registerPage.css registerPage.html	Web (Html, javascript, Firebase)	Pass
5	Enable to login	loginPage.html loginPage.js	Web (Html, javascript, Firebase authentication system)	Pass
6	Jump to user main page (using user account)	loginPage.js	Web (Html, javascript)	Pass
7	Jump to Admin main page (using unique admin account)	loginPage.js	Web (Html, javascript)	Pass
8	User main Page demonstration	mainPage.html mainPage.css	Web (Html)	Pass
9	Admin main Page demonstration	AdminmainPage.html AdminmainPage.css	Web (Html)	Pass
10	Database connection	Website:	Firebase	Pass

	stability	(https://console.firebase.google.com/project/spmweb-ae17f)		

Sprint 1 Retrospective

Meeting Information:

Date: 04/10/2020

Time: 6pm-7pm

Attendance: Hao Liu, Xudong Zhang, Ziru Niu, Xinpeng Zhang

Type: Zoom online meeting

Description:

This is the sprint 1 retrospective of our project, as we get started on our project from sprint 1, we mainly focus on the Login and registration system in our product. In this sprint 1 retrospective we will talk about three questions: (1) What did we do? (2) What should we have done better? (3) What we need to do in the next sprint.

The questions and the related outcome will be listed in the following table.

What did we do?	1. Establish the connection between database and our product 2. Start coding and complete the demonstration for: Login page, Register page, user main page and Admin main Page 3. Implement the functionality of the web site for example: a. Login button (login in to website) b. Register button (register a new account) c. Database (newly registered account will store in database) 4. We have a decent number of meetings during sprint1.
What should we have done better?	1. PMP document should update frequently: meeting logs/documents 2. Increase the speed of coding because we only have 2 weeks left for the product. 3. Try to make the layout and UI more user friendly
What do we need to do in the next sprint?	1. Continue the website development: a. Booking page b. Biller information page c. Personal information page d. Implement the functionality of each page e. Activate the functionality that the client can receive email after booking an appointment.

Sprint 2 Timesheet

Name	Xudong Zhang	**Role**	The Scrum team (developer)
Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 12/10	4	1. Reviewed the study case and PMP document 2. Understand what product we are going to make and prepared for the sprint 2 planning meeting	18
TUESDAY 13/10	3	1. Updated the database and added “bookings” 2. Using the frontend web layout, finish the booking functionality by sending the booking information to database	
WEDNESDAY 14/10	4	1. Did some research on how to send notification email automatically 2. Added SmtpJs to the script and use it to implement email sending	
THURSDAY 15/10	2	1. Implemented biller information add/update functionality on the biller information page 2. Update “users” in database to store users’ biller information	
FRIDAY 16/10	2	1. Test the web app and fixed some bugs in backend	
SATURDAY 17/10	3	1. Summarised all the new features and functionalities completed in sprint 2 2. Write the test log 3. Prepared for the sprint 2 test meeting and retrospective meeting.	

Name	Ziru Niu	**Role**	Scrum Master
Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 12/10	4	1. Revise the study case and PMP document 2. Understand what product we are going to make and prepared for the sprint 2 planning meeting	19
TUESDAY 13/10	2	Revise previous knowledge and continue to update the PMP	
WEDNESDAY 14/10	3	1. Study some online courses about web design 2. Extend the layout of the website	
THURSDAY 15/10	2	Check the integrity between the website and firebase database, ensuring that new bills are stored in the database.	
FRIDAY 16/10	5	Write project status report 7.2	
SATURDAY 17/10	3	1. Summarised all the new features and functionalities completed in sprint 2 2. Write the test log 3. Prepared for the sprint 2 test meeting and retrospective meeting.	

Name	Xinpeng Zhang	**Role**	Product Owner
Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 12/10	5	1. Revise the the user story done by last week	15

		2. Refine the product backlog 3. Organize meeting	
WEDNESDAY 14/10	5	1. Evaluate the product done 2. Investigate what can be improved 3. Prepare for reviewing	
FRIDAY 16/10	5	1. Organize reviewing meeting 2. Writing documentation	

Name	Hao Liu	**Role**	The Scrum team (developer)
Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 12/10	4	1. Reviewed the study case and PMP document 2. Understand what product we are going to make and prepared for the sprint 2 planning meeting	17
TUESDAY 13/10	3	1. Designed and finished the layout of the booking page following by the requirements and user stories 2. All the information can be input on this page	
WEDNESDAY 14/10	3	1. Designed and finished the biller information page, containing the biller name and address	
THURSDAY 15/10	2	1. Implement the transaction logic between different pages when the users do some action	
FRIDAY 16/10	2	1. Test the web app and fixed some bugs in frontend	
SATURDAY 17/10	3	1. Summarised all the new website pages in sprint 2	

		2. Write the test log 3. Prepared for the sprint 2 test meeting and retrospective meeting.	

Sprint 2 Meeting

Sprint 2 Planning Meeting Minutes

By the end of sprint 2 we have completed the booking function, customers can make appointments for services and will receive a verification email after a successful appointment. Customers can also view their biller information in their customer pages.

Meeting title	Sprint 2 Planning Meeting Minutes		
Date	13/10/2020	**Time**	5pm - 7pm
Type	Zoom online meeting		
Attendance			
Name		**If attended**	
Xudong Zhang		√	
Hao Liu		√	
Ziru Niu		√	
Xinpeng Zhang		√	
Meeting content			
Summarize sprint 1	We have made a good start for the project in sprint 1, the functionalities we wrote performs well during the test without many too many bugs. However, our progress is a bit slow, we need to fasten the product development in order to finish the project in time.		
Which user stories are we going to complete in this sprint?	We decided to finish user stories 4-6 in this sprint, accounting for 17 story points in total.		
How do we assign tasks to each group member?	Same as sprint 1, however, since we decide to fasten our development, all members are expected to spend more hours on their		

	work.
When will the next meeting be held and what is the planned content for next meeting?	We plan to hold two meetings for this sprint: a test meeting on 17/10 to test the new functionalities, a review meeting on 18/10 to summarize this sprint.
Prepare for the next sprint	The next sprint is also the last sprint of this project, we plan to finish the remaining user stories in the next sprint, also, we decide to write a conclusion about this project in the next sprint.

Sprint 2 Test meeting and Test log

Meeting Information:

Date: 17/10/2020

Time: 4pm-5pm

Attendance:Hao Liu, Xudong Zhang, Ziru Niu, Xinpeng Zhang

Type: Zoom online meeting, screen sharing

Testing Log:

TestID	Feature	Relevant File	Test Environment	Result
1	Booking page demonstration	onlineBooking.html onlineBooking.css	Web (html)	Pass
2	Biller information demonstration	billerInformationpage.html billerInformationpage.css	Web (html)	Pass
3	Personal information demonstration	personalInformation.html personalInformation.css	Web (html)	Pass
4	By entering booking information and click “book now button, the client can book an appointment	onlineBooking.html mainPage.js	Web (html, javascript)	Pass
5	After booking, the client will receive a Email contain booking details	onlineBooking.html mainPage.js Firebase	Web (html, javascript, smtp.js.com)	Pass/Error (sometime works, need improve)
6	The clients can update biller information in biller information page	PersonalInformation.html mainPage.js Firebase	Web (html, javascript)	Pass

7	The clients can update personal details in personal Information page	billInformation.html mainPage.js Firebase	Web (html, javascript)	Pass
8	The clients is enable to log out the account	loginPage.html loginPage.js	Web (html, javascript, Firebase authentication system)	Pass

Sprint 2 Retrospective

Meeting Information:

Date: 18/10/2020

Time: 6pm-7pm

Attendance: Hao Liu, Xudong Zhang, Ziru Niu, Xinpeng Zhang

Type: Zoom online meeting

Description:

This is the sprint 2 retrospective of our project, in this sprint, our focus is the booking system to enable the client to book an appointment, which is also the most essential part in this product. In this sprint 2 retrospective we will talk about three questions: (1) What did we do? (2) What should we have done better? (3) What we need to do in the next sprint.
The questions and the related outcome will be listed in the following table.

What did we do?	1. Star coding and complete the demonstration for: biller Information page, personal information page and booking page. 2. Implement the functionality of the web site for example: a. The client can book the appointment, the appointment details will be stored in the firebase. b. The clients can update their biller information, and update to firebase c. The clients can update their personal information, and update to firebase 3. We have some meetings: plan meetings, general meetings, test meetings, sprint retrospective.
What should we have done better?	1. PMP document should update frequently: meeting logs/documents 2. 1 week left, we need to spend more time on documenting and coding to complete the user requirement.
What do we need to do in the next sprint?	1. Continue the website development: a. Demonstration of the booking information in main pages.

	b. Both client and Admin can delete a booking, when a booking is deleted, the relevant booking information in firebase should be deleted as well

Sprint 3 Timesheet

Name	Xudong Zhang	**Role**	The Scrum team (developer)
Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 19/10	4	1. Reviewed the study case and PMP document 2. Check all the remaining features 3. Understand what product we are going to make and prepare for the sprint 3 planning meeting	17
TUESDAY 20/10	5	1. Did some research on how to delete a data in Firestore 2. Change the data structure from uni_date_time to name_date_time for location a specific booking request 3. Implemented the delete function for customers	
WEDNESDAY 21/10	1	1. Implemented the delete function for the admin	
THURSDAY 22/10	3	1. Test the automatically generated email because it sometimes does not work properly 2. Did some research on auto email sending 3. Did some research on gmail server security policy	
FRIDAY 23/10	1	1. Implemented the email notification when a customer cancels his/her appointment	
SATURDAY 24/10	3	1. Summarised all the new features and functionalities completed in sprint 3 2. Write the test log	

		3. Prepared for the sprint 3 test meeting and retrospective meeting.	

Name	Hao Liu	**Role**	The Scrum team (developer)
Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 19/10	4	1. Reviewed the study case and PMP document. Check all the remaining features 3. Understand what product we are going to make and prepare for the sprint 3 planning meeting 4. Did some research on how to read data and demonstrate the data in certain websites.	22
TUESDAY 20/10	5	1. Implemented the reading data ability of the website. 2. Create some blocks for appointment illustration. 3. Demonstrate the booking information in the User main page. 4. Create the delete button for delete functionality, so that users can delete a certain booking.	
WEDNESDAY 21/10	3	1. Demonstrate the booking information in the Admin main page 2. Create the delete button for delete functionality, so that user can delete a certain booking	
THURSDAY 22/10	5	1. Thinking about the main page for both user and Admin, decide to separate appointments illustration to three section (today's booking, previous booking, future booking) 2. Implemented these interfaces,	

		and the admin can enter these pages by clicking the text in the navigation section. 3. Did the research about how to get the current Date in javascript. 3. At the same time, demonstrate different booking details based on their date in correct pages.	
FRIDAY 23/10	2	1. Work on the PMP document and create the test table with all the features we are going to test in our sprint 3 test meeting.	
SATURDAY 24/10	3	1. Summarised all the new features and functionalities completed in sprint 3 2. Write the test log 3. Prepared for the sprint 3 test meeting and retrospective meeting.	

Name	Xinpeng Zhang	**Role**	Product Owner
Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 12/10	5	1. Revise the the user story done by last week 2. Refine the product backlog 3. Organize meeting	15
WEDNESDAY 14/10	5	1. Evaluate the product done 2. Investigate what can be improved 3. Prepare for reviewing 4. Revise test log 5. Test on final release to ensure it is ready to launch	
FRIDAY 16/10	5	1. Organize reviewing meeting 2. Writing documentation	

Name	Ziru Niu	**Role**	Scrum Master
Personal Timesheet			
Date	Hours	Details of accomplished jobs	Total hours
MONDAY 19/10	4	1. Revise the study case and PMP document 2. Check all the remaining features 3. Understand what product we are going to make and prepare for the sprint 3 planning meeting	15
TUESDAY 20/10	2	Revise user stories that have already been completed	
WEDNESDAY 21/10	3	Revise previous sprints	
THURSDAY 22/10	2	Test last features that have been added	
FRIDAY 23/10	3	Write project status report 7.3	
SATURDAY 24/10	1	Write a short summary of this project	

Sprint 3 Meeting

Sprint 3 Planning Meeting Minutes

Meeting title	Sprint 3 Planning Meeting Minutes		
Date	19/10/2020	**Time**	1pm - 3pm
Type	Zoom online meeting		
Attendance			
Name		**If attended**	
Xudong Zhang		√	
Hao Liu		√	
Ziru Niu		√	
Xinpeng Zhang		√	
Meeting content			
Review of sprint 2	We have done well for the sprint 2, we have completed a lot of user stories and they run smoothly under tests, the link between our website and the firebase database is stable.		
Which user stories are we going to complete in this sprint?	We will complete all remaining user stories in the sprint, including story 8, story 9 and the second half of story 7, with 13 story points in total.		
How do we assign tasks to each group member?	The development team implements the rest functionalities of the website, the product owner tests the product, the scrum master organizes the last sprint meeting and summarizes the project.		
When will the next meeting be held and what is the planned content for next meeting?	We plan to hold a test meeting on 24th Oct. to test our final product, and a review meeting on 25th Oct. to summarize both sprint 3 and the whole project.		
Summarize the whole project	We have gone through the whole developing process of this project so that we can do some self-examination.		

Sprint 3 Test meeting and Test log

Meeting Information:

Date: 24/10/2020

Time: 4pm-6pm

Attendance:Hao Liu, Xudong Zhang, Ziru Niu, Xinpeng Zhang

Type: Zoom online meeting, screen sharing

Testing Log:

TestID	Feature	Relevant File	Test Environment	Result
1	Retrieve date	mainPage.js AdminmainPage.js futureBooking.js previousBooking.js	Web (html, javascript, firebase: cloud storage)	Pass
2	The appointments stored in firebase can be demonstrated in User main Page	mainPage.js mainPage.html	Web (html, javascript)	Pass
3	Today's appointments can be demonstrated in Admin main Page	AdminmainPage.js AdminmainPage.html	Web (html, javascript)	Pass
4	Future appointments can be demonstrated in Future booking Page	futureBooking.js futureBooking.html	Web (html, javascript)	Pass
5	Previous appointments can be demonstrated in Future booking Page	previousBooking.js previousBooking.html	Web (html, javascript, smtp.js.com)	Pass
6	User can delete a booking from user main page	mainPage.html mainPage.js	Web (html, javascript, smtp.js.com)	Pass
7	Admin can delete the bookings made by	AdminmainPage.js AdminmainPage.html	Web (html, javascript)	Pass

	users	futureBooking.js futureBooking.htm previousBooking.js previousBooking.html		
8	After delete an appointment, the user can receive the delete confirmation email	mainPage.html mainPage.js	Web (html, javascript, smtp.js.com)	Padd/Error (the delete email not always works, this will be analysed in risk section)

Sprint 3 Retrospective

Meeting Information:

Date: 25/10/2020

Time: 6pm-8pm

Attendance: Hao Liu, Xudong Zhang, Ziru Niu, Xinpeng Zhang

Type: Zoom online meeting

Description:

This is the sprint 3 retrospective of our project. As this sprint is the last sprint for our product, our main goal is to implement the rest functionality according to the user stories, which is

(1) Demonstrate the booking information that is stored in the firebase on the website for User.

(2) Demonstrate the booking information that store in firebase on the website for Admin

(3) Both user and admin can cancel the booking from the website.

In this sprint 2 retrospective we will talk about three questions: (1) What did we do? (2) What should we have done better? (3) What we need to do next?

The questions and the related outcome will be listed in the following table.

What did we do?	1. Logged in customers are able to view their booking details that are stored in the firebase. 2. Logged in admin are able to view the booking details for all customers that are stored in firebase. 3. Complete the functionality of cancel a booking 4. Complete the auto email sending ability that the customer will get a cancel confirmation email after they cancel their booking.
What should we have done better?	1. Apply knowledge from lectures more properly to improve PMP quality. 2. Balance the project and works from other subjects better.
What have we learned in this project?	1. Necessary elements to be a good team, e.g. good communication, cooperation, tolerance of each other's mistakes. 2. How to write a basic project management plan. 3. How to build a fundamental website.
What do we need to do	As this is the last sprint, we still need to do some

next?	improvements: a. Debugs for the code. b. Complete the PMP document. c. Prepare for product demo.

References:

[1] H. Drakos and M. Zalk, “Lecture 3: Module 7.1 - Incremental Model”. Department of Computing and Information Systems, The University of Melbourne, 2020.

[2] H. Drakos and M. Zalk, “Lecture 3: Module 8 - Agile”. Department of Computing and Information Systems, The University of Melbourne, 2020.

[3] H. Drakos and M. Zalk, “Lecture 2: Module 5 - Stakeholder Management”. Department of Computing and Information Systems, The University of Melbourne, 2020.

[4] H. Drakos and M. Zalk, “Lecture 3: Module 8.3 - Scrum Roles - Product Owner”. Department of Computing and Information Systems, The University of Melbourne, 2020.

[5] H. Drakos and M. Zalk, “Lecture 3: Module 8.3 - Scrum Roles - Scrum Master”. Department of Computing and Information Systems, The University of Melbourne, 2020.

[6] S. Turner, "How online booking systems increase revenue for local businesses | Webflow Blog", Webflow, 2020. [Online]. Available: https://webflow.com/blog/online-booking-system-for-businesses.