Project Name (CP5 – Developing a website for a digital coaching platform to improve mental health and mitigate workplace-related psychological stress.)

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Group name (SOFT3888_M17_02_Group3)

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Executive summary

The project we are doing is “Developing a website for a digital coaching platform to improve mental health and mitigate workplace-related psychological stress”. The group is called SOFT3888_M17_02_Group3, which consists of Yuben Fang, Chenglong Li, Xinchen Xu, Jiaxu Chen and Jiaming Xu.

Our aim is to help emerging leaders, who are suffering from many aspects, such as work-related psychological stresses. We will be building an AI matching system to match both the leaders and the evidence-based coaches, who will be guiding them throughout the course. When a leader applies for a coach, after providing his preferences, the most suitable coach would then be paired with him automatically.

In the system, we will also be providing communication services, such as direct message function and zoom meetings. Furthermore, there are many other features. For example, the website allows both parties to schedule the meetings at any time. Leaders are able to set their own goals and record the progress. Coaches can manage their timetable, check and track the progress of the goals from leaders. In addition, a leader is able to submit his feedback for the assigned coach. One can change his coach whenever he is unsatisfied or feels uncomfortable.

Lastly, we will perform different testing plans to ensure the quality of our project, which includes unit testing, integration testing, system testing, the security tests, visual user testing, and regression testing. Apart from that, we will also use and perform different tools to track the group process quality, including Bitbucket, Slack, Google doc, Wiki and Jira.

In general, we are developing a website which provides evidence-based coaching services for the emerging leaders. This is to improve the leaders’ mental health and mitigate workplace-related psychological stress.

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Introduction

Problem statement

It is a known fact that the majority of leaders are suffering from many kinds of health and psychological problems. However, there are few evidence-based coaching platforms for helping to deal with mental and psychological problems of emerging leaders. Those leaders are important to the society, because the cities need to evolve and improve. If the issues are persistent, the productivity and capability of the leaders would shrink hugely. In order to make our cities a more cheerful place, we need to solve this as soon as possible [AMERICAN PSYCHOLOGICAL ASSOCIATION, 2020].

The overall project vision, goal, purpose or objective

Our project is about building a web platform to help emerging leaders, who are in need. The aim is to improve their performance in the workforce, help them to regain confidence to become more resilient and increase their well-being and perseverance. We wish to help as many emerging leaders as possible, so that the society we are living in would become much better.

What the project will achieve

We hope to increase the emerging leaders' performance to their peak level. At the same time, they would have the capability to deal with any obstacles that would occur in the future, as well as avoiding long term mental health issues. In the meantime, we would be providing relevant and beneficial information for them to absorb. For example, guiding them to develop scheduling abilities, or indomitable self-esteem.

The key stakeholders, what do they do, and how they interact

In the website, emerging leaders are paired with evidence-based coaches, via the AI-matching system that we created. This is the evidence that both the leaders and coaches are the stakeholders in the project.

Resilience, psychological well-being, mental health and many other criteria, are crucial for the emerging leaders to have, in order to strive as time goes. Therefore, the evidence-based coaches stand a supreme role. According to the leaders' needs, the coaches would convene the leaders' thoughts and then finalize a specific course for them. Communication between them can be performed at any time.

Another stakeholder would be admin. The main job of an admin would be the management of the users. For example, the approval of the AI matching result, the submission of feedback from the leaders, manually matching the leaders and coaches, as well as adding a coach to the website after his application is accepted.

Resources and risks involved in the project

In addition, the client provides us two websites(coachhub.com, betterup.com) that provide similar service as us for referencing purposes. This would be beneficial for us, during the development process.

Hence, the project needs a variety of trustworthy and honourable coaches in the first place. In general, this can only be achieved via a safe and reliable website. This means that our website must be able to withstand cyber attacks. Another important risk would be that we are unable to determine the opinion or preference of the users. In other words, we cannot guarantee that our product would be most appealing to all of the emerging leaders.

System Specification and Design:

Overview:

Our development of the project consists of two Sprints, which are utilised with Jira. We created roughly a total number of 50 user stories, including tests. Before the development, we brainstormed for every possible scenario and created the user stories. They have also been finalised with our client. Up to now, everything has been completed. Appendix A1 shows the user stories we have done. All the user stories listed below can be accessed from the Appendix A1. We have 3 types of users in the website, which are leaders, coaches and admin. The point of creating the user stories is to prevent any edge cases that may be happening when a user is using our website. We need to exclude any obstacles before deploying.

Leader

As a leader, he needs to register first. This is because all of the functionalities of this website require correct personal information to be carried out. Some of the user stories are designed for the actions that the leaders may perform. Some user stories align with registration and some align with the login part. In Appendix A1, the user story 6 and 8 has been created beforehand to address this matter. Also, retrieving personal credential is also important to be taken note, which has been illustrated by user story 9.

Since we have many features, we have put ourselves into the leaders' shoes already. For example, if a leader feels that the current matched coach is not performed up to standard, he can submit his feedback at any time, to request a change of coach. This has been shown in the user story 4. And by submitting the feedback, it can also be served as a compliment for the coach.

And this is what we wish to achieve. Some leaders may wish to have a self assessment, for some reasons. This has been thought of in the user story 13.

One of our main features is the AI matching system. We need to ensure the most appealing result is produced, which is shown in user story 14. A leader is guaranteed that the matched coach is the most suitable for him for all time. Beside communicating or consulting with the coach, some leaders may wish to find out more about the website, or the benefits of choosing an evidence-based coaching session. This has been illustrated in user story 12. We need to ensure that services are provided to every possible kind of users.

Another key feature would be the communication tools in the website. It is common sense that two parties must be able to communicate at any time, so that it would be meaningful. As stated in user story 1, the user is able to talk with his coach whenever he prefers. In addition, every meeting session has generated an unique zoom chat link automatically. This would then further improve the quality of the coaching sessions.

Coach

As a coach, he needs to apply first. As suggested by the client, a coach should never access our website before the admin gets approval. This is to ensure that the quality of the coaches are examined and provide a more adequate service to the emerging leaders. After admin approves, the login credentials are then sent to the coaches. The coach then needs to enter his strengths, capabilities, goals that he is good at and zoom keys. This is shown in user story 26. For the zoom keys, this is for the generation of the zoom links with the leaders in any of the meeting sessions.

We have thought of multiple scenarios about the management of the schedules of the coaches. This is because when the coach is assigned to many leaders, he needs to be able to manage all of the schedules efficiently. This has aligned with our user story 7. Beside the management of timetables, the majority of coaches may wish to track the progress of the leaders. This has been created in the user story 27. This would then help the coaches to have a clearer mind of methods for guiding the leaders.

Admin

As an admin, his job is to manage the users. Most of the user stories about the admin side are located in the Sprint 2. This is because the client wants us to focus on the basic functionalities of the coach and leader at first. Firstly, as mentioned in user story 15 and 16, an admin should be able to delete or add a user whenever he needs. And we believe this should be the admin’s privilege. Also, as suggested by the client, the result of the AI matching system should be shown to the admin first. This is to double-check the result. The main reason is that we have limited data for now and the project has just been developed. We need to gather more evidence that the system would not make any fault as time goes on. When the application is mature enough, the admin would then let the AI do the work alone. At the same time, if the outcome of the matching is not adequate, the admin should manually match the leaders and the coaches, which have also been noted in the user story 18. As stated above, when a leader submits a feedback, the coach should not be receiving it immediately. As suggested by the client, the admin needs to check the content of the feedback, to prevent any unpleasant things such as vulgarities. Hence, the user story 19 has been created for this.

As mentioned above, many of the user stories are created and varied according to the client's needs. Another example would be about the login part. As stated by the client, the website should always have a single login portal. This would then need to distinguish the type of users that are logged in. User story 6 has tackled this perfectly. As we were developing the website, the client said that it would be more suitable if the user is able to check the background and strengths of the coach, who is matched for him. This has been tackled by user story 3. This would create a sense of relief for the leaders indirectly.

Some non-functional requirements would be the security of the credentials of the users, the usage of cookies of the website, designs of the pages and the back-end parts. They are not included in A1. They basically operate behind the scenes, where users would never be able to utilize or study with. Although they are not essential, or required by the client, we feel that these kinds of features would definitely benefit the website in the long run. In general, after discussing and presenting to the client, he is very pleased with the outcome.

Details For Each Feature In Our System

Completed Features

AI Matching(admin matching approve)

The AI matching system is within the initial scope of the project as shown in the Project Scope Statement. It helps leaders to match suitable coaches based on the criteria user provided which includes 'the main goal', the 'industry', the 'year of experience in that industry', the 'preferred age of the coach' and the 'preferred gender of the coach'. The page can be seen in the Figure 8.1 with commit to the bitbucket and it relates to the user story 14. Because of less real data provided and different priorities in different criteria, we decide to use an unsupervised learning method, clustering, to build the model. Then, we randomly generate fake leaders and coaches to match through the model we build. The results can be seen in the repository. After that, we checked the results with the client to ensure the reasonability of the results and make minor adjustments on the model to improve the performance of the model, which can be seen in the commit.

Additionally, we made changes of the procedure of the AI matching. After the leader clicks the 'match' button, it will be submitted to the admin page for confirmation. Before the submission is confirmed, there will be a message popped up to remind the leader that the application is in processing as shown in Figure 8.2. In the dashboard of the admin page, there will be new applications sent from leaders for matching requirements as shown in Figure 8.3. The leader will be successfully matched to the corresponding coach after confirmation from the admin side.

This new change is related to the user story 18 with commit in Bitbucket.

Assessment

After the leader clicks 'agree' in the Match Application page, the assessment page will show the information that the leader provides for the AI matching system with the coach matched to the leader. The page was shown in the Figure 8.22

The evidence of the completion of this feature can be found from the commit and it relates to the user story 13

Coach info

After the leader clicks 'agree' in the Match Application page, the leader's 'Your coach' page will show the information of the coach who matches to the leader as shown in Figure 8.39.

The evidence of the completion of this feature can be found from, with the commit and it relates to the user story 3.

Message

From Figure 8.4 to Figure 8.10 show the whole process of the message system. Basically, a user, of a leader or coach, is able to send a message to the other at any time.

The evidence of the completion of this feature can be found from the commit

As mentioned by the client, the message function is not required to behave in a real-time way. This is because the users would definitely be occupied with many things on a daily basis. Hence, the present of a timestamp would be more than enough.

This feature has completely satisfied the user stories 1.

Schedule

The schedule functionality contains two parts, leader side and coach side, each of them are implemented to satisfy the user story 1, user story 7 and user story 11.

The flow of the functionality are:

- Coaches provide their available time in the schedule.
- Leaders check the schedule and pick time that they want to meet with their coaches from those available time provided by coaches.
- Leaders can find the available time shows "picked".
- Coaches can see the time they provided and who picked it.

Each single available time is one hour, this is defined by our client, he considers the standard meeting as one hour long.

Coach side:
Coach's schedule allows coaches to provide when they are available to meet with leaders by adding time on the schedule, the schedule is shown in Figure 8.25 and Figure 8.29.

Coaches can select a time period as their available time, the program will create multiple single one hour available time and add them into the schedule. For example, adding 7:00-10:00, 7:00-8:00, 8:00-9:00 and 9:00-10:00 will be added to the schedule. There are also two options provided to coaches: "apply the time for all days in this week" and apply "the time for all [Weekday] in this month", the [Weekday] is the weekday of the selected date. With these two options, coach can add their time more easily, the first option can add the same available time period for all days in the same week and the second option can add the same available time period for all same weekday in this month, e.g. add 6:00-8:00 for all Thursday in June. The functionality of these two options is not defined in the user stories and scope statement, but this is made to improve the usability since we receive feedback that says that it is hard to add multiple times from the usability test. In addition, there is also a constraint that the coach can't add time that is already past. For instance, now is 2021-10-11 13:00, we can add any time before this time like 2021-9-11 13:00. This is not included in the scope as well, but adding a time that is already past conflicts with the logic. After leaders pick the coach's time, the coach will be able to see who picks which time.

Leader side:
The schedule of leaders can be seen here: Figure 8.23. The functionality of leader schedules is simple, leaders can check all available time provided by coaches, and pick any unpicked time to schedule a meeting with their coaches. After the leader picks a time, the text of the button of pick will be changed to picked, like this: Figure 8.26.

This functionality is basically completed in this commit.

Zoom

the your-coach page, leader could pick an available time to hold a meeting with the coach. However, some days may not have available time to pick. In this situation, a leader has to contact his/her coach to generate a pickable time.

In the coach home page, a coach is able to create an available time by choosing a day in the calendar.

Then back to the leader's 'your coach' page, now the leader is able to pick the time to have a zoom meeting with the coach. Next, the leader's session list of the home page will show the related zoom meeting information, including starting time and meeting link. The leader can join a zoom meeting at appointment time by clicking the "zoom" button, the webpage will jump to the zoom joining page.

The session list of the coach home page will also show the meeting information after the client picks a time to zoom.

The evidence of the completion of this feature can be found from with the commit

All the pages can be seen from Figure 8.23 to Figure 8.29

Feedback(admin feedback approve)

From Figure 8.11 to Figure 8.17 show the whole process of this feature. In layman's terms, a leader needs to submit an initial impression for the coach on the “YourCoach” page first. Then, the leader is able to write comments and rate the coach. Before the coach is able to see the feedback, the admin needs to approve. This is requested by the client. This is to prevent any bad things, like vulgarities, from the leader's side. Finally, the coach is able to see it.

The evidence of the completion of this feature can be found from the commit

During the implementation of this feature, the client had also suggested a few improvements. For example, the position of the “start button” should be placed at the beginning of the “Feedback” page. And the size of the pop-out window of the survey should be larger. In general, all the requirements from the client have been completed.

This feature has completely satisfied the user story 4 and user story 19 .

Admin(add/delete leader/coach, manually match)

The admin site is an extra feature which includes adding coaches, deleting and displaying coaches, adding leaders, deleting and displaying leaders, manually matching, and not in the initial Project Scope Statement. And this feature can be related to the user story and bitbucket commits(add and delete user), bitbucket commits(manually match). In the admin site, we set up an admin account manually which allows admin to add and delete any coach or leaders to better manage the system and company. Furthermore, the admin can also manually match any leader with a specific coach or remove his current coach based on the feedback and the admin's decision.

For the functionalities of add and delete users, we create different tables to contain leaders and coaches and their related information in the admin site. And on each row of them, the admin could click on the delete button to delete this row of leader or coach. In addition, if the admin wants to add a user, they can click on the add button located above each of the tables. Then, the admin will be redirected to the add leader or coach section to submit their requests.

At the initial functionalities of the admin site, we didn’t include and consider the manually matched feature inside the admin site. Based on the client's expectations and suggestions, we implemented this feature in the following weeks and finished it before the deadline. For its functionality, once the admin clicks on the match button located in the admin Dashboard section, the admin will be redirected to the manually matched section. And the admin could select any leader and coach inside the dropdown to do the manually matched action.

Goals

The goals system is required in the initial scope of the project as shown in the Project Scope Statement which is related to user story 10. It allows leaders to set up at maximum 3 sub-goals with progress tracking as shown in the Figure 8.48 with the commit.

From the coach side, it shows the sub-goals with progress of the leader matched to him as shown in the Figure 8.49 with the commit. We successfully finish the system as required from the scope and use unit tests to ensure the quality of the system.

Login + Register + Coach application(email api) + password

For the login, register, and forgot password are required in the initial scope of the project as shown in the Project Scope Statement which is related to user story and bitbucket commits(login & registration), bitbucket commits(forgot password). The coach application is an external feature separate from the register feature based on the client's expectations which is related to user story and bitbucket commits. And password hashing is also an external feature which improves our security and is related to user story and bitbucket commits. These features will allow any new user to register an account and login their account in a secured method to our website. And it will also provide an opportunity for the interested and experienced coaches to join our company. And easy for admin to filter coaches based on the sent applications.

At the initial implementation of these features, we set up our login and register pages and functionalities based on the prototype and client's schema. However, our admin is not happy with the style. For example, the login and registration page is too sample and empty and gave us a suggestion to separate the coaches' registration from the users' registration. In the second implementation, to satisfy client's expectations, we placed the login and registration form to the left of our page and filled in the background with a linear faded colour. And for the coach application, we use an external API to send the information coach filled in to the form on our website as an email to the admin's email. And the admin could make a decision and add this new coach by using the add coach feature in the admin site. Furthermore, to secure our website quality and security, we also add password hashing feature to store the encoded value of each users' password into our database.

Profile(leader/coach)

The functionality relates to user story 5, and the leader profile and coach profile are shown on figure Profile 1, Profile 2, Profile 3 and Profile 4. Leader profile and edit profile page is defined in the initial scope and user story but the coach profile is added later.

Leader profile contains some basic information of leaders and leaders can modify all information stored in the profile. However, username change can be changed to a username that is already used by others and age can only be numeric and not larger than 99. This functionality is basically completed in this commit.

Coach profile contains information about the coach, especially there are some special information like coaching experience. Coaches can modify all information inside their profile and username and age change will be restricted as well.This functionality is basically completed in this commit.

Explore + Landing page

In A8, the explore page is shown in Landing Page 1 to Landing Page 6. The evidence is shown here. This is the landing page of our website. Any user needs to log in to the system to use the website.

Features Were Not Completed

The features we didn't finish are the signature system and user image profile which relate to user story 22 and user story 23. The signature system has the lower priority in our project as mentioned in the initial project scope provided by the client. Besides, we spent time on the new features such as admin page and confirmation system for AI matching, such that we didn't have enough time to implement the signature system. For the user image profile system which is designed by ourselves and not required in the initial project scope as well, we found the Sqlite3 was not able to store images. However, we were not provided a cloud database server, such that we have to use Sqlite3 which can be managed locally.

System structure overview

The whole system is based on the Python Programming Language, HTML, and Sqlite3 database to implement a web application. HTML is the basic language for the front-end implementation with CSS, JavaScript, and other useful packages relying on it. The flask is the main package for the backend of web applications relying on Python. It deals with the data sent from the front-end and makes responses back to the front-end or database. It is like the bond between the front-end and the database. Finally, the database stores information sent from the backend and transfers data back to the backend if needed.

In the implementation of the backend, we use the Model-View-Controller pattern which is a widely used design pattern in the development of web applications. The MVC pattern follows Single responsibility and open-closed principle in SOLID principles (*GlenWolfram, 2020).* In MVC pattern, the 'M' means model which holds the state information of the system, the 'V' means view which is used to organise information and present it to the user, The 'C' means controller which contains routes of front-end and detects operations from user side. The UML of the MVC model can be seen in Figure 6.1 which shows basic knowledge of how it works. Additionally, there is an ER diagram presenting the connections of tables in our database which can be found in Figure 6.2 as well.

Basically, our team implements nearly the whole web systems including kinds of important functionalities such as AI matching system, message system, login system, goal tracking system, feedback function and admin system. Most of the front-end pages are designed by us except the landing page which refers to the design created by our client through WIX. Additionally, we integrated some CSS packages into our front-end including font-awesome and bootstrap. Besides, we use JWT token and zoom API in our authentication system and zoom system. All these external packages and APIs will be introduced in the following parts.

Quality of Work

Evaluation

Details of tests

Use of relevant testing types

Unit testing

Unit testing is a technique by which our developers can check whether there exists some bug and error in the python functions. And once they detect any bugs, they can fix them as soon as possible. With the unit tests, our developer could test different situations when our programming is running. For example, in the manually matched functionality, the function needs to handle matching leader with coach or remove a coach for a leader. Thus, during the unit testing, we have to test these two different situations. By accepting the unit testing, we can avoid problems in most situations and then prove the correctness of each component of the system. In addition, with the unit tests, our developer could also check whether the system outputs the correct results, so that we can test our program performance. We wrote the test program with the python's unittest module and generated the test code coverage report with the python's coverage module. Additionally, we did some operation to prevent database content from being modified by those testcases that will operate with the database by making a copy of the database before every testcases then overwrite the database with the copy to restore the status of the database back to the status that haven't changed by the testcases. However the unit testing is not enough for ensuring the whole project quality. Thus, we performed the following other testing techniques.

Integration testing

In our project, we have a lot of separate parts including database, python flask, front-end program, etc. With the integration testing, we can test how these components work together. We can use integration testing to do some jobs which unit testing can not, for example, feedback provided by leaders should be displayed correctly on the admin's feedback page and wait for the admin to decide to approve or delete, to test such data transmission between two component, we need to write a testcase that run the provide feedback function and admin's get feedback function together and check if they work well together.

Acceptance Test

User stories	Test cases			
As a regular user, I want to be able to login into the system so that I can enjoy the services.	testcase1	testcase2	testcase3	

As a leader, I want to be able to register so that I can get an account for myself to start enjoying the services.	testcase4	testcase5		
As a regular user, I want to be able to access my own profile so that I can view/edit any personal details or website settings.	testcase6	testcase7	testcase8	testcase9
As a leader, I want to set goals for myself so that I can decide what I want to achieve while receiving evidenced-based coaching service.	testcase10	testcase11		
As a new leader, I want to find a coach so that I can improve my work and life.	testcase12			
As a leader, I want to be able to meet and schedule with my coach digitally, so that I can access services flexibly from wherever I am.	testcase13			
As a regular user, I want to be able to chat with my leader or coach at any time, so that I can have or provide support in between my sessions.	testcase14			
As a leader, I want to be able to see my coach's background, so that I can know more about my coach.	testcase15			
As a leader, I want to be able to give feedback to my coach, so that I can give the optimal coaching performance.	testcase16			
As a regular user, I want to be able to change my password freely so that if I forget my password, I can easily change to a new password.	testcase17	testcase18	testcase19	
As a leader, I want to see my initial assessment result so that I can know more about myself.	testcase20			
As a regular user, I want to learn more information regarding this website.	testcase21	testcase22		

As a coach, I want to apply to be a coach so that I can work for Emerge.	testcase23	testcase24		
As a coach, I want to be able to easily manage my scheduled sessions so that I can focus on each user and make my timetable reasonably.	testcase25	testcase26	testcase27	
As a regular user, I want to see the schedule so that I can manage my time wisely.	testcase28			
As a coach, I want to be able to see my leaders' goals and their progress on each goal, so that I can track their progress to help them achieve their goals.	testcase29			
As a coach, I want to be able to see my leaders' feedback to me, so that I can improve my coaching.	testcase30			
As an admin, I want to be able to see matching information of every user and coach, so that I can manage them easily.	testcase31			
As an admin, I want to be able to add or delete coaches so that I can manage my employees at any time or stop some malicious accounts.	testcase32	testcase33		
As an admin, I want to be able to get notification once a leader matches with a coach, and I am able to approve this match, so that I can manage it easily.	testcase34			
As an admin, I want to be able to manually match the leader with the coach, so that if there is some issue with the AI matching, I can make some action manually.	testcase35	testcase36		
As an admin, I want to be able to control the sending of a leader's feedback, and review it, so that I can know the performance of our coach and employee.	testcase37	testcase38	testcase39	
As a coach, I can have a zoom meeting with with my matched coach or leader	testcase40			

As an admin, I want to have my privileges which are different from normal users so that I can manage the website easily.	testcase41			
As a leader, I am able to sign document through the application	testcase42			
As a regular user, I am able to upload the profile picture to the profile page	testcase43			

For the details of each acceptance test case, please refer to the appendix A4.

Think aloud

We designed a set of tasks that simulate some possible operations on the system and ask participants to complete these tasks and speak out what they are thinking during completing these tasks. This helps us understand how our user may think and find some blind spots inside our design as well. After that, we can modify the website to improve its usability depending on the feedback we got from participants.

Test-first approach

Our project performed the TDD, Test Driven Development. TDD will track all of the software development by repeatedly testing the software against the different test cases. By applying this, the code can be easily maintained, and code refactoring will become much more smooth. Furthermore, our project will also use the version control tool through Bitbucket to ensure every developer could work together, and collaborate with each other with fewer conflicts. It brings clarity when we develop our project. Furthermore, we will also perform issue tracking on Jira. In this case, we can easily track our project progress, divided tasks. During the issue tracking process, we also create and open different sprints which contain different tasks assigned to developers. The client could see the outcome and progress anytime.

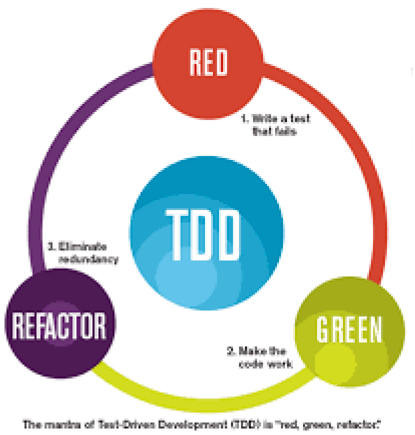


Figure1. *Introduction to Test Driven Development(TDD).* (*Anar,* 2018).

Use of relevant testing techniques to design test cases

We made test cases using code coverage analysis which make sure all possible statements and paths are tested, we want to reach 70% code coverage. However, even a 100% code coverage doesn't mean no bugs in the program, we still need more test cases for acceptance test and integration test, therefore we will apply the use case testing which means we will identify test cases from the processes of how users will use the system. By using this technique, we can design test cases which focus more on users actions than the system behaviour, so we can find out those cases we may ignore when we focus on testing the code itself.

To design specific test cases including numeric or boolean input, we can use equivalence partitioning with boundary analysis. For example, we need to test the length of username is valid or invalid, we set at least 4 digits and at most 15 digits are accepted for user name, we can create partitions: no input, 1-3 digits, 4-15 digits, more than 16 digits, any conditions pass on these partitions then other conditions on the same condition pass, so we can basically just test one value from each partition which reduce the combinations of different condition we need to test a lot and this is the idea if equivalence partitioning. Since some problems generally come out when testing extreme situations of the program, we can use equivalence partitioning with boundary analysis to test these extreme situations, this is because these two techniques share a similar idea that they both test values on each partition, but boundary analysis only tests boundary values. Using the username example, this time we test no input, 1 digits, 3 digits, 4 digits, 15 digits and 16 digits as they are extreme values.

For those test cases that don't include numeric input but need to test a combination of actions, we will apply the decision table to help us design.For example, in our product, the user can set actions for themself, but the user needs to have a goal and a coach first.Then we can create a decision table like this:

	Rule1	Rule2	Rule3	Rule4
Coach	T	T	F	F
Goal	T	F	T	F
Output	T	F	F	F

With this table, we can have a clearer view of what is the result of different combinations of actions, so we can design the test case easier.

Execution of designed test cases

The unit and integration test case are stored in the test.py in the bitbucket repository, it is run with the code `python3 test.py`. Here are some typical bugs we found and fixed.

1. message function was unable to scroll to the bottom(the latest message) when the page is refreshed. This was fixed by adding a javascript function which is stored in

the chat.js .

2. When we perform the think aloud, we found some icons can't be selected in some pages. For instance, the sidebar of the admin page is not clickable when the user is adding a new leader or new coach. This was fixed by rescaling the input area of adding new users whose layout covered the sidebar.
3. When we performed unit tests in the functionality of AI matching, we found that the result distance of gender is not as what we expect. As a result, we found we use the goal of the leader to compare with the gender of the coach, which can be found in the commit.
4. When we performed the unit testing, we found the order of some sessions was not ordered by time. The reason is that python can't compare time in the type of string directly. Therefore, we transfer the type of string into daytime packages to compare, which can be seen in the commit.

The virtual user testing is stored in the virtual_user.py and virtual_admin.py in the bitbucket repository, it can be executed by running commands "python3 virtual_user.py" and "python3 virtual_admin.py".

Code coverage report

In addition, to see our performance and quality of our unit testing, we generate the code coverage reports which demonstrate how many lines and functionalities we have covered in our unit testing and integration testing. By generating these reports, we can easily track and make an improvement on our unit testing strategies. Furthermore, these reports could also guarantee our code and functionalities quality, the more code and functionalities covered, the more quality of our code base can be secured. We got a 60% code coverage rate(Appendix Figure3.1) which is a bit low. This is because we are using flask to build our website which contains many route functions which we didn't find a way to test with python's unittest module but test with virtual user testing which is introduced below. The code coverage is 90%(Appendix Figure3.2) if we exclude those route functions.

Other testing-related work

LightHouse accessibility report

LightHouse is an open source automated tool for testing and measuring the quality of web pages. It will run a series of audits against different pages and then generate a quality report after we give a url link to it. In our website and system, we also performed lighthouse reports for some core web pages on the server to see the accessibility of each different page. After we first performed the lighthouse report, our overall average mark of different pages is 78.18, and we lost marks on the use of html tags, like some missing of <title> tags, etc. Based on the first report, we make a lot of improvements on what report shown to improve our website quality. And successfully increased the mark to 93.91.

***Improvements table will be shown in A5**

Virtual user testing

In our website and system, we also performed virtual user testing both for admin site and normal user site by using the external package selenium of python. For the virtual user testing, basically our testing code will automatically run as a virtual user to explore our website to test the UI functionalities and usabilities. Once we perform virtual user testing, it can improve our UI and code design and quality. Because when a virtual user is running, we can get feedback on every functionalities and design of the UI, if there are any bugs and errors, the virtual user testing will fail and we can catch the error and fix them as soon as possible.

Security testing

In our website and system, we will also perform security testing. To apply this, we will simulate a hacker to attack our website by using the attack methods which include SQL injection, XSS attack. For example, by applying the SQL injections and XSS attack defence, we will set up a firewall to secure the user database to private their privacy information, including name, password, etc. by using the Flask and SQLite external package. Once our system detects some threat query, it will block that action immediately and do nothing in our system. In addition, it will also prevent the attackers from logging into our customers' accounts. Furthermore, to secure our user's account, we also perform a hashing method to encode the user's password and only store the hashing value in our database.

Types of test that is not used

Beta testing

For our project, we may perform different test techniques of Alpha testing, but for Beta testing is not suitable for current consideration. Because at current our project is not considered to deploy to the public and do Beta testing. Thus, the Beta testing is not suitable for our project at the current stage.
Memory Leak testing

For our project, the Memory Leak testing will also not be applicable. Because for our project we use the python programming language which is not required, unlike the C and C++ programming testing, for us to free the memory once the system program is finished.

Conclusions

	Summary	Limitation
Unit testing	Unit testing helps us improve the quality of each individual component and helps us to make sure correctness of each part.	Unit testing is not enough to make sure the quality of the project since it only prove the quality of individual component but not consider if they work properly

		together.In addition, with python's unittest module, we didn't find how to test flask's route function which calls different functions or render html pages when receiving different web requests. However, they are tested by virtual user testing.
Integration testing	Since the quality of each component is proved by the unit testing, we use Integration testing to make sure the combination between each component works well.	Integration testing can only start after unit tests are completed since before test combination between components, we need to make sure each component is correct, so it is conducted late.
Acceptance testing	Acceptance testing makes sure each user stories are satisfied so that the product is acceptable to our client since we design each testcase of acceptance testing based on user stories, in other word, client's requirement.	Hard to perform such acceptance testing since there are too many testcases.
Think Aloud	Think aloud makes sure the usability of the website by helping us to understand users' thinking and receive feedback from real people. In addition, with think aloud, we can observe participants directly.	We can't find emerging leaders who are the target users of the website to participate in the think aloud test which reduces the effect of think aloud.
LightHouse Report	By performing the LightHouse report, we can find a lot of design issues on UI and html tags use. For example, in some pages, some developer may have forgotten to add <title> tags, etc. which is not professional in web development and may lower the LightHouse mark and accessibility. After we make an improvement on these issues, our website's quality can be guaranteed.	Because our server is not in Australia, the performance mark is very low based on the high lag of the internet. Thus, we can only accept and make an improvement on the accessibility report.
Virtual user testing	By performing the virtual	Some of the features are

	user testing on our website and system, we can find a lot of errors and bugs. For example, some buttons may not successfully redirect the user to the destination page, and some of the links cannot be located by the virtual user. After we make an improvement and debug on these issues, our website's quality can be guaranteed.	really hard to test and to see that outcome. For example, in the messenger feature, the virtual user testing is hard to detect whether the message has been successfully sent and received. We can only test some essential features like the different page redirects, buttons functionalities, etc.
Security testing	By performing the simulated attacks on our website including the SQL injection and XSS attacks. All of the attacks have been blocked by our system and do nothing on the frontend. The improvement by this testing has successfully secured our website security and quality.	For example, for the security part, at the beginning, we also want to apply the defence for DDos attacks. However, it is really hard to build a 100% defence at the current stage. Because the DDos attack will send multiple requests to attack the web resource, and our server is hard to build defenses for this.

Limitations of the system

- For our project and system, we didn't consider other web browsers except Chrome and Firefox. In this case, our website's layout and style may not be displayed appropriately on other website browsers.
- For our project database, we used SQLite to store the user's information, etc. However, SQLite could not handle storing too much data, information, and requests. Thus, our system and website may not be able to accept too many users and requests.

Tools used to build the system

- Tools in front-end
  - o HTML – We use HTML for our basic front-end development, because it is a traditional front-end of web application development language.
  - o CSS – The CSS can control the layout and style of HTML. We use it to improve the appearance and usability of pages.
  - o JavaScript – A programming language of the Web. We use JavaScript to control the style of some elements such as the switchable content in 'leader main page', 'coach

main page' and 'admin page'. Besides, we use it to implement the message system and top navigation bar.
  - o Jquery – Support the 'flash' function in Flask. It is used in message flashing such as when login fails, there will be a message flashing on the top to alarm the user.
  - o Font-awesome – It is built based on the CSS. We use font-awesome to draw some icons such that improve the usability of pages.
  - o Bootstrap – A useful CSS package which we apply on the footer of the landing page. It improves the usability as well
- Tools in backend
  - o Python – A widely used programming language and our members are more familiar using Python for web application development.
  - o Flask – A web application development package based on Jinja and Werkzeug WSGI toolkit. The reason we choose to use Flask rather than Bottle which we learnt before is that Flask is more convenient and contains lots of built-in functions such as viewers and flash
  - o Zoom API – Because we need to implement a functionality that allows leaders to meet coaches online, we use zoom API to generate a zoom meeting online to accomplish the functionality.
  - o JWT token – We use JWT token for authentication through sending the token to users via cookies. We choose to use JWT token because it is securer than encrypted cookies and can control the expiration.
  - o Hashlib – we use hashlib to encrypt the password to ensure the security of password stored in the database.
  - o Email API - We use Formspree which provides a service for sending email. The Formspree will collect user's input and requests at frontend and send all information as email to admin's email address.
- Database
  - o Sqlite3 – Because we don't have a cloud database management system, sqlite3 provides a native version of DBMS such that we can easily access in native servers. Besides, it is not hard to transfer from Sqlite3 to other kinds of databases such as MySQL. Additionally, triggers can be built in the database. Because we have two kinds of users, leaders and coaches, who have different types of information in some areas such as a coach can own 3 goals when a leader can only have one, their personal information is stored in different tables in the database. Therefore, when a new user created, the trigger will detect the identity of the user and automatically add his or her personal information into leader's table or coach's table
- Tool in Design
  - o EditorX – We use EditorX to design the prototype of web pages. It provides some templates for us to learn, and it is easy to create a template for a page.
  - o Wix – Another web page prototype design application used by our client. We refer to the template of the landing page created by our client on Wix.
- Others

o Bitbucket – A remote repository for us to merge works done by every member. Besides, the client and group members can check progress and tasks through the Kanban board. Additionally, a wiki page is built in the Bitbucket.
o Zoom – A place to perform group meetings and client meetings every week.
o Slack – A place for us to communicate with tutor and client and report our progress.
o Tencent LightHouse Server – This is the server for us to deploy our web application online such that the client can look through the application at any time and give us feedback. Besides, we can easily perform useability tests such as think aloud on the server.
o GoogleDoc - A place for us to place our documentations and the recordings of the . meetings with the client.

Information search/research and discipline knowledge use and application

- **Knowledge From Software Development**

o INFO1110
We apply the basic knowledge of Python from INFO1110 to implement the system. Besides, we perform Unit Test [0] to test the performance of each method in the 'model.py' file.

o INFO2222
According to the basic knowledge of web application development and use of Bottle package in INFO2222, we build the website using Flask which is similar to the Bottle but more convenient and efficiency with multiple built-in packages and functions including jijia2, WSGI toolkit, flash method, and viewer model. For the front-end, we still use HTML, CSS, and JavaScript to implement.

Besides, we apply 'think aloud' and lighthouse to improve and test the useability of our web pages as shown in the Appendix A5.

Additionally, we use the knowledge such as hashing, cookies and authentication in our system to improve the security of the system. First, we use hashlib to encrypt the password. Then, we use JWT token for authentication and cookies for sending tokens between users and the server.

For the testing, we apply the Selenium to create virtual users for testing. Besides, we perform security testing using knowledge of XSS and SQL injection.

As for databases, Sqlite3 is selected, which can be used in the native server and easy to access.

o SOFT2201
We use the Model-View-Controller pattern learned from SOFT2201. It is a

widely used pattern in development of web applications, which follows the Single responsibility and open-closed principle in SOLID principles (*GlenWolfram, 2020*).

- **Knowledge from Computation Data Science**

    o DATA3888

    We use an unsupervised learning method – clustering for AI matching systems. We first transfer the numerical data into categorical data. For instance, we divide ages from 20 to 50 into 6 categories (5 for each) and classify people who are greater than 50 into a new group called "50 and greater". We perform the similar operations on the criteria of years of experience. Besides there are three other categorical criteria which are goal, industry, and gender.

    For the three original categorical criteria, there is no distance between the categories inside each of these criteria, which means the categories inside are independent. Therefore, we define that if the goal of a leader doesn't match one of the goals of the coach, the distance between the leader and the goal will be added 500. The same operation happened on criteria of industry (add 50 if different) and gender (add 10 if different). In this way, the priority of each criteria will be considered.

    As for categorical data transferred from numerical data including year of experience and age, the categories inside have relations. For instance, the distance between category (20-25) to category (26-30) is closer than category (20-25) to category (46-50) in age. Therefore, we define the distance of each adjacent category is 4 in age and 50 in year of experience.

    Finally, we can find out the closest coach after calculating the distances of all criteria between the leader and coaches. If there are coaches with the same distance to the leader, the coach who has fewer number of leaders matched will be selected. Another principle is that one coach can be maximum matched to 10 leaders.

    o ISYS2120

    We use the knowledge from ISYS2120 to write the query to manage the database and design the schema of multiple tables which can be seen in the ER diagram in Figure 9,2. Besides, we use constraints including primary key, foreign key, and not null to specify rules for the data in the table. Additionally, we created triggers to classify the identity of users when creating and deleting users.

- **Other Knowledge and Information searched**
  - Design in EditorX and Wix

We use EditorX to design and draw the prototype of all pages. Besides, we refer to the design of the landing page created by the client on Wix for implementation of the landing page.

  - Tencent LightHouse server

We deploy our application on the Tencent lighthouse server for the client to experience the system online and give us feedback. Besides, we can better perform think aloud and useability tests online through the server.

  - Coverage.py

We refer to the document of ‘coverage.py’ to present the coverage of the unit test, which can be seen in the Appendix A3.

  - JWT token

The JWT token provides a secure way to transmit information between the client and the server (Real Python, 2017). We use the token for user’s authentication and send the token to users through Cookies. One of the advantages in using JWT token is that it uses signed rather than encrypted, which is safer. Besides, the expiration and validation can be controlled through the server, which means the token will be invalid after the user logout or it is expired. Thus, the user doesn’t need to worry about whether the cookie was stolen by attackers.

  - Zoom API

The Zoom API provides us ways to access information from Zoom including book meetings and generating Zoom meeting links after creating the credentials for Zoom API.

  - jQuery

jQuery is an open source library created based on JavaScript for front-end development (W3 Schools). We use it combined with the ‘flash’ method in Flask to create fading effects on messages as shown in Figure 8.2.

  - Formspree

Formspree provides an email sending service that the job application with curriculum vitae from coaches will be sent to the admin through email, which can be seen in Figure 8.50 .

Group processes, reflections and conclusions

Evidence of collaboration and teamwork

Every team member has to follow the group contract(version week 6) to achieve the project goals in our group. Depending on the contract, members have to take adequate time to hand over our roles at the end of each week(rules no.6), attend all group (and client) meetings punctually and any extra scheduled meetings as necessary(rules no.7) , ready for the Group Demo Rehearsal(rules no.11) and so on.

Frigure* --Appendix 7A.1

In our group, every team member has a fixed role from week 6. Jiaming Xu is the Tracker who tracks the progress of all team members and helps members who are not on the right path. Jiaxu Chen is the Manager who listens to and gathers all opinions from all members and makes decisions. Besides, he should check the progress all the time. Xinchen Xu is the Customer who liaises with clients, and writes the meeting minutes with the client after summarising the content of the meeting. Yuben Fang is the Programmer who decides how to implement the program. Jerry Li is the Tester who writes the test code for the program and experience in using the program or prototype.

Frigure* --Appendix 7A.1

Systematic progress of work

We hold meetings with teammates, clients and record the meeting minutes every week. For the weekly plan, we have four fixed meetings a week. The first meeting was on the Monday tutorial. We will arrange the scope and assign our own responsibility for the current week. The second meeting is on Wednesday. We will talk about what content we will show to the client the day after. The third one is the client meeting on Thursday. The last one we held on the weekend was to write the status report and sort the tasks that need to be done by next week. The status report summarizes what we have done and what issues and barriers we meet in the current week and arranges what we will do next week. Generally, we summarize the three group(with teammate) meetings into the group meeting minutes.

Frigure* --Appendix 7B 1-.6

The tools we use and issue tracking

In terms of tools, We use the bitbucket repository and wiki to store and manage our code and documents.

Frigure* --Appendix 7C.1-3

For issue tracking, we use Jira to record the user story. We start sprint 2 on week 7 and have added some new user stories. For the sprint 1 content, please refer to report 1(link). The new stories of sprint 2 refer to section XX, please.

Frigure* --Appendix 7C.4-5

We use slack to communicate with teammates and client, like to exchange information and attach. Another advantage of slack is that it records the commit we push to bitbucket.

Frigure* --Appendix 7C.6-8

We also use zoom to communicate with client weekly. At the client meeting, we showed the prototype or new function that we currently completed to the client. Our client will give us feedback and show how his idea is to be implemented. Sometimes, if he is unsatisfied with our implementation, he will guide us to redesign the incorrect one, like to show the correct template or typical example.

Frigure* --Appendix 7C.9

Work with client

To achieve the project goals, we ask our client's opinion to make a scope statement. To ensure our working process has completed everything in this scope statement. We have frequent communication with our client. Typically, we hold zoom meetings with the client every week. If we have questions or need necessary material that supports the client, we will message him with slack or email.

Frigure* --Appendix 7D.1-4

Critique assessment of project and processes by group

What we worked well

In this project, we followed the guidance by the tutor, requirement from the client, and group contract to achieve the project goals. As for teamwork, we wrote down the group contract by the guidance of a tutor in week 2. We follow the group contract to carry out group activities. The example refers to section 5.1, please. Besides, we make a fixed weekly plan and execute it rigorously (Please refer to section 5.2). Also, every team member is responsible for playing an XP role based on the XP term. For details about playing a role, refer to the second paragraph of section 5.1, please.

As for the coding, we included API (signature) for all the functions. This is to make it easier for readers to understand.

What we need improve

In early weeks, we are unfamiliar with playing XP roles and how to arrange work depending on XP roles' responsibilities. Thus we usually do the work that other roles are responsible for. To resolve this problem, we have a role rotation system in the first five weeks of this semester. Every member would play a different role to learn how this role works.

In addition, the whole group lacks artistic abilities. We need to consult for feedback from the client and tutor whenever the front-end of a particular page is done.

Individual contributions

Table of contributions

Features that are completed by individual	Xinchen Xu	Jiaming Xu	Jiaxu Chen	Chenglong (Jerry) Li	Yuben Fang
1. As a leader, I want to *be able to meet and schedule with my coach digitally*, so that I can *access services flexibly from wherever I am.*			✓	✓	
2. As a regular user, I want to be able to chat with my leader or coach at any time, so that I can have or provide support in between my sessions.		✓			
3. As a leader, I want to be able to see my coach's background, so that I can know more about my coach.		✓			✓
4. As a *leader,* I want to *be able to give feedback to my coach*, so that I can *give the optimal coaching performance.*		✓			
5. As a regular user, I want to be able to access my own profile so that I can view/edit any personal details or website settings.				✓	
6. As a regular	✓				

user, I want to be able to login into the system so that I can enjoy the services.					
7. As a coach, I want to be able to easily manage my scheduled sessions so that I can focus on each user and make my timetable reasonably.				✓	
8. As a leader, I want to be able to register so that I can get an account for myself to start enjoying the services.	✓				
9. As a regular user, I want to be able to change my password freely so that if I forget my password, I can easily change to a new password.	✓				
10. As a leader, I want to set goals for myself so that I can decide what I want to achieve while receiving evidenced-based coaching service.					✓
11. As a regular user, I want to see the schedule so that I can manage my time wisely.				✓	
12. As a regular user, I want to learn more information regarding this website.		✓	✓		

13. As a leader, I want to see my initial assessment result so that I can know more about myself.		✓			
14. As a new leader, I want to find a coach so that I can improve my work and life.			✓		✓
15. As an admin, I want to be able to add or delete coaches so that I can manage my employees at any time or stop some malicious accounts.	✓				
16. As an admin, I want to have my privileges which are different from normal users so that I can manage the website easily.	✓				
17. As an admin, I want to be able to get notification once a leader matches with a coach, and I am able to approve this match, so that I can manage it easily.					✓
18. As an admin, I want to be able to manually match the leader with the coach, so that if there is some issue with the AI matching, I can make some action manually.	✓				
19. As an admin, I want to be able to	✓				

control the sending of a leader's feedback, and review it, so that I can know the performance of our coach and employee.					
20. As an admin, I want to be able to see matching information of every user and coach, so that I can manage them easily.	✓				
21. As a coach, I can have a zoom meeting with with my matched coach or leader			✓		
24. As a coach, I want to be able to see my leaders' goals and their progress on each goal, so that I can track their progress to help them achieve their goals.					✓
25. As a coach, I want to apply to be a coach so that I can work for Emerge.	✓				
26. As an admin, I want to be able to add zoom api keys to the coaches.	✓				
27. As a coach, I want to be able to see my leaders' feedback to me, so that I can improve my coaching.		✓		✓	

*The first column shows the user stories, ticks will link to one of the commit related to the user story

Appendices

A1. User stories - should be solid though not final for Report 1

User stories below were created based on the Project Scope Statement and User Stories Document in the wiki which are admitted by the client.

User Story	Acceptance Criteria
1. As a leader, I want to *be able to meet and schedule with my coach digitally*, so that I can *access services flexibly from wherever I am.*	Given that I am a leader, I want to schedule a meeting on yourcoach page and meet with my coach by clicking the button on the session card on the leader home page.
2. As a regular user, I want to be able to chat with my leader or coach at any time, so that I can have or provide support in between my sessions.	Given that I am a user(leader or coach), I want to be able to chat with another user on the small chat window.
3. As a leader, I want to be able to see my coach's background, so that I can know more about my coach.	Given that I am a user and I am on the home page, I would be able to click on the your coach tab, which allows me to see the details of the coach I have been assigned.
4. As a *leader,* I want to *be able to give feedback to my coach*, so that I can *give the optimal coaching performance.*	Given that I am a leader and I am on the home page, I would be able to navigate to the feedback tab which by clicking will allow me to enter feedback in text boxes for my coach.
5. As a regular user, I want to be able to access my own profile so that I can view/edit any personal details or website settings.	Given that I am a logged-in user(leader or coach) , I would be able to click on the profile menu (settings icon) which will allow me to view and edit my contact and personal details as well as any website preferences.
6. As a regular user, I want to be able to login into the system so that I can enjoy the services.	Given that I am a regular user who has created an account, I would be able to login and use the system with my username and my password.
7. As a coach, I want to be able to easily manage my scheduled sessions so that I can focus on each user and make my timetable reasonably.	Given that I am a coach and when I am on timetable sessions, I can easily see my appointment every day so that I can manage my private time.

8. As a leader, I want to be able to register so that I can get an account for myself to start enjoying the services.	Given that I am a leader who hasn't created an account, I would be able to register and create an account by entering some personal details and setting username and password.
9. As a regular user, I want to be able to change my password freely so that if I forget my password, I can easily change to a new password.	Given that I am a regular user who forgot my password or wants to change password. I would be able to change my password freely and easily.
10. As a leader, I want to set goals for myself so that I can decide what I want to achieve while receiving evidenced-based coaching service.	Given that I am a coach, I am able to set actions/tasks with frequency for each of my clients
11. As a regular user, I want to see the schedule so that I can manage my time wisely.	Given that I am a user, I would be able to see my schedule on the home page.
12. As a regular user, I want to learn more information regarding this website.	Given that I am a regular user, I want to learn more insightful resources from the webpage, such as evidence on the benefits of finding a coach.
13. As a leader, I want to see my initial assessment result so that I can know more about myself.	Given that I am a leader, I can see the result of AI matching and review the information I provided for matching(initial assessment).
14. As a new leader, I want to find a coach so that I can improve my work and life.	Given that I am a new leader, I want to find a coach and start coaching. The system should provide an assessment to gather details about my situation and use an AI matching system to find a most appropriate coach for me.
15. As an admin, I want to be able to add or delete coaches so that I can manage my employees at any time or stop some malicious accounts.	Given that I am an admin, I want to add new coach accounts for new coaches. Besides, I can delete some illegal coaches and coaches who have resigned.
16. As an admin, I want to have my privileges which are different from normal users so that I can manage the website easily.	Given that I am an admin, I need a special identity rather than coaches and leaders, such that I can have access to the admin page to manage the system.
17. As an admin, I want to be able to get notification once a leader matches with a coach, and I am able to approve this match, so that I can manage it easily.	Given that I am an admin, I need to see the results of AI matching and give confirmation to it if it is a proper result. In the meanwhile, There will be notifications in the dashboard in the admin page when there is a new matching application.

18. As an admin, I want to be able to manually match the leader with the coach, so that if there is some issue with the AI matching, I can make some action manually.	Given that I am an admin, when the leader is not satisfied with the current coach or the matching result is not as proper as the admin thought, the admin can manually match the leader to a coach.
19. As an admin, I want to be able to control the sending of a leader's feedback, and review it, so that I can know the performance of our coach and employee.	Given that I am an admin, I need to check and review the content of the feedback sent from the leader to prevent some sharp words being sent to the coach.
20. As an admin, I want to be able to see matching information of every user and coach, so that I can manage them easily.	Given that I am an admin, I need to check the matching results and manage all accounts including leaders and coaches.
21. As a coach, I can have a zoom meeting with with my matched coach or leader	Given that I am a coach, I want to be able to find the zoom link on the coach's home page.
22. As a leader, I am able to sign document through the application	Given that I am a leader, I can sign the signature on important documents through the system.
23. As a regular user, I am able to upload the profile picture to the profile page	Given that I am a regular user(leader or coach), I can upload my personal profile picture and can be seen by my coach, leader and admin
24. As a coach, I want to be able to see my leaders' goals and their progress on each goal, so that I can track their progress to help them achieve their goals.	Given that I am a coach, I can track the progress of the sub-goals of my clients and give some constructive advice to my clients.
25. As a coach, I want to apply to be a coach so that I can work for Emerge.	Given that I am a coach, I need a place to submit my cv to apply to be the coach. Besides, the employer can review the application through email.
26. As an admin, I want to be able to add zoom api keys to the coaches.	Given that I am an admin, I can give zoom api keys or credentials to the coaches.
27. As a coach, I want to be able to see my leaders' feedback to me, so that I can improve my coaching.	Given that I am a coach, I can view all feedback that is provided by my leaders if the feedback is approved by the admin on the coach's feedback page.

A2. Research and studies of similar systems - should be substantial for Report 1.

1. We improved the design of the landing page based on the prototype created by client with images and the background.
2. The client provides the account to BetterUp which is a similar system. We design and implement the 'leader main page' and 'coach main page' according to the main page of BetterUp. Besides, we experience the goals system of it and reflect good aspects and disadvantages in the document in wiki to improve our design.
3. We learnt how to perform Extreme Programming and wrote the summary in the wiki of each part we needed to do following the instruction of XP.

A3. Unit testing summary - should be substantial for Report 1 for work so far.

Figure 3.1 - code coverage report generated with the python's coverage module:

Coverage report: 59%

Module	*statements*	*missing*	*excluded*	*coverage*
controller.py	557	510	0	8%
model.py	437	40	0	91%
run.py	9	6	0	33%
sql.py	469	45	0	90%
Total	**1472**	**601**	**0**	**59%**

Figure 3.2-code coverage report without the route function which is stored in the controller.py:

Coverage report: 90%

Module	*statements*	*missing*	*excluded*	*coverage*
model.py	437	40	0	91%
run.py	9	6	0	33%
sql.py	469	45	0	90%
Total	**915**	**91**	**0**	**90%**

coverage.py v6.1.1, created at 2021-11-08 16:27 +1300

A4. Acceptance Testing - should also be substantial for Report 1, for work

so far

Here are details about the acceptance test cases:

- Testcase1: Attempting to login in as a leader with the correct username and password, see if the system login this account successfully and the leader home page shows up.
- Testcase2: Attempting to login in with the incorrect username and password, see if the system returns an error message.
- Testcase3: Attempting to login in as a coach with the correct username and password, see if the system login this account successfully and the coach home page shows up.
- Testcase4: Attempting to register an account with valid information(unused username, correct email form), check if the account is created successfully by logging in that account.
- Testcase5: Attempting to register an account using a used username, check if the website returns an error message.
- Testcase6: Logging into a leader account and checking the profile of this account, then try to modify multiple profile information with different values on the edit profile page and see whether information is updated to the profile or not.
- Testcase7: Logging into an account and checking the profile of this account, then try to modify age with a negative number or number larger than 99, if there is no way to input such value, then it works well.
- Testcase8: Logging into a leader account and checking the profile of this account, then try to modify multiple profile information with different values on the edit profile page and see whether information is updated to the profile or not.
- Testcase9: Logging into a coach account and checking the profile of this account, then check if the system allows the user to modify their username to an existing username.
- Testcase10: Using a new leader account and login as this leader and go to the user home page and try to create three goals and see if they are shown correctly on the user home page, then check if more than three goals can be set.
- Testcase11: Using a new leader account and login as this leader and go to the user home page and try to create three goals and then make progress on one of these goals then check if the goal disappears after the progress reaches 100%, then check if it is possible to add another new goal.
- Testcase12: Register a new leader account, click on yourcoach page, see if the page leads the leader to find a coach, then input information for coach matching by selecting options. Login as admin, check if the matching result is shown on admin's dashboard.
- Testcase13: Logging into a leader account and going to your coach page then check if the coach's available times are shown correctly and check if the user can schedule a meeting from these available times then check if the website generates the meeting link and check if the link works.
- Testcase14: Logging into an leader account and going to the your coach page then send a message to coach, login as this coach and check the message sent by this leader, then send a message back to the leader, then login as the leader again, then check the message just sent by this coach.
- Testcase15: Logging into a leader account, enter yourcoach page, then check if all coach's information are shown correctly on this page.
- Testcase16: Logging into a leader account who already got a coach, enter yourcoach page choose good or bad as the impression towards this coach, then enter feedback page, take the survey and provide some feedback. Logout and login as admin, check the feedback page and check if the feedback shows up correctly.
- Testcase17: Enter the forget password page from the login page, modify the password

of a leader account, login this leader account with the new password, check if the login can be done successfully.

- Testcase18: Enter the forget password page from the login page, modify the password of a coach account, login this coach account with the new password, check if the login can be done successfully.
- Testcase19: Enter the forget password page from the login page, modify the password of any account, enter all details but don't enter a wrong email address which doesn't have @ inside, check if the system allows the password to be modified in this situation.
- Testcase20: Using a leader account which has applied for a coaching by inputting details on the AI matching page, enter the assessment page and check if the information is what the leader input on the AI matching page.
- Testcase21: Logging in with a leader account, click on explore on the leader home page, then enter the Why-Evidence-Based-Coach page, check whether the content shows correctly or not.
- Testcase22: Logging in with a leader account, enter yourcoach page and click on the read more button, check the content of the page after clicking the button shows correctly or not.
- Testcase23: Enter the landing page of the website, click on join us button, input details and apply to become a coach of Emerge, check if the email that contains all input information will be sent to admin successfully by opening the email box of the admin and checking the email.
- Testcase24: Enter the landing page of the website, click on join us button, enter details with an email that has incorrect format and see if the system allows users to apply with the wrong information.
- Testcase25: Logging in as a coach, enter the schedule page, add some time to the schedule as the available time provided to leaders, refresh the page, check if the selected time is shown properly on the schedule in the correct date and correct order.
- Testcase26: Logging in as a coach, enter the schedule page, add some time to the schedule as the available time provided to leaders with the option "apply the time for all days in this week" on a date that is the first or last day of a month and is not Monday, check if all days in this week have the time selected time unless it is a date have already past.
- Testcase27: Logging in as a coach, enter the schedule page, add some time to the schedule as the available time provided to leaders with the option "apply the time for all Monday in this month" on a thursday, check if all thursday in this month have the selected time except it is a thursday have already past.
- Testcase28: Login with a leader account which has already matched with a coach, enter the leader home page, check if the available time provided by coaches can be seen on the schedule. Log in as a coach, check if the coach's schedule shows the information about each available time correctly(including whether the time is picked or not and who picks the time).
- Testcase29: Logging in with a coach account who have been matched with leaders, enter the leaders page on the coach home page, check if the goal and progress of each of the leaders shows correctly or not, if the leader doesn't have any goal right now, login as the leader and set one, then go back and check it again as the coach.
- Testcase30: Logging in as a coach and enter feedback page, check if the name of leaders who are the coachee of this coach are all shown in this page and check if the impression, commnet and the average mark of the survey question are shown in this page, if the leaders of this coach haven;t provide any feedback, login as these leaders and provide some, then login as admin and approve these feedbacks, then switch back to coach and check the result.
- Testcase31: Logging in with the admin account, entering the leader(client) page and

coach page, checking information about leaders and coaches shows correctly or not.

- Testcase32: Logging in with the admin account, entering the leader(client) page and coach page, try to delete accounts by clicking the delete button and refresh the page to see if the accounts disappear on the leader page and coach page or not, then try to log in with those deleted accounts to check if they are really removed.
- Testcase33: Logging in with the admin account, entering the leader(client) page and coach page, try to add a leader account and a coach account by clicking the add button and input information on the addNewClient/addNewCoach page, refresh the page to see if these new accounts shows on the leader page and coach page or not. Then check if logging in with these new accounts is possible.
- Testcase34: Logging in with admin account, check if there are matching result listing on the dashboard, if there is no matching result, do the process in testcase12 and then agree one matching result, then login as that leader account see if the coach is matched with the leader, then logging in as the coach, check if the leader is added in the coach's leader list.
- Testcase35: Logging in with an admin account, entering the manually match page by clicking the match button on the admin's dashboard, changing a leader's coach to someone else, logging as the leader and the coach, checking if the matching is made and check if the information of the leader and coach just matched shows on each other's side correctly.
- Testcase36: Logging in with an admin account, entering the manually match page by clicking the match button on the admin's dashboard, changing a leader's coach to None, logging as the leader, checking if the content in the yourcoach page shows the leader doesn't have a coach right now .
- Testcase37: Logging in with an admin account, check feedback from different leaders on the feedback page, if there is no feedback, do processes in testcase16 to provide some feedback.
- Testcase38: Logging in with an admin account, approve one feedback and login as the coach who receives such feedback, check this coach's feedback page and check if the feedback from that leader is shown properly.
- Testcase39: Logging in with an admin account, delete feedback and login as the coach who receives such feedback, check this coach's feedback page and check if the feedback from that leader is not shown and login as the leader, check the feedback page check the impression is none or not, it should be none since the feedback itself is deleted.
- Testcase40: Logging into a coach account, if there is already a scheduled meeting, find the meeting on the home page and click on the zoom button to see if it works, if there is no such scheduled meeting, go through the process on testcase28.
- Testcase41: try to login in with different accounts, then check if only the admin account can enter the admin page.
- Testcase42: Test if the user can sign the file.
- Testcase43: Logging in as a leader, enter edit profile page and try to change the user image, refresh the page, check if the image is modified.

A5. Usability Testing and other - early usability results should be here for Report 1. performance testing as appropriate.

LightHouse accessibility improvements in each pages:

	Before	After
Login	85	95
Registration	87	95
ForgotPassword	85	95
LandingPage	64	91
Profile	59	100
MainPage	66	78
Admin	87	95
Feedback	84	96
Assessment	79	93
CoachApplication	87	95
FindCoach	77	100
Ave. Mark	78.18	93.91

A6 Models

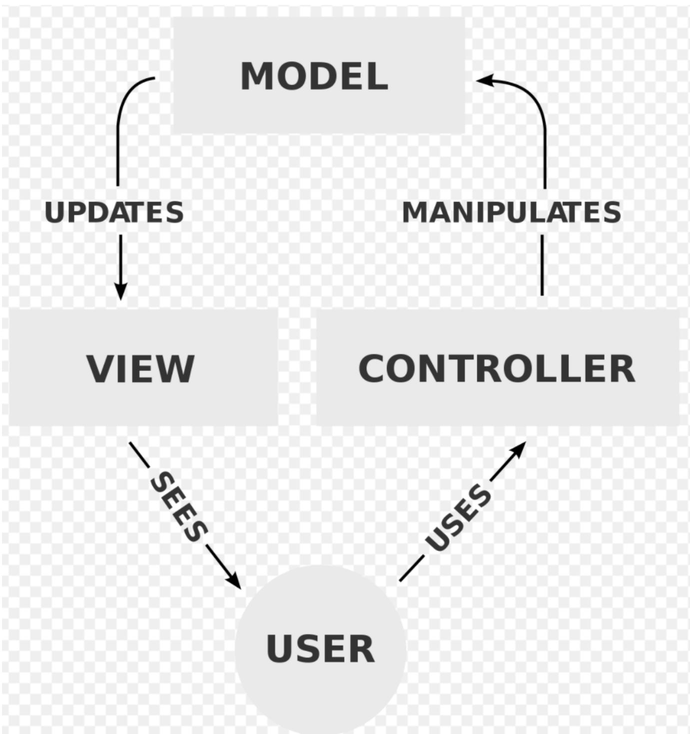


Figure* 6.1 UML for MVC model

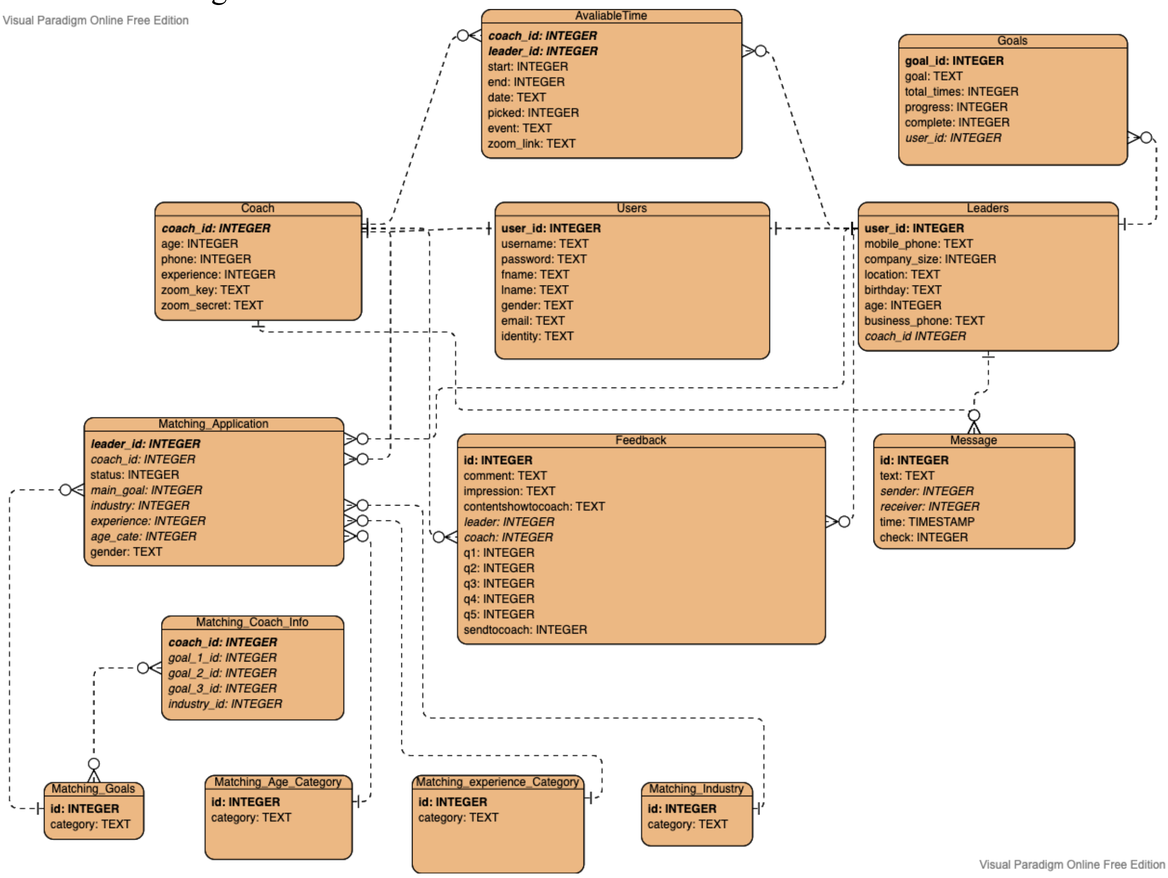


Figure* 6.2 ER Diagram for database (Link to zoom the diagram)

A7 Evidence for Group Works

Appendix 7A: Group contract and role rotation

COMP3888/COMP3988/INFO3600/SOFT3888/COMP5615 GROUP CONTRACT WEEK 6 - 12 [DATE]

1. **Group Name:** SOFT3888_M17_02_Group3

2. **Team Members**

	Full Name	Preferred Name	SID
A	Yuben Fang	Lucius	480480835
B	Jiaming Xu		480565903
C	Chenglong Li	Jerry	490035344
D	Xinchen Xu	Wayne	480083038
E	Jiaxu Chen	Jaydon	480027054

Figure *7A.1– Group contract（WEEK 6 version)

Week	Tracker	Manager	Customer	Programmer	Tester
2	Jiaming Xu	Yuben Fang	Jerry Li	Xinchen Xu	Jiaxu Chen
3	Xinchen Xu	Jiaxu Chen	Yuben Fang	Jerry Li	Jiaming Xu
4	Jerry Li	Jiaming Xu	Xinchen Xu	Jiaxu Chen	Yuben Fang
5	Yuben Fang	Xinchen Xu	Jiaming Xu	Jiaxu Chen	Jerry Li
6-13	Jiaming Xu	Jiaxu Chen	Xinchen Xu	Yuben Fang	Jerry Li

Figure *7A.2– Role rotation(WIKI)

Appendix 7B: Weekly meeting minutes and status report

Subject: team meeting 13
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepreneurs
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Wednesday 22th Sebtember
Time: 4.00pm – 6.30pm
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: nil

*[**Agenda item** – the topic to be discussed during the meeting*
***Description/comments** – brief explanation/justification of agenda item, sub topics to be discussed or list of things discussed as part of the agenda item*
***Decision/Action:** decision made, or action taken regarding agenda item e.g. Due dates, redo work, proof and submit, contact client for clarification, discuss with team, discuss with tutor, no action required*
***Who** – team member responsible for action or outcome(s) associated with decision made regarding agenda item*
***Items for escalation** – any issues that needs to be raised with the team manager, tutor or client]*

#	Agenda Item	Description/ Comments	Decision/Action	Who?	Items for escalation
1	Preparation for the first client demo.	Prepare the slides and the scripts.	need to be finalized and good to go before the demo.	whole group	changes in the demo are needed if the rehearsal

Subject: client meeting 6
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepreneurs
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Thursday 23rd September
Time: 2:00pm – 3:00pm
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: null

*[**Agenda item** – the topic to be discussed during the meeting*
***Description/comments** – brief explanation/justification of agenda item, sub topics to be discussed or list of things discussed as part of the agenda item*
***Decision/Action:** decision made, or action taken regarding agenda item e.g. Due dates, redo work, proof and submit, contact client for clarification, discuss with team, discuss with tutor, no action required*
***Who** – team member responsible for action or outcome(s) associated with decision made regarding agenda item*
***Items for escalation** – any issues that needs to be raised with the team manager, tutor or client]*

#	Agenda Item	Description/ Comments	Decision/Action	Who?	Items for escalation
1	First deployment and demo for client	The demo is about the first sprint development and the client is very happy with our current implementation and progress.	Based on our planning and the client expectation, keep implementing	Whole group	obey the suggestion provided by the client
2	Some design questions for the client	• We have two schemas of landing pages and ask client's preference • Whether there needs a completed goals page	• The client is happy with the second schema, keep	Whole group	obey the suggestion provided by the client

Unit of Study	SOFT3888
Team name	Group3
Project Name	Developing a website for a digital coaching platform to improve mental health and mitigate workplace-related psychological stress.
Project start date	16/08/2021
Project end date	12/11/2021
Project point person	Jiaxu Chen(Week7 Manager)
Report Date	25/09/2021

Figure *7B.1 – Week 7 group meeting minutes, client meeting minutes, report

Subject: team meeting 14
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepreneurs
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Sunday 10th October
Time: 12.00pm – 2.00pm
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: nil

*[**Agenda item** – the topic to be discussed during the meeting*
***Description/comments** – brief explanation/justification of agenda item, sub topics to be discussed or list of things discussed as part of the agenda item*
***Decision/Action:** decision made, or action taken regarding agenda item e.g. Due dates, redo work, proof and submit, contact client for clarification, discuss with team, discuss with tutor, no action required*
***Who** – team member responsible for action or outcome(s) associated with decision made regarding agenda item*
***Items for escalation** – any issues that needs to be raised with the team manager, tutor or client]*

#	Agenda Item	Description/ Comments	Decision/Action	Who?	Items for escalation
1	Prepare the tasks for the second sprint.	discuss the possible and doable tasks for the sprint 2.	can be further talked about in the next week.	whole group	We need to check with the tutor and client.

[DOCUMENT TITLE]

Subject: client meeting 8
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepre
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Thursday 7th October
Time: 2:00pm – 3:00pm
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: null

*[**Agenda item** – the topic to be discussed during the meeting*
***Description/comments** – brief explanation/justification of agenda item, sub topics to be discussed or list of things discus*
***Decision/Action:** decision made, or action taken regarding agenda item e.g. Due dates, redo work, proof and submit, cor team, discuss with tutor, no action required*
***Who** – team member responsible for action or outcome(s) associated with decision made regarding agenda item*
***Items for escalation** – any issues that needs to be raised with the team manager, tutor or client]*

#	Agenda Item	Description/ Comments	Decision/Action
1	New progress from last week we present to the client	• Admin front-end ○ Admin front-end is almost finished, and the back-end features are still developing. • Landing page front-end • Logout feature	• Hopefully, everything could be finished by this weekend. • The front-end of the landing

Unit of Study	SOFT3888
Team name	Group3
Project Name	Developing a website for a digital coaching platform to improve mental health and mitigate workplace-related psychological stress.
Project start date	16/08/2021
Project end date	12/11/2021
Project point person	Jiaxu Chen(Week8 Manager)
Report Date	10/10/2021

Figure *7B.2 – Detail: Week 8 group, client meeting minutes, report

Subject: team meeting 15
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepreneurs
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Sunday 17th October
Time: 3.00pm – 3.30pm
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: nil

*[**Agenda item** – the topic to be discussed during the meeting*
***Description/comments** – brief explanation/justification of agenda item, sub topics to be discussed or list of things discussed as part of the agenda item*
***Decision/Action:** decision made, or action taken regarding agenda item e.g. Due dates, redo work, proof and submit, contact client for clarification, discuss with team, discuss with tutor, no action required*
***Who** – team member responsible for action or outcome(s) associated with decision made regarding agenda item*
***Items for escalation** – any issues that needs to be raised with the team manager, tutor or client]*

#	Agenda Item	Description/ Comments	Decision/Action	Who?	Items for escalation
1	Testing	Continue the testing, such as unit tests and usability tests.	can be further talked about, within the group, in the next week.	whole group	Talk with the team members if obstacles occur.

Subject: client meeting 9
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepreneurs
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Thursday 14th October
Time: 2:00pm – 3:00pm
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: null

*[**Agenda item** – the topic to be discussed during the meeting*
***Description/comments** – brief explanation/justification of agenda item, sub topics to be discussed or list of things discussed as pa*
***Decision/Action:** decision made, or action taken regarding agenda item e.g. Due dates, redo work, proof and submit, contact clie*
team, discuss with tutor, no action required
***Who** – team member responsible for action or outcome(s) associated with decision made regarding agenda item*
***Items for escalation** – any issues that needs to be raised with the team manager, tutor or client]*

#	Agenda Item	Description/ Comments	Decision/Action	Wh
1	New progress from last week we present to the client	• Admin add and delete features finished, need to merge with new database • Zoom API link generate • Messenger functionalities ○ coach can send message to their	• It Will be done by this weekend • Hopefully will be done before next client meeting	Whole group

Unit of Study	SOFT3888
Team name	Group3
Project Name	Developing a website for a digital coaching platform to improve mental health and mitigate workplace-related psychological stress.
Project start date	16/08/2021
Project end date	19/11/2021
Project point person	Jiaxu Chen(Week9 Manager)
Report Date	17/10/2021

Figure *7B.3 – Detail: Week 9 group, client meeting minutes, report

Subject: team meeting 16
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepreneurs
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Sunday 24th October
Time: 3.00pm – 4.00pm
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: nil

*[**Agenda item** – the topic to be discussed during the meeting*
***Description/comments** – brief explanation/justification of agenda item, sub topics to be discussed or list of things discussed as part of the agenda item*
***Decision/Action:** decision made, or action taken regarding agenda item e.g. Due dates, redo work, proof and submit, contact client for clarification, discuss with team, discuss with tutor, no action required*
***Who** – team member responsible for action or outcome(s) associated with decision made regarding agenda item*
***Items for escalation** – any issues that needs to be raised with the team manager, tutor or client]*

#	Agenda Item	Description/ Comments	Decision/Action	Who?	Items for escalation
1	Testing	Continue the testing, such as unit tests and usability tests.	can be further talked about, within the group, in the next week.	whole group	Talk with the team members if obstacles occur.

Subject: client meeting 10
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepre
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Thursday 21st October
Time: 2:00pm – 3:00pm
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: null

*[**Agenda item** – the topic to be discussed during the meeting*
***Description/comments** – brief explanation/justification of agenda item, sub topics to be discussed or list of things discuss*
***Decision/Action:** decision made, or action taken regarding agenda item e.g. Due dates, redo work, proof and submit, con team, discuss with tutor, no action required*
***Who** – team member responsible for action or outcome(s) associated with decision made regarding agenda item*
***Items for escalation** – any issues that needs to be raised with the team manager, tutor or client]*

#	Agenda Item	Description/ Comments	Decision/Action
1	New progress from last week we present to the client	• time table can be held frequently ◦ there is a tickbox to let user select how frequently they want to have a meeting • ZOOM link can be automatically generate • Feedback front-end	• Based on the client expectations and idea, It will be improved by this weekend • Link should be perform on

Unit of Study	SOFT3888
Team name	Group3
Project Name	Developing a website for a digital coaching platform to improve mental health and mitigate workplace-related psychological stress.
Project start date	16/08/2021
Project end date	19/11/2021
Project point person	Jiaxu Chen(Week10 Manager)
Report Date	24/10/2021

Figure *7B.4 – Detail: Week 10 group, client meeting minutes, report

Subject: team meeting 17
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepreneurs
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Sunday 31st October
Time: 2.00pm – 3.30pm
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: nil

*[**Agenda item** – the topic to be discussed during the meeting*
***Description/comments** – brief explanation/justification of agenda item, sub topics to be discussed or list of things discussed as part of the agenda item*
***Decision/Action:** decision made, or action taken regarding agenda item e.g. Due dates, redo work, proof and submit, contact client for clarification, discuss with team, discuss with tutor, no action required*
***Who** – team member responsible for action or outcome(s) associated with decision made regarding agenda item*
***Items for escalation** – any issues that needs to be raised with the team manager, tutor or client]*

#	Agenda Item	Description/ Comments	Decision/Action	Who?	Items for escalation
1	Continue working on testing	Continue the testing, such as unit tests and usability tests.	each member is responsible to do unit testing on their features.	whole group	Discuss with the team if obstacles occur.

Subject: client meeting 11
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepreneurs
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Thursday 29th October
Time: 10:00am – 11:00am
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: null

Unit of Study	SOFT3888
Team name	Group3
Project Name	Developing a website for a digital coaching platform to improve mental health and mitigate workplace-related psychological stress.
Project start date	16/08/2021
Project end date	19/11/2021
Project point person	Jiaxu Chen(Week11 Manager)
Report Date	31/10/2021

Figure *7B.5– Detail: Week 11 group, client meeting minutes, report

Subject: team meeting 18
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepreneurs
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Sunday 7th November
Time: 1.00pm – 4.30pm
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: nil

*[**Agenda item** – the topic to be discussed during the meeting*
***Description/comments** – brief explanation/justification of agenda item, sub topics to be discussed or list of things discussed as part of the agenda item*
***Decision/Action:** decision made, or action taken regarding agenda item e.g. Due dates, redo work, proof and submit, contact client for clarification, discuss with team, discuss with tutor, no action required*
***Who** – team member responsible for action or outcome(s) associated with decision made regarding agenda item*
***Items for escalation** – any issues that needs to be raised with the team manager, tutor or client]*

#	Agenda Item	Description/ Comments	Decision/Action	Who?	Items for escalation
1	Testing	finish the testing, such as unit tests and usability tests.	all testing must be done this week.	whole group	Discuss with the team if obstacles occur.

Subject: client meeting 12
Project Name: Developing a website for a digital coaching platform to improve mental health for entrepreneurs
Facilitator: Whole group
Prepared by: Whole group
Mode: Zoom meeting
Date: Thursday 4th October
Time: 16:00 - 17:00
Attendees: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu
Absent: null

*[**Agenda item** – the topic to be discussed during the meeting*
***Description/comments** – brief explanation/justification of agenda item, sub topics to be discussed or list of things discussed as pa*
***Decision/Action:** decision made, or action taken regarding agenda item e.g. Due dates, redo work, proof and submit, contact clie team, discuss with tutor, no action required*
***Who** – team member responsible for action or outcome(s) associated with decision made regarding agenda item*
***Items for escalation** – any issues that needs to be raised with the team manager, tutor or client]*

Unit of Study	SOFT3888
Team name	Group3
Project Name	Developing a website for a digital coaching platform to improve mental health and mitigate workplace-related psychological stress.
Project start date	16/08/2021
Project end date	19/11/2021
Project point person	Jiaxu Chen(Week11 Manager)
Report Date	7/11/2021

Figure *7B.6 – Detail: Week 12 group, client meeting minutes, report

Appendix 7C: Use of bitbucket and slack and other previously unfamiliar tools

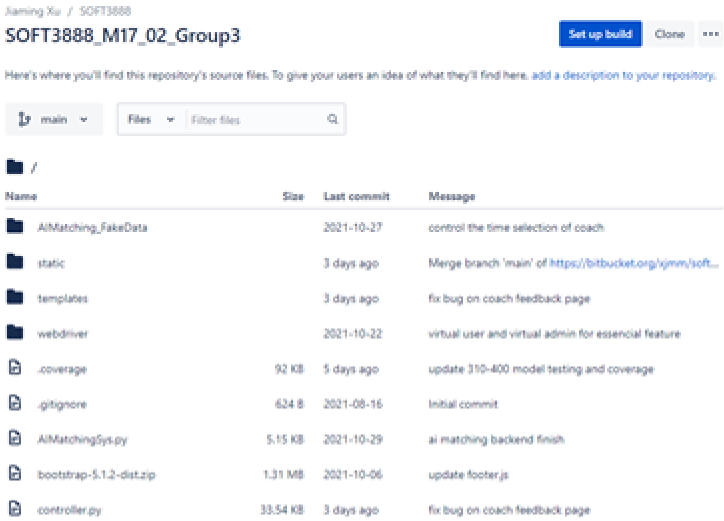
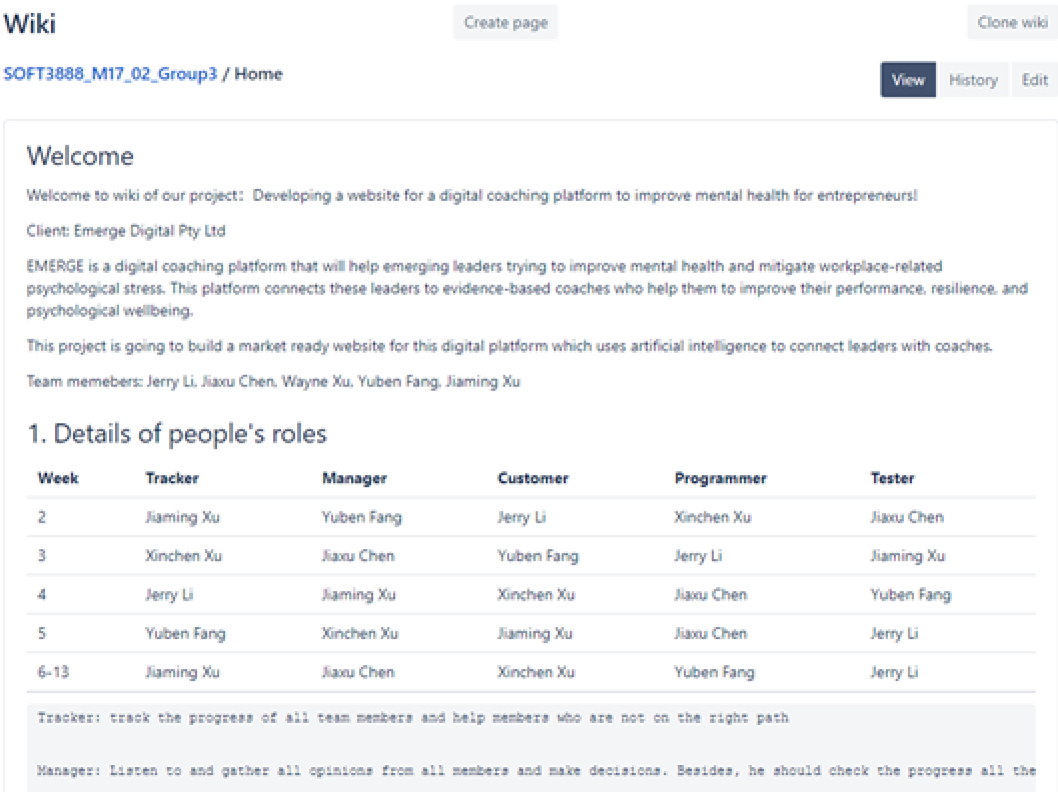


Figure *7C.1 – [Bitbucket Repository]



Wiki

Create page

Clone wiki

SOFT3888_M17_02_Group3 / Home

View History Edit

Welcome

Welcome to wiki of our project: Developing a website for a digital coaching platform to improve mental health for entrepreneurs!

Client: Emerge Digital Pty Ltd

EMERGE is a digital coaching platform that will help emerging leaders trying to improve mental health and mitigate workplace-related psychological stress. This platform connects these leaders to evidence-based coaches who help them to improve their performance, resilience, and psychological wellbeing.

This project is going to build a market ready website for this digital platform which uses artificial intelligence to connect leaders with coaches.

Team memebers: Jerry Li, Jiaxu Chen, Wayne Xu, Yuben Fang, Jiaming Xu

1. Details of people's roles

Week	Tracker	Manager	Customer	Programmer	Tester
2	Jiaming Xu	Yuben Fang	Jerry Li	Xinchen Xu	Jiaxu Chen
3	Xinchen Xu	Jiaxu Chen	Yuben Fang	Jerry Li	Jiaming Xu
4	Jerry Li	Jiaming Xu	Xinchen Xu	Jiaxu Chen	Yuben Fang
5	Yuben Fang	Xinchen Xu	Jiaming Xu	Jiaxu Chen	Jerry Li
6-13	Jiaming Xu	Jiaxu Chen	Xinchen Xu	Yuben Fang	Jerry Li

```
Tracker: track the progress of all team members and help members who are not on the right path

Manager: Listen to and gather all opinions from all members and make decisions. Besides, he should check the progress all the
```

Figure *7C.2 – [Bitbucket Wiki Home]

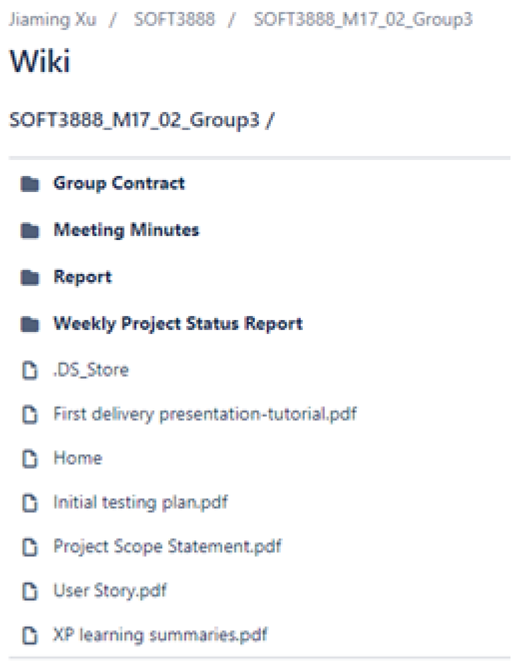


Figure *7C.3 – [Bitbucket Wiki Repository]()

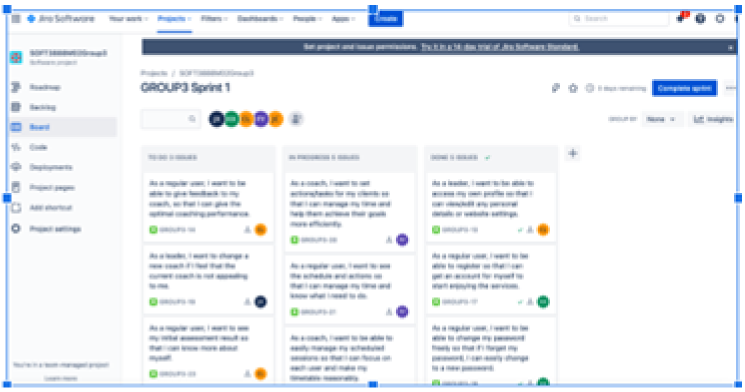


Figure *7C.4 – Sprint 1 user stories screenshot

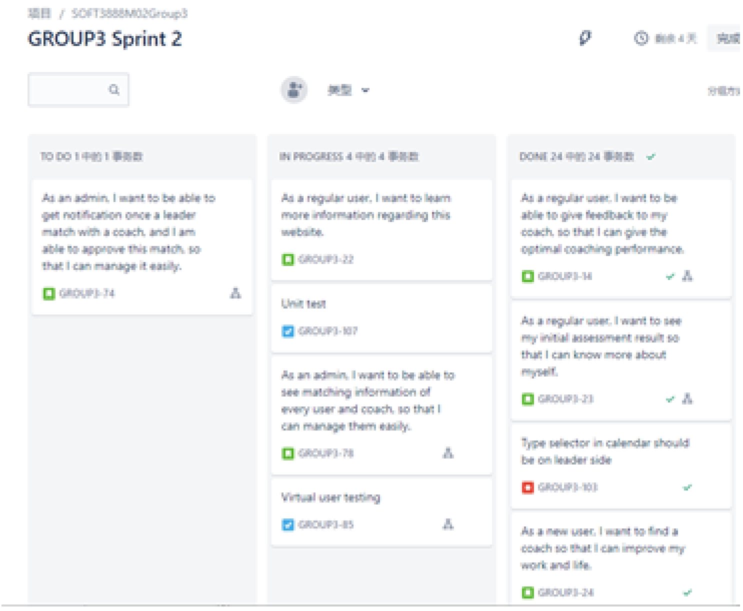


Figure *7C.5 – Sprint 2 user stories screenshot

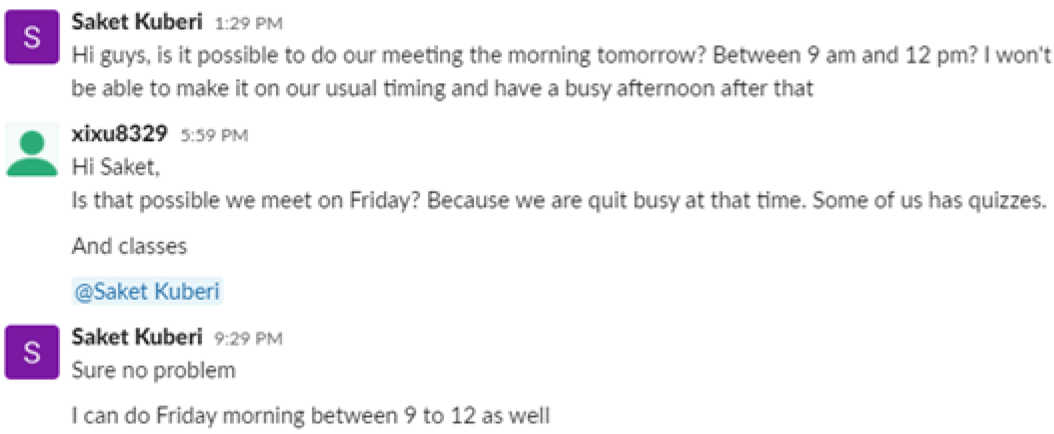


Figure *7C.6 – Communicate with client in Slack

Figure *7C.7 – Team member upload attach in Slack

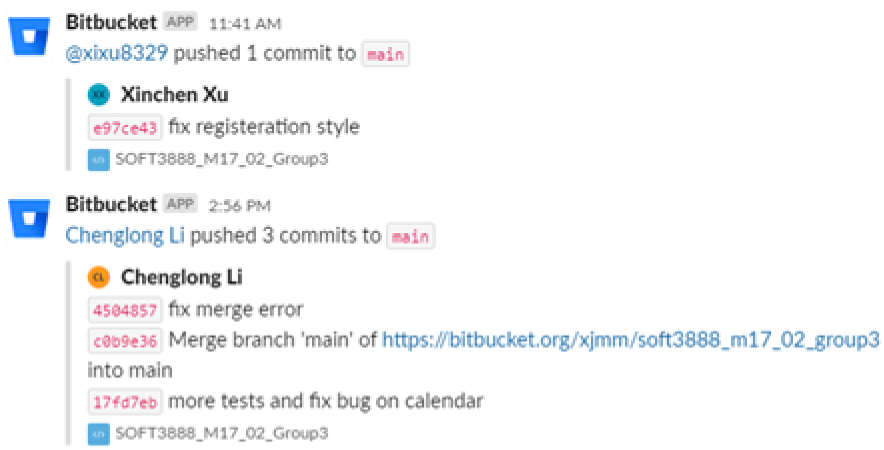


Figure *7C.8 – Slack show the commit

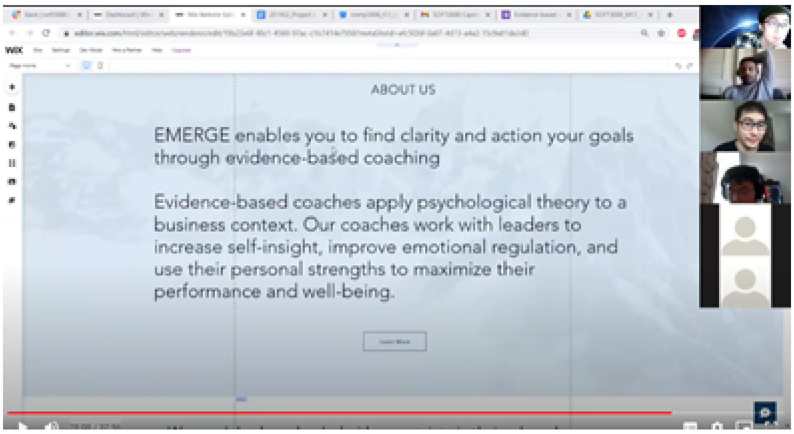
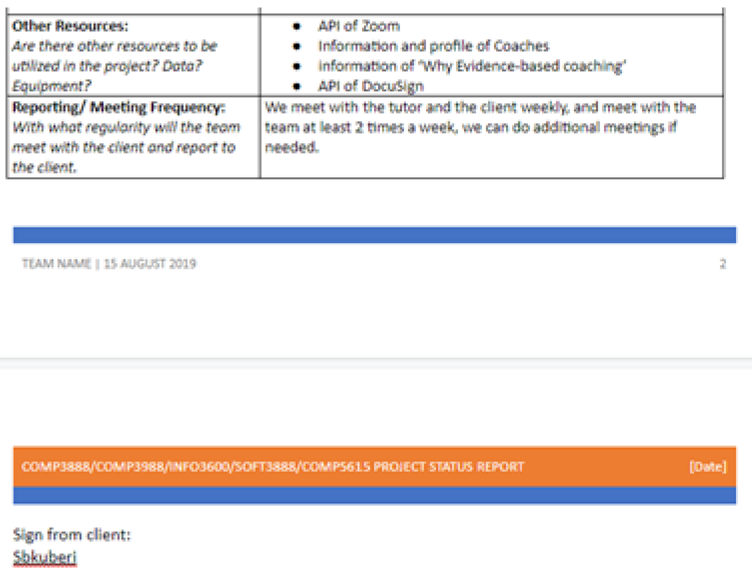


Figure *7C.9 – Client show the standard landing page template

Appendix 7D: Interaction with client



Other Resources: *Are there other resources to be utilized in the project? Data? Equipment?*	• API of Zoom • Information and profile of Coaches • information of 'Why Evidence-based coaching' • API of DocuSign
Reporting/ Meeting Frequency: *With what regularity will the team meet with the client and report to the client.*	We meet with the tutor and the client weekly, and meet with the team at least 2 times a week, we can do additional meetings if needed.

TEAM NAME | 15 AUGUST 2019 2

COMP3888/COMP3988/INFO3600/SOFT3888/COMP5615 PROJECT STATUS REPORT [Date]

Sign from client:
Sbkuberi

Figure *7D.1 – Client sign in [scope statement]

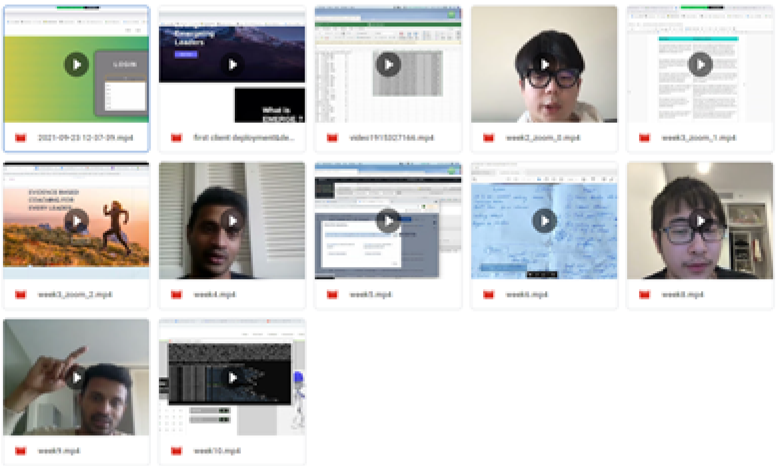


Figure *7D.2 – Client meeting records weekly

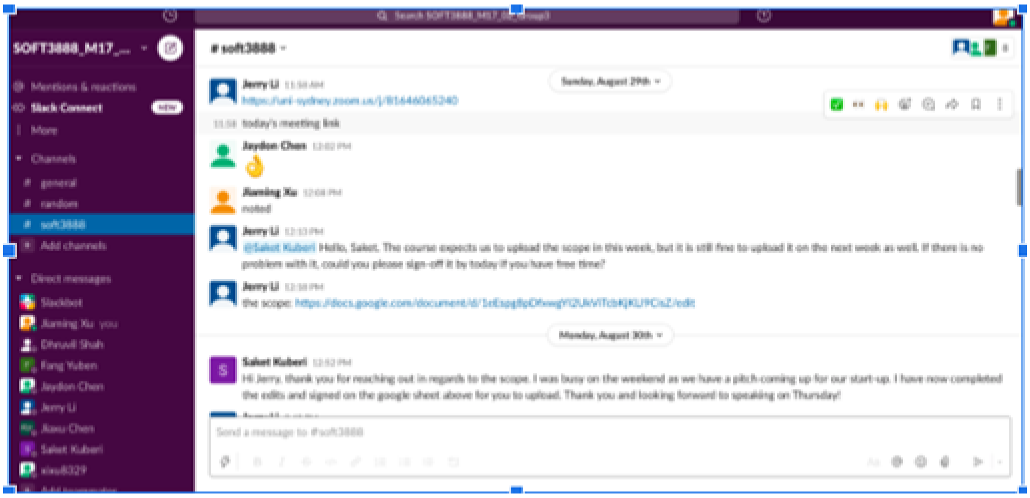


Figure *7D.3 – Communicate with client on slack

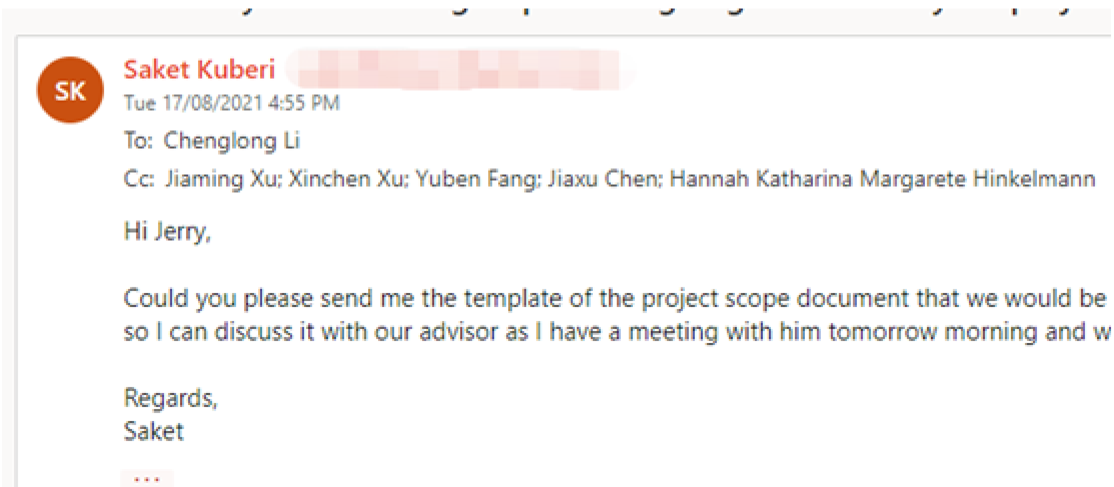


Figure *7D.4 – Communicate with client on Email

A8 Features - according to the user stories

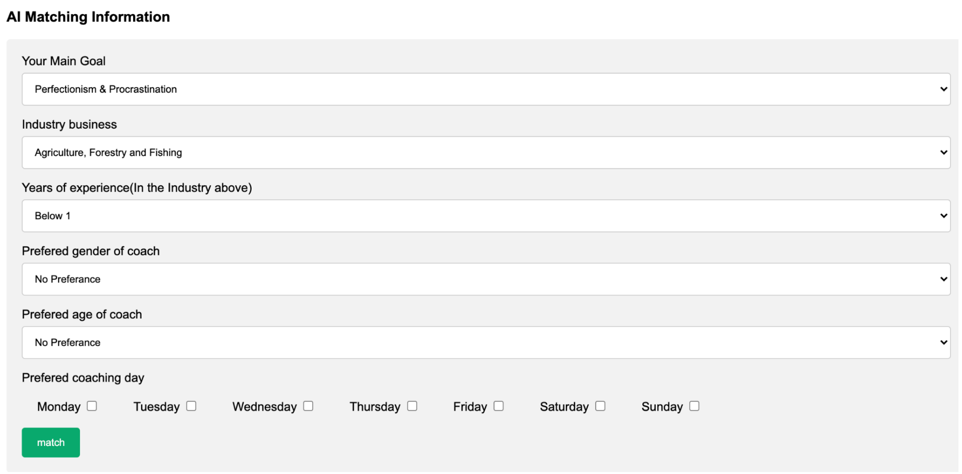


Figure* 8.1 AI matching application

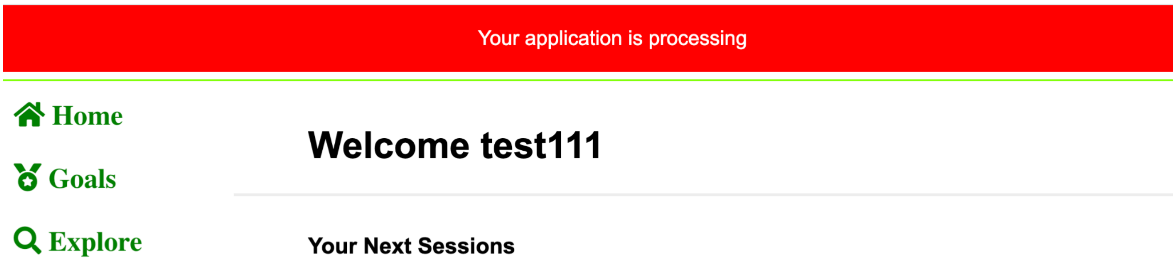


Figure* 8.2 AI matching re-submit message

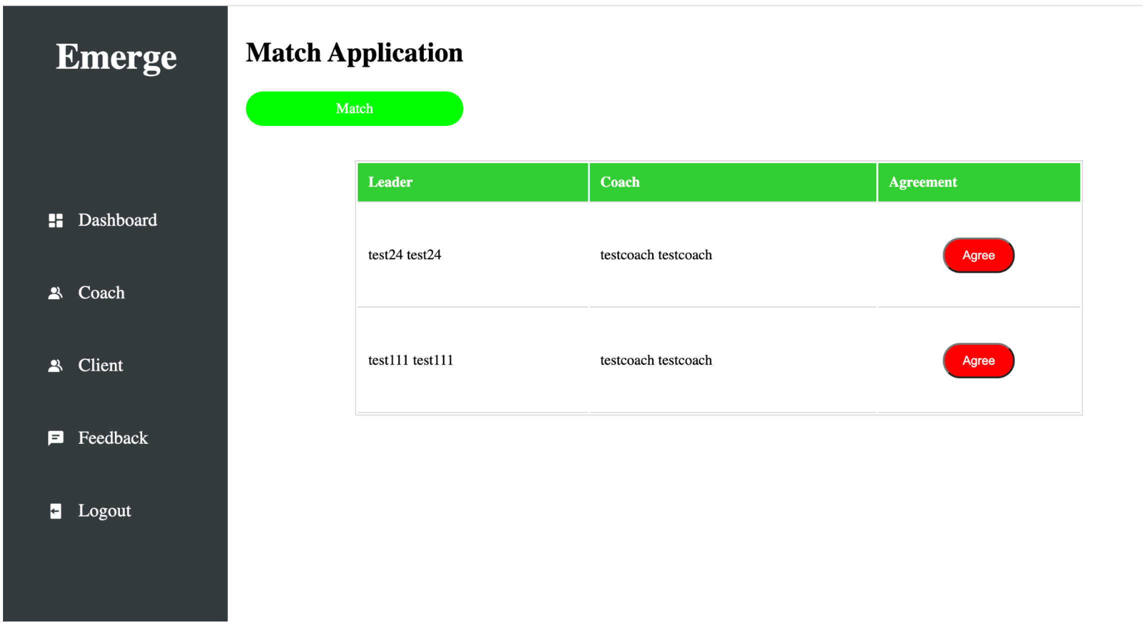


Figure* 8.3 Admin dashboard for AI matching

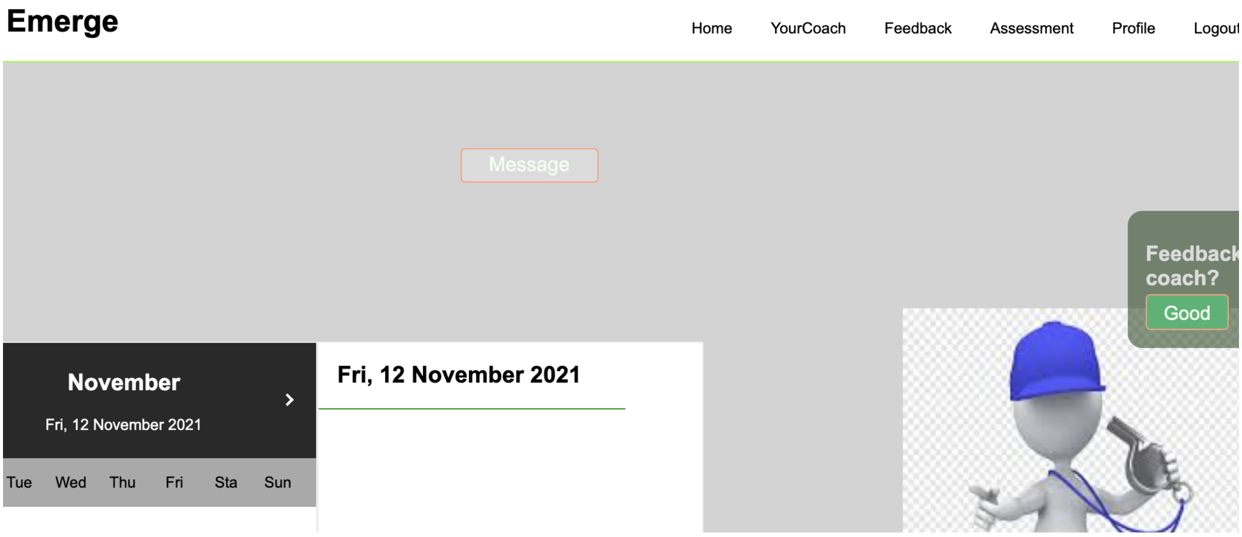


Figure* 8.4 Message - Leader starts to chat with the coach

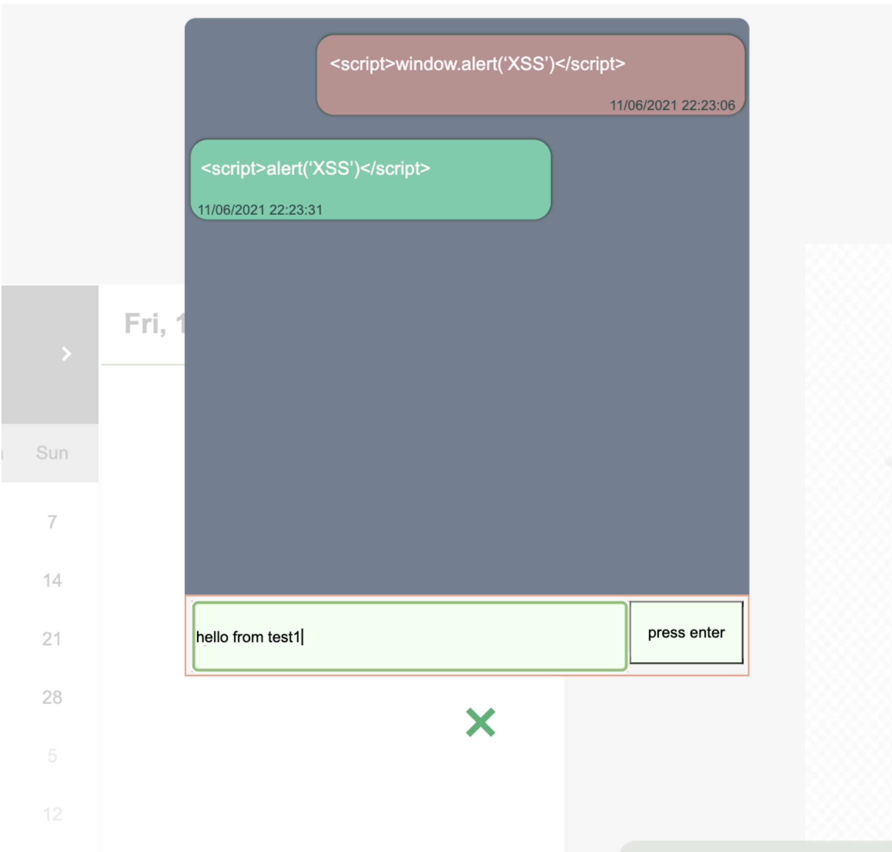


Figure* 8.5 Message - The leader pressed the “message” button.

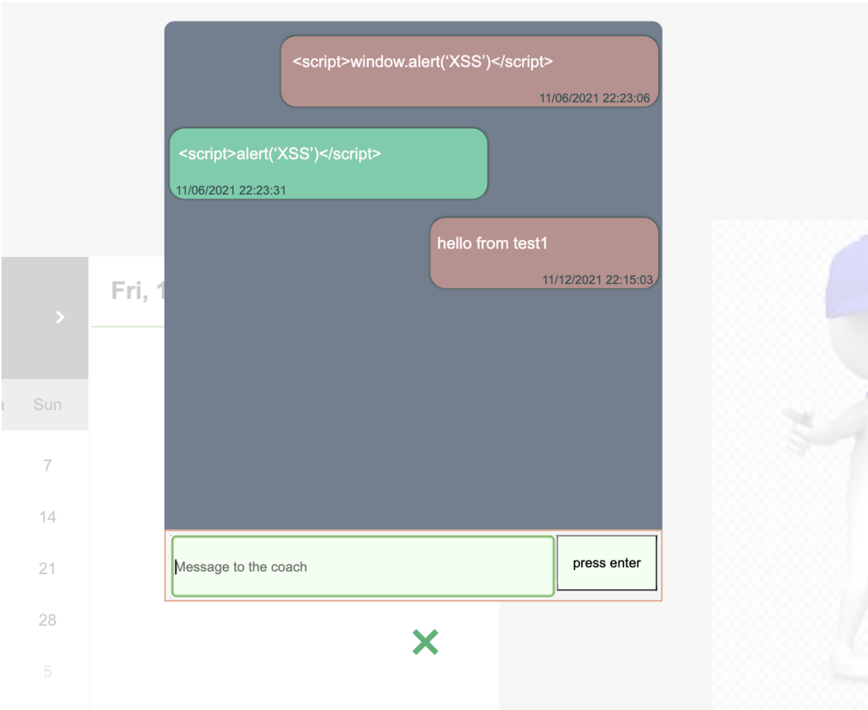


Figure* 8.6 Message - The leader send a message

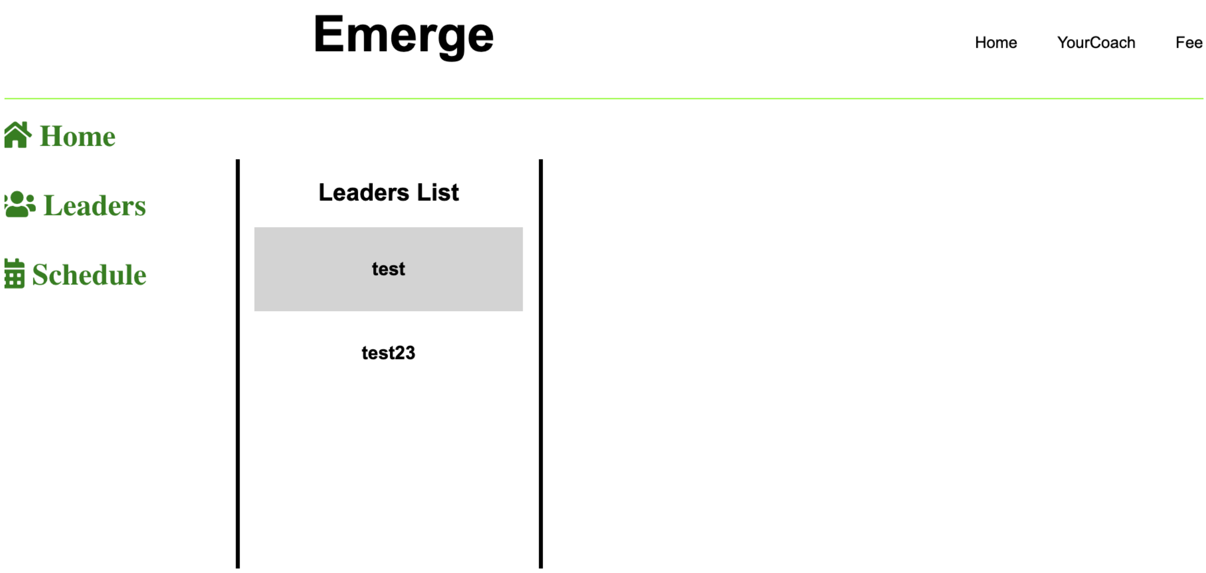


Figure* 8.7 Message - the coach main page to find the user in the home page

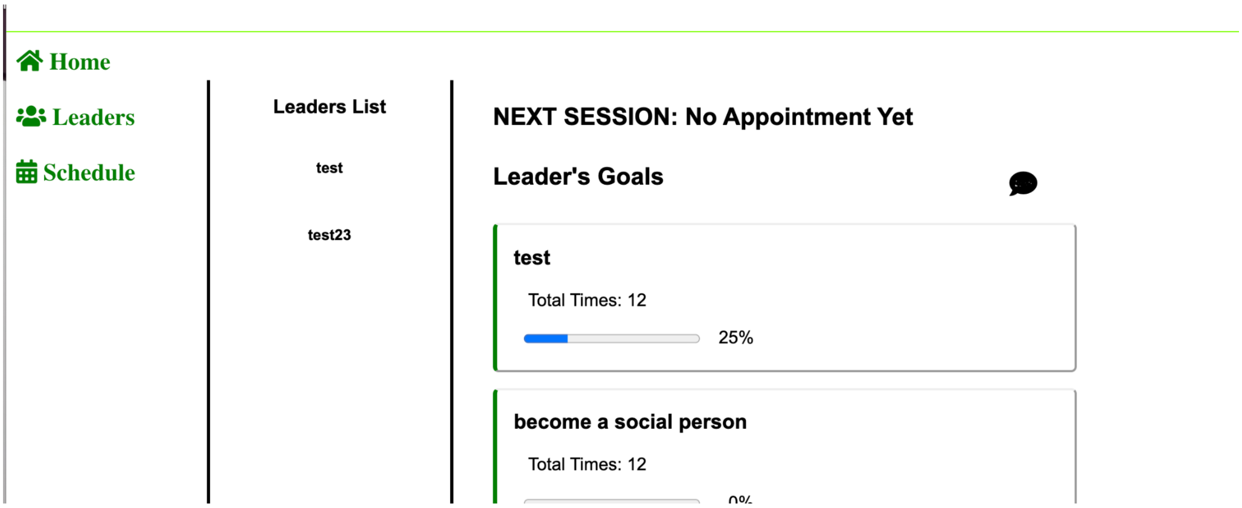


Figure* 8.8 Message - The coach press the chat icon

Figure* 8.9 Message - The coach read and send the message

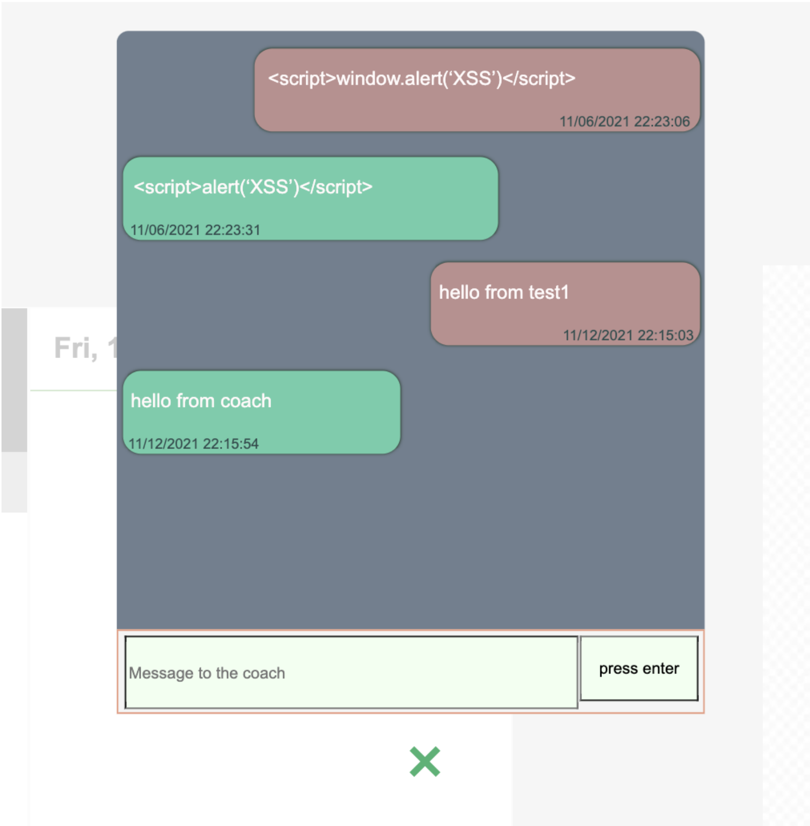


Figure* 8.10 Message 7 - as the leader received the message sent from the coach

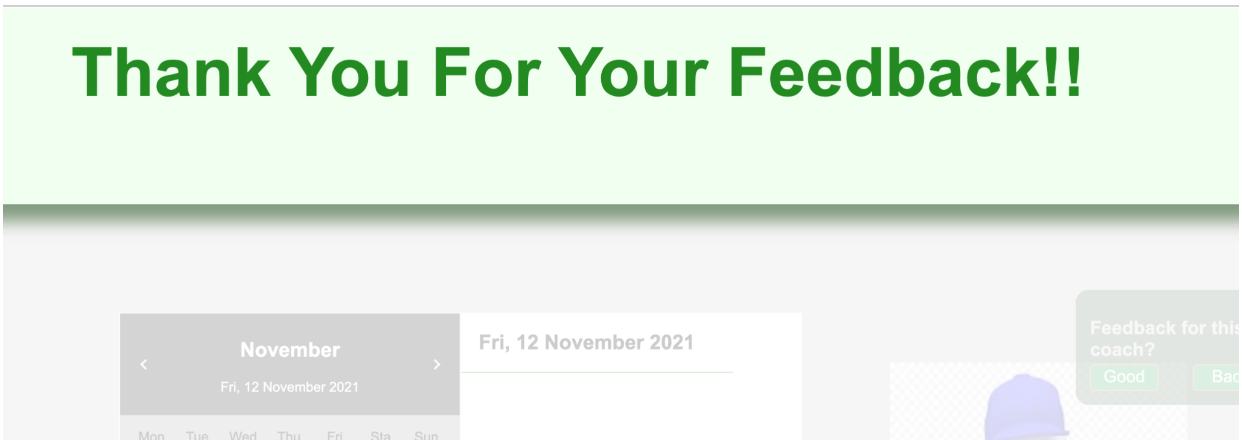


Figure* 8.11 Feedback 1 - when a user submit the initial feedback for the coach.

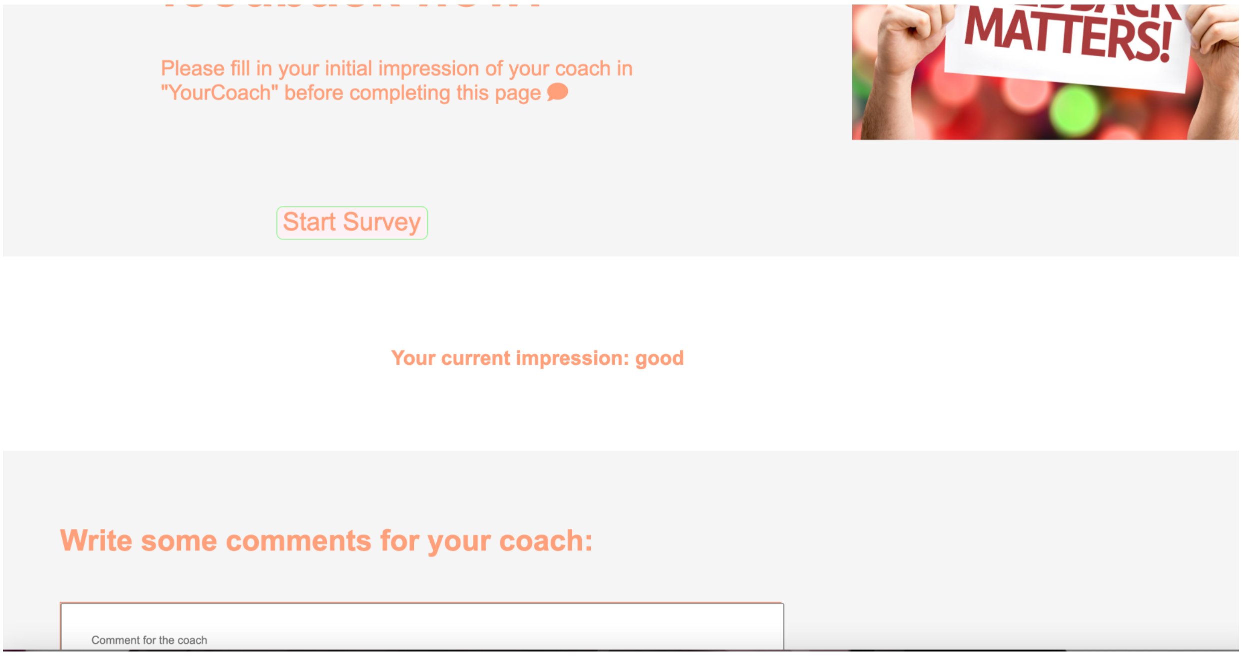


Figure* 8.12 Feedback 2 - when a user wants to submit a feedback for the coach

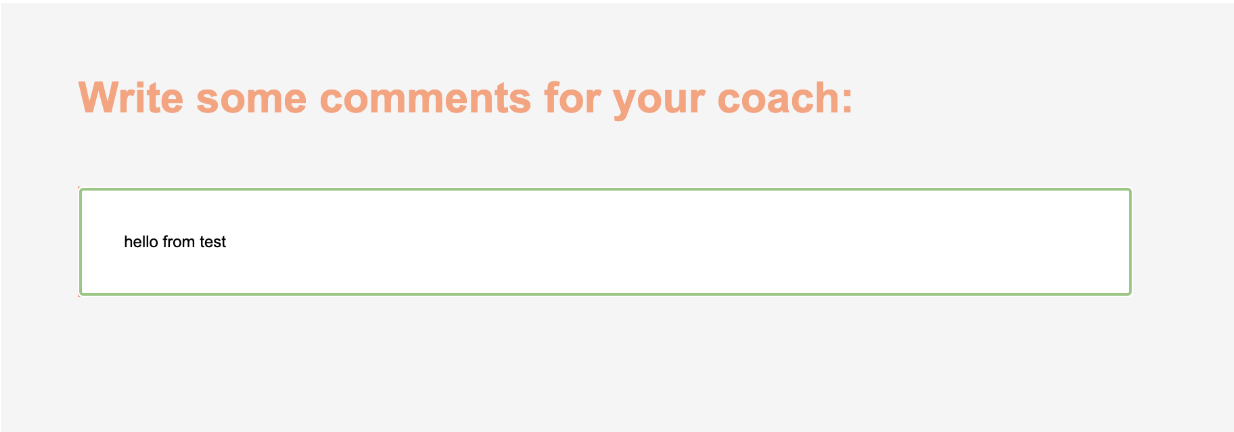


Figure* 8.13 Feedback 3 - when user comments

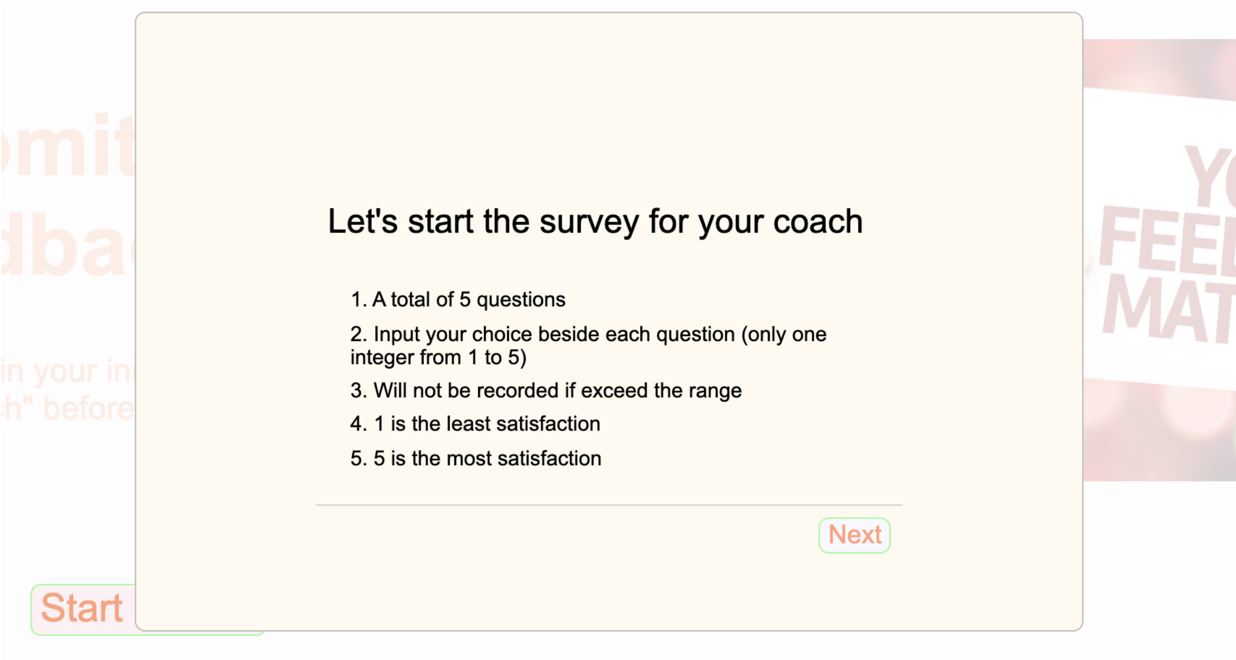


Figure* 8.14 Feedback 4 - when user pressed “start survey” button

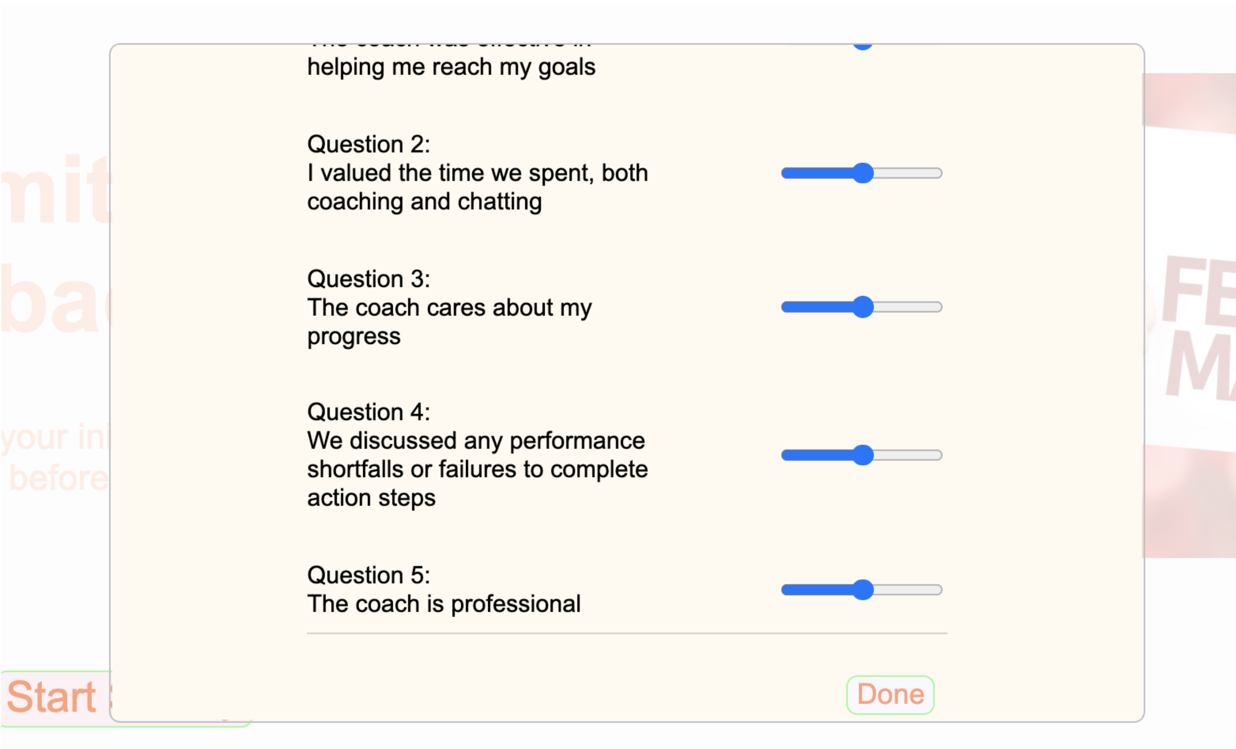


Figure* 8.15 Feedback 5 - when the user rates the coach.

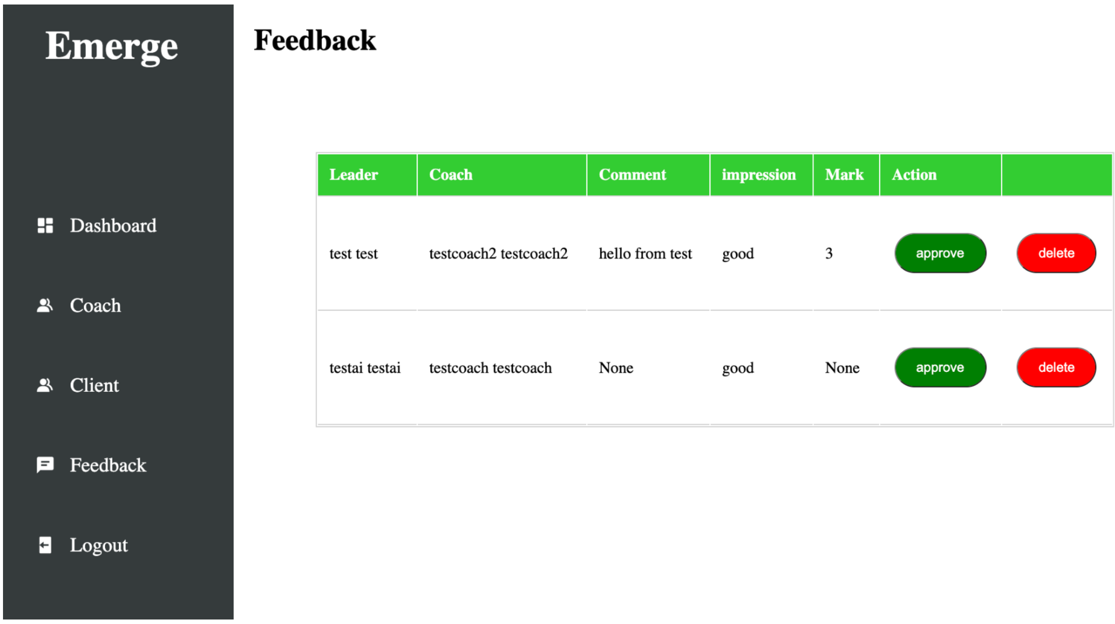


Figure* 8.16 Feedback 6 - when the admin approves the feedback

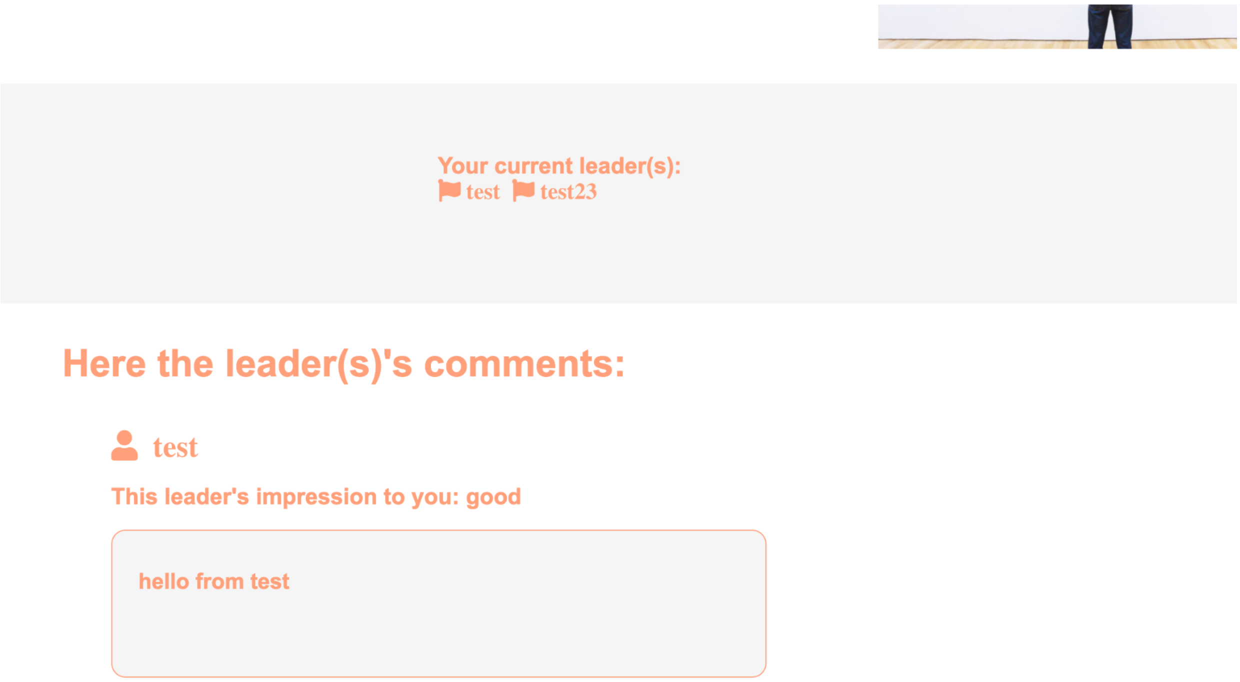


Figure* 8.17 Feedback 7 - when the coach receives the feedback from the leader.

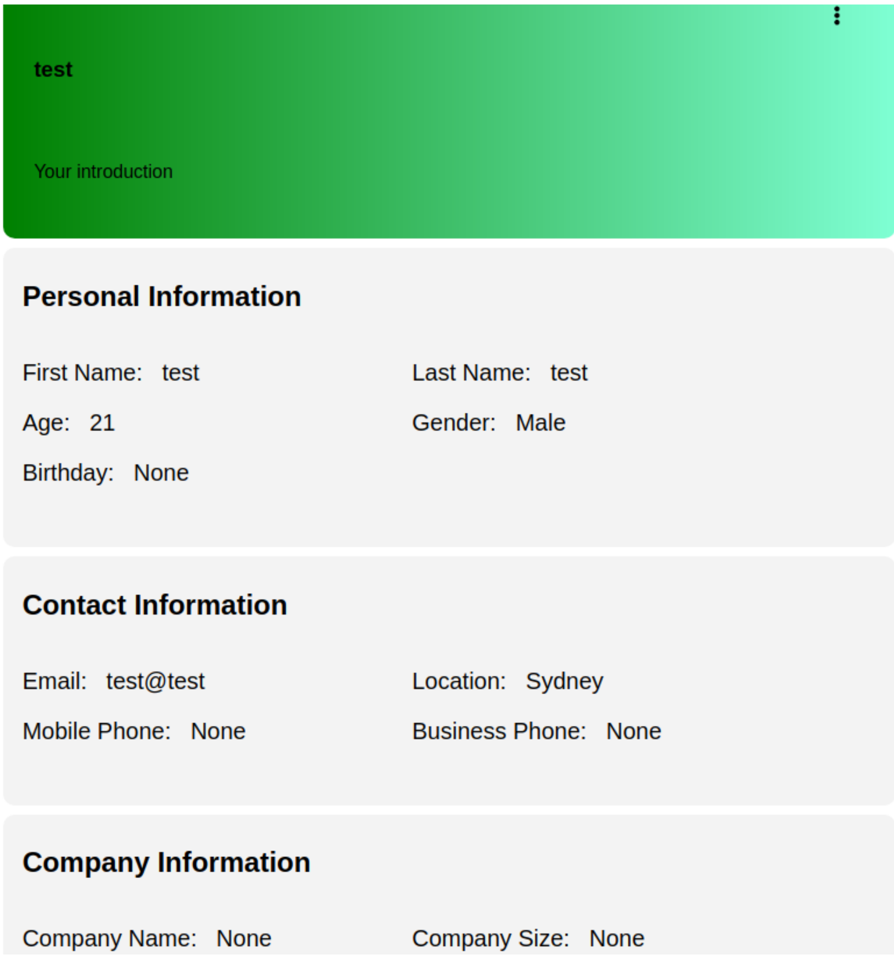
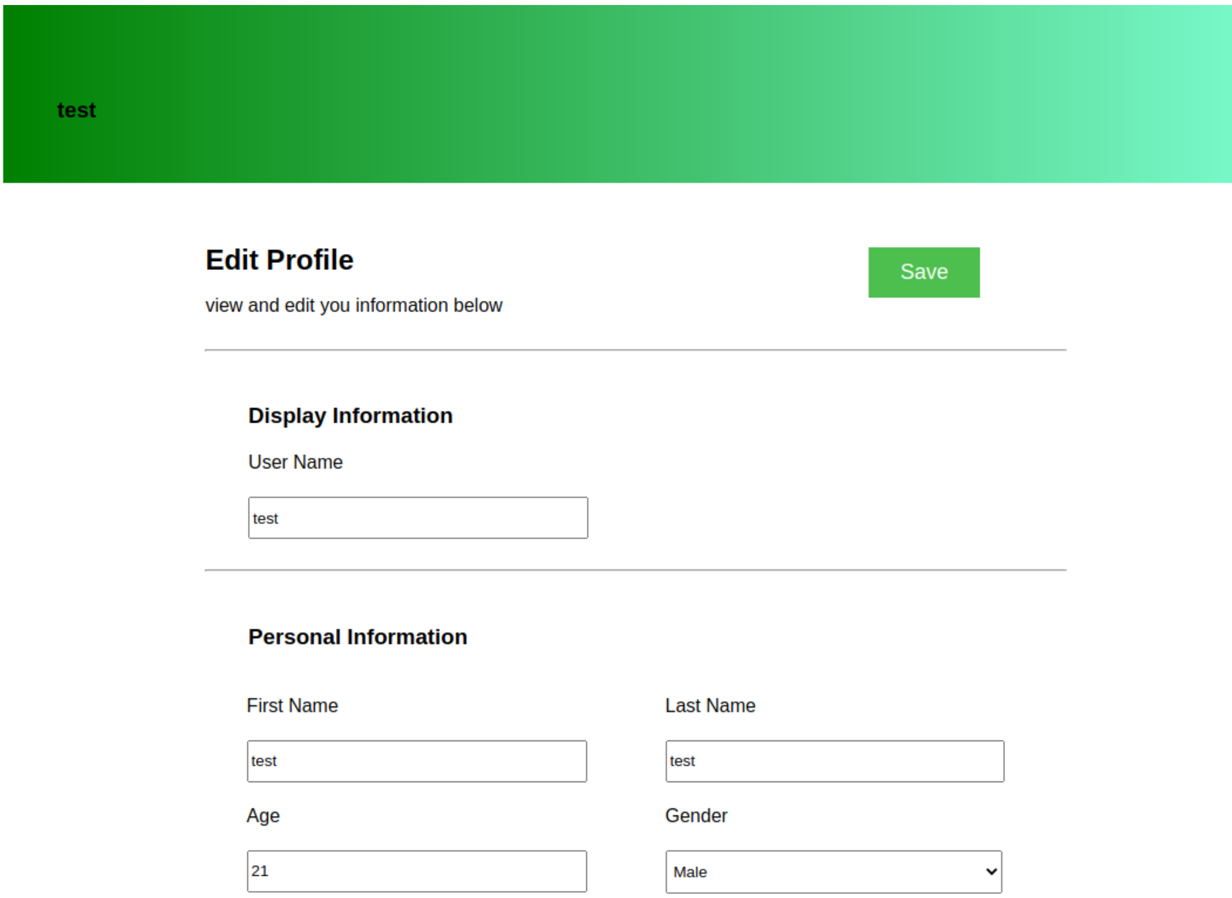


Figure* 8.18 **Profile 1 - leaders can view their profile**



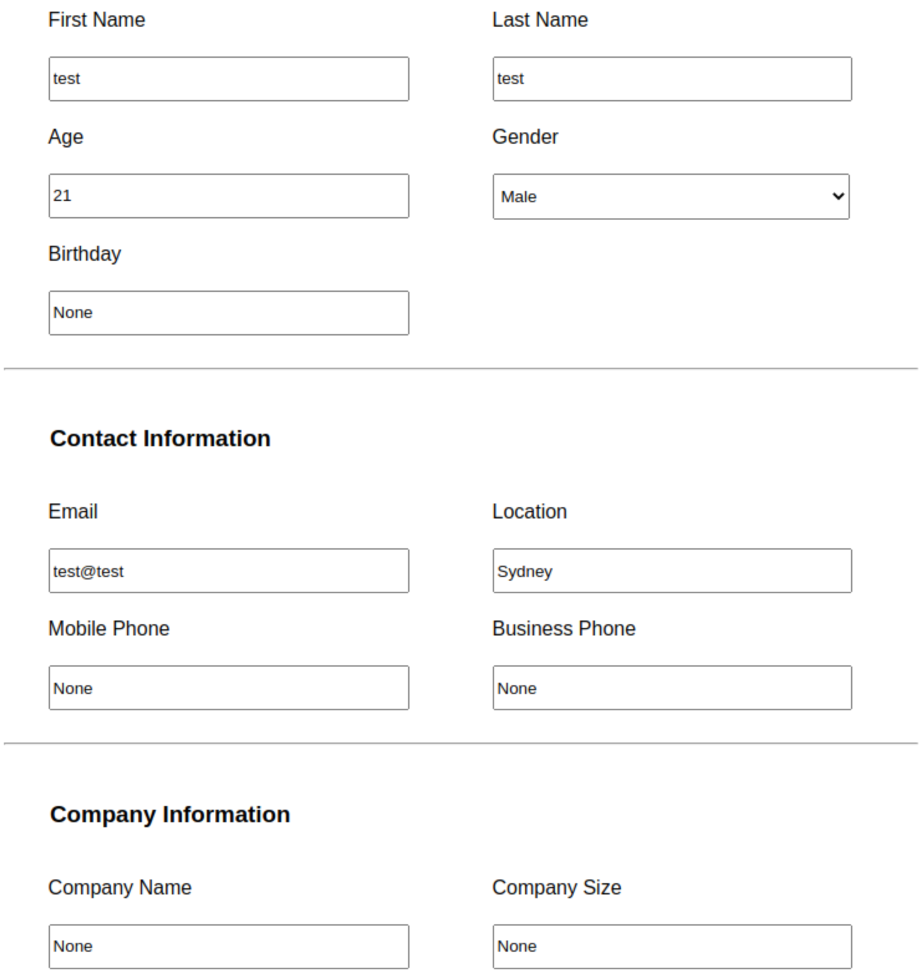


Figure* 8.19 **Profile 2 - leaders can modify their profile**

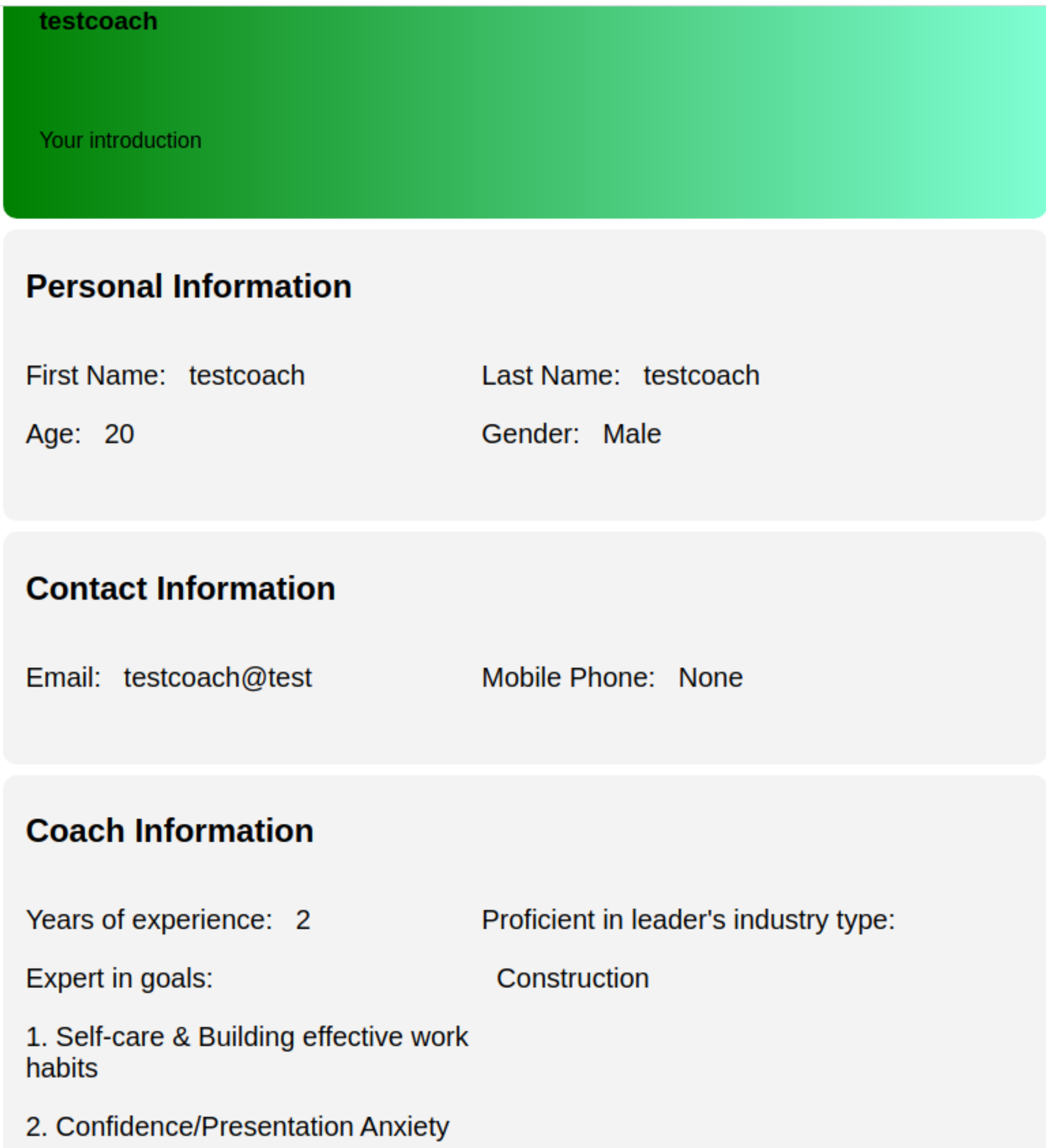
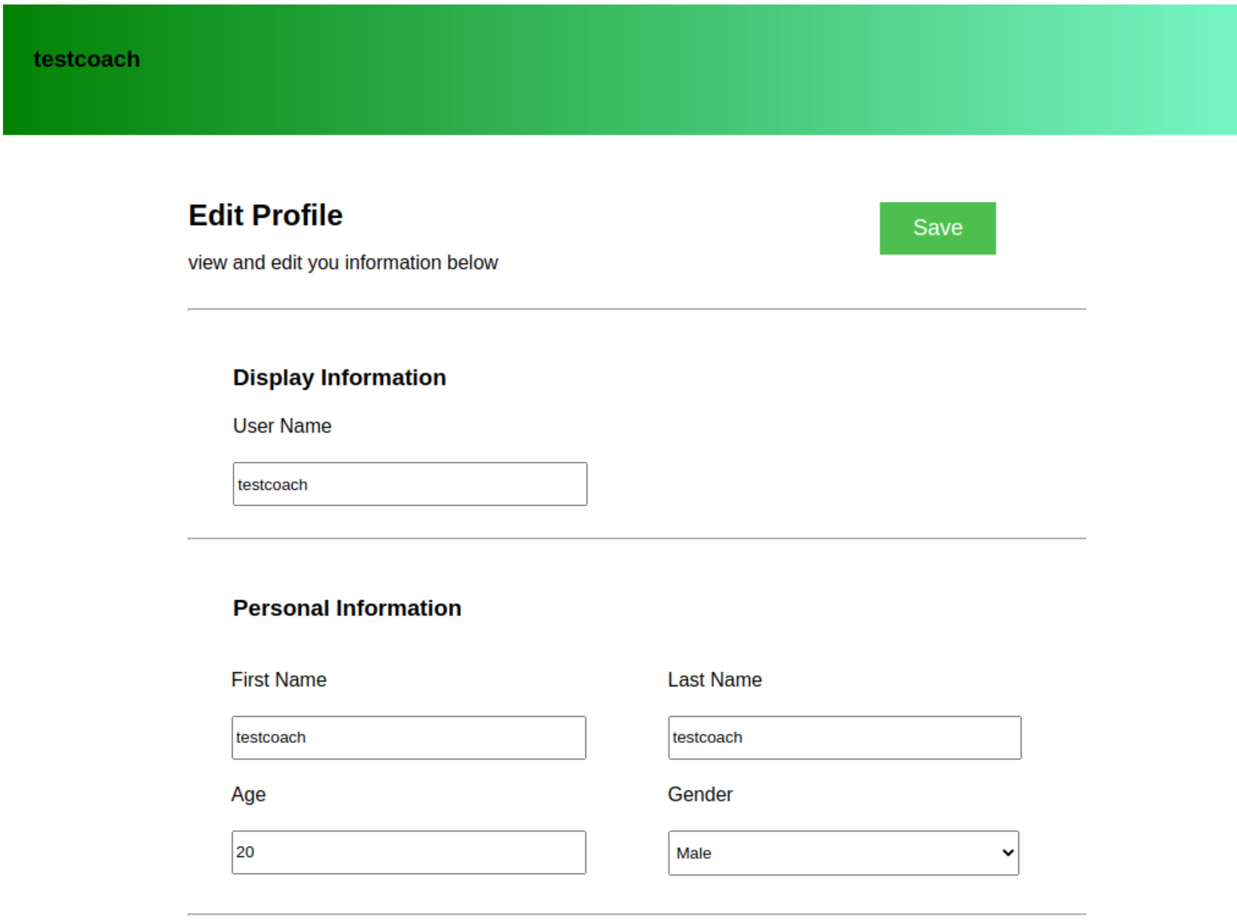


Figure* 8.20 **Profile 3 - coaches can view their profile**


testcoach
Edit Profile
Save
view and edit you information below
Display Information
User Name
testcoach
Personal Information
First Name
Last Name
testcoach
testcoach
Age
Gender
20
Male

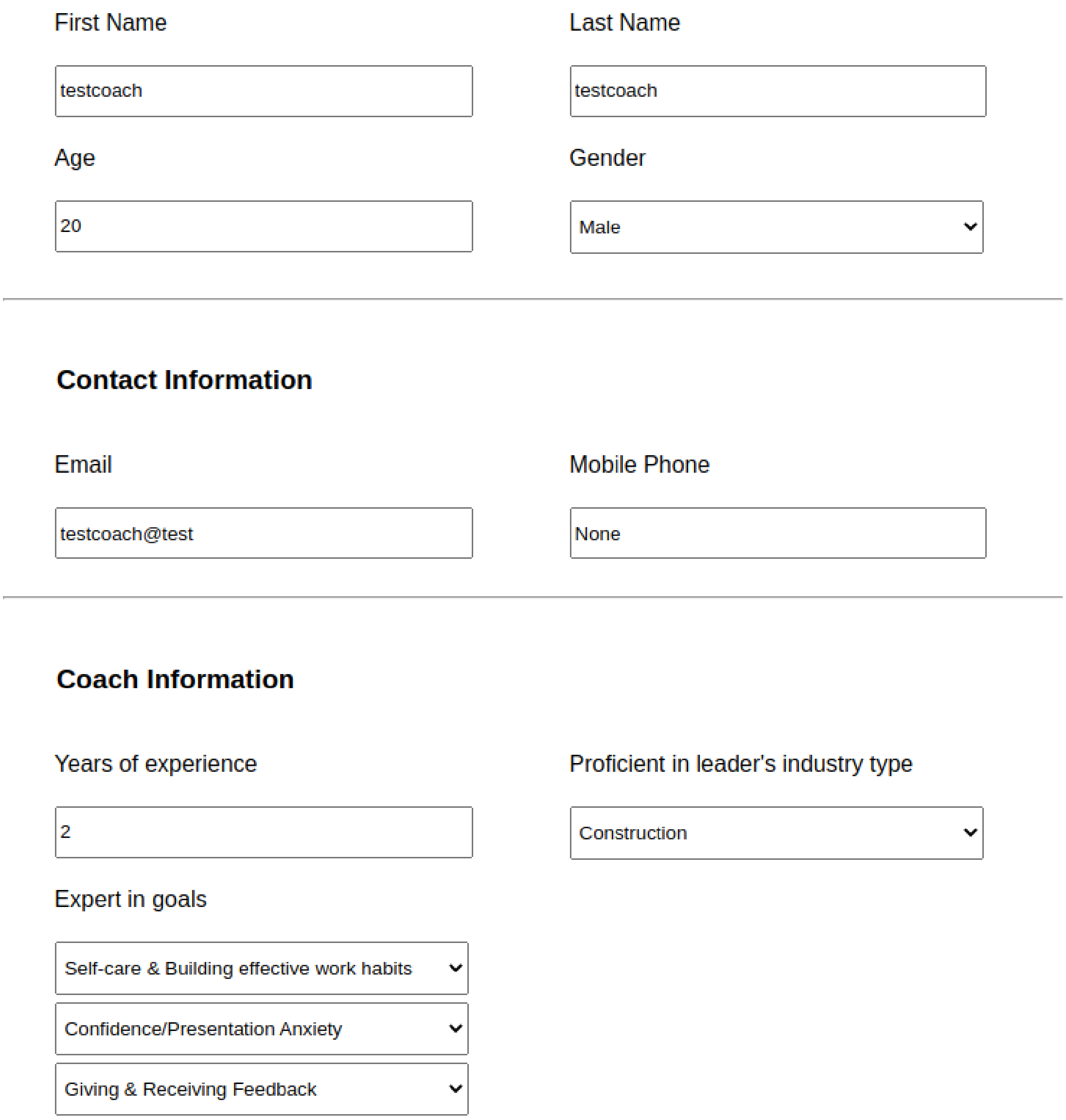
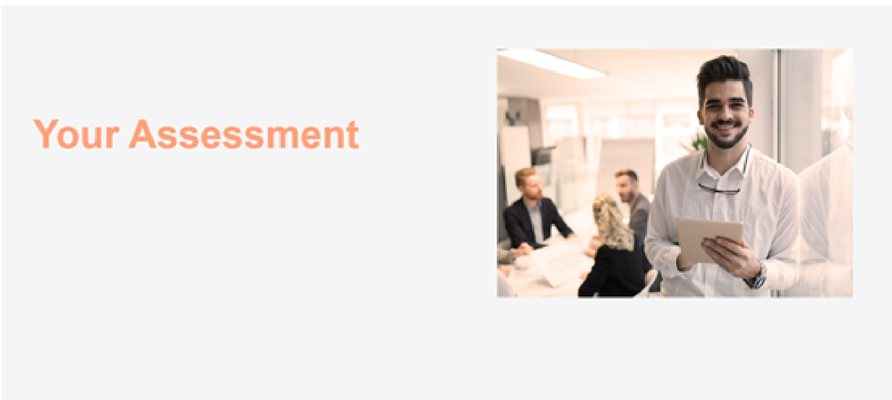


Figure* 8.21 **P**rofile 4 - coaches can modify their profile



Your current coach: testcoach2 testcoach2

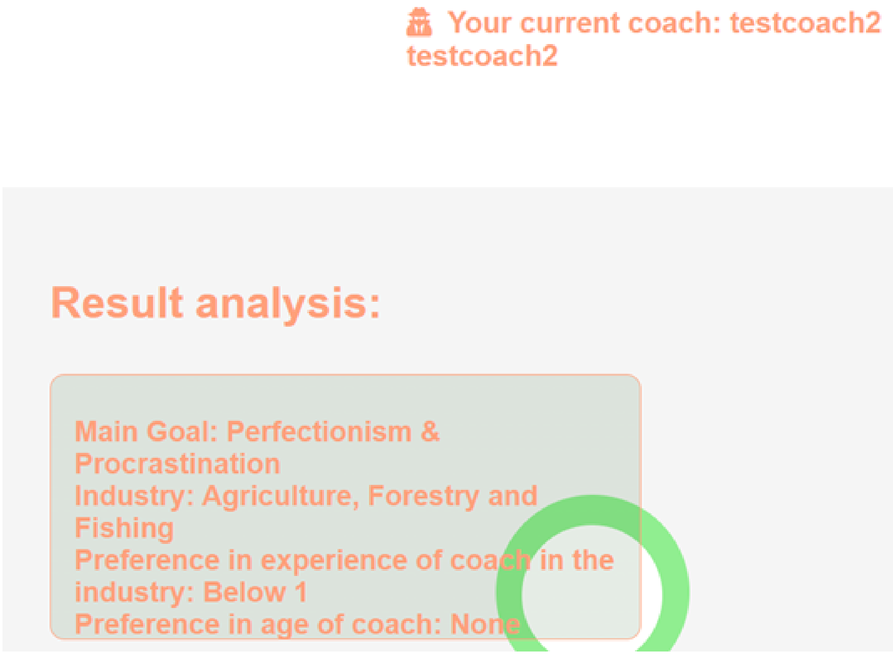


Figure* 8.22 Assessment.1 &2 - Assessment page shows coach info and matching info

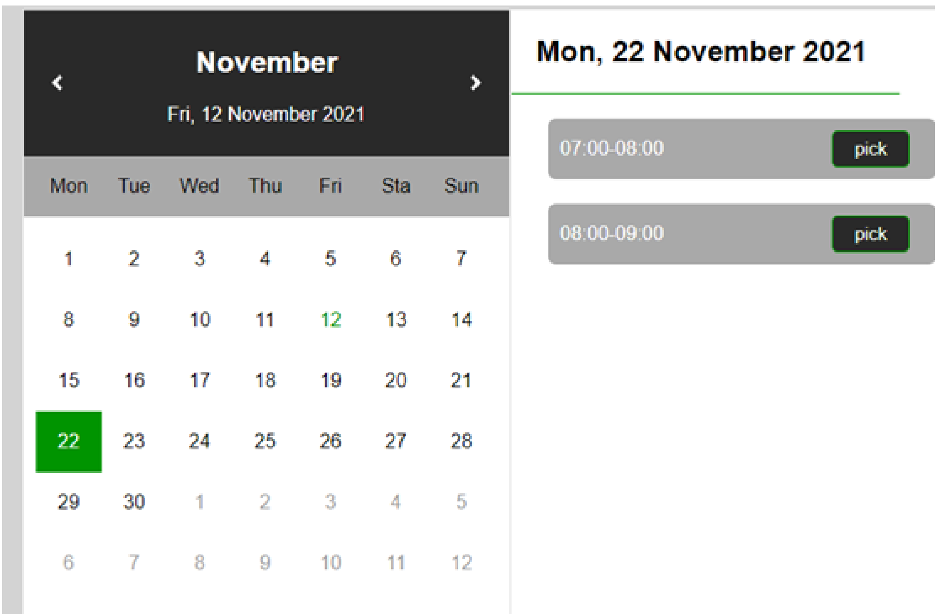


Figure* 8.23 Schedule+Zoom 1 -- Leader is able to pick an available time

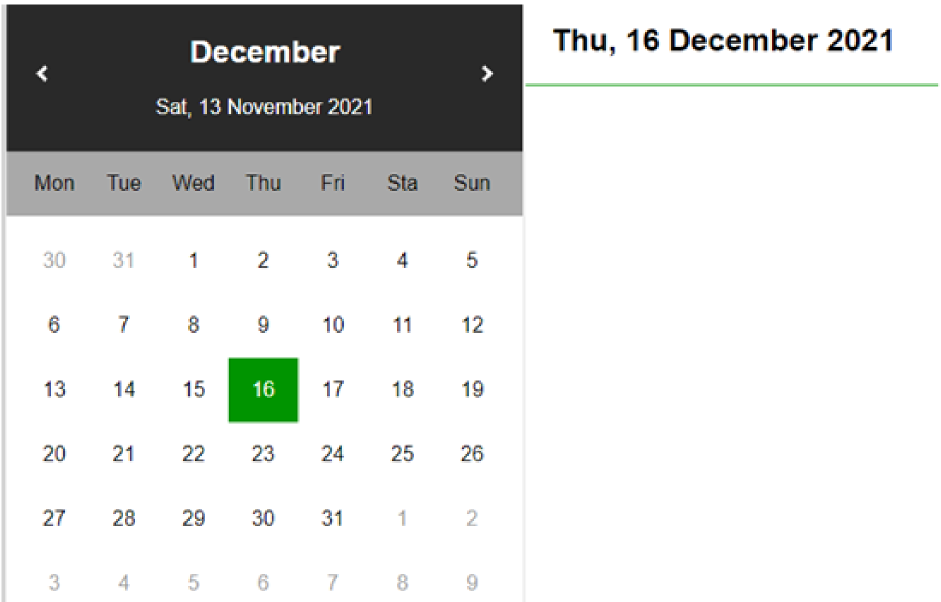


Figure* 8.24 Schedule+Zoom 2 -- Leader is unable to pick without available time

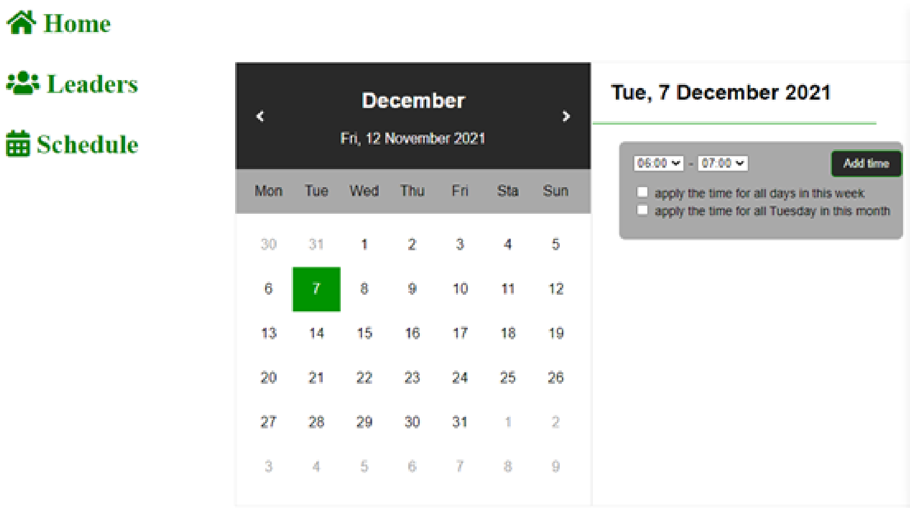
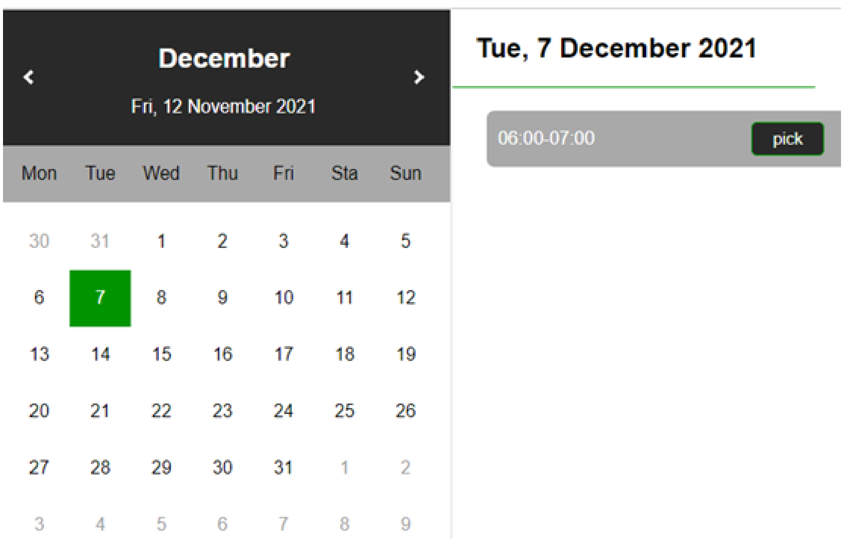


Figure* 8.25 Schedule+Zoom 3 -- Coach is able to generate an available time



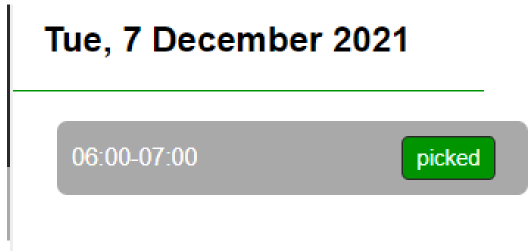


Figure* 8.26 Schedule+Zoom 4&5 -- Leader is able to pick the new available time

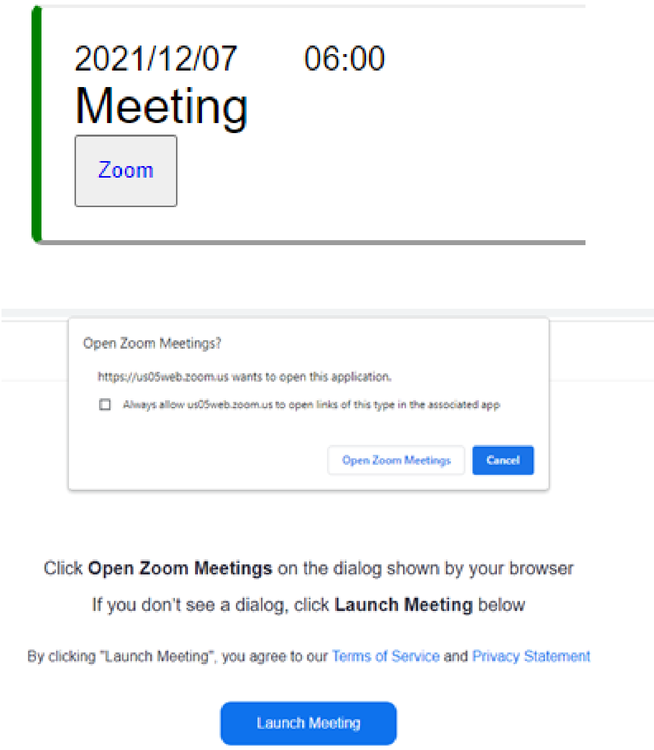


Figure* 8.28 Schedule+Zoom -- The session list of leader home page show the meeting info and webpage will jump to zoom page after leader click the button

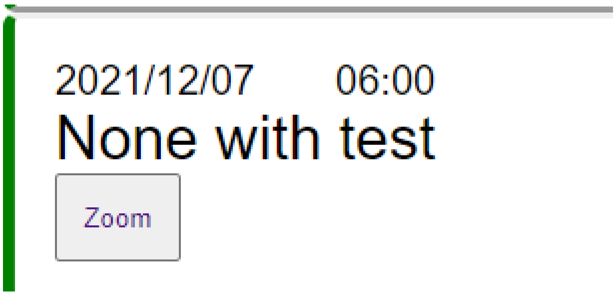


Figure* 8.28 Schedule+Zoom -- The session list of coach home page also show the meeting info

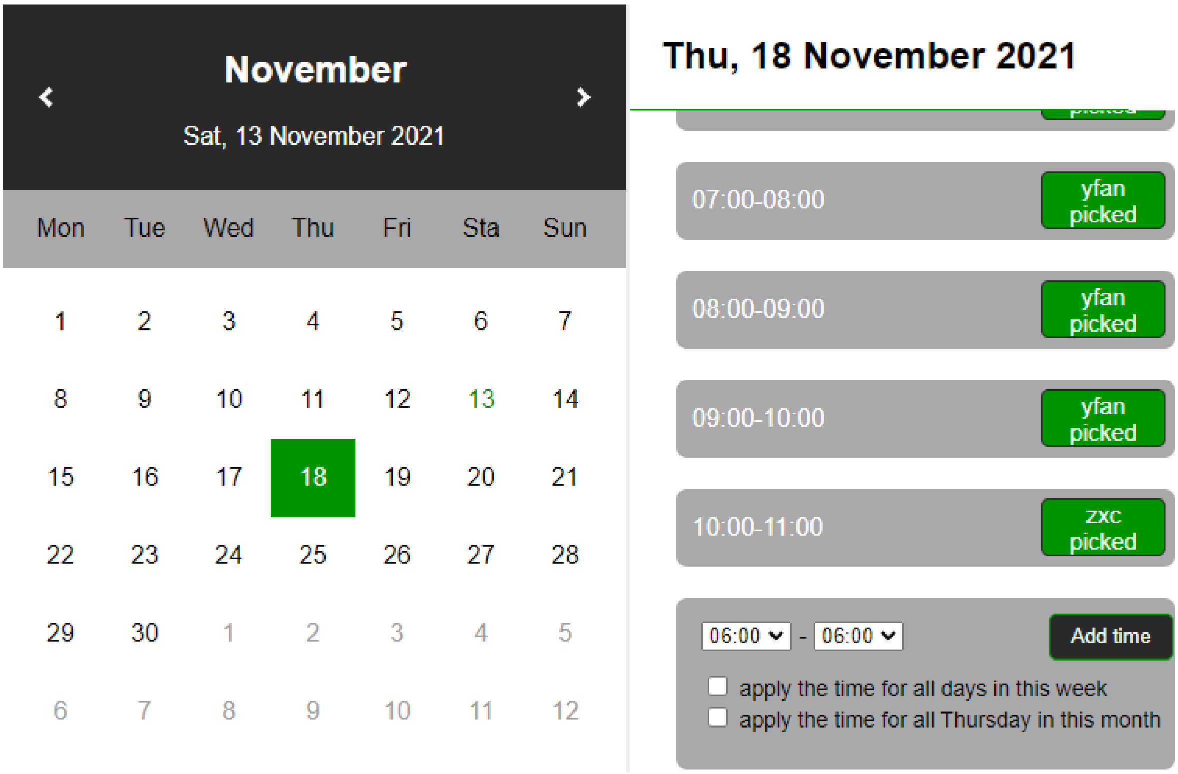


Figure* 8.29 Schedule+Zoom - The coach can see which time is picked and picked by who.

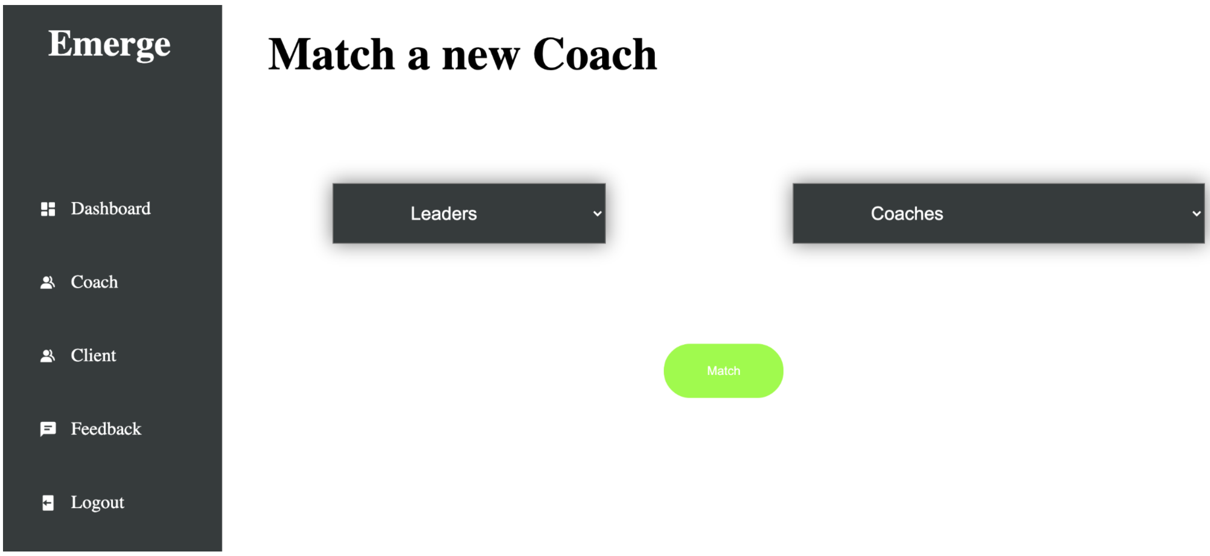


Figure* 8.30 Admin 1 - Manually Match

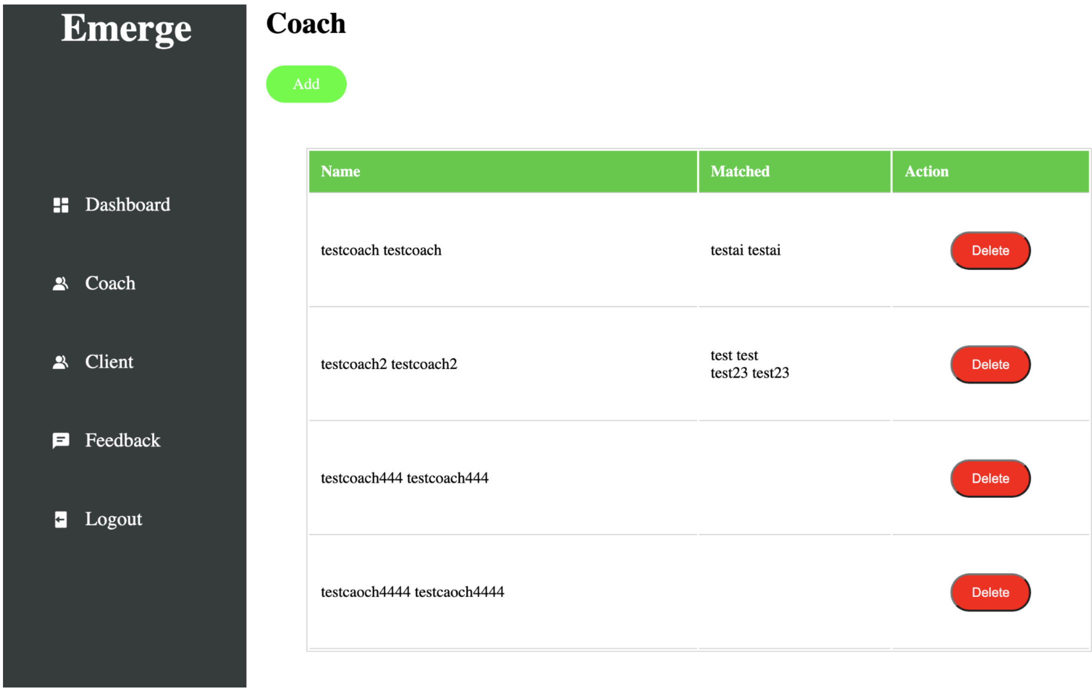


Figure* 8.31 Admin 2 - Display, Delete coach

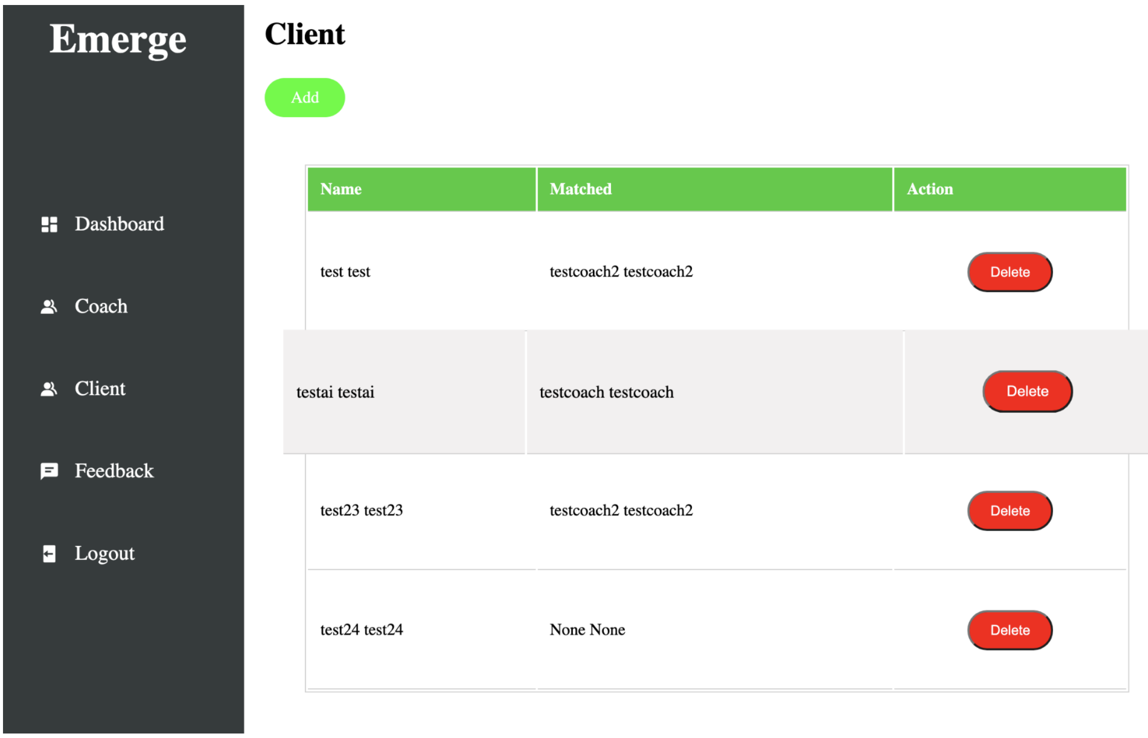


Figure* 8.32 Admin 3 - Display, Delete leader

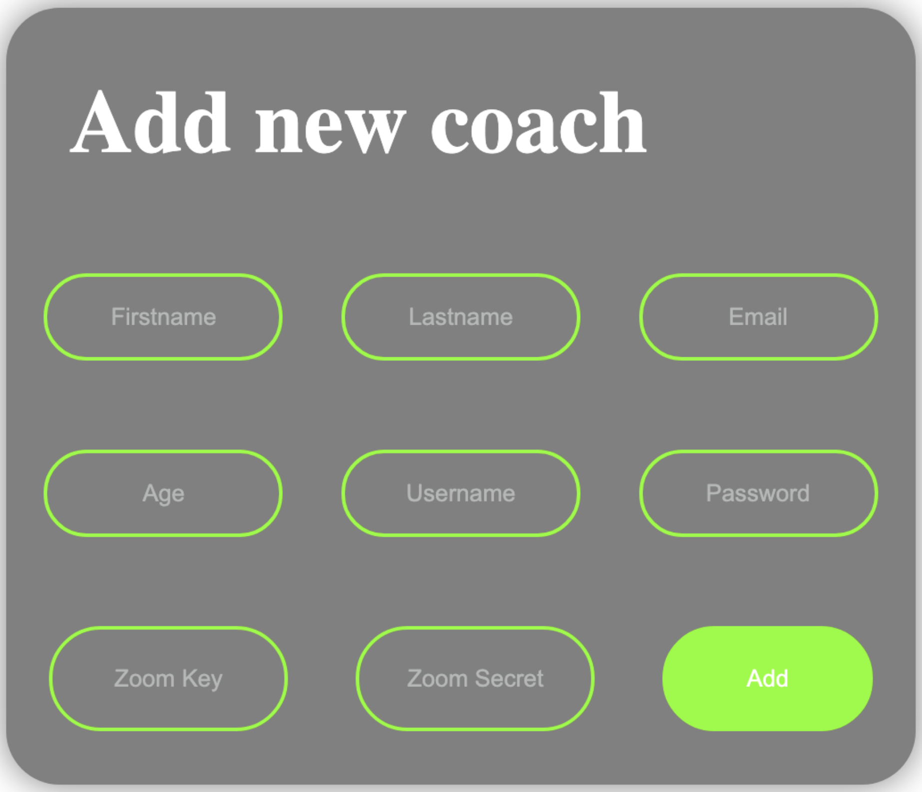


Figure* 8.33 Admin 4 - Add new coach

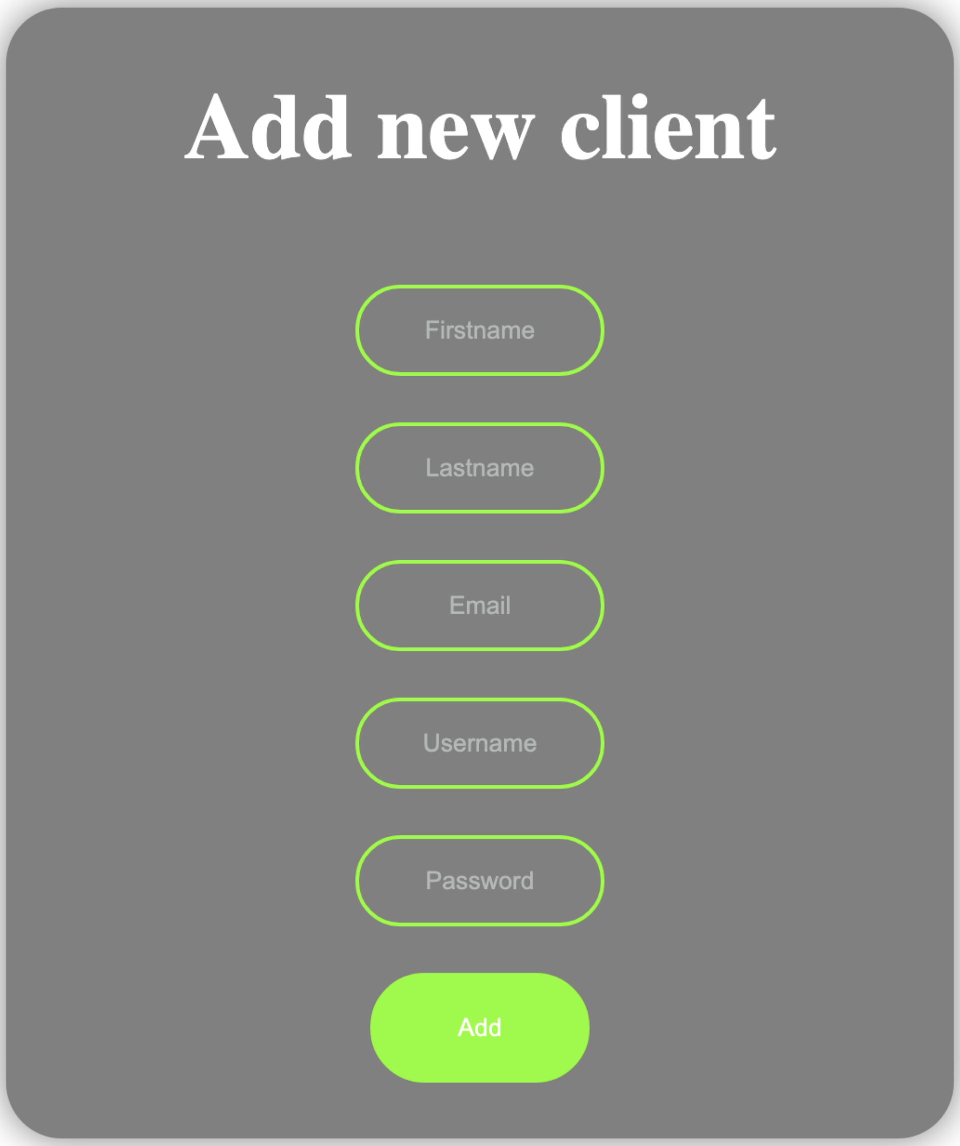


Figure* 8.34 Admin 5 - Add new leader

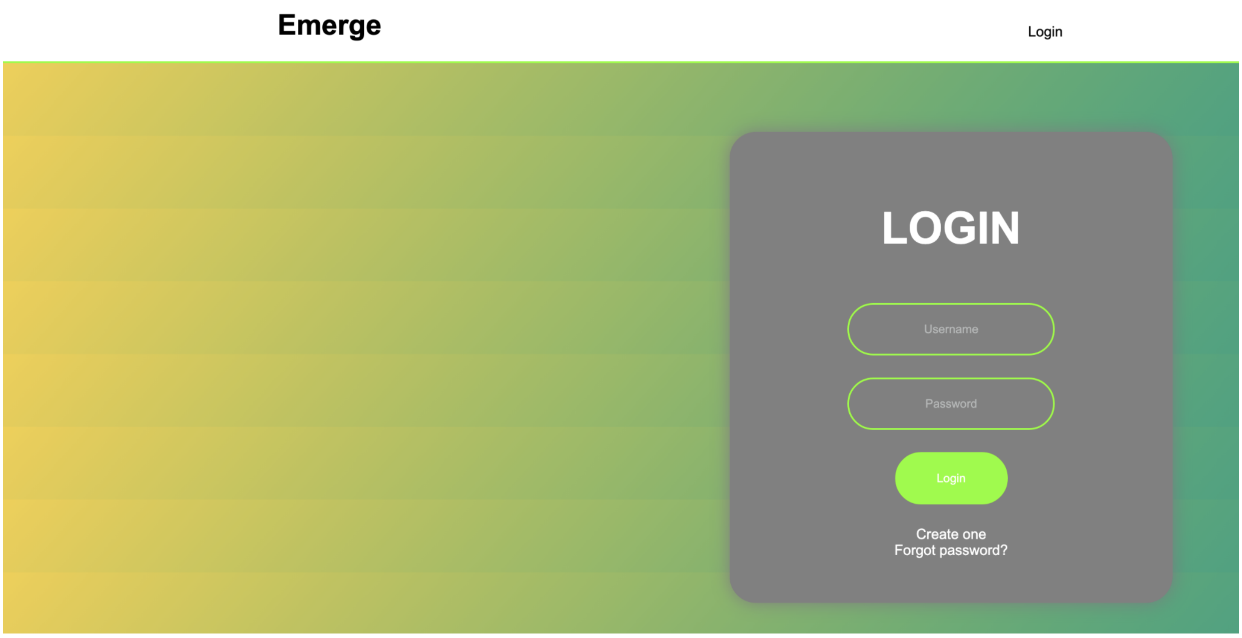


Figure* 8.35 Login

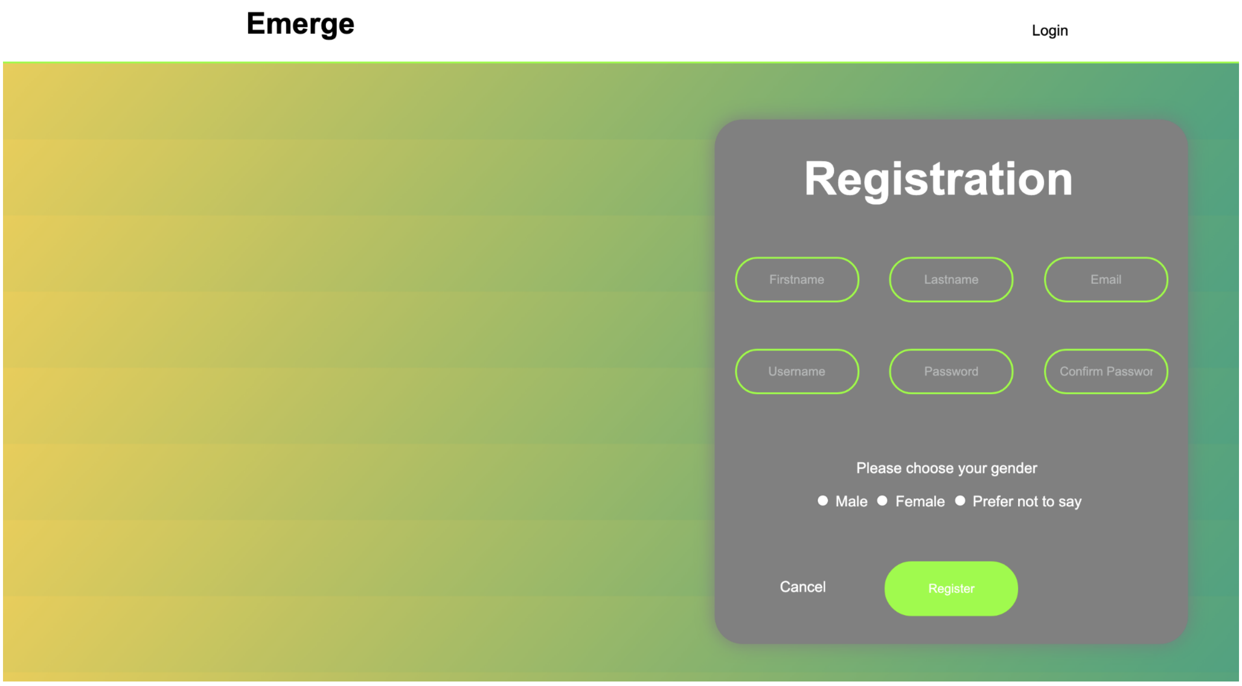


Figure* 8.36 Registration

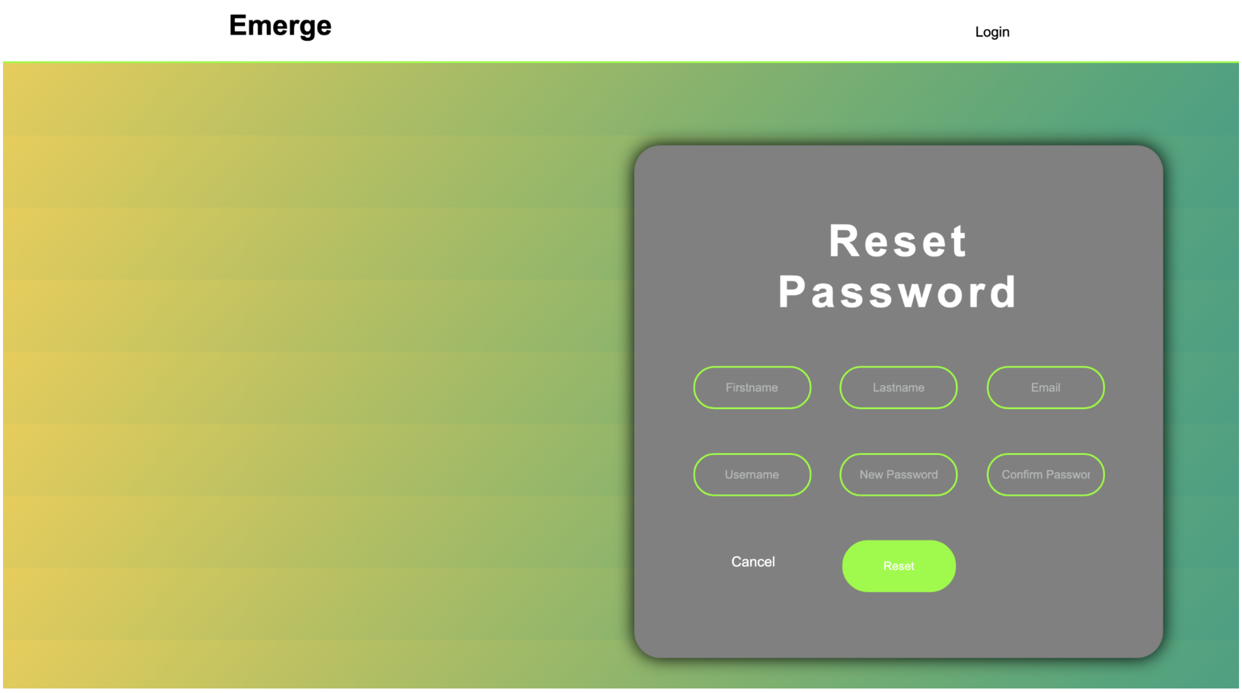


Figure* 8.37 ForgotPassword

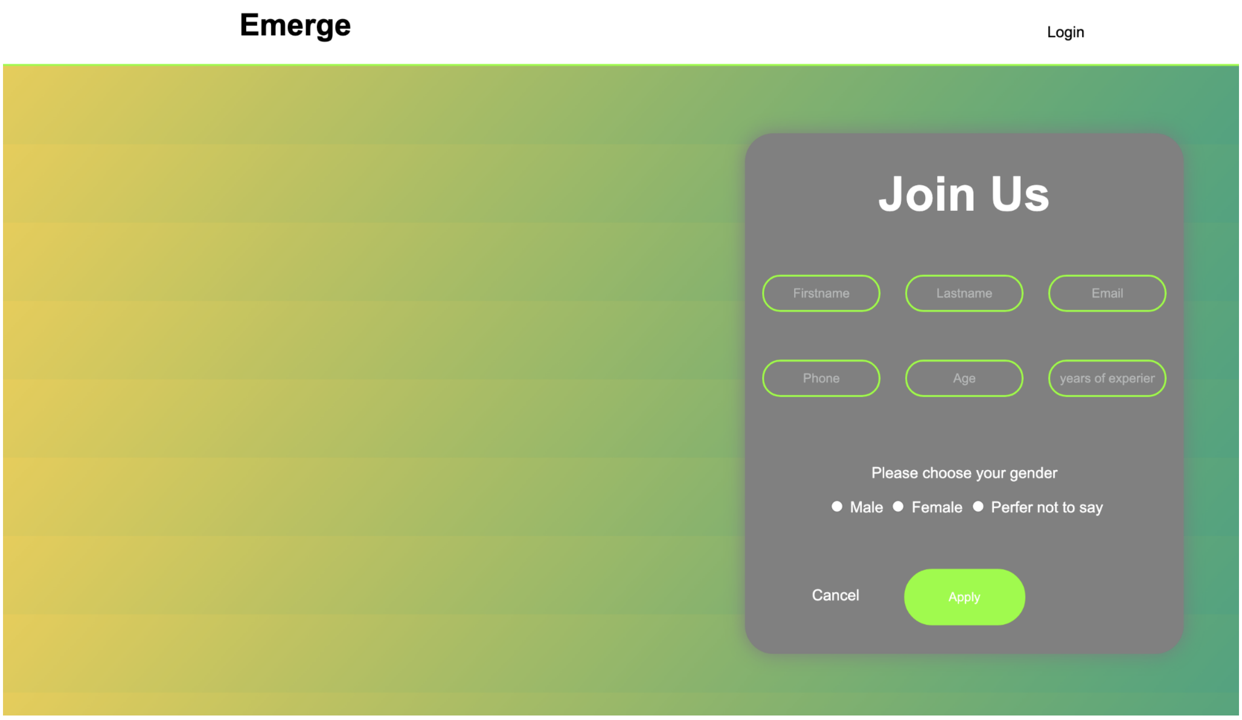
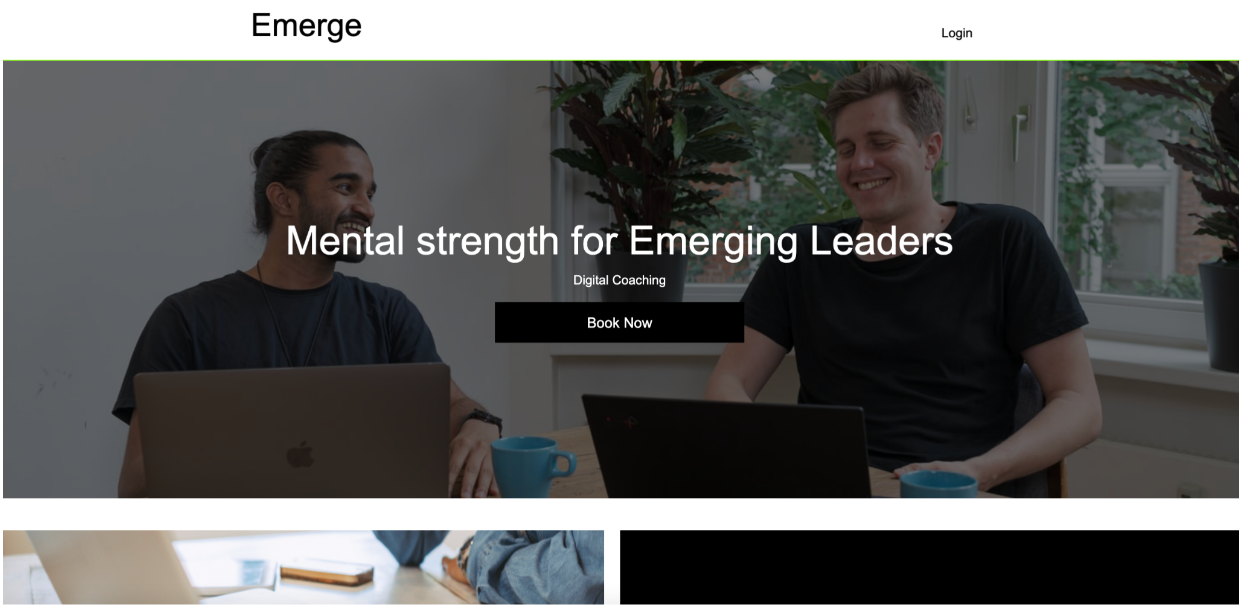


Figure* 8.38 Coach Application

Figure* 8.39 Coach information



Landing Page - 1

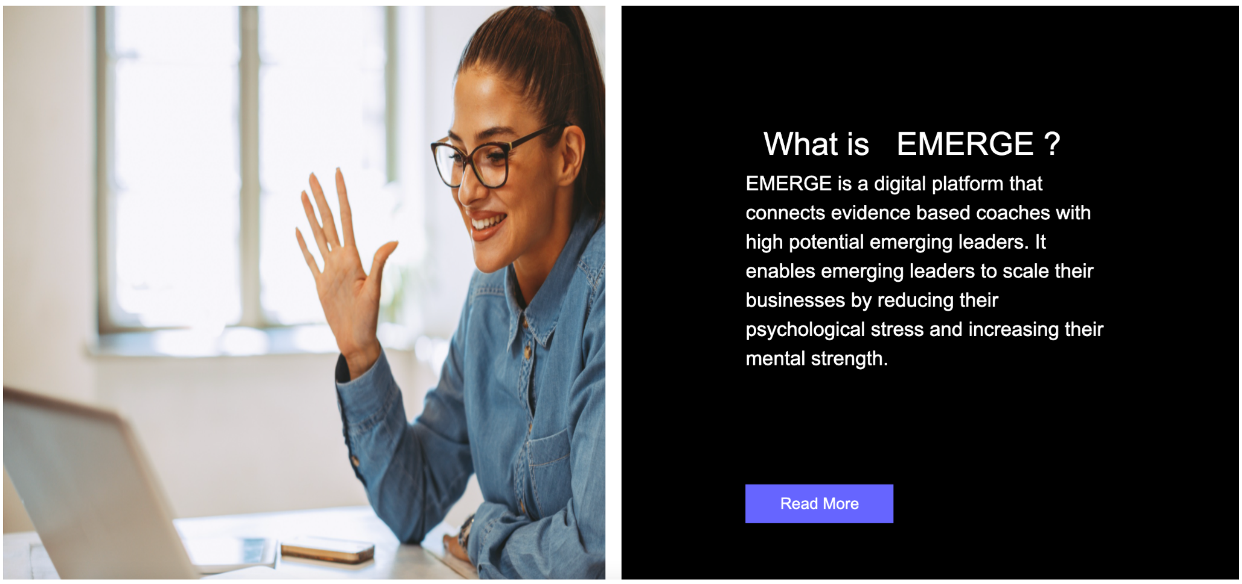


Figure* 8.40 Landing Page - 2

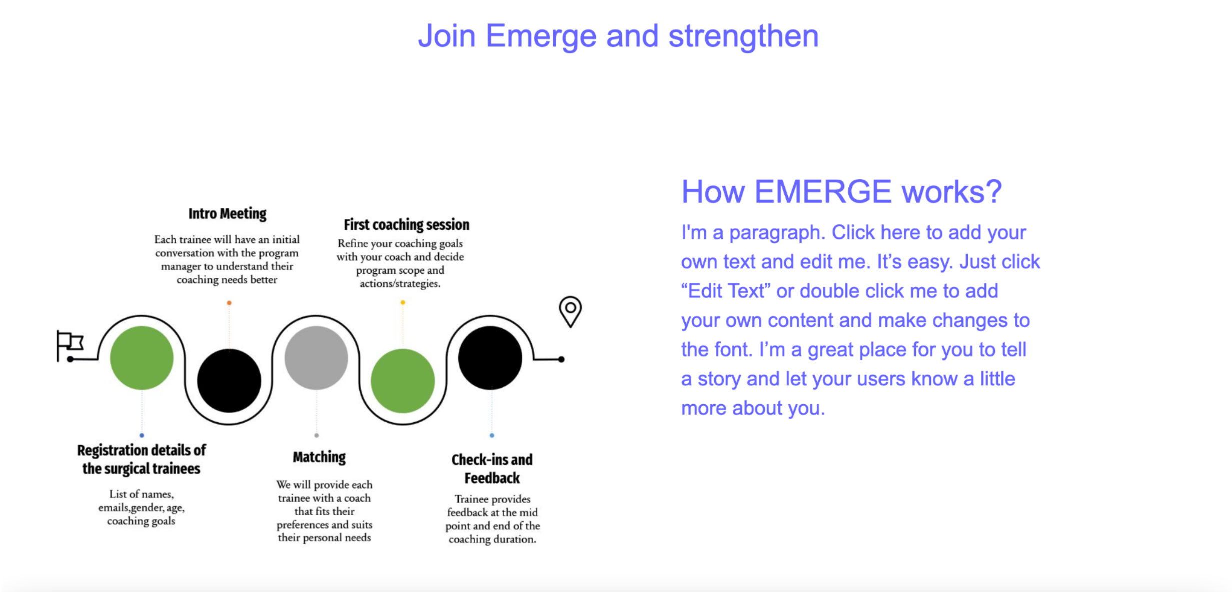


Figure* 8.41 Landing Page - 3

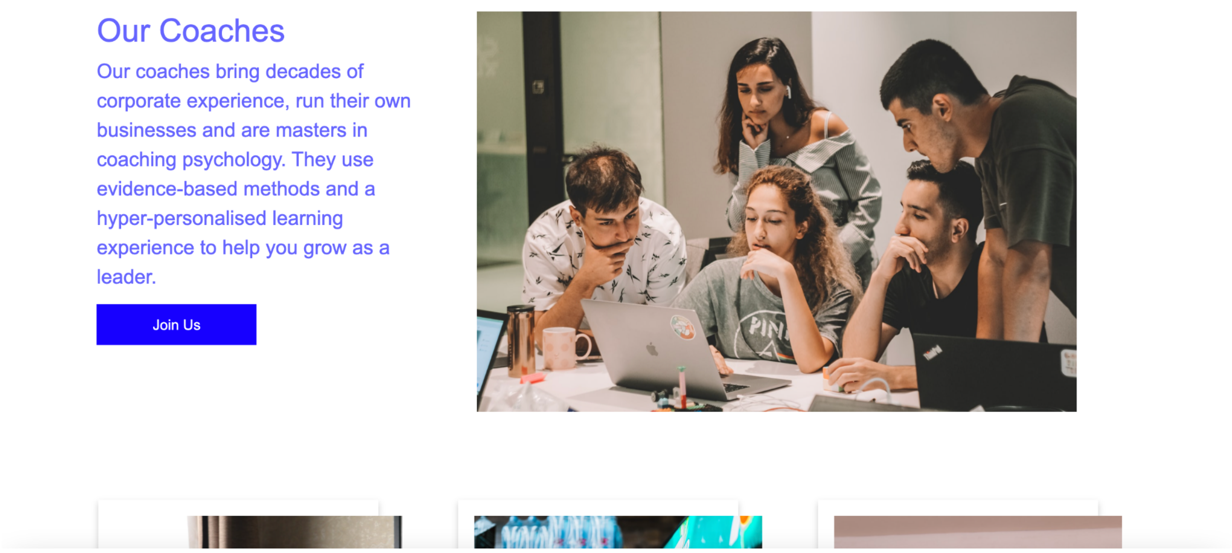


Figure* 8.42 Landing Page - 4

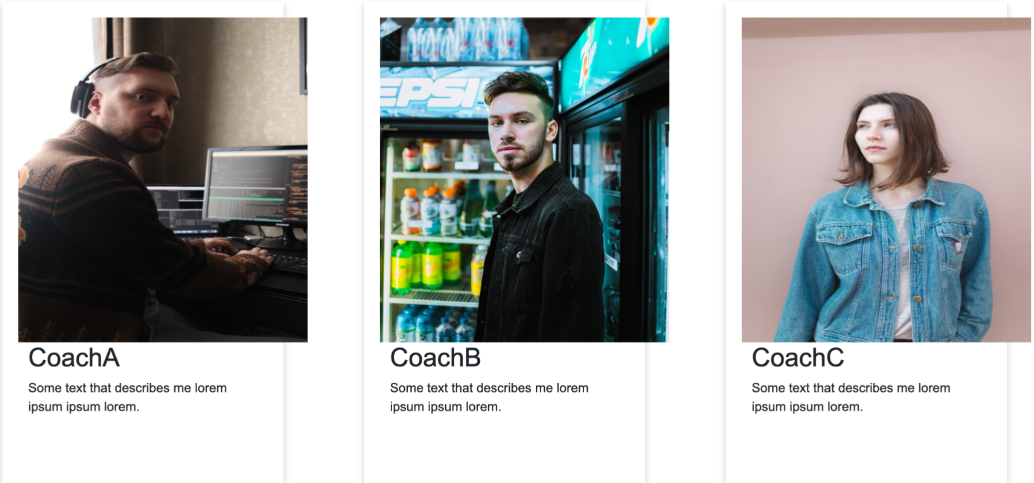


Figure* 8.43 Landing Page - 5

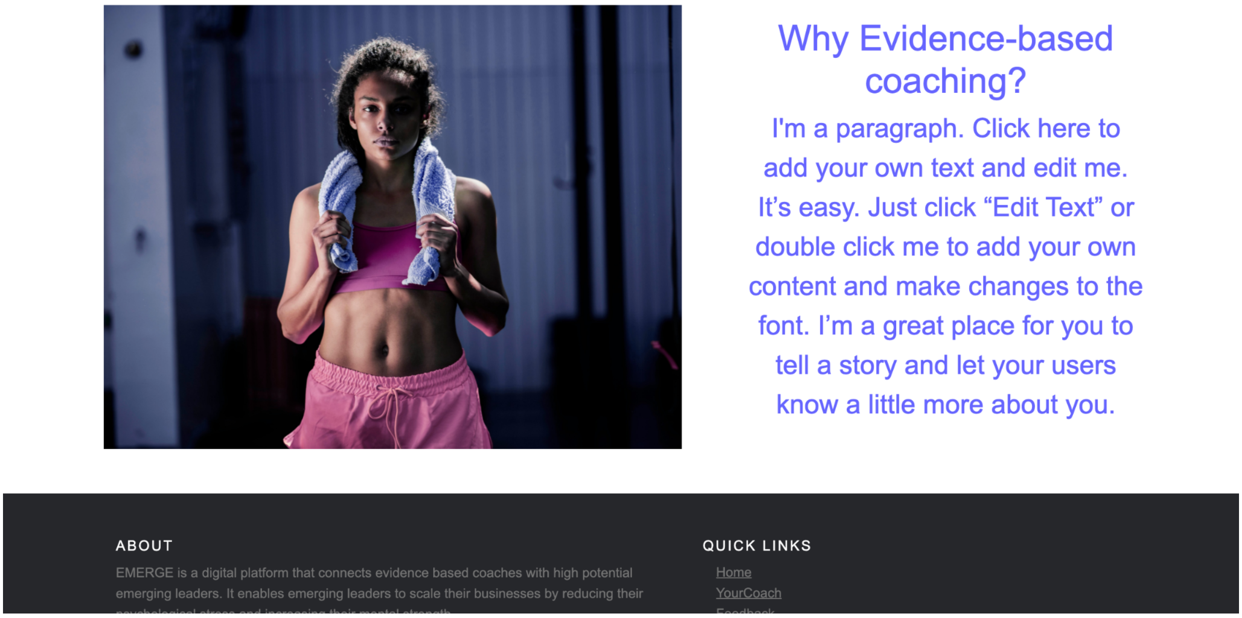


Figure* 8.44 Landing Page - 6

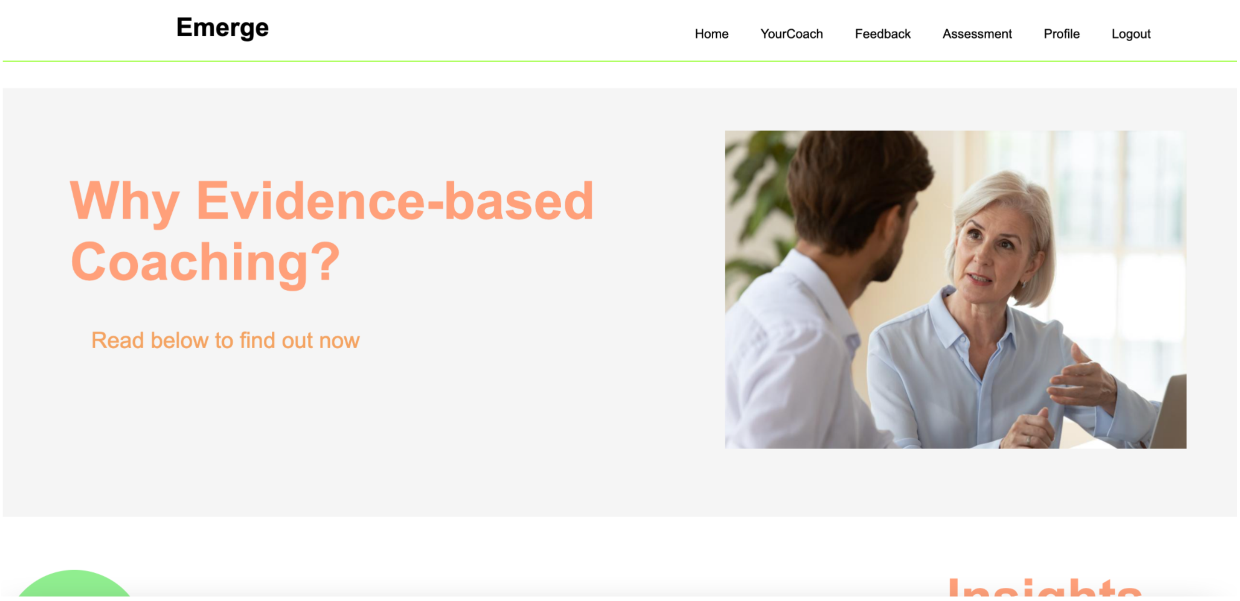


Figure* 8.45 Explore - 1

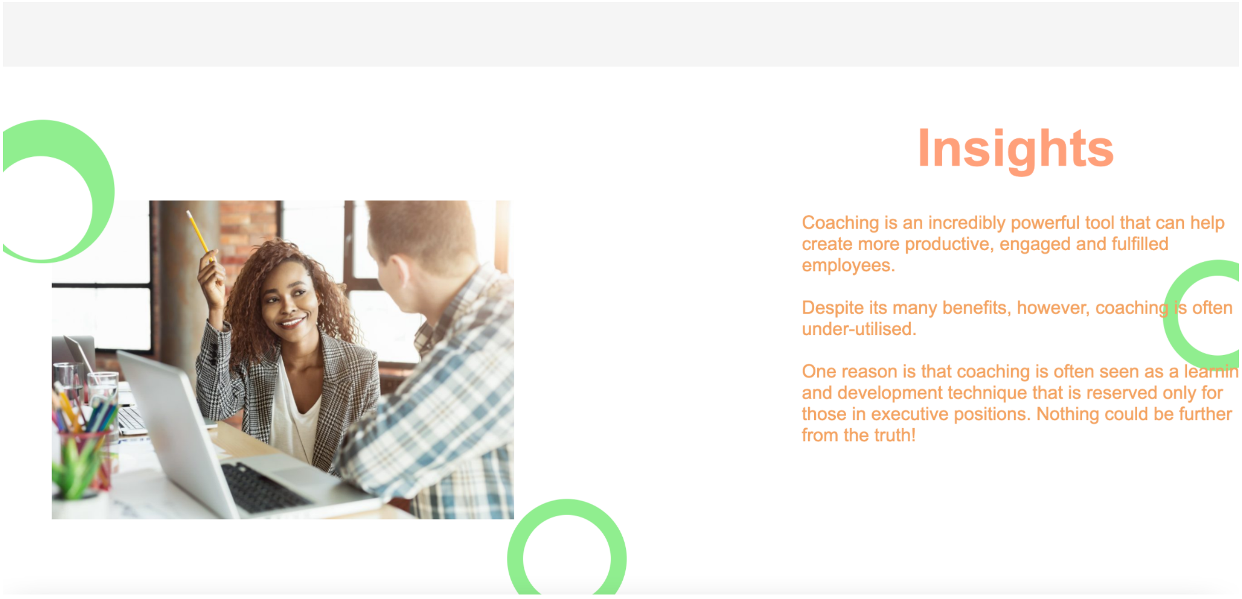


Figure* 8.46 Explore - 2

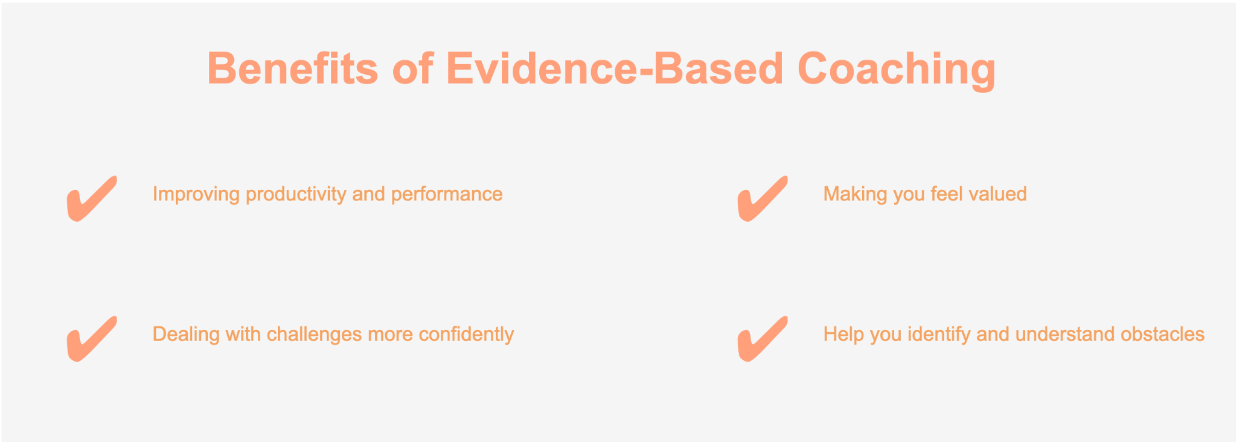


Figure* 8.47 Explore - 3

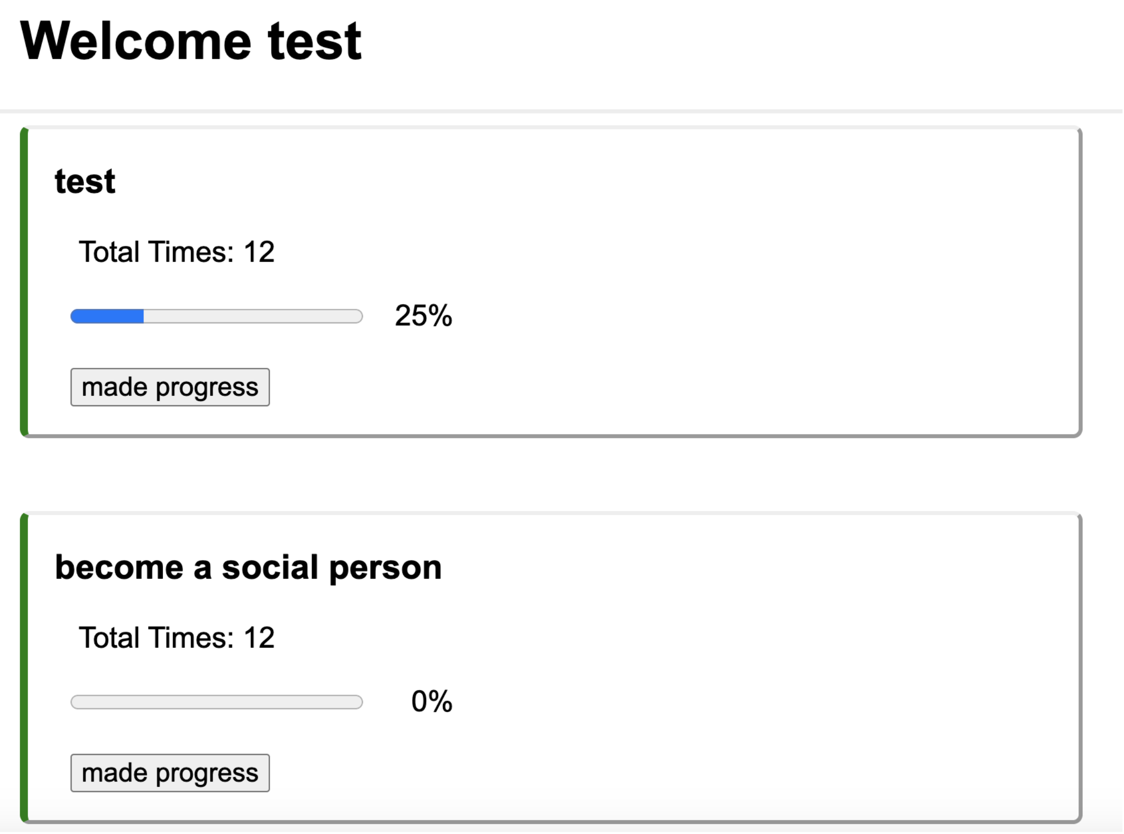


Figure* 8.48 Leader page sub-goals

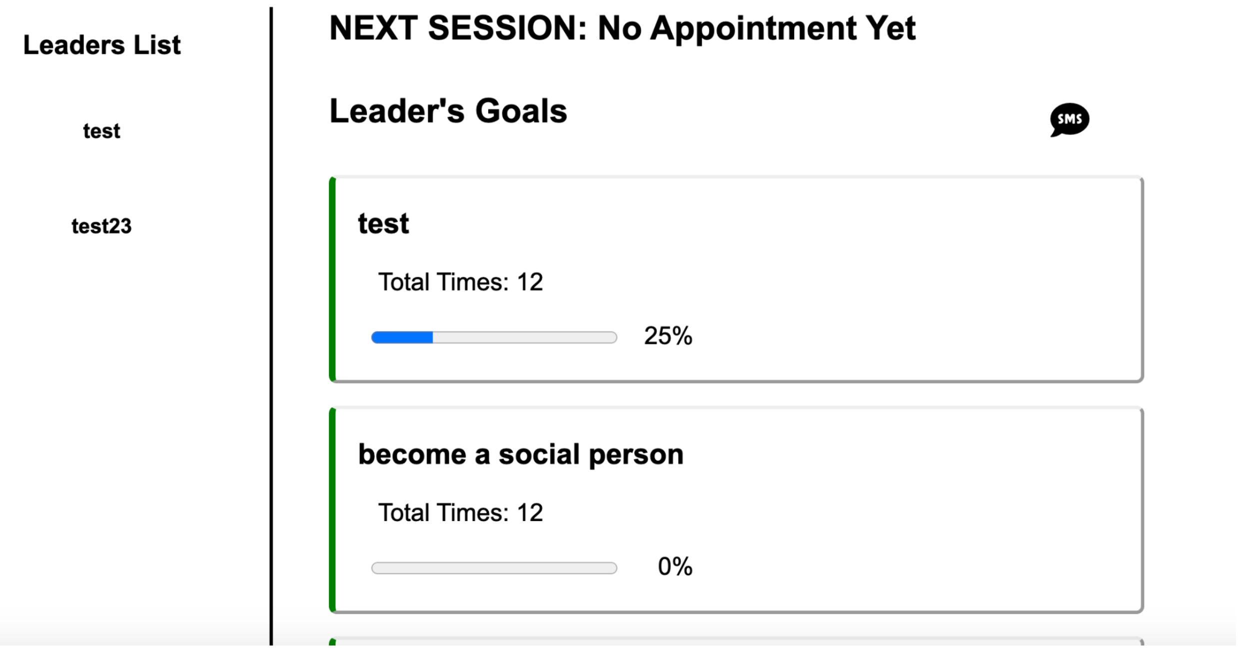
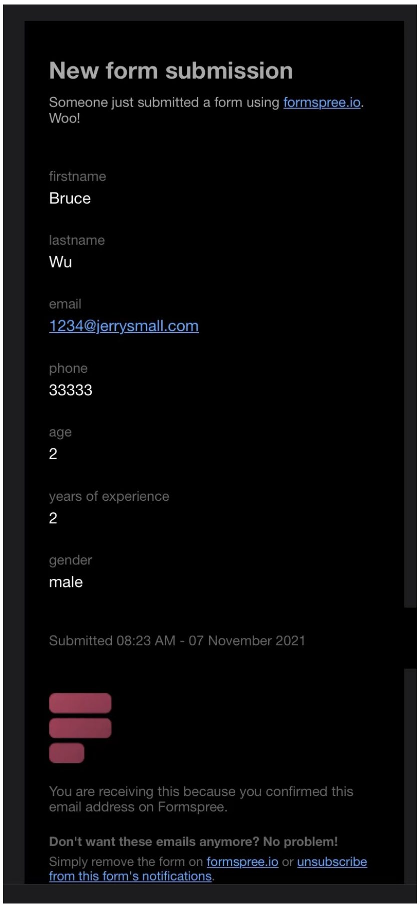


Figure* 8.49 ExploCoach sub-goals board



New form submission

Someone just submitted a form using formspree.io. Woo!

firstname
Bruce

lastname
Wu

email
1234@jerrysmall.com

phone
33333

age
2

years of experience
2

gender
male

Submitted 08:23 AM - 07 November 2021

You are receiving this because you confirmed this email address on Formspree.

Don't want these emails anymore? No problem!
Simply remove the form on formspree.io or unsubscribe from this form's notifications.

Figure* 8.50 Formspree email

References

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