



# P55- A web platform for customised survey data collection

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(H04.154)

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# 1 Introduction

The advent of digital platforms has transformed the way we collect and analyse data, offering unprecedented opportunities for scalability, personalization and speed. Our project is focused on the development of an AI integrated survey platform, leveraging these advancements to enable users to generate and publish surveys based on their specific research hypotheses. This report will outline the conception, development, and execution of the survey platform.

## 1.1 Background and Context

Nowadays, most companies and institutes utilise data-driven decision-making methods.. The ability to generate effective and previous questions, rapidly collect and process user feedback is invaluable across various domains, from academic research to market analysis. Our platform, developed in collaboration and requested with the UTS Research Institute, aims to fill a niche in this ecosystem by providing a tool that not only facilitates the easy generation of survey questions based on user-defined hypotheses but also manages the data analysis and displaying effectively,

## 1.2 Project vision, goals and objectives

### 1.2.1 Vision

Our Vision is to create an AI-driven survey platform that empowers researchers and analysts to craft and manage surveys that are as dynamic and varied as the hypotheses they wish to ask. It aims to provide the researchers with a tool to create survey questions via AI generation as well as being able to efficiently deploy the survey questions. As such, we seek to streamline the process in which researcher's use and collect data using surveys.

### 1.2.2 Goals:

1. Provide the user an intuitive interface for survey creation
  - o Develop an intuitive and accessible interface that simplifies the process for creating survey questions. The process is done so by allowing researchers to input their hypothesis and receiving AI-generated survey questions. This survey should support a wide range of question types, ensuring flexibility and adaptability amongst different research domains.
2. Incorporate Data analysis tools
  - o We aim to integrate tools for survey analysis such as visualisation of the survey results, which helps communicate and streamline the research process
3. To provide an interface that simplifies the creation of surveys using Qualtrics API.
  - o In addition, our client wants us to utilise the qualtrics API, which we will to display our survey on
4. To provide an interface for managing the survey

- In order to keep in line with making the process for survey questions as streamlined as possible, we want to ensure that the website also includes functionalities such as editing, deploying, and adding surveys.

### 1.2.3 Objectives:

1. Develop an AI module for question generation:
  - We aim to achieve this by using existing AI api such as gemini or chatgpt. This is so that we can feed the AI our prompts via api and receive the generated questions
2. Build a dashboard for survey management and analysis
  - Develop a user friendly and comprehensive dashboard that helps the researcher manage surveys and analyse data
3. Integrate external tools
  - Another goal of ours is to be able to use the qualtrics api seamlessly to host our surveys, as well as deploy them to survey participants without issues
4. Ensure secure infrastructure
  - Part of developing a website where users will keep sensitive information is to ensure that it is built with security in mind

### 1.2.4 Short-term deliverables:

- A prototype of survey generation module that can generate one - two questions based on user's hypotheses into actionable survey questions.
  - This short term deliverable aims to create a quick prototype to show to our client and receive feedback and revision on what needs to be improved, additional features, and becoming familiar with the website
- A prototype for user sign in and sign out function to get access to web
  - Similarly create a login and sign up system to simulate the flow of the website in an early stage. This also helps with database storage as each user will have their own surveys stored in the back end

### 1.2.5 Long-term expectations:

- The platform becomes a useful tool in academic and market research settings.
  - Aim to finish all of the features of the survey generations, including dashboard, survey analysis, survey management, and various other features that will streamline the process of survey creation; hence, becoming a useful tool.
- Continuous improvement of the platform to support a wider range of survey question types and complex data collections
  - Continuously enhance the features made during the short-term deliverables, this is to ensure the nonfunctional requirements, such as aesthetics, user friendliness, and performance of the system are not ignored in the final product

### 1.2.6 Key Stakeholders and Interactions:

- Development Team: Our USYD T12G4 team members
  - Our involvement in this project is to ensure the development of the project, furthermore we communicate with the researchers, clients to ensure that the development of the project remains in line with their requirements
- Researchers: Academic and analysts who use the platform to generate surveys and collect data about their research topic.
  - The interaction with
- Survey Participants: Individuals who respond to surveys, providing data.
- UTS Research Institute: Provides oversight and strategic direction for the project.

## 1.3 Resources and Risks

### 1.3.1 Resources:

- Labour: Skilled developers, UTS Client Researchers
- Materials and Equipment: Software development tools, laptops
- Services
  - Cloud services for hosting databases
  - Qualtrics API (For hosting survey)
  - Gemini API (For Generating survey questions)
  - Gitbucket/bitbucket (for version control)
  - Jira (For tracking issues and tasks))
  - Slack (for communication)

### 1.3.2 Risks:

- **Technical Challenges:**
  - The most obvious challenge is generating the survey questions. The biggest risk is that the AI generated survey questions are not related to the researcher's input. In addition, the AI can create false information, which could also impact the quality of the survey question
  - Technical challenges include integrating the qualtrics api and ensuring a seamless integration with our web api. A concern is any issue with connection to qualtrics, could cause our system to be unable to generate surveys as we are using that platform to host our surveys
  - Another technical challenge is integrating all of our works seamlessly, as everyone is working on different parts of the system, sometimes the integration might cause issue
  - Ensuring the we have the same development environment is also an issue, for instance for cybersecurity relating to login, some libraries are needed to be downloaded, this can cause development issues as everyone is working on different versions of the webpage
- **User:**

- We are also concerned about the user, if the user holds malicious intent, they may try to breach our security through sql injections, and other forms of cybersecurity attacks
- In addition, another challenge is ensuring the researcher's topic is understood by the AI, if the researcher in a field extremely niche, the AI may not be able to generate adequate survey questions

## 2 System Specifications

### 2.1 User stories

#### 2.1.1 Researchers/Users (Stakeholder 1)

**User story 1:**

As a researcher, I want to be able to input information to the survey input box

- Functional requirements: The system should have an input box that the researcher can type into
- Non-functional requirement: The UI design should be user-friendly and accessible on multiple devices.
- Testable criteria: Ensure that the backend receives the input properly without any data lost

**User story 2:**

As a researcher, when I want the system to generate a survey question based on my choice of question type

- Functional requirements: After the user chooses a specific question type, and clicks 'generate', the system generates a survey question of chosen type
- Non-functional requirement: The UI design should be user-friendly and accessible on multiple devices.
- Testable criteria: The generated survey question must be of the correct type and be able to be added to Qualtrics via the API

**User story 3:**

As a researcher, I want to review and analyse my survey results with visualisation options

- Functional requirement: The system must provide tools for analysing the survey results such as graphs like bar plots and pie charts. In addition the user should also be able to select the survey results they want to view
- Non-functional requirement: Visualisation should be understandable and displayed correctly in multiple devices
- Testable criteria: Generated visualisation should be accurate and match the data

#### **User story 4:**

As a user, I want to be able to sign up a new account, to access the website

- Functional requirements: The system must all correct account creations for registration
- Non-functional requirements: The security of the registration should be adequate such as password having restrictions, and also ensuring protection against SQL injection
- Testable criteria: Ensure that after registering, the account is able to login

#### **User story 5:**

As a user, I want to be able to login in, so that I can access and save my informations

- Functional requirements: The system must all correct account creations for registration and ensure that the correct account details are shown after login.
- Non-functional requirements: The security of the login should be adequate such as ensuring protection against SQL injection
- Testable criteria: Ensure that when the user logs in, they are given the correct account. In addition, ensure that the user is able to login in the first place

#### **User story 6:**

As a user I want to be able to see my previous entries so I can review them

- Functional requirements: The system should pull up previous generated surveys
- Non-functional requirements: The system should retrieve these surveys in a reasonable time frame
- Testable criteria: The results should match what the user previously inputted

#### **User story 7:**

As a user, I want my survey questions to have diverse options in format, such as text, multiple choices, and different types of questions

- Functional requirements: The system must generate survey questions with different formats including, matrix, multiple choices, text, and sliders
- Non-functional requirements: The generated survey options should match the aesthetics, size, and consistency to avoid confusion.
- Testable criteria: Ensure that the system can generate all of the implemented formats

#### **User story 8:**

As a user, I want to be able to edit and modify the AI-generated questions

- Functional requirements: The system must allow the users to edit and modify survey questions generated by the AI
- Non-functional requirements: The editing interface should be intuitive and user friendly
- Testable criteria: Ensure that the changes to the survey questions are reflected after the user changes it

#### **User story 9:**

As a user I want to be able to manually add questions (Adding questions instead of editing)

- Functional requirements: The system must allow provide an option for users to manually add their own questions to the survey

- Non-functional requirements: The questions entry process should be intuitive, and also include different types of questions (e.g multiple choices, text answers)
- Testable criteria: Test if the system can successfully add new questions, and that it adds to the survey

#### **User story 10:**

As a user, I want to specify the formats allowed question input

- Functional requirements: The system should allow users to set the settings for the generated survey by enforcing specific input formats (i.e having multiple choice, text answers or not)
- Non-functional requirements: The format specification interface should be easily and flexible for the user to use
- Testable criteria: Ensure that the outputs of the survey match the settings that the user defines

#### **User story 11:**

As a user, I want to open and close the survey for participation

- Functional requirements: The system should provide functionality for users to open a survey for participation and close it when time for data collection has expired.
- Non-functional requirements: The process for opening and closing survey should be simple and not require many steps
- Testable criteria: Users should be able to open and close the system, when the date has expired, the survey should not be open for more participation

#### **User story 12:**

As a user, I want to be able to provide more information about my research topic in order for more accurate questions generation

- Functional requirements: In addition to survey boxes, the system should provide multiple boxes to allow the user to input more information and send it to the Gemini question generation.
- Non-functional requirements: The survey boxes for additional information should clearly highlight what information should be inputted to allow the user to more easily input additional information. The survey boxes should be clear and easy to fill out to be user friendly
- Testable criteria: Users should be able to input the additional information, and when the AI generates the questions, the additional information should reflect in the question generation.

### 2.1.3 Survey participants

#### **User story 1:**

As a survey participant, I want to be able to get a Qualtrics survey link so I can fill out the survey

- Functional requirements: The system must provide a survey link to a Qualtrics survey that the user can fill out and submit

- Non-functional requirements: The system should load the qualtrics survey link in a timely manner
- Testable criteria: After the user submits their survey, the users inputs should match the survey results

## 2.2 Demonstration of implemented user stories

The following section details the implemented user stories, with each one denoting how the “requirements” are satisfied and “quality” of the user requirement, each user story is accompanied by a screenshot to demonstrate the actual implementation and UI. In addition, some user stories are demonstrated together as the functionalities are related (i.e User story 1 and User story 12) due to additional requirements requested by the client.

### 2.2.1 Demonstration

(note some user stories are grouped together for easier demonstrations)

#### **User story 1 + User story 12:**

- As a researcher, I want to be able to input information to the survey input box,
- As a user, I want to be able to provide more information about my research topic in order for more accurate questions generation
  - **Requirement:** Satisfied client requirement to have an input boxes for Research topic questions for user Story 1, users can input their questions in. In additions, the user will also need to provide additional information in order to make the question generation more accurate and flexible, this was an added requirement during development
  - **Quality:** quality was ensured by making sure that all of the users inputs were correctly sending to the backend. In addition, grey text(i.e these will automatically go away when the user begins to type) are included in order for the user to more easily understand what more informations can be provided. Each text box is also highlighted with “required” and “optional” to further improve the UI. The quality of the UI was also significantly improved, as Figure 1 was the final designed UI, compared to Figure 2 which was from week 6.

Current user: ray

# Survey Question Generation

Enter Research Question/Topic... (required)

Clear

Enter Hypothesis...  
(required)

Clear

Enter Research  
Context... (required)

Clear

Enter Research  
Objectives/Goals...  
(required)

Clear

Enter Existing  
Knowledge... (optional)

Clear

Enter Key Variables or  
Themes... (required)

Clear

Enter Demographic  
Information... (required)

Clear

Enter Topics or  
Questions to  
~~Evaluate~~ (optional)

Clear

Enter Expected  
Outcomes... (required)

Clear

Submit

Figure 1: showing survey inputs



**Please enter a research question and/or context to generate questions**

Figure 2: showing old UI

**User story 2, User story 7, and User story 10:**

- As a researcher, when I want the system to generate a survey question based on my choice of question type
- As a user, I want my survey questions to have diverse options in format, such as text, multiple choices, and different types of questions
- As a user I want to be able to manually add questions (Adding questions instead of editing)
  - Requirement: Both user story 2, 7,10 are completed as shown in the pictures below, User's can generate their survey question by clicking on the generate button in figure 3 demonstrating user story 2, afterwards they would be prompted to select a question type in figure 4 demonstrating user story 10, with more detailed options in figure 5. In addition, we see that the questions generated fulfil the figure 5 with diverse options such as matrix , multiple choices, text, and sliders as shown in figure 6-9 demonstrating user story 7.
  - Quality: Our quality is demonstrated by our clean choice in UI, and the fact that each question correctly reflects the information provided in the survey input box. In addition, the question formats also correctly reflect what the user chooses.

# Survey Question Generation

Do students study better in summer than in winter

Clear

in summer than in  
winter so they study  
better

Clear

the seasons change  
how students study  
effectively

Clear

trying to determine if  
the seasons change  
how students study  
effectively

Clear

Enter Existing  
Knowledge... (optional)

Clear

Time of the year, date,  
weather, student test  
outcomes,

Clear

University students

Clear

Enter Topics or  
Questions to  
Evaluate (optional)

Clear

How well they perform  
on tests

Clear

Submit

Generate Question

Create Question

Figure 3: showing generate question option under the survey inputs

---

---

Select question type...

Generate

Figure 4: showing the text box for drop down list for question type

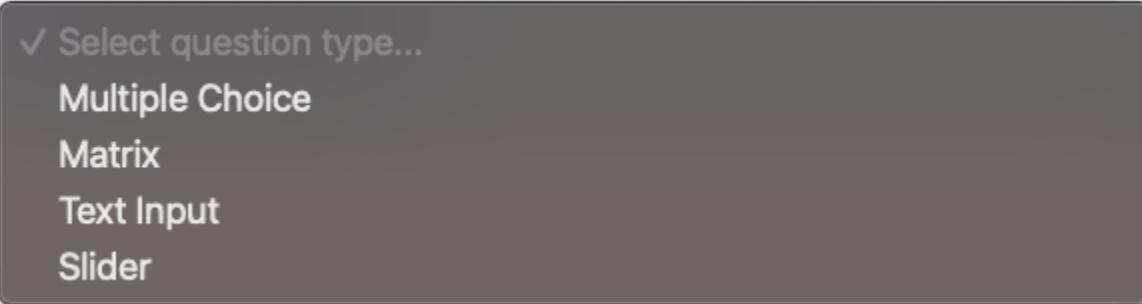


Figure 5: showing the options for question generation

**Do you find yourself studying more effectively during the summer months compared to the winter months? (Type: Multi Choice)**

**Question Description**

This question assesses the perceived difference in study effectiveness between summer and winter.

**Choices**

Yes, I study more effectively in the summer.

Yes, I study more effectively in the winter.

There is no difference in my study effectiveness.

I don't know.

Required: No

Edit

Delete

Rearrange

*Figure 6: show MC question type*

How would you rate your overall study effectiveness during different seasons? (Type: Matrix)

Question Description

Study Effectiveness by Season

Choices

**Very Ineffective** **Ineffective** **Neutral** **Effective** **Very Effective**

Summer

Winter

Required: Yes

Edit

Delete

Rearrange

Figure 7: showing Matrix question type

Please describe your typical study routine during the summer months. (Type: Text Entry)

Question Description

Describe your summer study routine.

Required: Yes

Edit

Delete

Rearrange

Figure 8: showing text entry question type

## How much do you think the weather affects your ability to focus on studying? (Type: Slider)

### Question Description

Rate your agreement with the statement: 'The weather significantly impacts my ability to focus on studying.'



Selected value: 0

Min Value: 1

Max Value: 100

Required: No

Edit

Delete

Rearrange

Figure 9 showing slider question type

### User story 3:

- As a researcher, I want to review and analyse my survey results with visualisation options
  - Requirement: The user story is satisfied by figure 10 where the user can select the survey they want export the visualization, figure 11- 12 show the visualization
  - Quality: The charts generated are interactive and use various colours to make it more user friendly. The graphs also resize when window sizing changes to ensure readability figure 13-14 also minimizes the data to ensure the UI is readable and the results aren't everywhere

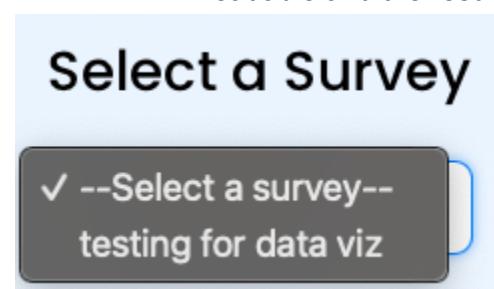


Figure 10: Shows users can select which survey data they want to view



Date	How much does sunlight typically affect your ability to concentrate while studying?	How productive do you feel while studying in different lighting conditions?	How productive do you feel while studying in different lighting conditions?	How productive do you feel while studying in different lighting conditions?	How productive do you feel while studying in different lighting conditions?
18/10/2024, 4:14:16 PM	It significantly improves my concentration	Slightly Unproductive	Slightly Unproductive	Slightly Unproductive	Slightly Unproductive
18/10/2024, 4:14:30 PM	It slightly improves my concentration	Very Productive	Very Productive	Very Productive	Very Productive
18/10/2024, 4:14:41 PM	It slightly improves my concentration	Slightly Unproductive	Slightly Unproductive	Slightly Unproductive	Slightly Unproductive

Figure 13: Shows the individual responses of each survey anonymously

#### User story 4:

- As a user, I want to be able to sign up a new account, to access the website
  - Requirement: The user can register for a new account using a username and password.
  - Quality: The system checks for taken usernames to ensure no duplicate users are created.

Login   Register

**Register**

Username:  
testuser

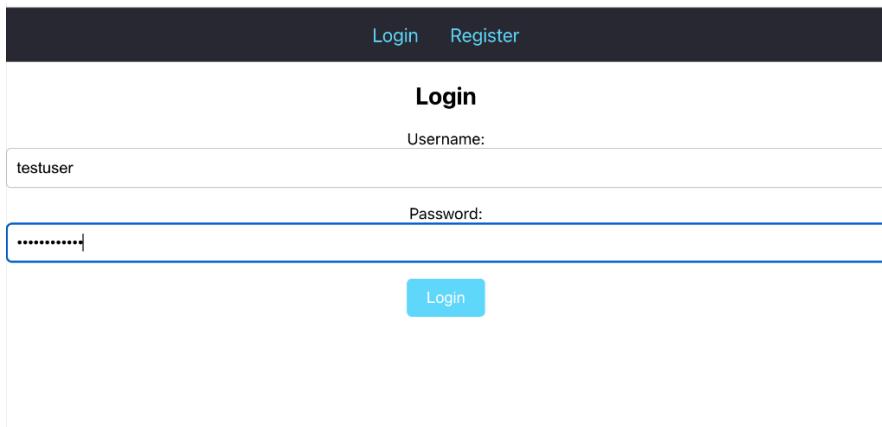
Password:  
.....

Register

Figure 14: Sign-up page

**User story 5:**

- As a user, I want to be able to log in, so that I can access and save my information
  - Requirement: The user can log into the system using a valid username and password.
  - Quality: Error messages are shown when invalid credentials are entered.



The screenshot shows a dark header bar with 'Login' and 'Register' buttons. Below it is a 'Login' section with 'Username:' and 'Password:' fields. The 'Username:' field contains 'testuser'. The 'Password:' field has a blue border and a cursor placeholder '.....'. A 'Login' button is at the bottom.

Figure 15: Login page

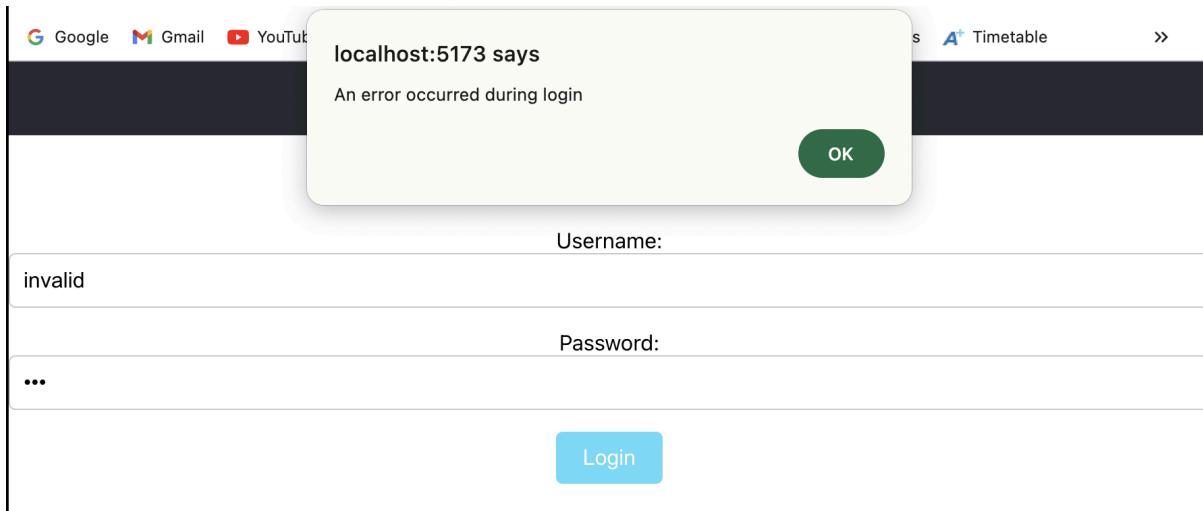


Figure 16: Error message when invalid username or password entered

Home   About   Contact   Logout

## Welcome to the Home Page

Enter Research Question...

Enter Additional Context...

Submit

**Please enter a research question and/or context to generate questions**

*Figure 17: Home page that can only be accessed once logged in*

**User story 6, 11:**

- As a user I want to be able to see my previous entries so I can review them
  - Requirement: The user can view surveys created in the past on their account and manage the surveys
  - Quality: The past survey questions and relevant survey metadata are shown.
- As a user, I want to open and close the survey for participation
  - Requirement: The user can activate/deactivate the survey for participation. The survey should not receive responses when deactivated.

The screenshot shows a web application interface for managing survey histories. At the top, there is a dark blue header bar with white text containing links for "Home", "About", "Contact", and "History" on the left, and "Welcome, nadya", "Logout", and "data" on the right. Below the header, the main content area has a light blue background. The title "Your Survey History" is centered at the top of this area. Two survey entries are listed vertically.

**Survey ID: 130**

**Survey Name:** Data test 1

**Date:** 19/10/2024

**Time:** 13:35:40

**Link:** [Qualtrics Survey](#)

**Status:** Inactive

**View Survey**   **Activate**   **Delete**

**Survey ID: 131**

**Survey Name:** Data test 2

**Date:** 19/10/2024

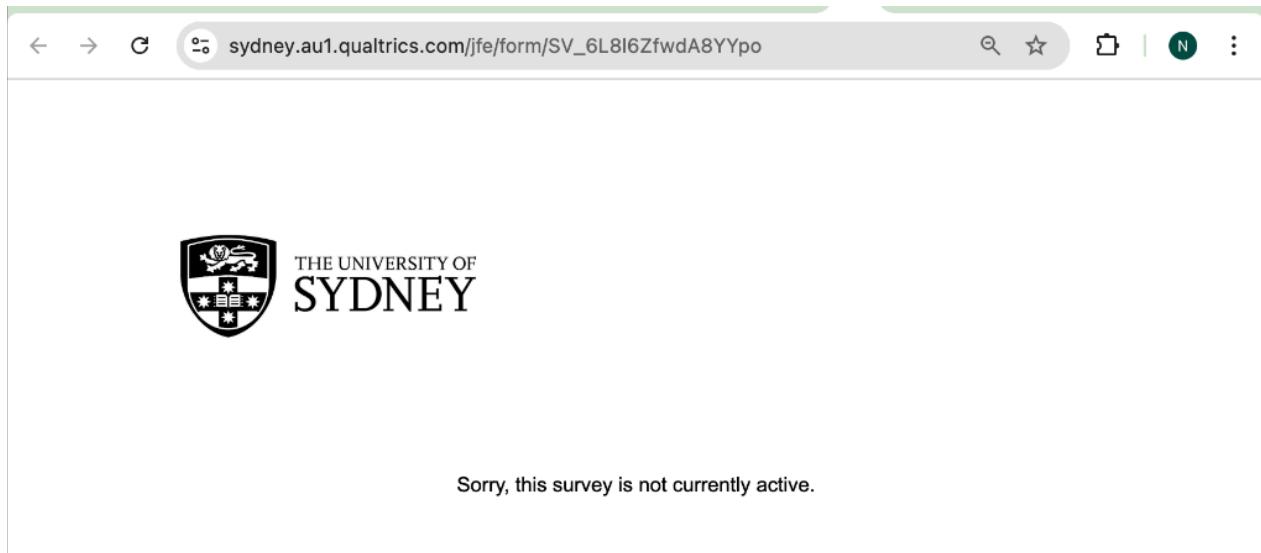
**Time:** 13:37:33

**Link:** [Qualtrics Survey](#)

**Status:** Active

**View Survey**   **Deactivate**   **Delete**

Figure 18: Survey history page showing an active and inactive survey



*Figure 19: Message shown when navigating to a survey link that is deactivated*

The screenshot shows a user interface for a survey application. At the top, there is a navigation bar with links for Home, About, Contact, History, Welcome, Logout, and a partially visible link 'dat'. A modal window is open, displaying three survey questions:

- Survey Questions**
- Question Description:** Please describe a recent experience where you used an AI chatbot for customer service on an e-commerce platform. What was the reason you contacted customer service? What was the specific issue you were trying to resolve? How did the chatbot handle your request? (Type: Text Entry)
- Text Input Field:** Describe your recent AI chatbot experience
- Text Input Field:** Required: Yes
- Question Description:** How would you rate your experience with the customer service agent you interacted with? (Type: Matrix)
- Matrix Rating Scale:**

Extremely Dissatisfied	Dissatisfied	Neutral	Satisfied	Extremely Satisfied
Extremely Dissatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dissatisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Neutral	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extremely Satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
- Text Input Field:** Required: Yes
- Question Description:** How likely are you to recommend this e-commerce platform to a

Figure 20: Modal showing questions from a past survey

#### User story 8:

- As a user, I want to be able to edit and modify the AI-generated questions
  - Requirement: The user is able to edit the generated question.
  - Quality: Many customisation options are provided to the user.

**Question 1**

To what extent do you believe that AI will impact the number of jobs available?

This question assesses the participant's perception of AI's impact on employment opportunities.

**Choices**

Strongly decreases

**Delete**

Moderately decreases

**Delete**

Has little to no impact

**Delete**

Moderately increases

**Delete**

Strongly increases

**Delete**

This question is required

**Add Choice**   **Save**   **Cancel**

Figure 21: Component to edit question

**User story 9:**

- As a user I want to be able to manually add questions (Adding questions instead of editing)
  - Requirement: The user can add any type of question manually.
  - Quality: Many customisation options are provided.



Figure 22: Dropdown menu of question types available

Question 2

Enter question text...

Enter question description...

Matrix Choices and Answers

answer 1	answer 2	Add Answer
----------	----------	------------

Choice 1           

Choice 2           

Add Choice

This question is required

Save      Cancel

Add Question

Save Survey      Publish Survey

Figure 23: Modal to edit own question

**User story 1:**

As a survey participant, I want to be able to get a Qualtrics survey link so I can fill out the survey

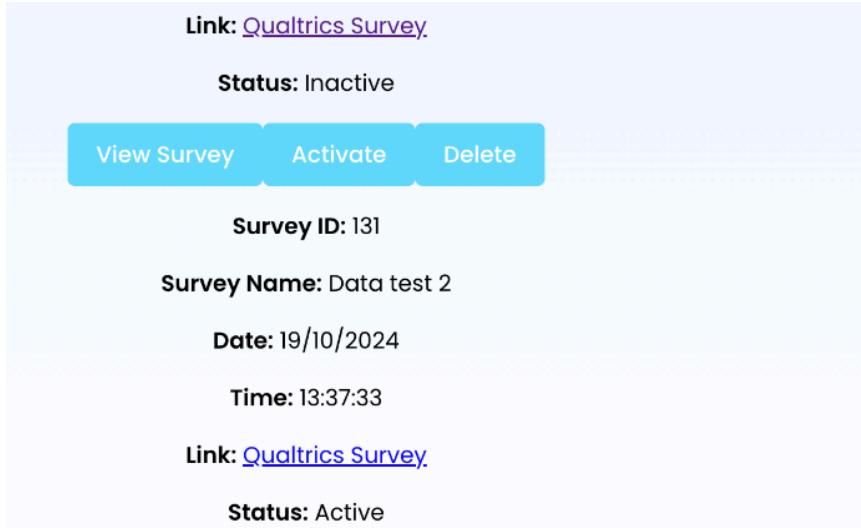


Figure 24: Link provided to participantsTest

## 2.3 Details for all aspects selected for the final product

### 2.3.1 Final product features

- **User management system:** For users to manage profile information, and their surveys.
  - Frontend: Provides interface for users to input login information, edit existing profiles and display their surveys
  - Backend: Handles logic for login authentication, communicates with database to fetch and modify user profile
  - Evidence:
    - Login frontend component -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/components/Login/>
    - Login frontend page -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/pages/Login.jsx>
    - Register frontend page -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/pages/Register.jsx>
    - Authentication backend logic and routes -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/server/routes/Authentication/>
- **Question generation system:** Allow users to input their research question and additional information, and receive a series of relevant auto-generated questions.
  - Frontend:

- Provides user-friendly interface for inputting their research topic and additional context about the survey
  - Displays generated questions
  - Provides interface for editing auto-generated questions, adding/deleting their own questions
- Backend:
  - Processes requests containing user input and formats them into prompts
  - Calls Google Gemini API with prompt to generate questions
- Evidence:
  - Research question input frontend component -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/pages/Home.jsx>
  - Display components for each question type -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/components/QuestionTypes/>
  - Question generation backend logic and routes -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/server/routes/QuestionGeneration/>
  - Google Gemini API communication logic -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/server/routes/Gemini/>
  - Manual question addition backend logic and routes -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/server/routes/ManualAddition/>
- **Survey generation and management system:** For users to create surveys from chosen questions, modify/delete existing surveys, and manage distribution of surveys.
  - Frontend:
    - Provides interface for user to submit chosen questions to create survey
    - Allows users to view/modify/delete existing surveys
    - Allows users to get survey links for distribution to participants
  - Backend:
    - Formats chosen questions and communicates with Qualtrics API for survey generation and creating questions
    - Handles modification of existing surveys with calls to Qualtrics API and database
    - Handles logic for getting survey links for each survey
  - Evidence:
    - Survey publishing frontend page -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/pages/Home.jsx>
    - Past survey viewing frontend page -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/pages/History.jsx>

- Survey publishing backend logic and routes -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/server/routes/SurveyGeneration/>
  - Past survey viewing backend logic and routes -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/server/routes/ViewSurveys/>
- **Data analysis system:** For users to analyse survey results through data visualisation and statistical analysis
  - Frontend: Page that displays simple analysis of survey results, such as graphs and statistics
  - Backend:
    - Calls Qualtrics API to get survey data
    - Handles logic for simple data analysis
  - Bitbucket for the evidence
    - Page:  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/pages/DataVisualization.jsx>
    - Survey export component:  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/components/SurveyExport.jsx>
    - Final data visualizatoin update:  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/b1b8d25002662b21af95a0ade412a45340694f6e>

## 2.4 Technical and other constraints

- **Dependence on external APIs**
  - **Performance issues:** Due to the reliance on external APIs such as Google Gemini and Qualtrics
    - The need to send requests and wait for responses could introduce latency, potentially slowing down the overall system performance
  - **Reliability:** Cannot guarantee the speed or availability of these external services, which could further impact the application's responsiveness
  - **Compatibility:** Web app might not be resilient to changes in APIs
- **Dependence on generative AI**
  - **Unexpected outputs:** We cannot guarantee that the generative AI model will always produce the expected output
    - We will mitigate this risk by applying fine-tuning techniques to improve the model's performance and better align it with our specific requirements
- **Resource management**
  - **API costs:** Heavy traffic on the web app may incur large costs due to high-volume API requests
  - **Database costs:** Storage can become an issue when dealing with a large number of users and surveys

- **Cross browser/device compatibility**
  - **Consistency across platforms:** The frontend may run into issues when displaying the UI on different browsers/devices

## 2.5 User stories not completed (with justification and rationale)

All planned user stories were successfully completed within the timeline. However, a few non-functional features (not included in user stories) were not implemented due to time constraints. These include:

- **AWS Deployment:** While initially suggested by the client, it was agreed that, given the limited time, the client would handle the deployment independently.
- **HTTPS Security:** Since the software is not being deployed publicly, there is minimal risk, and securing the system with HTTPS was deprioritised.

We chose to focus on delivering the core functionality requested by the client to meet the primary project requirements.

## 2.6 Key changes requested by client

There were several changes requested by the client throughout our development in weeks 2 to 5. The key changes are highlighted below:

- Add functionality for users to modify generated questions before submitting
  - This requirement was added as a user story and its relevant issues were created on Jira
  - We added a feature to modify questions generated by the AI before publishing the survey
- Look into potentially adding more complex data analysis, if possible
  - Research was conducted on the possibility of adding complex data and statistical analysis on the survey results
  - Upon researching and further discussions with the client, we decided that analysis would largely depend on the individual researchers, so we decided to implement simpler results visualisation with charts
- We were also requested to create our own user authentication
  - Instead of using Google's authentication APIs, we were requested to create our own login system
  - We created our own authentication system using the 'bcrypt' library to hash and salt passwords for storage in the database

The key changes requested by the client after the first client deployment include:

- Improve the appearance of the UI
  - The client requested improvements and refinements to the current UI

- This was implemented through utilisation of CSS files and Figma prototypes
- Add function to export results as CSV file for analysis
  - Added feature on the history page to make a request to Qualtrics API to retrieve the survey results as CSV, which can be downloaded by users
- Add a template with prompts for the user to fill in information about their research
  - Instead of filling in one input box with all relevant research information, we came up with a general template consisting of required and non-required fields to prompt users on the type of information to be input
- AWS deployment
  - As mentioned above, the client initially wanted us to deploy the program on AWS, but due to time constraints and API key complications, he decided not to handle the deployment individually
  - As an alternative, we provide the client with sufficient documentation about the program to allow for easy deployment in the future

## 2.7 Additional details demonstrating the group went beyond the approved scope and the bare minimum

- **Security features:**
  - Secure storage of passwords using hashing and salting techniques via the bcrypt library
  - API keys for both external APIs are stored locally as environment variables in a .env file to prevent leaking through version control software
- **UI features:**
  - We created mockups of the UI to be implemented after completion of core features
  - Non-functional requirements are added to increase usability and ensure ease-of-use
- **Question Quality:**
  - To improve the quality of questions generated by Google Gemini, we split up the task of question generation and JSON formatting into two separate prompts
  - The decrease in prompt intricacy allows Google Gemini to create diverse and high-quality questions based on user input
- **Performance Improvements:**
  - Instead of generating multiple questions at once, we let the user choose a specific question type and generate the questions one at a time
  - This improves performance as less loading time is required for Google Gemini to generate a question and increases customisation for the user
- **File Organisation and Structure:**
  - The structure of the program codebase was kept clear and neat, ensuring readability and maintainability after deployment
- **Robust Testing:**
  - Although our client did not require testing, we proactively conducted thorough unit, integration, and system testing to ensure

- **Use of SQL Server:**
  - We used a cloud server to host our database to ensure scalability, accessibility, and reliable performance across different environments.
- **Use of Data Visualisation Library:**
  - We integrated a data visualization library to provide users with interactive graphs, offering a clear and engaging representation of the survey results for better analysis and insights.

## 2.8 Additional details to demonstrate the system specification and design that might be specific to the nature of the project

- **Google Gemini API integration**
  - We integrate the API by installing the dependencies required (Google Generative AI package) into our server package
  - The package is added to our project by using 'require()', and is configured with our personal API key that is stored in an environment file
  - We use the 'gemini-1.5-flash' model from the package
  - The generateContent function for the model is called with our prompt as parameter to output the generated questions
- **Qualtrics API integration**
  - We directly call the API by using the 'axios' package to make requests to the various API endpoints including:
    - Create survey
    - Add question
    - Get question
    - Update survey metadata
    - Get survey results

# 3 System Architecture and Design

## 3.1 Completed systems architecture and design

### 3.1.1 How you designed and implemented the system

The design and implementation of the system began with gathering user requirements. We collaboratively planned the system architecture, creating a series of diagrams for both the frontend and backend. These diagrams and plans were shared with the client for approval before moving forward with implementation. This approach ensured that we aligned with the client's functional and non-functional requirements, allowing for adjustments to the project scope if necessary. During the implementation phase, any deviations from the original plan are also communicated with the client to ensure everyone remains aligned and on the same page. The general workflow is outlined below:

## **1. Requirement Gathering:**

- We began by gathering user requirements, involving stakeholders to define the system's functional and non-functional needs.

## **2. System Architecture Planning:**

- We researched the external APIs and AI models to be used for the system
- We developed detailed architecture diagrams for the frontend, backend, and API interactions
  - Low-fidelity diagrams
  - High-fidelity Figma prototype
  - Sequence diagram planning interactions between components
  - ERD and schema for database
- These plans were reviewed and approved by the client, allowing us to align with their expectations and adjust the project scope as needed.

## **3. Implementation:**

- **Frontend:** Built a responsive interface using React.js, enabling users to input research questions and interact with generated survey questions.
- **Backend:** Developed with Node.js and Express.js to handle business logic and API integrations with Google Gemini and Qualtrics.
- **Database:** Using MySQL as our database and DBMS, used to manage complex relational databases
- **API Integration:** Ensured seamless communication between the system and external APIs for survey question generation and creation.
- We split implementation into frontend, backend, and database
- We delegate weekly tasks that we agreed on to members
- Frontend, backend and database are developed in parallel

## **4. Testing:**

- Several types of testing were conducted, with further details in *section 4 Quality of Work:*
  - Unit testing
  - Integration testing
  - End-to-end testing

Creating a survey

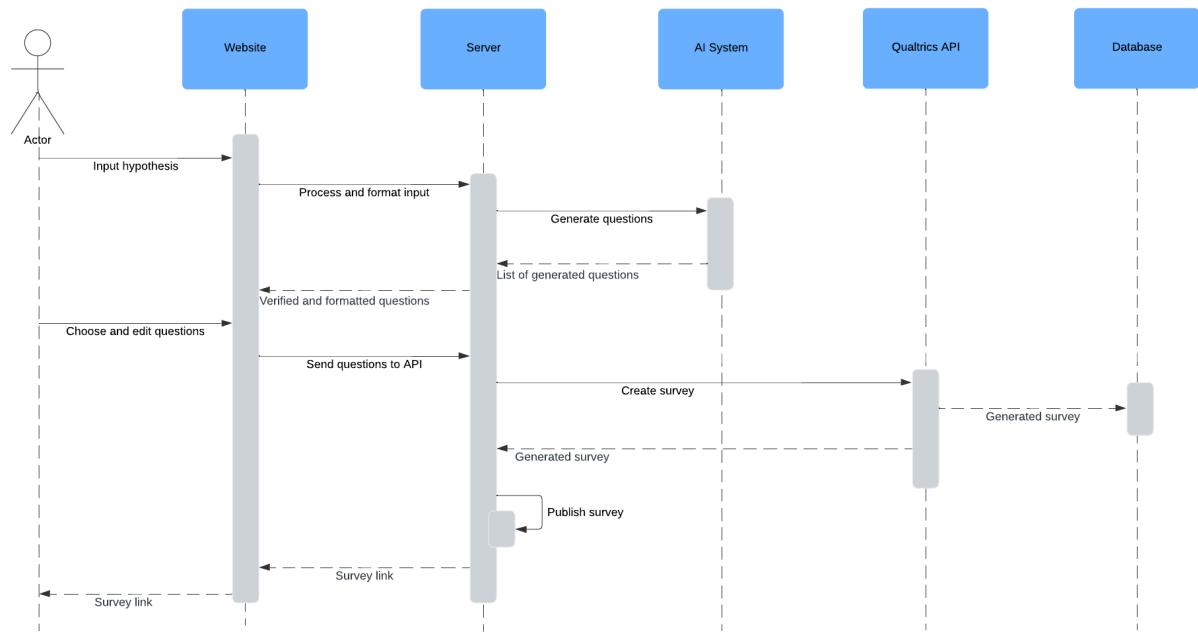


Figure 25: Sequence diagram outlining flow for survey generation

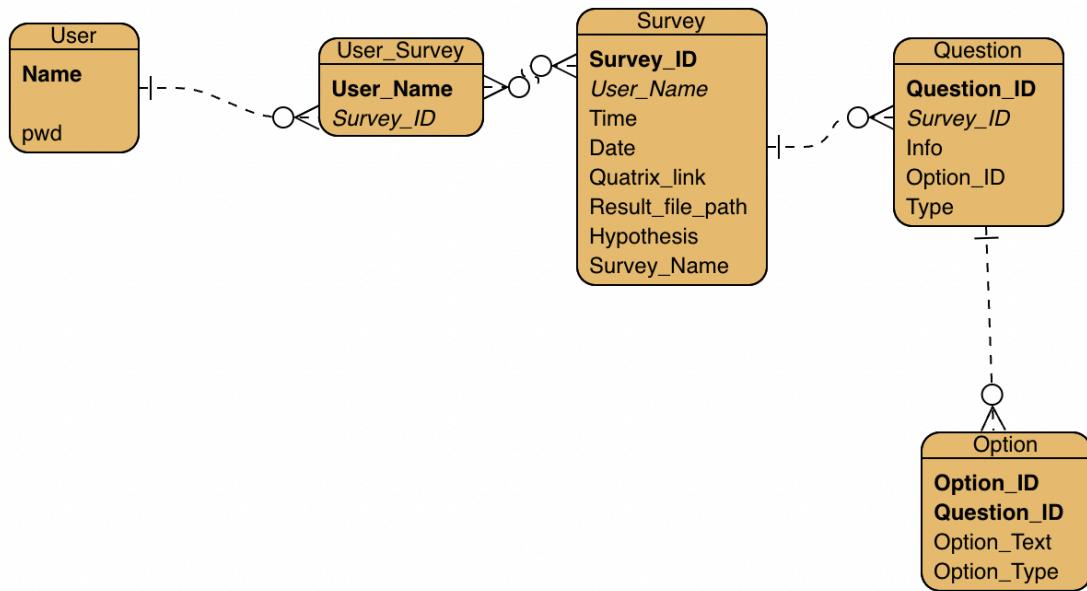


Figure 26: ERD diagram for database design

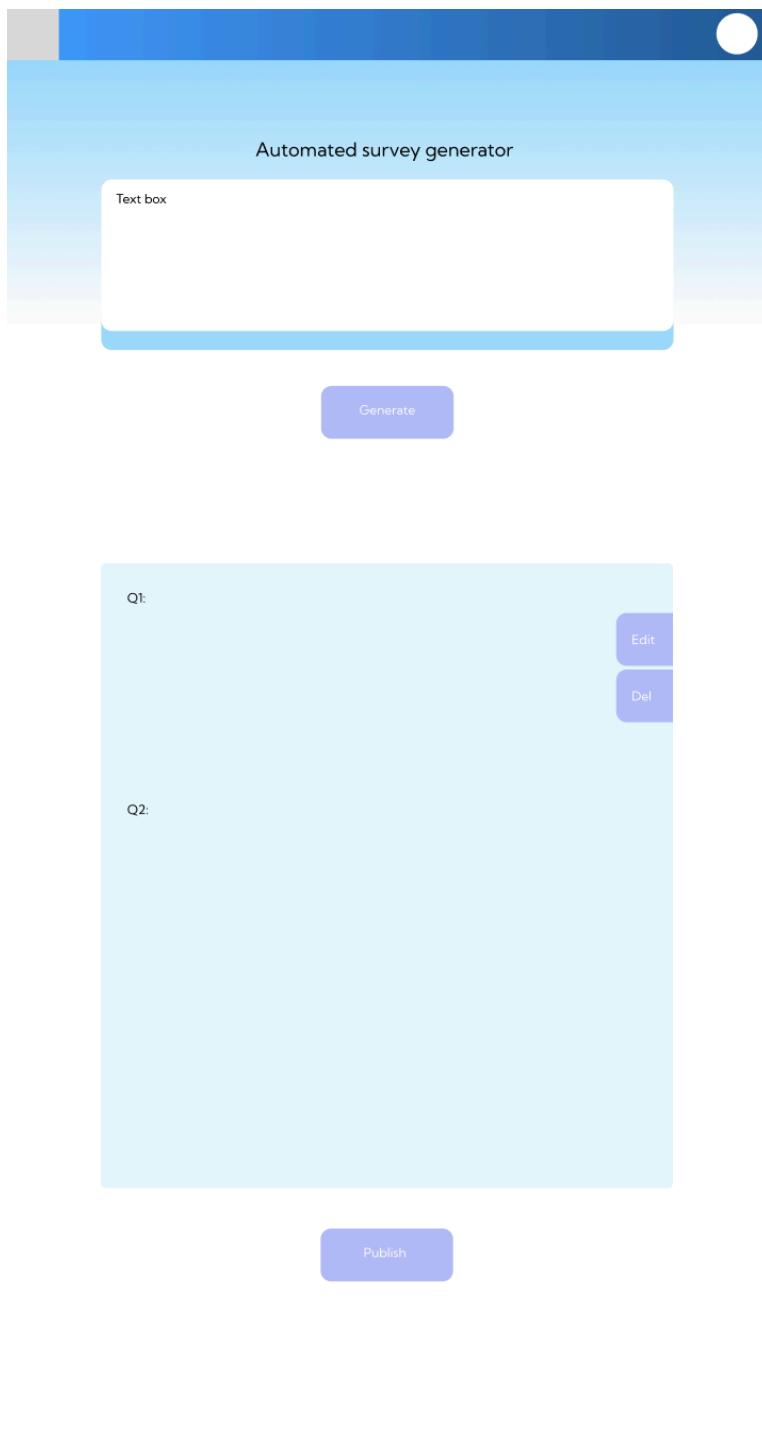


Figure 27: High-level Figma prototype

### 3.2 Main technical components of the system

Component	Description
-----------	-------------

Frontend	<ul style="list-style-type: none"> <li>• Built using Javascript frameworks (React.js), HTML, CSS</li> <li>• Provides an interactive user interface for the webapp functions</li> </ul>
Backend	<ul style="list-style-type: none"> <li>• Built using Node.js and Express.js</li> <li>• Handles user requests from frontend</li> <li>• Contains logic for user management, question and survey generation</li> <li>• Sends requests to external APIs</li> </ul>
External APIs	<ul style="list-style-type: none"> <li>• Google Gemini API for automated question generation</li> <li>• Qualtrics API for survey generation and distribution</li> </ul>
Database	<ul style="list-style-type: none"> <li>• MySQL database hosted on an external server</li> <li>• Stores all necessary information, such as user account details and survey links</li> </ul>

## 3.2 Interaction between different components

### 3.2.1 Detailed explanation about how different components interact

- User login
  - User input from the frontend sent to backend server via a post request
  - backend server connects to the database to retrieve existing credentials (username, hashed password)
  - Backend server hashes+salt password attempt and checks for a match
  - Sends a response indicating login success/failure to frontend
- User signup
  - User input from the frontend sent to backend server via a post request
  - Backend server hashes+salt password
  - Backend connects to database and saves all information into database
  - Sends a response indicating success/failure to frontend
- Input and Processing of Research Information
  - The user inputs their research details, which is sent to the backend via a POST request.
  - The backend forwards this question to the Google Gemini API along with a specific prompt to generate relevant survey questions in JSON format.
- Survey Question Generation
  - Backend receives the research details and the question type the user wants to generate
  - Backend processes the input into a simplified prompt, which is sent to

### Google Gemini API

- Backend receives API output and passes another prompt to the API to format the generated question in a JSON object suitable for Qualtrics API
- Backend sends the formatted JSON question to the frontend in a response
- Displaying and Editing/Deleting Survey Questions
  - The frontend receives the JSON question from the backend and displays the survey question to the user.
  - The user can then edit/delete these questions directly within the web interface.
- Manually Adding Survey Questions
  - The frontend allows users to add a specific question type
  - A request is made to the backend, containing the question type chosen by the user
  - Backend processes the request and sends the JSON template for the specific question type to the frontend
  - Frontend displays fields available for modification
- Finalising and Publishing the Survey
  - Once the user confirms the survey questions, the frontend sends the finalised list back to the backend.
  - The backend then generates the survey by sending multiple POST requests to the Qualtrics API, using the JSON data received.
  - The backend connects to the database and saves the survey information in a new entry linked to the specific user
  - The backend sends the publishing status and anonymous participant link to the frontend for display
- Viewing List of Past Surveys
  - The frontend makes a request to the backend containing the username
  - Backend connects to database and queries for the surveys linked to specific username
  - Results from the database is formatted and sent by the backend as a response to the frontend
  - Frontend displays list of surveys and their relevant information
- Viewing Past Survey Questions
  - Frontend allows users to click on specific past survey
  - Frontend makes request to the backend with ID of chosen survey
  - Backend uses received ID and makes request to Qualtrics API to retrieve list of survey questions
  - Frontend receives list from backend and displays questions
- Open/Close Past Surveys
  - User can open/close a created survey by clicking a button on the frontend
  - Frontend makes a request to backend with relevant survey ID and survey status
  - Backend makes call to Qualtrics API to update the survey status of given ID

- Frontend receives status of request from backend, indicating success/failure of update
- Viewing Data Analytics of Survey Results
  - When the page loads, frontend makes a request to backend to retrieve a user's list of survey from the SQL database
  - Frontend makes a request to the Backend to retrieve data from Qualtrics
  - Backend uses qualtrics api to retrieve data from
  - User can see the list of surveys they have
  - Users can choose the specific survey they want to view the data analytics
  - Users can see the survey results (i.e what the survey participants filled out)
  - User can see data visualisation for the following types of questions
    - MC
    - Matrix
    - Text
    - Slider
- Downloading CSV of Results
  - Frontend allows user to download survey results as CSV
  - After selecting the survey and exporting the results, the user can download the specific survey results in a CSV folder. This is implemented via a button.

### 3.2.2 High-level system component diagrams

#### **General Overview**

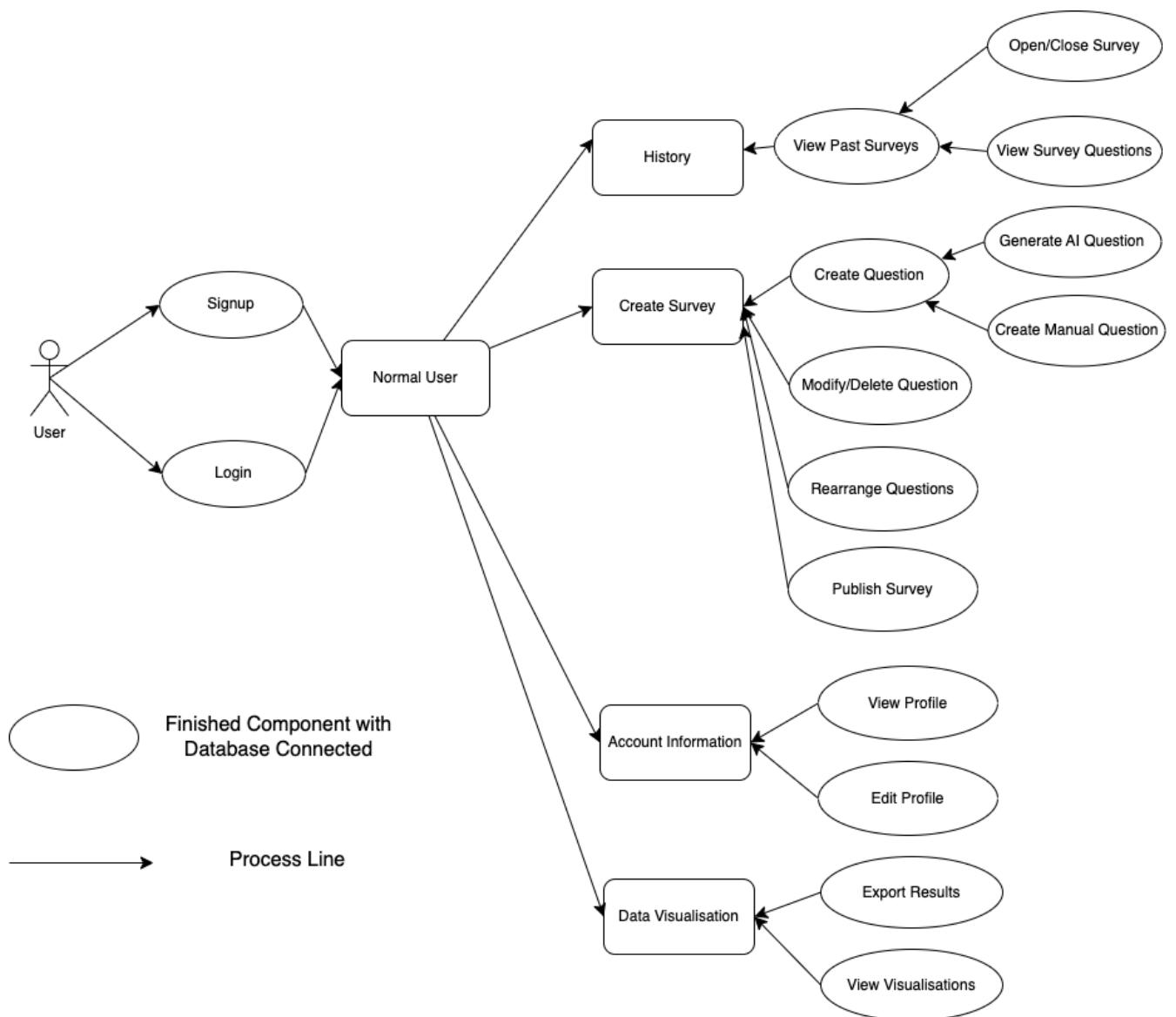


Figure 28: High-level diagram of the system

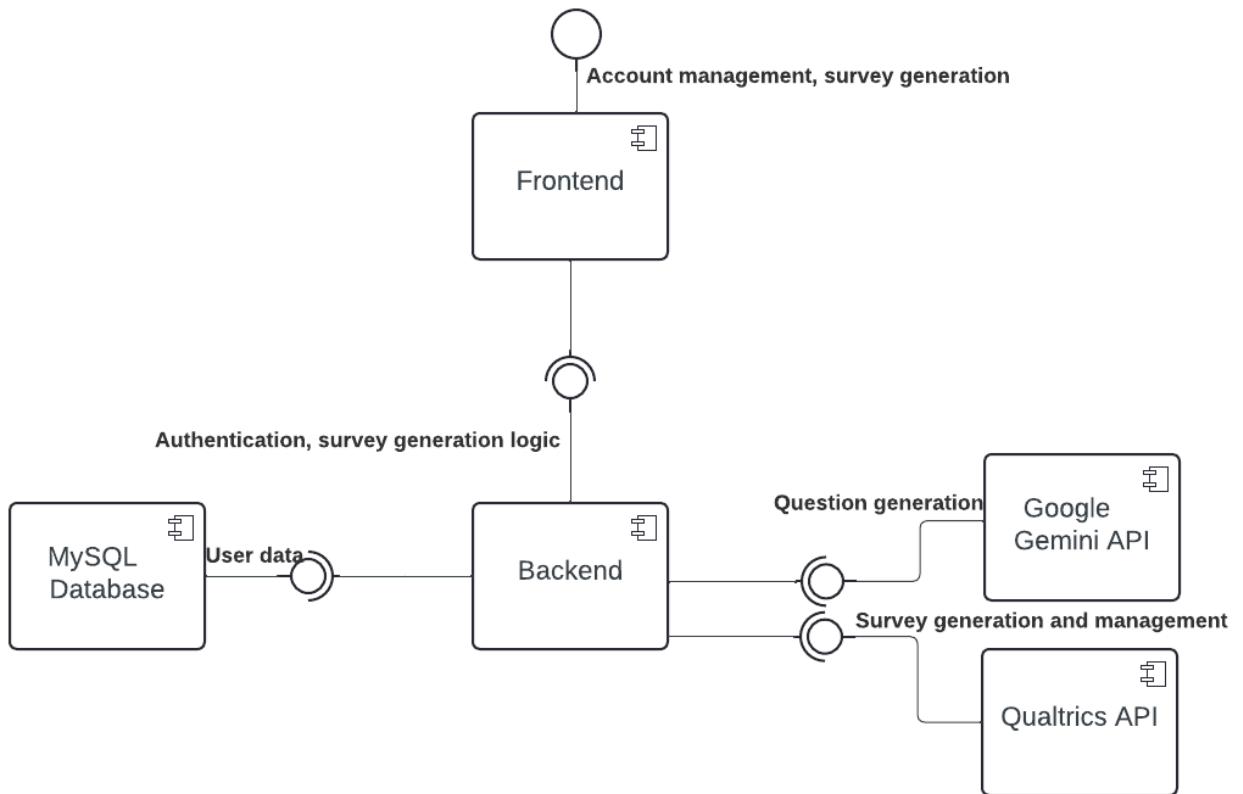


Figure 29: High-level component diagram of the system

## Landing Page

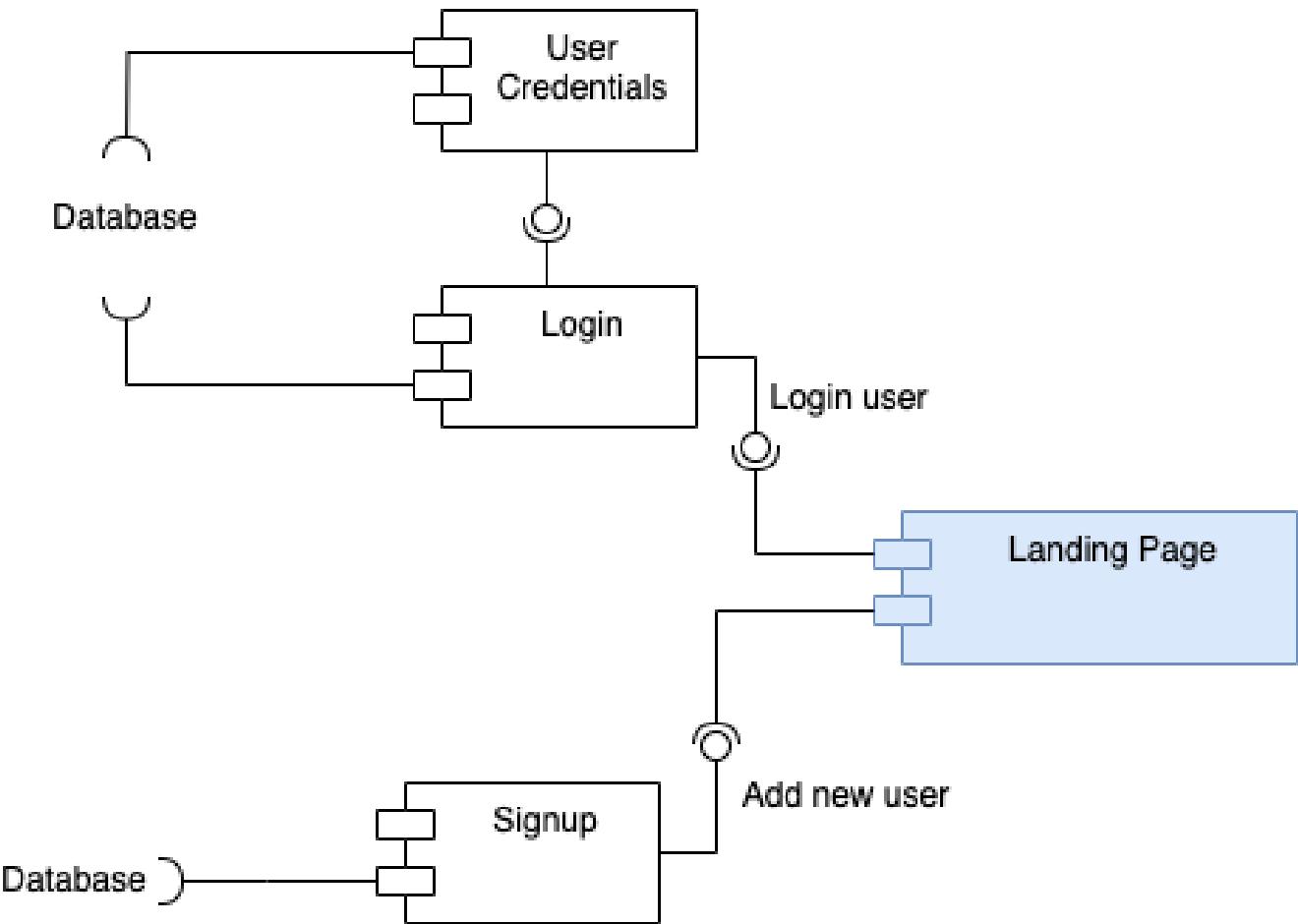


Figure 30: Detailed component diagram of the landing page  
User Profile Page

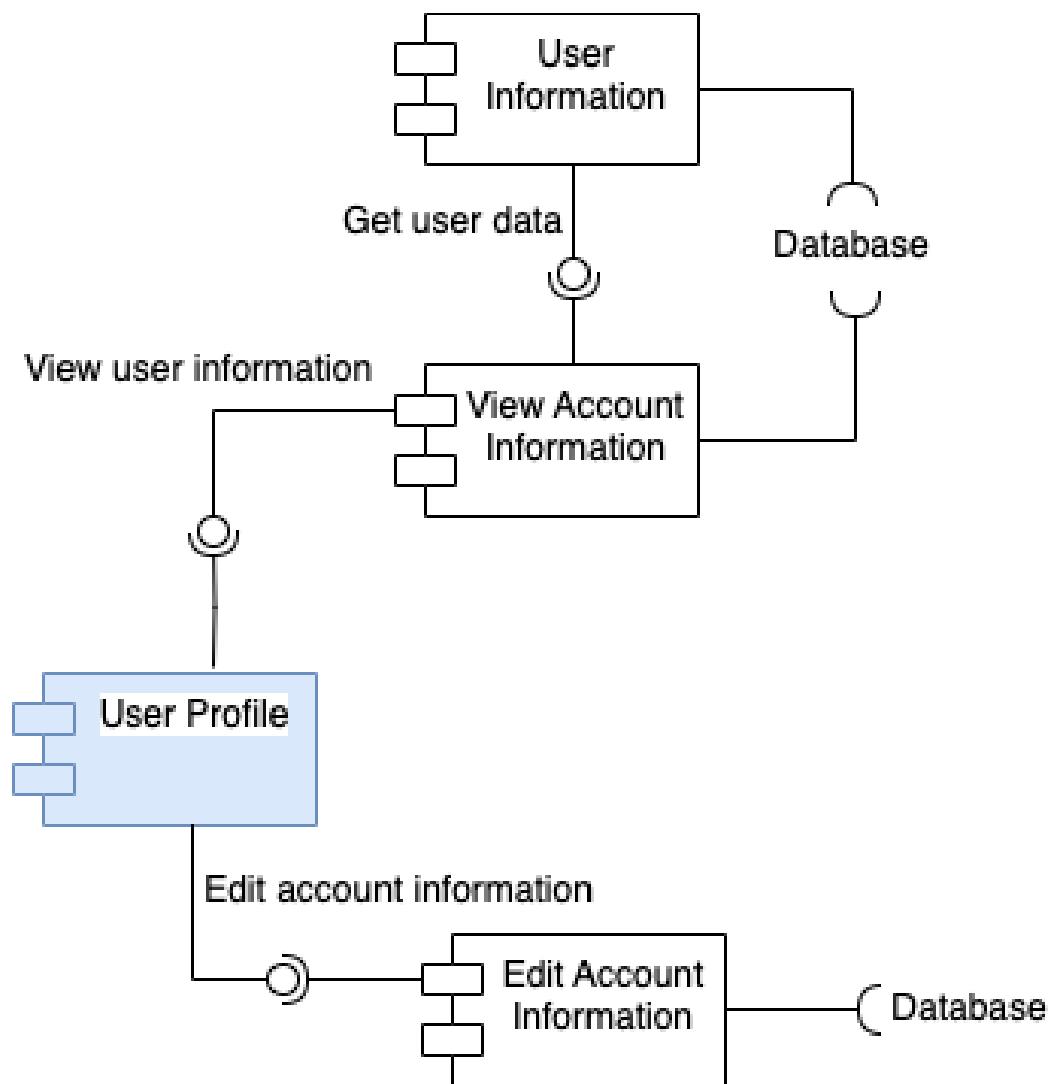
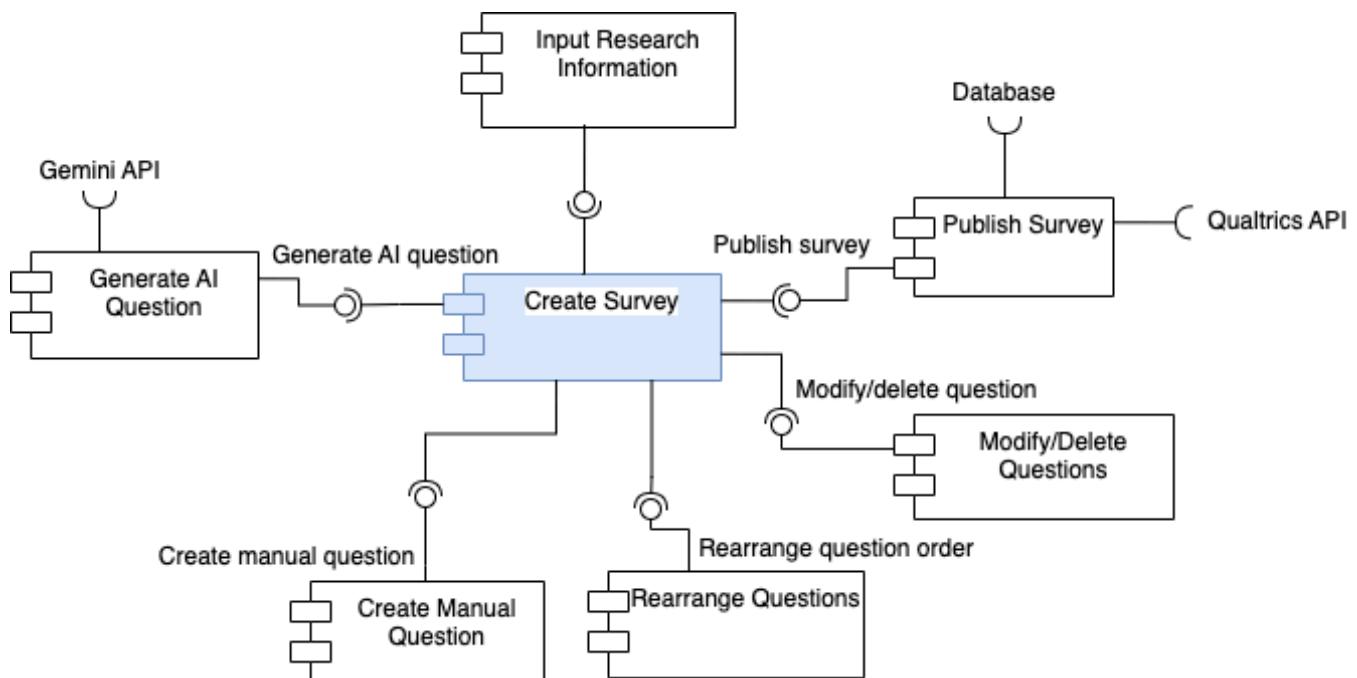
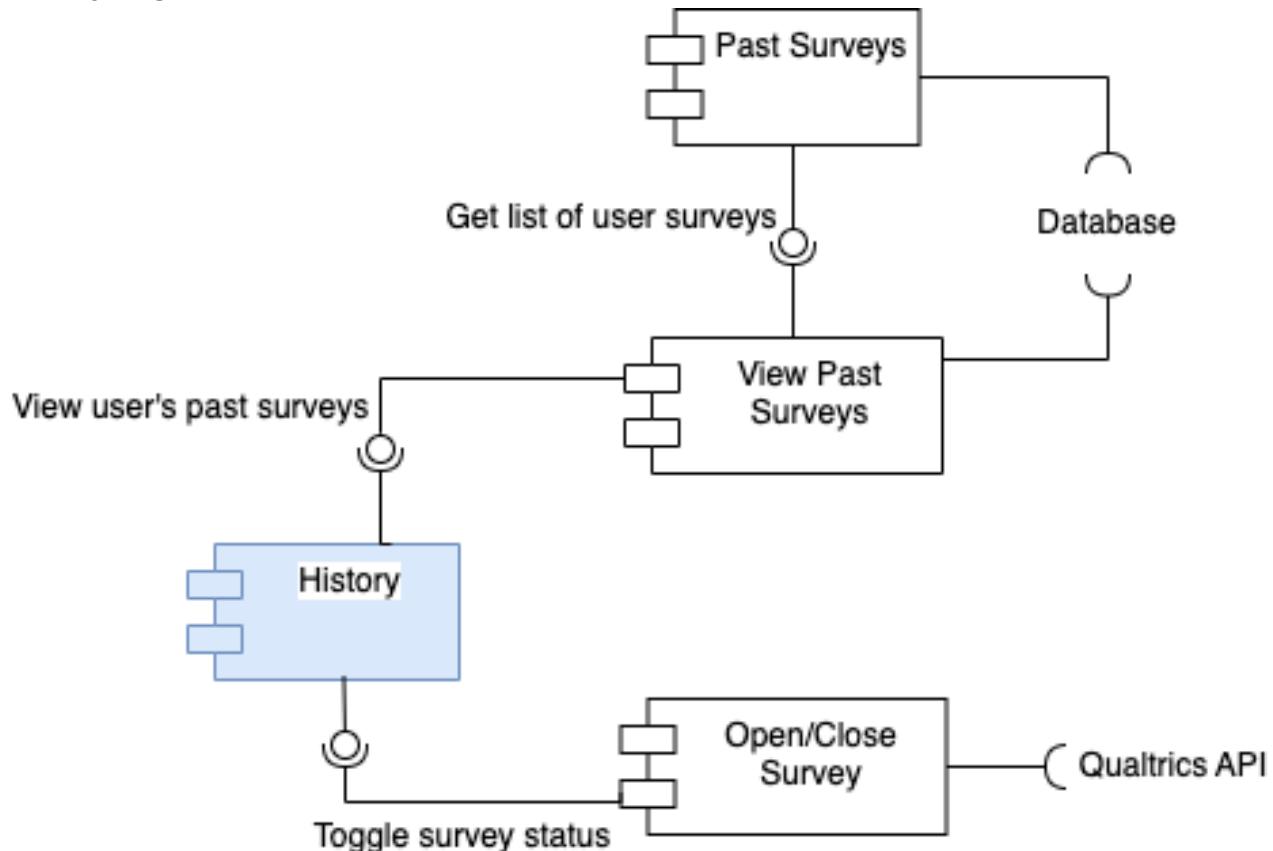


Figure 31: Detailed component diagram of the user profile page  
Survey Creation Page



*Figure 32: Detailed component diagram of the survey creation page History Page*



*Figure 33: Detailed component diagram of the history page*

## Data Page

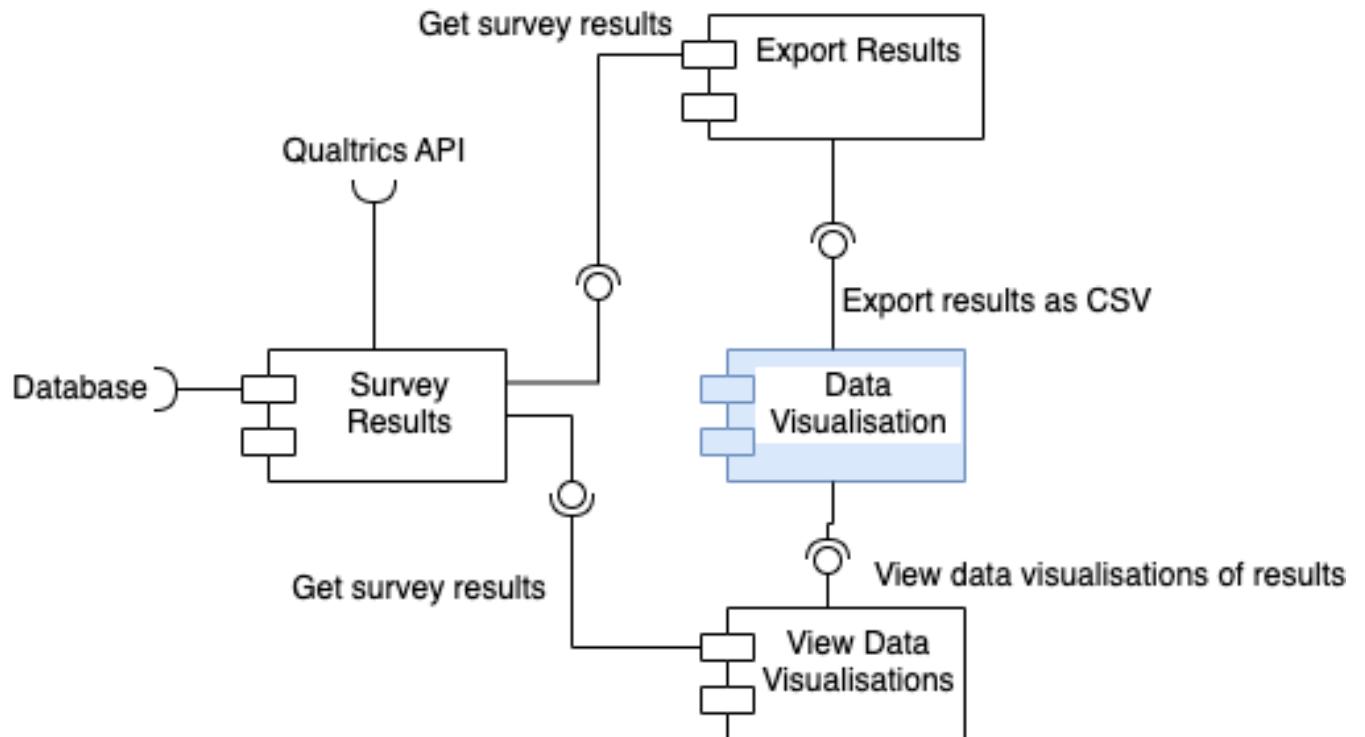


Figure 34: Detailed component diagram of the data page

## 3.3 Design patterns or off-the-shelf frameworks used

### 3.3.1 Design Patterns

#### 1. Model-View-Controller (MVC)

- **Description:** The MVC pattern was utilised to separate concerns between the user interface (View), the business logic (Controller), and data management (Model). This pattern enhances the modularity of the application, making it easier to manage, test, and maintain.
- **Application:**
  - **Frontend (View):** The frontend is responsible for rendering the user interface and handling user interactions. Components are organised within a clear structure, and a routing system is used to manage navigation.
  - **Backend (Controller):** The backend controllers manage the logic, handle requests from the frontend, and interact with external services and databases.
  - **Services (Service Layer):** The service layer in the frontend handles API calls to the backend, encapsulating data-fetching logic, and ensuring separation from UI components.
- **Diagrams:**

- <DIAGRAM>

### 3.3.2 Off-the-Shelf Frameworks

#### 1. React.js

- **Purpose:** Used for building the frontend user interface. React.js facilitates the creation of reusable components, improves performance through a virtual DOM, and allows for efficient state management.
- **Application:**
  - **Component Structure:** Components like `App.jsx` and others are organised within a clear hierarchy, with routing managed through React Router.

#### 2. Express.js

- **Purpose:** Used for building the backend server. Express.js provides a lightweight and flexible framework for handling HTTP requests, routing, and middleware.
- **Application:**
  - **Routing:** Routes are defined to handle different API endpoints, connecting frontend requests with backend controllers.

#### 3. Axios

- **Purpose:** Utilised in the frontend for making HTTP requests to the backend and external APIs. Axios simplifies the process of sending asynchronous requests and handling responses.
- **Application:**
  - **Service Layer:** Axios is used within the services folder to interact with backend endpoints, ensuring separation from UI logic.

#### 4. Qualtrics API and Google Gemini API

- **Purpose:** Integrated to generate survey questions (Google Gemini) and create surveys (Qualtrics). They are essential for the core functionality of the application.
- **Application:**
  - **Integration:** The backend interacts with these APIs through specific endpoints, ensuring data is correctly formatted and processed.

### 3.4 Which parts are developed by the group, and which ones are adopted/utilised or need to integrate with

#### Developed by the Group:

- **Frontend UI/UX:** Custom-built multi-page interface for user management, survey generation and editing.
- **Backend Logic:** Custom implementation of data processing, API integration, and business logic.

#### Adopted/Utilised:

- **Google Gemini API:** For generating survey questions based on user input.
- **Qualtrics API:**
  - For creating surveys from the generated questions.
  - Editing survey questions
  - Distribution of surveys
  - Exporting survey data
- **MySQL database:** Used to store data for webapp and needed to be integrated into backend
- **Data visualisation library:** Used to display graphs representing survey results for analysis

## 4 Quality of Work

### 4.1 Testing plan

#### 4.1.1 Testing Types Conducted

##### **Unit Testing**

Ensures that individual components (functions, classes, or methods) work correctly in isolation. This is essential for verifying that each small part of the survey system (e.g., question generation, data validation, login functionality) functions as expected. Unit tests will help catch bugs early and improve code stability.

##### **Integration Testing**

Integration testing was performed to validate the functionality of key routes in the Node.js Express application, which communicates with the Qualtrics API for survey creation, question generation, survey export, and more. The tests ensure that individual modules (API routes, database interactions, and external Qualtrics API) work together seamlessly in a production-like environment.

##### **System Testing**

In our project, system testing focuses on validating the entire system as a fully integrated product. It tests how various components interact in real-world scenarios, such as how the front end, back end, databases, and external APIs (like Qualtrics) work together. System tests usually simulate real-user interactions to ensure that all functionalities behave correctly when deployed together.

##### **Compatibility Testing**

Essential for validating the complete functionality of the survey application by simulating real-world user interactions across all components of the system, from the front-end user interface to the back-end services and database operations.

#### 4.1.2 Testing Types Not Conducted

##### **Performance Testing**

The scale of the project (handling survey generation and responses) does not require rigorous performance testing at this stage, as it is unlikely to face heavy loads or complex performance challenges. The system will likely handle a relatively small user base, and performance is not a primary concern at this point.

##### **Security Testing (Advanced Penetration Testing)**

A full penetration test isn't essential for a project of this scope. The survey system will not be storing sensitive or confidential information that necessitates advanced security testing at this stage.

##### **Usability Testing (Comprehensive)**

Basic user acceptance testing will cover the necessary aspects of usability, but formal usability testing with a large group of users and detailed analysis isn't required at this stage. The project's interface and workflows are straightforward, so an in-depth usability test isn't as critical.

## 4.2 Use of relevant testing techniques

**Boundary Value Analysis (BVA):** Used for testing input fields, such as the hypothesis input box, to ensure that edge cases (e.g., maximum and minimum input lengths) are handled correctly.

**Equivalence Partitioning:** Grouped inputs into valid and invalid categories to ensure comprehensive testing coverage with minimal test cases.

## 4.3 Consideration of quality constraints

**Time Constraints:** Prioritised critical functionalities for testing within the available time frame.

**Resource Constraints:** Limited testing environments required prioritising devices and browsers most commonly used by the target audience.

**Performance issues:** Sending requests to and waiting for responses from the external APIs can introduce latency and slow down performance, especially if large amounts of user input is being processed

**Reliability:** We cannot guarantee their speed or availability of third-party APIs, which could further impact the application's responsiveness

**Compatibility:** Web app might not be resilient to changes in APIs

**Unexpected outputs:** We cannot guarantee that the generative AI model will always produce the expected output

## 4.4 Any other quality aspects or testing-related work specific to project nature

**Data Integrity:** Verified through tests that data is stored, retrieved, and displayed accurately.

**Cross-Browser Compatibility:** Ensured the system works correctly across major browsers (e.g., Chrome, Firefox, Safari).

**Pull requests:** Utilised pull requests and feature branches in Bitbucket to allow collaborative review and comments of the codes on branch merges and code update to ensure code quality.

### API Testing

- The application interacts with external services like Qualtrics and relies heavily on back-end services to handle survey creation, question management, and user data. API testing was critical to verify that these interactions work as expected.
- **Approach:**
  - We tested the API endpoints that manage user registration, login, survey creation, question addition, and survey result retrieval.
  - We used automated tests to simulate API requests with valid and invalid data, ensuring proper validation, data handling, and error messaging.
  - By mocking the external Qualtrics API, we were able to test how the system behaves in cases where the external service is unreachable or fails to respond.

### Gemini LLM Tuning

- To improve the accuracy and quality of the Gemini LLM response, we tuned the LLM using 200+ example JSONs. This ensured the LLM was always following valid templates and that there were no formatting issues.

## 4.5 Detailed acceptance criteria and acceptance tests for each user story

No.	User Story	Acceptance Criteria	Testing Cases		
			Normal Testcase	Boundary Testcase	Abnormal Testcase

1.	As a researcher, I want to be able to input information to the survey input boxes	<ul style="list-style-type: none"> <li>• The input box must accept text inputs of at least 1 character for required fields.</li> <li>• The input box must handle empty inputs.</li> <li>• Inputs must be successfully processed when clicking "Submit."</li> </ul>	<p><b>Input:</b> "Survey on Environment Awareness"</p> <p><b>Expected Result:</b> Input is accepted, and no validation errors.</p>	<p><b>Input:</b> Empty string in a required field.</p> <p><b>Expected Result:</b> System does not allow the user to click the 'submit' button</p>	<p><b>Input:</b> Extremely long text input that exceeds typical expectations (e.g., 10,000 characters).</p> <p><b>Expected Result:</b> System rejects the input with an error message like "Input exceeds the character limit" and prevents the form submission.</p>
2.	As a researcher, when I want the system to generate a survey question based on my choice of question type	<ul style="list-style-type: none"> <li>• After the user chooses a specific question type, and clicks 'generate', the system should generate a survey question of chosen type</li> <li>• The generated question should be displayed with its relevant</li> </ul>	<p><b>Action:</b> Click "Generate" after entering a valid prompt.</p> <p><b>Expected Result:</b> Survey question is generated and displayed.</p>	<p><b>Input:</b> One-word research question (e.g., "Health").</p> <p><b>Expected Result:</b> The system should generate survey questions based on the minimal input without errors or produce a message indicating that more context is required for</p>	<p><b>Input:</b> Invalid or malformed data sent to the system (e.g., a broken or incomplete request, such as missing fields or incorrect JSON format).</p> <p><b>Expected Result:</b> System returns an error message like "Failed to generate survey</p>

		information		better question generation.	questions. Invalid input provided." The system should not crash or generate questions with incomplete data.
3.	As a researcher, I want to review and analyse my survey results with visualisation options	<ul style="list-style-type: none"> <li>The user can view survey results in graph, chart, or table formats.</li> </ul>	Action: View a pie chart or bar graph or table for survey results.  Expected Result: The correct visualisation is shown based on survey data.	Action: View results of a survey with only one response.  Expected Result: Visualisation is still displayed, but with limited data.	Action: View survey results when no participants have filled out the survey.  Expected Result: System shows "No data available" message.
4.	As a user, I want to be able to sign up a new account, to access the website	Users should be able to create an account with a valid email, username, and password.	Input: Valid username, email, and password.  Expected Result: Account is successfully created.	Input: Email with exactly 1 character username and a 1-character password.  Expected Result: Account should still be created	Input: Use a username already registered.  Expected Result: System does not allow user to use the taken username for the new account.
5.	As a user, I want to be able to login, so that I	<ul style="list-style-type: none"> <li>Users must be able to log in with</li> </ul>	Input: Correct username and	Input: Empty password field.	Input: Incorrect username or

	can access and save my information	<ul style="list-style-type: none"> <li>valid credentials.</li> <li>Users should receive feedback on invalid logins.</li> </ul>	password. Expected Result: User logs in successfully.	Expected Result: Error message is displayed.	password. Expected Result: Error message is displayed.
6.	As a user I want to be able to see my previous surveys so I can review them	<ul style="list-style-type: none"> <li>Users should be able to view a list of previous surveys they created or participated in.</li> <li>Relevant metadata about each survey should be displayed (e.g. date and survey status)</li> </ul>	Action: Access the "History" page.  Expected Result: A list of previous surveys is displayed.	Action: Access the page when there are no previous surveys.  Expected Result: A message "No previous surveys available" is shown.	Input: A request for previous entries where essential information, such as the user ID, is missing from the request.  Expected Result: The system returns an error message like "Incomplete request" and does not retrieve or display any previous entries.
7.	As a user, I want my survey questions to have diverse options in format, such as text, multiple choices, and different types of questions	The system should support multiple question formats like text, multiple-choice, matrix, and slider.	Action: Add a mix of question types to the survey (e.g., text, multiple-choice).  Expected Result: All question types are supported and displayed	Action: Add only one type of question (e.g., text).  Expected Result: Survey is still valid with one question type.	Input: A request to create a survey question with conflicting formats, such as a question that specifies both "multiple-choice" and "text" as formats simultaneously.

			correctly.		Expected Result: The system rejects the request.
8.	As a user, I want to be able to edit and modify the AI-generated questions	Users should be able to edit generated questions before finalising the survey.	Action: Edit a generated question.  Expected Result: Modified question is saved.	Action: Leave the generated question blank while editing.  Expected Result: Error message "Question cannot be empty."	Action: Delete all options in a multiple-choice question.  Expected Result: The system will add a default choice.
9.	As a user I want to be able to manually add questions	Users should be able to manually add new questions of any type to the survey.	Action: Add a new question to the survey.  Expected Result: Question is added successfully.	Input: The maximum allowed number of characters for a question (e.g., 255 characters) - Input: "What are your thoughts on climate change? Please provide detailed feedback regarding your perspective on the impact of climate change on global economies and societies."	Action: Add an empty question.  Expected Result: System prompts "Question cannot be empty."

				Expected Result: The question is accepted and successfully added to the survey. The system should confirm the addition of the question.	
10.	As a user, I want to specify the formats allowed question input	Users should be able to define the formats allowed for question inputs through a drop-down list.	Action: Specify "multiple-choice" as allowed format.  Expected Result: Only a multiple-choice question will be generated	Input: Select the first option in the dropdown (assuming it is the minimum valid input).  Expected Result: When selecting the first option (e.g., "Text"), the system should accept the selection and proceed to generate the question based on that type.	Input: User attempts to manually set the question type by modifying the HTML or using developer tools to change the dropdown value to an invalid option (e.g., <code>option value="invalid_type"</code> )  Expected Result: The system should not crash or behave unexpectedly; it should maintain stability and provide a way for the user to correct the

					selection.
11.	As a user, I want to open and close the survey for participation	Users should be able to toggle survey status between "active" and "inactive."	Action: Open a survey.  Expected Result: Survey is marked as open and participants can access it through its participant link.	Action: Close a survey with ongoing responses.  Expected Result: Survey is closed, but responses already started are still submitted.	Action: Request is sent to toggle status but without essential information, like survey ID.  Expected Result: System rejects the request and responds with an error message.
12.	As a survey participant, I want to be able to get a Qualtrics survey link so I can fill out the survey	Participants should receive a valid link to the Qualtrics survey.	Action: Request survey link.  Expected Result: Valid Qualtrics survey link is provided.	Action: Request a survey link after the survey has been closed.  Expected Result: Error message "Survey is no longer available."	Action: Request a link for a survey that is deleted.  Expected Result: Error message "Survey not found."

## 4.6 Execution of Designed Test Cases

### 4.6.1 Frontend Testing

The testing begins with simulating user interactions such as selecting survey types, filling out forms, and submitting surveys. It also includes checking front-end rendering for page display, validating input fields, and confirming that buttons (like delete or submit) trigger the correct actions. Using tools like **React Testing Library**, the tests validate the expected behavior of each component, covering scenarios such as proper form validation, button states, and UI

updates. These tests are planned to align with the platform's goals, ensuring critical user flows and interactions function smoothly.

#### 4.6.2 Backend Unit Testing

To validate the functionality of our survey application, we executed unit tests using Jest, a robust JavaScript testing framework. We employed mocking techniques to simulate interactions with the Qualtrics API, Google Gemini API and our database. This allowed us to focus on our application's logic without relying on external services.

The execution process of the tests is as seen below:

1. Mocking the Qualtrics API
  - We created a mock API to simulate responses for various scenarios, ensuring reliable test execution without actual API calls.
2. Mocking the Google Gemini API
  - We created a mock API that simulates the responses from the generative AI model for different prompts, allowing us to test question generation functionalities without calling the actual API.
3. Mocking Database Interactions
  - We used Jest's mocking capabilities to simulate database operations like inserting and querying survey details, enabling us to validate data handling without a live database connection.
4. Running Tests
  - Each unit test was executed in isolation, providing immediate feedback on component functionality.
5. Result Analysis
  - The tests confirmed that all components functioned as expected, with coverage reports highlighting areas for additional testing.

#### 4.6.3 Integration Testing

Using Supertest and Jest, we wrote test cases to simulate actual API interactions, verifying functionalities such as:

- Surveys are successfully created and stored.
- Questions can be added to surveys.
- Survey definitions and responses can be retrieved, exported, and downloaded.

The designed test cases are run in a similar fashion to the unit tests as they are in the same test suite. Immediate feedback is provided, indicating the success/failure of each test, every time the test suite is run.

Integration testing is essential for identifying issues that unit tests may not cover, such as incorrect configurations, missing API tokens, or faulty external service interactions. It allows us to:

- Ensure the entire workflow (from request to external API interaction) works as expected.
- Catch and resolve issues related to communication between different parts of the system (e.g., backend and third-party services like Qualtrics).
- Increase confidence in the system's reliability and stability in real-world scenarios.

The integration tests helped ensure that the application interacts correctly with the Qualtrics API, preventing production errors and ensuring smooth functionality for end-users.

Here are some example:

**Authentication Tests:** Verified user registration, login, and credential updates, ensuring bcrypt was used for secure password handling and appropriate error handling for invalid inputs.

**Survey Management Tests:** Tested viewing surveys by username, toggling survey status (active/inactive), deleting surveys from both Qualtrics and the database, and retrieving survey questions. Ensured proper communication with the Qualtrics API and handled errors effectively.

**Manual Question Addition Tests:** Confirmed retrieval of default templates for question types (MCQ, Matrix, Slider, Text, Descriptive), ensuring correct formats and error handling.

**Qualtrics API Tests:** Verified creating surveys and questions, fetching survey details, updating survey status, and exporting survey responses. Tested API interactions for successful responses and error handling.

#### 4.6.4 System Testing

For the system tests, we manually conducted end-to-end testing to evaluate the overall functionality of the application and ensure it met the defined acceptance criteria. The focus of system testing was to simulate real-world user interactions and validate the integration of both frontend and backend components. Here are some example of system test applied and designed:

1. User Authentication and Role Management
  - Test Objective: Verify that users can register, log in, and access different roles (e.g., student, admin).
  - Steps:
    1. Register a new user.
    2. Log in with valid credentials.
    3. Verify role-based access for students and admins.
    4. Attempt to log in with invalid credentials.
  - Expected Outcome: The user should be able to register and log in with valid credentials, and access different functionality based on their role. Invalid login attempts should be rejected.
2. Survey Generation and View Surveys
  - Test Objective: Validate that users can generate surveys and view the results.
  - Steps:

1. Create a new survey using the survey generation form.
  2. Submit the survey as a student and verify responses.
  3. Check the survey results through the "View Surveys" functionality.
- Expected Outcome: Surveys should be generated successfully, responses submitted, and results should be available for viewing.
3. Integration with External APIs (e.g., Qualtrics API)
  - Test Objective: Ensure that the system correctly integrates with external APIs such as Qualtrics for survey management.
  - Steps:
    1. Use the platform to interact with the Qualtrics API to create a survey and retrieve survey responses.
    2. Verify that data from the API is correctly displayed on the platform.
  - Expected Outcome: The platform should successfully communicate with the Qualtrics API, and the results should be displayed accurately in the user interface.
4. Real-Time Data Processing (e.g., Question Generation)
  - Test Objective: Verify that questions are generated dynamically based on the user's input.
  - Steps:
    1. Enter a specific subject or topic.
    2. Verify that the system generates questions related to the input topic.
  - Expected Outcome: Questions should be dynamically generated, and the quality of generated content should meet educational standards.

We manually executed each test case by navigating through the application's user interface and triggering various actions, such as the ones described above.

## 4.7 Results and Analysis

### 4.7.1 Frontend Testing

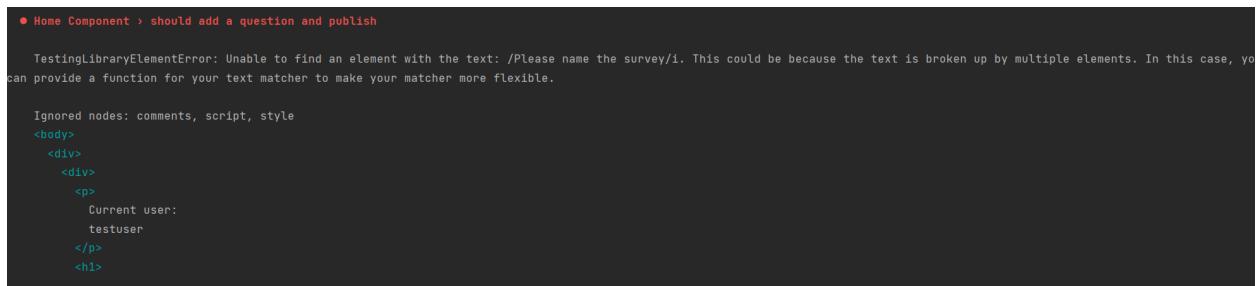
Front-end testing focuses on verifying the functionality, usability, and responsiveness of user interfaces in this application. Tools like **React Testing Library**, **Jest**, and **Babel** are used to simulate user interactions and ensure correct behavior of UI components. Babel is employed to transpile modern JavaScript (ES6+) code so that it can run seamlessly in testing environments.

In the context of front-end rendering, the test results are reviewed for debugging by closely examining the output generated by the testing framework, primarily Jest and React Testing Library. When tests related to component rendering fail, Jest provides detailed information, including the component's expected output versus the actual rendered output. This comparison allows developers to pinpoint discrepancies, such as missing elements, incorrect props, or unexpected changes in the DOM structure.

React Testing Library enhances this process by allowing developers to use queries to select elements based on their roles, labels, or text content, ensuring that the rendered UI meets accessibility standards. If a test fails, the error messages will often indicate which part of the rendered output did not match the expected result, along with the relevant component and line number.

Moreover, snapshot testing is employed to capture the rendered state of components at a specific point in time. If changes occur in the UI that affect rendering, the snapshots will indicate these differences, making it easier to identify unintentional modifications.

In debugging front-end rendering issues, developers may also use browser debugging tools to inspect the component hierarchy and state during tests, allowing for real-time observation of how changes in props or state affect the rendered output. By analysing these test results, developers can systematically address rendering issues to ensure that components function correctly and consistently in the UI.



The terminal window displays a failed test case from the 'Home Component' suite. The error message is: 'TestingLibraryElementError: Unable to find an element with the text: /Please name the survey/i. This could be because the text is broken up by multiple elements. In this case, you can provide a function for your text matcher to make your matcher more flexible.' Below the error message, the test logs show the rendered HTML structure of the component, including a `<p>` element containing the text 'Current user: testuser'.

Figure 35: Failed front-end test case from the terminal showing the corresponding error message and logs

#### 4.7.2 Unit and Integration Testing

In our project, unit and integration tests were executed in tandem using **Jest**, providing a comprehensive evaluation of both individual components and their interactions.

Upon executing the tests, the terminal output provided a summary of passed and failed test cases. Each test case was meticulously analysed, and for any failed cases, we reviewed the accompanying error messages and logs to pinpoint the root causes of the issues.

The debugging process is outlined below:

1. Error Analysis
  - We carefully examined error messages to identify discrepancies in expected versus actual outcomes.
2. Debugging
  - The debugging process involved modifying the code and re-running the tests iteratively until all test cases passed successfully. This cycle ensured that all

functionalities were working as intended and met the specified acceptance criteria.

### 3. Final Verification

- Once all tests passed, we verified the results against the original requirements to confirm that both unit and integration tests were effective in ensuring the application's reliability and robustness.

```
● Survey Controller Tests › publishSurvey › should publish the survey and return the link
expect(jest.fn()).toHaveBeenCalled(...expected)
Expected: {"link": "http://test-link.com"}
Number of calls: 0
78 |
79 |
> 80 |     expect(mockRes.status).toHaveBeenCalledWith(200);
          expect(mockRes.json).toHaveBeenCalledWith({ link: 'http://test-link.com' });
81 |     expect(dbHelper.insertSurvey).toHaveBeenCalledWith(
82 |       'testuser',
83 |       'test-survey-id',
at Object.toHaveBeenCalled (_tests__surveyGenerationControllerTest.js:80:34)
```

Figure 36: Failed test case from test results showing the corresponding error message and logs

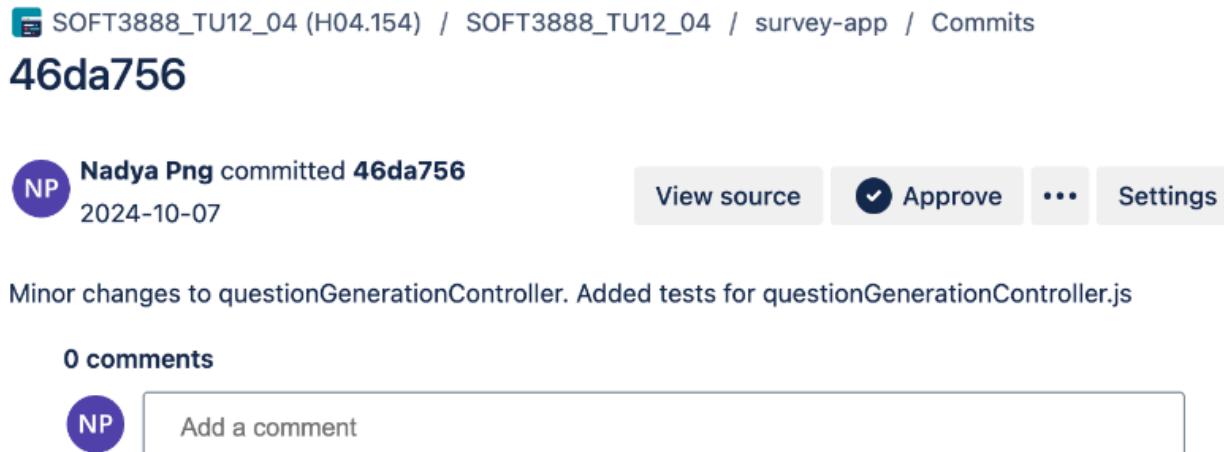


Figure 37: Commit resulting from bug found during testing

#### 4.7.3 System Testing

Each system test case was validated by comparing the system's behaviour with the acceptance criteria set for the corresponding user story. For example:

- For the survey generation feature, we verified that when a researcher clicked the "Generate" button, the system successfully generated survey questions, as required by the acceptance criteria.
- For user login and account creation, we ensured that the system correctly authenticated users, provided appropriate error messages for invalid inputs, and allowed users to access their saved information.

The system tests were evaluated on the following metrics:

- Pass/Fail Outcome: For each test case, the system either passed or failed based on whether the observed result matched the expected outcome. If the feature worked as intended and met the acceptance criteria, it was marked as passed.
- Completeness: We ensured that all core user workflows were thoroughly tested, ensuring full coverage of critical functionality.
- Performance: Although performance metrics were not the primary focus of these system tests, we also observed the system's responsiveness and stability during normal operations. Any performance issues that surfaced during testing were logged for further analysis.

Any deviations from the expected results, such as failure to meet the acceptance criteria or incorrect system responses, were logged as issues. We recorded the inputs, the system's behaviour, and the expected outcomes for each failed test case. This helped identify potential bugs or areas for improvement, which were addressed in subsequent iterations of development.

## 4.8 Demonstrate enough test coverage and explain why it is enough for the scope of the project

### 4.8.1 Frontend Testing

With an 83% testing coverage for our AI-driven survey platform, this is sufficient for the current project scope. Given that the primary focus is on building an intuitive interface for survey creation, integrating AI for question generation, and using the Qualtrics API for deployment, most of the critical paths are likely covered. Testing the front-end rendering, display, and functionality (like survey generation, management, and user sign-in/sign-out) ensures that the core features work as expected.

The goal of the project is to streamline survey creation, which involves handling user inputs, rendering survey data, and managing dashboards—tasks that likely dominate the remaining untested areas. For this stage, covering key functionalities like question generation and data collection via surveys provides enough confidence that the system works in most cases. Further

tests can be added incrementally as new features and edge cases arise.

File	% Stmt	% Branch	% Func	% Lines	Uncovered Line #s
All files	83.16	71	83.76	84.05	
components	100	100	100	100	
QuestionDisplay.jsx	100	100	100	100	
MatrixQuestion.jsx	85.41	65	75	86.66	30,38,91,125,143,218
SliderQuestion.jsx	93.18	63.63	86.66	95	48,175
TextEntryQuestion.jsx	92.85	65	91.66	96	187
context	100	100	100	100	
AuthContext.jsx	100	100	100	100	
pages	72.64	57.5	75	73.14	
About.jsx	100	100	100	100	
ChangeCredentials.jsx	96.29	75	100	96.29	41
Contact.jsx	100	100	100	100	
Home.jsx	61.03	41.66	60.86	61.22	90-93,112,134,168,183-187,206-229,235-250,255-279,283-295
Login.jsx	100	100	100	100	
Register.jsx	100	100	100	100	
services	100	100	100	100	
api.js	100	100	100	100	

Figure 38: Frontend testing coverage

#### 4.8.2 Backend Unit and Integration Testing

Throughout our testing process, we aimed to achieve substantial coverage to ensure that the critical parts of the system were thoroughly tested. Using **Jest**, we tracked coverage metrics for unit and integration tests, which provided insight into the thoroughness of our test suite.

- **Statement Coverage:** 80.91%  
This indicates that the vast majority of code statements were executed during testing, ensuring that most of the functionality was tested.
- **Branch Coverage:** 73.91%  
Branch coverage measures how well our tests exercised different decision points (e.g., `if` and `else` conditions). While not perfect, this level shows that a considerable number of logical paths were tested, though there's room for improvement in edge cases and alternate branches.
- **Function Coverage:** 71.01%  
This reflects how many functions in the codebase were invoked during testing. A 71.01% coverage indicates that most core functions were tested, but some less critical or edge-case functions might need additional tests.
- **Line Coverage:** 81.93%  
Line coverage shows how many individual lines of code were executed during tests. This relatively high percentage signifies that the tests did a good job of exercising the majority of the codebase.

The coverage results show that our test suite was robust enough to provide confidence in the overall stability and functionality of the application. However, with some coverage gaps,

particularly in branch and function coverage, there are areas for further improvement, such as adding more tests for less common scenarios and edge cases. Nonetheless, this coverage level is sufficient for maintaining a reliable system.

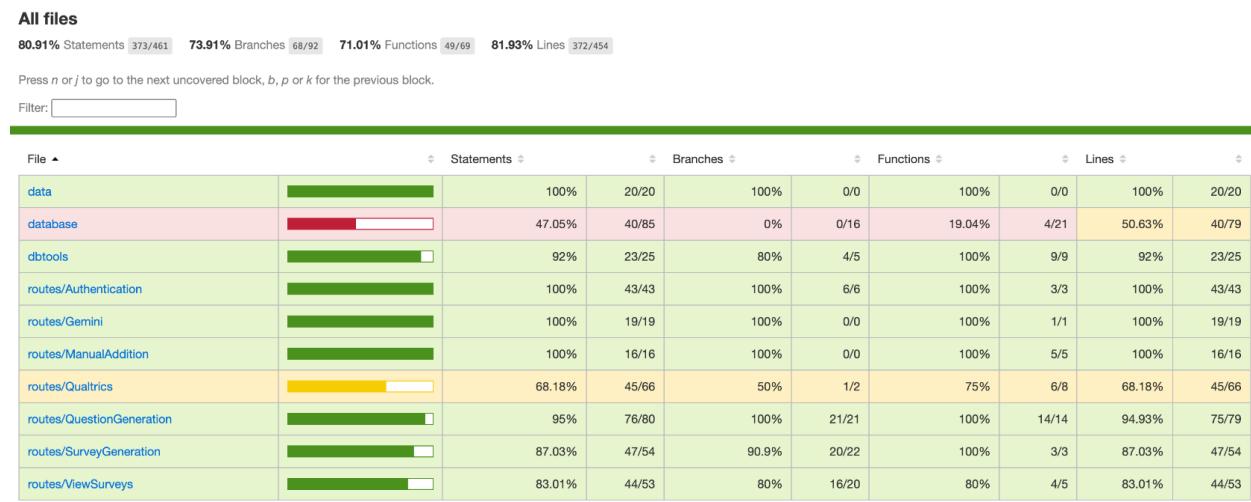


Figure 39: Coverage report of backend server

#### 4.8.3 System Testing

System tests are not included in the coverage due to the reasons below:

- **Code coverage tools** typically measure the code execution within unit tests, integration tests, and functional tests by tracking which lines of code are executed during testing.
- **System tests**, on the other hand, often operate at a higher level, interacting with the system through UI or API endpoints as a user would. As a result, these tests don't always trigger individual lines of source code in a way that can be captured by coverage tools. Instead, they focus on end-to-end workflows rather than verifying specific code paths.
- Additionally, **system tests** often involve third-party components, external services, and infrastructure, which may not directly map to our codebase and thus are not included in code coverage metrics.

We are confident that the execution of our well-designed system test cases, combined with comprehensive comparisons against the acceptance criteria, provides sufficient testing coverage for this stage of development.

### 4.9 Summary of the significance and limitations of tests

#### 4.9.1 Significance of Tests

1. **Ensuring Code Quality:** Unit, integration, and system tests validate that individual components, as well as the system as a whole, function as expected. They help catch bugs early and ensure stable code, improving the reliability and performance of the application.
2. **Verifying Key Functionalities:** Tests like API and user interaction testing ensure that core features (e.g., survey generation, user authentication, and question management) work correctly across different environments, both on the front end and back end. This is crucial for building confidence in the system's correct behavior.
3. **Enhancing Collaboration:** The use of pull requests and code reviews in conjunction with testing fosters collaboration and improves code quality by ensuring that all changes are thoroughly reviewed before merging.
4. **Mocking and API Testing:** By mocking external services such as the Qualtrics and Google Gemini APIs, the tests allowed us to validate the application's integration with third-party services without depending on real-time API availability. This ensures smooth communication between different parts of the system in real-world scenarios.
5. **Data Integrity and Compatibility:** Tests ensure that data is stored, retrieved, and displayed accurately. Cross-browser compatibility tests guarantee that the web app works across various devices and browsers, providing a consistent experience for all users.

#### 4.9.4 Limitations of Tests

1. **Performance Testing Not Conducted:** Due to the project's relatively small scale and limited expected user base, performance testing was not prioritised. This leaves potential vulnerabilities in handling large data loads or high traffic scenarios unaddressed.
2. **Security Testing Gaps:** While basic security measures were tested, full-scale penetration testing was not performed. The system may still be vulnerable to advanced security threats, as a detailed examination of potential attack vectors was not carried out.
3. **Limited Usability Testing:** Although basic user acceptance testing was conducted, comprehensive usability testing with a large group of users was not performed. This may result in certain user experience flaws going unnoticed, especially for edge cases in user behaviour.
4. **Dependency on External APIs:** Despite mocking external APIs, there are limitations in ensuring how the system will behave if these external services experience downtime, latency, or changes in their functionality. The app's resilience to API changes has not been fully tested.
5. **Real-Time AI Model Output:** The generative AI model (Google Gemini) might occasionally return unexpected or inaccurate survey questions. While tests covered expected outputs, the system's ability to handle incorrect or irrelevant outputs from AI models is a potential risk that wasn't fully addressed.

# 5 Discipline Knowledge and Tools

## 5.1 Use and application of discipline knowledge

**Object-Oriented Design (OOD):** Utilised to create modular, reusable components for the survey generation and result visualisation modules. This approach improves maintainability and scalability.

**Agile Methodology:** Employed an iterative and incremental development process, allowing for continuous feedback and adaptation throughout the project lifecycle.

**Frontend Development:** Knowledge of HTML, CSS, and JavaScript frameworks (e.g., React.js or Angular) was crucial in building a responsive and user-friendly interface

**Backend Development:** Server-side programming (Node.js) was used to manage data processing, survey question generation, user authentication, and database interactions.

**Database Management:** Expertise in MySQL databases helped in designing a robust data storage solution that ensures efficient retrieval and manipulation of survey data

**Human-Computer Interaction (HCI):** Applied HCI principles to ensure that the platform is intuitive and accessible, offering a seamless experience across different devices.

## 5.2 Unit and application of discipline knowledge

### 5.2.1 Academic background of group members which was helpful for the development

Name	Background and helpful skills
Rueien Tan	Background: Software Engineering Skills: <ul style="list-style-type: none"><li>- SQL (Isys2120)</li><li>- Python (info1110)</li><li>- Postgres (Isys2120)</li><li>- Algorithm design (comp2123)</li><li>- Github CD/CI development (With jenkins) (soft2412)</li><li>- HTML/CSS (soft2201)</li><li>- System designs, web development</li></ul>

	<p>(elec3609)        - Cybersecurity (Info3616)</p>
Rui Wang	<p>Background: Software Engineering and Mathematics Minor        Skills:</p> <ul style="list-style-type: none"> <li>- Java</li> <li>- Python</li> <li>- Git</li> <li>- MySQL</li> <li>- Cloud Network and Server Hosting</li> <li>- SQL</li> <li>- HTML JS CSS</li> <li>- Database Design</li> </ul>
Changxu Liu	<p>Background: Software Development major        Skills:</p> <ul style="list-style-type: none"> <li>- Python(INFO1110, INFO1112)</li> <li>- Java(INFO1113, SOFT2201)</li> <li>- Git(INFO1111, SOFT2412)</li> <li>- SQL(ISYS2120)</li> <li>- html(INFO2222)</li> <li>- Algorithm design(COMP2123)</li> <li>- C(COMP2017)</li> <li>- Design patterns(SOFT2201)</li> </ul>
Leon Lee	<p>Background: Software Development and Computer Science major skills</p> <ul style="list-style-type: none"> <li>- Python (INFO1110, INFO1112, SOFT3202)</li> <li>- Java (INFO1113, SOFT2201)</li> <li>- C (COMP2017)</li> <li>- SQL (ISYS2120)</li> <li>- Cybersecurity (INFO2222)</li> <li>- Networking (INFO1112)</li> <li>- Algorithm design (COMP2123, COMP3027)</li> <li>- Git (INFO1111, SOFT2412)</li> <li>- Testing (SOFT3202)</li> <li>- AI (COMP3308)</li> <li>- Fullstack development (<a href="https://fullstackopen.com/en/">https://fullstackopen.com/en/</a>)</li> </ul>
Nadya Ee Png	<p>Background: Software Development and Computer Science</p> <ul style="list-style-type: none"> <li>- Python (INFO1110, INFO1112, SOFT3202)</li> <li>- Design patterns (SOFT2201)</li> <li>- SQL (ISYS2120)</li> <li>- AI (COMP3308)</li> </ul>

	<ul style="list-style-type: none"> <li>- Networking (INFO1112)</li> <li>- Git (INFO1111, SOFT2412)</li> <li>- Fullstack development (<a href="https://fullstackopen.com/en/">https://fullstackopen.com/en/</a>)</li> </ul>
Frank Lai	<p>Background: Software Development major skills</p> <ul style="list-style-type: none"> <li>- Python (INFO1110, INFO1112)</li> <li>- Java (INFO1113, SOFT2201)</li> <li>- SQL (ISYS2120)</li> <li>- Cybersecurity (INFO2222)</li> <li>- Networking (INFO1112)</li> <li>- Algorithm design (COMP2123)</li> <li>- Git (INFO1111, SOFT2412)</li> <li>- UI/UX Design (Self-practice)</li> </ul>

Summary: Our discipline and classes we took significantly helped us with the project. From the listed skills above, many if not most of the skills were used. These include, but are not limited to git, jira, web dev, html, and css experiences.

### 5.2.2 Research on existing solutions in solving complex problem:

For our system, our client gave us a website that we can begin researching from. The reference link is

<https://www.startquestion.com/survey-ideas/artificial-intelligence-and-ethics-survey/>

From here we can take inspiration from the general sequence flow of what a general user sequence flow should be like, as well as what the output of a generated survey question should look like. Therefore, to specifically answer “Research on existing solutions/tools in solving complex problems”, our research has helped us reach several user stories that are covered in the section above.

For instance in website above we saw what a sample input could look like

type survey goal i.e. "find out how people use dating services"

Chars: 0 / 200

Generate survey questions >

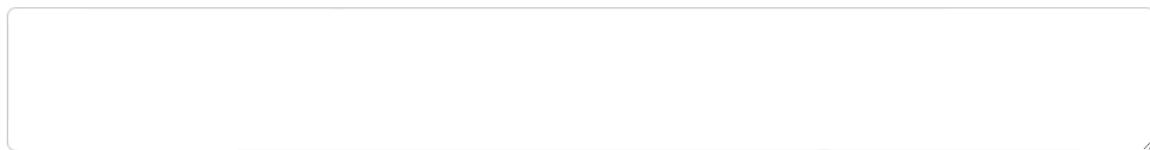
Figure 39-1. Survey Generation image

In addition, we also see that the format of the generated questions varied with some using multiple choice questions, and others using short answer boxes

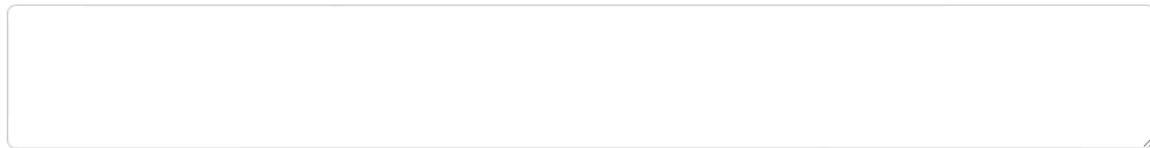
**7. Which industries do you believe are most affected by the ethical implications of AI? (select all that apply)**

- Healthcare
- Finance
- Transportation
- Education
- Military

**8. In your opinion, what are the major risks associated with the use of artificial intelligence?**



**9. How do you think artificial intelligence can be used to benefit society?**



Furthermore, they also included the ability to be able to edit survey questions

[Create and edit this survey questions >](#)

*Figure 40 example of different question types*

These all helped inspire and give a general direction for our development. For instance, our user stories now include allowing researchers to input their prompts, being able to generate multiple different types of formats, and editing the existing survey to fit the user's needs. Since our client requirements are mostly developing a fully functioning survey generator, there isn't a need for literature reviews.

#### 5.2.3 Tools used to the complex problem

##### **MySQL:**

MySQL is a well-known and utilised database in the world. It is incredibly stable and has a great ability to handle large volumes and complex tasks for a complex system. In this project, it has

been chosen to be our Database and Management system because of its efficiency for handling relational databases for our survey website.

For better testing and integration process, a remote MYSQL server hosted on cloud VPS has been implemented. The development team members can all connect to the same database to test different parts of the project. The connection, pull and get request only happens at the backend framework, express and node. This increases the data security of our project and prevents accessing databases from multiple layer and languages. Privilege Account have also been put into account into managing the System, different users have different access levels to tables and databases.

#### **Version Control:**

- **BitBucket:** Employed for source code management, allowing collaborative development, version tracking, and integration with CI/CD pipelines.

#### **Frontend Tools:**

- **HTML, CSS, JavaScript:** Core technologies for web development.
- **Vite + React.js:** JavaScript frameworks used to build dynamic user interfaces and single-page applications (SPAs).
- Backend Tools:
- **Node.js with Express:** A backend framework that allows for efficient handling of asynchronous requests in a JavaScript environment.

#### **Database Tools:**

- **MySQL:** Relational database management systems used for structured data storage.
- **Cloud Server:** A VPS server that is hosting MYSQL server for everyone in the group to access to the same database for testing, debugging and developing.

#### **Testing Tools:**

- **Jest:** JavaScript testing frameworks for unit and integration testing of frontend components.
- **Supertest:** JavaScript testing framework for integration testing components in backend.

#### **Design and Prototyping Tools:**

- **Figma:** Used for designing UI prototypes and creating interactive mockups to test user flows and gather feedback before development.

#### **Other tools:**

- **Visual Paradigm:** Used for online ERD diagrams for database design.
- **Qualtrics API:** Used to create surveys, editing and managing existing surveys

- **Google Gemini API:** Generative AI model used to generate questions based on user inputs

## 6 Quality of Group Processes

### 6.1 Setup of tooling for development, management of tasks, allocation of tasks

#### Development

- To collaborate on code during the development process, we used Git/Bitbucket as our version control system
- This allowed us to manage our codebase efficiently, track changes and handle multiple branches for different features and bug fixes
- We made sure features were developed in its own branch, and later merged into the main branch via pull requests and code reviews

The screenshot shows a pull request history for a repository named 'SOFT3888\_TU12\_04'. The interface includes a search bar, filters for 'All' status, author, target branch, and sorting by 'Recently updated'. A 'Create pull request' button is visible at the top right. Below the header, a summary table lists ten pull requests. Each row contains the author's initials (LL, NP, A, or AL), the status (OPEN or MERGED), the commit message, the target branch (main), the creation time, the number of comments (e.g., 1, 2, 9 hours ago), and the last update time. Most pull requests have been merged and are now closed.

Author	Status	Commit Message	Target Branch	Created	Activity	Builds
LL	OPEN	integrated the question gen...	main	7 minu...	No activity	No revi...
NP	MERGED	changes to the response f...	main	28 min...	1	LL
LL	MERGED	commented out broken c...	main	45 min...	1	NP
NP	MERGED	Nadya/Ilim	main	2 hour...	1	LL
A	MERGED	Add user role manageme...	main	9 hour...	1	LL, NP
LL	MERGED	Added displaying functio...	main	1 day a...	1	NP
LL	MERGED	Created scaffold code to ...	main	1 day a...	1	NP
LL	MERGED	Added additional context...	main	1 day a...	No activity	NP
LL	MERGED	Leon/refactoring	main	4 days ...	No activity	NP

Figure 41: screenshot of the pull request history for the last few days of weeks 1-5

SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app

Pull requests

Create pull request

Search pull requests Q Merged Author Target branch I'm reviewing Sort by: Recently updated

Summary	Created	Activity	Reviewers	Builds
 Added script to run program with only one command leon/other → main Leon Lee - #53, updated yesterday	2 days ago	1		
 Fixing issue regarding the flexibility of choosing sur... rtan_datavisualization → main Ruel En Tan - #49, updated 2 days ago	7 days ago	1		
 - UI update on most components feature/UI-update → main Frank Lai - #52, updated 2 days ago	4 days ago	No activity	No reviewers	
 - Front-end Testing testing-Frank → main Frank Lai - #51, updated 5 days ago	7 days ago	1		
 Allen/feature frontend allen/feature-frontend → main Allen Liu - #47, updated 7 days ago	8 days ago	1		
 Leon/frontend leon/frontend → main Leon Lee - #50, updated 7 days ago	7 days ago	2		
 Leon/frontend leon/frontend → main Leon Lee - #48, updated 2024-10-13	7 days ago	1		

Figure 42: screenshot of the pull request history for the last few days of week 11

## Management and allocation of tasks

- Our task management began with creating user stories during weeks 2 and 3, which we then added to our Jira product backlog
- These user stories captured the key functionalities and requirements of our project
- We then broke down these high level user stories into smaller, more manageable tasks
- Each task was clearly defined with acceptance criteria, so that we could allocate them to individual team members
- Once a task was completed, the responsible team member would mark it as done on Jira to keep the team informed of their progress
- This helped us maintain a clear overview of the project's status

Type	# Key	Summary	Status	Assignee	Due date	Labels	Created	Updated	Reporter
> <input checked="" type="checkbox"/>	KAN-47	Feature: publish survey (get quadratic info)	DONE	RL	Ready for QA	survey	Sep 10, 2024	Sep 21, 2024	LL Leon Lee
> <input checked="" type="checkbox"/>	KAN-69	Change: Add more fields for users to input about their res...	DONE	LL Leon Lee		question-generation	Sep 14, 2024	Sep 22, 2024	NP Nadya Png
> <input checked="" type="checkbox"/>	KAN-49	Feature: view previous surveys	DONE	FL Frank Lai		survey	Sep 10, 2024	Sep 25, 2024	NP Nadya Png
> <input checked="" type="checkbox"/>	KAN-45	Feature: allow users to create their own question of any ty...	DONE	LL Leon Lee		question-generation	Sep 10, 2024	Oct 5, 2024	LL Leon Lee
> <input checked="" type="checkbox"/>	KAN-90	Testing: Integration tests	DONE	RW Rui Wang			Oct 8, 2024	Oct 15, 2024	NP Nadya Png
> <input checked="" type="checkbox"/>	KAN-91	Testing: Unit testing for all backend functions	DONE	NP Nadya Png			Oct 8, 2024	Oct 15, 2024	NP Nadya Png
> <input checked="" type="checkbox"/>	KAN-75	Change: Make template for users to input specific informa...	DONE	LL Leon Lee			Sep 17, 2024	Sep 25, 2024	NP Nadya Png
> <input checked="" type="checkbox"/>	KAN-66	Testing: Start researching for the project	DONE	FL Frank Lai			Sep 12, 2024	Oct 11, 2024	LL Leon Lee
> <input checked="" type="checkbox"/>	KAN-83	Feature: open/close survey	DONE	NP Nadya Png			Sep 25, 2024	Sep 27, 2024	LL Leon Lee
> <input checked="" type="checkbox"/>	KAN-76	Feature: allow users to select if each question should be ...	DONE	LL Leon Lee		question-generation	Sep 18, 2024	Oct 13, 2024	LL Leon Lee
> <input checked="" type="checkbox"/>	KAN-77	Change: Hardcode slider questions to only have 1 choice	DONE	LL Leon Lee		question-generation	Sep 19, 2024	Sep 22, 2024	LL Leon Lee
> <input checked="" type="checkbox"/>	KAN-86	Change: Allow user to enter descriptive text section (NOT ...	DONE	LL Leon Lee			Sep 27, 2024	Oct 13, 2024	NP Nadya Png
> <input checked="" type="checkbox"/>	KAN-82	Feature: delete survey in History	DONE	LL Leon Lee			Sep 25, 2024	Sep 27, 2024	LL Leon Lee
> <input checked="" type="checkbox"/>	KAN-67	Allow the user to rearrange the question order	DONE	AL Allen Liu		question-generation	Sep 13, 2024	Oct 7, 2024	LL Leon Lee
> <input checked="" type="checkbox"/>	KAN-89	Feature: Frontend display for survey link once survey is pu...	DONE	AL Allen Liu			Oct 7, 2024	Oct 9, 2024	NP Nadya Png
> <input checked="" type="checkbox"/>	KAN-92	Change: Improve frontend link display method	DONE	AL Allen Liu			Oct 9, 2024	Oct 11, 2024	NP Nadya Png
> <input checked="" type="checkbox"/>	KAN-81	Feature: be able to click on a survey in the history page an...	DONE	LL Leon Lee			Sep 25, 2024	Oct 13, 2024	LL Leon Lee

Figure 43: screenshot of our Jira backlog for the 2nd half of the semester

## 6.2 Evidence of collaboration and teamwork

### Group Roles

- While writing the group contract, we initially allocated the XP roles randomly, as initial allocations weren't important because we would be rotating roles weekly
- This allowed each member to engage with different aspects of the project
- We repeated this process for the 2nd group contract as it worked well

[Evidence: our group contract submission on Canvas, with the XP role allocation]

### Sharing of Work

- As described in the previous section, we broke down larger user stories into smaller, more manageable tasks
- These tasks were then distributed among the team members
- In the 2nd half of the semester, we made sure that everybody updated Jira more often, making our workflow much better

Projects / SOFT3888 Project

List

Search list  LL AL FL NP +2

Give feedback

Type	# Key	Summary	Status	Assignee	Due date	Labels	Created	Updated	Reporter	+
>	KAN-47	feature: publish survey (get Qualtrics link)	DONE	Nadya Png		survey	Sep 10, 2024	Sep 21, 2024	Leon Lee	
	KAN-69	Change: Add more fields for users to input about their res...	DONE	Leon Lee		question-generation	Sep 14, 2024	Sep 22, 2024	Nadya Png	
>	KAN-49	Feature: view previous surveys	DONE	Frank Lai		survey	Sep 10, 2024	Sep 25, 2024	Nadya Png	
	KAN-45	Feature: allow users to create their own question of any ty...	DONE	Leon Lee		question-generation	Sep 10, 2024	Oct 5, 2024	Leon Lee	
	KAN-90	Testing: Integration tests	DONE	Rui Wang			Oct 8, 2024	Oct 15, 2024	Nadya Png	
	KAN-91	Testing: Unit testing for all backend functions	DONE	Nadya Png			Oct 8, 2024	Oct 15, 2024	Nadya Png	
	KAN-75	Change: Make template for users to input specific informa...	DONE	Leon Lee			Sep 17, 2024	Sep 25, 2024	Nadya Png	
	KAN-66	Testing: Start researching for the project	DONE	Frank Lai			Sep 12, 2024	Oct 11, 2024	Leon Lee	
>	KAN-83	Feature: open/close survey	DONE	Nadya Png			Sep 25, 2024	Sep 27, 2024	Leon Lee	
	KAN-76	Feature: allow users to select if each question should be ...	DONE	Leon Lee		question-generation	Sep 18, 2024	Oct 13, 2024	Leon Lee	
	KAN-77	Change: Hardcode slider questions to only have 1 choice	DONE	Leon Lee		question-generation	Sep 19, 2024	Sep 22, 2024	Leon Lee	
	KAN-86	Change: Allow user to enter descriptive text section (NOT ...	DONE	Leon Lee			Sep 27, 2024	Oct 13, 2024	Nadya Png	
>	KAN-82	Feature: delete survey in History	DONE	Leon Lee			Sep 25, 2024	Sep 27, 2024	Leon Lee	
	KAN-67	Allow the user to rearrange the question order	DONE	Allen Liu		question-generation	Sep 13, 2024	Oct 7, 2024	Leon Lee	
	KAN-89	Feature: Frontend display for survey link once survey is pu...	DONE	Allen Liu			Oct 7, 2024	Oct 9, 2024	Nadya Png	
	KAN-92	Change: Improve frontend link display method	DONE	Allen Liu			Oct 9, 2024	Oct 11, 2024	Nadya Png	
	KAN-81	Feature: be able to click on a survey in the history page an...	DONE	Leon Lee			Sep 25, 2024	Oct 13, 2024	Leon Lee	

[Evidence: screenshot of our Jira backlog for the 2nd half of the semester]

- We encouraged team members to ask for help if they encountered any difficulties
- This was achieved through our group chats, particularly on Slack

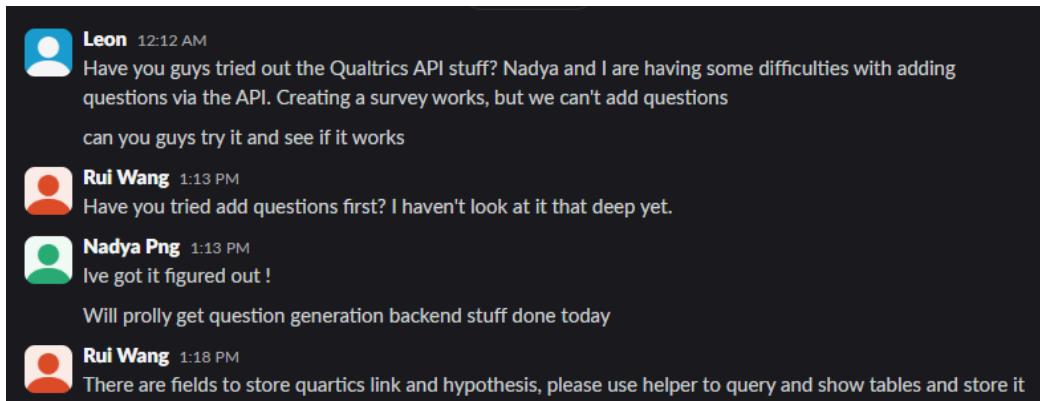
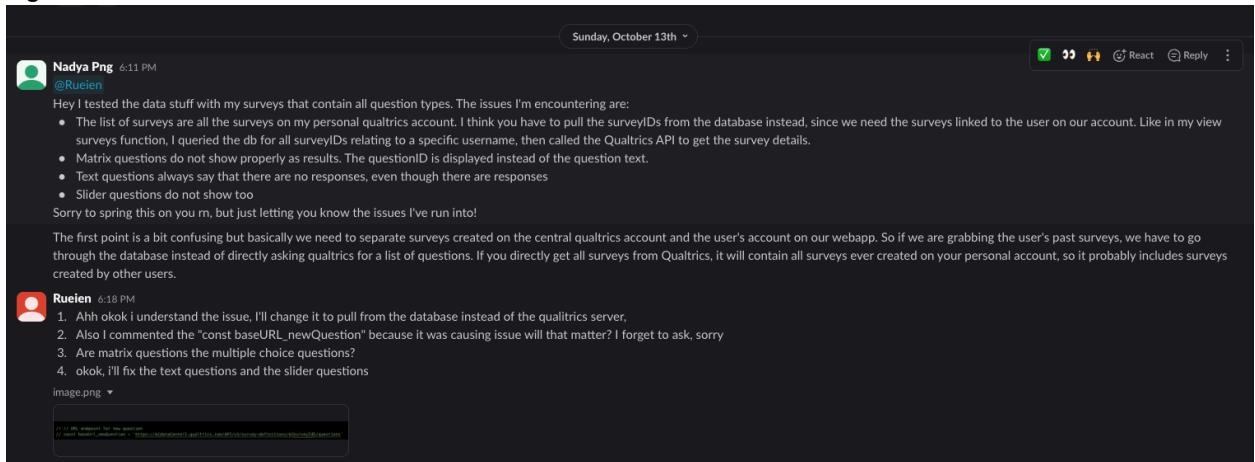


Figure 44: screenshot of our Slack conversation from the first few weeks



*Figure 45: screenshot of our Slack conversation from the last few weeks*

### Group Contract

- All group members worked together to fill out the group contract
- All group members contributed to the document using Google Docs, which allowed us to work together in real-time
- We did the same process for the 2nd Group Contract document as it didn't contain much new information

The screenshot shows a Slack message from 'COMP3888/SOFT3888/ISYS3888/COMP3988/CO1' dated 18 August, 20:14. The message includes a link to a Google Doc titled 'Group Contract Weeks 2 – 5'. The document has 1 of 4 pages. It contains a table of contact information and a note about contract copies. The version history on the right shows activity from 9 to 18 August.

Name	SID	UniKey	Email
Leon Lee	520430860	llee6286	llee6286@uni.sydney.edu.au
Frank(Qiufei) Lai	520496349	qlai2094	qlai2094@uni.sydney.edu.au
Changxu Liu	500052509	cliu9112	cliu9112@uni.sydney.edu.au
Nadya Ee Png	520265538	npng6746	npng6746@uni.sydney.edu.au
Ruei en Tan	520281642	rtan6748	rtan6748@uni.sydney.edu.au
Rui Wang	510477558	rwan5137	rwan5137@uni.sydney.edu.au

*Figure 46: screenshot of the Google Docs version history of the first Group Contract document*

The screenshot shows the version history of the 'Group Contract Weeks 2 – 5' document. It lists changes made by Leon Lee and Nadya Png from August 9 to August 18, 2019. The document content includes a table of contact information and a note about contract copies.

Name	SID	UniKey	Email
Leon Lee	520430860	llee6286	llee6286@uni.sydney.edu.au
Frank(Qiufei) Lai	520496349	qlai2094	qlai2094@uni.sydney.edu.au
Changxu Liu	500052509	cliu9112	cliu9112@uni.sydney.edu.au
Nadya Ee Png	520265538	npng6746	npng6746@uni.sydney.edu.au
Ruei en Tan	520281642	rtan6748	rtan6748@uni.sydney.edu.au
Rui Wang	510477558	rwan5137	rwan5137@uni.sydney.edu.au

The screenshot shows the version history of the 'Group Contract Weeks 2 – 5' document. It lists changes made by Leon Lee and Nadya Png from September 3 to September 24, 2019. The document content includes a table of contact information and a note about contract copies.

Name	SID	UniKey	Email
Leon Lee	520430860	llee6286	llee6286@uni.sydney.edu.au
Frank(Qiufei) Lai	520496349	qlai2094	qlai2094@uni.sydney.edu.au
Changxu Liu	500052509	cliu9112	cliu9112@uni.sydney.edu.au
Nadya Ee Png	520265538	npng6746	npng6746@uni.sydney.edu.au
Ruei en Tan	520281642	rtan6748	rtan6748@uni.sydney.edu.au
Rui Wang	510477558	rwan5137	rwan5137@uni.sydney.edu.au

*Figure 47: screenshot of the Google Docs version history of the second Group Contract document*

### Meeting Minutes

- We adopted a volunteer-based approach to managing meeting minutes
- Team members who had not recently recorded minutes would volunteer, giving everybody the opportunity to participate

[Evidence: check the meeting minutes “prepared by” names in the Bitbucket minutes folder, it shows the group members who’ve written minutes]

- We ensured that we had at least 4 sets of minutes per week (tutorial group meeting, tutor meeting, client meeting, outside tutorial group meeting)

[Evidence: check the minutes folder in our Bitbucket for each week’s minutes]

### Project Status Reports (Scope Statement)

- After our initial client meeting, the entire team collaborated on the project scope document using Google Docs
- This allowed us to work simultaneously, ensuring that everyone could contribute

[Evidence: week 2 client minutes. They contain initial scope information the client gave us]

The screenshot shows a Google Doc with the following content:

**PROJECT STATUS REPORT**

**Project No. and Name:** P55 A web platform for customized survey data collection

**Project Development Period:**

**Client Name:** Jianlong Zhou

**Client Organization:** UTS Data Science Institute

**Tutor Name:** Islam Alzoubi

**Background:**  
The context for this project

- There is a growing demand for tools that can streamline the survey design process, ensuring that the questions generated are unbiased, and aligned with the research objective.

**Version History (August):**

- 13 August, 12:54 (Current version) - Nadya Png
- 11 August, 20:24 - Leon Lee, All anonymous users
- 11 August, 00:23 - All anonymous users
- 9 August, 15:54 - Leon Lee, All anonymous users

Figure 46: version history of the Scope Statement Google Docs

## 6.3 Allocation of group roles

### XP Roles

- As mentioned in the previous section, the initial XP role allocations were determined randomly, then we rotated roles each week
- This ensured that all team members would have the opportunity to experience different roles
- While we designated a specific member as the programmer each week, in practise everyone was a programmer and contributed to the development of the project

[Evidence: group contract submission on Canvas]

### Technical Responsibilities

- Technical responsibilities were assigned through Jira, where tasks were clearly defined and allocated to team members

Projects / SOFT3888 Project

List

Search list  LL AL FL NP +2

Share Filter Group Format

Give feedback

Type	# Key	Summary	Status	Assignee	Due date	Labels	Created	Updated	Reporter	+
> <input checked="" type="checkbox"/>	KAN-47	feature: publish survey (get Quora link)	DONE	Nadya Png		survey	Sep 10, 2024	Sep 21, 2024	Leon Lee	
<input checked="" type="checkbox"/>	KAN-69	Change: Add more fields for users to input about their res...	DONE	Leon Lee		question-generation	Sep 14, 2024	Sep 22, 2024	Nadya Png	
> <input checked="" type="checkbox"/>	KAN-49	Feature: view previous surveys	DONE	Frank Lai		survey	Sep 10, 2024	Sep 25, 2024	Nadya Png	
<input checked="" type="checkbox"/>	KAN-45	Feature: allow users to create their own question of any ty...	DONE	Leon Lee		question-generation	Sep 10, 2024	Oct 5, 2024	Leon Lee	
<input checked="" type="checkbox"/>	KAN-90	Testing: Integration tests	DONE	Rui Wang			Oct 8, 2024	Oct 15, 2024	Nadya Png	
<input checked="" type="checkbox"/>	KAN-91	Testing: Unit testing for all backend functions	DONE	Nadya Png			Oct 8, 2024	Oct 15, 2024	Nadya Png	
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<input checked="" type="checkbox"/>	KAN-89	Feature: Frontend display for survey link once survey is pu...	DONE	Allen Liu			Oct 7, 2024	Oct 9, 2024	Nadya Png	
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<input checked="" type="checkbox"/>	KAN-81	Feature: be able to click on a survey in the history page an...	DONE	Leon Lee			Sep 25, 2024	Oct 13, 2024	Leon Lee	

[Evidence: screenshot of our Jira backlog]

## Non-Technical Tasks

- For the wiki documents, we adopted a collaborative approach. All members contributed to the wiki documents
- As mentioned in a previous section, we adopted a volunteer approach for meeting minutes
- Most of the XP roles also involved non-technical tasks, such as organising meeting or ensuring that certain processes were followed
  - In these cases, the designated manager for the week would remind the other members to complete their respective tasks, ensuring smooth project progression

	Leon Lee	a2f69ad	added contributions	2024-08-20
	Frank Lai	55f1a2f	contributions.md edited online with Bitbucket	2024-08-20
	Leon Lee	e06b586	updated contributions	2024-08-20
	Leon Lee	419a8ae	updated minutes	2024-08-20
	Ruei En Tan	abacd07	Adding meeting minutes and individual cont...	2024-08-19
	Frank Lai	c833048	Prototype-1	2024-08-18
	Nadya Png	224d4a1	added sequence diagram to docs	2024-08-16
	Leon Lee	c2d9335	added some individual contributions	2024-08-16
	Leon Lee	da0aeb4	added friday 16th Aug client meeting minutes	2024-08-16
	Leon Lee	3308b6e	added project_plan.md	2024-08-16
	Nadya Png	53e6012	added personal contributions	2024-08-16
	Leon Lee	d3b01d0	updated individual contributions template	2024-08-13
	Leon Lee	742b1c8	changed names in minutes	2024-08-13
	Leon Lee	4376152	added individual contributions document an...	2024-08-13
	Leon Lee	f930085	added minutes and user stories	2024-08-13

Figure 48: screenshot of our commit history, showing us working on wiki documents

## 6.4 “Issues” created and progress

- Instead of using GitHub Issues, we used Jira to manage tasks and monitor our progress
- Jira allowed us to create, assign and track the status of tasks, ensuring that all aspects of the project were properly managed
- Instead of keeping user stories on the backlog, we broke the stories down into smaller individual tasks. This allowed us to assign each task to one person.
- If a task required multiple people (e.g. one person doing frontend, one doing backend), we would create subtasks and allocate it to the other person
- We also labelled each task to categorise them, which made it clear to see how much progress we had made on each section of the project (e.g. data visualisation, question generation)
- In week 7, we added all of the remaining tasks onto the Jira, which was a great way of visualising how much we had left to do in the project

Projects / SOFT3888 Project

List

Search list  LL AL FL NP +2

Give feedback Share Filter Group

Type	# Key	Summary	Status	Assignee	Due date	Labels	Created	Updated	Reporter	+
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<input checked="" type="checkbox"/>	KAN-69	Change: Add more fields for users to input about their res...	DONE	Leon Lee		question-generation	Sep 14, 2024	Sep 22, 2024	Nadya Png	
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<input checked="" type="checkbox"/>	KAN-45	Feature: allow users to create their own question of any ty...	DONE	Leon Lee		question-generation	Sep 10, 2024	Oct 5, 2024	Leon Lee	
<input checked="" type="checkbox"/>	KAN-90	Testing: Integration tests	DONE	RW Rui Wang			Oct 8, 2024	Oct 15, 2024	Nadya Png	
<input checked="" type="checkbox"/>	KAN-91	Testing: Unit testing for all backend functions	DONE	NP Nadya Png			Oct 8, 2024	Oct 15, 2024	Nadya Png	
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<input checked="" type="checkbox"/>	KAN-89	Feature: Frontend display for survey link once survey is pu...	DONE	AL Allen Liu			Oct 7, 2024	Oct 9, 2024	Nadya Png	
<input checked="" type="checkbox"/>	KAN-92	Change: Improve frontend link display method	DONE	AL Allen Liu			Oct 9, 2024	Oct 11, 2024	Nadya Png	
<input checked="" type="checkbox"/>	KAN-81	Feature: be able to click on a survey in the history page an...	DONE	Leon Lee			Sep 25, 2024	Oct 13, 2024	Leon Lee	

[Evidence: screenshot of Jira]

## 6.5 Use of Bitbucket, Slack and other tools

### Bitbucket

- Bitbucket was used to facilitate collaboration during the development process
- For non-code related contributions, such as wiki documents, meeting minutes and weekly plans, we pushed the changes directly to main, as these updates were unlikely to cause merge conflicts

Leon Lee	46d2d5e	Added minutes and hard...	yesterday
NP Nadya Png	f9eb05b	meeting minutes for tuto...	4 days ago
FL Frank Lai	55f1a2f	contributions.md edited o...	2024-08-20
RT Ruei En Tan	abacd07	Adding meeting minutes ...	2024-08-19
RW Rui Wang	fd4e4ea	edited ERD diagram afte...	yesterday

Figure 49: examples of some of our pull requests on Bitbucket where we pushed directly to main

- However, for any changes involving code, we made sure each member worked on their own branch and submitted a pull request once they completed their tasks
- This allowed other team members to review the code, ensuring that no issues were introduced into the main branch

	<b>OPEN</b> Added displaying functionality for MCQ, text ... → main	Leon Lee - #6, updated 18 hours ago	18 hours ago	1	
	<b>MERGED</b> Created scaffold code to display each ques... → main	Leon Lee - #5, updated 19 hours ago	19 hours ago	1	
	<b>MERGED</b> Added additional context field in the front... → main	Leon Lee - #4, updated yesterday	1 day ago	No activity	
	<b>MERGED</b> Leon/refactoring → main	Leon Lee - #2, updated 3 days ago	4 days ago	No activity	
	<b>MERGED</b> Rueien dev → main	Ruei En Tan - #3, updated 4 days ago	4 days ago	1	
	<b>MERGED</b> Input box update → main	Frank Lai - #1, updated 4 days ago	4 days ago	2	

Figure 50: examples of some of our pull requests on Bitbucket from the first half of the semester

Pull requests						
Search pull requests		Merged	Author	Target branch	I'm reviewing	Sort by: Recently updated
<b>Summary</b>						
	Added script to run program with only one command	leon/other	→ main	Leon Lee - #53, updated yesterday	2 days ago	
	Fixing issue regarding the flexibility of choosing sur...	rтан_datavisualization	→ main	Ruei En Tan - #49, updated 2 days ago	7 days ago	
	- UI update on most components	feature/UI-update	→ main	Frank Lai - #52, updated 2 days ago	4 days ago	No activity
	- Front-end Testing	testing-Frank	→ main	Frank Lai - #51, updated 5 days ago	7 days ago	
	Allen/feature frontend	allen/feature-frontend	→ main	Allen Liu - #47, updated 7 days ago	8 days ago	
	Leon/frontend	leon/frontend	→ main	Leon Lee - #50, updated 7 days ago	7 days ago	
	Leon/frontend	leon/frontend	→ main	Leon Lee - #48, updated 2024-10-13	7 days ago	

Figure 51: examples of some of our pull requests on Bitbucket from the 2nd half of the semester

- For task allocation, we used a Jira backlog (already mentioned in the Tooling Setup for Development, Management of Tasks and Allocation of Tasks section)

## Slack

- For communication, we used a combination for Slack and Instagram
- Slack was our primary platform for formal communication, particularly when addressing major issues or discussing important updates

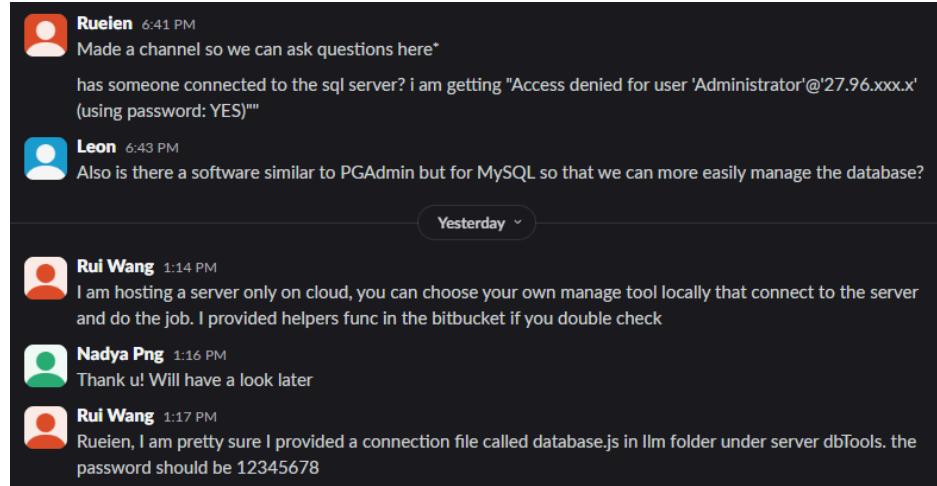


Figure 52: screenshot of some of our Slack communication from the first few weeks

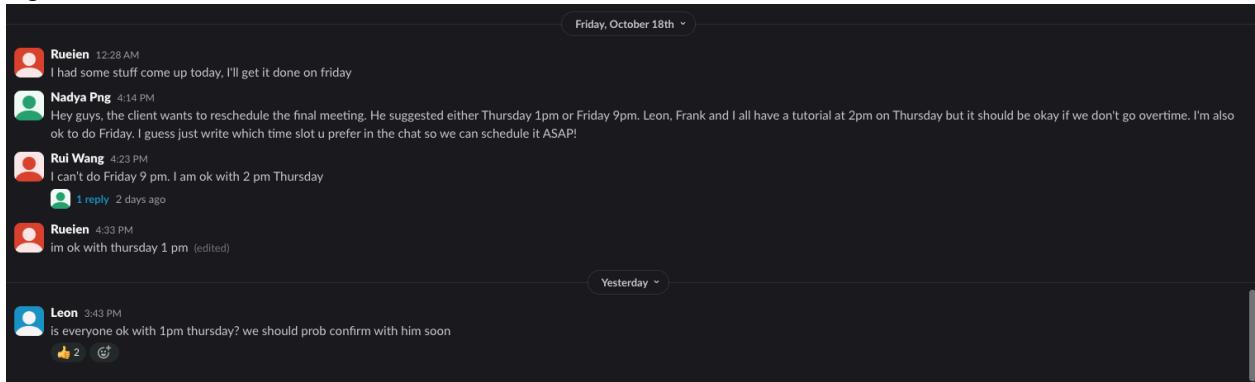


Figure 53: screenshot of some of our Slack communication from the last few weeks

## Other

- For more casual discussions, we sometimes used Instagram group chats
- This mix of communication tools allowed us to balance formality with ease of use

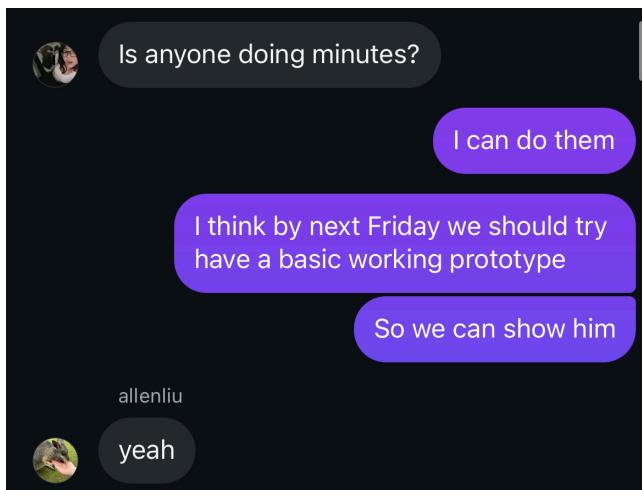


Figure 54: screenshot of some of our Instagram communication from the earlier weeks

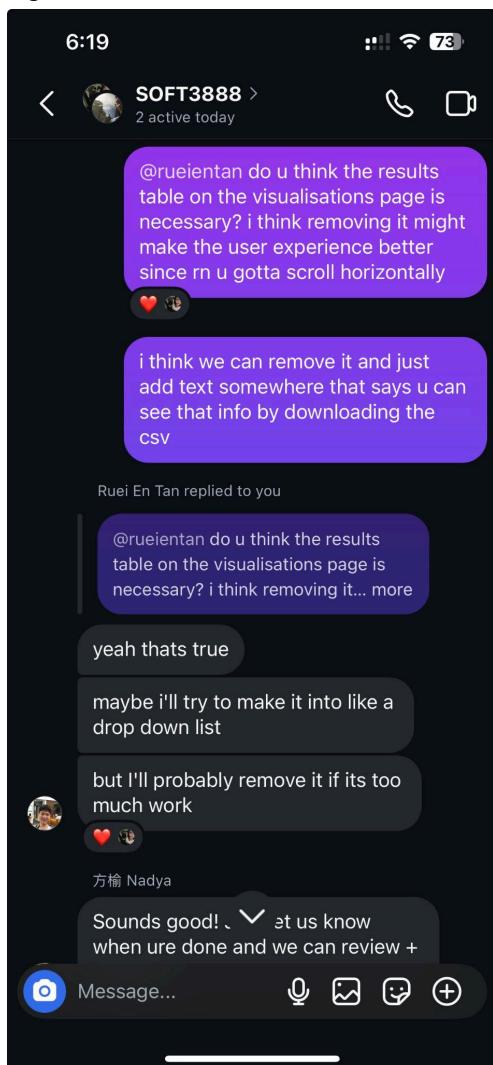


Figure 55 screenshot of our instagram communication in the 2nd half of the semester

- For task allocation, we relied on our Jira backlog, as detailed in previous sections

## 6.6 Work with clients

- Our primary communication with the client occurred during our weekly meetings on Fridays
- These meetings allowed us to discuss project progress, clarify requirement and address any questions or concerns that arose
- If any group members had specific questions, they were encouraged to speak up during these meetings to directly ask the client for guidance or clarification

[Evidence: Client meeting minutes for each week]

- The project scope was initially defined in our first meeting, where the client outlined their expectations and gave us a high level overview of what he wanted us to develop

- The project scope was then further clarified in future meetings as we made progress  
 [Evidence: minutes/week2/20240809-Client.md meeting minutes, item 7,  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week2/20240809-Client.md>]
- To organise our meeting schedule, we coordinated with the client via email, ensuring that both parties agreed on the timing for each session

 Leon Lee   
 To: jianlong.zhou@uts.edu.au <Jianlong.Zhou@uts.edu.au>  
 Cc: Islam Alzoubi; Rui Wang; Nadya Png; Changxu Liu; +2 others  
 Wed 8/7/2024 5:58 PM

Dear Jianlong,

I hope this email finds you well.

I am writing to schedule a meeting with you this week to discuss the "A web platform for customized survey data collection" project. This meeting will help us outline the project scope and key milestones, ensuring we are aligned on the objectives and timelines.

**Key Things to discuss:**

1. Front-End Design
2. Back-End Development
3. Database Management
4. Security
5. Version Control
6. Survey Generation Requirements

We would greatly appreciate it if you could suggest a convenient time for the meeting this week. I am flexible and can adjust to your schedule.

Looking forward to your response.

Best regards,

Leon

The University of Sydney Dev Team (SOFT3888\_TU12\_04 (H04.154) )

 Jianlong Zhou<jianlong.Zhou@uts.edu.au>   
 To: Leon Lee  
 Cc: Islam Alzoubi; Rui Wang; Nadya Png; Changxu Liu; +2 others

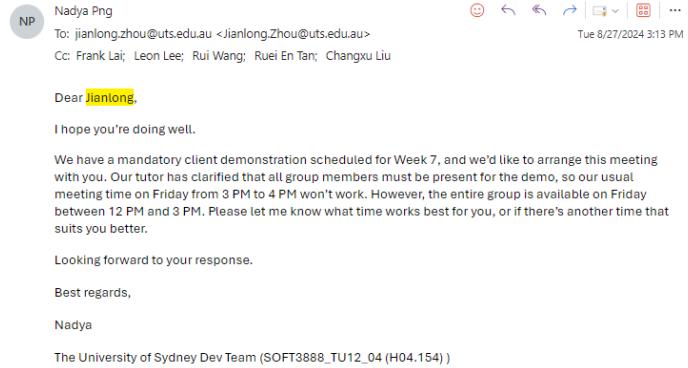
Dear all,

Thank you very much for you choosing this topic! Let's meet on Friday 3pm-4pm. Hope this time is fine with you.

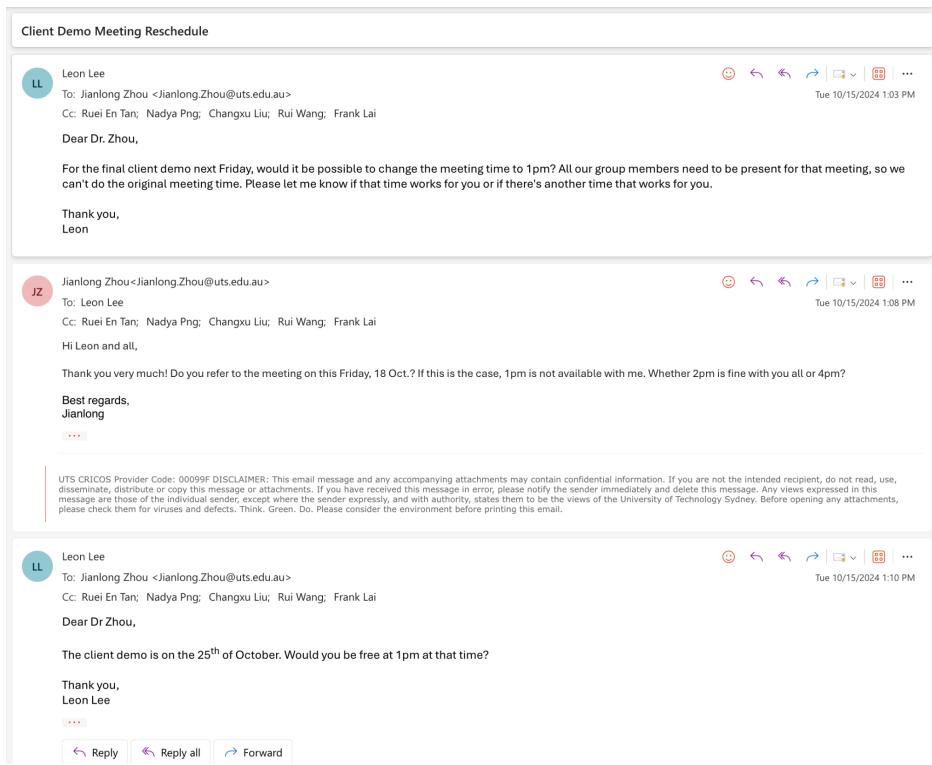
Best regards,

Jianlong

*Figure 56: screenshot of the emails we use to confirm meeting times with the client*



*Figure 57: screenshot of the emails we use to confirm meeting times with the client*

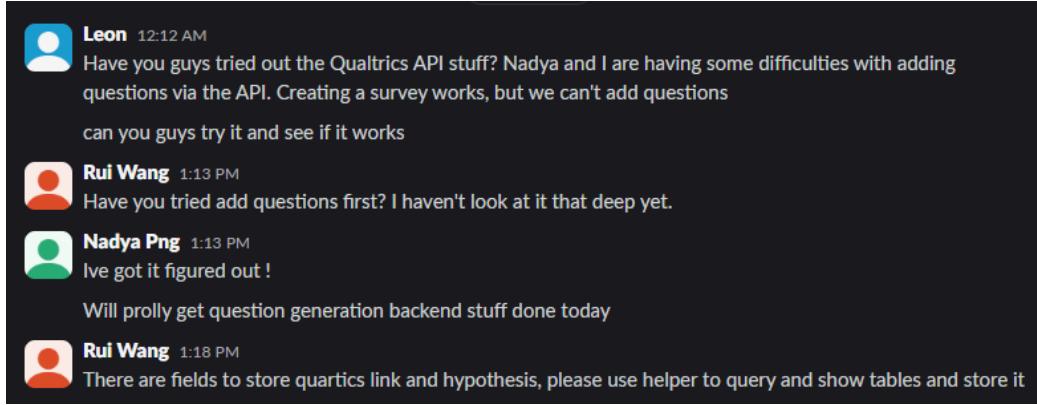


*Figure 58 screenshot of the emails we use to confirm meeting times with the client*

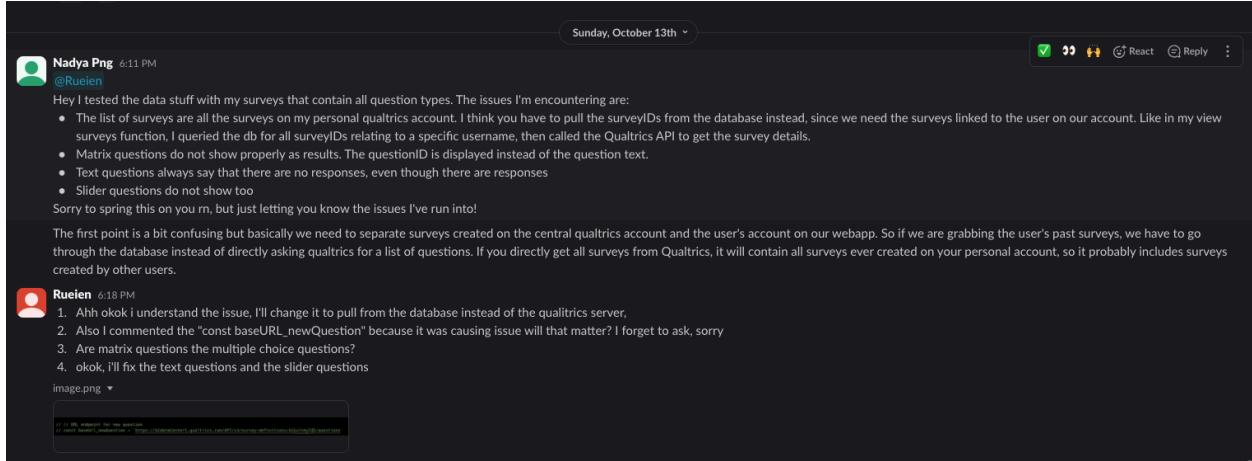
## 6.7 Work within group

- Communication within our group was consistently friendly, respectful and efficient

- We fostered an environment of collaboration, where nobody was afraid to ask questions, which contributed to the smooth progression of our project



*Figure 59 : screenshot of group members discussing a problem from the first half of the semester*



*Figure 60 : screenshot of the group members discussing a problem in the 2nd half of the semester*

- There were also no conflicts among group members

## 6.8 Critique

### What worked well

- Effective communication: the use of Slack and Instagram allowed for efficient and clear communication within the group
- Task management with Jira: Jira was used effectively to break down user stories into smaller tasks and then allocating them to group members
- The group's collaboration on non-technical tasks was also great
- After the first report, we made huge improvements to our Jira workflow, making the entire development process much better organised
- After the first report, we made huge improvements to the XP roles. Everybody engaged very well with their XP roles

## **What needs to improve**

- Use Slack slightly more. While Instagram is useful for casual communication, using Slack more frequently would allow for more structured discussions
  - Slack's channels and threads would make it more suitable for tracking conversation history

# **7 Reflections and Conclusions**

## **7.1 Challenges/risk analysis**

### **1. Integration with existing survey platforms:**

Risk: The project needs to integrate seamlessly with widely used survey platforms such as Qualtrics. There may be compatibility issues, or the APIs for these platforms may change during development, causing delays.

Mitigation strategy: Prioritise integration efforts during development to ensure access to the latest API documentation and support.

### **2. Quality and relevance of generated questions:**

Risk: Ensuring that the survey questions generated are both high quality and relevant to the papers provided can be challenging. Insufficient or poorly tuned NLP models can lead to poor question generation, which can undermine project goals.

Mitigation Strategy: Rigorously test a variety of papers to fine-tune the NLP model. Incorporate feedback loops to iteratively review and validate the generated questions to ensure their relevance and quality.

### **3. Time management risk:**

Risk: The project involved simultaneous development of multiple components (front-end, back-end, AI model integration). Time management skills among team members are challenged.

Mitigation strategy: Establish clear communication channels and regular check-ins to ensure consistency among all team members. Use project management tools (e.g. slack and jira) to closely track progress.

## **7.2 Limitations in terms of functionality, structure, design, implementation...**

- **Functionality:** The current version of the web app focuses primarily on core features like user management and question generation, potentially leaving out additional features that could enhance user experience, such as advanced analytics or more customizable survey options.

- **Structure:** The reliance on external APIs introduces limitations in terms of scalability and performance, as the speed and availability of these services cannot be fully controlled.
- **Design:** While the design is functional, there may be limitations in terms of user experience, particularly if users require features that were deprioritised during this development phase. This will be mitigated in the next phase when we improve user experience through changing the UI according to the planned mockup shown above.
- **Implementation:** The rapid pace of development may have led to some technical debt, particularly in areas where code was written quickly to meet deadlines without thorough refactoring or optimisation. This will be mitigated later on through thorough testing and refactoring.

## 7.3 Primary strengths

- **Modular Design:** The use of the MVC pattern has resulted in a modular and maintainable codebase, making it easier to extend and modify the application in the future.
- **Effective Prioritisation:** By focusing on the most critical features for the initial deployment, the team was able to deliver a functional product on time, meeting the client's immediate needs. This was done through clear communication with the client, and effective tracking and planning of weekly sprints.
- **Strong Collaboration:** The team worked well together, particularly in coordinating between frontend and backend development, ensuring that integration points were well-defined and functional.
- **Code Review:** The use of pull requests on BitBucket ensures that all code pushed to main is reviewed by at least one member. This keeps the main development line clean, and maintains a working program on the main branch.

## 7.4 Programming practises

### 7.4.1 Reflections on extreme programming

- **Continuous Feedback:** XP practices, such as continuous integration and regular client feedback, were instrumental in ensuring that the project stayed on track and met client expectations.
- **Clear Roles and Responsibilities:** As each member has an assigned XP role every week, everyone is clear on their tasks for the week, whether it's coding, testing, or communication with the client. It is also easier to hold members accountable for their specific tasks, reducing the likelihood of miscommunication and missed deadlines.
- **Efficient Problem-Solving:** Potential risks and challenges are identified early in the process by the doomsayer, which allows us to address issues before they escalate. The tracker also helps ensure that any problems related to deadlines or scope creep are pointed-out to the team and solved effectively.

- **Pair Programming:** Although time constraints limited the use of pair programming, it was utilised in key areas to ensure critical features were implemented correctly and to share knowledge among team members.
- **Test-Driven Development (TDD):** While TDD was an ideal practice, its application was limited due to time constraints. However, we plan to revisit and enhance test coverage after the first client deployment.

#### 7.4.2 Ways of applying version control, issue tracking, coding styles

##### **Version Control:**

- **Branching Strategy:** The team used Git for version control, with a clear branching strategy that included feature branches, and a main branch for stable releases.
  - In addition, we also named branches accordingly (i.e features were developed in /features, and issues or bug fixes in /issues).
- **Pull Requests:** Pull requests are created for every branch merge into the main branch, ensuring that all code changes are reviewed by team members before being integrated. Members can also request modifications to the pull request if needed.
- **Commit Practices:** Regular and descriptive commits were made to ensure that changes were well-documented, facilitating easier code reviews and issue tracking.

##### **Issue Tracking:**

- **Tools:** Jira's issue tracker was used to manage tasks and monitor progress. Issues were well-documented with clear descriptions, allowing for efficient tracking of development progress. These issues were also used to plan weekly sprint tasks effectively.
- **Prioritisation:** Issues were prioritised based on their impact on the core functionality, ensuring that the most critical tasks were addressed first. This is done based on the client's requirements and the development velocity of the team.

##### **Coding Styles:**

- **Consistency:** The team adhered to a consistent coding style, with agreed-upon conventions for naming, formatting, and commenting. This improved readability and made it easier for team members to understand each other's code.
  - All features are modularised on the frontend and backend, following the conventions set up at the beginning of development, ensuring consistency.
- **Code Reviews:** Regular code reviews helped catch potential issues early and maintain high code quality.
- **Documentation:** Comments are added throughout the code to increase readability and maintainability. Documentation are also kept for various complex components of the system, such as starting up and accessing the database.

### 7.4.3 Group aspects as well as product and processes

#### Group Aspects

- **Collaboration:** Effective communication channels (Slack, Instagram) ensured everyone was aligned with the project goals and deadlines. We held two meetings each week and had regular check-ins to track progress. Any identified problems encountered are also shared via one of the communication channels or during a meeting to address them effectively and in a timely manner.
- **Learning and Adaptation:** Team members were receptive to learning new tools and techniques, and adapted to changes in project scope or requirements. Given the team's limited experience with full stack development and the selected tech stack, we conducted research and shared learning resources to support each other in the learning process.

#### Product and Processes

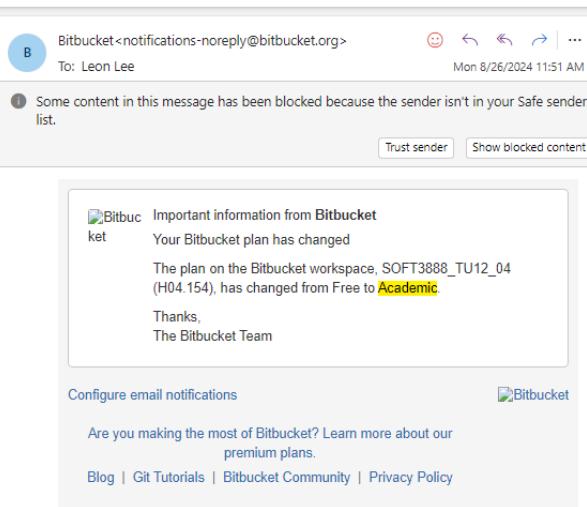
- **Agile Methodology:** The team employed an Agile approach, with iterative development cycles that allowed for continuous improvement and adaptation to client feedback. Regular meetings with the client ensured that everyone remained on the same page and that our development was in line with the client's expectations.
- **Process Improvement:** The team regularly reflected on their processes, identifying areas for improvement, such as better time management or more efficient use of testing tools, and implemented changes to enhance productivity and product quality.

### 7.5 Conclusion

In conclusion, our group processes are quite excellent given our github branching strategies, use of jira, coding style, and focus on Agile methodology. This enables us to consistently develop features quickly with high quality, in addition, with all of us having knowledge of Agile methodology we are able to make quick changes and additions according to the clients requirements. This is further enhanced by our file structure being organised to be both modular and easily understandable. However we are naturally limited by time, and the amount of time needed to learn web development, as none of the group members have experience with web development. Fortunately this was offset by our excellent communication, and our receptiveness to learning and adapting to new challenges. In conclusion, this project has shown the resilience of this team's group processes.

# 8 Individual Contributions, Work Split

Leon Lee

Contribution	Evidence
Set up the Bitbucket	 <ul style="list-style-type: none"><li>- Screenshot of the email showing my academic plan request being approved</li></ul>
Set up initial Bitbucket scaffolds	<u><a href="#">Commit Link</a></u> <ul style="list-style-type: none"><li>- Link to the commit where I setup the initial repository</li></ul>
Wrote 20240806-Tutor, 20240811-Group meeting minutes	Check the “prepared by” section in the respective meeting minutes <ul style="list-style-type: none"><li>- <a href="#">20240806-Tutor.md link</a></li><li>- <a href="#">20240811-Group.md link</a></li></ul>
Week 2 Doomsayer contributions: pointed out potential integration issues if we split into 3 groups (frontend, backend and AI)	Week 2 section in the Individual Contributions document in the Wiki <ul style="list-style-type: none"><li>- <a href="#">Individual contributions Bitbucket link</a></li><li>- <a href="#">Link</a> to the commit that shows me adding that contribution on 13/08/24</li></ul>
Wrote 20240813-Tutor, 20240813-Tutorial and 20240816-Client meeting minutes	Check the “prepared by” section in the respective meeting minutes <ul style="list-style-type: none"><li>- <a href="#">20240813-Tutor.md link</a></li><li>- <a href="#">20240813-Tutorial.md link</a></li><li>- <a href="#">20240816-Client.md link</a></li></ul>

Started learning the required languages and frameworks (React, Node, Express) through an online course

The screenshot shows a GitHub commit history for a repository named 'main'. The commits are organized into several groups:

- Commits on Aug 17, 2024:**
  - finished part 2 compulsory exercises** (commit `be39b92`)
  - finished exercises 2.6-2.10** (commit `554f88a`)
- Commits on Aug 16, 2024:**
  - part 0 stuff** (commit `c26476d`)
  - finished anecdotes exercise** (commit `11d8c11`)
- Commits on Aug 14, 2024:**
  - removed DS\_Store** (commit `93733eb`)
  - adding gitignore** (commit `26cf884`)
  - exercise 1** (commit `0e7151d`)
  - adding exercises** (commit `4cce655`)
- Commits on Jun 9, 2024:**
  - Create .gitignore** (commit `2962956`)

- Screenshot of the commit history in the personal Github repository I used to complete the online course exercises
- [Link](#) to my personal Github repository for the exercises (the repo is public)

Week 3 Tracker contributions: made sure everyone knew the stuff we had to hand in during week 3, and created/updated the Jira backlog

The screenshot shows an email from Atlassian to Leon Lee. The message body includes:

- A profile picture of Leon Lee.
- The recipient's name: Leon Lee.
- The date: Tue 8/13/2024 12:19 PM.
- A note: "Some content in this message has been blocked because the sender isn't in your Safe senders list." with buttons for "Trust sender" and "Show blocked content".

Nadya Png has joined [Jira](#)

Hi Leon Lee,

Nadya Png (npng6746@uni.sydney.edu.au) has just joined [Jira](#) (<https://soft3888-tu12-04.atlassian.net>) in soft3888-tu12-04.

[View Nadya Png's profile](#)

If something doesn't look right, [review your user access settings](#).

Cheers,  
The Atlassians

- Screenshot showing that other group members are joining the Jira that I set up

Wrote 20240821-Tutor, 20240821-Tutorial and 20240823-Client meeting minutes

Check the “prepared by” section in the respective meeting minutes

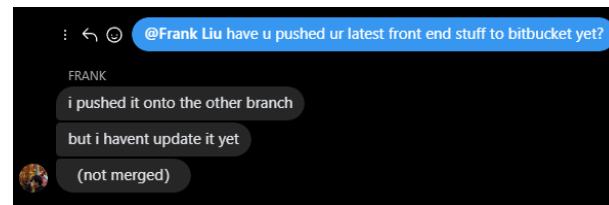
- [20240821-Tutor.md link](#)
- [20240821-Tutorial.md link](#)
- [20240823-Client.md link](#)

Tested the Gemini LLM API to ensure that it'll work for question generation

Your API keys are listed below. You can also view and manage your project and API keys in Google Cloud.				
Project number	Project ID	API key	Created	Plan
...7807	Generative Language Client	...2T0g	Aug 21, 2024	Paid Go to billing View usage data

- Screenshot of my Google AI Studio setup. The code was tested locally, so I can't link it. Shows that it was created on the 21st of August

Week 4 Tracker contributions: reminding people to make sure wiki documents are submitted on time



- Screenshot of me reminding a group member to push his wiki documents

Wrote 20240830-Client meeting minutes

Check the “prepared by” section in the respective meeting minutes

- [20240830-Client.md link](#)

Tuned the Gemini LLM so that we don't need to specify the format of the questions every time

```

{
  "QuestionText": "How many hours of sleep do you typically get per night?",
  "DisplayOrder": "1", "Choices": [
    {
      "Text": "1", "Display": "Less than 6 hours", "Value": "1"
    },
    {
      "Text": "2", "Display": "6-7 hours", "Value": "2"
    },
    {
      "Text": "3", "Display": "7-8 hours", "Value": "3"
    },
    {
      "Text": "4", "Display": "8+ hours", "Value": "4"
    }
  ],
  "Validation": "Required"
}
  
```

- Screenshot of the Google AI Studio page that I used to tune the Gemini model, with an example input/output

Refactored the frontend code to be more modular, and changed the frontend development server to Vite

SOFT3888\_TU12\_04 (H04.154) /  
SOFT3888\_TU12\_04 / survey-app / Commits

## 35b7c15

 Leon Lee committed **35b7c15**  
4 days ago

[View source](#)  [Approve](#)  [Settings](#)

refactored frontend code to use Vite and made it more modular

0 comments

 [Add a comment](#)

30 files

FILTER BY COMMENTS  

SORT BY  File tree

- [Screenshot of the commit](#)
- [Link to commit](#)

Created input boxes for the research question and additional context and sends the input as a JSON to the backend

SOFT3888\_TU12\_04 (H04.154) /  
SOFT3888\_TU12\_04 / survey-app / Commits

## 39acf1a

 Leon Lee committed **39acf1a**   
yesterday

[View source](#)  [Approve](#)  [Settings](#)

Merged in leon/frontend ([pull request #4](#))

Added additional context field in the frontend

Approved-by: Nadya Png

0 comments

 [Add a comment](#)

- [Screenshot of the commit](#)
- [Link to commit](#)

<p>Created the functionality to display the generated questions and their answers/choices on the home page</p>	<p> SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Commits</p> <p><b>493abc8</b></p> <p> Leon Lee committed <b>493abc8</b> 1 hour ago</p> <p><a href="#">View source</a>  <a href="#">Approve</a>  <a href="#">Settings</a></p> <p>integrated the question generation with the question displaying</p> <p>0 comments</p> <p> LL <a href="#">Add a comment</a></p> <ul style="list-style-type: none"> <li>- Screenshot of the commit</li> <li>- <a href="#">Link to commit</a></li> </ul>
<p>Helped code review many pull requests</p>	<p> LL Leon Lee commented 2 hours ago</p> <p> LL Leon Lee 2 hours ago       <p>Thanks for quickly fixing the issue! I'll continue with the integration</p> <p><a href="#">Reply</a> · <a href="#">Edit</a> · <a href="#">Delete</a> · <a href="#">Like</a></p> <p> LL Leon Lee APPROVED the pull request 2 hours ago</p> <p> NP Nadya Png OPENED the pull request 2 hours ago</p> <ul style="list-style-type: none"> <li>- Screenshot of one of the pull requests I approved</li> <li>- Links to some pull requests I approved           <ul style="list-style-type: none"> <li>- <a href="#">1</a></li> <li>- <a href="#">2</a></li> <li>- <a href="#">3</a></li> </ul> </li> </ul> </p>
<p>Week 5 Manager contributions:</p> <ul style="list-style-type: none"> <li>- gave deadlines for the group report to ensure that team members are doing work</li> <li>- we ran into an issue where our Bitbucket</li> </ul>	<p> Leon 10:26 PM can everyone get started on the group report when you have time? We need to finish that on/before Sunday so that we have time to work on the presentation and demo video on Monday (edited)</p> <ul style="list-style-type: none"> <li>- Screenshot of Slack message where I gave the deadline</li> </ul>

workspace was deleted. I fixed the issue while ensuring that our tutor was aware of this issue

The screenshot shows three separate email messages from Leon Lee to Islam Alzoubi. Each message includes the recipient's name, a circular profile picture with initials 'LL', and a timestamp. The first message is dated 8/24/2024 at 1:57 PM, the second at 2:21 PM, and the third at 2:22 PM. The messages discuss a repository issue and a plan to create a new one.

**Email 1 (8/24/2024 1:57 PM)**

Leon Lee  
To: Islam Alzoubi  
Cc: Nadya Png; Frank Lai; Rui Wang; Ruei En Tan; +1 other

Dear Islam,  
One of the group members let us know that they couldn't see the Bitbucket repository, and I checked Bitbucket, and somehow the repository isn't showing up on the website, and we're unable to pull from it.

We still have the latest copy of the repo, as one of the group members was working on it and successfully pushed at around 10pm last night.

Is there anything we can do about this? If we make a new repo, there won't be any commit history for the past few weeks

Thank you,  
Leon Lee

**Email 2 (8/24/2024 2:21 PM)**

Leon Lee  
To: Leon Lee  
Sat 8/24/2024 2:21 PM

Hi Islam,  
We ended up making a new repository and set the origin to point to the new repo. The old commit history still shows, but it might take a day or two for the education plan to be approved before I can add everyone back to the new workspace/repo

**Email 3 (8/24/2024 2:22 PM)**

Leon Lee  
To: Islam Alzoubi  
Cc: Nadya Png; Frank Lai; Rui Wang; Ruei En Tan; +1 other  
Sat 8/24/2024 2:22 PM

Dear Islam,  
We ended up making a new repository and set the origin to point to the new repo. The old commit history still shows, but it might take a day or two for the education plan to be approved before I can add everyone back to the new workspace/repo

- Screenshot of the 3 emails I sent to the tutor while I was in the process of fixing the issue

## Group report contributions:

- Wrote the entire "Quality of Group Processes" section of the report

### Use of Bitbucket, Slack and other tools

[Leon Lee](#)

#### Bitbucket

- Bitbucket was used to facilitate collaboration during the development process
- For non-code related contributions, such as wiki documents, meeting minutes and weekly plans, we pushed the changes directly to main, as these updates were unlikely to cause merge conflicts

[Evidence]

- However, for any changes involving code, we made sure each member worked on their own branch and submitted a pull request once they completed their tasks
- This allowed other team members to review the code, ensuring that no issues were introduced into the main branch

[Evidence]

- For task allocation, we used a Jira backlog (already mentioned in the [Tooling Setup for Development, Management of Tasks and Allocation of Tasks](#) section)

#### Slack

- For communication, we used a combination of Slack and Instagram
- Slack was our primary platform for formal communication, particularly when addressing major issues or discussing important updates

[Evidence]

#### Other

- For more casual discussions, we sometimes used Instagram group chats
- This mix of communication tools allowed us to balance formality with ease of use

[Evidence]

- For task allocation, we relied on our Jira backlog, as detailed in previous sections

### Work with clients

[Leon Lee](#)

- Our primary communication with the client occurred during our weekly meetings on Fridays
- These meetings allowed us to discuss project progress, clarify requirements and address any questions or concerns that arose
- If any group members had specific questions, they were encouraged to speak up during these meetings to directly ask the client for guidance or clarification

[Evidence]

- The project scope was initially defined in our first meeting,

### Work within group

[Leon Lee](#)

- Communication within our group was consistently friendly, respectful and efficient
- We fostered an environment of collaboration, where nobody was afraid to ask questions, which contributed to the smooth progression of our project

[Evidence]

- There were also no conflicts among group members

### Critique

[What went well](#)

- Communication between team members was good; people responded to messages quickly.
- Effective communication: the use of Slack and Instagram allowed for efficient and clear communication within the group
- Task management with Jira: Jira was used effectively to break down user stories into smaller tasks and then allocating them to group members
- The group's collaboration on non-technical tasks was also great

[What needs to improve](#)

- Update Jira more often, so that we can more accurately track project velocity
- Use Slack slightly more, as it is more structured than Instagram

- Screenshots of the Group Report version history, showing that I worked on that section

- Created the feature where you need to be logged in in order to access the actual functionality of the website
- Created logout button and implemented logout functionality

 SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests

Leon/login

 LL → main MERGED

#12 • Created 7 minutes ago • Last updated 42 seconds ago

[Overview](#) [Files changed](#) 10 [Commits](#) 3

 Merged pull request

Merged in [leon/login](#) (pull request #12)

aa27d00 · Author: Leon Lee · Closed by: Leon Lee · 28 seconds ago

▼ Description

- trying to fix login
- added functionality so that you can only access the features when logged in, and also added a log out button

### [Link to commit/pull request](#)

#### Week 6 Customer Liason

- Replied to the client email about the first demo, giving them the requested information very quickly

 JZ To: Leon Lee

Cc: Islam Alzoubi; Rui Wang; Nadya Png; Changxu Liu; Ruei En Tan; Frank Lai

Dear all,

Would you please send me the following information so that I can return assessment to the coordinator? Thanks!

Project ID	
Group Tag	
Absent Student	

Best regards,  
**Jianlong**

 LL

Leon Lee

To: Jianlong Zhou <[Jianlong.Zhou@uts.edu.au](mailto:Jianlong.Zhou@uts.edu.au)>

Cc: Islam Alzoubi; Rui Wang; Nadya Png; Changxu Liu; Ruei En Tan; Frank Lai

Dear **Jianlong**,

Here's the requested information, I don't think we have any absent members

Project ID: P55 – A web platform for customized survey data collection

Group Tag: soft3888\_tu12\_04 (H04.154)

Thank you,  
Leon Lee  
...

 JZ

**Jianlong** Zhou-<[Jianlong.Zhou@uts.edu.au](mailto:Jianlong.Zhou@uts.edu.au)>

To: Leon Lee

Cc: Islam Alzoubi; Rui Wang; Nadya Png; Changxu Liu; Ruei En Tan; Frank Lai

Hi Leon,

Thank you for the quick response! Well received.

Best regards,  
**Jianlong**  
...

Code reviewed Nadya's pull request, approving it and merging

 SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests

Nadya/llm

 nadya/llm → main MERGED  
#15 · Created 2024-09-04 · Last updated 2024-09-04

[Overview](#) Files changed 5 Commits 3

#### Merged pull request

Merged in nadya/llm (pull request #15)

7c4dd75 · Author: Nadya Png · Closed by: Leon Lee · 2024-09-04

#### Description

- added comments to QualtricsController.js
- More comments for backend code

#### 0 attachments

There aren't any attachments. [Browse to upload](#)

Activity

All activity



What do you want to say?

WEDNESDAY 4 SEPTEMBER 2024



LL Leon Lee MERGED the pull request 2024-09-04



LL Leon Lee commented 2024-09-04

LL Leon Lee 2024-09-04

Thanks for adding more documentation!

[Reply](#) · [Edit](#) · [Delete](#) · [Like](#)

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/15>

## Week 7 Tracker

- Cleared the old Jira board and added new tasks for the next phase of the development process

#	Status	Assignee	Due date	Labels	Created	Updated	Reporter
Change question generation to generate one que...	IN PROGRESS	LL Leon Lee		question-generation	Sep 10, 2024	Sep 10, 2024	NP Nadya Png
Add/edit/delete generated questions	IN PROGRESS	LL Leon Lee		question-generation	Sep 10, 2024	Sep 10, 2024	NP Nadya Png
Allow users to create their own question of any ty...	IN PROGRESS	LL Leon Lee		question-generation	Sep 10, 2024	Sep 10, 2024	NP Nadya Png
Allow surveys for editing later (allow user to enter a...	TO DO			question-generation	Sep 10, 2024	Sep 10, 2024	NP Nadya Png
Publish survey (get Qualtrics link)	TO DO			survey	Sep 10, 2024	Sep 10, 2024	NP Nadya Png
Allow users to edit published surveys	TO DO	AL Allen Liu		survey	Sep 10, 2024	Sep 10, 2024	NP Nadya Png
Review previous surveys	TO DO			survey	Sep 10, 2024	Sep 10, 2024	NP Nadya Png
Display analysis and showing results with graph...	TO DO	RT Rui En Tan		analysis	Sep 10, 2024	Sep 10, 2024	NP Nadya Png
Allow user to view the analytics of each survey (e...	TO DO	RT Rui En Tan		analysis	Sep 10, 2024	Sep 10, 2024	LL Leon Lee
Allow user to view some basic analysis of survey r...	TO DO	RT Rui En Tan		analysis	Sep 10, 2024	Sep 10, 2024	LL Leon Lee
Allow user to download results csv	TO DO	RT Rui En Tan		analysis	Sep 10, 2024	Sep 10, 2024	NP Nadya Png
Allow user to answer for slider and descriptive text questions	TO DO	AL Allen Liu			Sep 10, 2024	Sep 10, 2024	NP Nadya Png
Allow user to edit account information	TO DO	RW Rui Wang			Sep 10, 2024	Sep 10, 2024	NP Nadya Png
Refine UI design	TO DO	FL Frank Lal			Sep 10, 2024	Sep 10, 2024	LL Leon Lee
Adding icon for question generation	IN PROGRESS	FL Frank Lal			Sep 10, 2024	Sep 10, 2024	LL Leon Lee

Did the demo, planned to be implemented and testing methods slides of the presentation



Leon

### What is Planned to be Implemented

- Generate one question at a time
- Modification of questions
- Manually adding/deleting questions
- Generate survey on Qualtrics
- Export survey results
- Basic visualisation and analysis of results

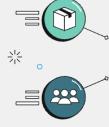


Leon

Leon

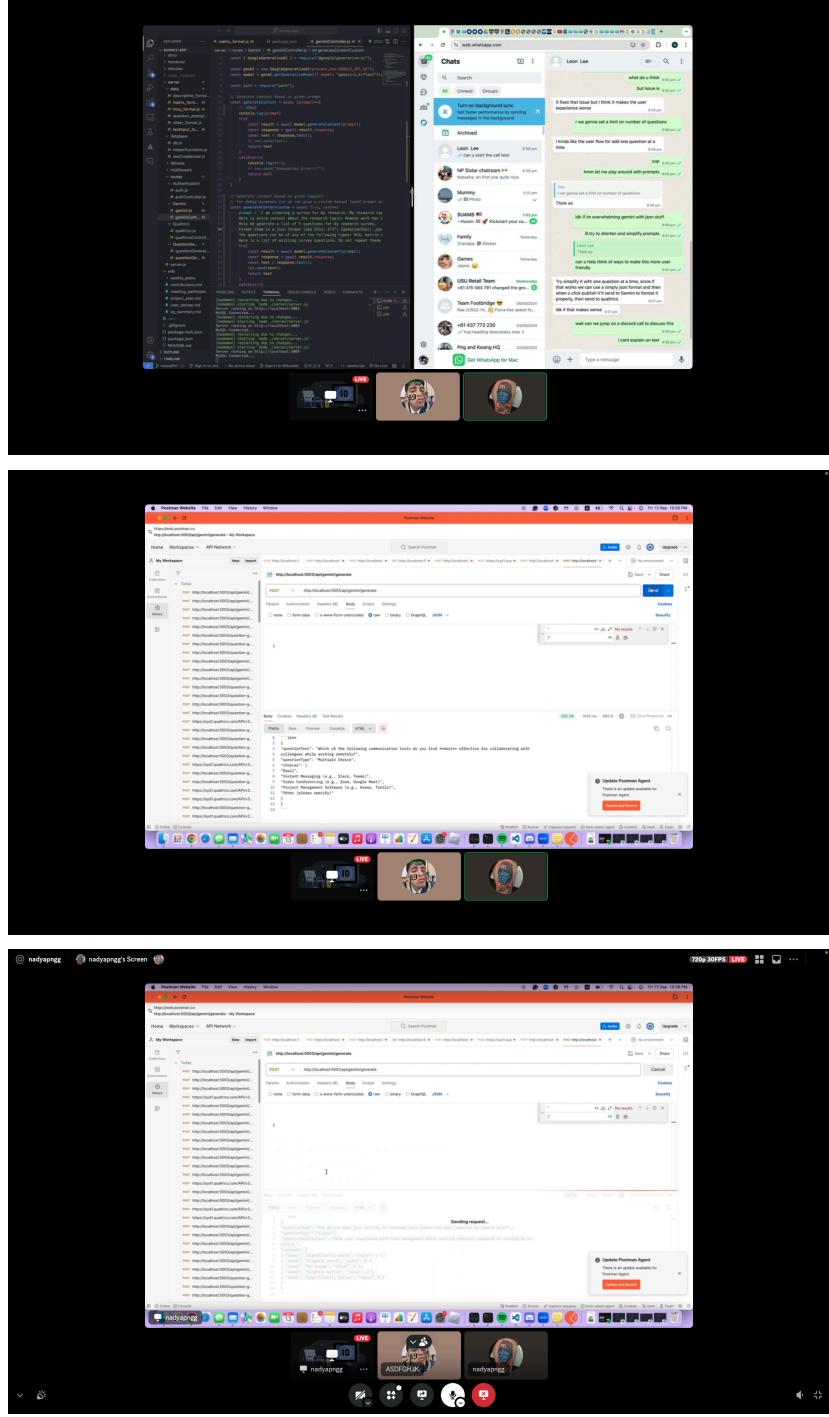
### Testing Methods So Far

- **Pull requests**
  - Code review: each PR is reviewed by at least one other member before merging into main to maintain a clean codebase
  - Manual testing
- **Testing backend server with Postman**
  - Testing with different requests and inspecting the response
- **Frontend testing by manual inspection when running**
  - Check console logs for errors
  - Check payloads



Leon

Did pair programming with Nadya to fix the issue with the Gemini LLM generating low quality questions



<ul style="list-style-type: none"> <li>- Updated the question generation process to generate one question at a time</li> </ul>	<p> SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Pull requests</p> <p><b>Leon/frontend</b></p> <p> leon/frontend → main MERGED #22 · Created 2024-09-13 · Last updated 2024-09-13</p> <p><a href="#">Overview</a> <a href="#">Files changed 7</a> <a href="#">Commits 5</a></p> <div style="background-color: #e0f2e0; padding: 10px; margin-top: 10px;"> <p> <b>Merged pull request</b> Merged in leon/frontend (pull request #22) <b>ba9af65</b> · Author: Leon Lee · Closed by: Nadya Png · 2024-09-13</p> </div> <p><b>Description</b></p> <ul style="list-style-type: none"> <li>• Removing old placeholder questions</li> <li>• started changing to generate one question at a time. Currently you can only create 1 question</li> <li>• adding questions one at a time works for mcq, matrix andtext. Also added the existing questions field, and it seems to work</li> <li>• disabled pressing generate again while it's loading, did some refactoring of home.jsx to make it more modular</li> </ul> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/22">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/22</a></p>
<ul style="list-style-type: none"> <li>- Implemented functionality to allow the user to edit all the question types</li> </ul>	<p> SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Pull requests</p> <p><b>Implemented edit functionality for mcq</b></p> <p> leon/frontend → main MERGED #25 · Created 2024-09-14 · Last updated 2024-09-14</p> <p><a href="#">Overview</a> <a href="#">Files changed 4</a> <a href="#">Commits 3</a></p> <div style="background-color: #e0f2e0; padding: 10px; margin-top: 10px;"> <p> <b>Merged pull request</b> Merged in leon/frontend (pull request #25) <b>16acd3c</b> · Author: Leon Lee · Closed by: Leon Lee · 2024-09-14</p> </div> <p><b>Description</b></p> <p>UI for it look really bad rn, but I think the functionality works fine</p> <p><b>0 attachments</b></p> <p>There aren't any attachments. <a href="#">Browse to upload</a></p>

	<p> SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Pull requests</p> <h2>Leon/frontend</h2> <p> leon/frontend → main MERGED #28 · Created 2024-09-15 · Last updated 2024-09-15</p> <p><a href="#">Overview</a> <a href="#">Files changed</a> 7 <a href="#">Commits</a> 7</p> <div style="background-color: #e0f2e0; padding: 10px;"> <p> <b>Merged pull request</b> Merged in leon/frontend (pull request #28) <a href="#">b2a3633</a> · Author: Leon Lee · Closed by: Leon Lee · 2024-09-15</p> </div> <p>▼ Description</p> <ul style="list-style-type: none"> <li>• implemented edit for text entry question type. Todo: edit for slider, matrix and descriptive</li> <li>• finished edit descriptive</li> <li>• added slider editing</li> <li>• minor change: displaying min and max values without needing to be in edit mode for slider</li> <li>• finished editing matrix questions</li> </ul> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/25">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/25</a>  <a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/28">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/28</a></p>
- Implemented the delete functionality for all question types	<a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/29">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/29</a>

Code reviewed and merged Nadya's pull request for backend changes to the generate question endpoints, and PR for fixing the JSON formatting of all questions, and PR for backend changes made to improve question quality

SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests

Nadya/llm

NP nadya/llm → main MERGED  
#21 · Created 2024-09-12 · Last updated 2024-09-12

Overview Files changed 2 Commits 3

Merged pull request

Merged in nadya/llm (pull request #21)

a651d61 · Author: Nadya Png · Closed by: Leon Lee · 2024-09-12

Description

- changes to question generation to generate one by one. generateMCQ function and endpoint made.
- function for generating all types of questions and endpoints made

0 attachments

There aren't any attachments. [Browse to upload](#)

Activity

All activity ▾



What do you want to say?

THURSDAY 12 SEPTEMBER 2024



LL Leon Lee MERGED the pull request 2024-09-12



LL Leon Lee APPROVED the pull request 2024-09-12



NP Nadya Png OPENED the pull request 2024-09-12

[SOFT3888\\_TU12\\_04 \(H04.154\) / SOFT3888\\_TU12\\_04 / survey-app / Pull requests](#)

## Nadya/IIm

 nadya/IIm → main MERGED  
#24 · Created 2024-09-14 · Last updated 2024-09-14

[Overview](#) Files changed 10 Commits 3

 **Merged pull request**  
Merged in nadya/IIm (pull request #24)  
[89ca921](#) · Author: Nadya Png · Closed by: Leon Lee · 2024-09-14

▼ Description

- Fixed JSON formats for all question types (works with Qualtrics now)
- New function and endpoint added for passing in custom input into Gemini (for debugging purposes)

▼ 0 attachments

There aren't any attachments. [Browse to upload](#)

Activity All activity ▾

LL What do you want to say?

SATURDAY 14 SEPTEMBER 2024

Leon Lee MERGED the pull request 2024-09-14

Leon Lee commented 2024-09-14

Leon Lee 2024-09-14  
Look great! I'll get the slider and descriptive question type displaying working asap, then work on editing

[SOFT3888\\_TU12\\_04 \(H04.154\) / SOFT3888\\_TU12\\_04 / survey-app / Pull requests](#)

### Changes to backend question generation processes to improve question quality and prevent question repetition

 nadya/IIm → main MERGED  
#26 · Created 2024-09-14 · Last updated 2024-09-15

[Overview](#) Files changed 8 Commits 4

 **Merged pull request**  
Merged in nadya/IIm (pull request #26)  
[de6de8d](#) · Author: Nadya Png · Closed by: Leon Lee · 2024-09-15

▼ Description

- Split question generation to 2 separate tasks (generating simplified question and formatting question into Qualtrics format)
  - Added new simplified formats for all question types with only necessary fields
  - Added more helper functions to perform question generation
- Removed unused functions and endpoints

▼ 0 attachments

There aren't any attachments. [Browse to upload](#)

Activity All activity ▾

LL What do you want to say?

SUNDAY 15 SEPTEMBER 2024

Leon Lee MERGED the pull request 2024-09-15

Leon Lee commented 2024-09-15  
Look good! I'll merge and continue working on the edit functionality  
Reply · Edit · Delete · Like

▼ 0 builds



It looks like you haven't configured a build tool yet. You can use Bitbucket Pipelines to build, test and deploy your code.  
Your existing plan already includes build minutes.

[Set up a pipeline](#)

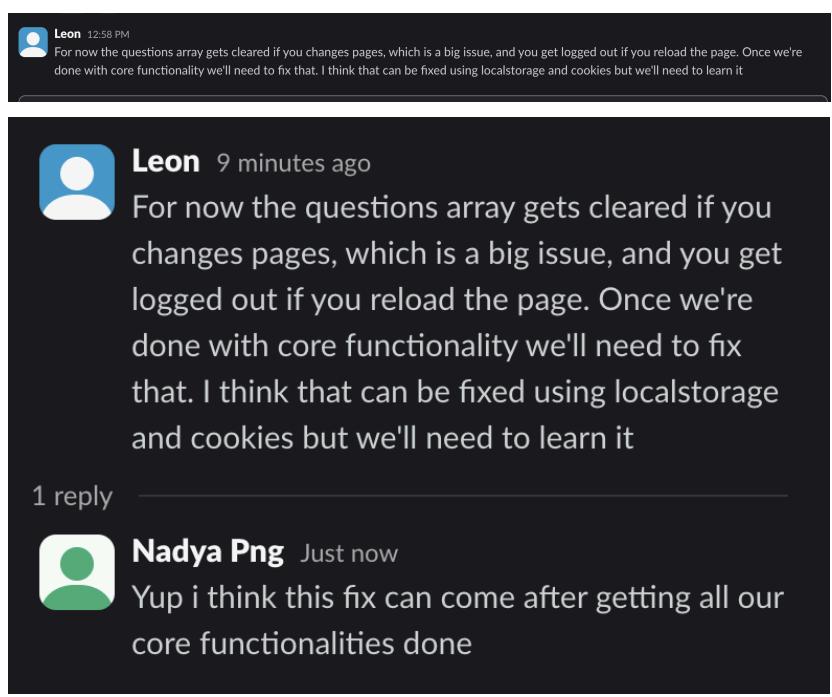
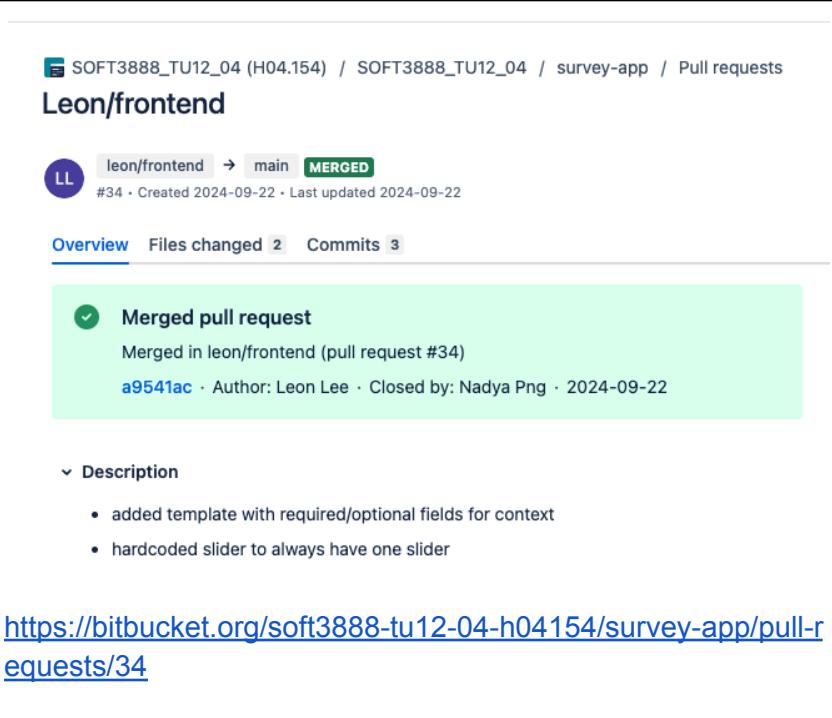
▼ 0 checks



It looks like you don't have merge checks set up in your target branch yet.  
Recommend or require that pull requests meet certain condition before merging by using what's provided or creating your own, for example, a specific number of approvals or passing builds.

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/21>

	<p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/24">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/24</a></p> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/26">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/26</a></p>
<ul style="list-style-type: none"> <li>- Wrote 20240917-Tutor and 20240917-Tutorial meeting minutes</li> </ul>	<p>Here's where you'll find this repository's source files. To give your users an idea of what they'll find here, <a href="#">add a description to your repository</a>.</p> <p>Source <b>main</b> b07f064 Full commit</p> <p>survey-app / minutes / week8 / 20240917-Tutorial.md Edit ...</p> <h2>Meeting Minutes</h2> <p><b>Subject:</b> Week 8 Tutorial Meeting</p> <p><b>Project Name:</b> A web platform for customized survey data collection</p> <p><b>Facilitator:</b></p> <p><b>Prepared by:</b> Leon Lee</p> <p><b>Date:</b> Tuesday 17 September 2024</p> <p>Here's where you'll find this repository's source files. To give your users an idea of what they'll find here, <a href="#">add a description to your repository</a>.</p> <p>Source <b>main</b> b07f064 Full commit</p> <p>survey-app / minutes / week8 / 20240917-Tutor.md Edit ...</p> <h2>Meeting Minutes</h2> <p><b>Subject:</b> Week 8 Tutor Meeting</p> <p><b>Project Name:</b> A web platform for customized survey data collection</p> <p><b>Facilitator:</b></p> <p><b>Prepared by:</b> Leon Lee</p> <p><b>Date:</b> Tuesday 17 September 2024</p> <p><b>Time:</b> 12:00 PM</p> <p><b>Location:</b> Mereweather Learning Studio 154</p>

	<p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week8/20240917-Tutorial.md">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week8/20240917-Tutorial.md</a></p> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week8/20240917-Tutor.md">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week8/20240917-Tutor.md</a></p>
<p><b>Week 8 Doomsayer</b></p> <ul style="list-style-type: none"> <li>- Pointed out issues with the schema having userID and username, which is redundant as username needs to be unique anyways, so we can just make that the primary key</li> <li>- Pointed out issues with losing the generated questions after changing pages</li> </ul>	 <p>Leon 12:58 PM For now the questions array gets cleared if you changes pages, which is a big issue, and you get logged out if you reload the page. Once we're done with core functionality we'll need to fix that. I think that can be fixed using localstorage and cookies but we'll need to learn it</p> <p><b>Leon</b> 9 minutes ago For now the questions array gets cleared if you changes pages, which is a big issue, and you get logged out if you reload the page. Once we're done with core functionality we'll need to fix that. I think that can be fixed using localstorage and cookies but we'll need to learn it</p> <p>1 reply</p> <p><b>Nadya Png</b> Just now Yup i think this fix can come after getting all our core functionalities done</p>
<p>Added required/optional additional context fields on the home page, for question generation</p> <p>Hardcoded the slider to always have one slider</p>	 <p>SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Pull requests</p> <p><b>Leon/frontend</b></p> <p>leon/frontend → main MERGED #34 · Created 2024-09-22 · Last updated 2024-09-22</p> <p><b>Overview</b> Files changed 2 Commits 3</p> <p><b>Merged pull request</b> Merged in leon/frontend (pull request #34) <a href="#">a9541ac</a> · Author: Leon Lee · Closed by: Nadya Png · 2024-09-22</p> <p><b>Description</b></p> <ul style="list-style-type: none"> <li>• added template with required/optional fields for context</li> <li>• hardcoded slider to always have one slider</li> </ul> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/34">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/34</a></p>

Worked on the Project Goals & Stakeholders and Key Issues & Risks slides for the week 9 progress presentation

## Project Goals & Stakeholders

### Project Goals

#### P55 A web platform for customized survey data collection

Developing a web platform that automatically generates a survey with questions based on a given hypothesis entered by a user

- Participants can fill out the survey
- The platform will provide basic analysis of the survey results

### Project Scope

- Use an LLM API to generate the questions
- Display and publish survey questions to a link for participants to fill out
- Generate analysis of data gathered

### Stakeholder

**UTS Research Institute Development Team Survey Participants Researchers**

## Key Issues & Risks

- Questions not saved when changing pages
- API key issue
- Sending password as plaintext to the backend
- Testing coverage not yet adequate

Today	
↳ 22 September, 20:37	
Current version	
Leon I Lee	●
Nadya Ing	●
Tan Hui En	●
All anonymous users	●
22 September, 20:35	
All anonymous users	●
Nadya Ing	●
All anonymous users	●
22 September, 20:33	
All anonymous users	●
Nadya Ing	●
All anonymous users	●
22 September, 20:33	
Leon I Lee	●
All anonymous users	●
22 September, 20:28	
All anonymous users	●
22 September, 20:27	
All anonymous users	●
22 September, 20:26	
All anonymous users	●
22 September, 20:26	
All anonymous users	●
22 September, 20:25	
All anonymous users	●
<input checked="" type="checkbox"/> Show changes	
Today	
↳ 22 September, 20:37	
Current version	
Leon I Lee	●
Nadya Ing	●
Tan Hui En	●
All anonymous users	●
22 September, 20:35	
All anonymous users	●
Nadya Ing	●
All anonymous users	●
22 September, 20:33	
All anonymous users	●
Nadya Ing	●
All anonymous users	●
22 September, 20:33	
Leon I Lee	●
All anonymous users	●
22 September, 20:28	
All anonymous users	●
22 September, 20:27	
All anonymous users	●
22 September, 20:26	
All anonymous users	●
22 September, 20:26	
All anonymous users	●
22 September, 20:25	
All anonymous users	●
<input checked="" type="checkbox"/> Show changes	

Code reviewed and approved Nadya's pull request for refactoring, and other Qualtrics helped functions such as activating/deactivating surveys, distributing surveys.

**Merged pull request**  
Merged in nadya/lm (pull request #30)  
**1f1ff12** · Author: Nadya Png · Closed by: Leon Lee · 2024-09-18

**Description**

- Cleaned up qualtricsController and refactored functions to facilitate integration
- Functions made to create survey then add all questions into array
- Added Qualtrics helper functions for activating/deactivating surveys, generating distributions and getting survey links
- New SurveyGenerationController to handle publishing surveys and getting survey links
  - Function to create survey and all questions from request
  - Function to activate, create distribution, and getting survey link for distribution
  - New endpoints made for publishing
- Remove unnecessary function
- Removed need to create distribution before getting survey link
- Removed unused endpoint
- Removed unused env variable
- Fixed publishing response.

**0 attachments**  
There aren't any attachments. [Browse to upload](#)

**Activity** [All activity](#)

Wednesday 18 September 2024

- Leon Lee MERGED the pull request 2024-09-18
- Leon Lee commented 2024-09-18
 

Thanks! Had a look at everything and it looks great. I'll let you know what changes need to be made in the backend once I fully implement the create custom question and publishing frontend stuff
- Leon Lee 2024-09-18

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/30>

### Week 9 Tester

- Communicated with team members to debug issues that I found when trying to run the program
- Also conducted manual end-to-end testing of the survey generation process to ensure that everything worked as intended

Today

Leon 11:12 AM Is anybody else's generate question not working? I'm getting an Invalid API Key error, but I've made 0 changes. [New](#)

11:13 I also tried generating a new Gemini API key, but same error

Nadya Png 12:01 PM Omg sorry i moved stuff around for testing  
Make sure your .env, package.json, and package-lock.json for the SERVER are in the server folder

Leon 12:03 PM Thanks! that fixed the issue  
I think .env is the only folder everyone else will need to move, the json files r already in the correct folder

Integrated backend with the frontend for viewing already created surveys

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/36>

leon/frontend → main MERGED  
#36 · Created 41 minutes ago · Last updated 37 minutes ago

Overview Files changed 3 Commits 4

Merged pull request  
Merged in leon/frontend (pull request #36)  
7eb04cf · Author: Leon Lee · Closed by: Nadya Png · 37 minutes ago

Description

- updated .gitignore and merging main into branch
- Integrated backend with frontend for the view created surveys
  - Fixed the field names so that they display properly
  - Fixed the axios URL to the correct one
- removing .vscode folder

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/36>

Created the Client Progress Update Google Doc to update the client on our progress because the client was unable to attend the meeting this week due to a scheduling clash

Also wrote updates for the client on what I did in week 9

Also sent the document to the client as the customer liaison for the week was unavailable

The screenshot shows a Google Doc titled "Client Progress Update". A sharing dialog is open, showing "Anyone with the link" as the general access level. The doc content includes sections for "Updates" and "Issues".

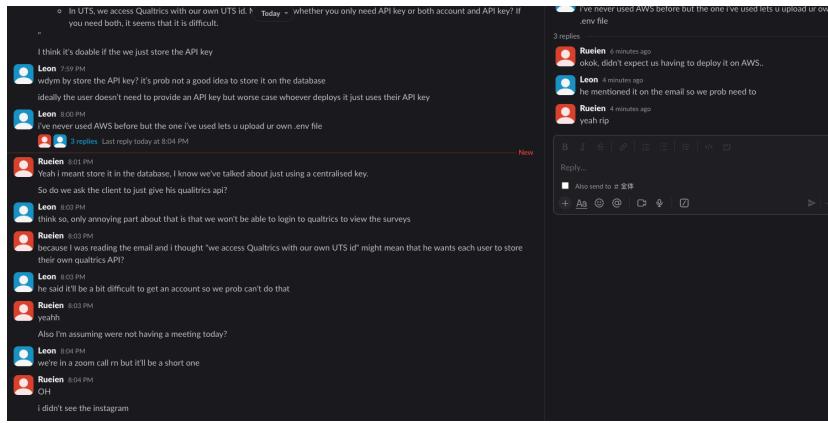
**Updates**

- We're able to view surveys that each account has created now
- Publishing seems to work fine
- Template is fully implemented with required/optional fields

**Issues**

- Although publishing works fully on our end, there are sometimes issues with the Qualtrics platform causing it to not fix or ignore it, e.g.
  - If the survey is published correctly and all the questions are visible on the Qualtrics Edit page, the link sometimes just doesn't work, even if you get the link directly from the Qualtrics webpage
  - For Qualtrics Slider questions, it's not clear if you're able to change the range of the slider (default is 1-100, but there doesn't seem to be a field in the JSON for it)

	<p>[EXTERNAL] Meeting Request to Discuss Web platform for Customized survey data collection Project (Qualtrics based)</p> <p>To: Jianlong Zhou &lt;Jianlong.Zhou@uts.edu.au&gt;; Ruei En Tan Cc: Islam Alzoubi; Rui Wang; Nadya Png; Changxu Liu; Frank Lai</p> <p>Dear Jianlong,</p> <p>Here are our written updates and questions for this week:</p> <p><b>Updates</b></p> <ul style="list-style-type: none"> <li>• We're able to view surveys that each account has created now</li> <li>• Publishing seems to work fine</li> <li>• Template is fully implemented with required/optional fields</li> <li>• Testing for frontend + backend using Jest</li> <li>• It is now possible to download results as a CSV and display results on the website             <ul style="list-style-type: none"> <li>• Working on displaying graphs and charts showing results</li> </ul> </li> </ul> <p><b>Issues</b></p> <ul style="list-style-type: none"> <li>• Although publishing works fully on our end, there are sometimes issues with the Qualtrics platform that we're not sure how to fix or what's causing it, e.g.             <ul style="list-style-type: none"> <li>• Sometimes the participant link leads to a page that says, 'Unexpected error occurred' (happens rarely)</li> </ul> </li> <li>• For Qualtrics Slider questions, it's not clear if you're able to change the range of the slider (default is 1-100, but there doesn't seem to be a field in the JSON for it)             <ul style="list-style-type: none"> <li>• Nadya asked Qualtrics support about this and there seems to be no way to define these settings on the API</li> </ul> </li> <li>• Since usage of the API requires a personal API key, everyone is currently using their own key which is linked to their personal Qualtrics account.             <ul style="list-style-type: none"> <li>• If a member creates and publishes a survey on their local computer, the survey will only be accessible through their own API key. This causes issues for several functions because other members cannot access those surveys.</li> <li>• We might need to use a centralised API key which everyone can use for the program</li> </ul> </li> </ul> <p><b>Questions</b></p> <ul style="list-style-type: none"> <li>• Is it okay for us to keep the program local or would you want us to deploy the program?</li> <li>• Regarding the third issue above, is it possible for you to provide us a shared Qualtrics account so all of us have access to a centralised account and API key?             <ul style="list-style-type: none"> <li>• This will help us solve access issues with surveys created by different members</li> </ul> </li> </ul> <p>Thank you, Leon Lee</p>
<p><b>Code reviewed and approved Nadya's PR for backend endpoints for viewing survey, toggling survey status and deleting surveys</b></p>	<p><a href="#">SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Pull requests</a></p> <p><b>Changes for viewing surveys + endpoint for toggling survey status + delete survey</b></p> <p><a href="#">nadya/lm</a> → main <b>MERGED</b> #37 · Created 2 hours ago · Last updated 2 seconds ago</p> <p><a href="#">Overview</a> Files changed 5 Commits 6</p> <p><b>Merged pull request</b> Merged in nadya/lm (pull request #37) <a href="#">5d0cd95</a> · Author: Nadya Png · Closed by: Leon Lee · 5 seconds ago</p> <p><b>Description</b></p> <ul style="list-style-type: none"> <li>• Changed getSurvey to take in a parameter instead of request</li> <li>• Changed getSurveyByUsername to get status of survey</li> <li>• Changed viewSurveysHelper to make it return Qualtrics_Survey_ID as a field</li> <li>• Function and endpoint created for toggling survey status</li> <li>• Helper function to delete survey from database</li> <li>• Helper function to delete survey from Qualtrics</li> <li>• Function and endpoint to delete survey from both database and Qualtrics</li> </ul> <p><b>0 attachments</b> There aren't any attachments. <a href="#">Browse to upload</a></p> <p><b>Activity</b> All activity</p> <p>Leon Lee MERGED the pull request 1 second ago</p> <p>Leon Lee commented 9 seconds ago</p> <p>Leon Lee 9 seconds ago Looks good, I'll start working on the frontend parts of those features and then integrate them together. <a href="#">Reply</a> · <a href="#">Edit</a> · <a href="#">Delete</a> · <a href="#">Like</a></p> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/37">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/37</a></p>

<ul style="list-style-type: none"> <li>- Updated the frontend to show the survey status on the History page</li> <li>- Added frontend feature to toggle the active status of the survey</li> <li>- Added frontend button for deleting surveys</li> </ul>	<p><a href="#">SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Pull requests</a></p> <p><b>Leon/frontend</b></p> <p> leon/frontend → main MERGED #38 · Created 2024-09-27 · Last updated 2024-10-05</p> <p><a href="#">Overview</a> Files changed 2 Commits 4</p> <div style="background-color: #e0f2e0; padding: 10px; margin-top: 10px;"> <p> <b>Merged pull request</b> Merged in leon/frontend (pull request #38) <a href="#">af273c</a> · Author: Leon Lee · Closed by: Nadya Png · 2024-10-05</p> </div> <p><b>Description</b></p> <ul style="list-style-type: none"> <li>• Updated frontend to show the survey status in the History page</li> <li>• toggle active status of survey done</li> <li>• delete survey button added to History page. Has a confirmation popup alert</li> </ul> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/38">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/38</a></p>
<p>Discussed with Rueien how to handle API key issues, so that we can reply to the client's email</p>	<p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/38">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/38</a></p> <ul style="list-style-type: none"> <li>- Discussing with Rueien how we should handle API key issues to reply to the client's email</li> </ul>  <p>The screenshot shows a conversation between Leon, Rueien, and another user. Leon asks if it's doable to store the API key in AWS. Rueien responds that it's not a good idea to store it in the database. Leon then asks if they need both keys. Rueien replies that they've never used AWS before but the one they used lets them upload their own .env file. Leon asks if they can just give Qualtrics' API key. Rueien says that would be annoying because users won't be able to log in to Qualtrics to view surveys. Leon suggests they store their own Qualtrics API key. Rueien agrees and says they were reading an email about it. Leon asks if it's difficult to get an account. Rueien says it's a short meeting. Leon asks if they can see the Instagram account. Rueien replies that they didn't see it.</p>

During midsemester break, I code reviewed and approved Nadya's PR for the backend endpoints for manually creating questions

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/39>

During the midsemester break, I created all the frontend functionality for manually creating custom questions

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/40>

## Week 10 Tracker

- Created the Group Report document and reminded the group that we should be starting it soon, so that we don't have to cram it during week 11
- Reminded people to join the client meeting and we'll need to discuss in the meeting

Leon 2:30 PM I just created the group report template in our Google Drive, it's in the assignment 2 folder. We should try get started on it this week/next week so that we don't need to cram it in week 12. Here's the link to the document if you can't find it  
[https://docs.google.com/document/d/1puMxYMOhyH7nykkEakFriW7qD\\_GILFu/edit?usp=sharing&ouid=117697015841440049207&rtpof=true&sd=true](https://docs.google.com/document/d/1puMxYMOhyH7nykkEakFriW7qD_GILFu/edit?usp=sharing&ouid=117697015841440049207&rtpof=true&sd=true)

Rueien 2:31 PM ok

Leon 2:32 PM Once we've written some stuff we can then make a new doc that's better formatted

Rueien 2:32 PM New

We copy the old group report inside right?

Leon 2:32 PM think so

just make sure we're fixing the stuff we lost marks on in the first report

Leon 2:57 PM Client meeting is starting soon, I think we just need to update him on the progress and clarify some stuff on the client deployment

Code reviewed and approved Allen's PR for rearranging the question order

[SOFT3888\\_TU12\\_04 \(H04.154\)](#) / [SOFT3888\\_TU12\\_04](#) / survey-app / Pull requests

add rearrange button, allow user to move up and down the questions

**allen/feature-rearrange** → main [OPEN](#)  
*i41 · Created 16 hours ago · Last updated 16 hours ago*

[Overview](#) [Files changed 10](#) [Commits 1](#)

**Description**

**0 attachments**  
 There aren't any attachments. [Browse to upload](#)

**Activity** [All activity](#)

**TODAY**

Leon Lee commented 12 seconds ago  
 Leon Lee 12 seconds ago Just tested it, the rearrange works. Thanks!  
[Reply](#) · [Edit](#) · [Delete](#) · [Like](#) · [Create task](#)

Leon Lee APPROVED the pull request 12 seconds ago

**YESTERDAY**

Allen Liu OPENED the pull request 16 hours ago

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/41/overview>

## Code reviewed and approved Nadya's PR for getting questions from past survey

SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests

### Functions for getting questions from past surveys

NP nadya/lm → main OPEN

#43 · Created 16 minutes ago · Last updated 16 minutes ago

Overview Files changed 3 Commits 2

#### Description

- Added getQuestions function in qualtricsController
- Added getSurveyQuestions function in viewSurveyController + endpoint

#### 0 attachments

There aren't any attachments. [Browse to upload](#)

#### Activity

All activity ▾

TODAY



LL Leon Lee commented 12 seconds ago



LL Leon Lee 12 seconds ago

Looks good! I'll try get the view published surveys question frontend done by the end of this week.

[Reply](#) · [Edit](#) · [Delete](#) · [Like](#) · [Create task](#)



LL Leon Lee APPROVED the pull request 12 seconds ago



NP Nadya Png OPENED the pull request 16 minutes ago

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/43>

Helped Rueien fix issues that he encountered with the .env file

btw do i just put the .env file in the server folder?

You replied to Ruei En Tan

btw do i just put the .env file in the server folder?

yeah

frontend doesn't need it so it won't affect anything

Ruei En Tan

do i have to configure anything else?, i put it in but the it's still not taking the token for some reason  
hmm

lemme check mine



do u have 3 things in ur .env

google api key, qualtrics api key and anon link url

5:06

81%



SOFT3888 >

FRANK was active 10m ago



that's the link for usyd qualtrics

Ruei En Tan

okok

hmm im not sure if that was the issue for me, cause its saying my api token is undefined

does restarting backend do anything?

Ruei En Tan

where is the logic for the retrieving the .env file?

oh

nvm

ur right

i forgot to restart

lol

it works now



Message...



Code reviewed and approved  
Rueien's PR for the basic  
data visualisation stuff

The screenshot shows a Bitbucket pull request page for the repository 'SOFT3888\_TU12\_04'. The pull request is titled 'rtan\_dataviz' and has a status of 'OPEN'. It was created 1 minute ago and last updated 1 minute ago. The description notes that these commits include data visualization, making API calls inside the Qualtrics controller to retrieve survey definition, marrying two different JSON files inside of data visualization, displaying three types of data ('text', 'bar plot' and 'pie chart'), and fixing bugs with API calls. There are 3 commits in total. The activity feed shows Leon Lee commenting 12 seconds ago, Leon Lee approving the pull request 12 seconds ago, and Rue En Tan opening the pull request 1 minute ago.

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/44>

Created feature to toggle if  
every question should be  
required/not required

The screenshot shows a Bitbucket pull request page for the repository 'SOFT3888\_TU12\_04'. The pull request is titled 'leon/frontend' and has a status of 'OPEN'. It was created 2 seconds ago and last updated 2 seconds ago. The description lists features for toggling required status for MCQ, Matrix, Slider, and Text Entry done. There are 4 commits in total. The activity feed shows Leon Lee opening the pull request 23 seconds ago.

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/48>

Implemented the view survey button on the History page, to show a modal that contains all the questions in that survey

Then implemented the feedback I got from the code review, and gave some other suggestions

Leon/frontend

ll leon/frontend → main OPEN

850 · Created 2 seconds ago · Last updated 1 second ago

Overview Files changed 12 Commits 6

>Description

- Updated History.jsx view survey to use the correct endpoint
- Added modal for viewing survey questions
  - Also edited question displays so that the edit functions don't show in the modal
  - So far only MCQ is done
- Removed edit functionality for Matrix modal
- Removed edit functionality for Slider modal
- Removed edit functionality for Text Entry modal
- Removed edit functionality for Descriptive modal

0 attachments

There aren't any attachments. [Browse to upload](#)

Activity

This pull request is 1 commit behind "main". [Sync now](#)

All activity ▾

LL Leon Lee OPENED the pull request 33 seconds ago

TODAY

LL Leon Lee commented now

NP Nadya Png 12 minutes ago

I ran the webapp from your branch and it works fine. I have a few suggestions to make it look nicer:

- Since descriptive is not a question, maybe change the text on the modal to indicate that it is a text block instead
- If possible, remove the bullet points so they don't take up extra space
- Make the window larger, so the text does not wrap around as much

Reply · Like · Create task

LL Leon Lee PENDING

I've fixed the descriptive text, and removed the bullet points in the modal + the survey history page

I think it's fine to leave the window for now because we're still working on the final UI design, so that'll probably need to be changed anyways

Reply · Edit · Delete · Like · Create task

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/50>

## Week 11 Customer Liason

- Contacted the client to reschedule the meeting for the final client demo

**Client Demo Meeting Reschedule**

**LL Leon Lee**  
**To:** Jianlong Zhou <Jianlong.Zhou@uts.edu.au>  
**Cc:** Ruei En Tan; Nadya Png; Changxu Liu; Rui Wang; Frank Lai  
**Subject:** Re: Client Demo Meeting Reschedule

Dear Dr. Zhou,

For the final client demo next Friday, would it be possible to change the meeting time to 1pm? All our group members need to be present for that meeting, so we can't do the original meeting time. Please let me know if that time works for you or if there's another time that works for you.

Thank you,  
Leon

**JZ Jianlong Zhou <Jianlong.Zhou@uts.edu.au>**  
**To:** Leon Lee  
**Cc:** Ruei En Tan; Nadya Png; Changxu Liu; Rui Wang; Frank Lai  
**Subject:** Re: Client Demo Meeting Reschedule

Hi Leon and all,

Thank you very much! Do you refer to the meeting on this Friday, 18 Oct.? If this is the case, 1pm is not available with me. Whether 2pm is fine with you all or 4pm?

Best regards,  
Jianlong

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**LL Leon Lee**  
**To:** Jianlong Zhou <Jianlong.Zhou@uts.edu.au>  
**Cc:** Ruei En Tan; Nadya Png; Changxu Liu; Rui Wang; Frank Lai  
**Subject:** Re: Client Demo Meeting Reschedule

Dear Dr Zhou,

The client demo is on the 25<sup>th</sup> of October. Would you be free at 1pm at that time?

Thank you,  
Leon Lee

**Reply** **Reply all** **Forward**

## Added script to allow running the frontend + backend with only one command

**SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests**

**Added script to run program with only one command**

**ll leon/other** → main · **OPEN**  
#53 · Created 26 seconds ago · Last updated 24 seconds ago

**Overview** **Files changed** 3 **Commits** 2

**Description**

- added concurrent running of client and server with one command
- updated the frontend start command to build and run the production build

**Attachments**

There aren't any attachments. [Browse to upload](#)

**Activity**

TODAY

**ll Leon Lee** **OPENED** the pull request 25 seconds ago

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/53>

- Worked on the group processes section of the final report
- I wrote this section for the first report so I was responsible for it on this report as well

## 6.4 "Issues" created and progress

- Instead of using GitHub Issues, we used Jira to manage tasks and monitor our progress
- Jira allowed us to create, assign and track the status of tasks, ensuring that all aspects of the project were properly managed
- Instead of keeping user stories on the backlog, we broke the stories down into smaller individual tasks. This allowed us to assign each task to one person.
- If a task required multiple people (e.g. one person doing frontend, one doing backend), Leon Lee create subtasks and allocate it to the other person
- We also labelled each task to categorise them, which made it clear to see how much progress we had made on each section of the project (e.g. data visualisation, question generation)
- In week 7, we added all of the remaining tasks onto the Jira, which was a great way of visualising how much we had left to do in the project

- Did pair programming with Nadya to improve the UI/UX of the web app and make final refinements

 SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests

### Pair Programming with Nadya to improve UI/UX

 leon-nadya/css → main OPEN  
#57 · Created 3 seconds ago · Last updated 2 seconds ago

[Overview](#) Files changed 11 Commits 11

#### Description

- updated navbar, removed current user text, moved text out of input boxes for question generation
- moved username and password text out of input box
- View history changes
- removed save survey button
- Changed pop-up message
- make publish button have loading state
- made survey history show in reverse order
- changed data visualisation layout and reworded stuff
- updated mcq display

#### 0 attachments

There aren't any attachments. [Browse to upload](#)

#### Activity

All activity ▾

 What do you want to say?

TODAY

 Leon Lee OPENED the pull request 44 seconds ago

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/57>

 SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests

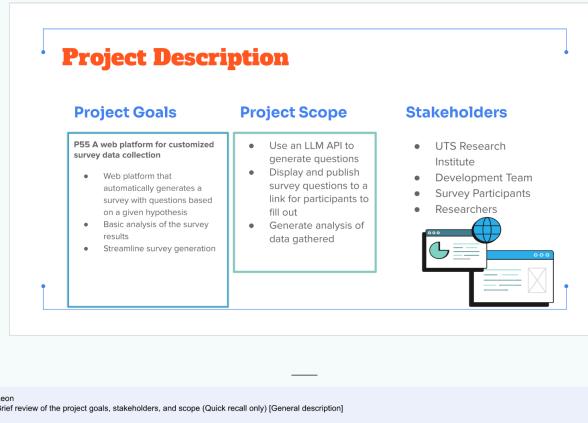
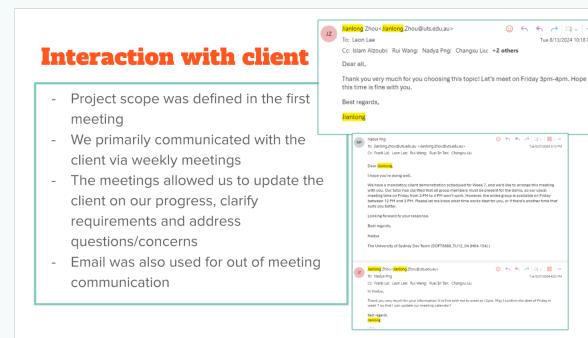
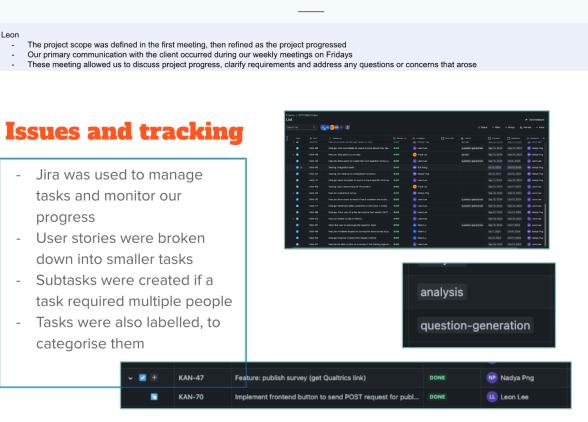
### Pair Programming with Nadya to improve UI/UX

 leon-nadya/css → main OPEN  
#57 · Created 6 minutes ago · Last updated 6 minutes ago

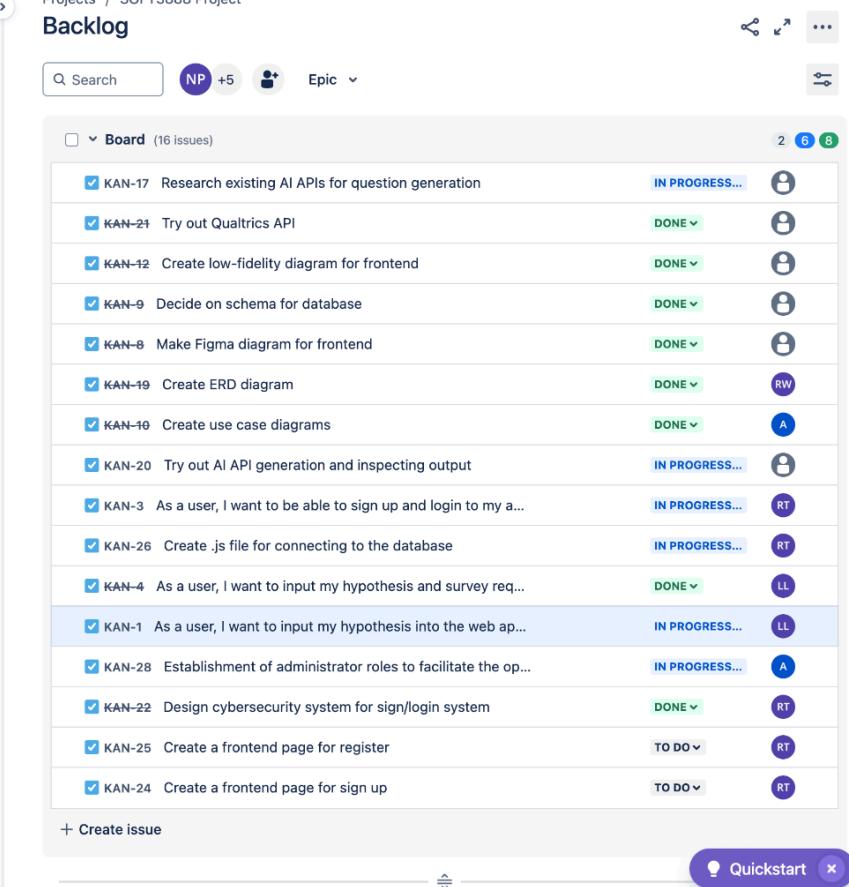
[Approve](#) [Merge](#) ...

[Overview](#) Files changed 11 Commits 11

Author	Commit	Message	Date
 Leon Lee	39ab5d8	updated mcq display	19 minutes ago
 Leon Lee	807ed51	changed data visualisation layout and reworded stuff	32 minutes ago
 Leon Lee	3679551	made survey history show in reverse order	40 minutes ago
 Leon Lee	ab459ec	MERGED Merge branch 'leon-nadya/css' of bitbucket.org:soft3888-tu12-04-h04154/survey-app into leon-nadya/css merge	45 minutes ago
 Leon Lee	c6bb86c	make publish button have loading state	45 minutes ago
 Nadya Prng	c8a7f98	MERGED Merge branch 'leon-nadya/css' of https://bitbucket.org/soft3888-tu12-04-h04154/survey-app into leon-nadya/css Merge...	48 minutes ago
 Nadya Prng	9f597d6	Changed pop-up message	48 minutes ago
 Leon Lee	bb7a793	removed save survey button	52 minutes ago
 Leon Lee	e57d958	view history changes	58 minutes ago
 Leon Lee	3c1216e	moved username and password text out of input box	1 hour ago
 Leon Lee	d484c84	updated navbar, removed current user text, moved text out of input boxes for question generation	1 hour ago

	<ul style="list-style-type: none"> <li>- This screenshot that shows we both have commits on the PR</li> </ul>
<ul style="list-style-type: none"> <li>- Worked on the Project Description, Interaction with Client and Issues and Tracking slides of the presentation</li> </ul>	 <p><b>Project Description</b></p> <p><b>Project Goals</b></p> <p>PSS A web platform for customized survey data collection</p> <ul style="list-style-type: none"> <li>• Web platform that automatically generates a survey with questions based on a given hypothesis</li> <li>• Basic analysis of the survey results</li> <li>• Streamline survey generation</li> </ul> <p><b>Project Scope</b></p> <ul style="list-style-type: none"> <li>• Use an LLM API to generate questions</li> <li>• Display and publish survey questions to a link for participants to fill out</li> <li>• Generate analysis of data gathered</li> </ul> <p><b>Stakeholders</b></p> <ul style="list-style-type: none"> <li>• UTS Research Institute</li> <li>• Development Team</li> <li>• Survey Participants</li> <li>• Researchers</li> </ul> <p>Leon Brief review of the project goals, stakeholders, and scope (Quick recall only) [General description]</p>  <p><b>Interaction with client</b></p> <ul style="list-style-type: none"> <li>- Project scope was defined in the first meeting</li> <li>- We primarily communicated with the client via weekly meetings</li> <li>- The meetings allowed us to update the client on our progress, clarify requirements and address questions/concerns</li> <li>- Email was also used for out of meeting communication</li> </ul> <p>Leon The project scope was defined in the first meeting, then refined as the project progressed Our primary communication with the client occurred during our weekly meetings on Fridays These meetings allowed us to discuss project progress, clarify requirements and address any questions or concerns that arose</p>  <p><b>Issues and tracking</b></p> <ul style="list-style-type: none"> <li>- Jira was used to manage tasks and monitor our progress</li> <li>- User stories were broken down into smaller tasks</li> <li>- Subtasks were created if a task required multiple people</li> <li>- Tasks were also labelled, to categorise them</li> </ul> <p>KAN-47 Feature: publish survey (get Qualtrics link) KAN-70 Implement frontend button to send POST request for publ... analysis question-generation</p> <p>Leon Lee Rui Wang Nadya Prig Changju Liu All anonymous users Yesterday 20 October, 22:29 Leon Lee 20 October, 22:26 Leon Lee 20 October, 21:46 Rui Wang, Leon Lee 20 October, 21:29 Nadya Prig, Rui Wang 20 October, 20:57 Nadya Prig, Tan ruel en, Leon Lee, Rui Wang, All anonymous users 20 October, 20:13 All anonymous users, Tan ruel en, Nadya Prig 20 October, 20:02 Leon Lee Show changes</p> <p>21 October, 13:22 Current version All anonymous users, Leon Lee Yesterday 20 October, 22:29 Leon Lee 20 October, 22:26 Leon Lee 20 October, 21:46 Rui Wang, Leon Lee 20 October, 21:29 Nadya Prig, Rui Wang 20 October, 20:57 Nadya Prig, Tan ruel en, Leon Lee, Rui Wang, All anonymous users 20 October, 20:13 All anonymous users, Tan ruel en, Nadya Prig 20 October, 20:02 Leon Lee Show changes</p> <p>21 October, 13:22 Current version All anonymous users, Leon Lee Yesterday 20 October, 22:29 Leon Lee 20 October, 22:26 Leon Lee 20 October, 21:46 Rui Wang, Leon Lee 20 October, 21:29 Nadya Prig, Rui Wang 20 October, 20:57 Nadya Prig, Tan ruel en, Leon Lee, Rui Wang, All anonymous users 20 October, 20:13 All anonymous users, Tan ruel en, Nadya Prig 20 October, 20:02 Leon Lee Show changes</p>
<ul style="list-style-type: none"> <li>- Recorded the demo video for the project</li> </ul>	

# Nadya Ee Png

Contribution	Evidence																																																			
<p>Week 2 Tracker:</p> <ul style="list-style-type: none"><li>- Added initial user stories to Jira</li><li>- Tracked progress of development via Jira Kanban board</li><li>- Communicated with members to understand progress and ensure tasks were done on time</li></ul>	<p><a href="#">Jira Backlog</a> - I created all user stories and tasks that has my name as the 'reporter'</p>  <table border="1"><thead><tr><th>Issue</th><th>Status</th><th>Assignee</th></tr></thead><tbody><tr><td>KAN-17</td><td>IN PROGRESS...</td><td></td></tr><tr><td>KAN-21</td><td>DONE</td><td></td></tr><tr><td>KAN-12</td><td>DONE</td><td></td></tr><tr><td>KAN-9</td><td>DONE</td><td></td></tr><tr><td>KAN-8</td><td>DONE</td><td></td></tr><tr><td>KAN-19</td><td>DONE</td><td>RW</td></tr><tr><td>KAN-10</td><td>DONE</td><td>A</td></tr><tr><td>KAN-20</td><td>IN PROGRESS...</td><td></td></tr><tr><td>KAN-3</td><td>IN PROGRESS...</td><td>RT</td></tr><tr><td>KAN-26</td><td>IN PROGRESS...</td><td>RT</td></tr><tr><td>KAN-4</td><td>DONE</td><td>LL</td></tr><tr><td>KAN-1</td><td>IN PROGRESS...</td><td>LL</td></tr><tr><td>KAN-28</td><td>IN PROGRESS...</td><td>A</td></tr><tr><td>KAN-22</td><td>DONE</td><td>RT</td></tr><tr><td>KAN-25</td><td>TO DO</td><td>RT</td></tr><tr><td>KAN-24</td><td>TO DO</td><td>RT</td></tr></tbody></table>	Issue	Status	Assignee	KAN-17	IN PROGRESS...		KAN-21	DONE		KAN-12	DONE		KAN-9	DONE		KAN-8	DONE		KAN-19	DONE	RW	KAN-10	DONE	A	KAN-20	IN PROGRESS...		KAN-3	IN PROGRESS...	RT	KAN-26	IN PROGRESS...	RT	KAN-4	DONE	LL	KAN-1	IN PROGRESS...	LL	KAN-28	IN PROGRESS...	A	KAN-22	DONE	RT	KAN-25	TO DO	RT	KAN-24	TO DO	RT
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KAN-24	TO DO	RT																																																		

□ **Backlog** (10 issues)

10 0 0 Plan on whiteboard TRY

<input checked="" type="checkbox"/> KAN-2 As a user, I want to review and analysis my result through...	TO DO ▾	
<input checked="" type="checkbox"/> KAN-5 As a user, I want to be able to see my previous entries	TO DO ▾	
<input checked="" type="checkbox"/> KAN-6 As a participant, I want to complete survey questions	TO DO ▾	
<input checked="" type="checkbox"/> KAN-7 As a user, I want my survey question to be diverse in for...	TO DO ▾	
<input checked="" type="checkbox"/> KAN-13 As a user, I want to be able to edit and modify the AI ge...	TO DO ▾	
<input checked="" type="checkbox"/> KAN-14 As a user, I want to manually add questions	TO DO ▾	
<input checked="" type="checkbox"/> KAN-15 As a user, I want to specify the format allowed for each...	TO DO ▾	
<input checked="" type="checkbox"/> KAN-16 As a user, I want to open and close the survey for parti...	TO DO ▾	
<input checked="" type="checkbox"/> KAN-18 Set up CI/CD	TO DO ▾	
<input checked="" type="checkbox"/> KAN-27 Allow users to create questions with Graphic type	TO DO ▾	

+ Create issue

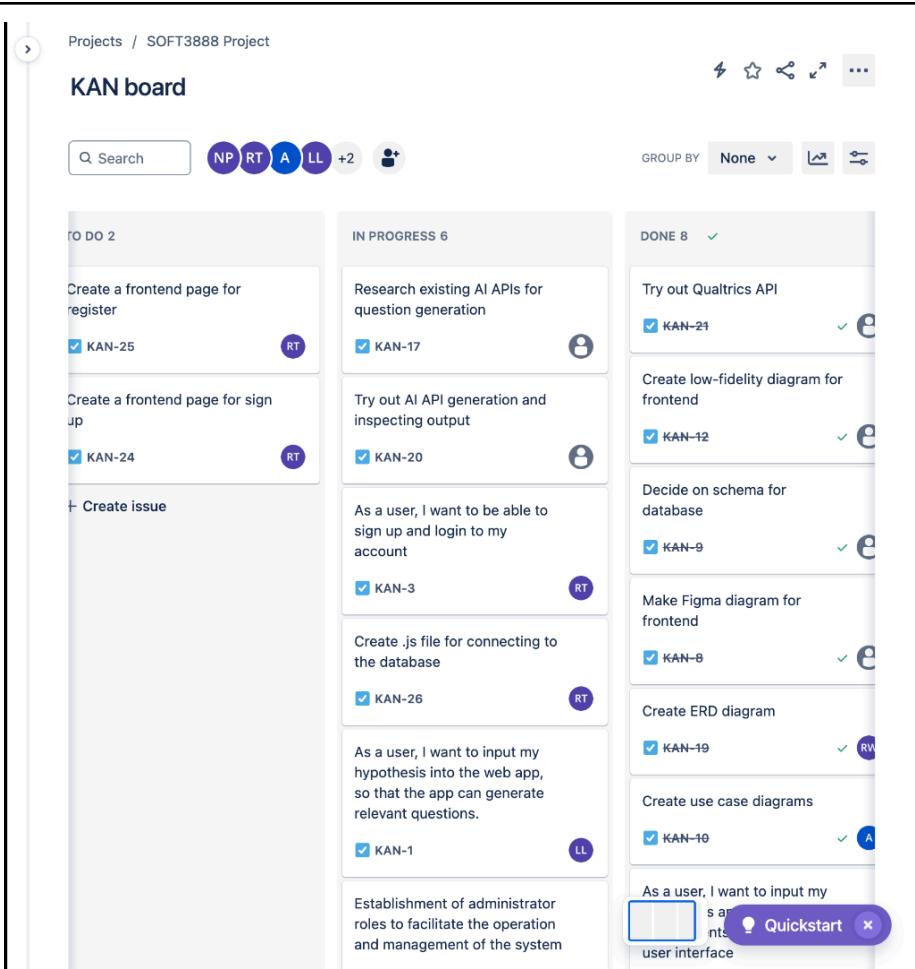
Quickstart

The screenshot shows a user story card in a digital workspace. At the top right, there are several icons: a pencil for 'Add epic', a lock, a person icon with '1', a thumbs up, a share icon, three dots, and an 'X'. Below these is a checked checkbox labeled 'KAN-6'. The main title of the card is 'As a participant, I want to complete survey questions'. Underneath the title are four small icons: a clipboard, a document, a mail, and three dots. Below these are two dropdown menus: 'To Do' and 'Actions'. The 'Description' section contains the placeholder text 'Add a description...'. A large details panel is open, showing the following fields:

Details	
Reporter	NP Nadya Png
Assignee	Unassigned Assign to me
Labels	None
Parent ⓘ	None
Development	Set up code tools PENDING Create branch Create commit

At the bottom of the details panel is a button labeled 'Hide empty fields'.

Figure 8.2.1: Screenshot of a user story example I created (me as a reporter)



*Figure 8.2.2: Kan board*

### Nadya Ee Png

**General Contributions** - Meeting minutes for client meeting  
**(20240809)** - Learning required tech stack **Tracker** - Added user stories and tasks to JIRA kanban - Ensured kanban was up to date according to group progress

*Figure 8.2.3: Week 2 contributions*

Week 3 Programmer	<ul style="list-style-type: none"> <li>- Learned chosen tech stack and made practice apps</li> </ul> <p><a href="#">Learning resource</a></p>
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# Phonebook

filter shown with

## add a new

name:

number :

## Numbers

- Arto Hellas 040-123456
- Ada Lovelace 39-44-5323523
- Dan Abramov 12-43-234345
- Mary Poppendieck 39-23-6423122
- Nadya 000

Figure 8.2.4: Screenshot of practice app

The screenshot shows a code editor interface with the following details:

- EXPLORER View:** Shows the project structure under "FULLSTACKOPEN". Key files include package.json, backend-phonebook, node\_modules, index.js, package-lock.json, package.json, complexState, courseinfo, courseinfo2, pageRerender, part1, part2a/part2a, public, src, assets, components (Note.jsx), services (notes.js, App.jsx, main.jsx), .gitignore, db.json, eslint.config.js, index.html, package-lock.json, package.json, README.md, vite.config.js, and part3a.
- Code Editor View:** Displays the content of index.js. The code defines an Express app, sets up middleware, and defines four persons with their IDs, names, and numbers. It also includes two routes: one for the root that sends a simple Hello message, and another for '/api/people' that returns the list of persons.

```

1 const express = require('express')
2 const morgan = require('morgan')
3 const app = express()
4
5 app.use(express.json())
6 app.use(morgan)
7 morgan('tiny', 'immediate')
8
9 let persons = [
10   {
11     "id": "1",
12     "name": "Arto Hellas",
13     "number": "040-123456"
14   },
15   {
16     "id": "2",
17     "name": "Ada Lovelace",
18     "number": "39-44-5323523"
19   },
20   {
21     "id": "3",
22     "name": "Dan Abramov",
23     "number": "12-43-234345"
24   },
25   {
26     "id": "4",
27     "name": "Mary Poppendieck",
28     "number": "39-23-6423122"
29   }
30 ]
31
32 app.get('/', (request, response) => {
33   response.send('<h1>Hello</h1>')
34 })
35 app.get('/api/people', (request, response) => {
36   response.json(persons)
37 })
38

```

Figure 8.2.5: Screenshot of practice code  
[Weekly Contributions](#)

### Nadya Ee Png

**General Contributions** - Created user stories and tasks - Created sequence diagram for program flow

**Programmer** - Learning required tech stack - Practiced making react app and backend servers

Figure 8.2.6: Week 3 contributions

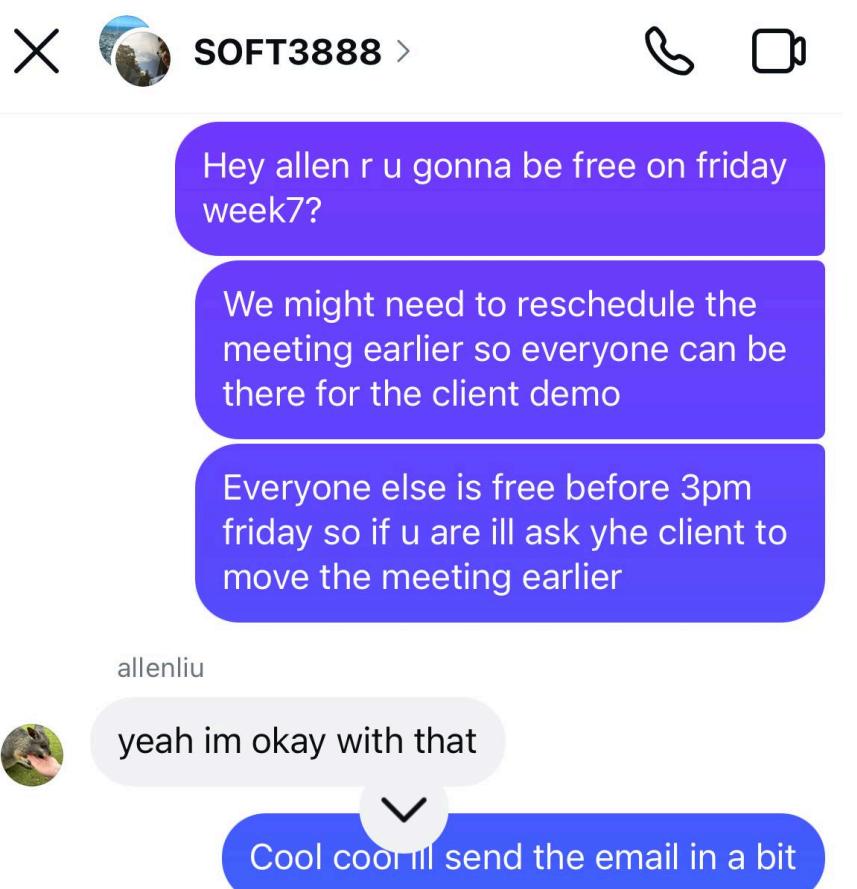
Week 4 Doomsayer
<ul style="list-style-type: none"> <li>- Pointed out potential difficulties with data analysis using</li> </ul>

[Week 4 Client Meeting Minutes](#)

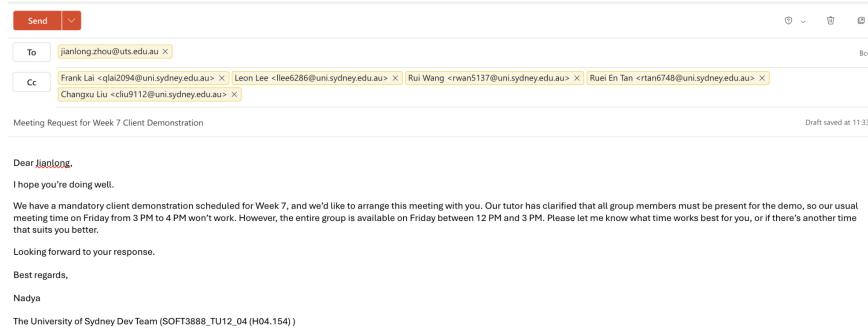
<p>Qualtrics/Gemini</p> <ul style="list-style-type: none"> <li>- Database schema issues with qualtrics integration</li> <li>- Issues with using Gemini with Nodejs instead of Python (solved)</li> <li>- Risk with sharing API key on git (solved)</li> </ul>	<h3>Item 7 - General project information from client</h3> <ul style="list-style-type: none"> <li>• Let the client know we've started working on the generative AI (Gemini) and that we're working on fine tuning it</li> <li>• Client said our idea of the web app is correct</li> </ul> <p>Analysis - Does the client want us to use the LLM to generate insights or do it like google forms to just show some visualisations - Don't use generative AI for data analysis - If Qualtrics provides basic summary analysis or some graphs, then we can use them - Because we're building our own platform, we can extract the survey data from Qualtrics then do some analysis - Analysis functions: bar chart, pie chart, statistical analysis - Quite difficult as it depends on the user's hypothesis - If we have 2 variables to compare, we can use a T-test, but for more variables more complex methods are needed</p> <p><i>Figure 8.2.7: Week 4 client meeting minutes</i></p> <p><u>Weekly Contributions</u></p> <p><b>Nadya Ee Png</b></p> <p><b>General Contributions</b> - Created user stories and tasks - Created sequence diagram for program flow</p> <p><b>Doomsayer</b> - Pointed out and discussed potential issues: - Database schema issues with qualtrics integration - Issues with using Gemini with Nodejs instead of Python (solved) - Risk with sharing API key on git (solved)</p> <p><i>Figure 8.2.8: Weekly contributions</i></p>
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**Week 5 Customer Liaison**

- Communicated with group to find a suitable demo time
- Sent out email to schedule client demo
- Communicated project progress with client
- Ensured tasks prioritised for the week were aligned with client's requirements for demo



*Figure 8.2.9: Screenshot of communication with members to schedule meeting  
[Screenshot of email sent to client]*



*Figure 8.2.10: Screenshot of email sent to client*

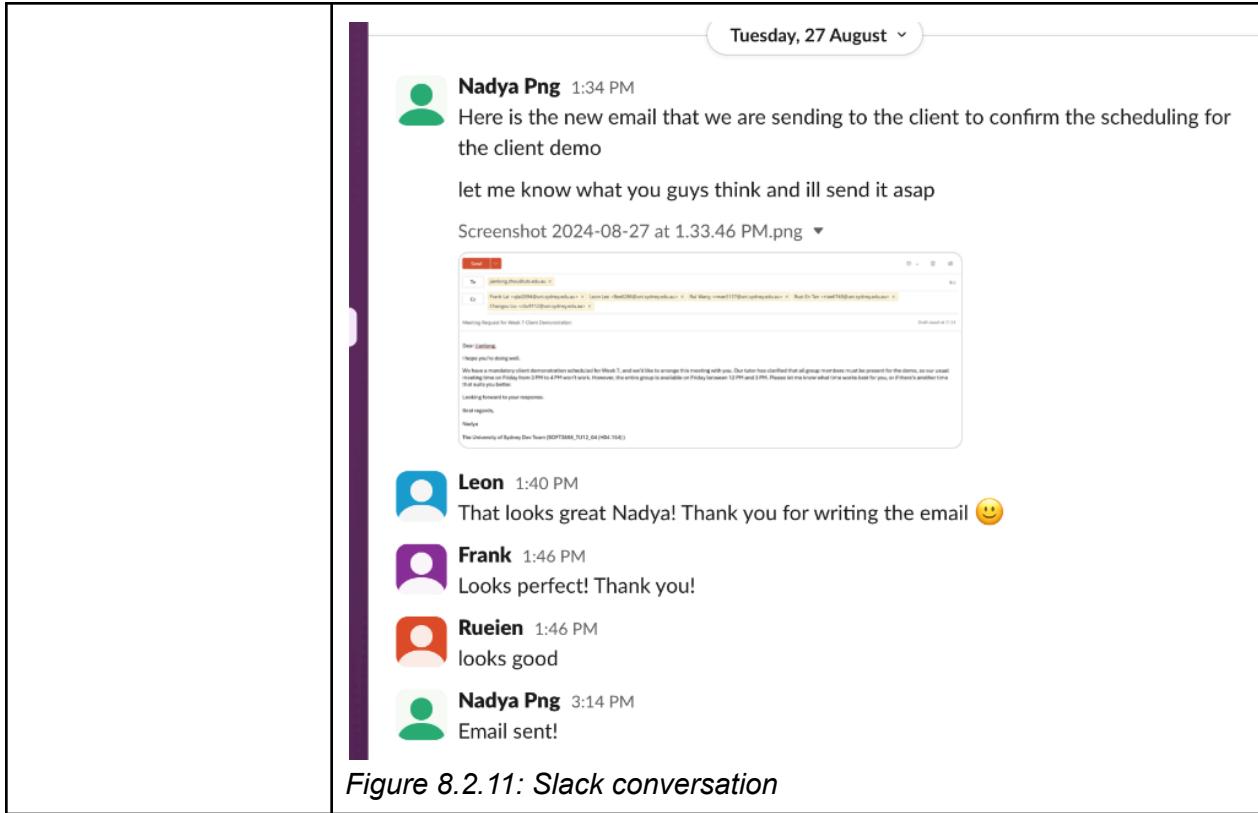


Figure 8.2.11: Slack conversation

<p><b>Week 6: Programmer</b></p> <ul style="list-style-type: none"> <li>- Actively tried to fix Qualtrics API integration</li> <li>- Added documentation to code</li> </ul>	<p><b>SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Pull request Nadya/llm</b></p> <p><b>nadya/llm</b> → <b>main</b> <b>MERGED</b> #15 • Created 2024-09-04 • Last updated 2024-09-04</p> <p><b>Overview</b> Files changed 5 Commits 3</p> <p><b>Merged pull request</b> Merged in nadya/llm (pull request #15) <b>7c4dd75</b> · Author: Nadya Png · Closed by: Leon Lee · 2024-09-04</p> <p><b>Description</b></p> <ul style="list-style-type: none"> <li>• added comments to QualtricsController.js</li> <li>• More comments for backend code</li> </ul>
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Figure 8.2.12: Pull request for adding documentation

**Week 7: Tracker**

- Update on slides required for client demo
- Constant reminders to complete tasks
- Arranged tasks on Jira



**Nadya Png** 11:26 PM

Client demo slides:

- Components of our program
- What is implemented (user stories)
- What is planned to be implemented (user stories)
- Any changes made (response to client feedback)
- How to run (installing dependencies, starting the server + frontend)
- Demo of features
- How we are testing so far (manually, PRs)
- Testing plans

Feel free to add to this (edited)

Tuesday, 10 September ▾



**Nadya Png** 12:25 PM

let's work on the jira today to get all uncompleted tasks on it

Wednesday, 11 September ▾



**Nadya Png** 9:16 PM

Hey guys a quick reminder to finish the slides for client demo before friday!



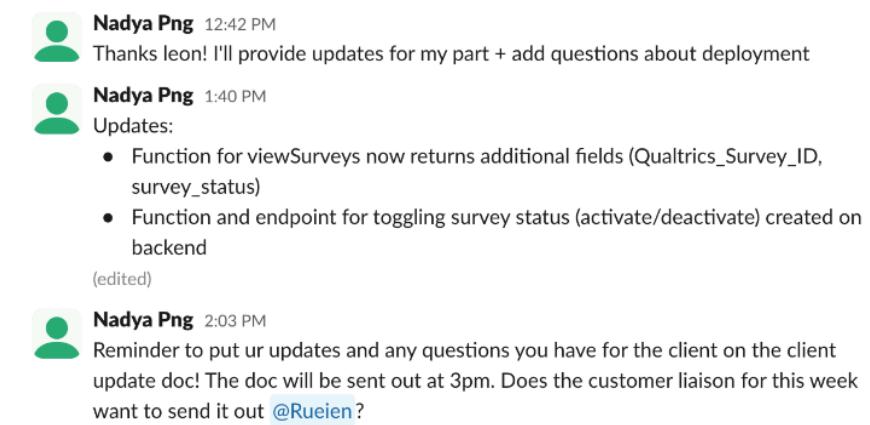
**allenliu** 9:16 PM

*Figure 8.2.13: Slack conversation on updates and reminders*

<p><b>Week 8: Customer Liaison</b></p> <ul style="list-style-type: none"> <li>- Asked members about progress to update client during meeting</li> <li>- Asked client to clarify requirements about features</li> <li>- Prepared updates and questions before meeting</li> <li>- Prepared client meeting minutes</li> </ul>	<p> survey-app / minutes / week8 / 20240920-Client.md  <span style="float: right;">Edit ...</span></p> <h2>Meeting Minutes</h2> <p><b>Subject:</b> Week 8 Client Meeting</p> <p><b>Project Name:</b> A web platform for customized survey data collection</p> <p><b>Facilitator:</b></p> <p><b>Prepared by:</b> Nadya Ee Png</p> <p><b>Date:</b> Friday 20 September 2024</p> <p><b>Time:</b> 3:00PM-4:00PM</p> <p><b>Location:</b> Microsoft Teams</p> <p><b>Attendees:</b> * Client (Jianlong Zhou) * Team Member 1 (Leon Lee) * Team Member 3 (Nadya Png) * Team Member 4 (Frank (Qiufei) Lai) * Team Member 5 (Rui Wang)</p> <p><b>Absent:</b> * Team Member 2 (Changxu Liu) * Team Member 6 (Rueien Tan): Has a tutorial on at the same time</p> <h3>Agenda</h3> <ul style="list-style-type: none"> <li>• Item 1 – What is in progress?</li> <li>• Item 2 – Updates</li> <li>• Item 3 – Feedback</li> </ul> <p>Meeting open at: 3:00 PM</p> <h3>Item 1 - What is in progress?</h3> <ul style="list-style-type: none"> <li>• Data analysis and exporting results</li> <li>• Testing</li> </ul> <h3>Item 2 - Updates</h3> <ul style="list-style-type: none"> <li>• Completed publishing survey and getting participant link</li> <li>• Fixed issues with Qualtrics when generating certain question types</li> <li>• Made initial template for getting user input about research</li> </ul> <h3>Item 3 - Feedback</h3> <p><i>Figure 8.2.14: <a href="#">Week 8 client meeting minutes</a></i></p>
<p><b>Week 9: Tracker</b></p> <ul style="list-style-type: none"> <li>- Sent messages about tracking work during break</li> <li>- Reminded members of their allocated tasks</li> <li>- Helped prepare client</li> </ul>	<p>Thursday, 26 September ▾</p> <p> <b>Nadya Png</b> 4:14 PM Hi guys, just a reminder to keep Jira updated if you work on anything throughout the break! There are some updates on Jira, but if you've finished your task this week, please update it and assign other tasks to yourself. And also shoot slack and instagram a message if you have any updates or run into any bugs 😊</p> <p> <b>Leon</b> 4:14 PM Thanks for the reminder Nadya! I'll make sure to update Jira so that everyone is aware of my progress.</p> <p> 1 </p>

update document

*Figure 8.2.15: Slack conversation informing members to keep Jira and the group updated throughout the break*



*Figure 8.2.16: Slack messages updating others on progress and reminding about tasks*

## Updates

- We're able to view surveys that each account has created now
- Publishing seems to work fine
- Template is fully implemented with required/optional fields
- Testing for frontend + backend using Jest
- It is now possible to download results as a CSV and display results on the v
  - Working on displaying graphs and charts showing results

## Issues

- Although publishing works fully on our end, there are sometimes issues with Qualtrics platform that we're not sure how to fix or what's causing it, e.g.
  - Even if the survey is published correctly and all the questions are visible on the Qualtrics Edit page, the link sometimes just doesn't work, even if the link directly from the Qualtrics webpage sometimes the participant leads to a page that says, 'Unexpected error occurred' (happens rarely)
- For Qualtrics Slider questions, it's not clear if you're able to change the range slider (default is 1-100, but there doesn't seem to be a field in the JSON for
  - Nadya asked Qualtrics support about this and there seems to be no define these settings on the API
- Since usage of the API requires a personal API key, everyone is currently using their own key which is linked to their personal Qualtrics account.
  - If a member creates and publishes a survey on their local computer, survey will only be accessible through their own API key. This causes issues for several functions because other members cannot access those surveys.
  - We might need to use a centralised API key which everyone can use in the program

## Questions

- Is it okay for us to keep the program local or would you want us to deploy the program?
- Regarding the third issue above, is it possible for you to provide us a shared Qualtrics account so all of us have access to a centralised account and API key?
  - This will help us solve access issues with surveys created by different members



*Figure 8.2.17: Version history of client update document*

<p><b>Week 10: Manager</b></p> <ul style="list-style-type: none"> <li>- Delegated tasks on Jira</li> <li>- Created group report document</li> <li>- Added feedback from last report so we can improve</li> <li>- Prepared client and group meeting minutes</li> </ul>	<p>Saturday, 12 October</p> <p><b>Nadya Png</b> 11:37 PM</p> <p>Hey guys I've created a document for the report in the folder. I think its easier to just modify and extend our previous report since many parts will be repeated anyway. The feedback from the last report has been added as comments too. Let's get working on the report ASAP to get it done in time!!</p> <p><b>Figure 8.2.18: Slack message informing group about document</b></p> <p><b>Figure XX: Slack message informing group about document</b></p> <p><b>Testing: Integration tests</b></p> <p><b>Document details</b></p> <table border="1"> <tr> <td>Location</td> <td>Assignment 2</td> </tr> <tr> <td>Owner</td> <td>me</td> </tr> <tr> <td>Modified</td> <td>3:18PM by me</td> </tr> <tr> <td>Created</td> <td>Oct 12, 2024</td> </tr> </table> <p>We can also see fields to help you get started. This</p> <p><b>Figure 8.2.19: Document details showing owner</b></p>	Location	Assignment 2	Owner	me	Modified	3:18PM by me	Created	Oct 12, 2024
Location	Assignment 2								
Owner	me								
Modified	3:18PM by me								
Created	Oct 12, 2024								

## Testing: Integration tests



Done ▾

✓ Done

⚡ Actions ▾

### Description

Add a description...

#### My pinned fields

Assignee 



#### Quickly access important fields

We can pin some fields to help you get started. This modifies only your view, and you can unpin fields at any time.

Dismiss

Pin fields for me

#### Details

Reporter



Nadya Png

Assignee



Rui Wang

[Assign to me](#)

# Testing: Unit testing for all backend functions



Done ▾

✓ Done

⚡ Actions ▾

## Description

Add a description...

### My pinned fields

Assignee



### Quickly access important fields

We can pin some fields to help you get started. This modifies only your view, and you can unpin fields at any time.

Dismiss

Pin fields for me

### Details

Reporter



Nadya Png

Assignee



Nadya Png

## Testing: Implement Bitbucket pipelines for automating testing

To Do Actions

Description

Add a description...

My pinned fields

Assignee

Quickly access important fields  
We can pin some fields to help you get started. This modifies only your view, and you can unpin fields at any time.

Dismiss Pin fields for me

Details

Reporter Nadya Png

Assignee Frank Lai

*Figure 8.2.20: Issues on Jira that I created and delegated*

## Meeting Minutes

**Subject:** Week 10 Tutorial Meeting

**Project Name:** A web platform for customized survey data collection

**Facilitator:**

**Prepared by:** Nadya Ee Png

**Date:** Tuesday 08 October 2024

**Time:** 12:00 PM

	<p><i>Figure XX: Week 10 tutorial meeting minutes</i></p> <h2>Week 10 Group Meeting Minutes</h2> <p><b>Subject:</b> Week 9 Group Meeting</p> <p><b>Project Name:</b> A web platform for customized survey data collection</p> <p><b>Facilitator:</b></p> <p><b>Prepared by:</b> Nadya Ee Png</p> <p><i>Figure 8.2.21: Week 10 group meeting minutes</i></p> <h2>Week 10 Client Meeting Minutes</h2> <p><b>Subject:</b> Week 10 Client Meeting</p> <p><b>Project Name:</b> A web platform for customized survey data collection</p> <p><b>Facilitator:</b></p> <p><b>Prepared by:</b> Nadya Ee Png</p> <p><b>Date:</b> Friday 11 October 2024</p> <p><i>Figure 8.2.22: Week 10 client meeting minutes</i></p>
Week 11: Tester - Analysed test results and coverage - Wrote 'Quality of Work' section on report about testing I have conducted	<p> <b>Nadya Png committed cb60487</b> 20 seconds ago</p> <p><a href="#">View source</a>  <a href="#">Approve</a> <a href="#">...</a> <a href="#">Settings</a></p> <p>Generated latest coverage reports</p> <p>0 comments</p> <p> <a href="#">Add a comment</a></p> <p>32 files</p> <p><i>Figure 8.2.23: Commit that contains latest generated coverage reports</i></p>

## Execution of Designed Test Cases

### Frontend Testing

### Backend Unit Testing

To validate the functionality of our survey application, we executed unit tests using JavaScript testing framework. We employed mocking techniques to simulate interactions with the Qualtrics API, Google Gemini API and our database. This allowed us to focus on the application's logic without relying on external services.

#### Current version

- Nadya Png
- Tan rwei en

▶ October 20, 1:51PM

- Leon Lee
- Nadya Png
- Tan rwei en

▶ October 20, 12:11AM

- All anonymous users

Yesterday

▶ October 19, 10:32PM

- All anonymous users

▶ October 19, 9:35PM

- All anonymous users
- Tan rwei en
- Rui Wang
- Leon Lee

▶ October 19, 8:13PM

- Allen Liu
- Tan rwei en
- All anonymous users

▶ October 19, 5:56PM

- Tan rwei en

▶ October 19, 4:56PM

- Nadya Png

▶ October 19, 2:52PM

- Nadya Png

October 19, 12:50 PM

- Tan rwei en

The execution process of the tests is as seen below:

- Mocking the Qualtrics API
  - We created a mock API to simulate responses for various scenarios, ensuring reliable test execution without actual API calls.
- Mocking the Google Gemini API
  - We created a mock API that simulates the responses from the Gemini model for different prompts, allowing us to test question generation functionality without calling the actual API.
- Mocking Database Interactions
  - We used Jest's mocking capabilities to simulate database operations: inserting and querying survey details, enabling us to validate data handling without a live database connection.
- Running Tests
  - Each unit test was executed in isolation, providing immediate feedback on component functionality.
- Result Analysis
  - The tests confirmed that all components functioned as expected, with reports highlighting areas for additional testing.

## Integration Testing

## Results and Analysis

### Frontend Testing

### Unit and Integration Testing

In our project, unit and integration tests were executed in tandem using Jest, providing a comprehensive evaluation of both individual components and their interactions.

Upon executing the tests, the terminal output provided a summary of passed and failed cases. Each test case was meticulously analysed, and for any failed cases, we reviewed accompanying error messages and logs to pinpoint the root causes of the issues.

The debugging process is outlined below:

- Error Analysis
  - We carefully examined error messages to identify discrepancies in expected versus actual outcomes.
- Debugging
  - The debugging process involved modifying the code and re-running it iteratively until all test cases passed successfully. This cycle ensured that functionalities were working as intended and met the specified acceptance criteria.
- Final Verification
  - Once all tests passed, we verified the results against the original requirements to confirm that both unit and integration tests were effective in ensuring the application's reliability and robustness.

#### Current version

- Nadya Png
- Tan rwei en

▶ October 20, 1:51PM

- Leon Lee
- Nadya Png
- Tan rwei en

▶ October 20, 12:11AM

- All anonymous users

Yesterday

▶ October 19, 10:32PM

- All anonymous users

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- Leon Lee

▶ October 19, 8:13PM

- Allen Liu
- Tan rwei en
- All anonymous users

▶ October 19, 5:56PM

- Tan rwei en

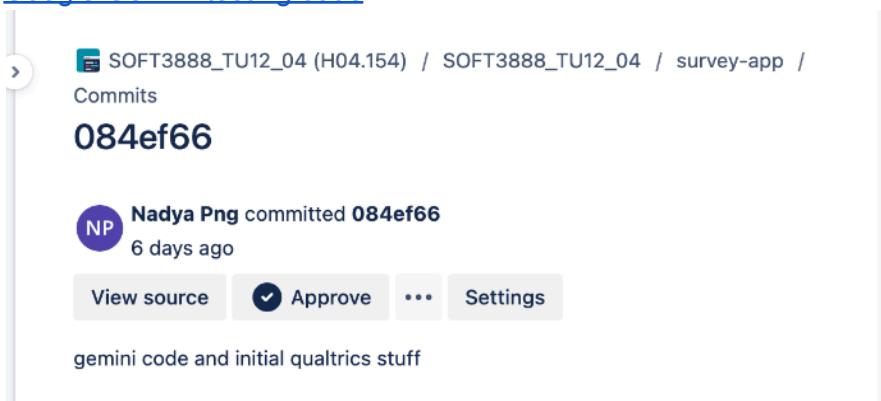
▶ October 19, 4:56PM

- Nadya Png

The screenshot shows a version history interface for a document. At the top, it displays the date "October 19, 4:56 PM" and a "Restore this version" button. Below this, there's a summary section with a "100%" view icon and a "Total: 35 edits" counter. A note states: "Each system test case was validated by comparing the system's behaviour with the criteria set for the corresponding user story. For example:" followed by a bulleted list of validation points. Another section details the evaluation of system tests on metrics like Pass/Fail Outcome, Completeness, and Performance. A note about deviations from expected results follows. On the right side, a "Version history" panel lists previous versions with their dates, authors (Leon Lee, Nadya Png, Tan ruei en), and a summary of changes.

Figure 8.2.24: Version history of the 'Quality of Work' part

<p><b>Week 12: Doomsayer</b></p> <ul style="list-style-type: none"> <li>- Pointed out final UI issues</li> </ul>	<p>Nadya Png 1:23 PM Hey guys I had a look at the current UI, and it looks ok but there are some minor things to change, like the survey history stuff bc its looking kinda bad rn. (edited)</p>
<p>Set up initial backend server and merged separate backend modules</p>	<p><u>Initial backend code commit</u></p> <p>SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Commits <b>084ef66</b></p> <p>Nadya Png committed <b>084ef66</b> 6 days ago</p> <p><a href="#">View source</a> <a href="#">Approve</a> <a href="#">...</a> <a href="#">Settings</a></p> <p>gemini code and initial qualtrics stuff</p>

	<p><i>Figure 8.2.26: Screenshot of initial backend server code commit Commit where I merged backend</i></p> 
Researched and tested generative AI models	<p><i>Figure 8.2.27: Screenshot of commit merging backend modules</i></p> 
	<p><i>Figure 8.2.28: Screenshot of Google Gemini testing code commit</i></p>
Wrote logic for external API calls to Gemini and Qualtrics	<p><a href="#">geminiController.js</a> - contains functions for calling Google Gemini to generate content</p> <p><a href="#">qualtricsController.js</a> - contains functions for calling Qualtrics API to create survey, add question, get survey, and get question</p> <p>Commits/Pull requests related to feature:</p> <ul style="list-style-type: none"> <li>• <a href="#">Initial backend code commit</a></li> <li>• <a href="#">Pull request merging features to ma</a></li> </ul>

The screenshot shows a GitHub pull request page. At the top, it displays the repository path: SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests. Below this, the title of the pull request is 'Nadya/llm'. A user icon for 'NP' (Nadya Png) is shown next to the branch 'nadya/llm' pointing to 'main'. The status is 'MERGED' with a note '#8 · Created yesterday · Last updated yesterday'. Below the title, there are tabs for 'Overview', 'Files changed 12', and 'Commits 9'. The 'Overview' tab is selected. A green box highlights the 'Merged pull request' section, which includes the message 'Merged in nadya/llm (pull request #8)' and the commit hash 'a39d9c3 · Author: Nadya Png · Closed by: Leon Lee · yesterday'. Below this, the 'Description' section is expanded, listing numerous changes made to the codebase, such as adding new API calls to Qualtrics, fixing MCQ JSON format, creating question post requests, and adding functions for other question types. The list continues with examples, template updates, and endpoint additions.

*Figure 8.2.29: Pull request*

Created backend function for question generation	<a href="#">questionGenerationController.js</a> - contains fully working question generation function <a href="#">Pull request containing feature</a>
--	--

The screenshot shows a GitHub pull request page. At the top, it displays the repository path: SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests. Below this, the title "Nadya/lm" is shown. A circular icon with "NP" and a purple background is next to the author's name "nadya/lm". To the right, a green button indicates the pull request is "MERGED". Below this, a note says "#8 · Created yesterday · Last updated yesterday". There are three tabs at the top: "Overview" (underlined), "Files changed 12", and "Commits 9". A green box highlights the "Merged pull request" section, which contains the message "Merged in nadya/lm (pull request #8)" and the commit hash "a39d9c3 · Author: Nadya Png · Closed by: Leon Lee · yesterday". Below this, a section titled "Description" is expanded, showing a bulleted list of changes:

- added a few new api calls to qualtrics
- mcq json format and fixed code for create question post request
- getQuestion function made, added format data for other question types, tweaked add question code
- examples added
- more examples
- some changes to add question
- Created generateQuestions that generates a question for each question type
- Made helper functions for JSON extraction
- New template for question format
- Added endpoint for question generation
- Tweaked gemini code to facilitate question generation

*Figure 8.2.30: Pull request*

Made sequence diagram for system	<a href="#">Sequence diagram commit</a>
----------------------------------	---

	<p> SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Commits</p> <h2>224d4a1</h2> <p> Nadya Png committed 224d4a1 2024-08-16</p> <p><a href="#">View source</a> <a href="#">Settings</a></p> <p>added sequence diagram to docs</p> <p>0 comments</p> <p> Add a comment</p> <p>1 file</p> <p>FILTER BY COMMENTS   SORT BY <a href="#">File tree</a></p> <p> Sequence diagram.png</p> <p>ADDED</p> <p>W: 1960   H: 1117</p>
Meeting minutes for client meeting (20240809)	<a href="#">Meeting minutes</a>

	<h1>Meeting Minutes</h1> <p><b>Subject:</b> Week 2 Client Meeting</p> <p><b>Project Name:</b> A web platform for customized survey data collection</p> <p><b>Facilitator:</b></p> <p><b>Prepared by:</b> Nadya Png</p>
<p><i>Figure 8.2.32: Week 2 meeting minutes</i></p>	

Constantly reviewed and approved pull requests	The screenshot shows a list of pull requests in a GitHub repository. The repository path is SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app. The user is currently reviewing pull requests. There are 14 pull requests listed, all of which have Nadya Png (NP) as a reviewer. Other reviewers listed include Leon Lee (LL), Allen Liu (AL), and another user (A). The pull requests are sorted by 'Recently updated'.	Author	Merge Status	Description	Created	Activity	Reviewers	Builds		-----------	--------------	---	--------------	-------------	-----------	--------		Leon Lee	OPEN	added welcome {username}, changed ce...	2 hours ago	1	NP			Leon Lee	MERGED	fixed registration bug	2 hours ago	1	NP			Leon Lee	MERGED	Leon/login	10 hours ago	1	NP			Leon Lee	MERGED	integrated the question generation wit...	1 day ago	1	NP			Nadya Png	MERGED	changes to the response formatting for...	1 day ago	1	LL			Leon Lee	MERGED	commented out broken code, added n...	1 day ago	1	NP			Nadya Png	MERGED	Nadya/lm	1 day ago	1	LL			allenliu	MERGED	Add user role management feature	1 day ago	1	NP, LL			Leon Lee	MERGED	Added displaying functionality for MCQ...	2 days ago	1	NP			Leon Lee	MERGED	Created scaffold code to display each ...	2 days ago	1	NP			Leon Lee	MERGED	Added additional context field in the fr...	2 days ago	No activity	NP		
*Figure 8.2.33: Screenshot showing me as a reviewer for most pull requests*																																																																																																									

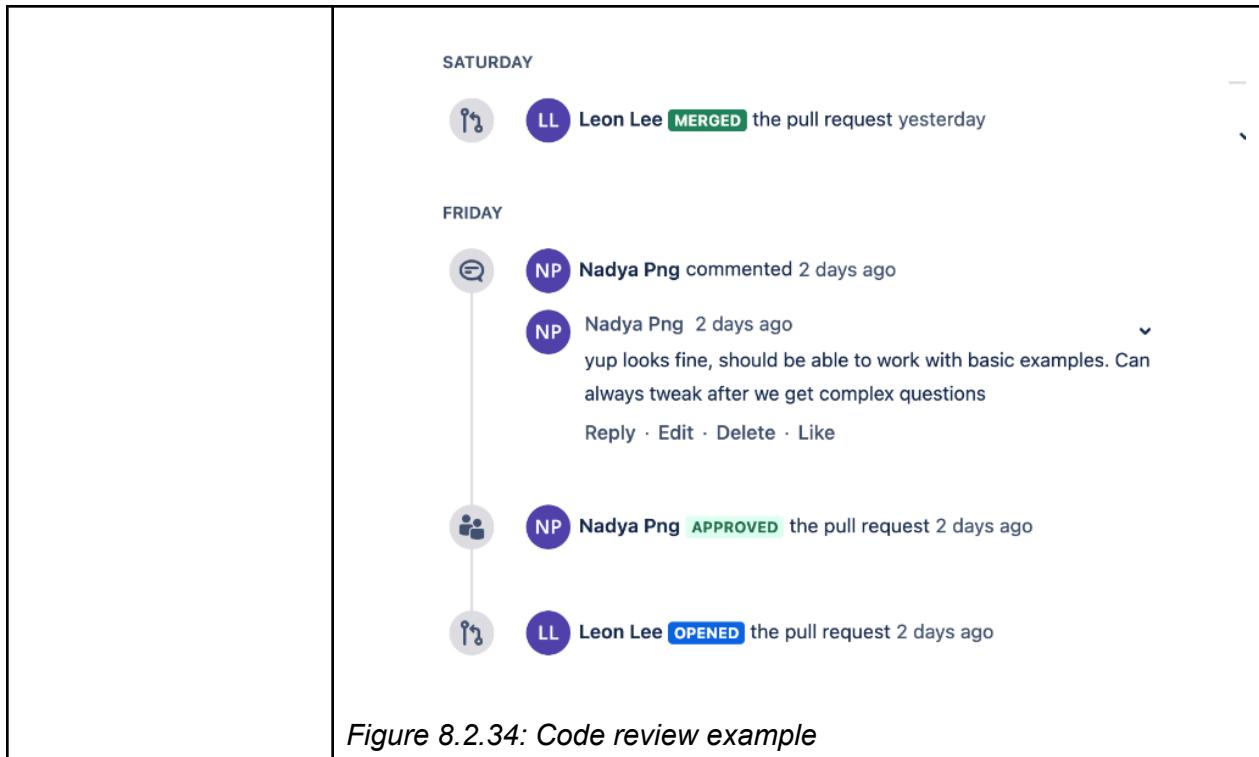


Figure 8.2.34: Code review example

<p><b>Group report contributions:</b></p> <ul style="list-style-type: none"> <li>- Wrote entirety of 'System Architecture and Design' part in report (besides Overview)</li> <li>- Wrote entirety of 'Reflections and Conclusions' (besides Challenge/Risk Analysis)</li> <li>- Made high level component diagram</li> </ul>	<p><b>System Architecture and Design</b></p> <p>Completed systems architecture and design</p> <p><b>How you designed and implemented the system</b></p> <p>The design and implementation of the system began with gathering user requirements. We collaboratively planned the system architecture, creating a series of diagrams for both the frontend and backend. These diagrams and plans were shared with the client for approval before moving forward with implementation. This approach ensured that we aligned with the client's functional and non-functional requirements, allowing for adjustments to the project scope if necessary. During the implementation phase, any deviations from the original plan are also communicated with the client to ensure everyone remains aligned and on the same page.</p> <ul style="list-style-type: none"> <li>• Gather comprehensive requirements from client</li> <li>• Created user stories on Jira</li> <li>• Created design diagrams           <ul style="list-style-type: none"> <li>◦ Low-fidelity diagrams</li> <li>◦ High-fidelity Figma prototype</li> </ul> </li> <li>• Sequence diagram planning interactions between components</li> <li>• Initial templates for frontend, backend and database set up</li> <li>• Frontend, backend and API features developed in parallel</li> <li>• Main technical components of the system</li> </ul> <table border="1" data-bbox="535 1622 1029 1780"> <thead> <tr> <th>Component</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Frontend</td> <td> <ul style="list-style-type: none"> <li>• Built using Javascript frameworks (React.js), HTML, CSS</li> <li>• Provides an interactive user interface for the webapp functions</li> </ul> </td> </tr> <tr> <td>Backend</td> <td> <ul style="list-style-type: none"> <li>• Built using Node.js and Express.js</li> <li>• Handles user requests from frontend</li> <li>• Contains logic for user management, question and survey</li> </ul> </td> </tr> </tbody> </table> <p>September 1, 10:13 PM Leon Lee</p> <p>September 1, 10:13 AM All anonymous users</p> <p>September 1, 3:22 AM All anonymous users Nadya Png</p> <p>September 1, 2:56 AM Leon Lee Nadya Png All anonymous users</p> <p>September 1, 2:18 AM Leon Lee Nadya Png</p> <p>September 1, 1:40 AM All anonymous users Leon Lee</p> <p>September 1, 12:56 AM All anonymous users</p> <p>Saturday</p> <p>August 31, 9:04 PM All anonymous users</p> <p>August 31, 7:04 PM Leon Lee</p> <p>August 31, 6:59 PM Leon Lee</p> <p>August 31, 6:34 PM Leon Lee</p> <p>Show changes</p>	Component	Description	Frontend	<ul style="list-style-type: none"> <li>• Built using Javascript frameworks (React.js), HTML, CSS</li> <li>• Provides an interactive user interface for the webapp functions</li> </ul>	Backend	<ul style="list-style-type: none"> <li>• Built using Node.js and Express.js</li> <li>• Handles user requests from frontend</li> <li>• Contains logic for user management, question and survey</li> </ul>
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Frontend	<ul style="list-style-type: none"> <li>• Built using Javascript frameworks (React.js), HTML, CSS</li> <li>• Provides an interactive user interface for the webapp functions</li> </ul>						
Backend	<ul style="list-style-type: none"> <li>• Built using Node.js and Express.js</li> <li>• Handles user requests from frontend</li> <li>• Contains logic for user management, question and survey</li> </ul>						

**6. Frontend, backend and API features developed in parallel**

Nadya Png

**1. Requirement Gathering:**

- We began by gathering user requirements, involving stakeholders to define the system's functional and non-functional needs.

**2. System Architecture Planning:**

- We researched the external APIs and AI models to be used for the system
- We developed detailed architecture diagrams for the frontend, backend, and API interactions
  - Low-fidelity diagrams
  - High-fidelity Figma prototype
  - Sequence diagram planning interactions between components
  - ERD and schema for database
- These plans were reviewed and approved by the client, allowing us to align with their expectations and adjust the project scope as needed.

**3. Implementation:**

- Frontend: Built a responsive interface using React.js, enabling users to input research questions and interact with generated survey questions.
- Backend: Developed with Node.js and Express.js to handle business logic and API integrations with Google Gemini and Qualtrics.
- API Integration: Ensured seamless communication between the system and external APIs for survey question generation and creation.

**4. Testing:**

- We plan to conduct thorough testing of our system during the next phase of our development.
  - Unit testing
  - Integration testing
  - End-to-end testing
  - Usability testing
  - Performance testing

**<EVIDENCE FOR DIAGRAMS>**

Main technical components of the system

September 1, 10:13AM

Leon Lee

September 1, 3:22AM

All anonymous users

September 1, 2:56AM

Leon Lee

Nadya Png

All anonymous users

September 1, 2:18AM

Leon Lee

Nadya Png

All anonymous users

September 1, 1:40AM

All anonymous users

Leon Lee

September 1, 12:56AM

All anonymous users

Saturday

August 31, 9:04PM

All anonymous users

August 31, 7:04PM

Leon Lee

August 31, 6:59PM

Leon Lee

**Limitations in terms of functionality, structure, design, implementation...**

Nadya Png

- Functionality:** The current version of the web app focuses primarily on core features like user management and question generation, potentially leaving out additional features that could enhance user experience, such as advanced analytics or more customizable survey options.
- Structure:** The reliance on external APIs introduces limitations in terms of scalability and performance, as the speed and availability of these services cannot be fully controlled.

**Design:** While the design is functional, there may be limitations in terms of user experience, particularly if users require features that were deprioritised during this development phase. This will be mitigated in the next phase when we improve user experience through changing the UI according to the planned mockup shown above.

**Implementation:** The rapid pace of development may have led to some technical debt, particularly in areas where code was written quickly to meet deadlines without thorough refactoring or optimisation. This will be mitigated later on through thorough testing and refactoring.

**Primary strengths**

- Modular Design:** The use of the MVC pattern has resulted in a modular and maintainable codebase, making it easier to extend and modify the application in the future.
- Effective Prioritisation:** By focusing on the most critical features for the initial deployment, the team was able to deliver a functional product on time, meeting the client's immediate needs. This was done through clear communication with the client, and effective tracking and planning of weekly sprints.
- Strong Collaboration:** The team worked well together, particularly in coordinating between frontend and backend development, ensuring that integration points were well-defined and functional.
- Code Review:** The use of pull requests on BitBucket ensures that all code pushed to main is reviewed by at least one member. This keeps the main development line clean, and maintains a working program on the main branch.

**Programming practices**

Today

September 2, 2:35AM

Current version

Nadya Png

Leon Lee

September 2, 1:10AM

All anonymous users

Nadya Png

September 2, 12:02AM

All anonymous users

Nadya Png

Leon Lee

Yesterday

September 1, 11:04PM

Leon Lee

Nadya Png

All anonymous users

September 1, 9:04PM

All anonymous users

Nadya Png

September 1, 7:08PM

Nadya Png

All anonymous users

September 1, 6:34PM

Nadya Png

All anonymous users

September 1, 5:54PM

All anonymous users

Nadya Png

September 1, 5:31PM

Show changes

	<p>Details for all aspects selected for the final product</p> <p><b>Product features</b></p> <ul style="list-style-type: none"> <li>• <b>User management system:</b> For users to manage profile information, and their surveys.           <ul style="list-style-type: none"> <li>◦ Frontend: Provides interface for users to input login information, edit existing profiles and display their surveys</li> <li>◦ Backend: Handles logic for login authentication, communicates with database to fetch and modify user profile</li> </ul> </li> <li>• <b>Survey question generation system:</b> Allow users to input their research question and additional information, and receive a series of relevant auto-generated questions.           <ul style="list-style-type: none"> <li>◦ Frontend:               <ul style="list-style-type: none"> <li>▪ Provides user-friendly interface for inputting their research topic and additional context about the survey</li> <li>▪ Provides interface for editing auto-generated questions, adding/deleting their own questions</li> </ul> </li> <li>◦ Backend:               <ul style="list-style-type: none"> <li>▪ Processes requests containing user input and formats them into prompts</li> <li>▪ Calls Google Gemini API with prompt to generate questions</li> </ul> </li> </ul> </li> <li>• <b>Survey generation and management system:</b> For users to create surveys from chosen questions, modify/delete existing surveys, and manage distribution of surveys.           <ul style="list-style-type: none"> <li>◦ Frontend:               <ul style="list-style-type: none"> <li>▪ Provides interface for user to submit chosen questions to create survey</li> <li>▪ Allows users to view/modify/delete existing surveys</li> <li>▪ Allows users to get survey links for distribution to participants</li> </ul> </li> <li>◦ Backend:               <ul style="list-style-type: none"> <li>▪ Formats chosen questions and communicates with Qualtrics API for survey generation and creating questions</li> <li>▪ Handles modification of existing surveys with calls to Qualtrics API and database</li> <li>▪ Handles logic for getting survey links for each survey</li> </ul> </li> </ul> </li> <li>• <b>Data analysis system:</b> For users to analyse survey results through data visualisation and statistical analysis           <ul style="list-style-type: none"> <li>◦ Frontend: Page that displays simple analysis of survey re</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>▶ September 1, 6:34 PM           <ul style="list-style-type: none"> <li>● Nadya Png</li> <li>● All anonymous users</li> </ul> </li> <li>▶ September 1, 5:54 PM           <ul style="list-style-type: none"> <li>● All anonymous users</li> <li>● Nadya Png</li> </ul> </li> <li>▶ September 1, 5:31PM           <ul style="list-style-type: none"> <li>● Nadya Png</li> <li>● Leon Lee</li> <li>● All anonymous users</li> </ul> </li> <li>▶ September 1, 2:46 PM           <ul style="list-style-type: none"> <li>● All anonymous users</li> </ul> </li> <li>▶ September 1, 2:36 PM           <ul style="list-style-type: none"> <li>● All anonymous users</li> </ul> </li> <li>▶ September 1, 1:27PM           <ul style="list-style-type: none"> <li>● Leon Lee</li> </ul> </li> <li>▶ September 1, 10:13AM           <ul style="list-style-type: none"> <li>● All anonymous users</li> </ul> </li> <li>▶ September 1, 3:22AM           <ul style="list-style-type: none"> <li>● All anonymous users</li> <li>● Nadya Png</li> </ul> </li> <li>▶ September 1, 2:56 AM           <ul style="list-style-type: none"> <li>● Leon Lee</li> <li>● Nadya Png</li> <li>● All anonymous users</li> </ul> </li> </ul>
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Figure 8.2.35: Version history

Meeting minutes for group meeting (20240901)	<p><u>Week 5 Group Meeting Minutes</u></p> <h2>Meeting Minutes</h2> <p><b>Subject:</b> Week 4 Group meeting</p> <p><b>Project Name:</b> A web platform for customized survey data collection</p> <p><b>Facilitator:</b></p> <p><b>Prepared by:</b> Nadya Ee Png</p>
Consistently updated about own progress on Slack and maintained consistent communication	

Figure 8.2.36: Meeting minutes

<p>Modified question generation feature to generate one at a time</p> <ul style="list-style-type: none"> <li>- Created backend functions and endpoints for generating all question types</li> <li>- Extensive manual testing</li> <li>- Changes to Gemini prompts</li> </ul>	
--	--

Figure 8.2.37: [Pull request](#) with modifications

<p>Created JSON templates for all question types to be included in Gemini prompts</p>	
---	--

Figure 8.2.38: [Pull request](#) containing templates

Made changes to backend question generation processes to improve question quality and prevent question repetition

- Split question generation so 2 calls to Gemini API are made (instead of 1)
- Created new helper functions
- Added simplified JSON formats

## Changes to backend question generation processes to improve question quality and prevent question repetition

The screenshot shows a GitHub pull request page. At the top, it says "nadya/l1m → main MERGED #26 · Created 2024-09-14 · Last updated 2024-09-15". Below this, there are tabs for "Overview", "Files changed 8", and "Commits 4". A green box highlights the "Merged pull request" section, which contains the message "Merged in nadya/l1m (pull request #26)" and the commit hash "de6de8d · Author: Nadya Png · Closed by: Leon Lee · 2024-09-15". Below this, the "Description" section is expanded, listing the following changes:
 

- Split question generation to 2 separate tasks (generating simplified question and formatting question into Qualtrics format)
  - Added new simplified formats for all question types with only necessary fields
  - Added more helper functions to perform question generation
- Removed unused functions and endpoints

*Figure 8.2.39: [Pull request](#) containing code changes for question quality improvement*

Fixed bug with cases where context and existing questions are not provided

## Fixed bug with cases where context and existing questions are not provided

The screenshot shows a GitHub pull request page. At the top, it says "SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests" and "nadya/l1m → main MERGED #27 · Created 2024-09-15 · Last updated 2024-09-15". Below this, there are tabs for "Overview", "Files changed 2", and "Commits 2". A green box highlights the "Merged pull request" section, which contains the message "Merged in nadya/l1m (pull request #27)" and the commit hash "f36bbca · Author: Nadya Png · Closed by: Leon Lee · 2024-09-15". Below this, the "Description" section is expanded, listing the change:
 

- Added empty list handling for when no existing questions are given

*Figure 8.2.40: [Pull request](#) after debugging*

Refactored codebase for better maintainability and easier integration

- Code refactoring
- Cleaned up unused functions and endpoints
- Cleaned up environmental variables

**Od9de61**

 **Nadya Png** committed **Od9de61**  
2024-09-15

[View source](#)  [Approve](#) [...](#) [Settings](#)

Cleaned up qualtricsController and refactored functions to facilitate integration

**Figure 8.2.41:** [Commit after refactoring](#)



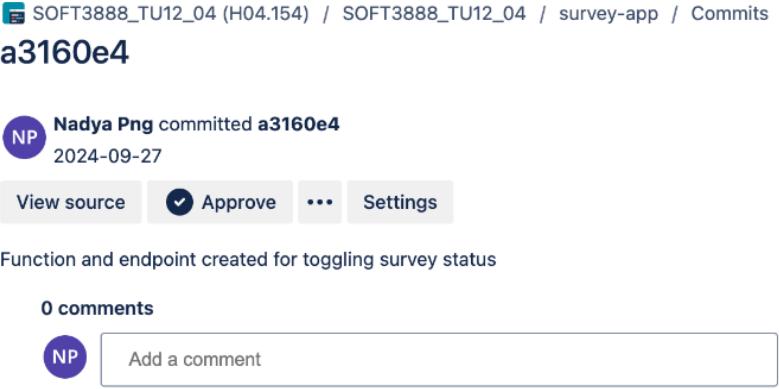
**Merged pull request**  
Merged in nadya/llm (pull request #30)  
**1f1ff12** · Author: Nadya Png · Closed by: Leon Lee · 2024-09-18

**Description**

- Cleaned up qualtricsController and refactored functions to facilitate integration
- Functions made to create survey then add all questions into array
- Added Qualtrics helper functions for activating/deactivating surveys, generating distributions and getting survey links
- New SurveyGenerationController to handle publishing surveys and getting survey links
  - Function to create survey and all questions from request
  - Function to activate, create distribution, and getting survey link for distribution
  - New endpoints made for publishing
- Remove unnecessary function
- Removed need to create distribution before getting survey link
- Removed unused endpoint
- Removed unused env variable
- Fixed publishing response.

**Figure 8.2.42:** [Pull request after refactoring and cleaning up code](#)

<p>Created publish survey feature (backend)</p> <ul style="list-style-type: none"> <li>- Helper functions to call Qualtrics API for publishing and getting survey links</li> <li>- Helper functions to arrange and format questions</li> <li>- Created SurveyGenerationController to handle publishing surveys and getting survey links</li> </ul>	 <p>The screenshot shows a GitHub commit page for commit "353e721". It says "Nadya Png committed 353e721" on 2024-09-16. There are buttons for "View source", "Approve", "...", and "Settings". Below the commit message is a list of changes:</p> <ul style="list-style-type: none"> <li>• Added Qualtrics helper functions for activating/deactivating surveys, generating distributions and getting survey links</li> </ul>
--	--

	 <p><b>a3160e4</b></p> <p>Nadya Png committed <b>a3160e4</b> 2024-09-27</p> <p>View source <input checked="" type="checkbox"/> Approve ... Settings</p> <p>Function and endpoint created for toggling survey status</p> <p>0 comments</p> <p>Add a comment</p>
<p>Integrated database with survey publishing</p> <ul style="list-style-type: none"> <li>- Helper functions to update database with new surveys</li> <li>- Modified publishing to add new database entry</li> </ul>	 <p><b>Database integration with publish function</b></p> <p>nadya/l1m → main MERGED #33 · Created 2024-09-20 · Last updated 2024-09-21</p> <p>Overview Files changed 6 Commits 8</p> <p>Merged pull request Merged in nadya/l1m (pull request #33) 6aa8c2f · Author: Nadya Png · Closed by: Nadya Png · 2024-09-21</p> <p>Description</p> <ul style="list-style-type: none"> <li>• New database functions for adding entry into Survey and UserSurvey tables added</li> <li>• Added code to publish function that adds entry into db</li> <li>• Changes to database integration code so fields are correct. Publish function no longer inserts an entry into userSurvey table (potentially unnecessary table)</li> </ul>

Created feature to view past surveys (backend)

- Function to get list of surveys from database

 SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Commits  
**69a3471**

 Nadya Png committed **69a3471**  
2024-09-27

[View source](#)  [Approve](#) [...](#) [Settings](#)

Changed getSurvey to take in a parameter instead of request

0 comments

 Add a comment

Figure 8.2.47: [Commit](#) containing Qualtrics helper function

 SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Commits  
**26fe213**

 Nadya Png committed **26fe213**  
2024-09-27

[View source](#)  [Approve](#) [...](#) [Settings](#)

Changed getSurveyByUsername to get status of survey. Changed viewSurveysHelper to make it return Qualtrics\_Survey\_ID as a field

0 comments

 Add a comment

Figure 8.2.48: [Commit](#) containing functions to get list of user surveys

The screenshot shows a GitHub pull request page. At the top, it displays the repository path: SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests. The title of the pull request is "Changes for viewing surveys + endpoint for toggling survey status + delete survey". Below the title, there's a user icon labeled "NP" and the text "nadya/l1m → main MERGED". It also shows the creation date "#37 · Created 2024-09-27 · Last updated 2024-09-27". A horizontal navigation bar below the title includes "Overview" (which is underlined), "Files changed 5", and "Commits 6". A green callout box highlights the "Merged pull request" status, mentioning "Merged in nadya/l1m (pull request #37)" and the commit hash "5d0cd95 · Author: Nadya Png · Closed by: Leon Lee · 2024-09-27". Below this, a section titled "Description" is expanded, listing several changes:

- Changed getSurvey to take in a parameter instead of request
- Changed getSurveyByUsername to get status of survey
- Changed viewSurveysHelper to make it return Qualtrics\_Survey\_ID as a field
- Function and endpoint created for toggling survey status
- Helper function to delete survey from database
- Helper function to delete survey from Qualtrics
- Function and endpoint to delete survey from both database and Qualtrics

*Figure 8.2.49: Relevant [pull request](#)*

<p>Created delete survey feature (backend)</p> <ul style="list-style-type: none"> <li>- Functions to delete surveys from Qualtrics and database</li> </ul>	<p> SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Pull requests</p> <h2>Changes for viewing surveys + endpoint for toggling survey status + delete survey</h2>  <p>NP nadya/lm → main MERGED #37 · Created 2024-09-27 · Last updated 2024-09-27</p> <p>Overview Files changed 5 Commits 6</p> <p> Merged pull request Merged in nadya/lm (pull request #37) <a href="#">5d0cd95</a> · Author: Nadya Png · Closed by: Leon Lee · 2024-09-27</p> <p>▼ Description</p> <ul style="list-style-type: none"> <li>• Changed getSurvey to take in a parameter instead of request</li> <li>• Changed getSurveyByUsername to get status of survey</li> <li>• Changed viewSurveysHelper to make it return Qualtrics_Survey_ID as a field</li> <li>• Function and endpoint created for toggling survey status</li> <li>• Helper function to delete survey from database</li> <li>• Helper function to delete survey from Qualtrics</li> <li>• Function and endpoint to delete survey from both database and Qualtrics</li> </ul>
--	--

Figure 8.2.50: Relevant [pull request](#)

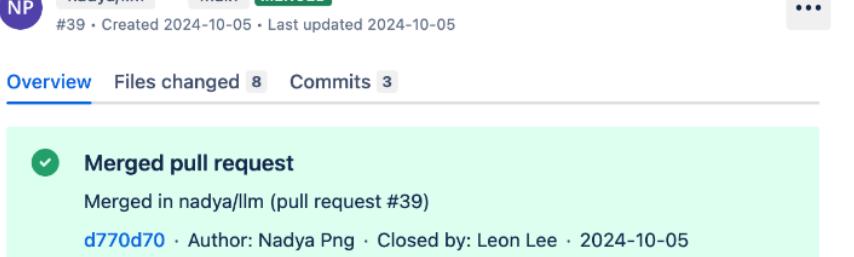
<p>Created feature for manual addition of questions (backend)</p> <ul style="list-style-type: none"> <li>- Default templates for all question types</li> <li>- Functions and endpoints to get default templates</li> </ul>	<p> SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app / Pull requests</p> <h2>Manual Addition Backend</h2>  <p>NP nadya/lm → main MERGED #39 · Created 2024-10-05 · Last updated 2024-10-05</p> <p>Overview Files changed 8 Commits 3</p> <p> Merged pull request Merged in nadya/lm (pull request #39) <a href="#">d770d70</a> · Author: Nadya Png · Closed by: Leon Lee · 2024-10-05</p> <p>▼ Description</p> <p>For manual question addition</p> <ul style="list-style-type: none"> <li>• Added default templates for all question types</li> <li>• Added functions and endpoints for getting default templates for all question types</li> <li>• Changed format of default questions to JS object instead of string</li> </ul>
--	---

Figure 8.2.51: [Pull request](#) for manual addition

Wrote all unit tests for backend server

- Set up backend testing environment
- Generated coverage reports

SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests

## Unit tests for backend functions

NP

nadya/testing → main MERGED

#42 · Created 2024-10-08 · Last updated 2024-10-08

...

Overview

Files changed 55

Commits 15

### ✓ Merged pull request

Merged in nadya/testing (pull request #42)

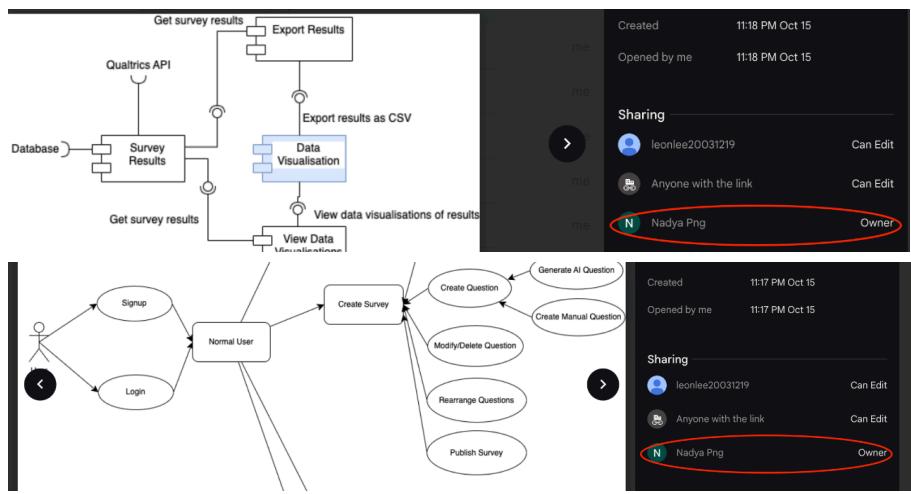
965be0d · Author: Nadya Png · Closed by: Rui Wang · 2024-10-08

### ▼ Description

- Changed locations of package.json and .env files for server. Added jest as dependency
- Added tests for qualtricsController. Debugged functions on qualtricsController.js
- More tests for qualtricsController
- Fixed merge conflicts
- Modified and added more tests for qualtricsController.js
- GeminiController tests
- Minor changes to questionGenerationController. Added tests for questionGenerationController.js
- Coverage reports for backend tests Tests added for viewSurveysController and surveyGenerationController Commented out generateCustom from geminiController
- Tests for authController and surveyGenerationController
- Added tests for database helper functions: surveyGenerationFunctions.js and viewSurveyHelper.js
- Tests for manualAdditionController

Figure 8.2.52: [Pull requests containing all unit tests](#)

Created component diagrams to be used in demo and report



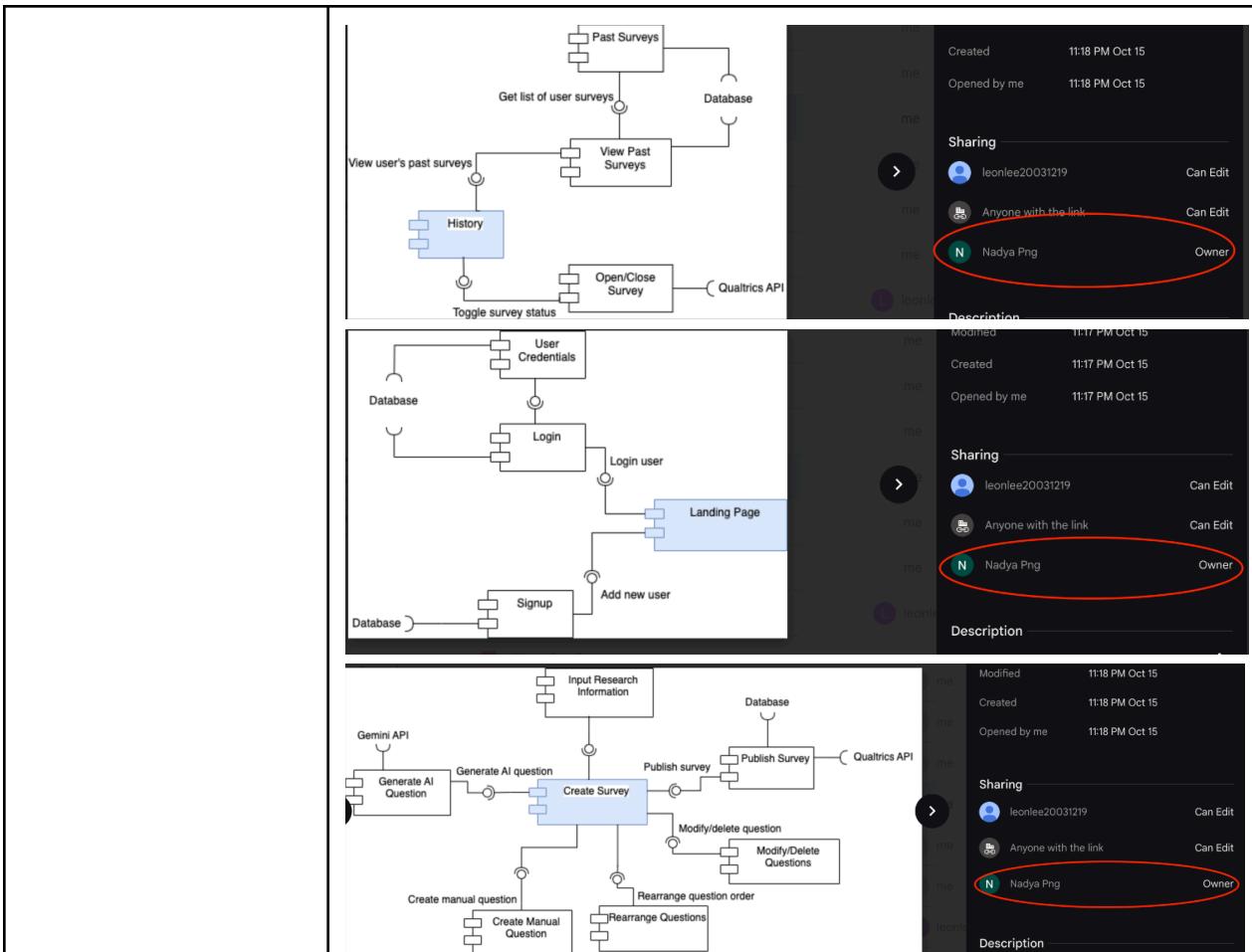
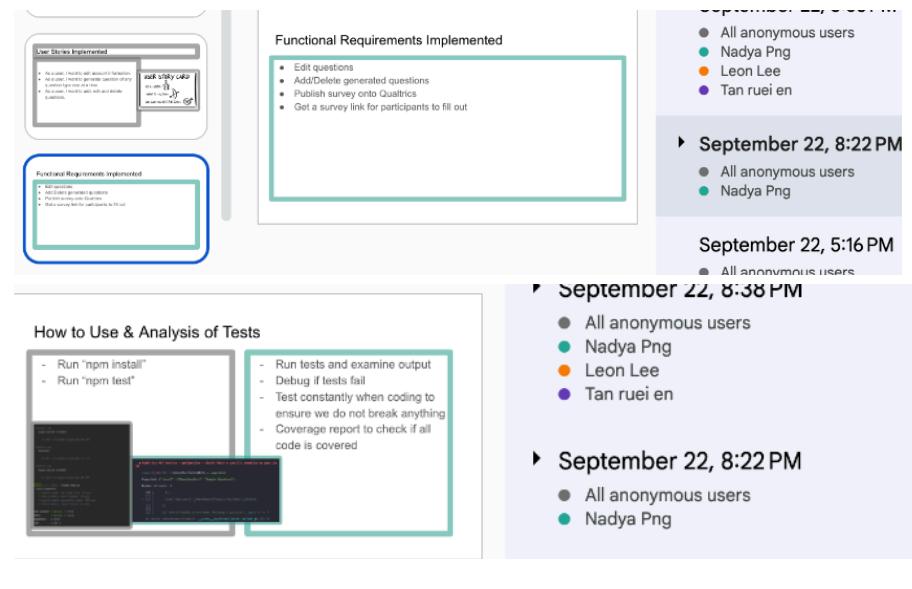


Figure 8.2.53: Component diagram details showing the owner

### Worked on week 9 presentation slides

- Made slides and added headings
- Functional requirements slide
- How to use and analysis of tests slide
- User stories implemented slide
- Timeline for remaining work slide
- Rearranged and organised slides



**User Stories Implemented**

As a user:

- I want to edit account information.
- I want to generate question of any question type one at a time
- I want to add, edit and delete questions.
- I want to be able to see my survey results.
- I want to publish a survey and get a participant link to the survey

**USER STORY CARD**

AS A <USER>  
I WANT TO <ACTION>  
SO I CAN <ACHIEVE THE GOAL>

**Timeline for Remaining Work**

- Week 9: Data Analysis and Visualization, Further editing of survey and questions
- Week 10: Save and edit later feature, Data security and backup options
- Week 11: UI updates
- Week 12: Final system testing
- Testing will be done throughout the remaining weeks

**Business plan timeline**

Week 9: Data Analysis & visualization, further editing of survey and questions  
Week 10: Save & edit later feature, Data security and backup options  
Week 11: UI updates  
Week 12: Final system testing

**September 22, 9:05 PM**

- Tan rwei en
- Nadya Png
- All anonymous users
- Leon Lee

**September 22, 8:38 PM**

- All anonymous users
- Nadya Png
- Leon Lee
- Tan rwei en

**September 22, 8:22 PM**

- All anonymous users
- Nadya Png

**September 22, 8:22 PM**

- All anonymous users
- Nadya Png

**September 23, 12:22 AM**

- Nadya Png

**September 22, 11:43 PM**

- Nadya Png

**September 22, 9:05 PM**

- Tan rwei en
- Nadya Png
- All anonymous users
- Leon Lee

**September 22, 8:38 PM**

- All anonymous users
- Nadya Png
- Leon Lee
- Tan rwei en

**September 22, 8:22 PM**

- All anonymous users
- Nadya Png

**September 22, 5:16 PM**

- All anonymous users

**September 22, 12:13 AM**

- All anonymous users

**September 21, 1:09 AM**

- Nadya Png

**September 21, 1:06 AM**

- Nadya Png

**September 19, 4:54 PM**

- Nadya Png

Figure 8.2.54: Slides that were done by me

Contact with Qualtrics API technical support to solve issues with integration

Re: Confirming Your Requested Call - npng6746@uni.sydney.edu.au#sydney | TicketID: SP\_D06AC89CE69F4F5A 



Qualtrics Support

Mon, Sep 23, 8:18AM 

Hello Nadya, First, I want to apologize for how long it has taken to respond to your inquiry. We have been receiv...



Nadya Png

Mon, Sep 23, 9:23AM 

Hi, Thank you for your email. I have been trying different questions and I have managed to make a slider quest...



Qualtrics Support

Thu, Sep 26, 6:45AM 

Hello Nadya, Thank you for your response! The API Create Question allows you to declare Choices (see). I beli...



Nadya Png

Fri, Sep 27, 1:34PM 

Hi, Thanks for the reply! However, I do not think Choices lets me customise the minimum and maximum of the sl...



Qualtrics Support

Wed, Oct 2, 8:00AM 

Please say: does this issue happen also in the Test Survey? [TicketID: SP\_D06AC89CE69F4F5A][Account: sup...



Nadya Png

Sat, Oct 5, 12:03AM 

Test Survey gives me a different error (see attached screenshot) when I try to access the survey form through th...



Qualtrics Support

Tue, Oct 8, 4:48 PM (12 days ago)



to me 

Hello Nadya,

Thank you for your response!

I have gathered the information concerning your issue and forwarded your case over to our Resolutions Team. Please be on the lookout for information inquiries and / or resolution.

Sincerely,

**qualtrics.** XM

ÁLVARO GONZÁLEZ DÍAZ

Product Specialist

Figure 8.2.55: Email conversation with Qualtrics technical support team

Wrote final report

- Modifications to 2.1 User stories
- Entirety of 2.5 User Stories not completed
- Entirety of 2.6 Key changes requested by client
- Extension on 2.7 Additional details demonstrating ...
- Extension of 3.2 Interaction between components (everything besides viewing data analytics and downloading csv)
- Entirety of 3.2.2 Component diagrams
- Wrote 4 Quality of work for backend testing and table of acceptance criteria

## 2.5 User stories not completed (with justification and rationale)

Nadya Png

Given the time constraints leading up to the initial client deployment, we chose to focus on implementing the user stories for the core features as specified by the client. During the development phase, we prioritised the user management and question generation.

All user stories besides the ones mentioned in the demonstration above (Research stories 1, 2, 4, 5, 7, 8, 9, 10, 11, survey participant user story 1) are not completed, or completed in the next phase of development. All planned user stories were successfully completed within the timeline. However, a few non-functional features (not included in the stories) were not implemented due to time constraints. These include:

- **AWS Deployment:** While initially suggested by the client, it was agreed that within the limited time, the client would handle the deployment independently.
- **HTTPS Security:** Since the software is not being deployed publicly, there is no need to implement HTTPS, and securing the system with HTTPS was deprioritised.

We chose to focus on delivering the core functionality requested by the client to meet the primary project requirements.

Figure XX: Frontend testing coverage

### 4.8.2 Backend Unit and Integration Testing

Throughout our testing process, we aimed to achieve substantial coverage to ensure that critical parts of the system were thoroughly tested. Using Jest, we tracked coverage across unit and integration tests, which provided insight into the thoroughness of our tests.

Nadya Png

#### • Statement Coverage: 80.91%

This indicates that the vast majority of code statements were executed at least once, ensuring that most of the functionality was tested.

#### • Branch Coverage: 73.91%

Branch coverage measures how well our tests exercised different decision points (if and else conditions). While not perfect, this level shows that a significant portion of logical paths were tested, though there's room for improvement in alternate branches.

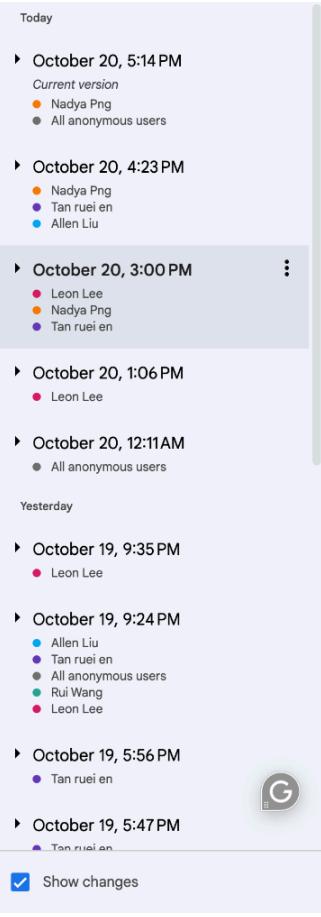
#### • Function Coverage: 71.01%

This reflects how many functions in the codebase were invoked during testing. A high percentage indicates that most core functions were tested, but some less frequently used or edge-case functions might need additional tests.

#### • Line Coverage: 81.93%

Line coverage shows how many individual lines of code were executed. A relatively high percentage signifies that the tests did a good job of exercising most of the codebase.

The coverage results show that our test suite was robust enough to provide overall stability and functionality of the application. However, with some coverage gaps particularly in branch and function coverage, there are areas for further improvement, such as adding more tests for less common scenarios and edge cases. Nonetheless, the current coverage is sufficient for maintaining a reliable system.



100% Total: 35 edits

## Execution of Designed Test Cases

**Frontend Testing**

**Backend Unit Testing**

To validate the functionality of our survey application, we executed unit tests using JavaScript testing framework. We employed mocking techniques to simulate interactions with the Qualtrics API, Google Gemini API and our database. This allowed us to focus on the application's logic without relying on external services.

The execution process of the tests is as seen below:

- Mocking the Qualtrics API
  - We created a mock API to simulate responses for various scenarios, ensuring reliable test execution without actual API calls.
- Mocking the Google Gemini API
  - We created a mock API that simulates the responses from the generative model for different prompts, allowing us to test question generation functionality without calling the actual API.
- Mocking Database Interactions
  - We used Jest's mocking capabilities to simulate database operations: inserting and querying survey details, enabling us to validate data handling without a live database connection.
- Running Tests
  - Each unit test was executed in isolation, providing immediate feedback on component functionality.
- Result Analysis
  - The tests confirmed that all components functioned as expected, with reports highlighting areas for additional testing.

**Integration Testing**

Using Supertest and Jest, we wrote test cases to simulate actual API interactions, covering functionalities such as:

All versions

Current version

- Nadya Png
- Tan ruei en

October 20, 1:51PM

- Leon Lee
- Nadya Png
- Tan ruei en

October 20, 12:11AM

- All anonymous users

Yesterday

October 19, 10:32PM

- All anonymous users

October 19, 9:35PM

- All anonymous users
- Tan ruei en
- Rui Wang
- Leon Lee

October 19, 8:13PM

- Allen Liu
- Tan ruei en
- All anonymous users

October 19, 5:56 PM

- Tan ruei en

October 19, 4:56 PM

- Nadya Png

October 19, 2:52 PM

- Nadya Png

October 19, 12:50 PM

- Tan ruei en

Show changes

We are confident that the execution of our well-designed system test cases, comprehensive comparisons against the acceptance criteria, provides sufficient coverage for this stage of development.

## 4.9 Summary of the significance and limitations of tests

### 4.9.1 Significance of Tests

1. **Ensuring Code Quality:** Unit, integration, and system tests validate components, as well as the system as a whole, function as expected.

bugs early and ensure stable code, improving the reliability and performance of the application.

2. **Verifying Key Functionalities:** Tests like API and user interaction to core features (e.g., survey generation, user authentication, and questionnaire submission) work correctly across different environments, both on the front end and on the back end, which is crucial for building confidence in the system's correct behavior.
3. **Enhancing Collaboration:** The use of pull requests and code review with testing fosters collaboration and improves code quality by ensuring that changes are thoroughly reviewed before merging.
4. **Mocking and API Testing:** By mocking external services such as the Google Gemini APIs, the tests allowed us to validate the application's communication with third-party services without depending on real-time API availability. This ensures reliable communication between different parts of the system in real-world scenarios.
5. **Data Integrity and Compatibility:** Tests ensure that data is stored, retrieved, and displayed accurately. Cross-browser compatibility tests guarantee that the application works across various devices and browsers, providing a consistent experience for all users.

### 4.9.4 Limitations of Tests

1. **Performance Testing Not Conducted:** Due to the project's relatively limited expected user base, performance testing was not prioritised. This means there may be potential vulnerabilities in handling large data loads or high traffic scenarios.

Today

▶ October 20, 5:14 PM

Current version

- Nadya Png
- All anonymous users

▶ October 20, 4:23 PM

- Nadya Png
- Tan rwei en
- Allen Liu

▶ October 20, 3:00 PM

- Leon Lee
- Nadya Png
- Tan rwei en

▶ October 20, 1:06 PM

- Leon Lee

▶ October 20, 12:11AM

- All anonymous users

Yesterday

▶ October 19, 9:35 PM

- Leon Lee

▶ October 19, 9:24 PM

- Allen Liu
- Tan rwei en
- All anonymous users
- Rui Wang
- Leon Lee



▶ October 19,

- Tan rwei en

▶ October 19,

- Tan rwei en

Show changes

## Key changes requested by client

There were several changes requested by the client throughout our development process. The key changes are highlighted below:

- Add functionality for users to modify generated questions before submission
  - This requirement was added as a user story and its relevant issue was created on Jira.
  - We added a feature to modify questions generated by the AI based on the survey responses.
- Look into adding more complex data analysis, if possible
  - Research was conducted on the possibility of adding complex analysis on the survey results.
  - Upon researching and further discussions with the client, we decided that the complexity of the analysis would largely depend on the individual researchers, so we implemented simpler results visualisation with charts.
- We were also requested to create our own user authentication system instead of using Google's authentication APIs.
  - Instead of using Google's authentication APIs, we were requested to implement our own login system.
  - We created our own authentication system using the 'bcrypt' library to hash and salt passwords for storage in the database.

The key changes requested by the client after the first client deployment include:

- Improve the appearance of the UI
  - The client requested improvements and refinements to the user interface.
  - This was implemented through utilisation of CSS files and Figma designs.
- Data analysis feature only needs visualisation and CSV export
  - Added feature on the history page to make a request to Qualtrics to export the survey results as CSV, which can be downloaded by users.
- Add a template with prompts for the user to fill in information about their research
  - Instead of filling in one input box with all relevant research information, we created a general template consisting of required and non-required fields, prompting users on the type of information to be input.

Review and comments of the code on GitHub merged and code ready to merge.

Nadya Png

## Detailed acceptance criteria and acceptance tests for each user story

No.	User Story	Acceptance Criteria	Testing Cases	
			Normal Testcase	Boundary Testcase
1.	As a researcher, I want to be able to input information to the survey input boxes.	<ul style="list-style-type: none"> <li>The input box must accept text inputs of at least 1 character for required fields.</li> <li>The input box must handle empty inputs.</li> <li>Inputs must be successfully processed when clicking "Submit."</li> </ul>	<p>Input: "Survey on Environment Awareness"</p> <p>Expected Result: Input is accepted, and no validation errors.</p>	<p>Input: Empty string in a required field.</p> <p>Expected Result: System does not allow the user to click the 'submit' button.</p>

Thursday

▶ October 17, 7:59 PM

● Allen Liu

▶ October 17, 7:22 PM

● All anonymous users

● Rui Wang

▶ October 17, 5:47 PM

October 17, 5:47PM

● Rui Wang

October 17, 5:30 PM

● Rui Wang

Wednesday

October 16, 3:38 PM

● Allen Liu

Tuesday

▶ October 15, 11:38 PM

● Nadya Png

▶ October 15, 10:34 PM

● Nadya Png

▶ October 15, 2:55 PM

October 15, 2:55PM

● Nadya Png

October 17, 5:47PM

● Rui Wang

October 17, 5:30 PM

● Rui Wang

Wednesday

October 16, 3:38 PM

● Allen Liu

Tuesday

▶ October 15, 11:38 PM

● Nadya Png

▶ October 15, 10:34 PM

● Nadya Png

▶ October 15, 2:55 PM

October 15, 2:55PM

● Nadya Png

▶ October 15, 2:50 PM

● Nadya Png

● All anonymous users

● Allen Liu

● Leon Lee

● Rui Wang

Monday

▶ October 14, 8:49 AM

Additional details demonstrating the group went beyond the approved scope and the bare minimum

- **Security features:**
  - Secure storage of passwords using hashing and salting techniques via library
  - We plan on using HTTPS to send sensitive information (login information from the frontend to the servers, to minimize risk of attacks)
  - API keys for both external APIs are stored locally as environment variable .env file to prevent leaking through version control software
- **UI features:**
  - We created mockups of the UI to be implemented after completion of core features
  - Non-functional requirements are added to increase usability and ensure Nadya Png see-of-use
- **Question Quality:**
  - To improve the quality of questions generated by Google Gemini, we split the task of question generation and JSON formatting into two separate processes
  - The decrease in prompt intricacy allows Google Gemini to create diverse high-quality questions based on user input
- **Performance Improvements:**
  - Instead of generating multiple questions at once, we let the user choose specific question type and generate the questions one at a time
  - This improves performance as less loading time is required for Google to generate a question and increases customisation for the user

October 15, 2:55PM  
Nadya Png

October 15, 2:50PM  
Nadya Png  
All anonymous users  
Allen Liu  
Leon Lee  
Rui Wang

Monday

October 14, 8:41PM  
Nadya Png

October 14, 7:36PM  
Nadya Png

October 14, 6:22PM  
Nadya Png

Last week

October 13, 12:41AM  
Nadya Png

October 13, 12:36AM

*Figure 8.2.56: Screenshots of group report version history*

Final refinement of program UI

- Pair programmed with Leon Lee
- Refined appearance of all pages

The screenshot shows a GitHub pull request page. At the top, it says "SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Pull requests". Below that is the title "Pair Programming with Nadya to improve UI/UX". A pull request card for #57 is shown, indicating it was merged into the main branch by Nadya Png 7 minutes ago. The "Merged pull request" section shows the merge commit 712fe4a, author Leon Lee, and closed by Nadya Png 5 seconds ago. Below this, the "Description" section lists numerous changes made during the pair programming session, including updates to the navbar, input boxes, survey history, and survey visualization layout.

**Merged pull request**

Merged in leon-nadya/css (pull request #57)

712fe4a · Author: Leon Lee ·  
Closed by: Nadya Png · 5 seconds ago

**Description**

- updated navbar, removed current user text, moved text out of input boxes for question generation
- moved username and password text out of input box
- view history changes
- removed save survey button
- Changed pop-up message
- make publish button have loading state
- made survey history show in reverse order
- changed data visualisation layout and reworded stuff
- updated mcq display

Changxu Liu

Contribution	Evidence
--------------	----------

## Week 2 Tester

- Test initial project code, look for problems and areas that can be improved and communicate with group members

The screenshot shows a terminal window with a file tree and a code editor. The file tree on the left shows a directory structure with node\_modules, public, src, package.json, package-lock.json, README.md, .gitignore, and .env. The code editor on the right contains the following code:

```

1  /* const express = require('express'); */
2
3  const express = () => {
4      const app = express();
5      const mysql = require('mysql');
6      const dotenv = require('dotenv');
7
8      // Load environment variables from .env file
9      dotenv.config();
10
11      const app = express();
12      const PORT = process.env.PORT || 5000;
13
14      // Middleware to handle JSON requests
15      app.use(express.json());
16
17      // Create a connection to the MySQL database
18      const connection = mysql.createConnection({
19          host: process.env.DB_HOST,
20          user: process.env.DB_USER,
21          password: process.env.DB_PASSWORD,
22          database: process.env.DB_NAME
23      });
24
25      // Connect to the database
26      connection.connect();
27
28      app.get('/', (req, res) => {
29          res.send('Hello World!');
30      });
31
32      app.listen(PORT, () => {
33          console.log(`Server is running on port ${PORT}`);
34      });
35  };
36
37  module.exports = app;
38
39  // Start the server
40  app();

```

The initial code in week 2-3

## Week 3 Doomsayer

- Analyse and look for risks that may be encountered in the project and discuss them with the group in meetings

## Reflections and Conclusions

### Challenges/risk analysis

#### 1. Integration with existing survey platforms:

Risk: The project needs to integrate seamlessly with widely used survey platforms such as Qualtrics. There may be compatibility issues, or the APIs for these platforms may change during development, causing delays.

Mitigation strategy: Prioritise integration efforts during development to ensure access to the latest API documentation and support.

#### 2. Quality and relevance of generated questions:

Risk: Ensuring that the survey questions generated are both high quality and relevant to the papers provided can be challenging. Insufficient or poorly tuned NLP models can lead to poor question generation, which can undermine project goals.

Mitigation Strategy: Rigorously test a variety of papers to fine-tune the NLP model. Incorporate feedback loops to iteratively review and validate the generated questions to ensure their relevance and quality.

#### 3. Time management risk:

Risk: The project involved simultaneous development of multiple components (front-end, back-end, AI model integration). Time management skills among team members are challenged.

Mitigation strategy: Establish clear communication channels and regular check-ins to ensure consistency among all team members. Use project management tools (e.g. slack and jira) to closely track progress.

## Week 4 Tester

- Perform a secondary test of the new code, looking for areas in the code that can be improved.

```
Project .vscode
  - survey-app
    - idea
    - public
    - assessments
    - client
      - node_modules library root
      - .gitignore
      - eslintrc.json
      - index.html
      - package.json
      - package-lock.json
      - README.md
      - vite.config.js
    - docs
    - handover
    - minutes
    - server
      - data
        - descriptive_format.js
        - matrix_format.js
```

VITE v5.4.2 ready in 181 ms  
Local: http://localhost:5175/  
Network: use --host to expose  
press h + enter to show help

localhost Login

Code in week 4-5

## Week 5 Programer

- Expansion of code functionality, including the creation of administrator roles, for ease of operation and management of the system

### Add user role management feature

A feature/user-role-management → main MERGED  
#7 · Created 前天 · Last updated 前天

Overview Files changed 5 Commits 2

Merged pull request  
Merged in feature/user-role-management (pull request #7)  
39c613b · Author: allenliu · Closed by: Leon Lee · 前天

Description

0 attachments  
There aren't any attachments. [Browse to upload](#)

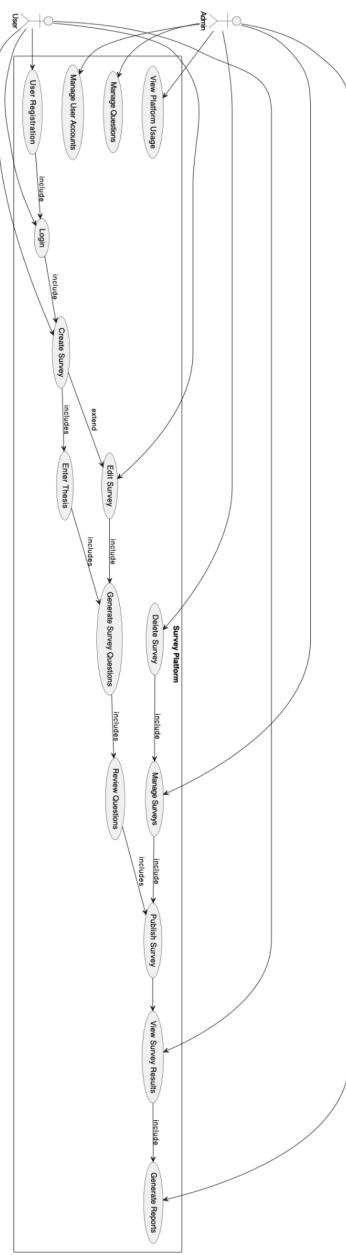
Activity All activity

A What do you want to say?

星期六

NP Nadya Png commented 前天  
Nadya Png 前天  
Looks good! Will probably have to test it after integrating with the frontend code.  
Reply · Delete · Like

- Made the use case diagram



- Meeting minutes for group meeting(20240825)

[survey-app / minutes / week4 / 20240825-Group.md](#) [Edit](#) ...

## Meeting Minutes

**Subject:** Week 4 Group meeting

**Project Name:** A web platform for customized survey data collection

**Facilitator:**

**Prepared by:** Changxu Liu

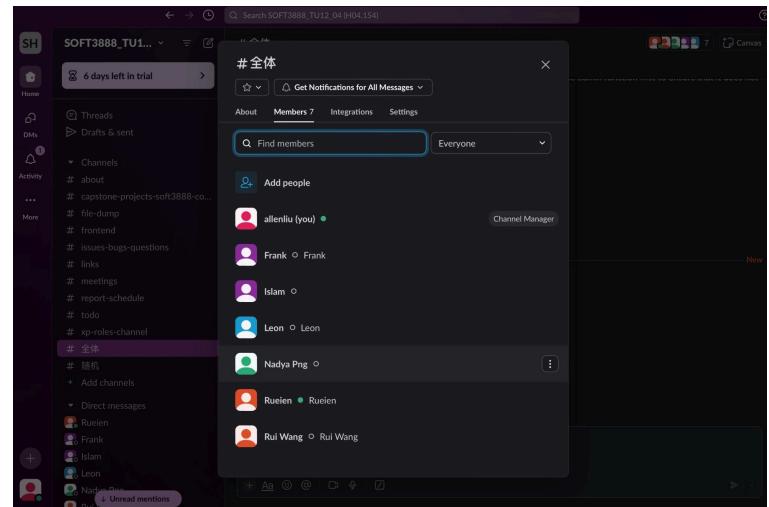
**Date:** Friday 25 August 2024

**Time:** 8:00PM-8:30PM

**Location:** Zoom

**Attendees:** \* Team Member 1 (Leon Lee) \* Team Member 2 (Rui Wang) \* Team Member 3 (Nadya Png) \* Team Member 4 (Frank (Qifei) Lai) \* Team Member 5 (Changxu Liu) \* Team Member 6 (Rueien Tan)

- Create the slack channel and invite all team members



### Week 6 Manager

- Meeting minutes of group meeting(20240902)
- Meeting minutes of client meeting(20240906)
- Meeting minutes of group meeting(20240908)
- 

### Meeting minutes (20240902)

SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app

**20240902-Group.md**

Pull requests Invite Check out ...

Here's where you'll find this repository's source files. To give your users an idea of what they'll find here, [add a description to your repository](#).

Source main b07f064 Full commit

**Meeting Minutes**

**Subject:** Week 6 Group meeting  
**Project Name:** A web platform for customized survey data collection  
**Facilitator:**  
**Prepared by:** Changxu Liu  
**Date:** Sunday 02 September 2024  
**Time:** 8:00PM-8:20PM  
**Location:** Zoom  
**Attendees:** \* Team Member 1 (Leon Lee) \* Team Member 2 (Nadya Png) \* Team Member 3 (Frank (Qilufei) Lai) \* Team Member 4 (Changxu Liu) \* Team Member 5 (Rueien Tan) \* Team Member 6 (Rui Wang)

### Meeting minutes (20240906)

SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app

**20240906-Client.md**

Pull requests Invite Check out ...

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Source main b07f064 Full commit

**Meeting Minutes**

**Subject:** Week 6 Client Meeting  
**Project Name:** A web platform for customized survey data collection  
**Facilitator:**  
**Prepared by:** Changxu Liu  
**Date:** Friday 6 September 2024  
**Time:** 3:00PM-3:20PM  
**Location:** Microsoft Teams  
**Attendees:** \* Client (Jianlong Zhou) \* Team Member 1 (Leon Lee) \* Team Member 2 (Rui Wang) \* Team Member 3 (Nadya Png) \* Team Member 4 (Frank (Qilufei) Lai) \* Team Member 5 (Changxu Liu) \* Team Member 6 (Rueien Tan)  
**Absent:**

	<h3>Meeting minutes (20240908)</h3> <p> SOFT3888_TU12_04 (H04.154) / SOFT3888_TU12_04 / survey-app 20240908-Group.md</p> <p>Here's where you'll find this repository's source files. To give your users an idea of what they'll find here, <a href="#">add a description to your repository</a>.</p> <p>Source <input style="background-color: #f0f0f0; border: none; padding: 0 5px;" type="button" value="main"/> <input style="background-color: #f0f0f0; border: none; padding: 0 5px;" type="button" value="b07f064"/> Full commit</p> <p><input style="border: none; background-color: #f0f0f0; padding: 2px 10px;" type="button" value="survey-app / minutes / week6 / 20240908-Group.md"/> Edit <input style="border: none; background-color: #f0f0f0; padding: 0 5px;" type="button" value="..."/></p> <h2>Meeting Minutes</h2> <p><b>Subject:</b> Week 6 Group meeting</p> <p><b>Project Name:</b> A web platform for customized survey data collection</p> <p><b>Facilitator:</b></p> <p><b>Prepared by:</b> Changxu Liu</p> <p><b>Date:</b> Sunday 08 September 2024</p> <p><b>Time:</b> 8:00PM-8:46PM</p> <p><b>Location:</b> Zoom Meeting</p> <p><b>Attendees:</b> * Team Member 1 (Leon Lee) * Team Member 2 (Nadya Png) * Team Member 3 (Frank (Qiuwei) Lai) * Team Member 4 (Changxu Liu) * Team Member 5 (Rueien Tan) * Team Member 6 (Rui Wang)</p>																								
Week 7-8 programmer	<ul style="list-style-type: none"> <li>- Fix bug of MCQ and descriptive question in code</li> <li>- Add initial edit function</li> <li>- Meeting minutes of group meeting(20240915)</li> </ul> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/20">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/20</a></p> <p>Home About Contact Welcome, test Logout</p> <p><b>Survey Question Generation</b></p> <p>which is better? apple, banana or grape</p> <p>Enter Additional Context...</p> <p>Submit</p> <p><b>which fruit do you prefer? (Type: Multi Choice)</b></p> <p>Question Description</p> <p>please select your preferred fruit:</p> <p>Choices</p> <p><input checked="" type="checkbox"/> Apple <input checked="" type="checkbox"/> Banana <input type="checkbox"/> Grape</p> <p><b>please rate the following fruits based on your preference for taste, health benefits, and overall enjoyment. (Type: Matrix)</b></p> <p>Question Description</p> <p>please rate the following fruits based on your preference for taste, health benefits, and overall enjoyment.</p> <p>Choices</p> <table border="1"> <thead> <tr> <th></th> <th>Strongly Disagree</th> <th>Disagree</th> <th>Neutral</th> <th>Agree</th> <th>Strongly Agree</th> </tr> </thead> <tbody> <tr> <td>Apple</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Banana</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> <tr> <td>Grape</td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> <td><input type="radio"/></td> </tr> </tbody> </table> <p><b>which fruit do you prefer? (Type: Slider)</b></p> <p>Question Description</p> <p>which fruit do you prefer?</p>		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Apple	<input type="radio"/>	Banana	<input type="radio"/>	Grape	<input type="radio"/>												
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree																				
Apple	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																				
Banana	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																				
Grape	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>																				

**Question Description**  
select your favorite fruit:

**Choices**

- Apple
- Banana
- Grape

**please rate your liking of the following fruits on a scale of 1 to 5, where 1 means "dislike extremely" and 5 means "like extremely". (Type: Matrix)**

**Question Description**  
please rate your liking of the following fruits on a scale of 1 to 5, where 1 means "dislike extremely" and 5 means "like extremely".

**Choices**

1	2	3	4	5
Apple	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
Banana	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
Grape	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

**which fruit do you prefer? (Type: Slider)**

**Question Description**  
which fruit do you prefer?

**what are your thoughts on the taste and texture of apples, bananas, and grapes? (Type: Text Entry)**

**Question Description**  
what are your thoughts on the taste and texture of apples, bananas, and grapes?

**describe your experience with apples, bananas, and grapes. include your preferences, any specific varieties you enjoy, and any memories associated with these fruits. (Type: Descriptive)**

**Question Description**  
fruit preferences

```
sdassdsda  
sdasds  
asdas  
dsadsdadasd  
sdasdsda  
sdes
```

**Branches**

SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app

Create branch ...

Branch	Behind	Ahead	Updated	Pull request	Builds	Actions
main MAIN DEVELOPMENT			6分钟前			...
visual-effects-frank	4 2		55分钟前	#10 OPEN		...
alien-debug	6 2		19小时前	#20 OPEN		...
alienlu	14 2		21小时前	Create		...
leon/debug	13 1		6天前	Create		...

## Survey Question Generation

apple and banana and grape

Enter Additional Context...

Submit

### Editing Question

Question Text: Which of these fruits do you like?  
Question Description: Choose your favorite fruit.

#### Choices

Choice 1: Apple  
Choice 2: Banana  
Choice 3: other fruit

Save

Please rate your liking of the following fruits on a scale of 1 to 5, where 1 is 'dislike extremely' and 5 is 'like extremely'. (Type: Matrix)

Submit

### Editing Question

Question Text: Which fruit do you like the most?  
Question Description: Please slide to select your answer.

#### Choices

Choice 1: Apple  
Choice 2: Banana  
Choice 3: other fruit

Save

Please rate your liking of the following fruits on a scale of 1 to 5, where 1 is 'dislike extremely' and 5 is 'like extremely'. (Type: Matrix)

Question Description

Fruit Liking Rating

#### Choices

1 - Dislike Extremely 2 - Dislike Somewhat 3 - Neutral 4 - Like Somewhat 5 - Like Extremely

apple   
banana   
grape

Save

### Editing Slider Question

Question Text: Which fruit do you like the most?  
Question Description: Please slide to select your answer.

Save

What are your thoughts on apples, bananas, and grapes? Please share your opinions and experiences with these fruits. (Type: Text Entry)

Question Description

Opinions on Apples, Bananas, and Grapes

**Survey Question Generation**

which one is better? cat or dog

Enter Additional Context...

**Submit**

**Editing Question**

Question Text: Which one is better: cat or  
 Question Description: Please select your preference

**Choices**

Choice 1: Cat  
 Choice 2: Dog

**Save**

**Editing Matrix Question**

Question Text: Which one do you prefer?  
 Question Description: Cat vs. Dog

**Choices**

Choice 1: Cat  
 Choice 2: Dog

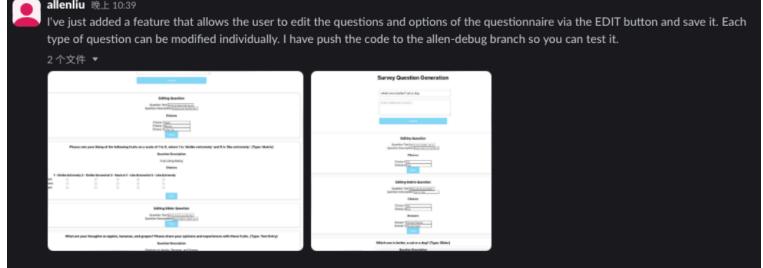
**Answers**

Answer 1: Strongly Disagree  
 Answer 2: Strongly Agree

**Save**

**Which one is better, a cat or a dog? (Type: Slider)**

**Question Description**



**Meeting minutes (20240915)**

SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app

**20240915-Group.md**

Here's where you'll find this repository's source files. To give your users an idea of what they'll find here, [add a description to your repository](#).

Source **main** b07f064 Full commit

survey-app / minutes / week7 / 20240915-Group.md **Edit** ...

**Meeting Minutes**

**Subject:** Week 7 Group meeting

**Project Name:** A web platform for customized survey data collection

**Facilitator:**

**Prepared by:** Changxu Liu

**Date:** Sunday 15 September 2024

**Time:** 8:00PM-8:23PM

**Location:** Zoom Meeting

**Attendees:** \* Team Member 1 (Leon Lee) \* Team Member 2 (Nadya Png) \* Team Member 3 (Frank (Qiufei) Lai) \* Team Member 4 (Changxu Liu) \* Team Member 5 (Rueien Tan) \* Team Member 6 (Rui Wang)

**Agenda**

- Item 1 - What has been completed?
- Item 2 - What is in progress?
- Item 3 - General comments

- Week 9 manager**
- Meeting minutes of tutorial meeting(20240924)
  - Meeting minutes of tutor meeting(20240924)
  - Edit week 9 demo slides
  - Fix some bugs of meeting minutes

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week9/20240924-Tutor.md>

SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app  
20240924-Tutor.md

Pull requests Invite Check out ...

Here's where you'll find this repository's source files. To give your users an idea of what they'll find here, [add a description to your repository](#).

Source main b07f064 Full commit

survey-app / minutes / week9 / 20240924-Tutor.md Edit ...

## Meeting Minutes

**Subject:** Week 9 Tutor Meeting

**Project Name:** A web platform for customized survey data collection

**Facilitator:**

**Prepared by:** Changxu Liu

**Date:** Tuesday 24 September 2024

**Time:** 12:00 PM

**Location:** Mereweather Learning Studio 154

**Attendees:** \* Tutor (Islam Alzoubi) \* Team Member 1 (Leon Lee) \* Team Member 2 (Rui Wang) \* Team Member 3 (Nadya Png) \* Team Member 4 (Frank (Qiufei) Lai) \* Team Member 5 (Rueien Tan) \* Team Member 6 (Changxu Liu)

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week9/20240924-Tutorial.md>

SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app  
20240924-Tutorial.md

Pull requests Invite Check out ...

Here's where you'll find this repository's source files. To give your users an idea of what they'll find here, [add a description to your repository](#).

Source main b07f064 Full commit

survey-app / minutes / week9 / 20240924-Tutorial.md Edit ...

## Meeting Minutes

**Subject:** Week 9 Tutorial Meeting

**Project Name:** A web platform for customized survey data collection

**Facilitator:**

**Prepared by:** Changxu Liu

**Date:** Tuesday 24 September 2024

**Time:** 12:00 PM

**Location:** Mereweather Learning Studio 154

**Attendees:** \* Team Member 1 (Leon Lee) \* Team Member 3 (Nadya Png) \* Team Member 4 (Frank (Qiufei) Lai) \* Team Member 2 (Rui Wang) \* Team Member 5 (Rueien Tan) \* Team Member 6 (Changxu Liu)

**Absent:**

## Agenda

- Item 1 - What has been completed?
- Item 2 - What is in progress?
- Item 5 - General comments

Meeting open at: 12:00 PM

**User Stories Implemented**

- As a user, I want to edit account information.
- As a user, I want to edit and delete questions.
- As a user, I want to

Key functional and non-functional requirements, user stories and corresponding designs/deliverables you have implemented during this period. (Description and illustration) [Detailed elucidation]

**SURVEY-APP**

```

SURVEY-APP
> assessments
> client
> docs
> handover
> minutes
> week2
> week3
> week4
# 20240821-Tutor.md
# 20240821-Tutorial.md
# 20240823-Client.md
# 20240825-Group.md
# 20240827-Tutor.md
# 20240827-Tutorial.md
# 20240830-Client.md
# 20240901-Group.md
# 20240902-Group 2.md
# 20240902-Group.md
# 20240903-Tutor 2.md
# 20240903-Tutor.md
# 20240906-Client 2.md
# 20240906-Client.md
# 20240908-Group 2.md
# 20240908-Group.md
# 20240913-Client.md
# 20240915-Group.md
# 20240917-Tutor.md
# 20240917-Tutorial.md
# 20240920-Client.md
# 20240922-Team.md
> week9
① README.md
❷ TEMPLATE.md
> node_modules
> server
> wiki
> ...
主题

```

**MCQuestion.js**

```

minutes > week9 > 20240924-Tutorial.md
1
2
3 # Meeting Minutes
4
5 ==Project Name==
6
7 ==Facilitator:==
8
9 ==Date:==
Sunday, September 24, 2023
10 ==Time:==
8:00 AM
11 ==Location:==
Mereweather Learning Center
12 ==Attendees:==
13 * Team Member 1 (Leon Lee)
14 * Team Member 2 (Nadya Png)
15 * Team Member 3 (Naomi Tan)
16 * Team Member 4 (Frank (Diefel))
17 * Team Member 5 (Rui Wang)
18 * Team Member 6 (Changxu Liu)
19 ==Agenda:==
20 * Item 1 - What has been completed
21 * Item 2 - What is in progress?
22 * Item 3 - General comments
23 * Item 4 - What has been completed
24 * Item 5 - What is in progress?
25 * Item 6 - General comments
26 * Item 7 - General comments
27 * Item 8 - General comments
28 * Item 9 - General comments
29 * Item 10 - General comments
30 * Item 11 - General comments
31 * Item 12 - General comments
32 * Item 13 - General comments
33 * Item 14 - General comments
34 * Item 15 - General comments
35 * Item 16 - General comments
36 * Item 17 - General comments
37 Meeting open at 12:00 PM
38
39 # Item 1 - What has been completed
40 - Completed work

```

问题 插出 调试控制台 换端 禁用  
Agent pid 4518  
alveno@alvendenodebjibendianao survey-app

```

survey-app -- zsh -- 117x40
.svscode/launch.json | 15 ---
client/package-lock.json | 27 +++++
client/package.json | 2 +
client/src/components/Navbar.jsx | 3 +
client/src/components/SurveyExport.jsx | 89 ++++++-----+
client/src/pages/DataVisualization.jsx | 139 ++++++-----+
client/src/pages/History.jsx | 17 +-
client/src/routes/AppRoutes.jsx | 4 ++
server/database/viewSurveysHelper.js | 23 +++
server/dbtools/dbUtils.js | 2 ++
server/package-lock.json | 1 -
server/routes/Qualtrics/qualtrics.js | 6 +
server/routes/Qualtrics/qualtricsController.js | 138 ++++++-----+
server/routes/ViewSurveys/viewSurveys.js | 6 +
server/routes/ViewSurveys/viewSurveysController.js | 111 ++++++-----+
server/server.js | 1 +
17 files changed, 545 insertions(+), 34 deletions(-)
delete mode 100644 .vscode/launch.json
create mode 100644 client/src/components/SurveyExport.jsx
create mode 100644 client/src/pages/DataVisualization.jsx
lveno@lvenodebjibendianno survey-app % git add -A
lveno@lvenodebjibendianno survey-app % git commit -m "meeting minutes update"
lveno@lvenodebjibendianno survey-app % git push
5 files changed, 52 insertions(+), 23 deletions(-)
delete mode 100644 minutes/week4/20240902-Group 2.md
delete mode 100644 minutes/week4/20240903-Tutor 2.md
delete mode 100644 minutes/week5/20240906-Client 2.md
delete mode 100644 minutes/week5/20240908-Group 2.md
create mode 100644 minutes/week9/20240924-Tutorial.md
lveno@lvenodebjibendianno survey-app %
lveno@lvenodebjibendianno survey-app % git push
Enumerating objects: 10, done.
Counting objects: 100% (10/10), done.
Delta compression using up to 8 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 1017 bytes | 1017.00 KiB/s, done.
Total 6 (delta 3), reused 0 (delta 0), pack-reused 0
To bitbucket.org:soft3888-tu12-04-h04154/survey-app.git
  5d0cd95..0d7adee main -> main
lveno@lvenodebjibendianno survey-app %

```

### Week 10 - Week 13

- Assign and finish tasks on JIRA
- Add rearrange function of the code
- Add function about survey link display
- Add clear button for every question
- Fix some bug of frontend

### Rearrange function:

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/41>

The screenshot shows a survey editor interface with three questions:

- Question 1:** Type: Text Entry. Description: Please describe your experience with [specific aspect related to your research topic]. Be as detailed as possible. (Type: Text Entry). Buttons: Save, Delete, Move Up, Move Down, Cancel.
- Question 2:** Type: Matrix. Description: No question description. Buttons: Save, Delete, Previous, Next.
- Question 3:** Type: Slider. Description: No question description. A slider is set from 0 to 100 with a selected value of 0. Buttons: Save, Delete, Previous, Next, Add Question, Save Survey, Publish Survey.

```

survey-app -- zsh - 125x48
M   client/src/components/QuestionTypes/SliderQuestion.jsx
M   client/src/components/QuestionTypes/TextEntryQuestion.jsx
M   client/src/pages/Home.jsx
Your branch is up to date with 'origin/main'.
alvено@alvendebijibendianno survey-app % git checkout -b allen/feature-rearrange
Switched to a new branch 'allen/feature-rearrange'
alvено@alvendebijibendianno survey-app % git checkout
M   client/src/components/QuestionDisplay.jsx
M   client/src/components/QuestionGeneration/QuestionSection.jsx
M   client/src/components/QuestionTypes/DescriptiveQuestion.jsx
M   client/src/components/QuestionTypes/MCQuestion.jsx
M   client/src/components/QuestionTypes/MatrixQuestion.jsx
M   client/src/components/QuestionTypes/SliderQuestion.jsx
M   client/src/components/QuestionTypes/TextEntryQuestion.jsx
M   client/src/pages/Home.jsx
alvено@alvendebijibendianno survey-app % git branch
* allen/feature-rearrange
  main
alvено@alvendebijibendianno survey-app % git add -A
alvено@alvendebijibendianno survey-app % git commit -m "add rearrange button, allow user to move up and down the questions"
10 files changed, 2422 insertions(+), 19 deletions(-)
create mode 100644 package-lock.json
alvено@alvendebijibendianno survey-app % git push
alvено@alvendebijibendianno survey-app % git push
! [remote rejected] main 'To push the current branch allen/feature-rearrange has no upstream branch.
To push the current branch and set the remote as upstream, use
  git push --set-upstream origin allen/feature-rearrange
To have this happen automatically for branches without a tracking
upstream, see 'push.autoSetupRemote' in 'git help config'.
alvено@alvendebijibendianno survey-app % git push -u origin allen/feature-rearrange
Enumerating objects: 33, done.
Counting objects: 100% (33/33), done.
Deltas compression using up to 8 threads
Writing objects: 100% (18/18), 27.23 KiB | 3.89 MiB/s, done.
Total 18 (delta 13), reused 0 (delta 0), pack-reused 0
remote:
remote: Create pull request for allen/feature-rearrange:
remote: https://bitbucket.org/soft3888-tu12-04-hb4154/survey-app/pull-requests/new?source=allen/feature-rearrange&t=1
remote:
remote: bitbucket.org:soft3888-tu12-04-hb4154/survey-app.git
* [new branch]  allen/feature-rearrange -> allen/feature-rearrange
branch 'allen/feature-rearrange' set up to track 'origin/allen/feature-rearrange'.
alvено@alvendebijibendianno survey-app %

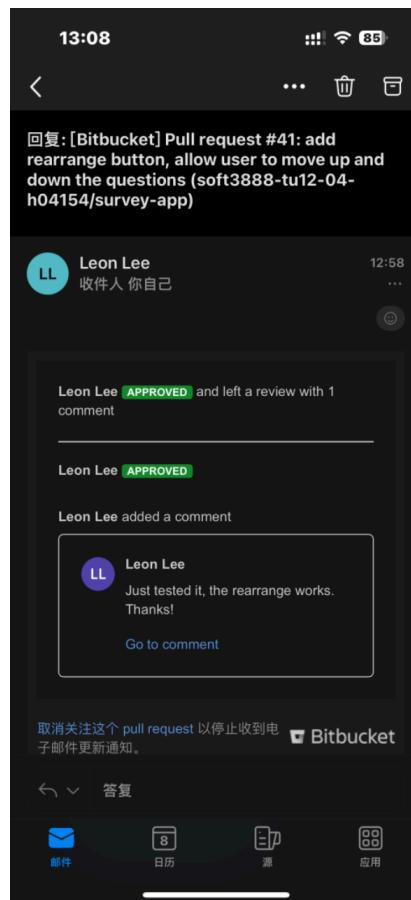
```

SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app

Create pull request

## Pull requests

Search pull requests	All	Author	Target branch	I'm reviewing	Sort by: Recently updated
<b>Summary</b>					
 <b>OPEN</b> add rearrange button, allow user to move up a... → main	1分钟前	No activity	<a href="#">No review...</a>		
Allen Liu - #41, updated 2分钟前					
 <b>MERGED</b> Leon/frontend → main	2天前	1			
Leon Lee - #40, updated 前天					
 <b>MERGED</b> Manual Addition Backend → main	3天前	1			
Nadya Png - #39, updated 前天					
 <b>MERGED</b> Leon/frontend → main	10天前	1			
Leon Lee - #38, updated 3天前					
 <b>MERGED</b> Changes for viewing surveys + endpoint for ... → main	10天前	1			
Nadya Png - #37, updated 2024-09-27					
 <b>MERGED</b> Leon/frontend → main	12天前	1			
Leon Lee - #36, updated 2024-09-25					



取消关注这个 pull request 以停止收到电子邮件更新通知。 Bitbucket

答复



SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app

Create pull request

Search pull requests	Open	Author	Target branch	I'm reviewing	Sort by: Recently updated

Summary      Created      Activity      Reviewers      Builds

Author	Title	Target Branch	Created	Activity	Reviewers	Builds
AL	add rearrange button, allow user to move up and down ...	→ main	16小时前	1	LL	Leon Lee approved 4分钟前
FL	-Update one-question-at-a-time front-end handling	→ main	26天前	No activity	No review...	

### Survey link display:

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/45>

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/46>

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/pull-requests/47>

The screenshot displays a developer's environment with multiple windows open:

- Code Editors:** Two tabs are visible: "survey-app" and "Home.jsx". The "survey-app" tab shows a large amount of JavaScript code, likely for a survey application, with line numbers from 12 to 322. The "Home.jsx" tab shows a component definition.
- Terminal:** A terminal window at the bottom shows a command-line session with Node.js and MongoDB logs. It includes commands like `node client` and `node server`.
- GitHub Message Board:** A sidebar on the right contains a list of messages from team members:
  - Nadya Png (昨天下午 2:35): thanks for doing the link display! I checked ur branch and it works fine but i think it needs some reworking cos currently its kinda confusing and it doesnt clear the survey generation page to make a new survey. If you open ur PR on bitbucket I wrote some changes that u can implement so it looks better!!
  - allenliu (今天下午 5:14): Just opened a new pull request with the following improvements:
    - Add a new button 'Create a new survey' after publishing the survey, clear all generated questions and links, retaining the user-entered questions so that the user can write the next questionnaire.
    - Add 'clear' button for every from question.
    - Add function: If the user has not filled in all the required questions, the submit button will remain gray and unclickable.
    - Fixed a bug that occurred when resizing the question box by dragging, which caused the question box to be of different sizes.
 If there are any problems please let me know and I will fix it as soon as possible : )
  - Nadya Png (昨天晚上 9:40): Sounds good! I'll have a look either tonight or tomorrow :) thanks!
  - Rueien (昨天晚上 9:07): ok, thanks for the update

**TO DO 3**

- KAN-74
- KAN-90
- KAN-81

**IN PROGRESS 6**

- KAN-51
- KAN-91
- KAN-62
- KAN-66
- KAN-88
- KAN-63

**DONE 6**

- KAN-46
- KAN-83
- KAN-82
- KAN-67
- KAN-89
- KAN-92

**Allow the user to rearrange the question order**

**Feature: open/close survey**

**Feature: delete survey in History**

**Feature: Frontend display for survey link once survey is published**

**Change: Improve frontend link display method**

**+ 创建任务**

**查看所有已处理的任务**

**Pull requests**

**Search pull requests**

	Created	Activity	Reviewers	Builds
AL Allen/feature frontend   allen/feature-frontend → main Allen Liu - #46, updated 2小时前	21小时前	No activity	No reviewers	
FL -Update one-question-at-a-time front-end han...   visual-effects-frank → main Frank Lai - #10, updated 2024-09-12	29天前	No activity	No reviewers	

**Code Review**

```

78     console.log("Updated Existing Question Text");
79   }
80
81   const handleResetSurvey = () => {
82     setSurveyContext("");
83     setResearchContext("");
84     setHasQuestionCreation(false);
85   };
86
87   //reset all form component
88   const resetAllFormComponent = () => {
89     setMyHypothesis("");
90     setExistingQuestionText("");
91     setGeneratedQuestion(null);
92     setExistingKnowledge(null);
93     setShowGeneratedButtons(true);
94     setSurveyLink("");
95     setIsManualQuestion(false);
96   };
97
98   return (
99     <div>
100       <div>
101         <div>Current user: {username}</div>
102         <div>Survey Question Generation</div>
103         <FormComponents>
104           <researchContext>{setResearchContext}</researchContext>
105           <existingQuestionText>{setExistingQuestionText}</existingQuestionText>
106           <generatedQuestion>{setGeneratedQuestion}</generatedQuestion>
107           <existingKnowledge>{setExistingKnowledge}</existingKnowledge>
108           <generatedKnowledge>{setGeneratedKnowledge}</generatedKnowledge>
109         </FormComponents>
110       </div>
111     </div>
112   );
113 }
114
115 export default SurveyQuestionGeneration
116
117 
```

**Survey Published**

Survey published successfully! Here is the Survey link:  
[https://pydyd.yu1.qualtrics.com/jfe/form/SV\\_0Np47KyQavvLw](https://pydyd.yu1.qualtrics.com/jfe/form/SV_0Np47KyQavvLw)

Would you like to create a new survey?

**Question 1**

What is your preferred choice? (Type: Multi Choice)

Question Description

Please select one of the following choices.

Choices

choice 1  
choice 2

allenliu 星期四, 下午 5:14  
Just opened a new pull request with the following improvements:  
1.Add a new button 'Create a new survey' after publishing the survey, clear all generated questions and links, retaining the user-entered questions so that the user can write the next questionnaire.  
2.Add 'clear' button for every from question.  
3.Add function: If the user has not filled in all the required questions, the submit button will remain gray and unclickable.  
4.Fixed a bug that occurred when resizing the question box by dragging, which caused the question box to be of different sizes.  
If there are any problems please let me know and I will fix it as soon as possible : )

2 条回复

Nadya Png 昨天下午 5:14  
Hey allen, I had a look and i think its better to make the fields automatically clear when the user clicks 'create a new survey'. Also regarding link display, is it possible to make it into a pop-up instead of displaying at the very bottom?  
So the flow will be something like:  
1. User submits and creates survey  
2. The survey is published  
3. Window pop-up showing survey link + message  
4. Once user closes pop-up or clicks some button, the fields automatically clear and they can create a new survey  
(已编辑)

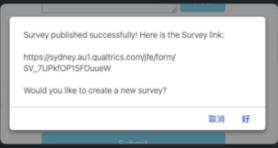
allenliu 昨天下午 5:20  
OK! I will modify it as soon as possible.

surveyIDs linked to the username in the database then gets the survey details from Qualtrics. You can have a look at that one and use it or just make a similar function. The helper function to get the surveyIDs is in viewSurveysHelper btw. 😊  
We cant directly get all surveys of a user through qualtrics since user management is on our end instead of on qualtrics so we need to pull from the database first

Rueien 下午 4:29  
okok, I'll update the functionality tmr  
1 条回复 15 小时前

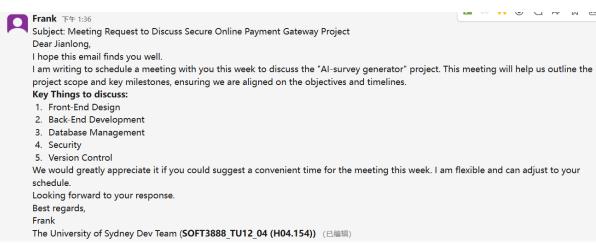
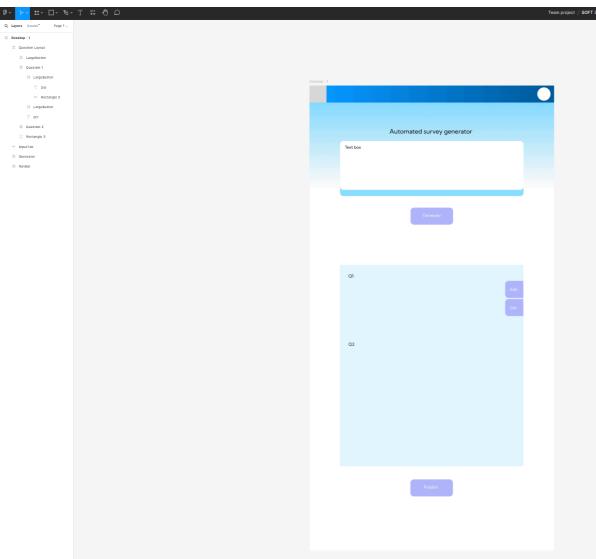
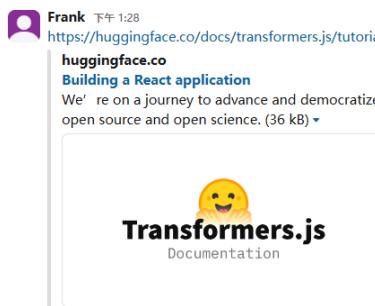
Rueien 下午 4:29  
thanks!

allenliu 早上 7:47  
@Nadya Png I have created a new pull request! Now, when a user clicks publish survey, a window will pop up showing the survey link and asking the user if they want to create a new survey. When the user clicks ok, all generated questions and user input will be deleted and the user can start to create a new survey.  
image.png



Frank Lai

Contribution	Evidence
--------------	----------

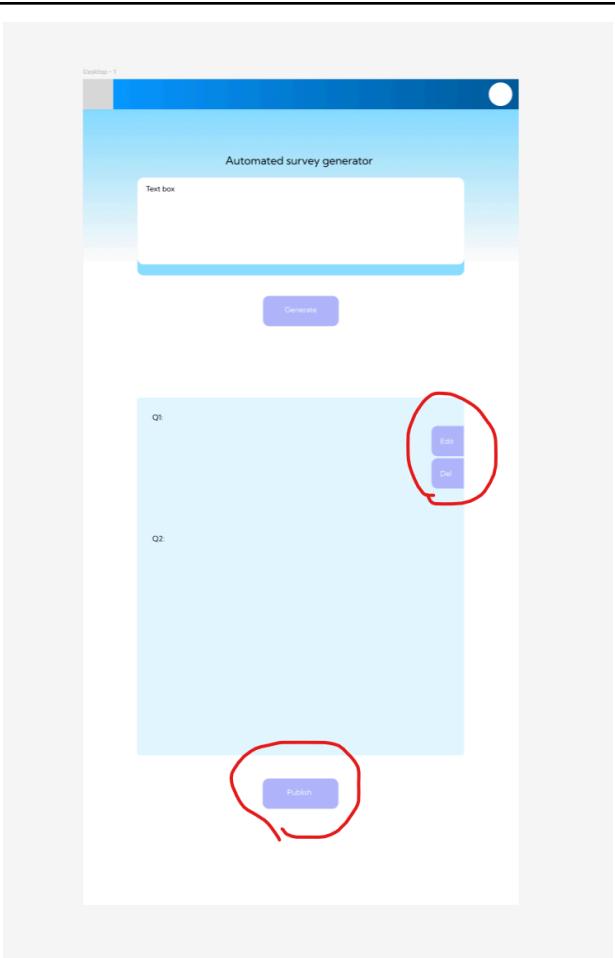
Initialize Client Letter	
Week 2 Manager: Define basic functionalities of the application and provide initial UI/UX design using Figma	
Provide initial plans for AI resources	
Setup project timeline in Jira	 <p><a href="#">SOFT3888 Project - Timeline - Jira (atlassian.net)</a></p>
Define project scope by filling in the project scope statement	<a href="https://docs.google.com/document/d/1htPag00SskcHYiPrku31b-M89MH16EVd/edit?usp=sharing&amp;ouid=109980193115601467559&amp;rtpof=tr">https://docs.google.com/document/d/1htPag00SskcHYiPrku31b-M89MH16EVd/edit?usp=sharing&amp;ouid=109980193115601467559&amp;rtpof=tr</a>

## [ue&sd=true](#)

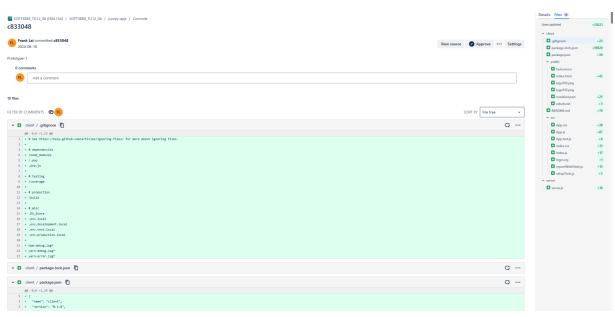
PROJECT STATUS REPORT		[Date]
<b>Project No. and Name:</b> P55 A web platform for customized survey data collection <b>Project Development Period:</b> <b>Client Name:</b> Jianlong Zhou <b>Client Organization:</b> UTS Data Science Institute <b>Tutor Name:</b> Islam Alzoubi		
<b>Background:</b> <i>The context for this project</i>	<ul style="list-style-type: none"><li>- There is a growing demand for tools that can streamline the survey design process, ensuring that the questions generated are relevant, unbiased, and aligned with the research objectives. Additionally, the ability to directly publish these questions into widely-used survey platforms would further reduce the time and effort required to conduct research.</li></ul>	
<b>Aim</b> <i>Purpose of the project</i>	<ul style="list-style-type: none"><li>- Develop a web platform that automatically generates survey questions based on given thesis and publish these questions</li></ul>	
<b>Objectives (SMART):</b> <i>Goals of the project.</i>	<p><b>Specific:</b> Design and develop a user-friendly platform that can generate relevant survey questions from a given thesis.</p> <p><b>Measurable:</b> Ensure the platform can generate at least 10 high-quality survey questions within 2 minutes of receiving a thesis input.</p> <p><b>Achievable:</b> Utilize natural language processing (NLP) tools and algorithms to automatically extract key themes from the thesis and formulate questions.</p> <p><b>Relevant:</b> This will streamline the process of survey creation, reducing time and effort for researchers.</p> <p><b>Time-bound:</b> Complete the platform development within 4 months.</p>	
<b>Success Criteria:</b> <i>What does success look like for the sponsor and how can it be measured.</i>	<ul style="list-style-type: none"><li>- A platform similar to Qualtrics but provides the ability to generate survey question automatically</li></ul>	
<b>Deliverables:</b> <i>List the outputs that will be produced as part of the project including the final product or service.</i>	<ul style="list-style-type: none"><li>- User input interface</li><li>- Survey questions generator</li><li>- Survey publish function</li><li>- Simple UI implementation</li></ul>	
<b>Scope</b> <i>The work that needs to be accomplished in order to deliver/complete the project.</i>	<ul style="list-style-type: none"><li>- Frontend framework</li><li>- Backend framework</li><li>- AI model selection/Chatbot API selection</li><li>- UI/UX Design</li><li>- Backend development</li><li>- Frontend development</li><li>- Integration</li></ul>	

**Week 3 Client Liason:**  
Update the front-end design based on the Client's request

- Add and edit question functionalities
- And updated the look of the product



**Week 4 Programmer:**  
Created the initial code template/server and generated a prototype product



## Proposed possible test cases based on the initial coding

### 1. Test Case: Survey Question Generation

- **Test Case ID:** TC01-Survey-Gen
- **Description:** Verify that the system generates relevant survey questions based on the provided hypothesis.
- **Input:**
  - Hypothesis: "Increased social media usage leads to decreased face-to-face interactions among teenagers."
- **Expected Output:**

**80% Question related to social media usage/ face-to-face interactions**

**e.g**

  - Generated Survey Question: "How many hours per day do you spend on social media?"
  - Generated Survey Question: "How often do you engage in face-to-face interactions with friends and family?"
- **Result:** PASS/FAIL based on whether the generated questions align with the hypothesis.

Started to incorporate branches in Bitbucket to avoid possible push mistakes

Leon Lee

@grandpajimber have u pushed ur latest front end stuff to bitbucket yet?

i pushed it onto the other branch

but i havent update it yet

(not merged)

Made an input box update and css refinement before code refactoring

Merged pull request

4544 - Author Frank Lai - Closed by Leon Lee - 6 days ago

Description

Add input box in App.js  
Simplifying handle submit event

Attachments

Activity

What do you want to say?

Leon Lee commented 6 days ago

Leon Lee 6 days ago

Looks good! I'll make refactoring much easier.

## Week 5 Doomsayer:

Created a tick-off box in slack to monitor the progress of the report

The screenshot shows a Slack channel with a list of items checked off. The items are:

- Let's TICK off the finished report parts
- Introduction
- System Specification
- System Architecture and Design
- Quality of Work
- Discipline Knowledge and Tools
- Quality of Group Processes
- Reflections and Conclusions
- Individual Contributions, Work Split
- Appendix

Each item has a checkmark icon and a timestamp (e.g., 5:42 PM).

Wrote the entire  
“Quality of work” part

### Quality of Work

#### Testing plan

**Unit Testing:** Tests individual components (e.g., survey question generation function) to ensure they work as expected.

**Integration Testing:** Tests the interaction between different modules (e.g., input processing and survey generation).

**System Testing:** Tests the entire system to ensure that it meets the specified requirements.

**Usability Testing:** Ensures the system is accessible across multiple devices.

**Stress Testing:** This test would have evaluated the system's behaviour under extreme conditions (e.g., heavy loads).

#### Use of relevant testing techniques

**Boundary Value Analysis (BVA):** Used for testing input fields, such as the hypothesis input box, to ensure that edge cases (e.g., maximum and minimum input lengths) are handled correctly.

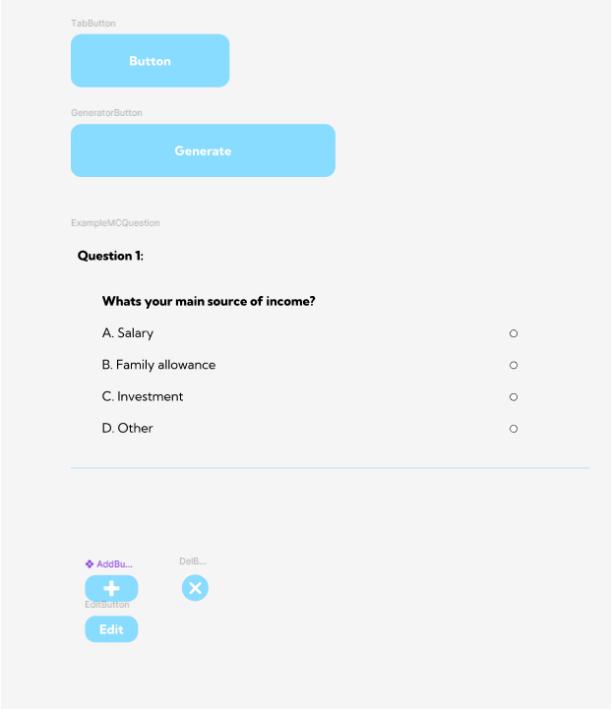
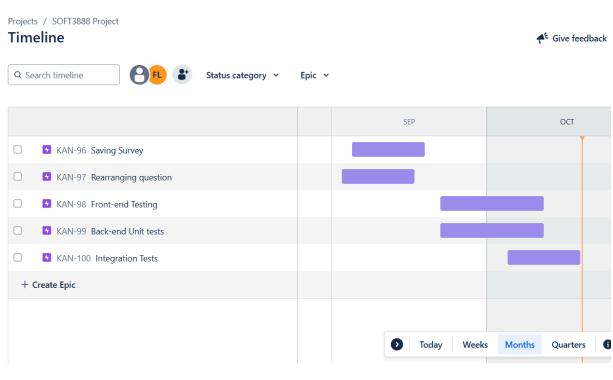
**Equivalence Partitioning:** Grouped inputs into valid and invalid categories to ensure comprehensive testing coverage with minimal test cases.

#### Consideration of quality constraints

**Time Constraints:** Prioritized critical functionalities for testing within the available time frame.

**Resource Constraints:** Limited testing environments required prioritizing devices and browsers most commonly used by the target audience.

<p>Wrote half of the “Discipline Knowledge and Tools” part</p>	<p><b>Use and application of discipline knowledge</b></p> <p><b>Object-Oriented Design (OOD):</b> Utilised to create modular, reusable components for the survey generation and result visualization modules. This approach improves maintainability and scalability.</p> <p><b>Agile Methodology:</b> Employed an iterative and incremental development process, allowing for continuous feedback and adaptation throughout the project lifecycle.</p> <p><b>Frontend Development:</b> Knowledge of HTML, CSS, and JavaScript frameworks (e.g., React.js or Angular) was crucial in building a responsive and user-friendly interface.</p> <p><b>Backend Development:</b> Server-side programming (Node.js) was used to manage data processing, survey question generation, user authentication, and database interactions.</p> <p><b>Database Management:</b> Expertise in MySQL databases helped in designing a robust data storage solution that ensures efficient retrieval and manipulation of survey data.</p> <p><b>Human-Computer Interaction (HCI):</b> Applied HCI principles to ensure that the platform is intuitive and accessible, offering a seamless experience across different devices.</p> <p>Account have also been put into account into managing the System, different users have different access levels to tables and databases.</p> <p><b>Version Control:</b></p> <p><b>BitBucket:</b> Employed for source code management, allowing collaborative development, version tracking, and integration with CI/CD pipelines.</p> <p><b>Frontend Tools:</b></p> <p><b>HTML, CSS, JavaScript:</b> Core technologies for web development.</p> <p><b>React.js:</b> JavaScript frameworks used to build dynamic user interfaces and single-page applications (SPAs).</p> <p><b>Backend Tools:</b></p> <p><b>Node.js with Express:</b> A backend framework that allows for efficient handling of asynchronous requests in a JavaScript environment.</p> <p><b>Database Tools:</b></p> <p><b>MySQL:</b> Relational database management systems used for structured data storage.</p> <p><b>Cloud Server:</b> A VPS server that is hosting MySQL server for everyone in the group to access to the same database for testing, debugging and developing.</p> <p><b>Testing Tools:</b></p> <p><b>Jest:</b> JavaScript testing frameworks for unit and integration testing of frontend components.</p> <p><b>Design and Prototyping Tools:</b></p> <p><b>Figma:</b> Used for designing UI prototypes and creating interactive mockups to test user flows and gather feedback before development.</p>
<p>Record the demo video for basic functionalities of the product</p>	<p><a href="https://drive.google.com/file/d/17em9jBSfq3jnmbM8zgRON6EBhPtFrQkA/view?usp=sharing">https://drive.google.com/file/d/17em9jBSfq3jnmbM8zgRON6EBhPtFrQkA/view?usp=sharing</a></p>

<p><b>Week 6 Tracker</b></p> <p>Proposed optimized button designs and question format</p>	 <p>TabButton</p> <p>GeneratorButton</p> <p>ExampleMCQuestion</p> <p><b>Question 1:</b></p> <p><b>Whats your main source of income?</b></p> <ul style="list-style-type: none"> <li>A. Salary <input type="radio"/></li> <li>B. Family allowance <input type="radio"/></li> <li>C. Investment <input type="radio"/></li> <li>D. Other <input type="radio"/></li> </ul> <p>AddBu... DelB... Editbutton Edit Edit</p>																		
<p>Created timeline for essential features and testing in Jira</p>	<p><a href="#">SOFT3888 Project - Timeline - Jira (atlassian.net)</a></p>  <p>Projects / SOFT3888 Project</p> <p>Timeline</p> <p>Give feedback</p> <p>Search timeline</p> <p>Status category: Epic</p> <table border="1"> <thead> <tr> <th></th> <th>SEP</th> <th>OCT</th> </tr> </thead> <tbody> <tr> <td>KAN-96 Saving Survey</td> <td>Start</td> <td>End</td> </tr> <tr> <td>KAN-97 Rearranging question</td> <td>Start</td> <td>End</td> </tr> <tr> <td>KAN-98 Front-end Testing</td> <td>Start</td> <td>End</td> </tr> <tr> <td>KAN-99 Back-end Unit tests</td> <td>Start</td> <td>End</td> </tr> <tr> <td>KAN-100 Integration Tests</td> <td>Start</td> <td>End</td> </tr> </tbody> </table> <p>Create Epic</p> <p>Today Weeks Months Quarters</p>		SEP	OCT	KAN-96 Saving Survey	Start	End	KAN-97 Rearranging question	Start	End	KAN-98 Front-end Testing	Start	End	KAN-99 Back-end Unit tests	Start	End	KAN-100 Integration Tests	Start	End
	SEP	OCT																	
KAN-96 Saving Survey	Start	End																	
KAN-97 Rearranging question	Start	End																	
KAN-98 Front-end Testing	Start	End																	
KAN-99 Back-end Unit tests	Start	End																	
KAN-100 Integration Tests	Start	End																	
<p>Week 7 Doomsayer</p> <p>Developed view history feature code template</p>	<p><a href="#">soft3888-tu12-04-h04154 / survey-app / Commit 844754058d2a — Bitbucket</a></p>																		

The screenshot shows a Bitbucket commit page for a repository named SOFT3888\_TU12\_04 (H04.154). The commit ID is 8447540, made by Frank Lai on 2024-09-19. The commit message is "Set up survey history view front-end". There are 0 comments. The commit details show a diff for Navbar.jsx:

```
client / src / components / Navbar.jsx
@@ -11,12 +11,12 @@
 11 11     const handleLogout = (e) => {
 12 12         e.preventDefault()
 13 13         logout()
 14 14     }
 14 14 }
```

## Week 8 Tester

Employed jest and babel as the testing tool for the project and completed testing for login functionalities

[soft3888-tu12-04-h04154 / survey-app / Commit 4b927f98ac65 — Bitbucket](#)

The screenshot shows a Bitbucket commit page for a repository named SOFT3888\_TU12\_04 (H04.154). The commit ID is 4b927f9, made by Frank Lai on 2024-09-19. The commit message is "Employed jest + babel for front-end testing". There are 0 comments. The commit details show a diff for package-lock.json:

Diff too large  
The diff for this file is too large to render (878910 bytes).

## Week 9 Doomsayer

Organized the meeting and identified possible problems in testing that may affect coverage rate

A screenshot of a Zoom video meeting invitation. At the top right, a blue button says "I'll set up the link". Below it is a URL: <https://us05web.zoom.us/j/84790872454?pwd=pkZAxAk9bLp74U7KbiFpilyV0yvmPqR.1>. Below the URL, the text "Join our Cloud HD Video Meeting" is displayed, followed by "Zoom is the leader in modern enterprise video communications, with an easy, reliable cloud platform for video and audio conferencing...". At the bottom, there is a message from "Frank 23:10": "We might lose a bit more coverage when new codes are added. I think as long as we maintain a 75-85% for testing will be good." A message input field is shown below the message.

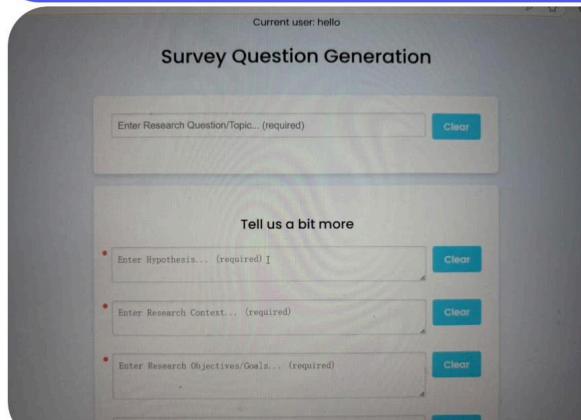
## Adopted new UI designs based on client needs

A screenshot of a survey generator application. The top navigation bar includes "Home", "About", "Contact", and "Log out". The main title is "Automated survey generator". Below the title, there are two input fields: "Research Question" and "Additional Text". Underneath these fields is a section titled "Choose your type of Question" with three buttons: "Multiple Choice", "Simple Answer", and "Matrix". A large blue "Generate" button is positioned below this section. A modal window titled "Question 1:" is open, showing a question "What's your main source of income?" with four options: "A. Salary", "B. Family allowance", "C. Investment", and "D. Other". Each option has a radio button next to it. The "Other" option is marked with an asterisk (\*). At the bottom of the modal is a blue "+" button. At the very bottom of the page is a blue "Publish" button.

Week 10 Doomsayer

Identify problems for UI layout and proposed solutions

I tried a few attempts and I think this type of layout would suit the best since we have a lot of stuff to input.



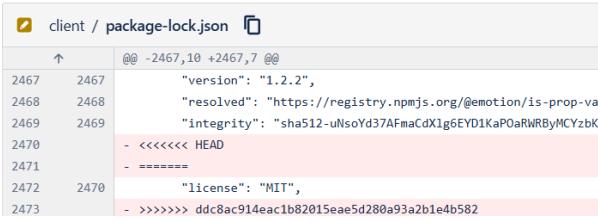
Documented client needs for UI optimization and applied to UI design

Here are the requirements documented: 1. Enlarge the fonts and interface. 2. Make the user input interface clearer

Text me if you guys think there are more additions.

Adding front-ending testing and aiming a 85% coverage rate

[soft3888-tu12-04-h04154 / survey-app /](https://soft3888-tu12-04-h04154/survey-app/)  
[Commit 6ce4391f67cf — Bitbucket](#)

	<p><b>Frank Lai</b> committed <b>6ce4391</b> 6 days ago</p> <ul style="list-style-type: none"> <li>Front-end Testing</li> </ul> <p>0 comments</p> <p><b>FL</b> Add a comment</p> <p>68 files</p> <p>FILTER BY COMMENTS  <b>FL</b></p> 
Week 11 Programmer  Implement CSS changes to optimize UI	<p><a href="#">soft3888_tu12_04 (HU4.154) / soft3888_tu12_04 / survey-app / Commits d90106e</a></p> <p><b>Frank Lai</b> committed <b>d90106e</b> 3 days ago</p> <ul style="list-style-type: none"> <li>UI update on most components</li> </ul> <p>0 comments</p> <p><b>FL</b> Add a comment</p> <p>22 files</p> <p>FILTER BY COMMENTS  <b>FL</b></p>  <p><a href="#">soft3888-tu12-04-h04154 / survey-app / Commit d90106ea06a3 — Bitbucket</a></p>
Applied font changes	<a href="#">soft3888-tu12-04-h04154 / survey-app /</a>

to better visualize content

### [Commit 9f621a603b43 — Bitbucket](#)

 SOFT3888\_TU12\_04 (H04.154) / SOFT3888\_TU12\_04 / survey-app / Commits  
**9f621a6**

 **Frank Lai** committed **9f621a6**  
yesterday

[View sc](#)

- Fonts update

0 comments

 [Add a comment](#)

2 files

FILTER BY COMMENTS  

 client / src / App.css 

@@ -1,9 +1,29 @@

```
1 + @import url('https://fonts.googleapis.com/css2?family=Poppins:wght@300;400;500;600&display=swap');  
2 +  
3 + body {  
4 +   height: 100%;  
5 +   margin: 0;  
c .   padding: 0;
```

Rui Wang

Contribution

Evidence

## Week 2

- Add user stories to JIRA
- Actively Participate in Meetings to ask questions
- Create and Manage Slack Channels

The screenshot shows a JIRA epic card. At the top, there are several icons: a pencil for 'Add epic', a lock, a person icon with '1', a backlog icon, a left arrow, a right arrow, three dots, and an 'X'. Below this, the title of the epic is displayed in bold: **As a user, I want my survey question to be diverse in format, including images, multiple choices and different type of questions**. Under the title are four small icons: a person, a document, a gear, and three dots. Below these are two dropdown menus: 'To Do' and 'Actions'. The 'Description' section contains the placeholder text 'Add a description...'. A large panel titled 'Details' contains the following information:

- Assignee: Unassigned (with a 'Assign to me' button)
- Labels: None
- Parent: None
- Development: Set up code tools (status: PENDING)
  - Create branch
  - Create commit
- Reporter: Rui Wang

At the bottom of the card, it says 'Created August 13, 2024 at 12:33 PM' and 'Updated August 13, 2024 at 12:33 PM'. There is also a 'Configure' button with a gear icon.

The screenshot shows a Jira epic card. At the top, there are buttons for 'Add epic' (with a plus sign), a lock icon, a 'KAN-2' label, and other standard Jira icons. The main title of the epic is: 'As a user, I want to review and analysis my result through backend with powerful visualisation tools.' Below the title are four small icons: a person, a bar chart, a gear, and three dots. Underneath these are two dropdown menus: 'To Do' and 'Actions'. The 'Description' section contains the placeholder 'Add a description...'. A large panel on the right is titled 'Details' and includes fields for 'Assignee' (Unassigned, with an 'Assign to me' link), 'Labels' (None), 'Parent' (None), 'Development' (Set up code tools, status PENDING, with links for Create branch and Create commit), and 'Reporter' (Rui Wang). At the bottom of this panel are creation and update timestamps: 'Created August 13, 2024 at 12:28 PM' and 'Updated August 13, 2024 at 12:28 PM'. There is also a 'Configure' button.

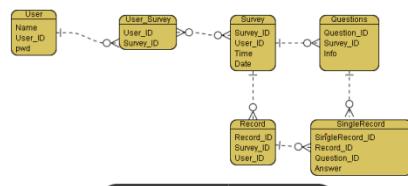
**Week 3**

- Design Database First Edition
- Make an ERD
- Organise team meetings and client meetings
- Prepare and

The screenshot shows a browser window with a wireframe for a survey website. The main area displays a flowchart-like interface with various survey components. To the right, a sidebar titled 'Version history' lists 13 commits made by 'Rui Wang' from August 13 to 15, 2024, detailing changes such as 'Initial setup of survey logic', 'Added survey questions', and 'Finalized survey logic'. The commits are color-coded by author.

## Practise for first presentation

essential attributes like date, time blablabla.



Create ERD diagram

Attach Add a child issue Link issue ...

Description

Add a description...

Activity

Show All Comments History

Newest first ↗



Add a comment...

Post tip press ⌘ to comment

Done Actions

Assignee Ru Wang

Labels None

Parent None

Development Set up code tools

PENDING

Create branch

Create commit

Reporter Nadya Prig

Created August 23, 2024 at 1:45 PM

Updated August 23, 2024 at 1:45 PM

Revised August 23, 2024 at 1:45 PM

Configure

SOFTTYPE/softtype/softtype

Aug 23, 2024 1:45 PM

1

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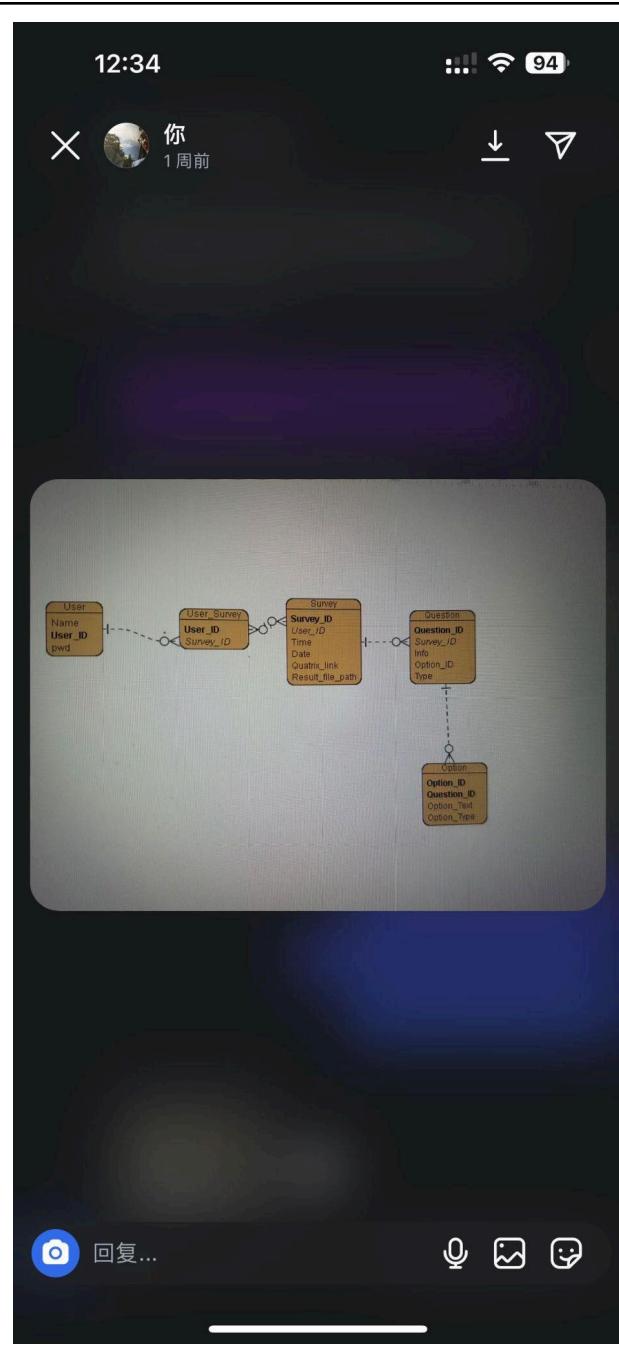
8

9

10

#### Week 4

- Checking current database System with client
- Redesign the database and ERD
- Implement Database
- Host server on cloud network

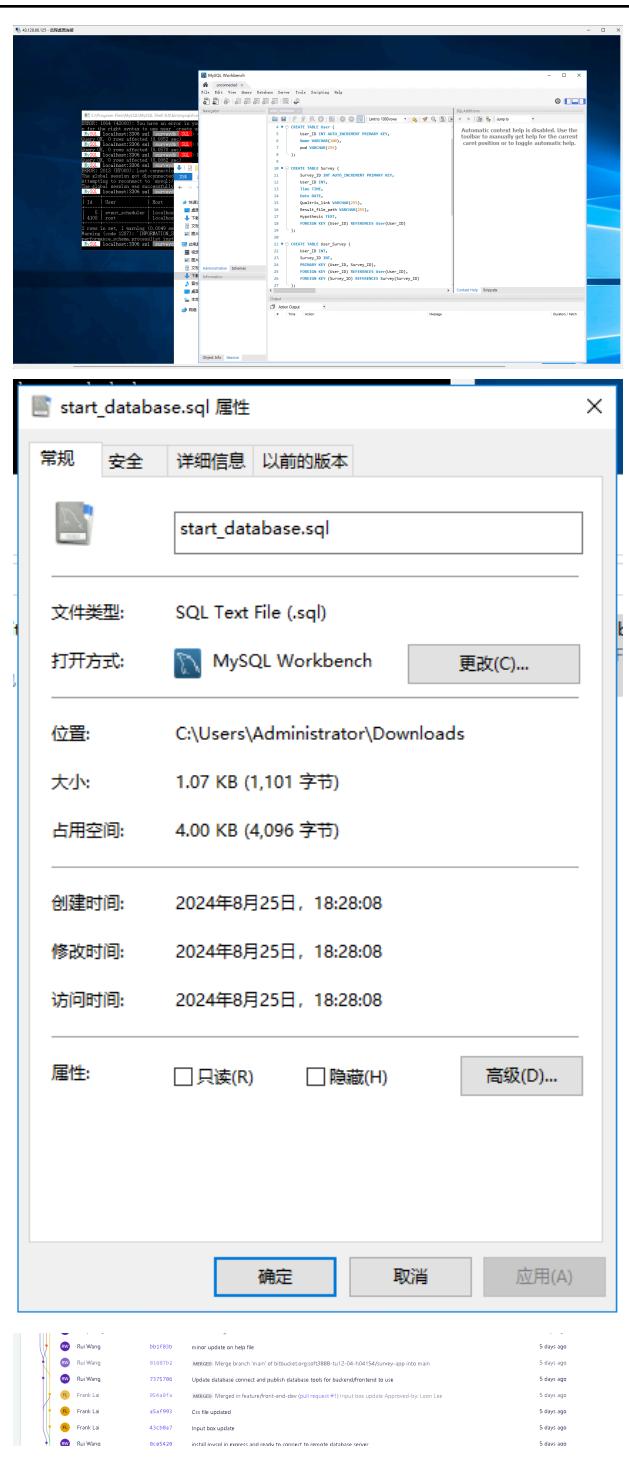


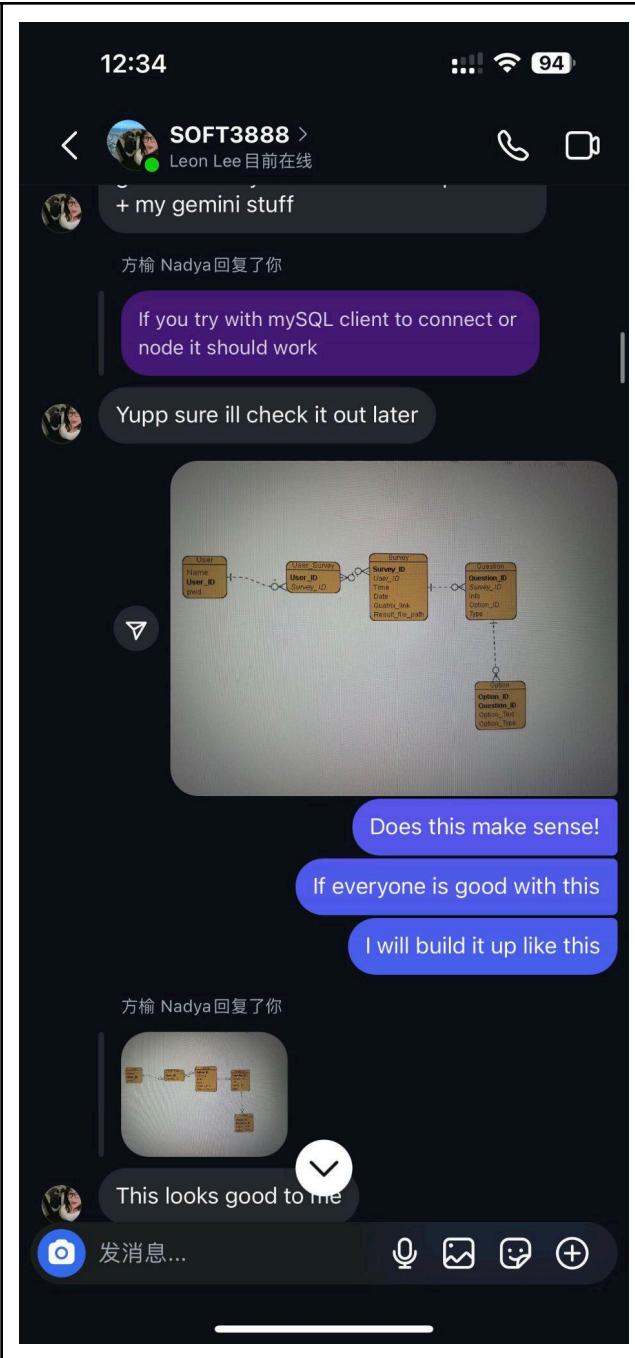
#### Week 5

- Provide documentation on database attributes
- Provide connection file from express.js to MySQL



- Provide helper's function to access database
- Contribute to the group report on Introduction

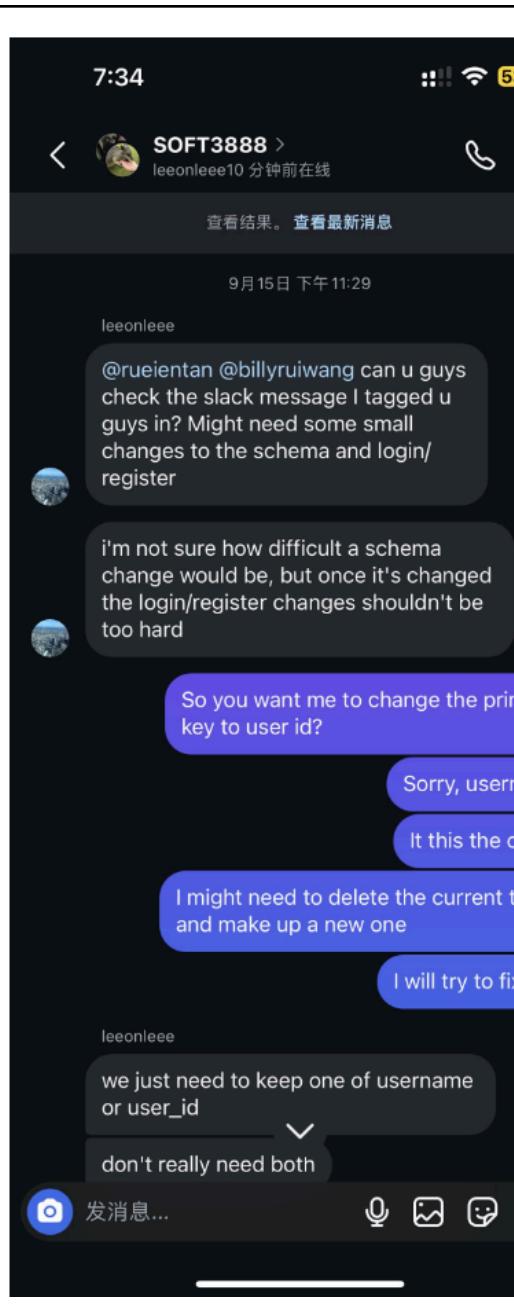


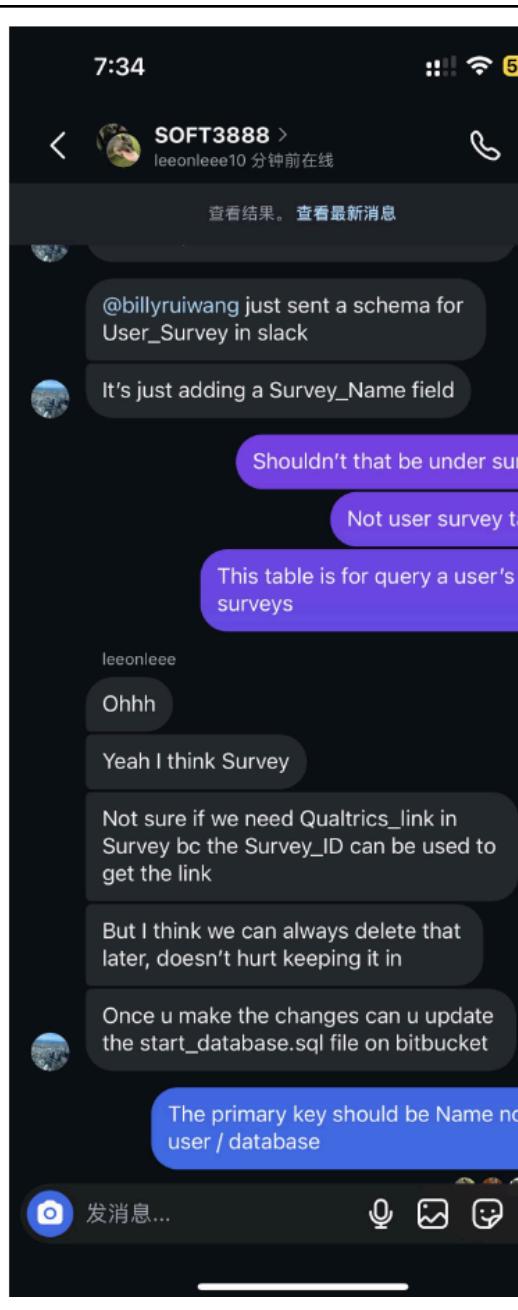


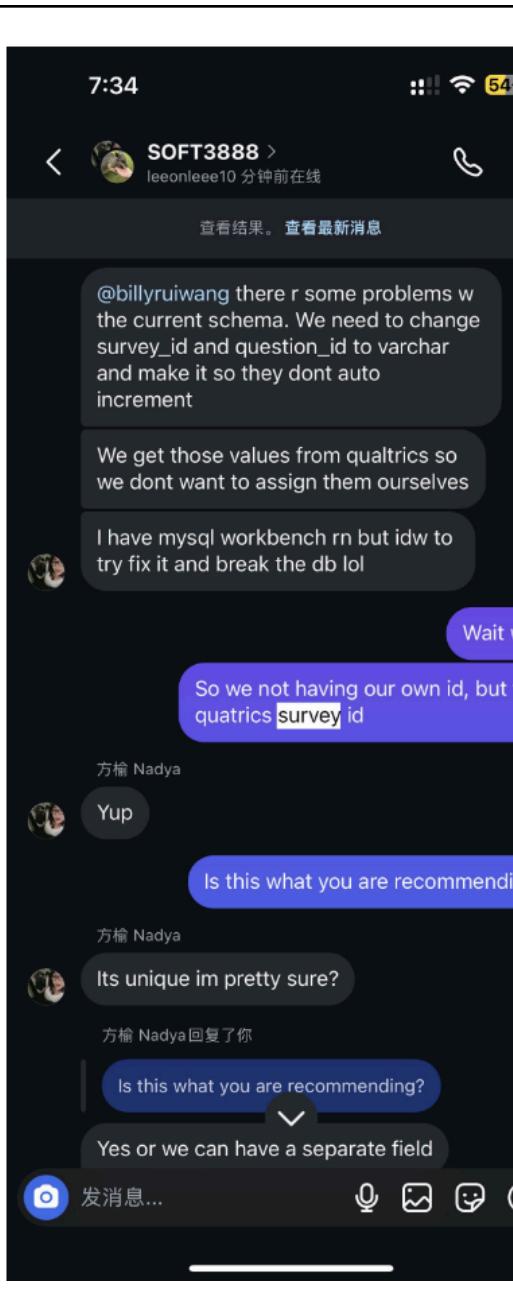
## Week 6

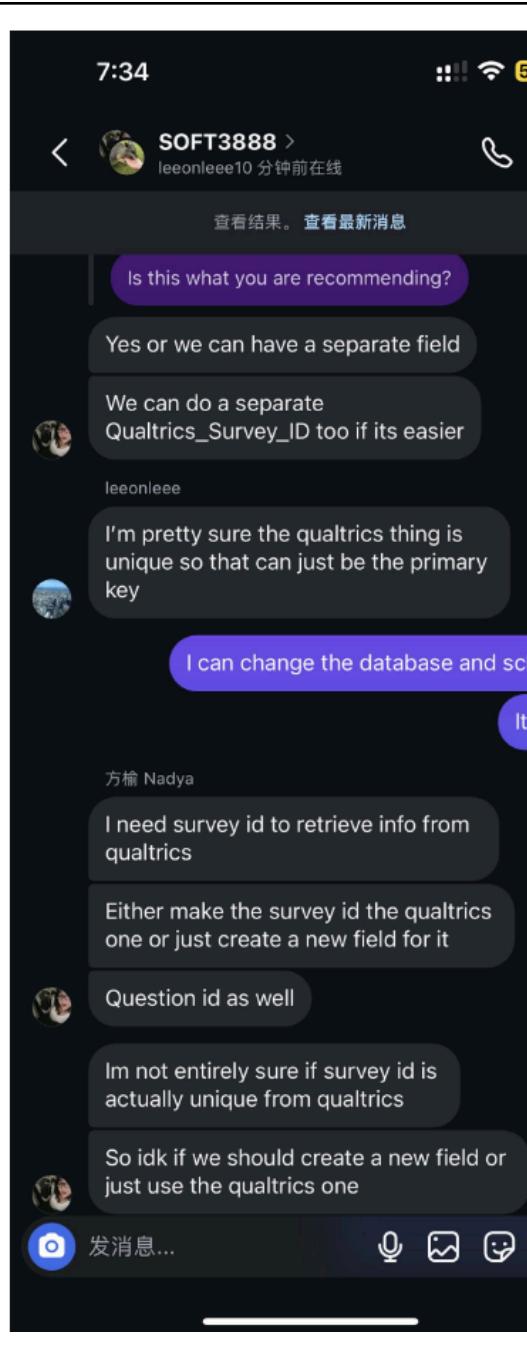
### Doomsayer

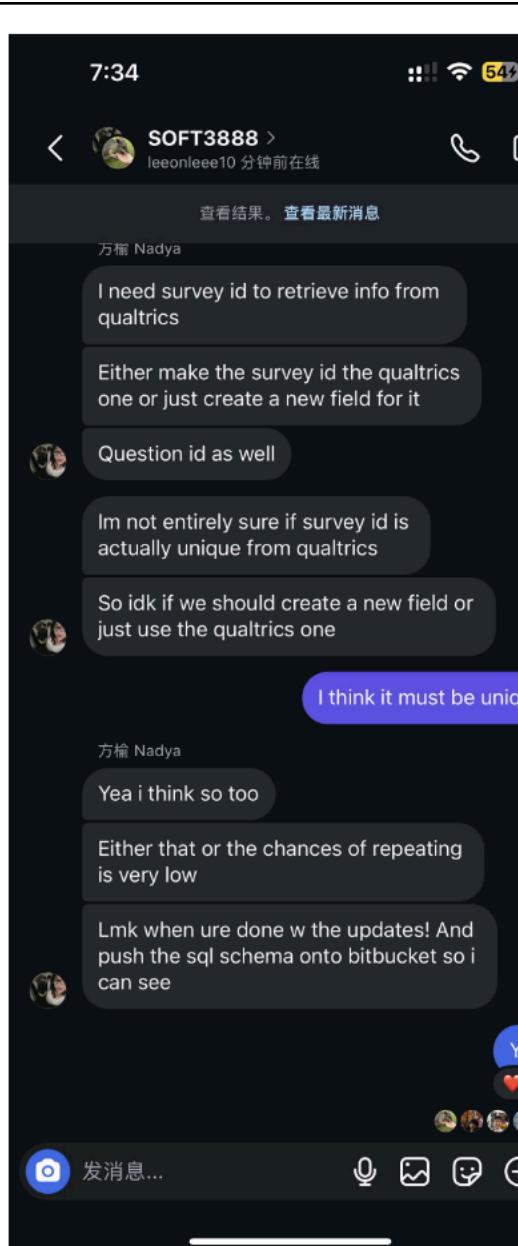
- Participate in All meetings
- Assigned to Database modification
- Change Data Schema
- Fixing and Pointing potential issues



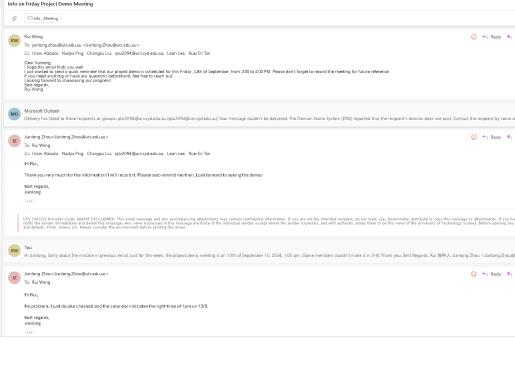








<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/a27237fe2e88297b5b1b38ef84659f419f8561ff/docs/ERD%20Updated.png?at=main>  
[https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/a27237fe2e88297b5b1b38ef84659f419f8561ff/docs/star\\_t\\_database.sql?at=main](https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/a27237fe2e88297b5b1b38ef84659f419f8561ff/docs/star_t_database.sql?at=main)

<p><b>Week 7</b></p> <p><b>Customer Liaison</b></p> <ul style="list-style-type: none"> <li>- Manage and communicate with client about first client demo</li> <li>- Participate in client meeting and have frequency communication</li> <li>.</li> </ul>	
<p><b>Week 8</b></p> <p><b>Manager</b></p> <ul style="list-style-type: none"> <li>- Manage team meetings and tutorial meetings</li> <li>- Doing meeting minutes</li> <li>- Assign and finish tasks on JIRA</li> </ul>	<p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/6e74757582725c7de66121dbf5640e8543a8f6a9/minutes/week8/20240922-Team.md?at=main">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/6e74757582725c7de66121dbf5640e8543a8f6a9/minutes/week8/20240922-Team.md?at=main</a></p>
<p><b>Week 9</b></p> <ul style="list-style-type: none"> <li>- Coding Front end - Change Credential Page.</li> <li>- Fixing and Editing database schema and issues</li> </ul>	<p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/8d1f4e76d14bc742ebc3c7de441aa2851b93223d">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/8d1f4e76d14bc742ebc3c7de441aa2851b93223d</a></p>
<p><b>Week 10</b></p> <ul style="list-style-type: none"> <li>- Assigned to integration test</li> <li>- Using Supertest to test out the backend</li> </ul>	<p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/4b1fca7b2fa3e629be9fe95064e522bb18dcdf2b">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/4b1fca7b2fa3e629be9fe95064e522bb18dcdf2b</a></p>
<p><b>Week 11</b></p> <ul style="list-style-type: none"> <li>- Double check every user story in JIRA</li> <li>- Make sure</li> </ul>	<p><a href="https://docs.google.com/document/d/1XRhXTA9cN68Ti8h9Nxd4E99XmZ11bFul/edit?rtpof=true">https://docs.google.com/document/d/1XRhXTA9cN68Ti8h9Nxd4E99XmZ11bFul/edit?rtpof=true</a></p>

<ul style="list-style-type: none"> <li>- everything is up to date for final presentation and demo</li> <li>- Participate in Group report and presentation slides</li> </ul>	
<p>Week 12</p> <ul style="list-style-type: none"> <li>- Participate in Group report and presentation slides</li> <li>- Wrapping Integration Tests</li> </ul>	<p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/4b1fca7b2fa3e629be9fe95064e522bb18dcdf2b">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/4b1fca7b2fa3e629be9fe95064e522bb18dcdf2b</a></p> <p><a href="https://docs.google.com/document/d/1XRhXTA9cN68Ti8h9Nxd4E99XmZ11bFul/edit?rtpof=true">https://docs.google.com/document/d/1XRhXTA9cN68Ti8h9Nxd4E99XmZ11bFul/edit?rtpof=true</a></p>

## Rueien Tan

Contribution	Evidence
<p>Week 2 Customer liaison</p> <ul style="list-style-type: none"> <li>- Helped translate customer requirements into actionable tasks for developers (i.e backlog items and user stores in jira</li> </ul>	<p>After the meeting the following are the translated client requirements into requirements into Backlog/Kan board.</p> <p>Link to kanboard</p> <p><a href="https://soft3888-tu12-04.atlassian.net/jira/software/projects/KAN/boards/1/backlog?selectedIssue=KAN-22">https://soft3888-tu12-04.atlassian.net/jira/software/projects/KAN/boards/1/backlog?selectedIssue=KAN-22</a></p>

## Create .js file for connecting to the database



In Progress Actions

### Description

Add a description...

#### Details

Reporter

RT Ruei En Tan

Assignee

RT Ruei En Tan

As a user, I want to be able to see my previous entries



To Do Actions

#### Description

Add a description...

#### Details

Reporter RT Ruei En Tan

Assignee Unassigned

[Assign to me](#)

Labels None

Parent None

Development Set up code tools

PENDING

Create branch

Create commit

[Hide empty fields](#)

Created August 13, 2024 at 12:32 PM

Configure

Updated August 13, 2024 at 12:32 PM

Add epic / KAN-24

### Create a frontend page for sign up

To Do Actions

Description

Add a description...

Details

Reporter Ruei En Tan

Assignee Ruei En Tan

Design cybersecurity system for sign/login system

Done Actions

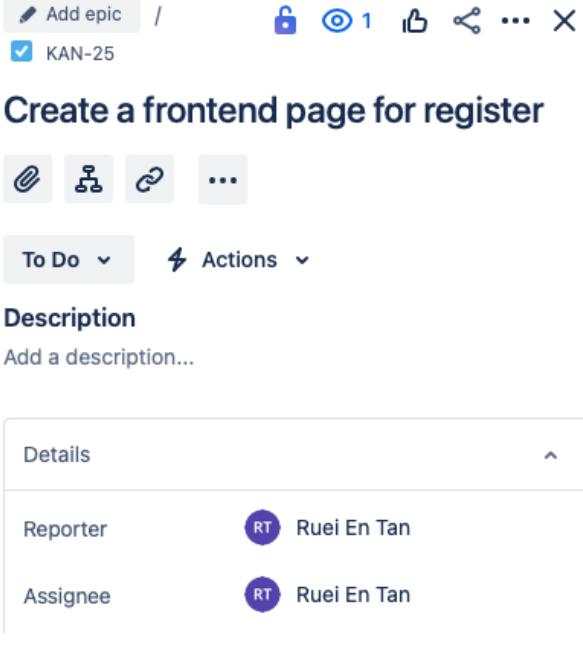
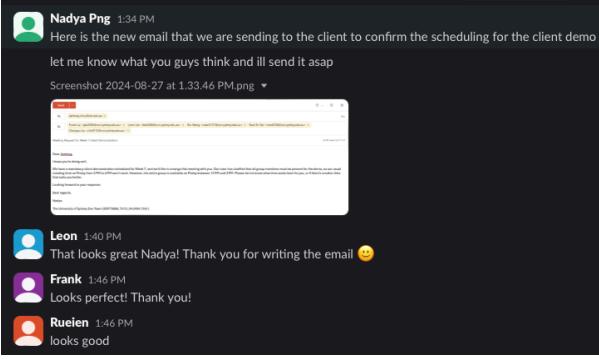
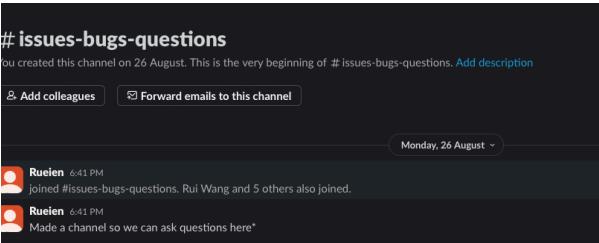
Description

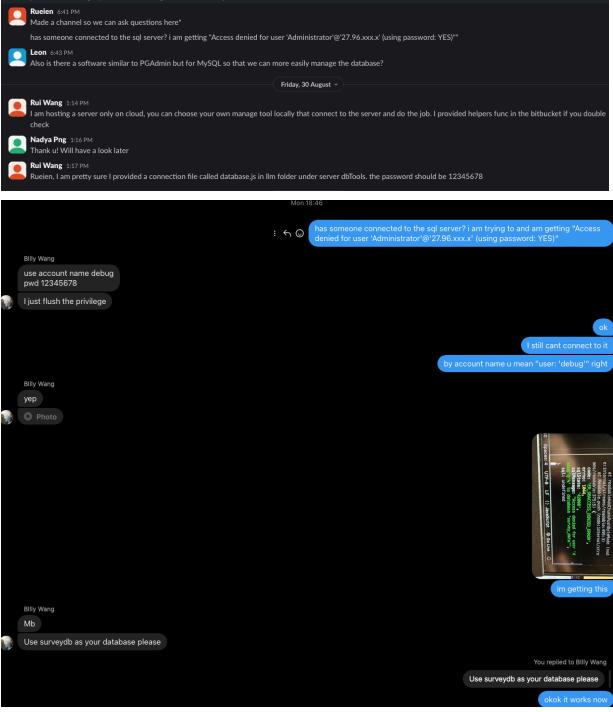
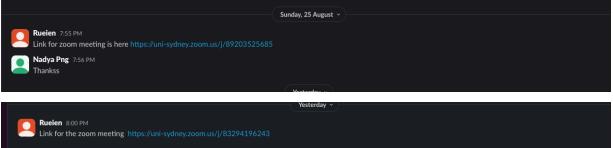
Add a description...

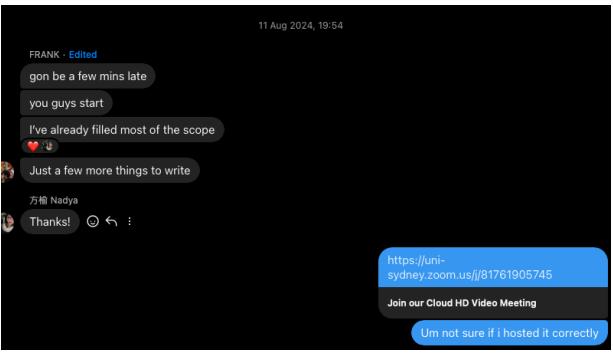
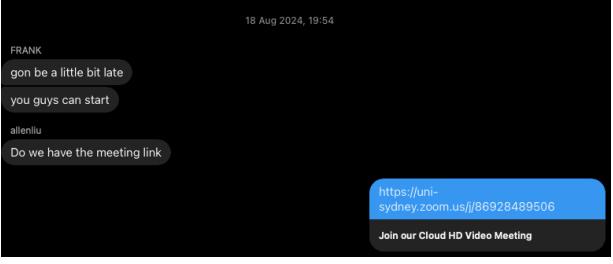
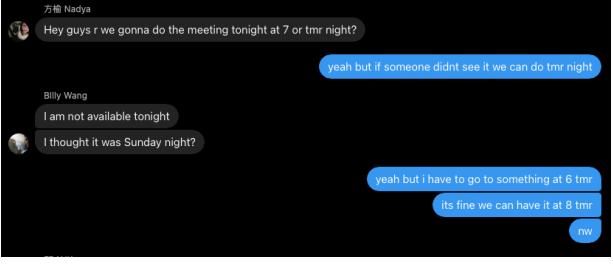
Details

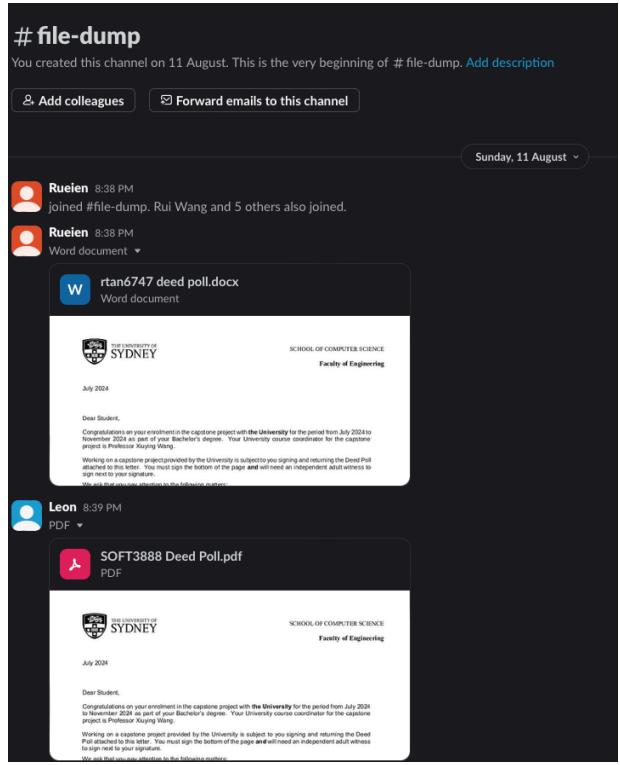
Reporter Ruei En Tan

Assignee Ruei En Tan

	
<ul style="list-style-type: none"> <li>- Helped provide feedback on the email to the client</li> </ul>	
<p><b>Week 3 Teste</b></p> <ul style="list-style-type: none"> <li>- Created “issues-bugs-questions” in order to facilitate testing requirements, and tracking issues to ensure the quality of our web product</li> </ul>	 <p>As tester created channel to test and insure quality of our program</p>

<ul style="list-style-type: none"> <li>- Helped debug issues regarding the connection with the database as there were connection issues. In particular, the provided connection to the database did not work, evidence will show that communication was worked in order to ensure that the database can correctly connect</li> </ul>	<p>Below is me communicating with Rui (Who set up the database server) to fix the connection issue. I worked with him (the programmer) to check that the existing functionality works</p> 
<ul style="list-style-type: none"> <li>- Created separate file as a tester to ensure that the database connection works</li> </ul>	<p>Committed in 45bdbec, file created is "testCreateUser.js"</p> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/45bdbec033f0081abe86a4bcdab3fd235d8045fd">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/45bdbec033f0081abe86a4bcdab3fd235d8045fd</a></p>
<p><b>Week 4 Manager</b></p> <ul style="list-style-type: none"> <li>- Hosted zoom meeting on Sunday 8 pm (This includes zoom meetings from week 2 to week 5)</li> </ul>	

	 <p>11 Aug 2024, 19:54</p> <p>FRANK - Edited gon be a few mins late you guys start I've already filled most of the scope Just a few more things to write 方楠 Nadya Thanks! ⏴ ⏵ : <a href="https://uni-sydney.zoom.us/j/81761905745">https://uni-sydney.zoom.us/j/81761905745</a> Join our Cloud HD Video Meeting Um not sure if i hosted it correctly</p>
	 <p>18 Aug 2024, 19:54</p> <p>FRANK gon be a little bit late you guys can start allenlu Do we have the meeting link <a href="https://uni-sydney.zoom.us/j/86928489506">https://uni-sydney.zoom.us/j/86928489506</a> Join our Cloud HD Video Meeting</p>
<ul style="list-style-type: none"> <li>- In group meetings ensured that everyone knows their roles and assigned tasks</li> </ul>	<p>Link to group meeting minutes that I hosted:  <a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week4/20240825-Group.md">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week4/20240825-Group.md</a></p> <p><b>Item 8 - General Comments</b>  <small>* Everyone arrived at the zoom meeting room on time, and each person reported on their current progress and set a goal for the week: to complete the initial demo of the project. Then the group discussed and assigned tasks regarding the creation of the initial demo. After confirming that there were no problems, the meeting ended at 8:30pm.</small></p> <p>In this meeting I ensured everyone is following the XP principles, and doing their weekly role properly, as we have already assigned our frontend and backend team in week 3, my primary goal is to ensure that the tasks we were assigned were re-iterated</p>
<ul style="list-style-type: none"> <li>- Organise and communicated meetings on sunday 8 pm by ensuring everyone is available</li> </ul>	 <p>方楠 Nadya Hey guys r we gonna do the meeting tonight at 7 or tmr night? yeah but if someone didnt see it we can do tmr night!</p> <p>Billy Wang I am not available tonight I thought it was Sunday night? yeah but i have to go to something at 6 tmr its fine we can have it at 8 tmr nw</p>
<b>Week 5 Tracker</b> <ul style="list-style-type: none"> <li>- As the tracker, I wrote in our xp-roles-channel to ensure that all</li> </ul>	<p>Rusin 3:37 PM Hi, as the tracker for week 5, please ensure that we complete our group report by 8 pm today. Each person should also work on their slides and finish it by 8 pm, we will have a group meeting at 8pm to track the progress of everyone. Please update me on the progress on what you are currently doing.</p> <p>Here is the general comments of tracking our progress in the meeting minutes "each person</p>

<p>members are aware of their tasks, and the need to finish the group report, I have indicated that everyone should update their status and progression</p> <ul style="list-style-type: none"> <li>- In week 5 group meeting, tracked the progress of all of the members</li> </ul>	<p>reported on their current progress and set a goal for the week"</p> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week4/20240825-Group.md">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week4/20240825-Group.md</a></p>
<p>Other contributions:</p> <p>Submitted the Group contract and deed polls for everyone, ensured that everyone was aware of what they need to sign up, in addition, created a file-dump channel in order to facilitate easier information transfer</p>	
<p>Technical contributions:</p> <p>Created a login page for our frontend:</p>	<p>Created frontend page in the following commit <b>45bdbec</b></p> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/45bdbec033f0081abe86a4bcdab3fd235d8045fd">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/45bdbec033f0081abe86a4bcdab3fd235d8045fd</a></p>

Implemented a register page	Created register page in the following commit <b>45bdbec</b> <a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/45bdbec033f0081abe86a4bcdab3fd235d8045fd">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/45bdbec033f0081abe86a4bcdab3fd235d8045fd</a>
Connected database to our login and register page	Connected database to our login and register page in the following commit <b>45bdbec</b> <a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/45bdbec033f0081abe86a4bcdab3fd235d8045fd">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/45bdbec033f0081abe86a4bcdab3fd235d8045fd</a>
Implemented middleware for our server for authentication	Implemented middleware for our server for authentication in the following commit: <b>45bdbec</b> <a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/45bdbec033f0081abe86a4bcdab3fd235d8045fd">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/45bdbec033f0081abe86a4bcdab3fd235d8045fd</a>
Refractored the login pages, register page, and home page to be more manageable	Implemented middleware for our server for authentication in the following commit: <b>bc50d28</b> <a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/bc50d28f93c4b5fccf79ab92fcfb9bb6375e5b6e">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/bc50d28f93c4b5fccf79ab92fcfb9bb6375e5b6e</a>

Wrote the following sections for the group report:

- Amended and added content and clarity to the introduction and background
- Wrote all of the user stories
- Wrote application of research and background information

(An error with the versions system recorded me as anonymous user)

### Project vision, goals and objectives

#### Vision

Our Vision is to create an AI-driven survey platform that empowers researchers and analysts to craft and manage surveys that are as dynamic and varied as the hypotheses they wish to ask. It aims to provide the researchers with a tool to create survey questions via AI generation as well as being able to efficiently deploy the survey questions. As such, we seek to streamline the process in which researcher's use and collect data using surveys.

#### Goals:

1. Provide the user an intuitive interface for survey creation
  - Develop an intuitive and accessible interface that simplifies the process for creating survey questions. The process is done so by allowing researchers to input their hypothesis and receiving AI-generated survey questions. This survey should support a wide range of question types, ensuring flexibility and adaptability amongst different research domains.
2. Incorporate Data analysis tools
  - a. We aim to integrate tools for survey analysis such as visualisation of the survey results, which helps communicate and streamline the research process
3. To provide an interface that simplifies the creation of surveys using Qualtrics API.
  - In addition, our client wants us to utilise the qualtrics API, which we will to display our survey on
4. To provide an interface for managing the survey
  - In order to keep in line with making the process for survey questions as streamlined as possible, we want to ensure that the website also includes functionalities such as editing, deploying, and adding surveys.

#### Objectives:

- Develop a module that assists users in generating survey questions based on predefined hypotheses.
  - Implement a dashboard for survey results and management
  - Ensure data privacy and security
1. Develop an AI module for question generation:
    - We aim to achieve this by using existing AI api such as gemini or chatgpt. This is so that we can feed the AI our prompts via api and receive the generated questions
  2. Build a dashboard for survey management and analysis
    - a. Develop a user friendly and comprehensive dashboard that helps the researcher manage surveys and analyse data
  3. Integrate external tools
    - a. Another goal of ours is to be able to use the qualtrics api seamlessly to host our surveys, as well as deploy them to survey participants without issues
  4. Ensure secure infrastructure
    - a. Part of developing a website where users will keep sensitive information is to ensure that it is built with security in mind

	<p><b>User stories</b></p> <p><b>User types</b></p> <ul style="list-style-type: none"> <li>- Researchers/Users (Stakeholder 1)</li> <li>- Survey participants (Stakeholder 2)</li> <li>- Admin (Stakeholder 3)</li> <li>- Data analyst (Stakeholder 4)</li> </ul> <p><b>2.1.1 Researchers/Users (Stakeholder 1)</b></p> <p><b>User story 1:</b></p> <p style="background-color: #ffffcc;">As a researcher, I want to be able to input information to the survey input box</p> <ul style="list-style-type: none"> <li>- Functional requirements: The system should have an input box that the researcher can type into</li> <li>- Non-functional requirement: The UI design should be user-friendly and accessible on multiple devices.</li> <li>- Testable criteria: Ensure that the backend receives the input properly without any data lost</li> <li>- Screenshots: Show the interface for hypothesis input and resulting survey question</li> </ul> <p><b>User story 2:</b></p> <p style="background-color: #ffffcc;">As a researcher, when I click generate I want the system to generate survey questions</p> <ul style="list-style-type: none"> <li>- Functional requirements: After the user clicks the enter on their keyboard, or click on the generation button, the system should generate survey questions</li> <li>- Non-functional requirement: The UI design should be user-friendly and accessible on multiple devices.</li> <li>- Testable criteria: The generated survey question must be related to the input</li> <li>- Screenshots: Show the interface for hypothesis input and resulting survey question</li> </ul> <p><b>User story 3:</b></p> <p style="background-color: #ffffcc;">As a researcher, I want to review and analyse my survey results with visualisation options</p> <ul style="list-style-type: none"> <li>- Functional requirement: The system must provide tools for visualisation</li> <li>- Non-functional requirement: Visualisation should be understandable and displayed correctly on multiple devices</li> <li>- Testable criteria: Generated visualisation should be accurate and match the data</li> <li>- Screenshots, show the results</li> </ul> <p><b>User story 4:</b> As a user, I want to be able to sign up a new account, to access the website</p> <ul style="list-style-type: none"> <li>- Functional requirements: The system must allow correct account creation for registration</li> <li>- Non-functional requirements: The security of the registration should be adequate such as password having restrictions, and also ensuring protection against SQL injection</li> <li>- Testable criteria: Ensure that after registering, the account is able to log in</li> <li>- Screen shot</li> </ul> <p><b>User story 5:</b> As a user, I want to be able to log in, so that I can access and save my informations</p>
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- Functional requirements: The system must all correct account creations for registration and ensure that the correct account details are shown after login.
  - Non-functional requirements: The security of the login should be adequate such as ensuring protection against SQL injection
  - Testable criteria: Ensure that when the user logs in, they are given the correct account. In addition, ensure that the user is able to log in the first place
  - Screen shot
- User story 6: As a user I want to be able to see my previous entries so I can review them
- Functional requirements: The system should pull up previous generated surveys
  - Non-functional requirements: The system should retrieve these surveys in a reasonable time frame
  - Testable criteria: The results should match what the user previously inputted
  - Screen shot
- User story 7: As a user, I want my survey questions to have diverse options in format, such as text, multiple choices, and different types of questions
- Functional requirements: The system must generate survey questions with different formats including, but not limited to, images, multiple choices, and different types of questions
  - Non-functional requirements: The generated survey options should match the aesthetics, size, and consistency to avoid confusion.
  - Testable criteria: Ensure that the system can generate all of the implemented formats
  - Screen shot
- User story 8: As a user, I want to be able to edit and modify the AI-generated questions
- Functional requirements: The system must allow the users to edit and modify survey questions generated by the AI
  - Non-functional requirements: The editing interface should be intuitive and user friendly
  - Testable criteria: Ensure that the changes to the survey questions are reflected after the user changes it
  - Screen shot
- User story 9: As a user I want to be able to manually add questions (Adding questions instead of editing)
- Functional requirements: The system must allow provide an option for users to manually add their own questions to the survey
  - Non-functional requirements: The questions entry process should be intuitive, and also include different types of questions (e.g multiple choices, text answers)
  - Testable criteria: Test if the the system can successfully add new questions, and that it adds to the survey
  - Screen shot
- User story 10: As a user, I want to specify the formats allowed question input
- Functional requirements: The system should allow users to set the settings for the generated survey by enforcing specific input formats (i.e having multiple choice, text answers or not)
  - Non-functional requirements: The format specification interface should be easily and flexible for the user to use
  - Testable criteria: Ensure that the outputs of the survey match the settings that the user defines
  - Screen shot

## White and application of disciple knowledge

Academic background of group members which was helpful for the development

Name	Background and helpful skills
Rueien Tan	Background: Software Engineering Skills: - SQL - Postgres - Github - CD/CI development (With jenkins) - HTML/CSS - System designs - Cybersecurity
Rui Wang	Background: Software Engineering and Mathematics Minor Skills: - Java - Python - Git - MySQL - Cloud Network and Server Hosting - SQL - HTML JS CSS - Database Design
Changxu Liu	Background: Software Engineering Skills: - Python - Java - Github - SQL - html
Leon Lee	Background: Software Development and Computer Science major skills

	<ul style="list-style-type: none"> <li>- Python (INFO1110, INFO1112, SOFT3202)</li> <li>- Java (INFO1113, SOFT2201)</li> <li>- C (COMP2017)</li> <li>- SQL (ISYS2120)</li> <li>- Cybersecurity (INFO2222)</li> <li>- Networking (INFO1112)</li> <li>- Algorithm design (COMP2123, COMP3027)</li> <li>- Git (INFO1111, SOFT2412)</li> <li>- Fullstack development (<a href="https://fullstackopen.com/en/">https://fullstackopen.com/en/</a>)</li> </ul>
Nadya Ee Png	Background: Software Development and Computer Science <ul style="list-style-type: none"> <li>- Python (INFO1110, INFO1112, SOFT3202)</li> <li>- Java (INFO1113, SOFT2201)</li> <li>- C (COMP2017)</li> <li>- SQL (ISYS2120)</li> <li>- AI (COMP3308)</li> <li>- Networking (INFO1112)</li> <li>- Algorithm design (COMP2123)</li> </ul>

### Research regarding this:

For our system, our client gave us a website that we can begin researching from. The reference link is

<https://www.startquestion.com/survey-ideas/artificial-intelligence-and-ethics-survey/>

From here we can take inspiration from the general sequence flow of what a general user sequence flow should be like, as well as what the output of a generated survey question should look like. Therefore, to specifically answer "Research on existing solutions/tools in solving complex problems", our research has helped us reach several user stories that are covered in the section above.

For instance in website above we saw what a sample input could look like

A screenshot of a web-based survey generator. At the top, there is a text input field with the placeholder "type survey goal i.e. 'find out how people use dating services'". Below the input field is a character count indicator "Chars: 0 / 200". At the bottom of the interface is a blue button labeled "Generate survey questions >".

In addition, we also see that the format of the generated questions varied with some using multiple choice questions, and others using short answer boxes

**7. Which industries do you believe are most affected by the ethical implications of AI? (select all that apply)**

- Healthcare
- Finance
- Transportation
- Education
- Military

**8. In your opinion, what are the major risks associated with the use of artificial intelligence?**

A screenshot of a survey generator interface showing a large, empty text input field for users to type in their responses.

**9. How do you think artificial intelligence can be used to benefit society?**

A screenshot of a survey generator interface showing a large, empty text input field for users to type in their responses.

Furthermore, they also included the ability to be able to edit survey questions

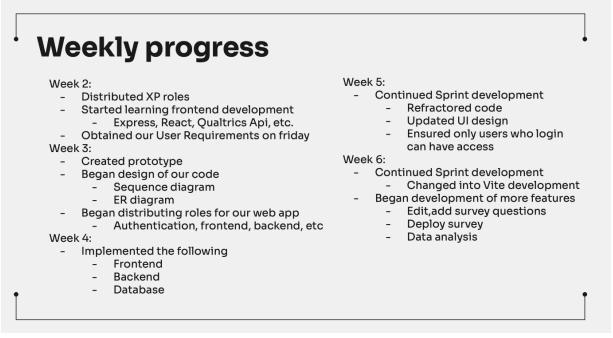
[Create and edit this survey questions >](#)

These all helped inspire and give a general direction for our development. For instance, our user stories now include allowing researchers to input their prompts, being able to generate

multiple different types of formats, and editing the existing survey to fit the user's needs. Since our client requirements are mostly developing a fully functioning survey generator, there isn't a need for literature reviews.

<p>Also wrote entirety of resources and risk</p>	<p><b>Resources and Risks</b></p> <p><b>Resources:</b></p> <ul style="list-style-type: none"> <li>- Labour: Skilled developers, UTS Client Researchers</li> <li>- Materials and Equipment: Software development tools, laptops</li> <li>- Services <ul style="list-style-type: none"> <li>- Cloud services for hosting databases</li> <li>- Qualtrics API (For hosting survey)</li> <li>- Gemini API (For Generating survey questions)</li> <li>- Gitbucket/bitbucket (for version control)</li> <li>- Jira (For tracking issues and tasks))</li> <li>- Slack (for communication)</li> </ul> </li> </ul> <p><b>Risks:</b></p> <ul style="list-style-type: none"> <li>- Technical Challenges: <ul style="list-style-type: none"> <li>- The most obvious challenge is generating the survey questions. The biggest risk is that the AI generated survey questions are not related to the researcher's input. In addition, the AI can create false information, which could also impact the quality of the survey question</li> <li>- Technical challenges include integrating the qualtrics api and ensuring a seamless integration with our web api. A concern is any issue with connection to qualtrics, could cause our system to be unable to generate surveys as we are using that platform to host our surveys</li> <li>- Another technical challenge is integrating all of our works seamlessly, as everyone is working on different parts of the system, sometimes the integration might cause issue</li> <li>- Ensuring we have the same development environment is also an issue, for instance for cybersecurity relating to login, some libraries are needed to be downloaded, this can cause development issues as everyone is working on different versions of the webpage</li> </ul> </li> <li>- User <ul style="list-style-type: none"> <li>- We are also concerned about the user, if the user holds malicious intent, they may try to breach our security through sql injections, and other forms of cybersecurity attacks</li> <li>- In addition, another challenge is ensuring the researcher's topic is understood by the AI, if the researcher in a field extremely niche, the AI may not be able to generate adequate survey questions</li> </ul> </li> </ul>
<p>Added to "Key changes required by client</p>	<ul style="list-style-type: none"> <li>• We were also requested to create our own user authentication, as we were going to implement the login with google(gmail) api  </li> </ul>
<p>Wrote meeting minutes for week 3</p>	<p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week3/20240818-Group.md">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week3/20240818-Group.md</a></p>
<ul style="list-style-type: none"> <li>- Brought up issues regarding the bitbucket first in the group chat</li> <li>- As well as helping to resolve issue</li> </ul>	<p>24 Aug 2024, 13:47</p> <p>Uh guys i think my bitbucket access got revoked? unsure why can someone add me back in?</p> <p>I'll take a look</p> <p>wtf somehow it's gone</p> <p>Nadya and I can't see it anymore</p> <p>Nadya's gonna send the zip file of the repo in the slack</p> <p>Can u guys also try make a new bitbucket repo and try somehow make it work</p> <p>And we'll just use the one that gets it to work first</p> <p>ok</p>

<ul style="list-style-type: none"> <li>- Worked on presentation slides during week 4 for slides Project scope,</li> </ul> <p>In addition, provided feedback during the group meeting to add website sequence flow</p> <ul style="list-style-type: none"> <li>- In addition, at the beginning of the slide production, I also added the template and required things into each slide, (Because the slide is shared to everyone, it shows me as anonymous)</li> </ul>	<div style="border: 1px solid #ccc; padding: 10px;"> <h3 style="margin: 0;">Project Scope</h3>  <ul style="list-style-type: none"> <li>- Create a website that users can sign and log into</li> <li>- Create feature where users can generate survey questions based on their hypothesis and research topic</li> <li>- Use an LLM API to generate the questions</li> <li>- Display and publish survey questions to a link for participants to fill out</li> <li>- Generate analysis of data gathered</li> <li>- Manage user, participant and survey data</li> </ul> <h3 style="margin: 0;">Assumptions &amp; Limitations</h3> <ul style="list-style-type: none"> <li>- LLM understands the topic that the user gives</li> <li>- LLM may generate invalid questions or analysis</li> </ul> </div> <p>Below is me importing the required information from the specification to the slides</p> <div style="border: 1px solid #ccc; padding: 10px;"> <p><b>Timelines</b></p> <p>(in Gantt chart or table on schedules/group meetings/client interaction)</p> </div> <div style="border: 1px solid #ccc; padding: 10px;"> <p><b>Our Project and Stakeholder</b></p> </div>
<p>Helped with communication and organisation of slack by creating multiple channels such as</p> <ul style="list-style-type: none"> <li>- Links</li> <li>- File-dump</li> <li>- xp-roles-channels</li> </ul>	<div style="background-color: black; color: white; padding: 10px;"> <p><b># xp-roles-channel</b></p> <p>You created this channel today. This is the very beginning of # xp-roles-channel.</p> </div> <div style="background-color: black; color: white; padding: 10px;"> <p><b># links</b></p> <p>You created this channel on 13 August. This is the very beginning of # links.</p> </div>
<p>Week 6 Tester</p> <ul style="list-style-type: none"> <li>- Helped with debugging issues related</li> </ul>	

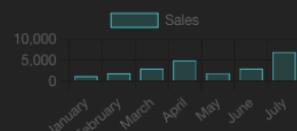
Communications	Created zoom links: 
New Feature assignment: datavisualization - Because I have taken Data1002 and Data2001, i was more comfortable with taking up this portion of the code to visualize data	Learning materials for data visualisation for frontend: - <a href="https://www.youtube.com/watch?v=RF57yDgIDfE">https://www.youtube.com/watch?v=RF57yDgIDfE</a> For pie graph used in datavisualization - <a href="https://www.youtube.com/watch?v=A_V14e6zC6s&amp;list=PLc1g3vwxhg1VmUEWqSvnwxJs1c5v6B9nQ&amp;index=3">https://www.youtube.com/watch?v=A_V14e6zC6s&amp;list=PLc1g3vwxhg1VmUEWqSvnwxJs1c5v6B9nQ&amp;index=3</a> For bar plot used in data visualization - <a href="https://www.youtube.com/watch?v=uauQMmwiv9oM&amp;list=PLc1g3vwxhg1VmUEWqSvnwxJs1c5v6B9nQ&amp;index=2">https://www.youtube.com/watch?v=uauQMmwiv9oM&amp;list=PLc1g3vwxhg1VmUEWqSvnwxJs1c5v6B9nQ&amp;index=2</a> Began coding personal project in order to practise and understand the material better, local files can be found in the personal github : <a href="https://github.com/rueien/react_learn">https://github.com/rueien/react_learn</a>
Week 7 Manager	During the group meeting, discussed the new requirements from the client after the client meeting Evidence: <a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week7/20240915-Group.md">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week7/20240915-Group.md</a>
Submitted meeting minutes for Tutor meeting	<a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week7/20240910-Tutor.md">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week7/20240910-Tutor.md</a>
Submitted meeting minutes for Tutorial meeting	<a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week7/20240910-Client%20copy.md">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week7/20240910-Client%20copy.md</a>
Created the following slides for the client meeting, as well as demoing the following slides during the client meeting	

	<p><b>Click to add title</b></p> <p>Channels</p> <ul style="list-style-type: none"> <li># about</li> <li># captureone-projects-soft3888-comp3888-comp3988-isy3888-csec3888-comp5615</li> <li># client-demo-track</li> <li># file-dump</li> <li># frontend</li> <li># issues-bugs-questions</li> <li># links</li> <li># meetings</li> <li># report-schedule</li> <li># todo</li> <li># xp-roles-channel</li> <li># xp</li> </ul> <p>+ Add channels</p>
	<p><b>Team Communication</b></p> <ul style="list-style-type: none"> <li>• Official communication - Slack</li> <li>• For emergency and casual - instagram</li> <li>• Discussions happen on Zoom</li> <li>• Jira for tracking tasks</li> <li>• Frequent communication <ul style="list-style-type: none"> <li>◦ Sunday 8pm meeting</li> <li>◦ Tuesday 12pm tutorial</li> <li>◦ Frequent communication through instagram and slack</li> </ul> </li> </ul>
	<h2>Communication</h2>
Hosted zoom meeting for client demo	<ul style="list-style-type: none"> <li>- Zoom meeting</li> </ul>
Technical contributions	<p>Evidence:</p> <ul style="list-style-type: none"> <li>- Begun Research into qualtrics API because the survey export is quite complicated. This took a while to learn and the qualtrics API</li> <li>- Uploaded local files to a git repository, shows the personal code used to learn the visualization and postman, and qualtrics api</li> <li>- Link to qualtrics survey export api:</li> <li>- <a href="https://api.qualtrics.com/206a07d54ca31-surveys-response-import-export-api">https://api.qualtrics.com/206a07d54ca31-surveys-response-import-export-api</a></li> <li>- <a href="https://github.com/rueien/react_learn">https://github.com/rueien/react_learn</a></li> </ul>

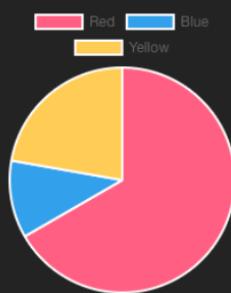
- requires three steps in order to retrieve survey results
- (1) Ping the server with the request and receive a confirmation ID
- (2) write a while loop to continuously check when the survey export is finished
- (3) When it is finished, request the data to be downloaded
- 

# Chart.js Visualization

**Bar Chart**



**Pie Chart**



**Line Chart**



**Radar Chart**



Week 8 Tracker, ensured in the Group meeting everyone was on track with their assignments

Evidence:

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/minutes/week8/20240922-Team.md>

Made and presented the following slides

## Roles & Responsibilities

### XP Roles

Week	Tracker	Manager	Customer Liaison	Programmer	Tester	Doomsayer
6	Frank	Changxu	Leon	Nadya	Ruelen	Rui
7	Nadya	Ruelen	Rui	Changxu	Leon	Frank
8	Ruelen	Rui	Nadya	Changxu	Leon	Frank
9	Rui	Changxu	Ruelen	Rui	Leon	Frank
10	Leon	Nadya	Changxu	Ruelen	Rui	Frank
11	Ruelen	Rui	Changxu	Frank	Nadya	Changxu
12	Frank	Leon	Rui	Changxu	Ruelen	Nadya
13	Leon	Changxu	Nadya	Rui	Frank	Ruelen

### Specific Domain Knowledge



## Functional Requirements

### Publish Survey and Generate Participant Survey Link

### Download Results CSV

SYDNEY

What would you like AI enhancements have contributed to changes in the job?

• AI has had no impact on my current role.

• AI has had a moderate impact, contributing to some job tasks.

• AI has had a moderate negative impact, contributing to some job tasks.

• AI has had a significant negative impact, contributing to most job tasks.

• I do not know enough information to answer.

**Survey Export**

Start Export

Loading survey data...

Object: [https://sydney.acl.qualtrics.com/jfe/form/SV\\_2rjy6tQmPmGp](https://sydney.acl.qualtrics.com/jfe/form/SV_2rjy6tQmPmGp)  
Link: [https://sydney.acl.qualtrics.com/jfe/form/SV\\_2rjy6tQmPmGp](https://sydney.acl.qualtrics.com/jfe/form/SV_2rjy6tQmPmGp)

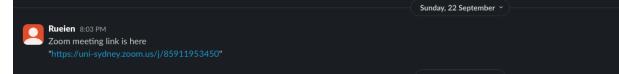
Download CSV

### View Survey Results

	Q001	Q002	Q003	Q004	Q005	Q006	Q007	Q008	Q009	Q010	Q011
Q001	2.00	No	Yes	No	No	No	No	No	No	Yes	No
Q002	2.00	No	Yes	No	No	No	No	No	No	Yes	No
Q003	2.00	No	Yes	No	No	No	No	No	No	Yes	No
Q004	2.00	No	Yes	No	No	No	No	No	No	Yes	No
Q005	2.00	No	Yes	No	No	No	No	No	No	Yes	No
Q006	2.00	No	Yes	No	No	No	No	No	No	Yes	No
Q007	2.00	No	Yes	No	No	No	No	No	No	Yes	No
Q008	2.00	No	Yes	No	No	No	No	No	No	Yes	No
Q009	2.00	No	Yes	No	No	No	No	No	No	Yes	No
Q010	2.00	No	Yes	No	No	No	No	No	No	Yes	No
Q011	2.00	No	Yes	No	No	No	No	No	No	Yes	No

## Communications

Made zoom link for meeting



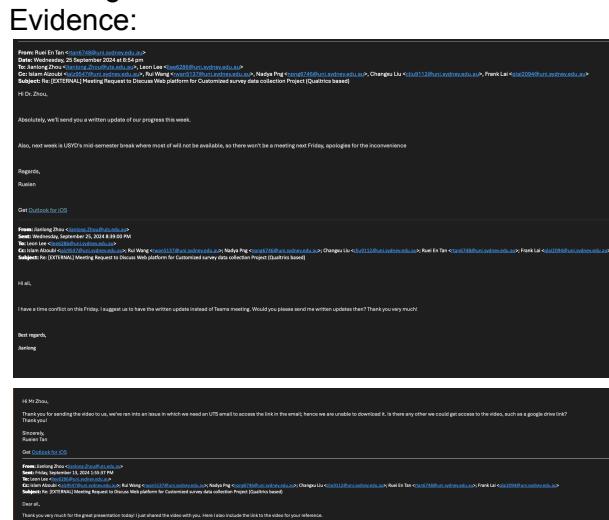
Technical contributions  
- Began development of the data visualization page

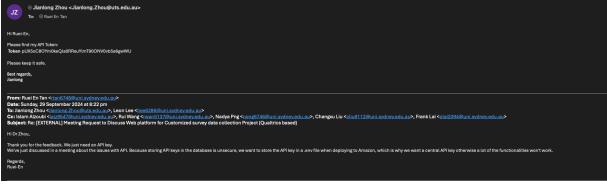
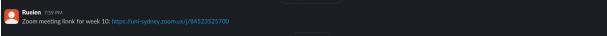
Evidence:

<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/d7280a3b9a11a02c084edcd8062e06da0c7c6d42>

## Week 9 Customer Liaison

Emailing the client as the customer liaison



	
Technical Contributions: - Separated the logic for qualtrics API	Evidence: <a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/d7280a3b9a11a02c084edcd8062e06da0c7c6d42">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/d7280a3b9a11a02c084edcd8062e06da0c7c6d42</a>
Week 10 Programmer	{See technical contributions}
Communications	Made zoom meeting link 
Technical Contributions: - Began development of an initial data visualisation page - These commit include datavisualization, making the api calls inside of the qualtrics controller to retrieve survey definition, marrying two different json files inside of datavisualization, displaying three types of data, "text", "bar plot" and "pie chart", also fixed it so that each chart doesn't take up an entire page. Also had some bug fixes with the api calls	Evidence: <a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/669741129f49561e970ba107f3f117892cb0e108">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/669741129f49561e970ba107f3f117892cb0e108</a>

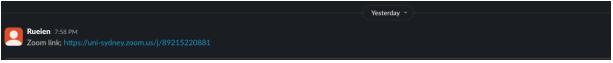
Week 11 Manager	During meeting with on Sunday, discussed the rest of the required things to be done, including the slides, and allocated everyone tasks
Added comments on the final report to inform on what still needs to be done	<p> Tan rwei en 12:36 PM Oct 19</p> <p>Update below</p> <ul style="list-style-type: none"> <li>- Add screen shots of the newly demonstrated user stories from week 6 - 12</li> <li>- Missing screen shots for:</li> <li>- User story 3 -6, 8-11</li> <li>- Update screen shots for:</li> <li>- User stories 1,2,7</li> </ul> <p> Tan rwei en 12:37 PM Oct 19</p> <p>(Evidence) Add new bitbucket links for the newly developed features</p> <ul style="list-style-type: none"> <li>- Add links for data analysis system</li> <li>- (add links for other updates)</li> <li>(Unsure) Might be missing some aspects for the final product section</li> </ul> <p> Tan rwei en 12:38 PM Oct 19</p> <p>This section needs to be changed as we completed most of the user stores, there was new requirements? but not sure if that counts as user stories:</p> <ul style="list-style-type: none"> <li>- AWS deployment</li> <li>- HTTPS security</li> <li>- (Other client requirements)</li> </ul> <p> Nadia Pnn</p> <p> Tan rwei en 12:40 PM Oct 19</p> <p>I think we're missing some additional requirements our client made and we completed?</p> <p> Nadia Pnn</p> <p> Tan rwei en 12:43PM Oct 19</p> <p>Probably need to update this section for testing? seems like its missing some information, it says "next phase of our development" so this needs to be changed</p>

## Added to the 2.3 section

- **Survey generation and management system:** For users to create surveys from chosen questions, modify/delete existing surveys, and manage distribution of surveys.
  - Frontend:
    - Provides interface for user to submit chosen questions to create survey
    - Allows users to view/modify/delete existing surveys
    - Allows users to get survey links for distribution to participants
  - Backend:
    - Formats chosen questions and communicates with Qualtrics API for survey generation and creating questions
    - Handles modification of existing surveys with calls to Qualtrics API and database
    - Handles logic for getting survey links for each survey
  - Evidence:
    - Survey publishing frontend page -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/pages/Home.jsx>
    - Past survey viewing frontend page -  
<https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/pages/History.jsx>
  
- **Data analysis system:** For users to analyse survey results through data visualisation and statistical analysis
  - Frontend: Page that displays simple analysis of survey results, such as graphs and statistics
  - Backend:
    - Calls Qualtrics API to get survey data
    - Handles logic for simple data analysis
  - Bitbucket for the evidence
    - Page:
      - <https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/pages/DataVisualization.jsx>
      - Survey export component:
        - <https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/src/main/client/src/components/SurveyExport.jsx>
        - Final data visualization update:
          - <https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/b1b8d25002662b21af95a0ade412a45340694f6e>

Went into every header to update with a numbered section (note: had to manually scroll through as adding through the index does not work)

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Wrote conclusion	<p>7.5 Conclusion </p> <p>In conclusion, our group processes are quite excellent given our github branching strategies, use of jira, coding style, and focus on Agile methodology. This enables us to consistently develop features quickly with high quality, in addition, with all of us having knowledge of Agile methodology we are able to make quick changes and additions according to the clients requirements. This is further enhanced by our file structure being organised to be both modular and easily understandable. However we are naturally limited by time, and the amount of time needed to learn web development, as none of the group members have experience with web development. Fortunately this was offset by our excellent communication, and our receptiveness to learning and adapting to new challenges. In conclusion, this project has shown the resilience of this team's group processes.</p>																																		
Communications	<p>Hosted zoom meeting</p> 																																		
Technical Contributions: <ul style="list-style-type: none"> <li>- Fixed many issues regarding graphs not displaying properly</li> <li>- Changed the code to pull from the database instead of the qualtrics</li> </ul>	<p>Evidence</p> <p><a href="https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/4b5495d77f4000f33345fff329274b2a7c7dd396">https://bitbucket.org/soft3888-tu12-04-h04154/survey-app/commits/4b5495d77f4000f33345fff329274b2a7c7dd396</a></p>																																		

## Appendix

No appendix used

## References

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