Software Requirements
The Oracle

Version	3.0
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20/5/2024

Table of Contents

1. Document Management

1.1 Revision History

Date	Version	Description of Change	Author
	1.0	INITIAL DRAFT	
26/3/2024	1.1	Based on the project brief finished Introduction part	Zhiheng Gu
26/3/2024	1.2	Functional Requirements	Peicheng Guo
15/5/2024	2.0	Majority complete	Zhiheng Gu Peicheng Guo
20/5/2024	2.1	Completion of diagrams and appendix	Nicholas Solomos
22/5/2024	2.2	Insertion of data dictionary	Zhiheng Gu
23/5/2024	3.0	Finalisation	Nicholas Solomos

2. Introduction

2.1 Document Purpose

This document initially presents the project description. It includes an overview of what the project is about, what this project is trying to accomplish. Some of the issues that may arise, risks, etc. Then there are functional requirements, non-functional requirements summarized based on User Story. Data requirements for each class.
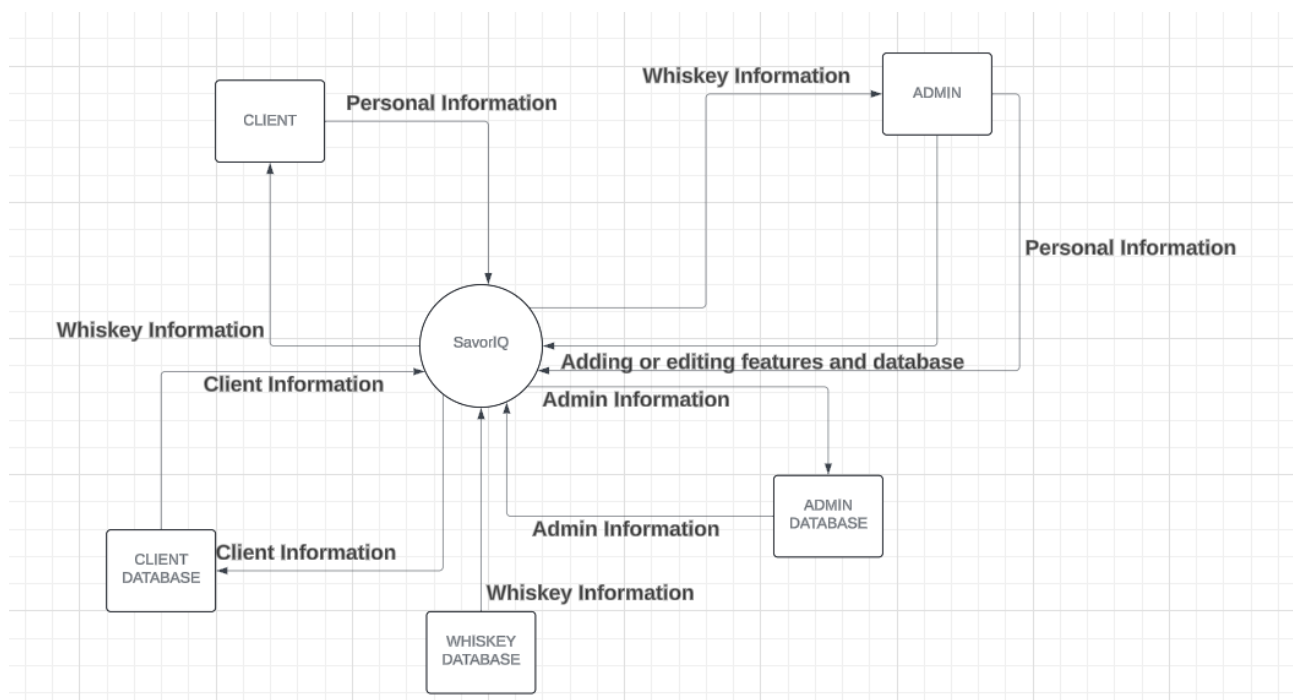
Priority indicators used within this document:
- H = High. **Must** be met before the project can be launched.
- M = Medium. Should be met unless there is a good reason it cannot be at this stage.
- L = Low. Optional, nice to have requirement.

2.2 Project Purpose

The goal of this project is to address the lack of current platforms available that can allow whiskey enthusiasts to truly dissect flavor origins beyond broad categories. The ultimate objective of this project is to innovate on existing platforms by leveraging detailed chemical analysis data, which will enable users to explore and match whiskeys through an advanced, interactive search feature. This feature will present complex data (such as flavor compounds) in an intuitive, user-friendly interface, emphasizing a deep dive into the sensory attributes of whiskey in a visually engaging manner.

Ultimately, for this stage of the project, the initial objective is to develop a visually engaging website that will serve as a powerful demonstration of the project's ultimate objective to venture capitalist investors; and to develop the first iteration of a website that can be further developed upon or used as reference in the future once additional funding has been secured.

2.3 Project Scope

2.3.1 In Scope

Ref.	Item	Description
SC001	Radar graph	A radar graph used to show the flavors of whiskey, with each corner representing a flavor, and a high score indicating that the flavor is more intense.
SC002	Whiskey provided in dummy data	Includes information on the brand, degree and chemical composition of the whisky.

2.3.2 Out of Scope

Ref.	Item	Description
OC001	Website User Discussion/Comment function	There is no need to provide users browsing the site with the ability to comment on the wine in a way that is visible to all users.
OC002	Machine learning model to give recommendations	No need to learn the user's browsing history to make recommendations
OC003	Login/Registration	No login registration etc. required
OC004	Ability to purchase whiskeys	Users are not able to purchase whisky through this website
OC005	Ability to see price of whiskeys	Users are not able to see the price of whiskey.

2.4 Assumptions

Ref.	Item	Description
A001	The information provided by Party A is accurate	All the information given to us about requirements was correct.
A002		

2.5 Risks

RID	Description	Likelihood (Possible, Likely etc.)	Consequence (Major, Minor etc.)	Rating (Very High, High, Moderate etc.)	Mitigation Strategy
R001	Misunderstanding requirements properly and developing an incorrect project	Low	Major	Moderate	Developers and the client engage in deep communication during the team meeting, actively addressing issues.
R002	Different software not	Medium	Major	High	All software developers test

	working correctly with each other				the software development tools before starting development to ensure smooth development.
R003	Copyright issue: Use of unauthorized images, text, or other content.	Medium	Medium	Moderate	Use authorized content or purchase copyright and clearly mark copyright information.
R004	SEO ranking drops: The search engine optimization (SEO) of the website is not effective, resulting in a decrease in traffic.	High	Major	High	Continue to optimize for SEO, post high quality content, and build external links.
R005	Faces stiff competition from other whisky display sites.	High	Major	High	Provide unique content and user experience, marketing and branding.
R006	Some functions of the website are unavailable due to a problem during function update.	Medium	Major	High	Fully test and prepare rollback scenarios before updating.
R007	The technical capability of the development team is insufficient, resulting in the quality and schedule of the project being affected.	Medium	Medium	Moderate	Provide training and technical support, and recruit experienced technical personnel.
R008	Poor time management by developers leads to delays in the project schedule	Medium	Medium	Moderate	Develop reasonable timelines and use time management tools and techniques.

2.6 Issues

IID	Description	Responsible	Status	Date	Resolution
I001	Background developing student not familiar with new developing environment.	Jiahui Su Jiguang Wen	Finished	20/3/2024	Learning through the Internet.
I002	Navigation bar issues	Clement	Finished	03/04/2024	Component was not linking to the right page. Adjusted routing.
I003	Toggle switch issues	Clement	Finished	16/04/2024	Not being able to pass states between components. Used prop digging and changed a state in the page to change states in other components.
I004	Radar chart issues	Clement	Finished	20/04/2024	Getting chart.js to work properly. Had to install other dependencies such as react-chart-js-2.
I005	Radar chart issues	Clement	Finished	21/04/2024	Getting radar chart to display. Had to remove other instances of radar charts with the same id in its <div>.
I006	Radar chart issues	Clement	Finished	07/05/2024	Getting clickable labels on the radar chart. Had to change the way I was calculating the objects and getting the pointer location by changing the method of scaling.
I007	Grid issues	Ramon	Finished	10/05/2024	Tiles weren't rendering until a filter had been applied
I008	Grid issues	Ramon	Finished	10/05/2024	All tiles stopped rendering after two filters had been applied
I009	Grid issues	Ramon	Finished	10/05/2024	Tiles weren't rendering differently based on the mode set by the toggle component
I010	Grid issues	Ramon	Finished	15/05/2024	Tiles weren't navigating to the correct URL upon being clicked
I011	Navigation bar	Ramon	Finished	16/05/2024	The navigation bar was shifting to the left depending on the amount of tiles being rendered

2.7 Constraints

CID	Item	Description
C001	Time constraint	Insufficient time for software development.

C002	Compliance with regulations	The use of certain images or content may require legal authorization.
C003	Lack of experience in whiskey tasting	The developers are all students and have no experience in whisky tasting.
C004	Taste is fundamentally a subjective experience.	It is impossible to quantify whisky taste with 100% accuracy; ultimately, the data can only serve as a reference.

2.8 Dependencies

DID	Item	Description
D001	Integration.	Approval from client on different phases. Eg. Mockup, wireframes
D002	Approval from client.	Approval from client on different phases. Eg. Mockup, wireframes

2.9 System Users and Channels

Ref.	Item	Description
A001	User	Users come in from search engines and want to find relevant whisky types based on taste. And you can see the details of the whisky, including the chemicals that make up the taste.

3. Functional Requirements

3.1 Functional Requirements - User Stories

Ref.	Item	Functional Requirement Description
FR001	Detailed flavor profiles for each whiskey can be seen	The system should provide an interface that displays a detailed flavor profile of the whiskey, including information on its taste, aroma, color and origin.
FR002	Filter and filter functions	The system has set up a filter bar, and users can filter information and products by clicking on it.
FR003	Navigation Bar	The system allows users to quickly reach the desired Pages through the navigation bar.

1.1

Function /Feature/ Task	Priority	Difficulty	Complexity	Testing	Definition of Done	Resources
	(Scale between 1-5, where 1 is the lowest and 5 is the highest)			*Identify and describe how and when the product will be tested over the course of the project/semester.*	*Describe a set of conditions that allow your team to assess the product's completion for the project/semester.*	*List the required library, API, language, package, connected function(s), connected database etc.*
The website will display a radar graph indicating the flavour notes and chemical compounds present in the whiskey.	*2*	*3*	*4*	*Acceptance testing. QA testers will test the system to find out whether the application fits the business requirements.*	*(1)* - *Radar shows on web-site.* - *The right flavours/compounds show up for each whiskey*	*JavaScript, Chart.js*
User will be able to hover their cursor over the chemical compounds and flavours in the graph to reveal additional	2	4	4	Integration testing. QA testers will test a combination of units to see if there are any	- Hover function works with cursor - The correct informati	JavaScript, SQL, Chart.js

information in a floating text box.				defects between functions.	on in displayed	
Users will be able to click on flavours and chemical compounds to see other whiskeys that contain the same flavour or chemical compound.	1	3	3	Integration testing. QA testers will test a combination of units to see if there are any defects between functions.	- Clicking function works and correct informati on is shown clearly	JavaScript, SQL, Chart.js
Users will be able to hover on a chemical compound or flavour to view common sources, impact on taste, and scientific details.	1	3	3	Integration testing. QA testers will test a combination of units to see if there are any defects between functions.	- Hover function works and info is shown with other informati on	JavaScript, SQL, Chart.js
Users will be able to like/dislike whiskeys and these will be saved to their profile.	1	1	1	*Acceptance testing. QA testers will test the system to find out whether the application fits the business requirements.*	- Like and dislike buttons are interacta ble and work.	JavaScript, SQL
User's likes/dislikes will not be replicated to other users on the platform.	1	1	1	*Acceptance testing. QA testers will test the system to find out whether the application fits the business requirements.*		
Users are able to filter through whiskeys based on flavours	2	4	4	*Acceptance testing. QA testers will test the system to find out whether the application*	- Search bar is present - Search function works and uses	JavaScript, SQL

				fits the business requirements.	correct filters	
Users are able to select a chemical compound or flavour in the graph to view other whiskeys that contain the same chemical compound or flavour	3	4	4	*Acceptance testing. QA testers will test the system to find out whether the application fits the business requirements.*	- When clicked the list is shown and it has the correct flavour compound in each	JavaScript, SQL
Users are able to search specific whiskeys based on name and brand through the search function.	3	3	4	*Acceptance testing. QA testers will test the system to find out whether the application fits the business requirements.*	- Search bar is present - Search uses the correct filters	JavaScript, SQL

3.2 User Story Narratives

Behaviour

John is a busy real estate agent who faces tremendous work pressure every day. To soothe her frayed nerves, He developed the habit of drinking alcohol every night. By chance, John tried whiskey and quickly developed a deep love for its unique flavor and long aftertaste. This newfound hobby not only brought a sense of comfort to him nights but also gradually became a way for him to enjoy life and relax.

John Joe

32, Employee

RRT Real Estate Company

photography
collect
taste
Art

Main Points

He can't find the right whiskey for her

He is troubled by the pressure of work every day

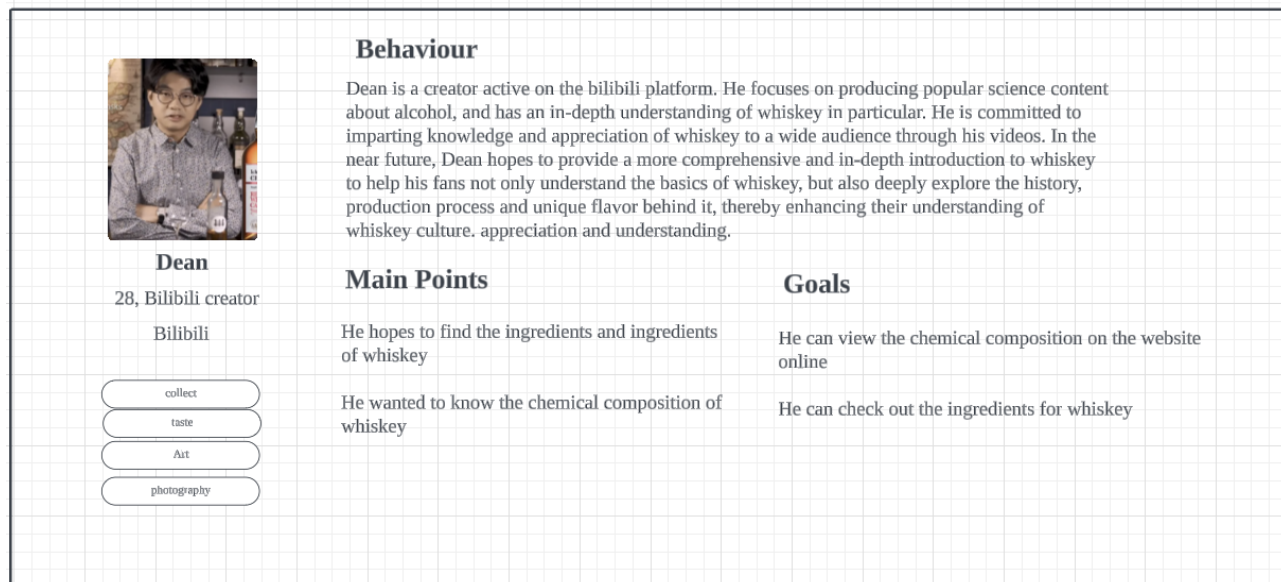He thinks whiskey tastes dry, strong and bitter.
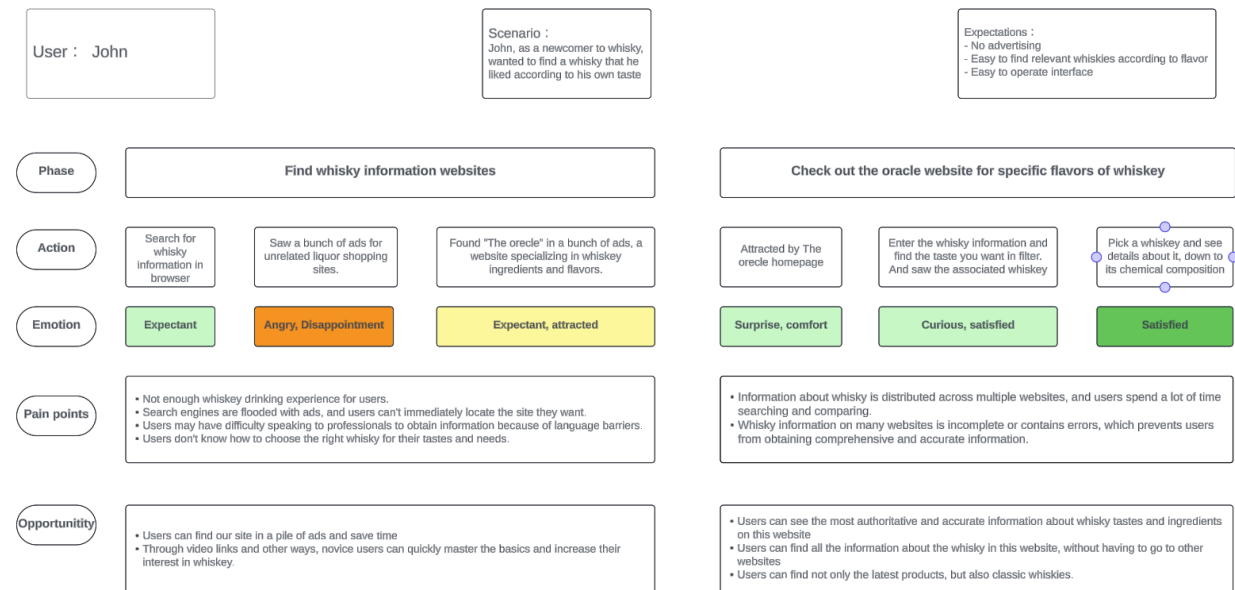
He doesn't know if it's healthy

Goals

He can sift and filter to choose the whiskey that suits her.

He can see if unhealthy materials are present in a whiskey by looking at the ingredient list.
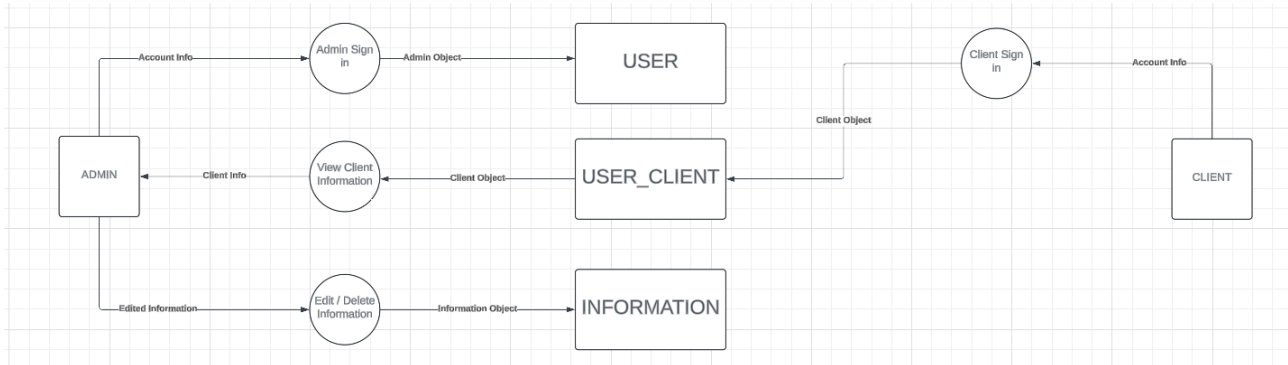
He can learn about whiskey faster

Behaviour

Dean is a creator active on the bilibili platform. He focuses on producing popular science content about alcohol, and has an in-depth understanding of whiskey in particular. He is committed to imparting knowledge and appreciation of whiskey to a wide audience through his videos. In the near future, Dean hopes to provide a more comprehensive and in-depth introduction to whiskey to help his fans not only understand the basics of whiskey, but also deeply explore the history, production process and unique flavor behind it, thereby enhancing their understanding of whiskey culture. appreciation and understanding.

Dean

28, Bilibili creator

Bilibili

- collect
- taste
- Art
- photography

Main Points

He hopes to find the ingredients and ingredients of whiskey

He wanted to know the chemical composition of whiskey

Goals

He can view the chemical composition on the website online

He can check out the ingredients for whiskey

3.3 User Story Map

User： John

Scenario：
John, as a newcomer to whisky, wanted to find a whisky that he liked according to his own taste

Expectations：
- No advertising
- Easy to find relevant whiskies according to flavor
- Easy to operate interface

Phase	Find whisky information websites			Check out the oracle website for specific flavors of whiskey		
Action	Search for whisky information in browser	Saw a bunch of ads for unrelated liquor shopping sites.	Found "The orecle" in a bunch of ads, a website specializing in whiskey ingredients and flavors.	Attracted by The orecle homepage	Enter the whisky information and find the taste you want in filter. And saw the associated whiskey	Pick a whiskey and see details about it, down to its chemical composition
Emotion	Expectant	Angry, Disappointment	Expectant, attracted	Surprise, comfort	Curious, satisfied	Satisfied

Pain points

- Not enough whiskey drinking experience for users.
- Search engines are flooded with ads, and users can't immediately locate the site they want.
- Users may have difficulty speaking to professionals to obtain information because of language barriers.
- Users don't know how to choose the right whisky for their tastes and needs.

- Information about whisky is distributed across multiple websites, and users spend a lot of time searching and comparing.
- Whisky information on many websites is incomplete or contains errors, which prevents users from obtaining comprehensive and accurate information.

Opportunitity

- Users can find our site in a pile of ads and save time
- Through video links and other ways, novice users can quickly master the basics and increase their interest in whiskey.

- Users can see the most authoritative and accurate information about whisky tastes and ingredients on this website
- Users can find all the information about the whisky in this website, without having to go to other websites
- Users can find not only the latest products, but also classic whiskies.

4. Data Requirements

4.1 Conceptual Data Model

4.2 Data Dictionary

Ref.	Data Element	Format	Length	Description
01 User
DE-1001	Id	Int	10	Foreign key
DE - 1002	Name	varchar	20	**Name**
DE - 1003	Address	varchar	50	**User address**
DE - 1004	Password	varchar	20	**User password**
DE - 1005	Role	varchar	20	**User Role**
02 User_Client
DE - 2001	Id	Int	10	Primary key
DE - 2002	Role	varchar	20	**Role (Client)**
03 User_Admin
DE - 3001	Id	Int	10	Primary key
DE - 3002	Role	varchar	20	**Role (Admin)**
04 Whiskey
DE - 4001	Whiskey_Id	Int	10	**Id**
DE - 4002	W_Name	varchar	20	**Name**
DE - 4003	W_Maker	varchar	20	**Maker**
DE - 4004	Compound_id	Int	10	**Id of compound**
DE - 4005	W_Chemical	varchar	20	**Chemicals in whiskey**
DE - 4006	W_Chemical_Strength	Int	3	**Strength level**
DE - 4007	W_Flavour	varchar	20	**Flavour**
DE - 4008	W_Contact_name	varchar	20	**Contact info**
DE - 4009	W_contact_url	varchar	20	**Contact link**
05 Compounds
DE - 5001	Compound_id	Int	10	Primary key
DE - 5002	C_Name	varchar	20	**Name**
DE - 5003	C_Flavour	varchar	20	**Flavour**

5. Non-functional requirements

5.1 Non-Functional Requirements (User Stories)

6.

	Priority	Difficulty	Complexity	Testing	Definition of Done	Resources

20/5/2024

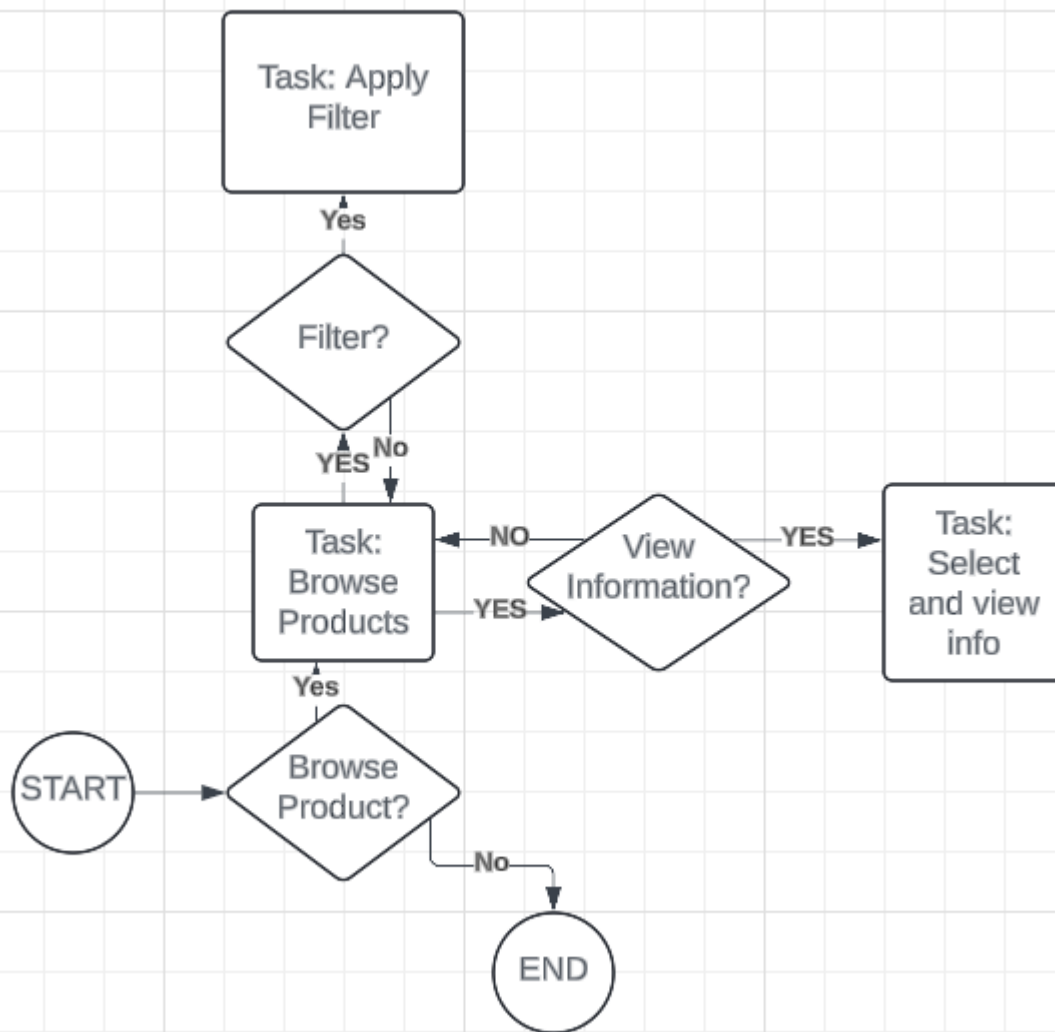| Function /Feature/ Task	(Scale between 1-5, where 1 is the lowest and 5 is the highest)			Identify and describe how and when the product will be tested over the course of the project/semester.	Describe a set of conditions that allow your team to assess the product's completion for the project/semester.	List the required library, API, language, package, connected function(s), connected database etc.
The user interface should be simple and clear to provide a good user experience.	5	3		*Acceptance testing. QA testers will test the system to find out whether the application fits the business requirements.*	- Clear buttons - Straight forward using the website	
The website should have high reliability and stability, and be able to operate continuously and stably to avoid system failure and downtime. (1hr Weekly maintenance)	5	3	3	*System testing. QA testers will test the system to find out whether the application fits the business requirements.*	- Able to run continuously - Little to no errors	
The Website should have the correct and up to date information	4	2	2	*Acceptance testing. QA testers will test the system to find out whether the application fits the business requirements.*	- Information fact checked to ensure integrity	

5.2 User Interface Requirements (UXD)

When building our whiskey information website, we focused on creating a user experience that was both simple and intuitive. Through the settings of the navigation bar and filter bar, it is ensured that users can directly and seamlessly browse various whiskey, flavor and bottle pages and filter information so that each user can quickly find the information they want.

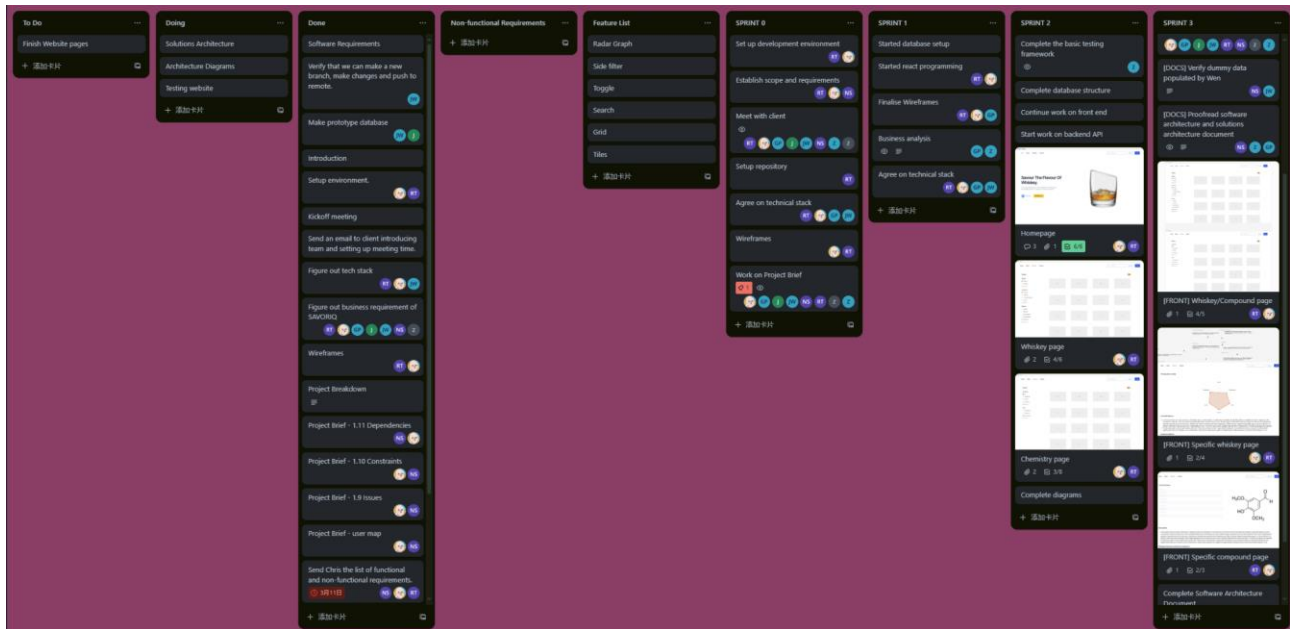| Interface	Functional requirement	Major Non functional requirements
Home page	- Navigation Bar - Link to introducing video	**Usability:** - **Clear Call-to-Action:** Prominent "Play video" and "Get Started" buttons encourage interaction. - **Readable Text:** Large, bold text conveys the main message clearly. **Accessibility:** - **Button Clarity:** Large, clearly labeled buttons accessible to users with varying vision levels. - **Contrast and Visibility:** High contrast text and buttons ensure readability for visually impaired users.
Whiskey Page	- Navigation Bar - Product filtering	**Usability:** - Clear navigation - Filter is clearly categorized and expandable **Aesthetics:** - **Consistent Color Scheme:** The use of a consistent color scheme gives the page a unified look that aligns with the whiskey theme. - **Whitespace Utilization:** Adequate use of whitespace makes the interface appear uncluttered and easier to navigate.
Specific whiskey page	- Navigation Bar - Chemical composition analysis radar chart	**Aesthetics:** - **Style:** Large font size, bold, ensures it immediately grabs the user's attention even during quick browsing. - **Position:** Located at the top of the page or near the video link, it is the visual focus when users first visit.
Specific compound page	- Navigation Bar	**Readability:** - **Readable Text:** The use of headings (e.g., "Chemical Name," "Description") and bullet points enhances readability and helps users quickly scan the content. - **Font Size and Style:** The text should appropriately sized and easy to read, contributing to a positive user experience.

<mark>6. Bibliography</mark>

<mark>7. Appendices</mark>
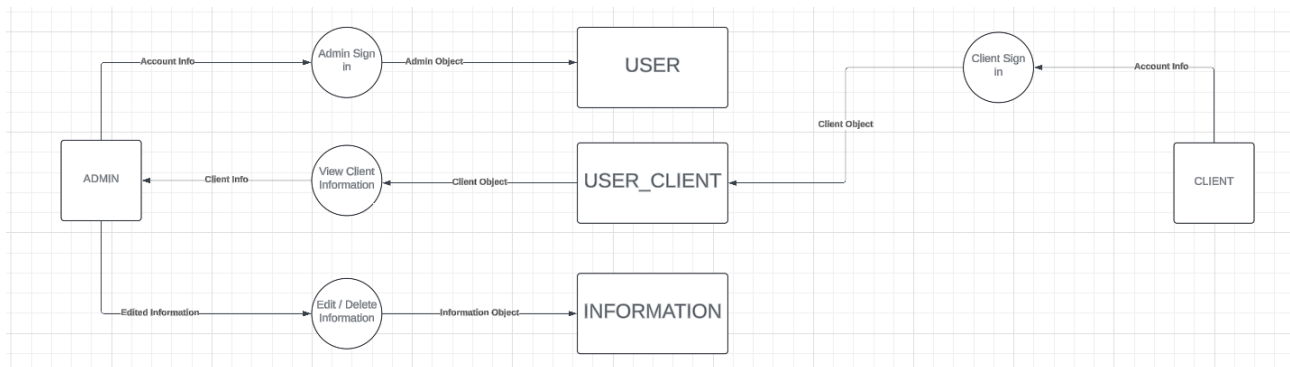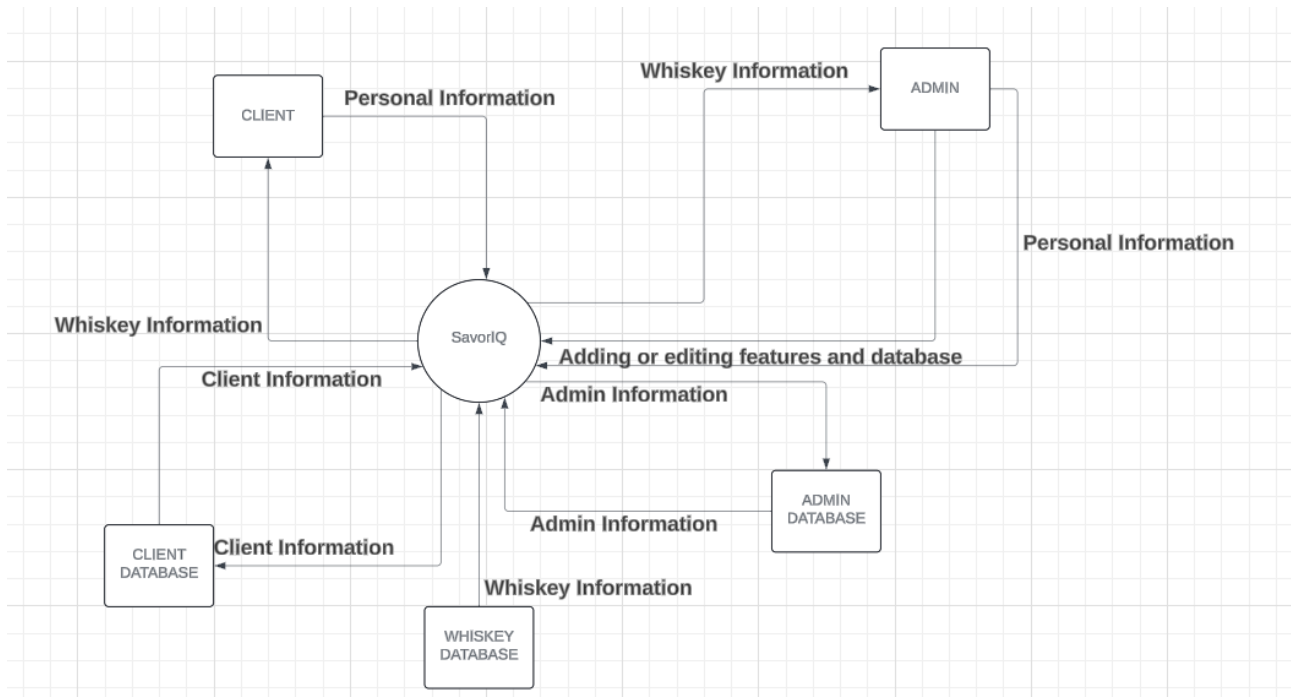
7.1 Process Maps

7.2 User Story/ Requirements Backlog (Trello)

7.3 Conceptual Data Model

7.4 Context Diagram

7.5 Entity Relationship Diagram