

## COMP2211 - Envisioning

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TEAM 17

# 1 User Understanding

## 1.1 Stakeholder Analysis [2]

Organisational unit	Name	Type	Role and description
Client	Director	Secondary	Owner, oversees investment into marketing
	Brand Analyst	Primary	Employee for the client that checks whether the current marketing strategy is working efficiently
Marketing Agency	Digital Strategist	Primary	Manages the online presence of and plans marketing through digital channels for clients
	Account Manager	Primary	Liaises with clients to ensure that they are satisfied with the service provided by the agency, providing information on how campaigns are performing
	Marketing Director	Primary	Ensures that advertisements placed for the client are performing effectively, guides the overall marketing process
	Marketing Analyst	Primary	Analyses the data from the ads and finds ways to make them perform better
	System Administrator	Facilitating	Runs, maintains and configures the system
	Ad Viewer / Customer	Tertiary	Prospective customer, provides data by clicking or not clicking on the ad
	Website with Ad (placement)	Tertiary	The developer of the website that hosts the ad is affected by the quality and performance of ads hosted on their website

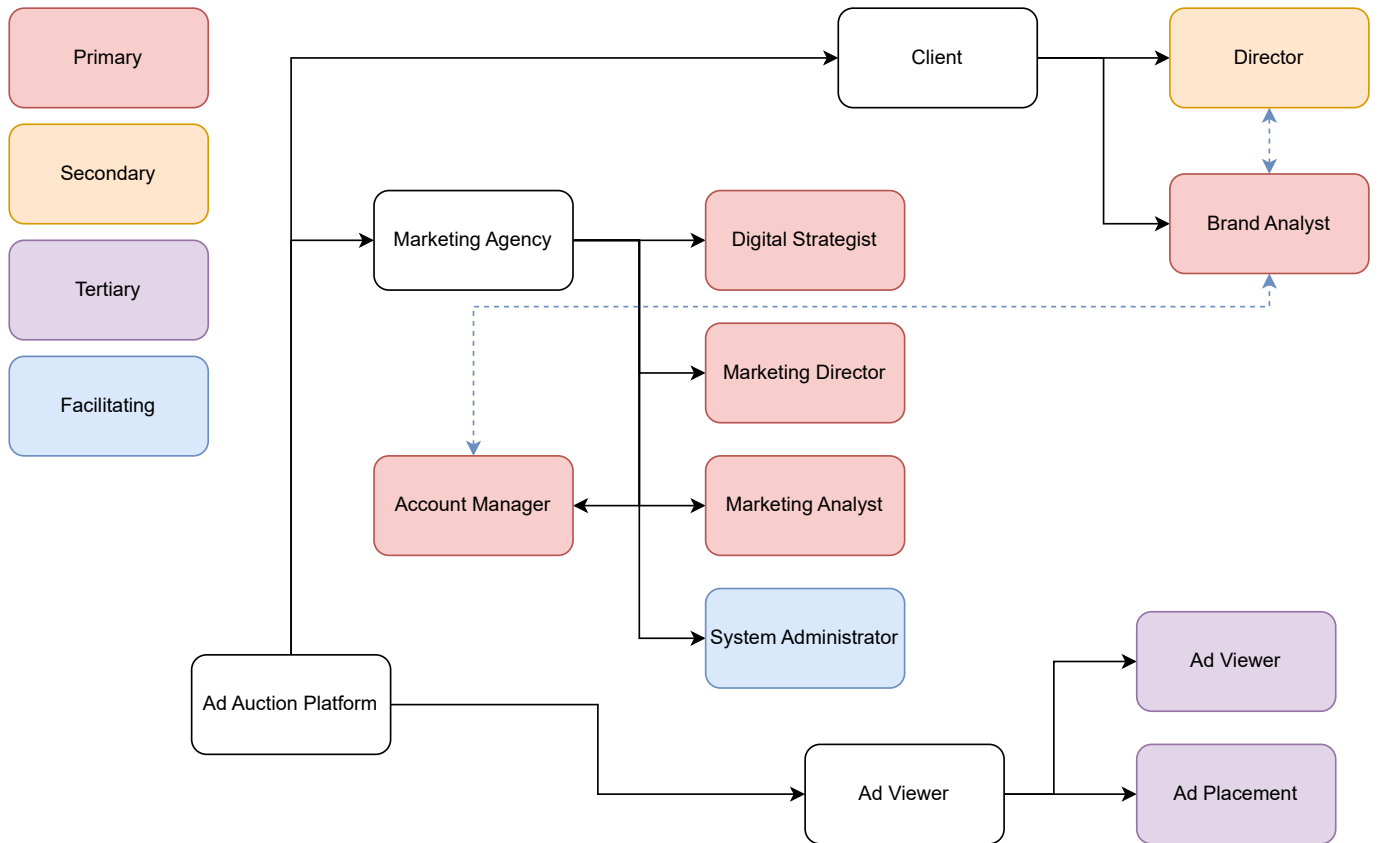


Figure 1: Stakeholder diagram

## 1.2 Personas

### 1.2.1 Marketing Agency

#### Meticulous Jennifer - Digital Strategist



Jennifer is 25 and she works as a digital strategist for the marketing agency. She is a very analytical person and has a keen eye for details. She is very present on social media platforms. She develops, implements and manages the web presence architecture and online marketing strategy for brands, products or services. She has a passion for technology and always looks for ways to incorporate them into her work.

#### Anxious David – Brand Strategist

David is 27 and he works as the brand strategist for the marketing agency. He is involved in analysing market research data and trends to develop solutions for marketing plans. He is very computer literate and constantly look for ways to improve his lifestyle with technology.

He sometimes finds it overwhelming that there is too much data for all advertisements and can sometimes miss key properties. He is a visual thinker, meaning that he processes information in the form of images. He would find it easier to directly look at charts rather than data and constructing a chart from there.



#### Technical Danny – Tool Manager (System Administrator)



Danny is 32 and he works as the tool manager for the marketing agency. He oversees the running, maintenance and configuration of the system. He is very active and likes going for jogs in the morning, and he hates repetitive tasks that waste his time, so he prefers to automate everything.

His primary frustration with tools he uses at work is their inaccessibility to colourblind people, as he is colourblind. In his free time, he develops a mobile app that allows developers to see what their apps would look like with colourblindness.

#### Paul - Client liaison

Paul is 30 and works as our direct contact with the marketing agency. He oversees the project and has tasked us with developing the tool. He is a very energetic person. He is an extrovert and enjoys social time and meeting new people. He likes working with new people and is fascinated by technical people.

He finds it frustrating when his colleagues don't communicate enough with him, and he feels that that could make work life and work performance easier. He likes to be kept in the loop and enjoys regular updates. He wants the project to be done as smoothly as possible and helps in any way he can.



### 1.2.2 Website

#### Greg - Website Owner



Greg is 45 and is the CEO of a company who sells products on the internet. His company resells items on the internet for lower prices. He has a website where people can look for what they want, compare the price with instore prices and look at the state of the product. He offers advertisements placements on his website. His website being fairly popular, the advertisements cover the money lost by buying and reselling items.

#### Successful Alice - Website User

Alice is 37 and she works as the senior software engineer for a large tech company. She is a single mother of 2 sons, Aiden and Sam, aged 10 and 12 respectively. Her kids spend all their time outdoors playing sports. She loves taking care and spending time with them. She provides to their every need, and sometimes even spoils them. Her work requires her to be on her feet and precise. She prefers to adopt non-work-related hobbies to better cope with the stress of her job. In her free time, she enjoys listening to audio-books, watching Netflix, YouTube videos and window shopping on Amazon.



*All the persona pictures were generated by an Artificial Intelligence [1].*

## 2 Requirements Planning

### 2.1 Product Backlog / User stories

#### Functional requirements

- As a system administrator, I want to be able to load in CSV files containing metrics from the advertising network, so that I can keep the data in the system up to date for analysts to use.
- As a marketing analyst, I want a graphical interface for generating graphs, so that I can rapidly modify the generated graphs without needing to learn commands.
- As a brand analyst, I want to compare key metrics relating to the performance of ads so that I can determine if the marketing strategy is effective.
- As a marketing manager for a medium sized company, I want to be able to display metrics as a graph so that I have a visual representation of the data.
- As a marketing director, I want to control the time granularity of generated graphs, so that I can get a big picture overview as well as observe rapid changes in interest.
- As a marketing director for a small company, I want to see a histogram of key metrics so that I can view a cumulative overview of the data.
- As a marketing analyst, I want to filter campaigns through their context, audience and date so that I can isolate and view only the relevant campaigns, using the input conditions.

- As a marketing analyst, I want to be able to view multiple graphs on key metrics simultaneously using filters, so that I can compare specific attributes of the data directly.
- As a marketing analyst, I want to be able to choose how a bounce is registered, so that I can use the most appropriate definition for the context and active advertising campaign.
- As a marketing director, I want to be able to load and compare campaigns side by side, so that I can view the performance of each and make decisions appropriately.
- As a marketing director, I want to be able to view graphs that display data per interval over a longer period of time, such as times of day over several weeks, so that I can better understand periodic changes in user behaviour.
- As an account manager, I want to be able to save charts produced in the software as images, so that I can display them in presentations with clients and shareholders.
- As an account manager for a marketing agency, I want to be able to print metrics and charts visible in the application, so that I can have a permanent hard copy of them and more easily share them with clients.
- As a marketing director, I want to be able to customise how the application looks so that I can ensure a consistent design style between all the services the agency provides.
- As a brand analyst, I want to have a dashboard showing concise statistics on the performance of campaigns, so that I can build a shared understanding with the marketing agency and effectively communicate what I think should be improved.
- As a system administrator, I want the ability to directly connect the system to Google Analytics, so that I do not have to manually import metrics as CSV files.
- As a marketing analyst with experience in data science, I want the ability to provide my own scripts for data processing, so that I can do more powerful inspections and transformations on the data with less manual work.
- As a marketing analyst, I want to be able to filter, sort and group the data arbitrarily, on any metric, using all the data available, so that I am not limited by the filtering techniques available.

## **Non-functional requirements**

- As a marketing analyst, I want to be able to analyse data with fast and responsive software, so that my productivity is not reduced by waiting for the software.
- As a brand analyst, I want to be able to analyse data with software that does not slow down significantly as the dataset grows, so that over time I can still efficiently view past data.

## 3 Product Planning

### 3.1 Increment plan

#### Increment 1

##### User Story 1 ("Must have")

**As:** a system administrator

**I want:** to be able to load in CSV files containing metrics from the advertising network

**So that:** I can keep the data in the system up to date for analysts to use.

##### User Story 3 ("Must have")

**As:** a brand analyst

**I want:** to compare key metrics relating to the performance of ads

**So that:** I can determine if the marketing strategy is effective.

##### User Story 2 ("Must have")

**As:** a marketing analyst

**I want:** a graphical interface for generating graphs

**So that:** I can rapidly modify the generated graphs without needing to learn commands.

##### User Story 4 ("Must have")

**As:** a marketing manager for a medium sized company

**I want:** to be able to display metrics as a graph

**So that:** I have a visual representation of the data.

##### User Story 5 ("Must have")

**As:** a marketing director for a small company

**I want:** to see a histogram of key metrics

**So that:** I can view a cumulative overview of the data.

#### Increment 2

##### User Story 6 ("Must have")

**As:** a marketing director

**I want:** to control the time granularity of generated graphs

**So that:** I can get a big picture overview as well as observe rapid changes in interest.

##### User Story 8 ("Must have")

**As:** a marketing analyst

**I want:** to be able to view multiple graphs on key metrics simultaneously using filters

**So that:** I can compare specific attributes of the data directly.

##### User Story 7 ("Must have")

**As:** a marketing analyst

**I want:** to filter campaigns through their context, audience and date

**So that:** I can isolate and view only the relevant campaigns, using the input conditions.

##### User Story 9 ("Must have")

**As:** a marketing analyst

**I want:** to be able to choose how a bounce is registered

**So that:** I can use the most appropriate definition for the context and active advertising campaign.



#### User Story 10 ("Must have")

**As:** a marketing analyst

**I want:** to be able to analyse data with fast and responsive software

**So that:** my productivity is not reduced by waiting for the software.

#### User Story 12 ("Must have")

**As:** a brand analyst

**I want:** to be able to analyse data with software that does not slow down significantly as the dataset grows

**So that:** over time I can still efficiently view past data.

#### User Story 11 ("Should have")

**As:** an account manager

**I want:** to be able to save charts produced in the software as images

**So that:** I can display them in presentations with clients and shareholders.

#### User Story 13 ("Could have")

**As:** a system administrator

**I want:** the ability to directly connect the system to Google Analytics

**So that:** I do not have to manually import metrics as CSV files.

### Increment 3

#### User Story 14 ("Should have")

**As:** a marketing director

**I want:** to be able to load and compare campaigns side by side

**So that:** I can view the performance of each and make decisions appropriately.

#### User Story 17 ("Should have")

**As:** a marketing director

**I want:** to be able to customise how the application looks

**So that:** I can ensure a consistent design style between all the services the agency provides.

#### User Story 15 ("Should have")

**As:** a marketing director

**I want:** to be able to view graphs that display data per interval over a longer period of time, such as times of day over several weeks

**So that:** I can better understand periodic changes in user behaviour.

#### User Story 18 ("Could have")

**As:** a brand analyst

**I want:** to have a dashboard showing concise statistics on the performance of campaigns

**So that:** I can build a shared understanding with the marketing agency and effectively communicate what I think should be improved.

#### User Story 16 ("Should have")

**As:** an account manager for a marketing agency

**I want:** to be able to print metrics and charts visible in the application

**So that:** I can have a permanent hard copy of them and more easily share them with clients.

#### User Story 19 ("Could have")

**As:** a marketing analyst with experience in data science

**I want:** the ability to provide my own scripts for data processing

**So that:** I can do more powerful inspections and transformations on the data with less manual work.

### User Story 20 ("Could have")

**As:** a marketing analyst

**I want:** to be able to filter, sort and group the data arbitrarily, on any metric, using all the data available

**So that:** I am not limited by the filtering techniques available.

## 3.2 Sprint plan for the next increment

### Task 1 ("Must have")

Display a graph for the histogram of clicks  
(Story 1) 1 day

### Task 2 ("Must have")

Display a graph for the different metrics  
(Story 2) 1 day

### Task 3 ("Must have")

Metrics table should be able to compare the different fields  
(Story 3) 1/2 day

### Task 4 ("Must have")

Create a table to display metrics  
(Story 3) 1/2 day

### Task 5 ("Must have")

Design the interface structure  
(Story 4) 1 day

### Task 6 ("Must have")

Create a window that is responsive  
(Story 4) 1/2 day

### Task 7 ("Must have")

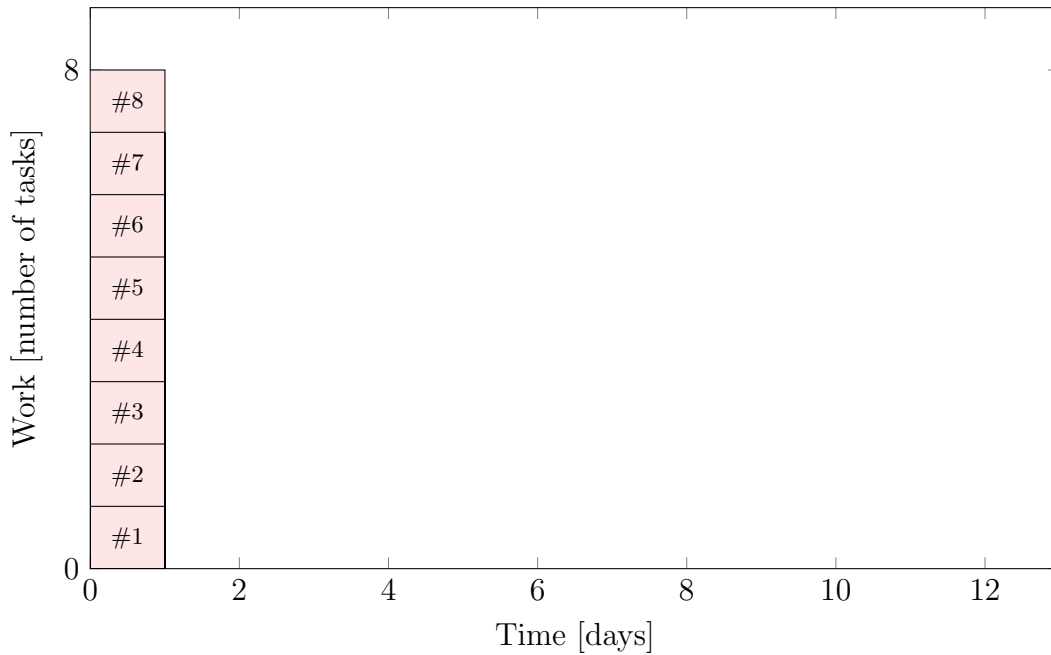
CRUD to SQLite  
(Story 5) 1 day

### Task 8 ("Must have")

Parse CSV file  
(Story 5) 1/2 day



### 3.3 Day zero burndown chart for next increment



## 4 Project Set-up

### 4.1 Risk assessment

Risk	(1 - Low, 5 - High)		Risk Exposure ( $P * S$ )	Mitigation
	Probability	Severity		
The tasks we have classified as necessities for this project prove to be much larger than expected	2	3	6	In the case that the musts for the project require more time to be completed, we can potentially discard one of our optional objectives that can be nice additions but not necessary
Feedback for the project is late	5	4	20	Best course of action is to stick to our sprint plan and backlog, and attempt to contact our client ourselves
GitLab servers fail and we are unable to update repositories and work	1	4	4	Although this is highly unlikely to happen, we will periodically export our data from the Southampton GitLab instance, which can easily be uploaded to a separate GitLab instance in case it is down.
The group has trouble working together	1	3	3	Highly unlikely as we already met and are on quite good terms with each other

Our client decides to change their specifications	5	2	10	It's possible that our client might want some features to be necessarily included which weren't considered a "must" before – we then must reassess the way we planned to do different steps and restructure our priorities.
Our client adds more requirements	3	4	12	It's highly likely that our client will add more requirements for us to have to accomplish – once again we must reorganize priorities but taking into account the amount of time we can spend on each given the additional reqs.
We don't have enough time to work on the project due to COVID and timezone differences	3	5	15	Make sure that everyone is up to date on what they should be doing, and if someone is struggling then see if we can assign more people to help them out.
The client has an ambiguous requirements description	2	4	8	Make sure there is open communication with the client so that we can make sure we are on track with the requirements.
Newer, updated versions of our tools have been released after we have started developing our project	2	2	4	Talk about it with our client, shouldn't prove a problem as the tools we were planning on using have been agreed upon by everyone including the client
We fall behind on completing user stories in sprints, as we did not estimate accurately how much we could do in the sprint	2	3	6	We will remove some stories from the sprint plan, and negotiate with the client to determine whether we should continue for more increments or reduce requirements, so that we have a sprint plan we can feasibly complete.
We spend too long trying to set up development environments with all the right versions, so we don't have enough time to complete the project	2	5	10	We will use the Gradle build system for a consistent development environment with all the dependencies we need, which can easily be imported into common Java IDEs.

One of the team members contracts the COVID-19 disease, severely impacting their ability to work on the project.	3	5	15	We will immediately contact the client and negotiate whether we should reduce the requirements. Then the sprint and increments plans will be adjusted accordingly.
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## 4.2 Summary of agile methodologies and software tools adopted

We use Southampton’s hosted instance of GitLab for version control of our source code, as well as Kanban boards which can be assigned deadlines and labels to form a product backlog. We also use these boards with additional labels for a sprint plan that we update during development. The tight integration between our source control system and the Agile development tools we use allows us to easily update the plans as we complete development.

We use Discord as a communication platform, to ensure that we can easily discuss issues and development progress, linked with GitLab so that we are notified when important changes are made. The Gradle build system is used to ensure a consistent development environment between all our systems, and JUnit 5 is used to test more complex code where necessary. Notion is our primary tool for writing up designs, plans and documentation throughout the development process, which lets us collaborate on such designs seamlessly.

The team’s structure for Agile development is as follows:

- The Scrum Leader is **James Martin Scrase**, chosen due to his experience with GitLab and ability to manage and operate the repository with a Scrum workflow
- The Project Manager is **Konrad Krzysztof Sobczak**, chosen as he was determined to be a punctual and responsible member of our team, who is effective at managing such projects

## References

- [1] Tero Karras et al. *Analyzing and Improving the Image Quality of StyleGAN*. 2020. arXiv: 1912.04958 [cs.CV]. URL: <https://thispersondoesnotexist.com/>.
- [2] “The Different Job Roles In A Design, Advertising Or Marketing Agency”. en-GB. In: *Shoko Press* (). URL: <http://www.shokopress.com/the-different-job-roles-in-a-design-advertising-or-marketing-agency/> (visited on 02/26/2021).