Digital Marketing, Social Media & Web Analytics

6MARK027C.2

Coursework - 2

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Table of Abbreviations

UA	Universal Analytics
GA4	Google Analytics 4
ML	Machine Learning
AI	Artificial Intelligence
SMM	Social Media Marketing
SEO	Search Engine Optimization
CSRF	Cross-Site Request Forgery

1 PART A

1.1 Task 1 – Universal Analytics & Google Analytics 4

1.1.1 Universal Analytics

This is a data gathering technique, to monitor and examine website visitor activity. It gathers information on visits, sessions, and users using cookies and JavaScript tags so that it can later be used to analyse website performance and user activity. Despite being replaced by the more recent GA4 data gathering method, UA has been around for a while and is still widely used (BigCommerce, no date).

1.1.2 Google Analytics 4

This is a more recent data collection technique, to monitor and examine the activity of website visitors (Google Developers, no date). It tracks visitor data at the user level rather than the session level using a distinct data measurement approach than UA, based on events and parameters. Advanced ML and AI features in GA4 can assist advertisers in finding patterns and insights in their data (Monster Insights, 2021).

1.1.3 Differences between Universal Analytics & Google Analytics 4

Table 1-a – Differences between UA & GA4

Attribute	Google Analytics 4	Universal Analytics
Session Management	Browser cookies	User ID, Device graph
Reporting	More flexible and customizable approach. Reports are easily modifiable, and machine-learning based analytics for deeper analytics.	Reports are preconfigured and fixed dashboard without options for customization
User Data	Collects information about Total Users, Active Users and New Users	Only collects information about Total Users and New Users
Integration with Google Ads	It has support for YouTube and other Google properties	Very limited data integration and functionalities
Conversion	Counts every goal per session as a new conversion	Counts only one conversion per session for each goal

Note: (Patel, 2023)

1.2 Task 2 – Setting up Google Analytics

Step 1 – Creating an account in Google Analytics.

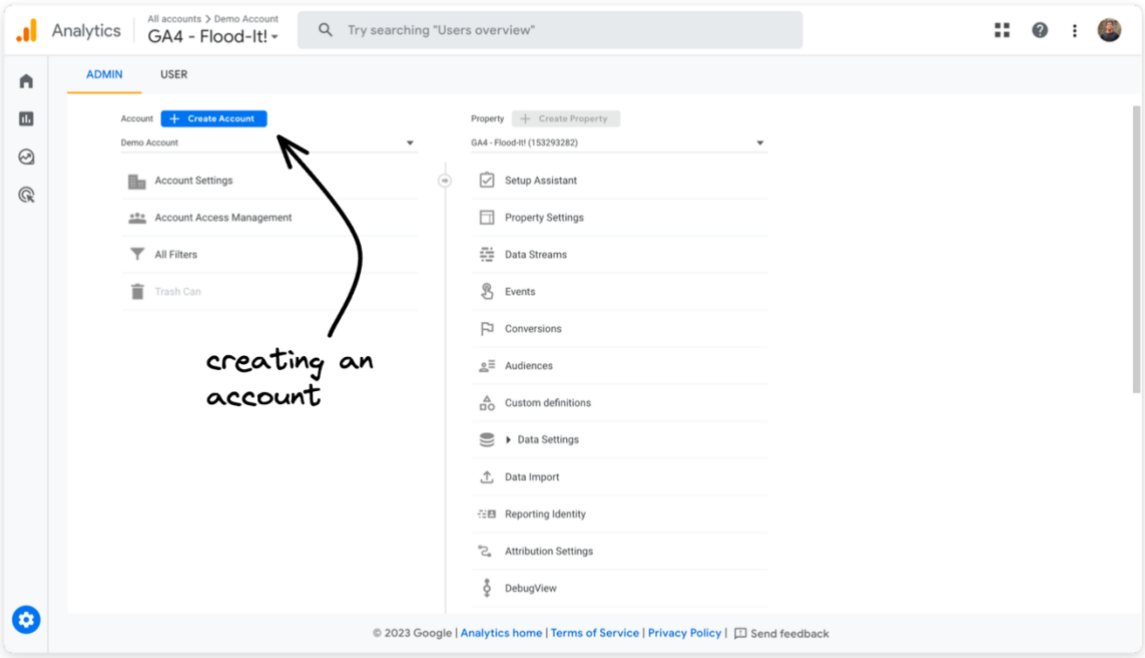


Figure 1-a - Creating account in GA

There can be multiple accounts created under one Google account to manage several businesses. So, the first step is to create a new account.

Step 2 – Providing an Account name which will be used to obtain the tracking ID.

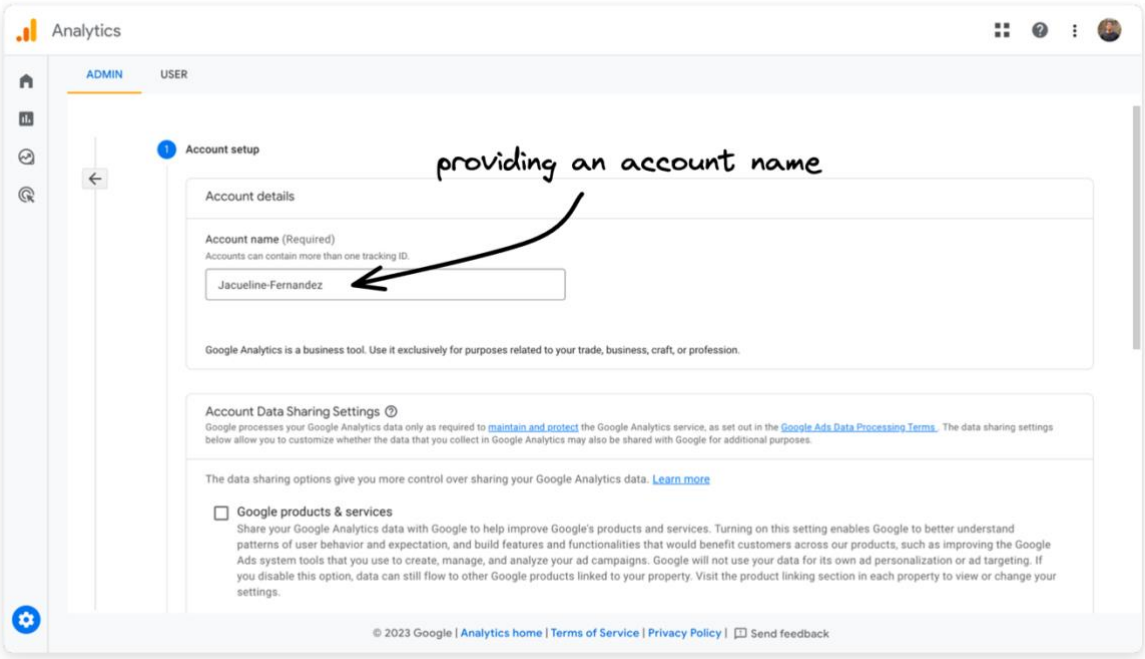


Figure 1-b - Providing an account name

When creating an account, an account name should be provided. One account can contain multiple tracking IDs which means there can be more than one website/app associated an account.

Step 3 – Providing property name and changing the demography details to suit our geography.

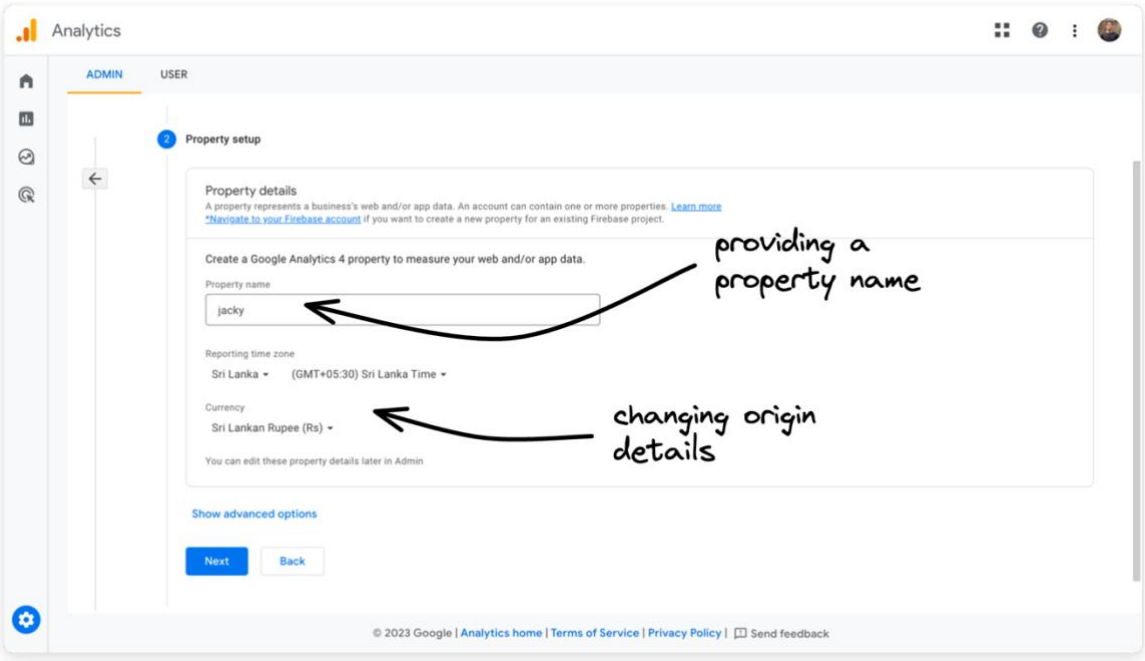


Figure 1-c - Providing a property name

After creating the account, a property should be created. There can be multiple properties under one account but one tracking ID will be provided per property. So, property refers to the website/app.

Step 4 – Choosing the relevant business information.

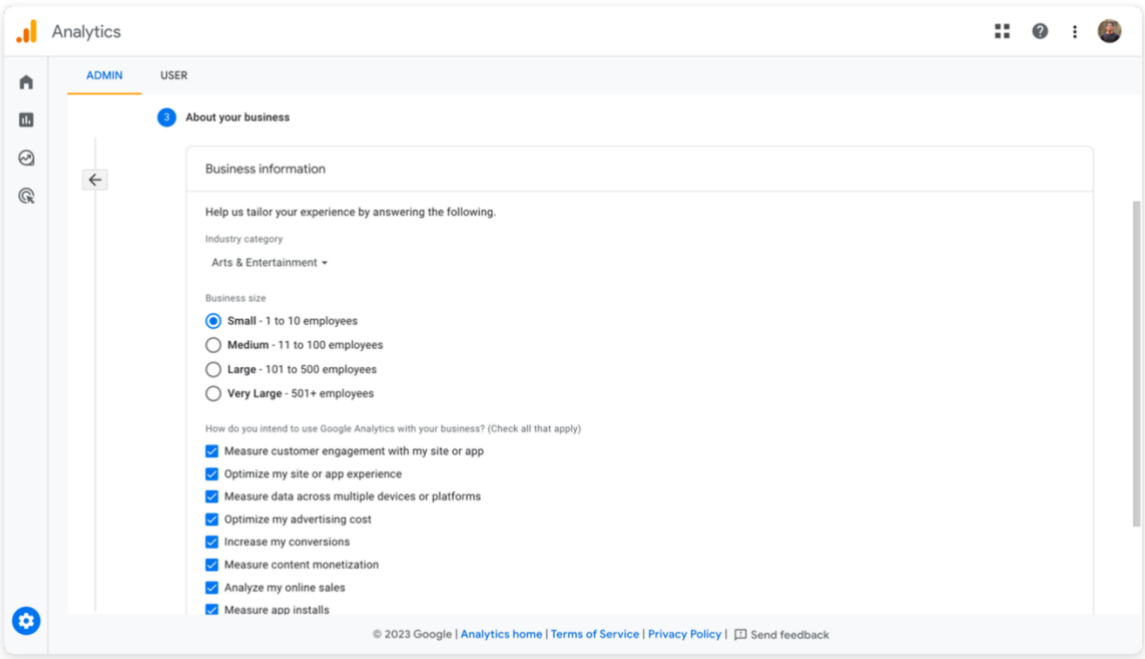


Figure 1-d - Choosing business information

After creating the property, the relevant information regarding the business should be provided. As ours is related to entertainment, the relevant industry along with other information.

Step 5 – Choosing the platform. In our case as it is a website, we must choose 'Web'.

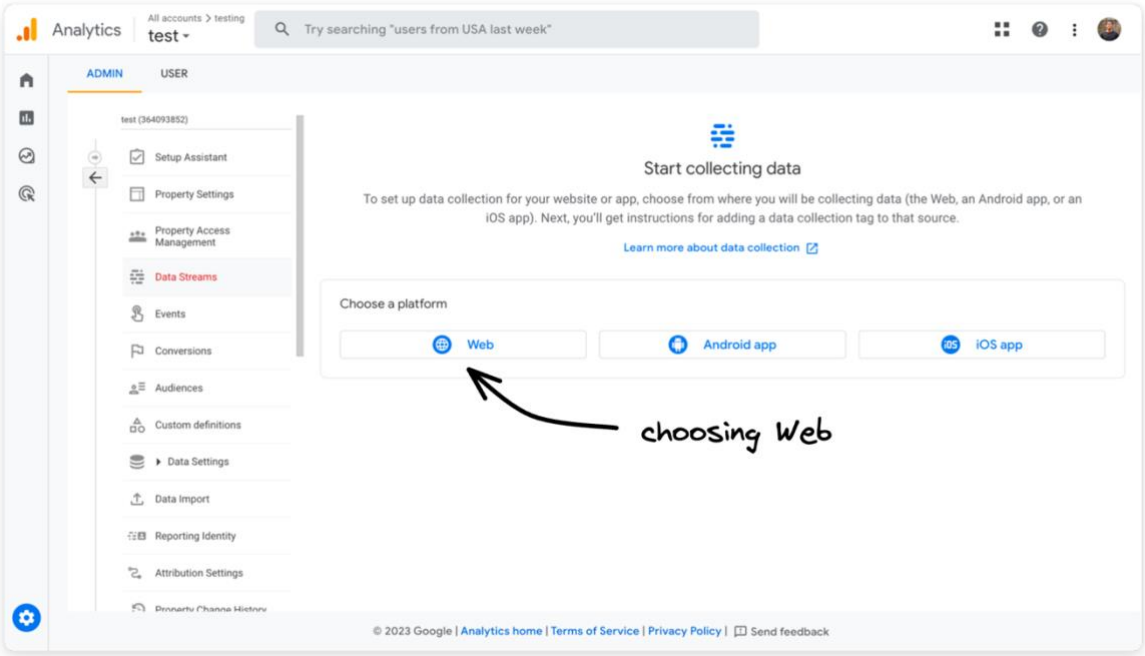


Figure 1-e - Choosing the platform

After successfully creating the account and the property, the website/app should be linked to the property. In our case it is a website. Therefore 'Web' is chosen.

Step 6 – Adding the URL of the microsite.

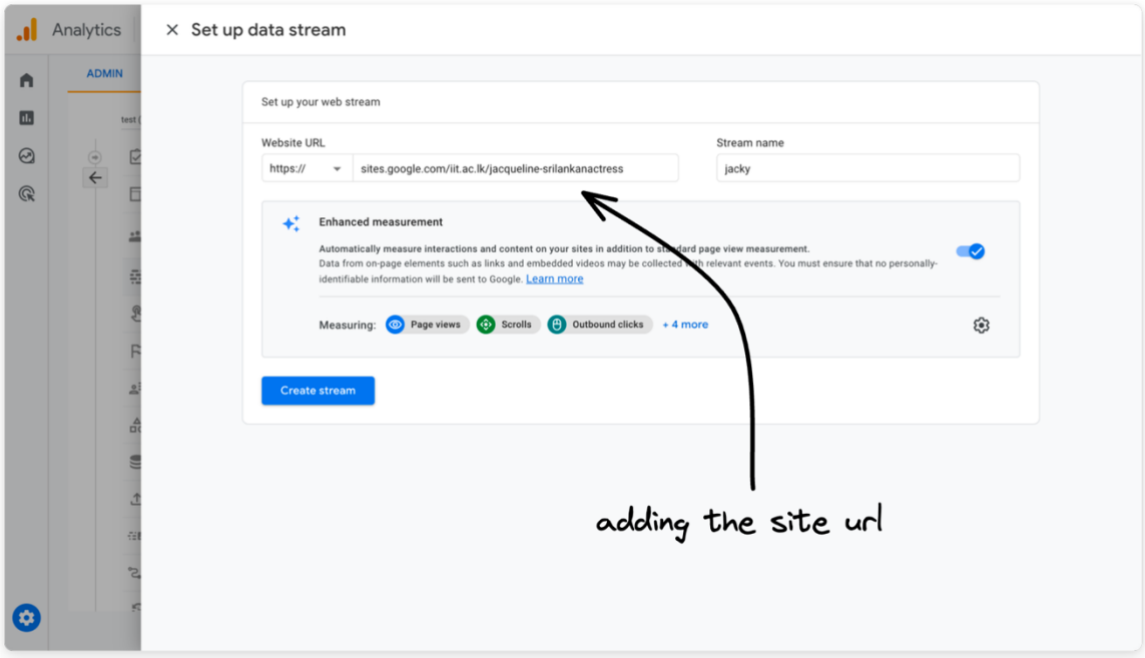


Figure 1-f - Adding the URL

After choosing web, the URL of the website should be pasted to obtain the tracking ID along with a stream name.

Step 7 – Obtaining the Measurement ID.

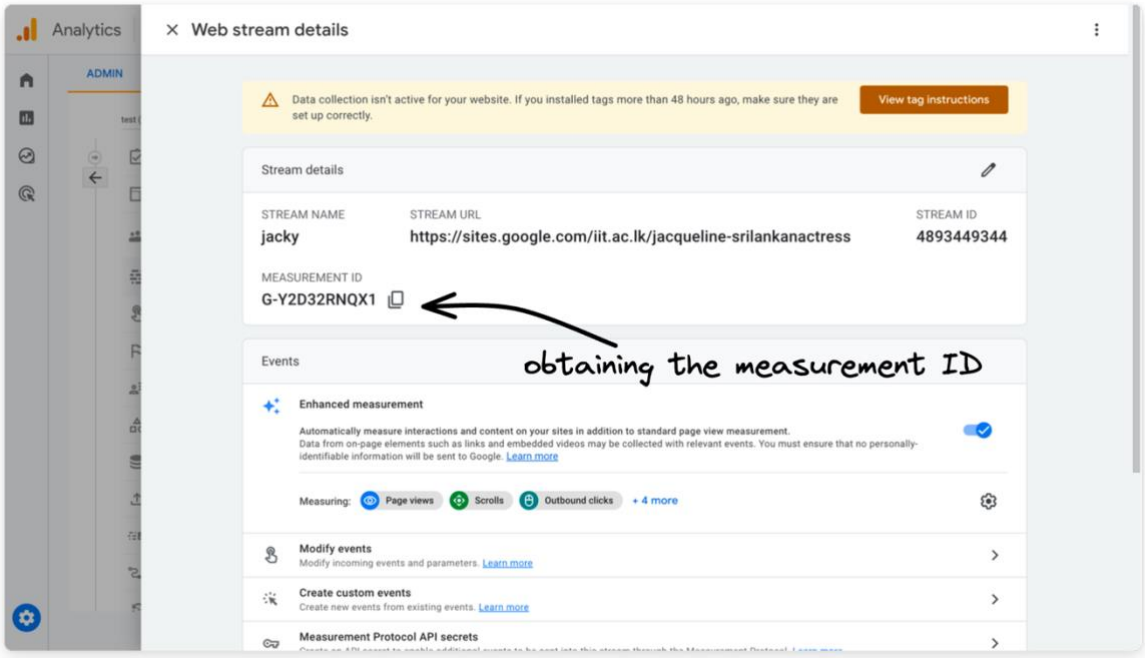


Figure 1-g - Obtaining the measurement ID

After providing the website URL, the unique stream ID and the measurement ID will be generated. For GA, the needed code is the measurement ID, therefore it is copied.

Step 8 – Pasting the Measurement ID in analytics section in the microsite dashboard.

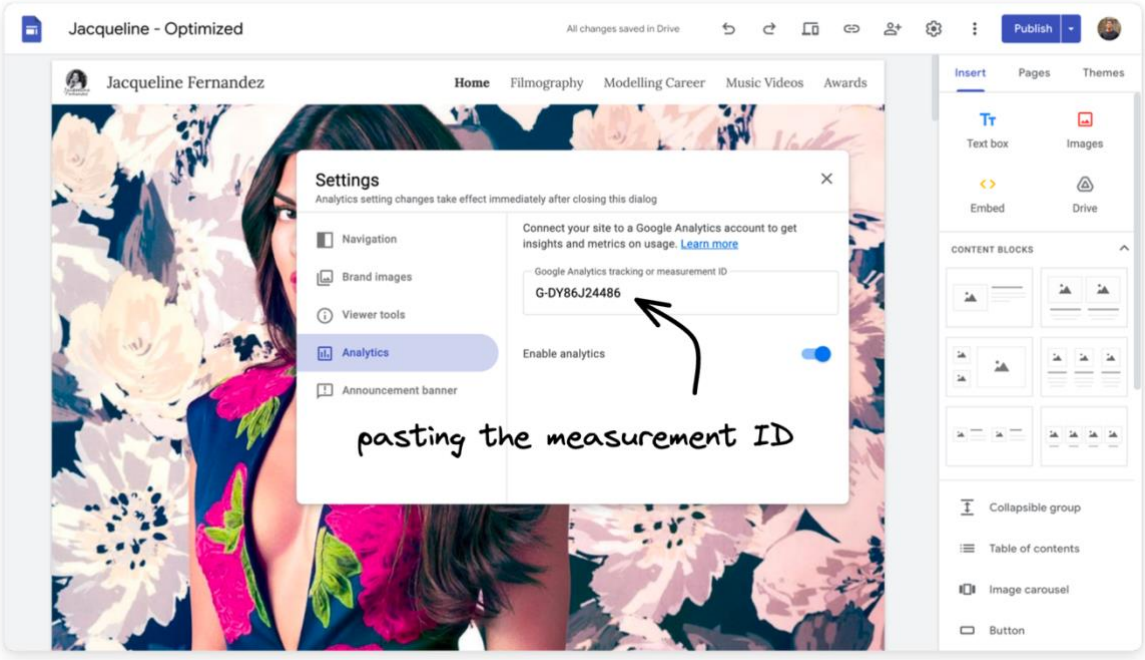


Figure 1-h - Inserting the measurement ID

After copying the measurement ID, we should open the Google Site dashboard and navigate to the Analytics section by clicking the gear icon on the top right. Then the 'Enable Analytics' toggle should be activated after pasting the measurement ID in the text box. After completing this step, analytics will start showing in the GA dashboard.

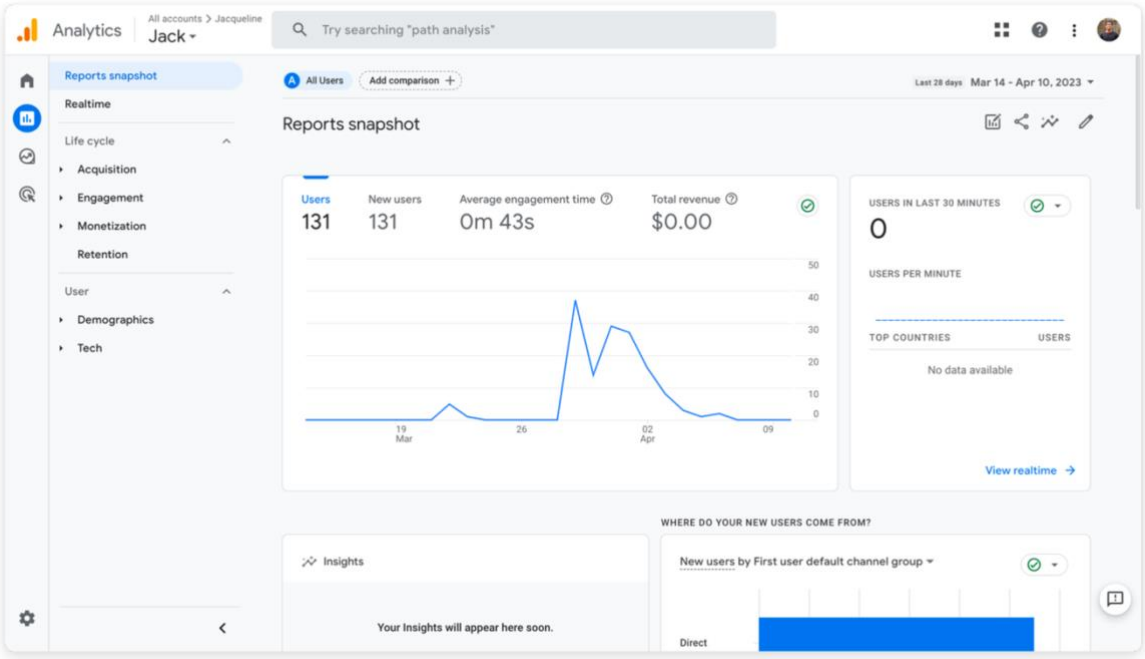


Figure 1-i - GA dashboard

1.3 Task 3 – HTTP Cookie & Web Analytics

1.3.1 HTTP Cookie

A little amount of information received from a website and saved on a user's device by their web browser is known as an HTTP cookie, often referred to as a web cookie or browser cookie. Cookies are used to save user preferences, login information, and other information to enhance browsing for users (educative, no date).

1.3.2 Problem HTTP Cookies overcome.

The statelessness of the HTTP protocol, which prevents the server from being able to recognize and remember users across different requests, is fixed with HTTP cookies (Internetcookies, no date). Servers can remember user preferences, monitor user behaviour, and maintain stateful sessions by using cookies to save and retrieve information on the client-side.

1.3.3 Role in stateless web

By storing session data on the client side, cookies provide a way to mimic the behavior of stateful web applications in a stateless environment. Due to this, server-side data maintenance is not required for web applications to maintain user session state across requests (Sandeepanie, 2020).

1.3.4 Limitations of Cookies

Browser cookies have drawbacks, including a 4KB storage limit, the inability to store non-string data types, a lack of safe encryption, and the potential for user deletion or blocking. Additionally, cross-site scripting (XSS) and CSRF attacks are security issues that can affect browser cookies (Rathore, no date).

1.3.5 Diagram

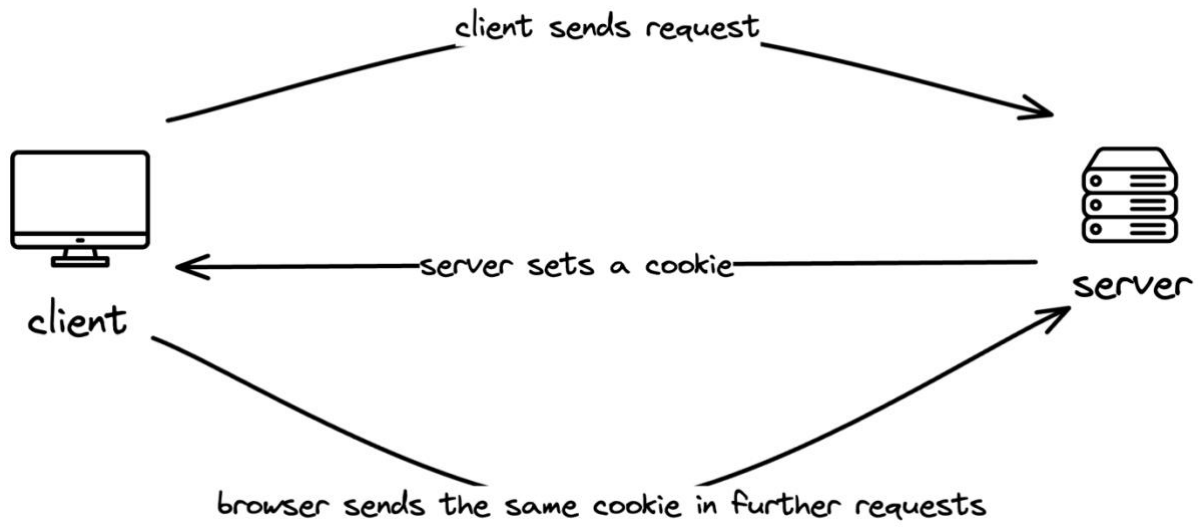


Figure 1-j - Client-Server dataflow

When the client sends a request to the server, server responds to the client by setting a cookie to the response. Client accepts the request and perform further requests by having the cookie along with the request (Oreilly, no date).

1.4 Task 4 – Google Analytics

The 5-day period that I used to generate traffic for my microsite is from **30th March 2023 – 3rd April 2023**. So, I selected the date range from google analytics before taking the screenshots.

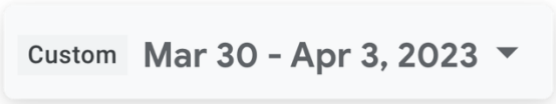


Figure 1-k – Google Analytics report date range

1.4.1 Users by browser over time

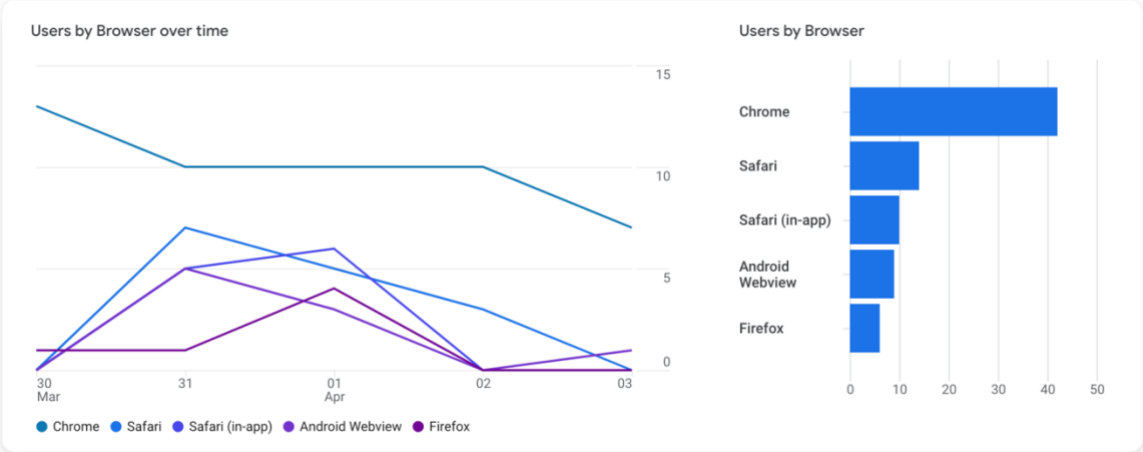


Figure 1-l – Users by browser over time

Purpose - provides information on the popularity and usage patterns of browsers by tracking website visitors over time according to their web browser.

Highlights - More than 50% of the users have used Chrome followed by Safari. Least number of users have preferred Firefox. By analysing the features and the UX of Chrome which doesn't properly reflect in Firefox, we can make changes to the website for the users to have the same experience in Firefox too.

1.4.2 Views by page title and screen class over time

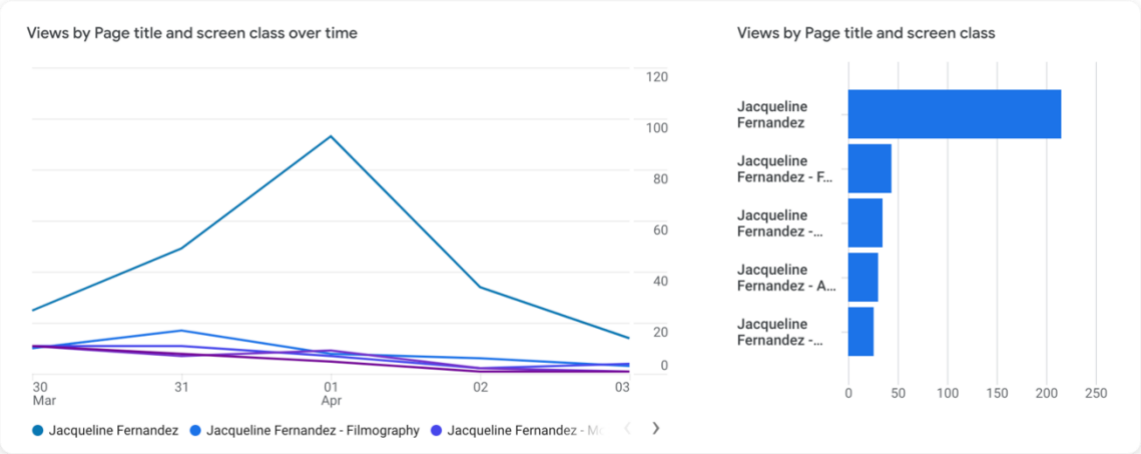


Figure 1-n – Views by page title and screen class over time - graphs

	Page title and screen class	Views	Users	Views per user	Average engagement time	Event count All events
		350 100% of total	84 100% of total	4.17 Avg 0%	0m 49s Avg 0%	806 100% of total
1	Jacqueline Fernandez	215	84	2.56	0m 35s	547
2	Jacqueline Fernandez - Filmography	44	34	1.29	0m 13s	75
3	Jacqueline Fernandez - Modelling Career	35	27	1.30	0m 12s	68
4	Jacqueline Fernandez - Awards	30	26	1.15	0m 08s	61
5	Jacqueline Fernandez - Music Videos	26	24	1.08	0m 07s	55

Figure 1-m – Views by page title and screen class over time - breakdown

Purpose - It displays the number of views each page on your website has had over a given time as well as the various screen classes that users are using to see it.

Highlights - Out of the 350 page views for the selected date range, 215 views are only from the homepage which is more than 61% of the overall page views. This states that majority of the users haven't shown interest to visit the other pages of the website after landing in the homepage.

1.4.3 Sessions by 'session default channel grouping'

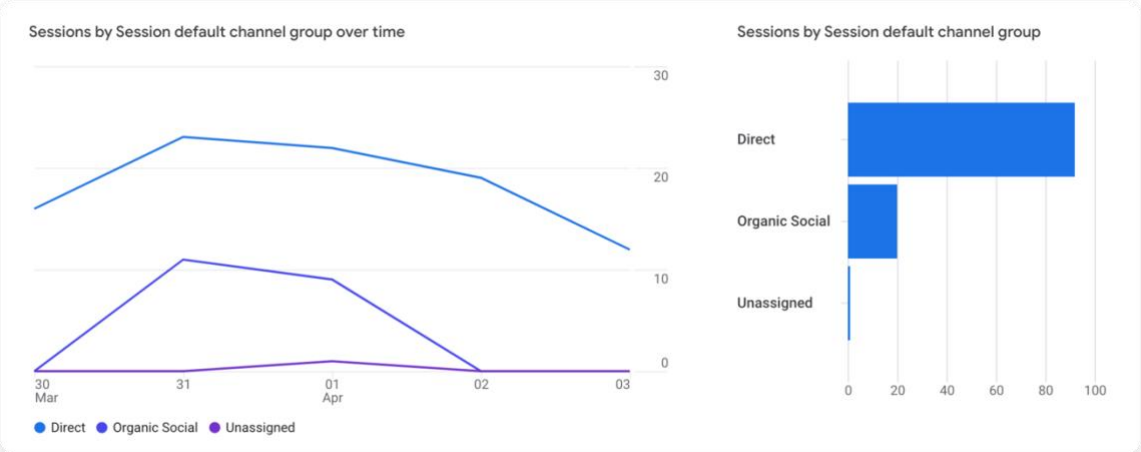


Figure 1-p - Sessions by session default channel grouping - graphs

	Session default channel group	Users	Sessions	Engaged sessions	Average engagement time per session	Engaged sessions per user
		84 100% of total	112 100% of total	75 100% of total	0m 36s Avg 0%	0.89 Avg 0%
1	Direct	65	92	59	0m 41s	0.91
2	Organic Social	19	20	16	0m 16s	0.84
3	Unassigned	1	1	0	0m 00s	0.00

Figure 1-o - Sessions by session default channel grouping - breakdown

Purpose - By categorizing sessions depending on the methods visitors used to find your website, this offers insights on the sources of traffic to your website.

Highlights - Out of the 84 total users, 65 users have landed on the website by directly pasting the URL, whereas 'Organic Social' is only 19. So, what we can clearly determine is that more SMM must be done to make the social media users visit our website.

1.4.4 New users by 'first user default channel grouping'

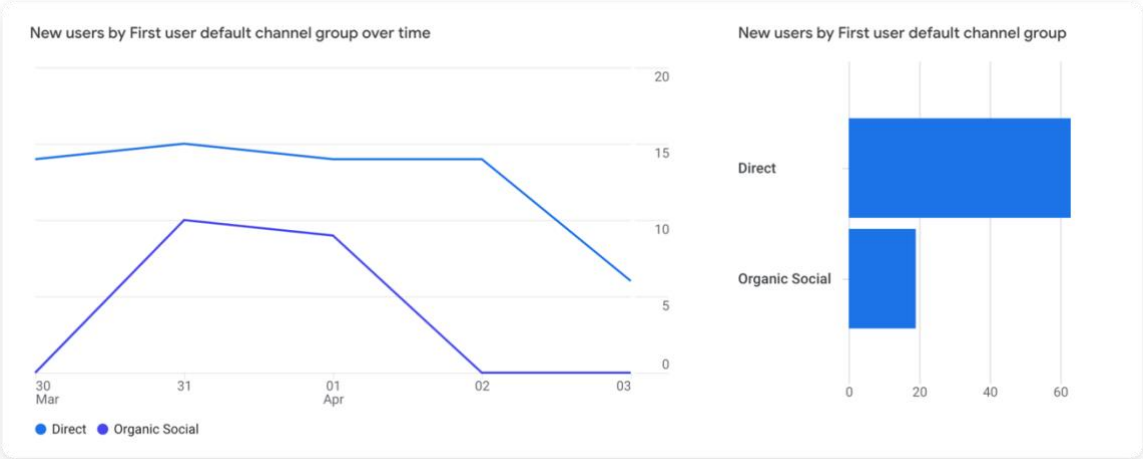


Figure 1-q - New users by first user default channel grouping - graphs

	First user defa... channel group	New users	Engaged sessions	Engagement rate	Engaged sessions per user	Average engagement time
		82 100% of total	75 100% of total	66.96% Avg 0%	0.89 Avg 0%	0m 49s Avg 0%
1	Direct	63	59	64.13%	0.91	0m 58s
2	Organic Social	19	16	80%	0.84	0m 17s

Figure 1-r - New users by first user default channel grouping - breakdown

Purpose - Based on the channel utilized for their initial visit, it displays the number of new users to your website.

Highlights - Out of 82 users, 63 users which is more than 75% has first visited the website by directly pasting the URL.
Smaller number of first users have landed on the website by 'Organic Social'.

1.4.5 User engagement (overview)

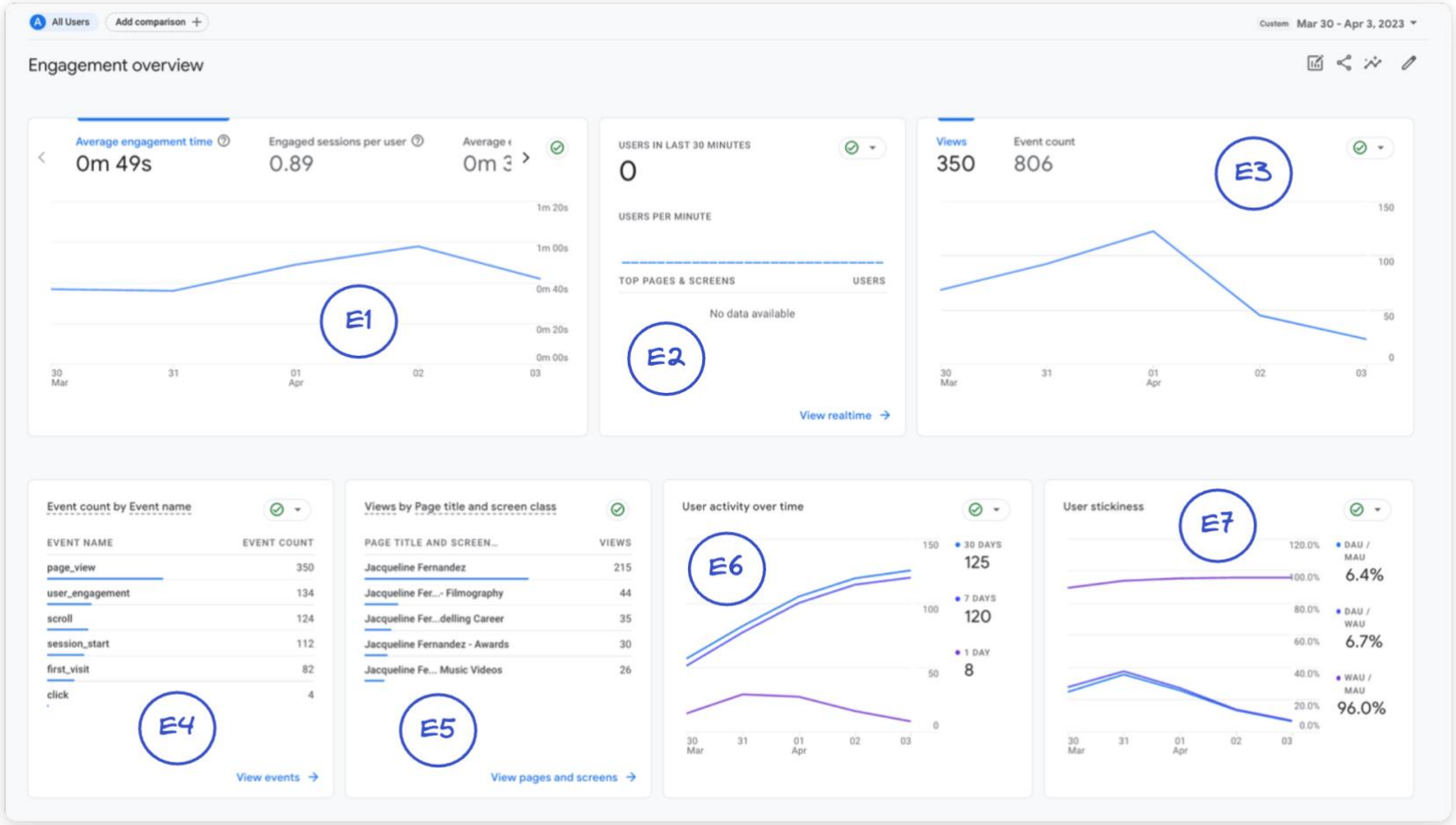


Figure 1-s - User engagement (overview)

Purpose - This gives you a summary of your website's user engagement metrics, including session length, engagement rate, and pages per session. This report enables to comprehend how visitors use the website and the degree of their interaction with the website.

Highlights - **E1** shows that each user in average has spent less than a minute on the website. **E4** clearly depicts that only 4 click events have occurred which shows very bad user interaction on the website. **E5** shows that home page is the most viewed page than any other, and the least viewed is the page which has music videos. **E3** shows that the views are at peak during the 2nd and 3rd day of the 5-day period.

1.4.6 User Retention (overview)

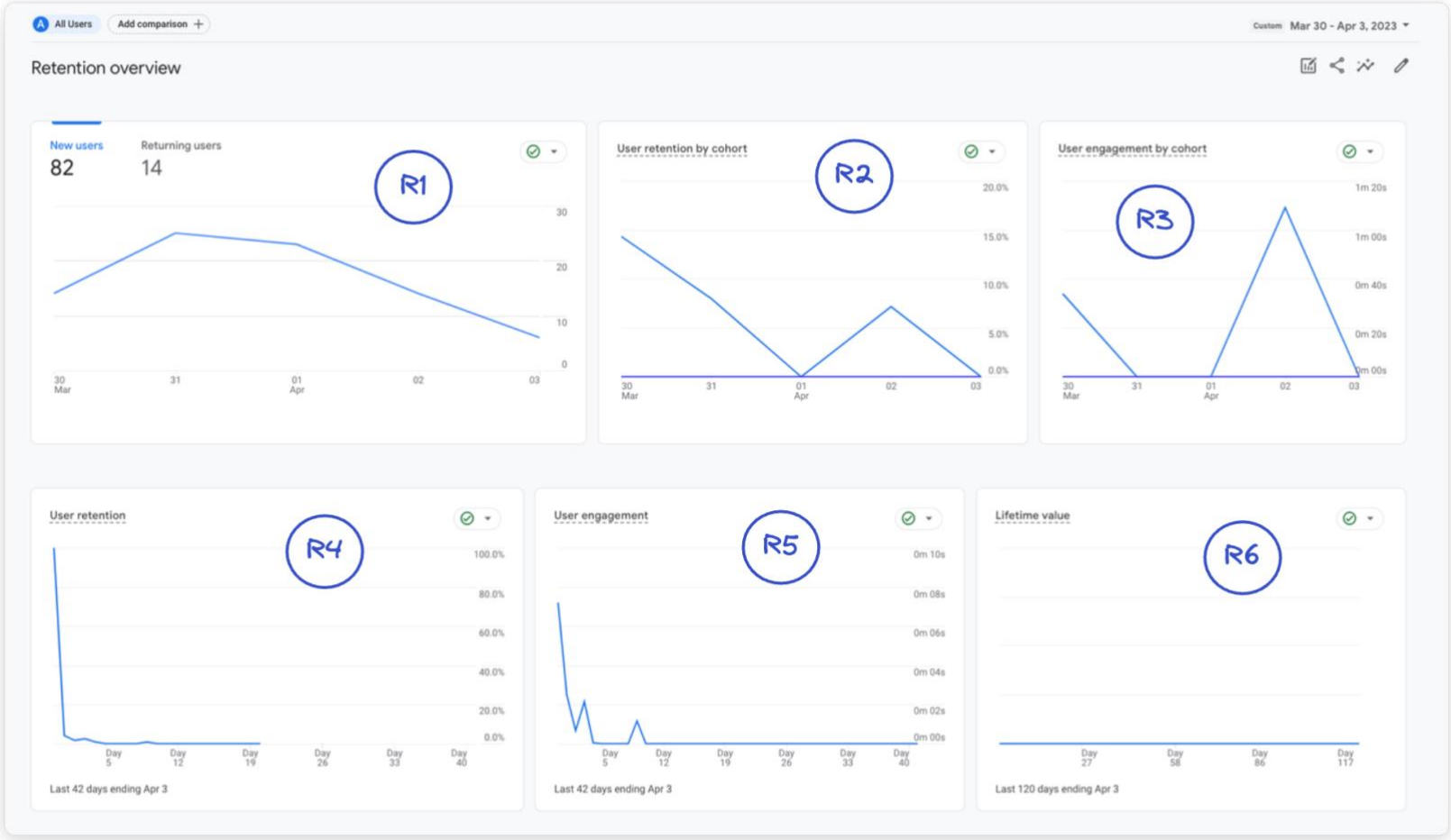


Figure 1-t - User retention (overview)

Purpose - This gives you a long-term perspective of how frequently users visit the website. This report assists in the comprehension of user retention and loyalty, as well as the success of the website's marketing initiatives in retaining visitors.

Highlights - **R1** shows that out of the total visitors, 14 users have kept on visiting the website every day for some time. **R4** suggest that the user retention has come down when considering the last 42 days along with the user engagement which is shown by **R5.**

1.4.7 Users by City

	City	↓ Users	New users	Engaged sessions	Engagement rate	Engaged sessions per user	Average engagement time
		84 100% of total	82 100% of total	75 100% of total	66.96% Avg 0%	0.89 Avg 0%	0m 49s Avg 0%
1	Colombo	70	66	56	65.12%	0.80	0m 38s
2	(not set)	2	2	2	40%	1.00	1m 35s
3	Kandy	2	1	2	100%	1.00	2m 27s
4	Malabe	2	2	2	100%	1.00	0m 59s
5	Matara	2	1	1	50%	0.50	0m 20s
6	Elkton	1	1	1	100%	1.00	0m 32s
7	Gwalior	1	1	1	100%	1.00	0m 15s
8	Kochi	1	1	1	100%	1.00	0m 41s
9	Ludhiana	1	1	0	0%	0.00	0m 00s
10	Melbourne	1	1	4	80%	4.00	2m 10s

Figure 1-u - Users by city

Purpose - This reveals details about the geographical location of the people who visit your website. The report displays the total number of users from each city and offers details on their online activities, including how often they visit your website and how they access it.

Highlights - Majority of the visitors are from Colombo which is followed by Kandy and Malabe. Visitors have come from famous overseas cities such as Melbourne, Ludhiana and Kochi.

1.4.8 Returning users by device category

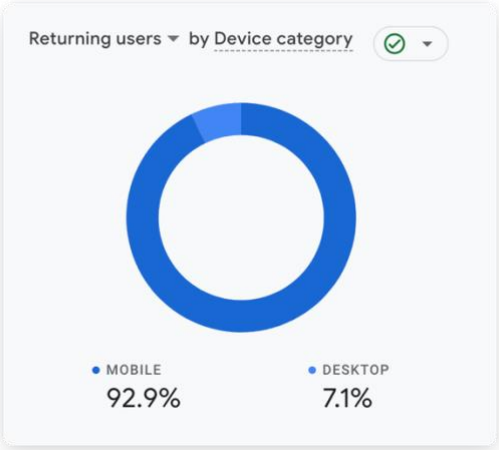


Figure 1-v - Returning users by device category

Purpose - This information on the devices returning visitors use to access your website is provided. This report breaks down the number of repeat visitors by type of device, such as tablet, smartphone, or desktop.

Highlights - More than 92% of the visitors have used mobile devices to access the website.

1.4.9 New users by screen resolution

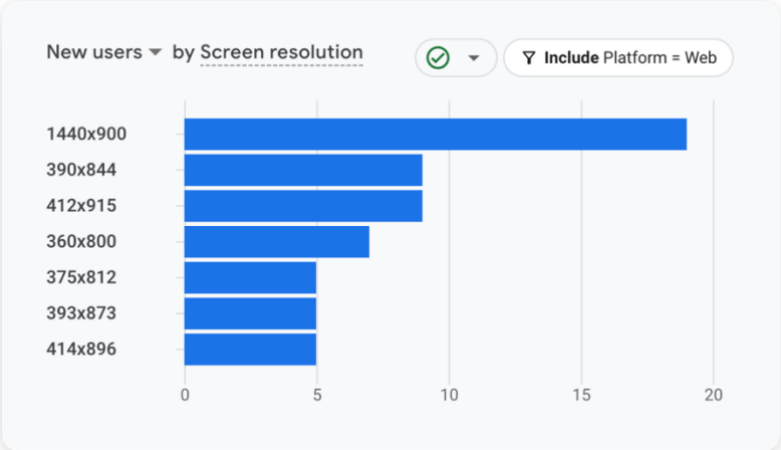


Figure 1-w - New users by screen resolution

Purpose - Provides information on the number of new users by screen resolution, which may be used to improve the design and organization of your website so that it is simple to view on most screen resolutions.

Highlights - Higher number of users have preferred larger devices with higher resolution. High quality images used on the website might be a reason for this.

1.5 Task 5 – 'Explore' feature of Google Analytics

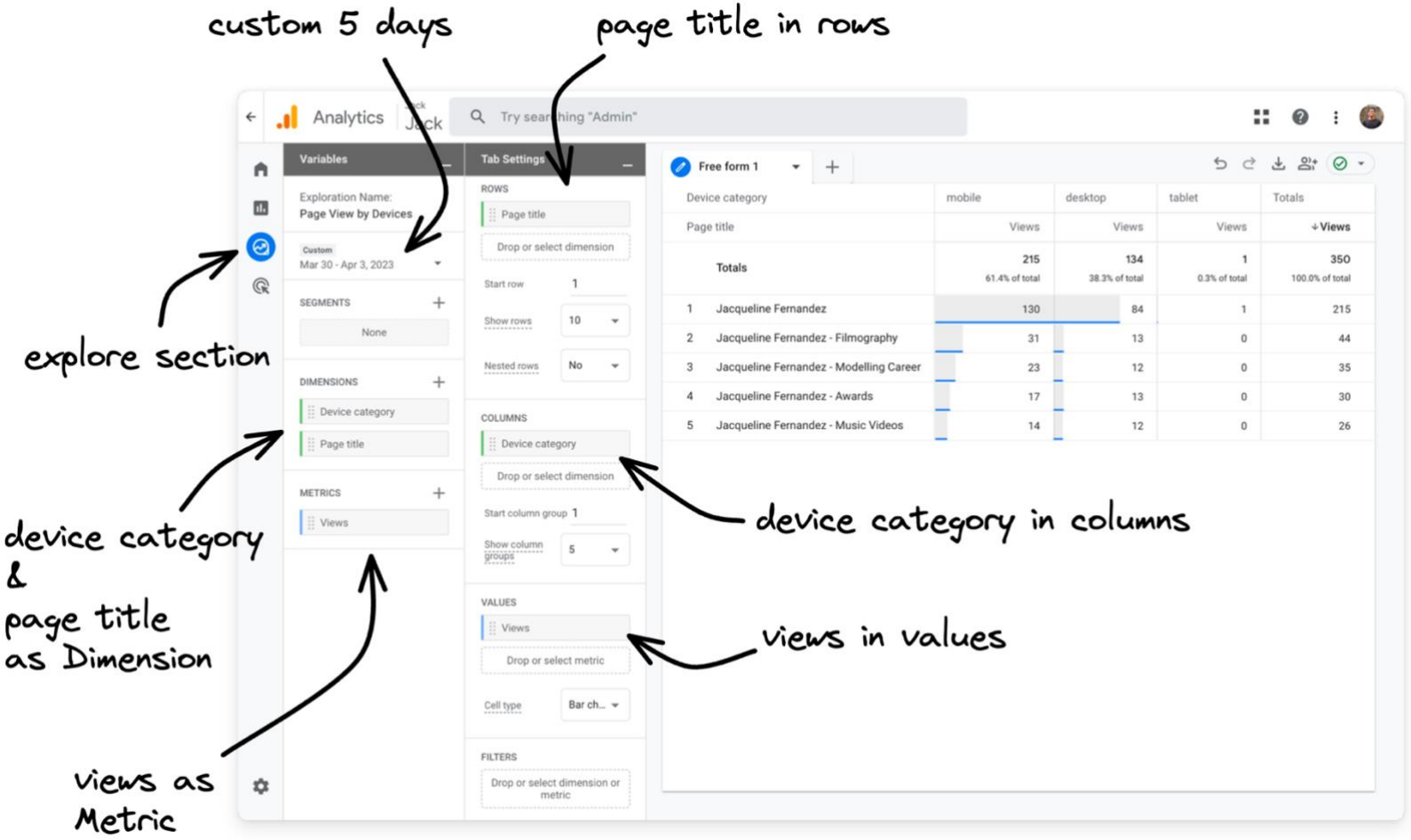


Figure 1-x - GA explore feature

Using the explore feature, the pages viewed is broken down by device category using the configurations that are mentioned in **Figure 1-x - GA explore feature.**

- **Dimensions** - Device category & Page title
- **Metrics** - Views

This report can be used to analyse the number of views per page and through which device it has been viewed on and determine how users are accessing the website and whether it is mobile-friendly. It can assist you in locating potential problems with the optimization for devices of your website or areas where you might need to enhance the user experience for visitors using various devices (Optizent, 2021).

Decision such as,

- Check to see if the website is optimized for various device types and concentrate on optimization efforts on the devices that the audience uses the most.
- Determine areas for improvement in website performance and user experience on device types and implement improvements to enhance website usability and conversion rates.
- Analyse how website updates or modifications affect user behaviour across various device types and utilize the results to inform your future website development decisions.

Can be taken after analysing the above report.

1.5.1 Analysis of the report

Device category		mobile	desktop	tablet	Totals
Page title		Views	Views	Views	↓Views
	Totals	**215** 61.4% of total	**134** 38.3% of total	**1** 0.3% of total	**350** 100.0% of total
1	Jacqueline Fernandez	130	84	1	215
2	Jacqueline Fernandez - Filmography	31	13	0	44
3	Jacqueline Fernandez - Modelling Career	23	12	0	35
4	Jacqueline Fernandez - Awards	17	13	0	30
5	Jacqueline Fernandez - Music Videos	14	12	0	26

Figure 1-y - Page view broken down by device category

By analysing the above report, we can clearly see that more than 61% of the total views have come through mobile devices followed by desktop devices which is around 38%. Surprisingly, only 1 view has come through a tablet device.

2 PART B

2.1 Task 6 – Key Performance Indicators

2.1.1 Key Performance Indicators (KPI)

KPI is an effective measurable value that can be used as a metric to assess the effectiveness of an organization, project or individual in keeping up with their goals or objectives (Marr, 2021). In the context of Digital Marketing, it is mostly used to assess the website and social media information.

The key components of an identified KPI's are,

1. **Brief description** – Explanation of the KPI that communicates what measures, why it is significant, and how it will be used to assess performance.
2. **Exact change** – The precise quantity or improvement rate needed for the KPI to be deemed successful.
3. **Time** – The time frame over which the KPI will be measured. To monitor progress and assess performance over a given timeframe.
4. **Changes to make** – Changes to systems, processes, procedures, or other resources that are intended to support the achievement of the KPI target.
5. **Monitoring period** – The frequency and length of data collection and analysis. Monitor progress, spot trends, and make the necessary corrections to improve performance.

2.1.2 Purpose and functions of KPI

KPIs are crucial tools to measure the effectiveness of digital marketing efforts. A KPI is a quantifiable value that assists organizations in assessing their performance in relation to their goals (Clockify, no date).

KPIs are criticized for being overly straightforward and failing to adequately reflect the complexity of digital marketing, unethical behaviour, such faking website traffic or lead numbers to hit performance goals (Rabbolini, 2020).

2.1.3 Advantages & Disadvantages of KPI

Table 2-a – Advantages & Disadvantages of KPI

Advantages	Disadvantages
Developing an accurate system for monitoring success	There's a chance for it to be very simple
Assists by aligning with marketing campaigns	Might be unethical to achieve targets
Assists in optimization and cost cutting	Inaccurate data might lead to disaster
Provide insights about customers' patterns	Will not always reflect the customer behaviours

Note - (Solobis, 2022)

2.2 Task 7 - Google Analytics Demo Account

2.2.1 Report - 1

Selected Area – Traffic Acquisition : Session default channel group

Justification

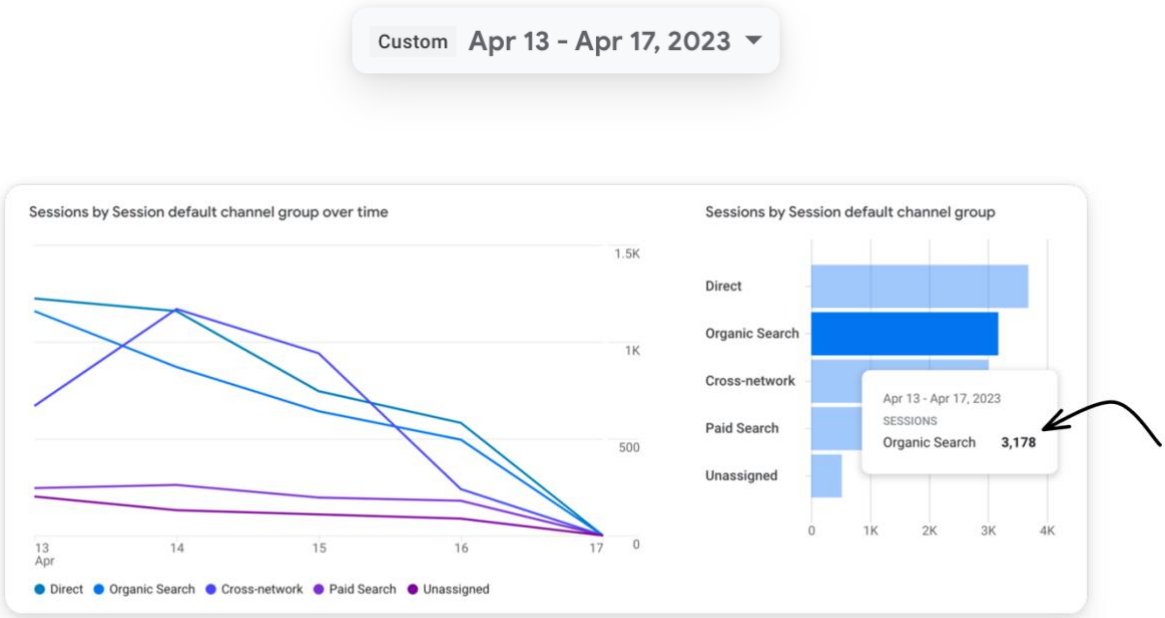


Figure 2-a - Traffic Acquisition (Report - 1)

When analysing this report for the period April 13 – April 17, 2023, it is clearly noticeable that the organic search is in a down slope with the total number of organic searches being 3,178.

Historic performance

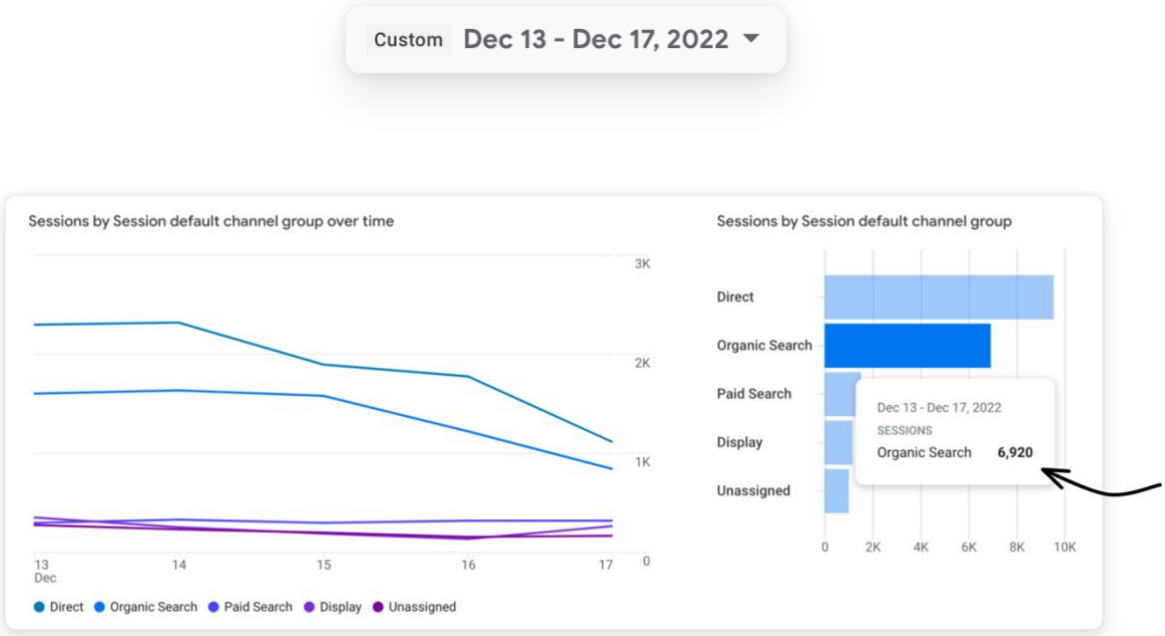


Figure 2-b - Traffic Acquisition (Report - 1)

Looking at the historic performance for the period Dec 13 – Dec 17, 2022 (4 months back) for the same report, even though the organic search is reducing, it is clearly visible that the total number of organic searches is higher (6,920) than in the present (3,178). So relevant measures should be taken to increase the organic searches. So, defining a KPI would be ideal.

KPI

1. **Brief description** - There is a drastic reduction in the number of organic searches in the past 4 months which should be increased.
2. **Exact change** - Increase the number of organic searches to become more than 5,000.
3. **Time** - Within 4 months.
4. **Changes** - Improve SEO by doing keyword optimization to get the website ranked in the top.
5. **Monitoring period** - Every 2 weeks.

2.2.2 Report – 2

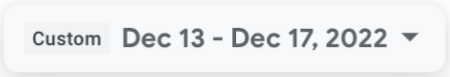
Selected Area – Pages and screens : Page title and screen class

Justification

Figure 2-c - Pages and screens (Report - 2)

In the present, when looking at the page views for Shopping Cart, total number of shopping cart page views being 2,142, the number of page views has been reduced.

Historic Performance



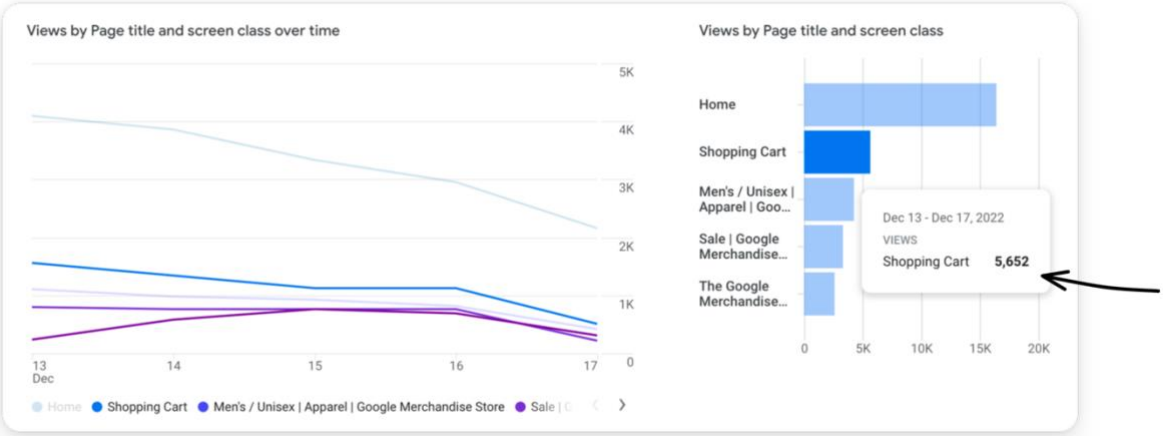


Figure 2-d - Pages and screens (Report - 2)

Looking at the historic performance, 4 months back, the total number of page views for shopping cart is 5,652 which is very much larger than the current views. Many people have visited the shopping cart 4 months back than in the present. This states that people adding items to cart or purchasing items have been reduced over time.

KPI

1. **Brief description** - There is a drastic reduction in customers adding items to cart or purchasing items.
2. **Exact change** - Increase the page view for shopping cart to be more than 4,000.
3. **Time** - Within 3 months.
4. **Changes** - Sending customers email about the new offers and stocks. Adding banners about the current deals in the homepage of the website.
5. **Monitoring period** - Every 3 weeks.

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