

A CASE STUDY ON LOOKER STUDIO & GOOGLE ANALYTICS PROPERTY



PROJECT TITLE: VISUALIZATION ON LOOKER STUDIO WITH GOOGLE ANALYTICS CONNECTOR.

NAME: MEDA SAI VRISHYANG KUMAR

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TOOLS: LOOKER STUDIO

INTRODUCTION

Looker Studio (formerly Google Data Studio) is Google's free reporting and visualization platform that enables users to convert raw data into interactive dashboards and shareable reports. It connects seamlessly with Google Analytics 4 (GA4), allowing event-based tracking data to be represented through charts, tables, and summaries for easier analysis and decision-making.

For this project, Used **Google Analytics template** Looker Studio has been integrated with my **Google Analytics 4 property**:

Account → DA Course Store

Property → DA Course Store Property

The focus of the project is to replicate GA4 explorations, highlight key event-based metrics, and present them in a structured dashboard format. The case study demonstrates how GA4 data can be transformed into meaningful visual insights through Looker Studio by:

- **Replicating Explorations:** Recreating GA4 exploration-style analyses using available Looker Studio visualizations such as tables, scorecards, time series, and drill-down charts.
- **Summarizing Key Metrics:** Displaying performance indicators (e.g., sessions, users, events, conversions) through scorecards and charts for quick interpretation.
- **Applying Controls:**
 - **Date Control** – applied globally across all pages (1st July to present).
 - **User Type Control** – a filter based on the user property (Beginner vs Professional), applied specifically on **Page 4: Conversions & Top Pages**.

The report is structured into **five pages** for a clear analytical flow:

1. **Summary & Trends** – Overall performance overview.
2. **Device Category, Countries, Operating Systems & Browsers** – Technical and geographic segmentation.
3. **Top Traffic Sources, Events & Landing Pages** – Key acquisition channels and entry points.
4. **Conversions & Top Pages** – Conversion-focused metrics with user type segmentation.
5. **Explorations (as in GA4)** – Replication of GA4 exploration-style analysis.

Through this structure, the dashboard demonstrates how Looker Studio can bridge GA4's raw event data with clear, accessible visualizations for effective decision-making.

Link to my looker studio dashboard: <https://lookerstudio.google.com/reporting/b0312eb3-1002-4061-b7bd-200a9f91b674>

PAGES

1. Summary & Trends

This page is auto-generated by the GA4 Looker Studio template and provides a high-level overview of website activity. It includes both **summary metrics** and **trend analysis**.

a. Summary (Scorecards)

At the top of the page, scorecards highlight key performance metrics:

- **Active Users:** Number of users who have engaged with the website in the selected date range (July 1 – Sep 2, 2025). In this case, 34 active users.
- **New Users:** Count of first-time visitors. (35 new users recorded).
- **New User %:** Share of total users who are new (103% shown due to calculation artifacts in small datasets).
- **% Engaged:** Proportion of sessions classified as “engaged” (i.e., sessions longer than 10 seconds, with a conversion, or at least 2 pageviews). Here, 88%.
- **Pageviews per User:** Average number of pageviews each user generated (12.6).
- **Engagement Time:** Average engaged time per user (1 minute 43 seconds).

These metrics provide a snapshot of user acquisition, engagement quality, and content consumption.

b. Trends (Time Series Chart)

Below the summary, a **time series line chart** shows the daily count of **Active Users** across the selected date range.

- This visualization helps identify spikes or drops in activity.
- In the chart, there’s a visible peak around **July 25**, where active users spiked close to 20 before dropping again. The metric being trended can be changed interactively (Active Users is selected by default).

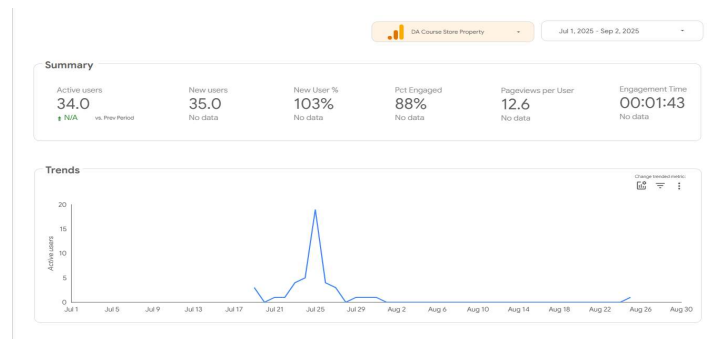


Fig: Summary & Trends

2. Device Category, Countries, Operating Systems & Browsers

This page focuses on the technical environment and geographic distribution of users. It helps understand what devices and platforms visitors use, as well as where they are coming from.

a. Device Category (Pie Chart)

- Shows the split of active users by device type.
- In this case, Desktop (68.4%) dominates over Mobile (31.6%).
- Indicates that most users access the DA Course Store on desktop, which can influence optimization decisions (e.g., prioritizing desktop experience but ensuring mobile usability).

b. Top Countries (Bar Chart + Time Series)

- **Bar Chart:** Breaks down active users by country.
 - India accounts for the majority of users (~34), while the United States shows minimal activity.
- **Time Series Line Chart:** Trends of active users from these countries over time.
 - Notable peak in India around late July, aligning with overall traffic spike.
 - U.S. activity is negligible.
- This helps pinpoint where the audience is concentrated and when traffic surges occur.

c. Operating System (Bar Chart)

- Distribution of users by operating system.
 - Windows is the most used (~22 users).
 - Android is second, followed by Linux with smaller numbers.
- Indicates that the user base is primarily desktop/Windows-heavy, though mobile OS usage is present.

d. Browser (Bar Chart + Time Series)

- **Bar Chart:** All users are shown as using Chrome, reinforcing browser dominance.
- **Time Series Line Chart:** Active users over time on Chrome — the trend mirrors the overall traffic spike in July.
- Confirms Chrome as the universal access point for visitors, simplifying compatibility testing.

This page highlights that DA Course Store's audience is primarily India-based, desktop/Windows users, accessing through Chrome. Such insights guide platform optimization, browser testing, and regional targeting strategies.

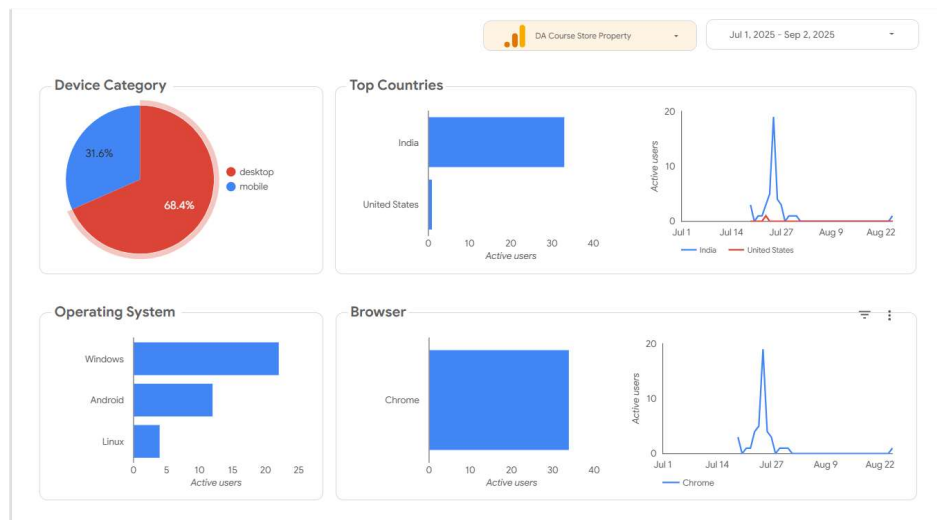


Fig: Device Category, Countries, Operating Systems & Browsers

3. Top Traffic Sources, Events & Landing Pages

This page provides insight into where users are coming from, what actions they perform, and which pages they first land on. It combines acquisition, behaviour, and engagement metrics.

a. Top Traffic Sources (Bar Chart + Time Series)

- **Bar Chart:** Breaks down sessions by source/medium.
 - **Example sources:** t.appsflyer.com / organic, l.instagram.com / referral, linkedin / social, whatsapp / social.
 - Shows the relative contribution of each traffic channel.
- **Time Series Chart:** Plots traffic from each source across the date range.
 - Clear spikes, especially around late July, visible across some channels.
- **Purpose:** Identifies which platforms drive the most traffic and when peaks occur, helping assess campaign/channel effectiveness.

b. Top Events (Bar Chart + Time Series)

- **Bar Chart:** Lists the most frequently triggered GA4 events with metrics like event count, % sessions, and active users.
 - **Examples:** page_view, user_engagement, session_start, scroll, click, form_submit_beginner, form_submit_professional.
- Provides both engagement actions (e.g., scroll, click) and conversion-related events (form submissions).

- **Time Series Chart:** Trends of selected events over time, highlighting peaks in user engagement (e.g., more form submissions or pageviews on certain dates).
- **Purpose:** Helps identify which user interactions are most common and how engagement patterns evolve.

c. Landing Pages (Table + Bar Chart + Time Series)

- **Table:** Lists the top landing pages by sessions, users, and % contribution.
 - Shows which pages serve as the first touchpoints for users (e.g., homepage, /login, /signup, etc.).
- **Bar Chart:** Visualizes the count of active users landing on each page.
- **Time Series Chart:** Trends of traffic to key landing pages.
- **Purpose:** Highlights where users first enter the site, useful for analysing entry-point performance and optimizing those pages for conversions.

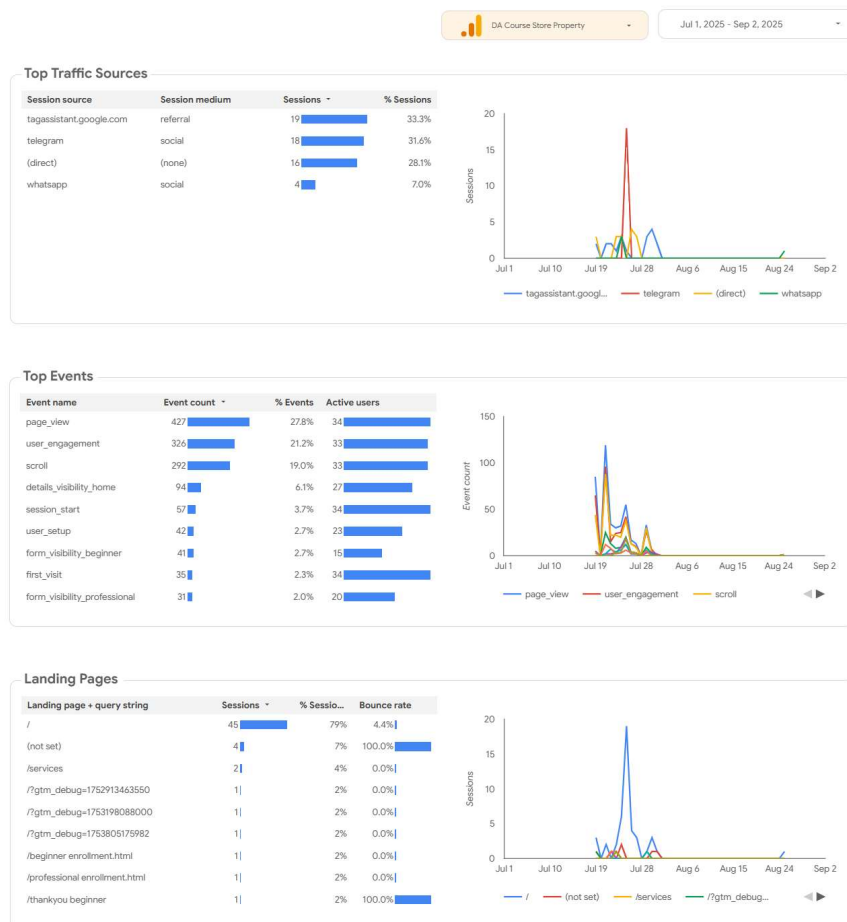


Fig: Top Traffic Sources, Events & Landing Pages

4. Conversions & Top Pages

a. Conversions (Key Events) – Customised (Score Cards)

This section presents five scorecards, each tracking a key event. The default metric is “Active Users”, while optional metrics (GA4 key events) can be toggled to gain deeper insight.

- **Home Details Visibility**
 - **Default metric:** Active Users
 - **Optional metrics:** keyevents:details_visibility_home
- **File Downloads**
 - **Default metric:** Active Users
 - **Optional metrics:** keyevents:dm_pdf_file_download
- **Know More (Beginner)**
 - **Default metric:** Active Users
 - **Optional metrics:** keyevents:know_more_beginner
- **Know More (Professional)**
 - **Default metric:** Active Users
 - **Optional metrics:** keyevents:know_more_professional
- **Post 1 Visibility**
 - **Default metric:** Active Users
 - **Optional metrics:** keyevents:post_1_visibility

Purpose: This customization allows flexibility, the scorecards serve as a quick overview of how many users triggered each **key event**, but by switching to optional metrics, stakeholders can view:

- **Key Event Count:** Total number of times the key event was triggered.

This enables both user-level and event-level analysis of key interactions.

b. Top Pages

- **Table:** Displays top page paths with metrics such as pageviews, % of total views, and active users.
 - Homepage (/) is the most viewed (142 views, 33.3%).

- Enrolment pages: /beginner enrollment.html (70 views, 16.4%) and /professional enrollment.html (64 views, 15.0%) are significant entry points.
- Other key pages include /services, /thankyou beginner, /thankyou professional, and /post1.
- **Bar Chart:** Visual comparison of active users across top pages.
- **Time Series Chart:** Trends of pageviews for these top pages over time (notable peaks in mid-to-late July).

Purpose: This section identifies which pages drive the most engagement and conversions. It highlights the importance of enrolment pages and “thank you” pages, which directly tie to conversion goals.

User Control (Drop-Down): Having a drop-down control which has the values of user properties in a field called **user_type** (User Type) which has Beginner, Professional and not set (I executed few events before ‘user property’ configuration) as users.

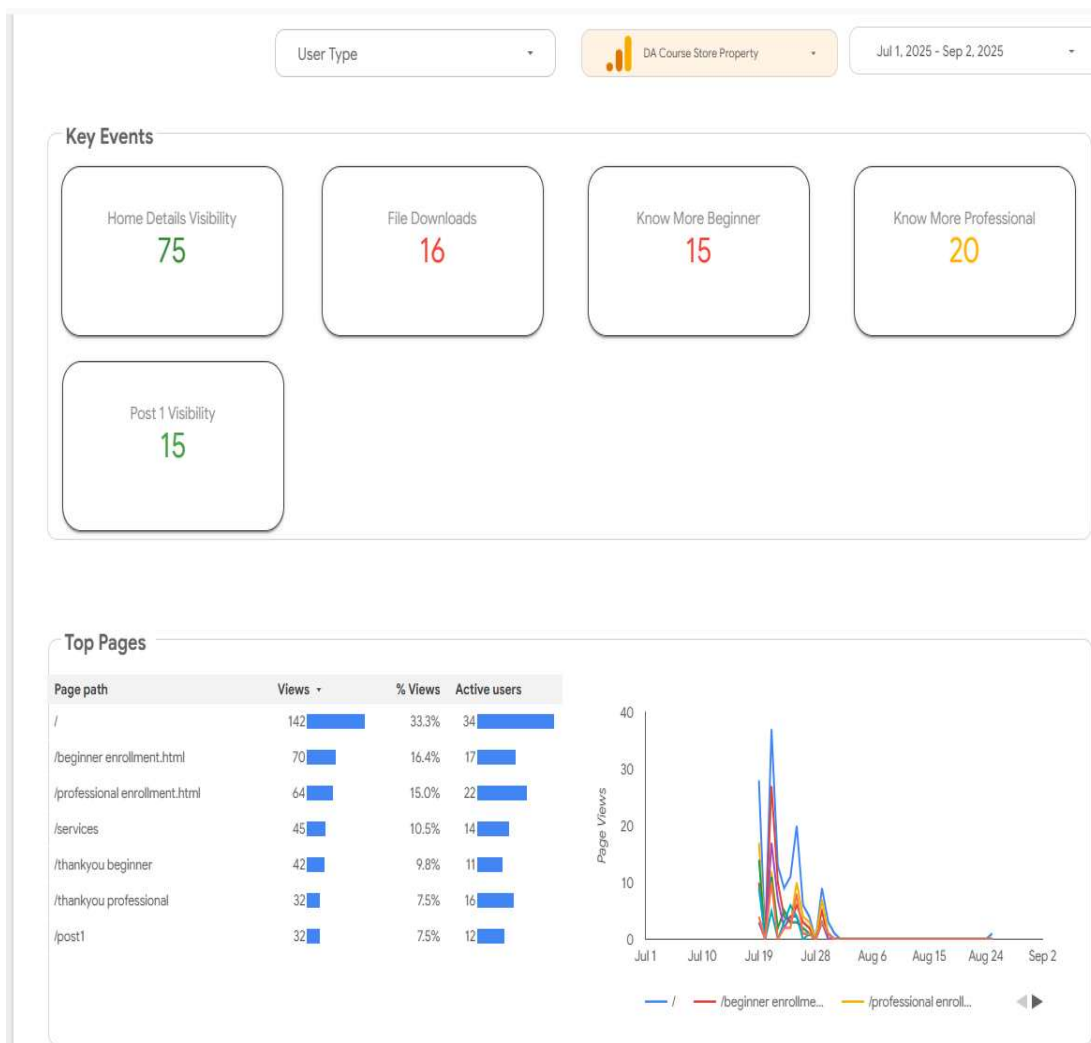


Fig: Key Events & Top Pages

5. Explorations (as in GA4)

a. YouTube Video Views – Customised (Time Series Chart)

This chart gives insight on the number of views the YouTube video embedded in the home page receives and the event gets triggered as per the trigger set for this video in GA4 and GTM. Replicated 'cohort exploration' in my GA4 property.

- **Dimension:** Date (Date Hour)
- **Metric:** YT Video Views
- **Filter:** 1st July to Today (Custom Filter Used Globally)

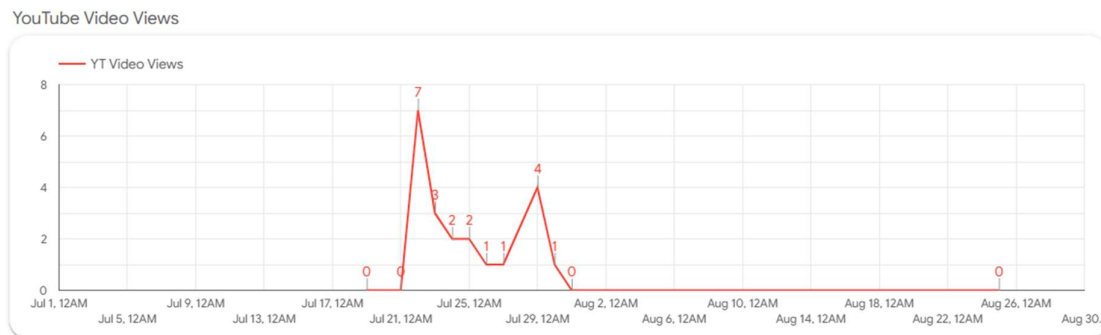


Fig: YouTube Video Views

b. India & Mobile Traffic Event's count and Active Users – Customised (Horizontal Table and Bar Graph)

This is a replicated chart of the 'segment exploration' in my GA4 property where it talks about event count and active users in **India** and only those whose **device category** is mobile.

- **Dimension:** Event Name
- **Metric:** Active Users, Event Count
- **Filters:** INDIA (Includes country = India), Mobile Traffic (Includes device category = Mobile)
- **Conditional Formatting:**

Conditional format rules						
=	1.	Single color	Event count less than 50	Text		
=	2.	Single color	Event count greater than or equal to 50	Text		
=	3.	Single color	Active users less than 10	Text		
=	4.	Single color	Active users greater than or equal to 10	Text		

Fig: Conditional Format Rules - India & Mobile Traffic Event's count and Active Users

c. Beginner Source Reference – Customised (Pie Chart)

At the beginner enrolment's page, it has an enrolment form which asks for 'How do you know about?' Question field and has drop-down values in it. These are captured in GA4+GTM, now using this field's data to know how the user who submitted the form came to know about the website. Replicated 'Free Form'.

- **Dimension:** Beginner Source
- **Metric:** Active Users
- **Optional Metric:** Event Count
- **Filters:** BS NOT SET EXCLUDE (Exclude Beginner Source not equal to (not set))

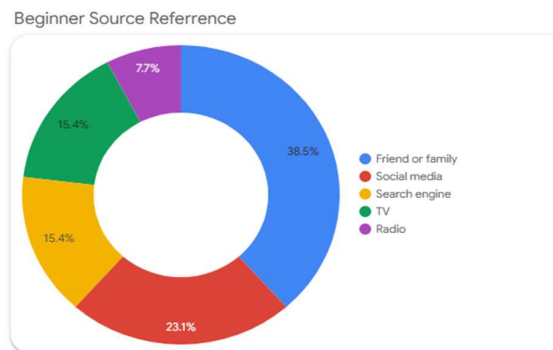


Fig: Beginner Source Reference

d. Professional Source Reference – Customised (Pie Chart)

At the professional enrolment's page, it has an enrolment form which asks for 'How do you know about?' Question field and has drop-down values in it. These are captured in GA4+GTM, now using this field's data to know how the user who submitted the form came to know about the website. Replicated 'Free Form'.

- **Dimension:** Professional Source
- **Metric:** Active Users
- **Optional Metric:** Event Count
- **Filters:** PS NOT SET EXCLUDE (Exclude Professional Source not equal to (not set))

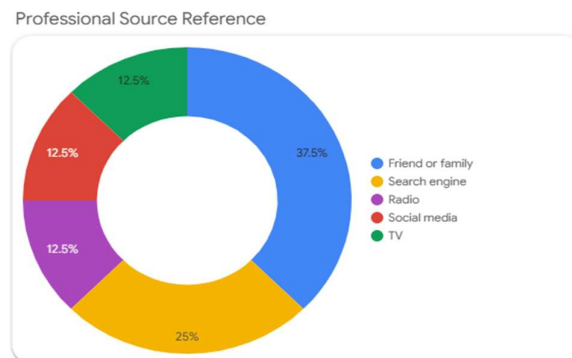


Fig: Professional Source Reference

e. Beginner Form Submission – Customised (Funnel Chart with Smoothed Bar)

One of the important insights which is a replica of a ‘Funnel Exploration’ used in GA4, we get an idea of how many page views (beginner enrolment) the website is getting, the form visibility and number of form submissions with respect to active users.

- **Dimension:** Event Name
- **Metric:** Active Users
- **Filters:** Funnel Beginner

The screenshot shows the 'Edit Filter' interface in Google Analytics 4. The filter is named 'Beginner Form Submission'. It consists of four clauses connected by 'OR' operators. Each clause is an 'Include' filter with the dimension 'Event name' and the metric 'Active Users'. The clauses are: 1. 'page_view' (with a small 'X' icon), 2. '/beginner enrolment.html' (with a small 'X' icon), 3. 'form_visibility_beginner' (with a small 'X' icon), and 4. 'form_submission_beginner' (with a small 'X' icon). The interface includes a 'Cancel' button and a 'Save' button at the bottom right. A status bar at the bottom left indicates 'This filter has 4 clauses'.

Fig: Funnel Filters – Beginner Form Submission

f. Professional Form Submission – Customised (Funnel Chart with Smoothed Bar)

One of the important insights which is a replica of a ‘Funnel Exploration’ used in GA4, we get an idea of how many page views (professional enrolment) the website is getting, the form visibility and number of form submissions with respect to active users.

- **Dimension:** Event Name
- **Metric:** Active Users
- **Filters:** Funnel Professional

The screenshot shows the 'Edit Filter' interface in Google Analytics 4. The filter is named 'Professional Form Submission'. It consists of four clauses connected by 'OR' operators. Each clause is an 'Include' filter with the dimension 'Event name' and the metric 'Active Users'. The clauses are: 1. 'page_view' (with a small 'X' icon), 2. '/professional enrolment.ht...' (with a small 'X' icon), 3. 'form_visibility_professional' (with a small 'X' icon), and 4. 'form_submission_professi...' (with a small 'X' icon). The interface includes a 'Cancel' button and a 'Save' button at the bottom right. A status bar at the bottom left indicates 'This filter has 4 clauses'.

Fig: Funnel Filters – Professional Form Submission

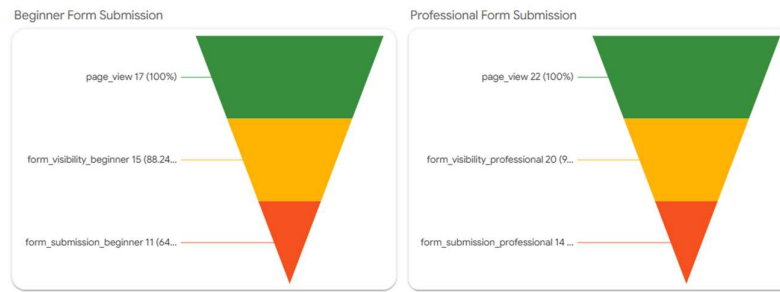


Fig: Form Submission Funnels

g. Page Path and Event Name – Customised (Table with Drill Down)

The table here has a drill-down option trying to replicate ‘Path Exploration’ to give insights on it. But this has a different thing which tells about either the ‘Event Name’ (drill-down) or ‘Page Path’ (main).

- **Dimension:** Page Path, Event Name
- **Metric:** Event Count, Active Users

Page Path and Event Name

	Page path	Event count ▾	Active users
1.	/	544	34
2.	/beginner enrollment.html	257	17
3.	/professional enrollment.html	214	22
4.	/services	159	14
5.	/thankyou beginner	141	11
6.	/thankyou professional	113	16
7.	/post1	109	12

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Fig: Page Path (Main)

Page Path and Event Name

	Event name	Event count ▾	Active users
1.	page_view	427	34
2.	user_engagement	326	33
3.	scroll	292	33
4.	details_visibility_home	94	27
5.	session_start	57	34
6.	user_setup	42	23
7.	form_visibility_beginner	41	15

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Fig: Event Name (Drill-Down)

LEARNINGS

- Connected GA4 property (*DA Course Store*) with Looker Studio and built a multi-page dashboard.
- Applied **global date control** and a **user-type filter** (Beginner vs Professional) for targeted analysis.
- Replicated GA4 **explorations** (funnels, top events, landing pages) using Looker Studio charts.
- Summarized **key events and conversions** with scorecards and trend charts.
- Practiced effective **data visualization** with tables, bar charts, and time-series graphs.
- Gained insights into **audience segmentation**, conversion flow, and storytelling with data.

REFERENCES & LINKS

- **Looker Studio Dashboard:** <https://lookerstudio.google.com/reporting/b0312eb3-1002-4061-b7bd-200a9f91b674>
- **Course Link:** https://olympus.mygreatlearning.com/courses/111787?th=b&pb_id=581
- **GitHub Repository link:** <https://github.com/VRISHYANG/Google-Analytics-Google-Tag-Manager> (This is my GA4 + GTM repo which consists of the details of the project along with the property)
- **Website Link:** <https://dacoursestore.netlify.app/>
- Additional topics learned from YouTube tutorials + AI tools like ChatGPT + Browser/Search Engine.