

MAHATMA EDUCATION SOCIETY'S
PILLAI COLLEGE OF ARTS, COMMERCE & SCIENCE
(Autonomous)

NEW PANVEL

PROJECT REPORT ON
“Restaurant Website Analysis ”

IN PARTIAL FULFILLMENT OF

MASTER OF DATA ANALYSIS

SEMESTER III - 2024-25

PROJECT GUIDE

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Mahatma Education Society's
PILLAI COLLEGE OF ARTS, COMMERCE & SCIENCE
(Autonomous)
Re-accredited "A" Grade by NAAC (3rd Cycle)



Project Completion Certificate

THIS IS TO CERTIFY THAT

Shreya Bhattacharjee

of **M.Sc. Data Analytics Part - II** has completed the project titled **Restaurant Website Analysis** of subject **Digital Footprint** under our guidance and supervision during the academic year 2024-25 in the department of Computer Science.

Project Guide

Course Coordinator

Head of Department



Introduction

This project integrates **Google Analytics**, **Looker Studio**, **WordPress**, and **Google Tag Manager (GTM)** to create a powerful platform for tracking, analyzing, and visualizing website performance. The WordPress site serves as the front end where user interactions are monitored using Google Analytics and enhanced with GTM. Insights into traffic, user behavior, and engagement are then visualized through Looker Studio, offering dynamic, interactive reports and dashboards that assist in real-time decision-making. The combination of these tools helps optimize the website's user experience, improve content strategies, and support data-driven growth.

Key Components

1. Google Analytics Integration

Google Analytics is the core tool for collecting and analyzing web traffic data. Its features include:

- **User Behavior Tracking:** Captures how users interact with the website (pages visited, time spent, navigation paths) and identifies the most engaging content.
- **Demographic and Interest Data:** Provides insights into user demographics (age, gender, location) and interest categories, helping to tailor content to the target audience.
- **Traffic Sources:** Distinguishes between traffic sources such as organic search, direct visits, social media, or referral links, helping marketers adjust strategies for better targeting.
- **Real-Time Monitoring:** Real-time tracking of website visitors, showing active users, their locations, and the pages they are viewing, valuable for live campaigns or content releases.

2. Looker Studio Reports

Looker Studio enhances data reporting and visualization through:

- **Dynamic Data Visualization:** Transforms raw data from Google Analytics into interactive reports featuring charts, graphs, and tables, making complex data easy to interpret.
- **Custom Dashboards:** Displays key metrics, such as total sessions, user engagement, conversion rates, and user acquisition trends.

- **Real-Time Reporting:** By connecting to Google Analytics, reports are updated in real-time, reducing manual report generation efforts.
- **Sharing and Collaboration:** Reports can be easily shared with team members or stakeholders for collaborative decision-making based on data insights.

3. WordPress-Hosted Website

The front end of the project is developed using WordPress, known for its flexibility, ease of use, and scalability.

- **Customizable Design and Layout:** WordPress offers a wide range of themes and plugins that allow for quick customization, ensuring a user-friendly experience.
- **SEO Optimization:** WordPress's SEO-friendly structure helps improve search engine rankings, driving more organic traffic to the website.
- **Plugin Ecosystem:** Enables seamless integration of third-party tools, including Google Analytics and Looker Studio, for efficient data collection and analysis.
- **Responsive and Mobile-Friendly Design:** The website is fully responsive and performs well across all devices.
- **Content Management:** Offers an intuitive interface for managing and updating content without the need for in-depth coding knowledge.

4. Google Tag Manager (GTM) Integration

Google Tag Manager (GTM) enhances the project's ability to track user events and manage various tracking codes (tags). Key features include:

- **Centralized Tag Management:** GTM allows managing multiple tracking tags (Google Analytics, Facebook Pixel, etc.) without altering the website's code.
- **Event Tracking:** GTM simplifies tracking specific user actions, such as button clicks, form submissions, and scrolling behavior, which are essential for conversion rate analysis.
- **Custom Trigger Implementation:** Custom triggers help track user behaviors, such as scroll depth or interaction with specific elements like buttons or forms.
- **Real-Time Debugging:** GTM's debugging tools allow for real-time testing of tags before they go live, ensuring accuracy in data collection.

Technical Workflow

1. WordPress Website Setup

- The website was created and hosted using WordPress, providing a flexible content management system. A responsive theme was selected and customized using **HTML**, **CSS**, and **JavaScript** to ensure optimal user experience across all devices.

2. Google Analytics Setup

- The Google Analytics tracking code was embedded into the WordPress site to collect data on user activity, traffic sources, and session metrics. Custom goals were defined to track user actions, such as form submissions and product purchases.

3. Google Tag Manager Setup

- GTM was set up by embedding the GTM container code into the WordPress site. This container enabled the management of tags like **Google Analytics** and **Facebook Pixel** without modifying the core code of the website.
- **Custom Triggers** were created to monitor specific user actions, including button clicks, page scroll depth, and form submissions. These interactions were sent to Google Analytics for further analysis.

4. Looker Studio Integration

- Using data from Google Analytics, dynamic dashboards and reports were created in Looker Studio. These dashboards provide visual insights into key metrics like user flow, bounce rates, conversion rates, and geographic distribution of visitors. The reports can be customized and shared with stakeholders for real-time decision-making.

5. Report Automation

- The integration between Google Analytics and Looker Studio ensures that the reports are automatically updated, providing the most current data at all times. GTM further enhances this by allowing dynamic event

tracking and tag management, making it easier to adjust reports based on newly defined events.

Objectives

The main objectives of this project include:

- **Website Performance Tracking:** Use Google Analytics to monitor and analyze traffic, bounce rates, session duration, and conversion metrics.
- **Data-Driven Insights:** Utilize Looker Studio to create detailed reports that present key performance indicators (KPIs) such as user flow, conversions, and demographic analysis.
- **Improvement of User Experience:** Leverage insights generated through data analysis to improve user engagement, enhance navigation, and optimize content to better serve the website's target audience.
- **Advanced Event Tracking:** Use GTM to implement custom event tracking and triggers, providing more granular data to improve website optimization efforts.

Technologies Used

- **Google Analytics:** For tracking web traffic and user behavior data.
- **Google Tag Manager (GTM):** For managing tracking tags and tracking specific user events.
- **Looker Studio:** For visualizing data and generating reports from Google Analytics.
- **WordPress:** For website creation, hosting, and content management.
- **HTML, CSS, JavaScript:** For customizing the appearance and functionality of the WordPress site.
- **WordPress Plugins:** For extending the website's functionality, such as integrating Google Analytics and improving SEO performance.

Step 1: Link WordPress with Your GA4

Account details

Account name (Required)

Accounts can contain more than one measurement ID.

shreya13

Google Analytics is a business tool. Use it exclusively for purposes related to your trade, business, craft, or profession.

Account Data Sharing Settings

Google processes your Google Analytics data only as required to [maintain and protect](#) the Google Analytics service, as set out in the [Google Ads Data Processing Terms](#). The data sharing settings below allow you to customize whether the data that you collect in Google Analytics may also be shared with Google for additional purposes.

The data sharing options give you more control over sharing your Google Analytics data. [Learn more](#)


☒ Google products & services

If you have enabled [Google signals](#), this setting will also apply to authenticated visitation data which is associated with Google user accounts. This setting is required for [Enhanced Demographics & Interests reporting](#). If you disable this option, data can still flow to other Google products explicitly linked to your property. Visit the product linking section in each property to view or

× Web stream details

 Data collection is active in the past 48 hours.

Stream details

STREAM NAME	STREAM URL	STREAM ID
shreyabhattacharjee	https://dev-shreya13.pantheonsite.io	9245503180
MEASUREMENT ID		
G-SMF1H90RMG 		

Consent settings

Step 2: Set up your Google Tag Manager

Add a New Account

Account Setup

Account Name

shreya13

Country

India

☒ Share data anonymously with Google and others [?](#)

Container Setup

Container name

dev-shreya13.pantheonsite.io

Target platform



Web

For use on desktop and mobile web pages



iOS

For use in iOS apps



Android

For use in Android apps



AMP

For use in Accelerated Mobile Pages

Step 3: Paste the code on WordPress

Install Google Tag Manager



Copy the code below and paste it on to every page of your website.

1. Paste this code as high in the **<head>** of the page as possible:

```
<!-- Google Tag Manager -->
<script>(function(w,d,s,l,i){w[l]=w[l]||[];w[l].push({'gtm.start':
  new Date().getTime(),event:'gtm.js'});var f=d.getElementsByTagName(s)[0],
  j=d.createElement(s),dl=l!='dataLayer'?'&l='+l:'';j.async=true;j.src=
  'https://www.googletagmanager.com/gtm.js?id='+i+dl;f.parentNode.insertBefore(j,f);
})(window,document,'script','dataLayer','GTM-MJTLGD92');</script>
<!-- End Google Tag Manager -->
```



2. Paste this code immediately after the opening **<body>** tag:

```
<!-- Google Tag Manager (noscript) -->
<noscript><iframe src="https://www.googletagmanager.com/ns.html?id=GTM-MJTLGD92"
  height="0" width="0" style="display:none;visibility:hidden"></iframe></noscript>
<!-- End Google Tag Manager (noscript) -->
```



OK

Connect Tag Assistant to your site



Tag Manager Preview Mode

Tag Manager container **GTM-MJTLGD92** will be put into debug mode in this web browser.
Enter a URL to your site to begin previewing your container.

Your website's URL 

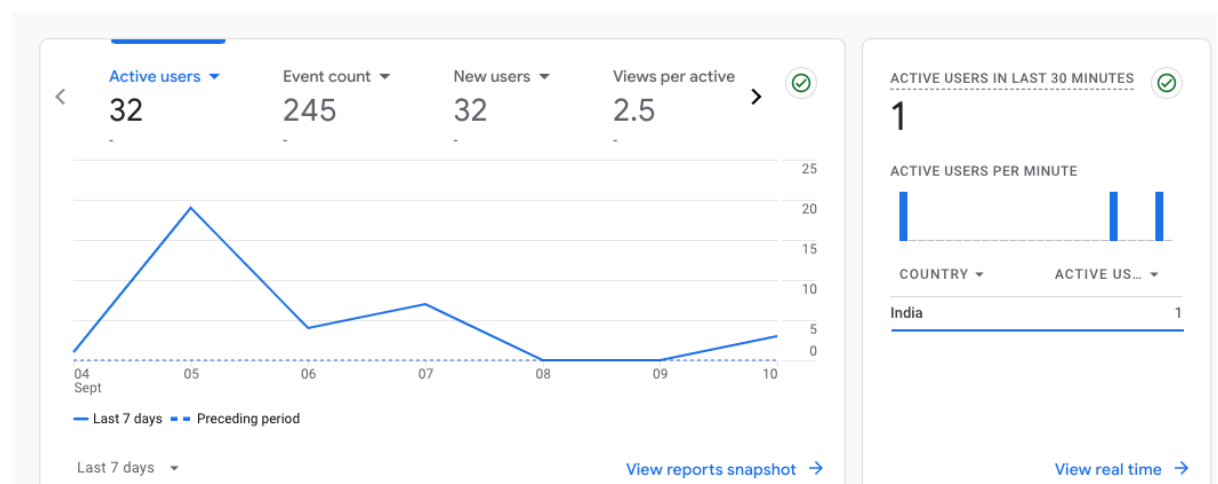
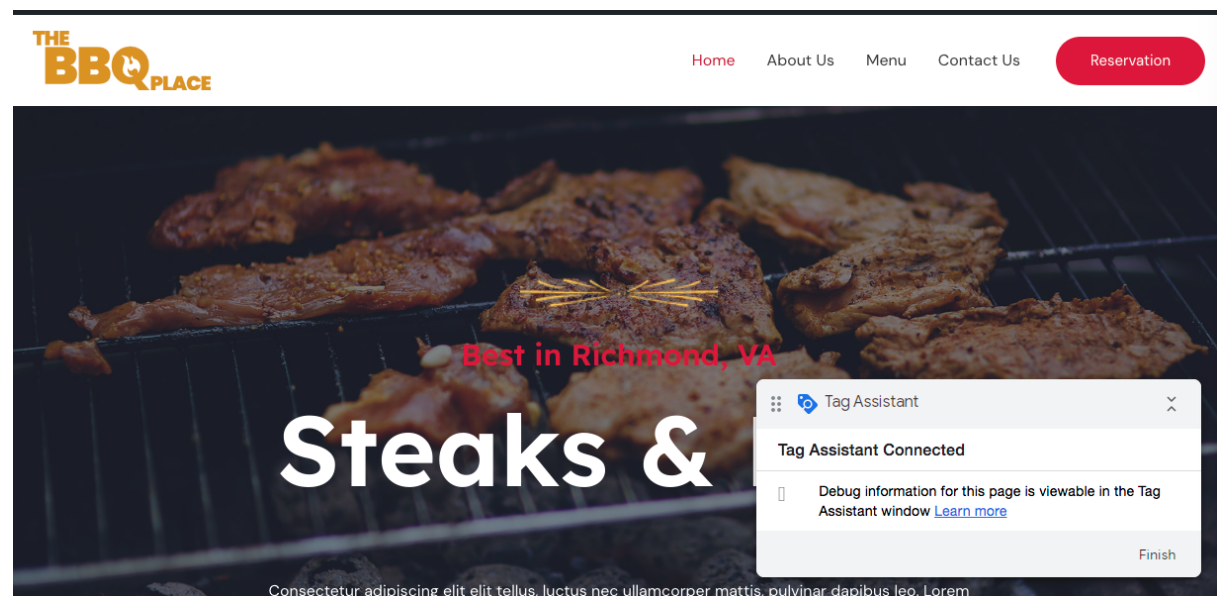
<https://dev-shreya13.pantheonsite.io/>

Connect

Opens your site in a new window

☒ Include debug signal in the URL 

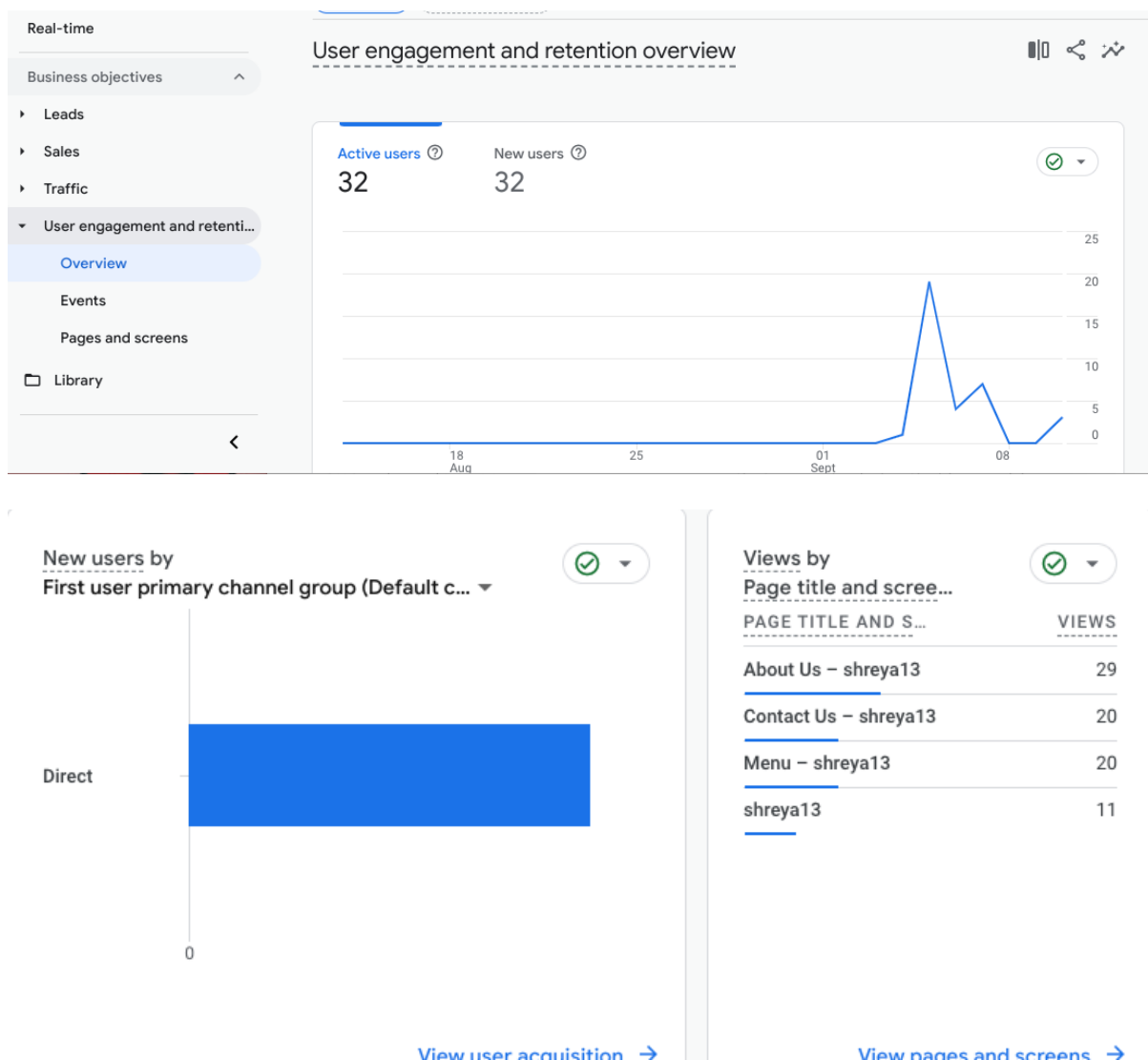
Step 4 : Website Link <https://dev-shreya13.panthiconsite.io/>



Step 4: Landing Page Optimizations

						Modify event	Create event
Existing events						🔍	📄
Event name ↑	Count	% change	Users	% change	Mark as key event (?)		
first_visit	32	-	32	-	<input checked="" type="checkbox"/>		
form_start	4	-	4	-	<input checked="" type="checkbox"/>		
page_view	80	-	32	-	<input type="checkbox"/>		
scroll	31	-	20	-	<input type="checkbox"/>		
session_start	43	-	32	-	<input type="checkbox"/>		

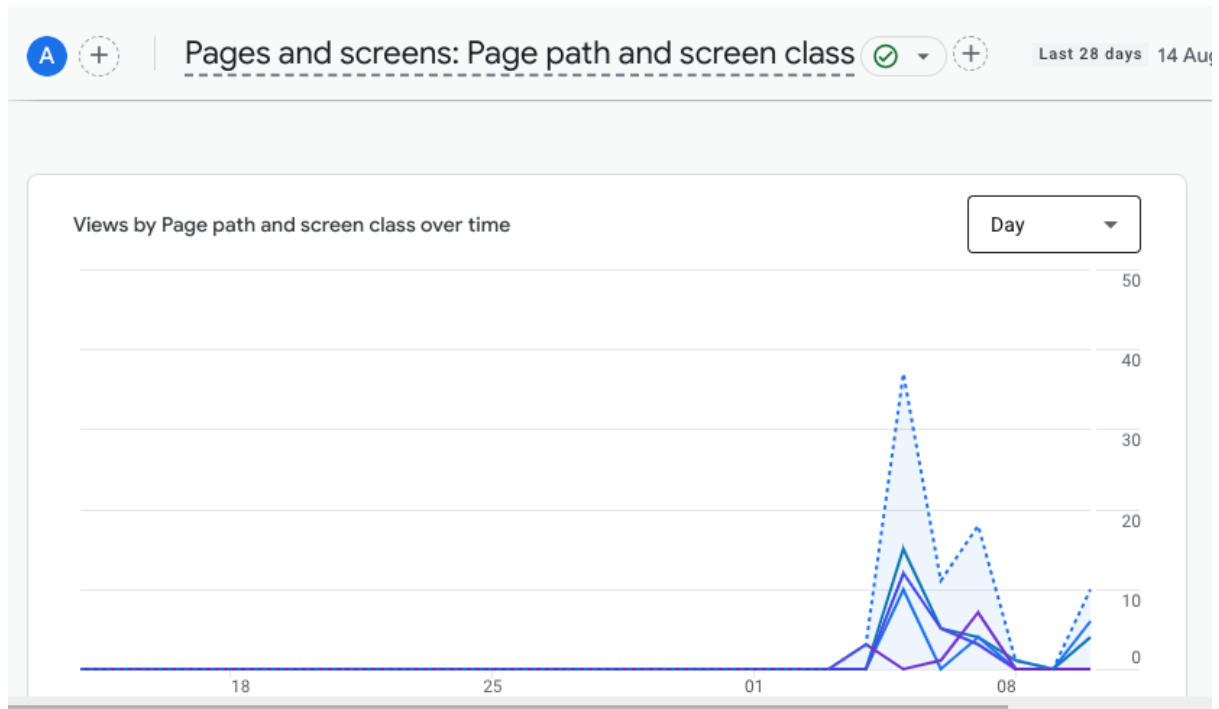
Step 5:Analyse Landing Page Performance



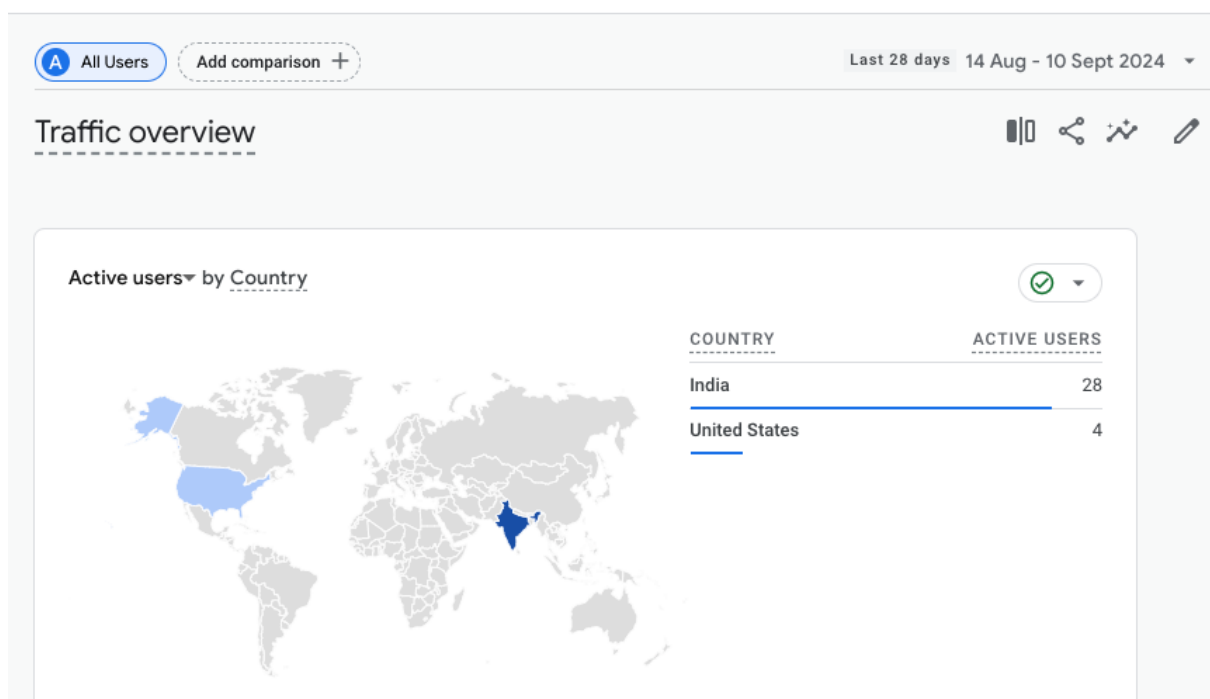
Sept

<input type="button" value="Plot rows"/>		<input type="text" value="Search..."/>		Rows per page:		10	1-1 of 1	
<input type="checkbox"/>	Platform	Active users	New users	Engaged sessions	Engagement rate	Engaged sessions		
<input checked="" type="checkbox"/>	Total	32 100% of total	32 100% of total	24 100% of total	55.81% Avg 0%	0	Avg	
<input checked="" type="checkbox"/>	1 web	32	32	24	55.81%	0		

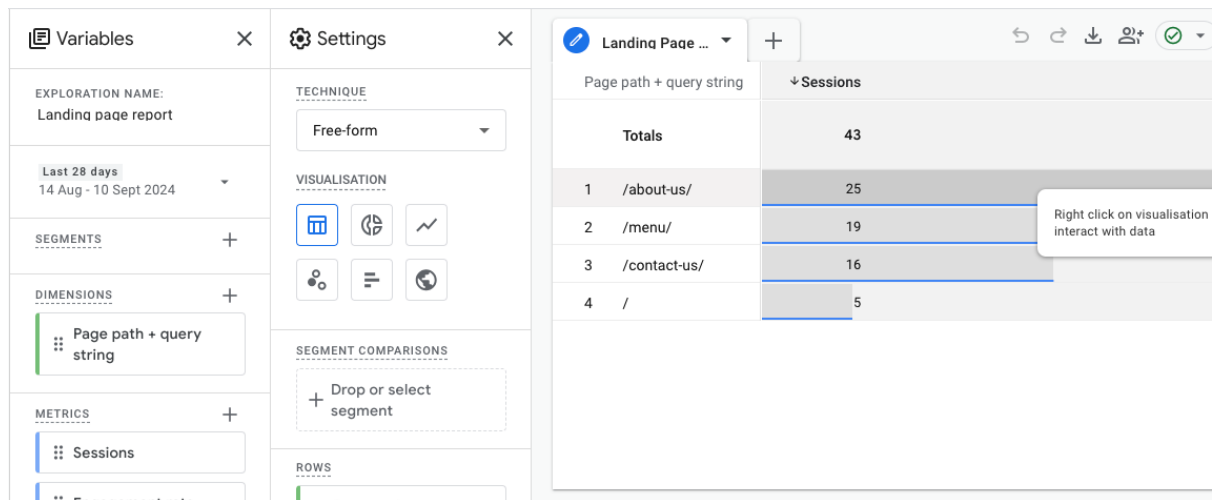
Leads	A +	Events: Event name [dropdown] +		Last 28 days 14 Aug - 10 Sept 2024 [filters]
Sales		Plot rows	Search...	Rows per page: 10 1-6 of 6
Traffic		[minus]	Event name +	↓ Event count Total users Event count per active user Total revenue
User engagement and retention		[checkbox]	Total	245 32 7.66 ₹0.00 100% of total 100% of total Avg 0%
Overview		[checkbox]	1 page_view	80 32 2.50 ₹0.00
Events		[checkbox]	2 user_engagement	55 26 2.12 ₹0.00
Pages and screens		[checkbox]	3 session_start	43 32 1.34 ₹0.00
User	^	[checkbox]	4 first_visit	32 32 1.00 ₹0.00
User attributes		[checkbox]	5 scroll	31 20 1.55 ₹0.00
Tech		[checkbox]	6 form_start	4 4 1.00 ₹0.00
Library	<			



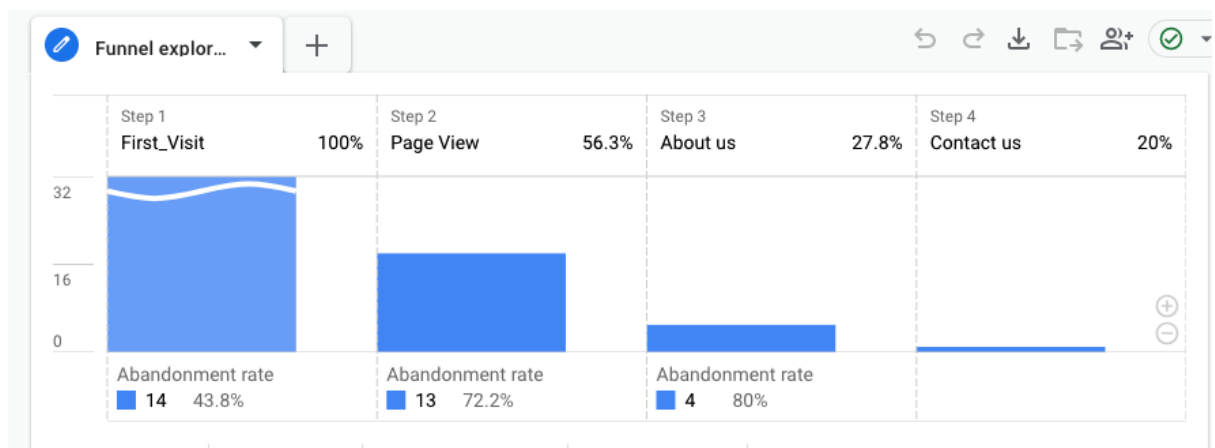
Traffic Section Overview



Step 6: Landing Page Report

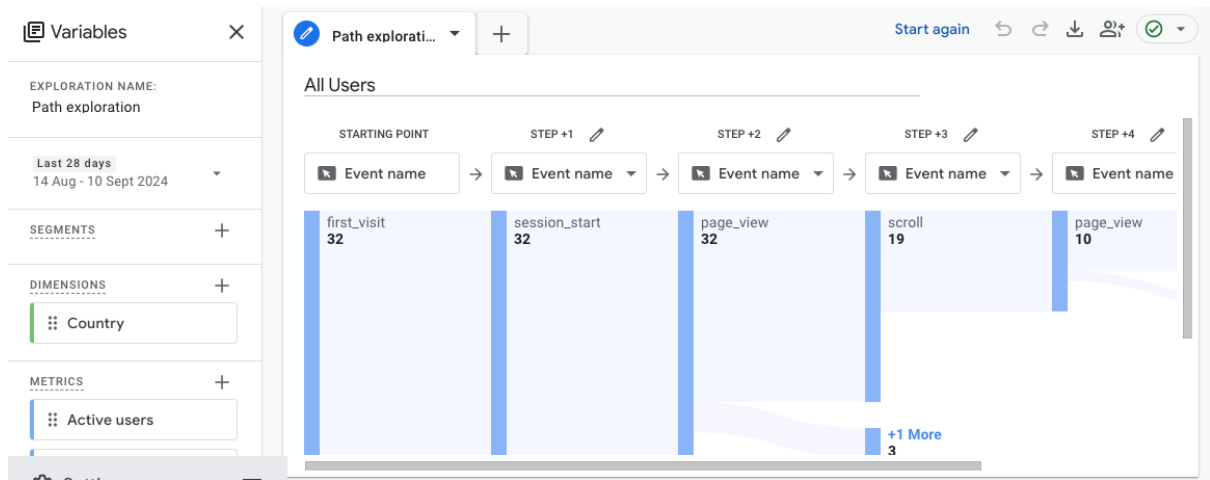


Step 7: Funnel Exploration



Step	Elapsed time	Active users (% of Step 1)	Completion rate	Abandonment rate
1. First_Visit	-	32 (100.0%)	56.3%	-
2. Page View	5h 00m	18 (56.3%)	27.8%	-
3. About us	9h 07m	5 (15.6%)	20.0%	-
4. Contact us	1m 09s	1 (3.1%)	-	-

Step 8: Path Exploration



Step 9: Visualizations and Present Insights in Looker Studio

Add data to report

Connect to data My data sources

Search

Google Connectors (24)
Connectors built and supported by Looker Studio [Learn more](#)

- Looker**
By Google
Connect to your Looker semantic models.
- Google Analytics**
By Google
Connect to Google Analytics.
- Google Ads**
By Google
Connect to Google Ads performance report data.
- Google Sheets**
By Google
Connect to Google Sheets.
- BigQuery**
By Google
Connect to BigQuery tables and custom queries.
- AppSheet**
By Google
Connect to AppSheet app data.

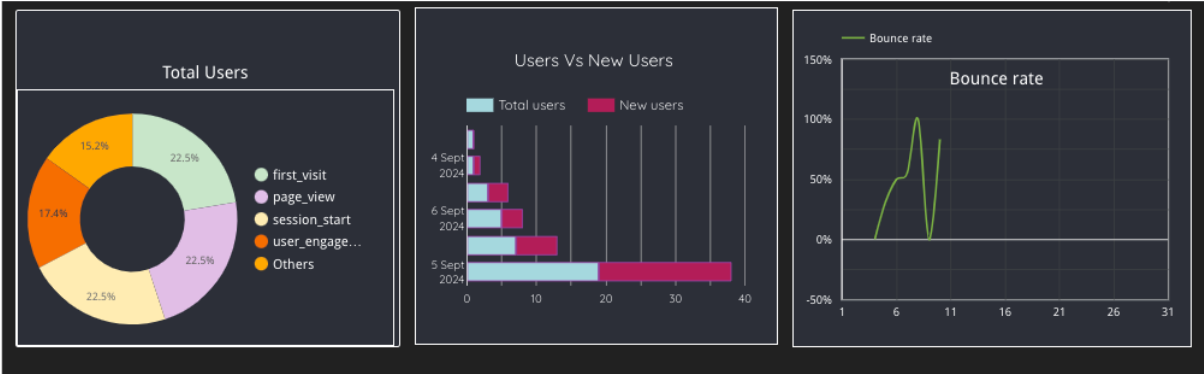
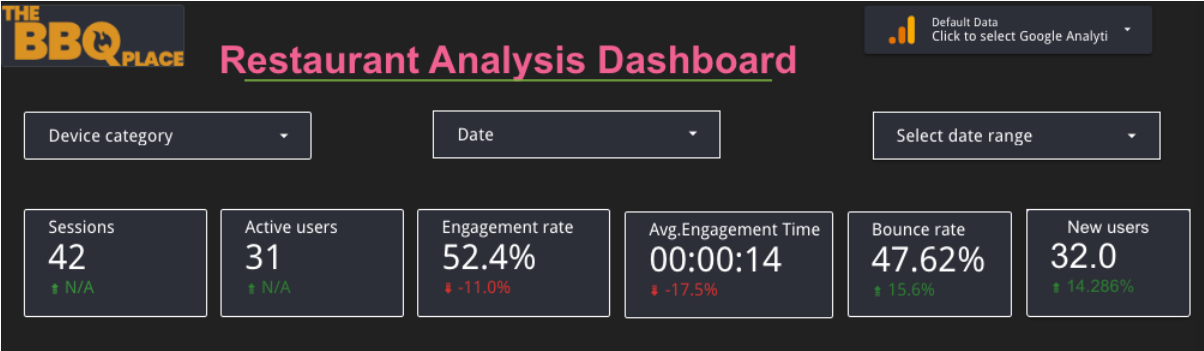
← Add data to report Data credentials: Shreya Bhattacharjee

Google Analytics
By Google
The Google Analytics connector lets you create a data source that connects to a Universal Analytics reporting view or Google Analytics 4 property.
[LEARN MORE](#) [REPORT AN ISSUE](#)

Account	Property
Shreya shreya61	shreyabhattacharjee GA4 1457173085
ShreyaBhattacharjee	

Cancel Add

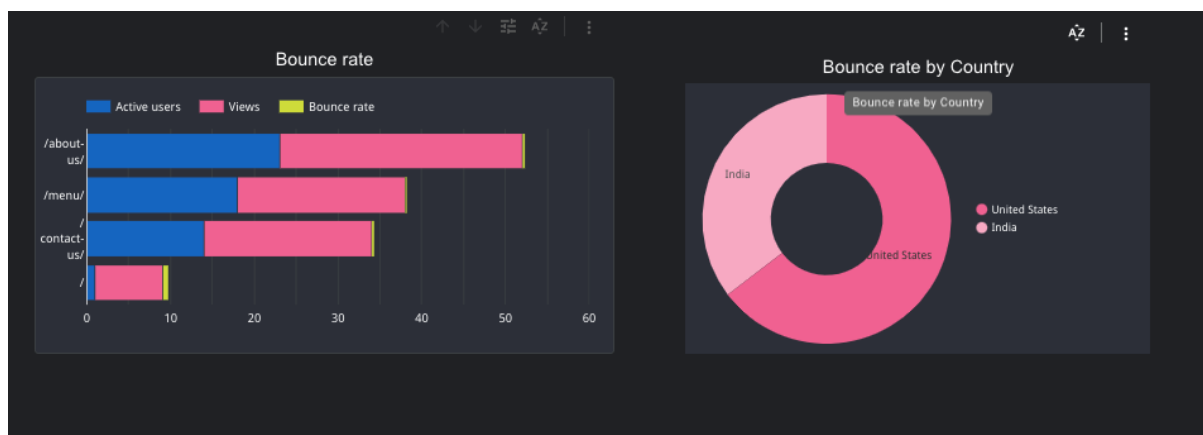
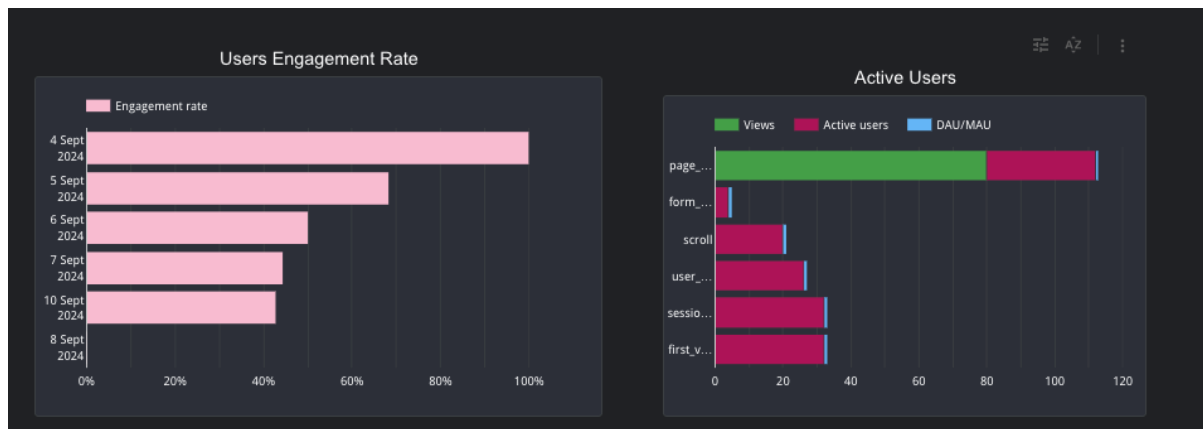
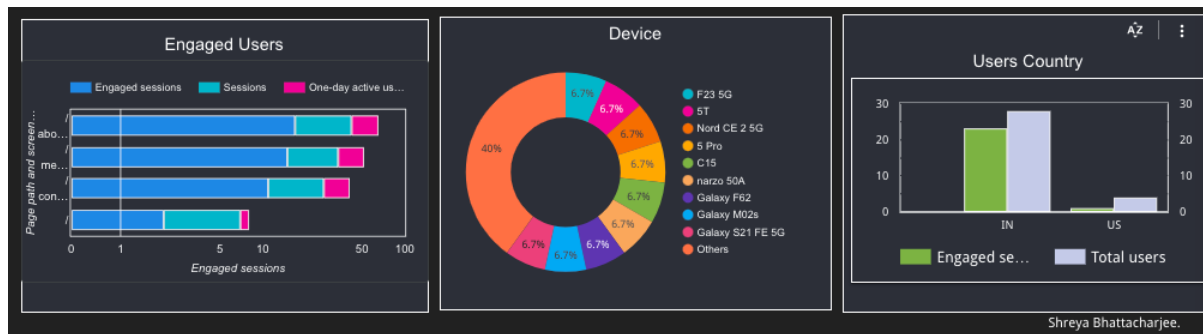
Step 10: Dashboard Link <https://lookerstudio.google.com/s/ITyHqApGy0o>



Channel Performance						
Event name	Sessions	Active users	New users	Engagement rate	Average session duration	Views per session
1. page_view	42	31	0	52.38%	00:02:00	1.86
2. session_start	42	31	0	52.38%	00:00:00	0
3. first_visit	31	30	31	64.52%	00:00:00	0
4. user_engagement	26	24	0	73.08%	00:01:28	0
5. scroll	19	19	0	89.47%	00:00:22	0
6. form_start	4	4	0	100%	00:00:06	0
Grand total	42	31	31	52.38%	00:03:06	1.86

Landing Page Performance			
Page path and screen class	Engagement rate	Total users	Event count
1. /contact-us/	28.57%	5	7
2. /	40%	1	5
3. /menu/	50%	7	8
4. /about-us/	69.57%	21	23
Grand total	55.81%	32	43

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Use Cases

- **Website Owners:** Monitor traffic, user engagement, and optimize content strategies for better conversion rates.
- **Data Analysts:** Analyze website performance trends, create reports on user behavior, and suggest improvements based on data insights.
- **Marketers:** Track campaign performance, assess the effectiveness of traffic sources, and optimize user acquisition strategies.
- **Developers and Designers:** Use data-driven insights to improve site layout, performance, and overall user experience.

Conclusion

This project successfully showcases how the combination of **Google Analytics**, **Looker Studio**, **WordPress**, and **GTM** can provide deep insights into website performance, helping stakeholders make informed, data-driven decisions. By tracking user behavior, understanding traffic sources, and visualizing key performance indicators, the platform enhances user engagement and improves business outcomes.

Overall, the **Restaurant Website Analysis** project serves as a model for creating an effective analytics system for monitoring and optimizing website performance, making it a valuable tool for website owners, marketers, and data analysts alike.

Future Scope

- **Enhanced Data Segmentation:** More advanced segmentation of user groups based on behaviour, demographics, or interests.
- **E-commerce Tracking:** In the future, tracking e-commerce activities (if integrated) would allow for more detailed analysis of conversions and sales.
- **Integration with CRM:** Connecting the website data with customer relationship management (CRM) systems for more personalized marketing.