Looker Studio Assignment

Introduction

This assignment will help you practice key Looker Studio concepts, including connecting to data sources, building interactive dashboards, and using calculated fields. You will use Google Analytics data in BigQuery to create meaningful visualizations in Looker Studio.

To stay consistent with the learning objectives, all tasks should be completed using Looker Studio and connected to Google BigQuery.

Dataset Information

You will use the Google Analytics Sample dataset from BigQuery public dataset:

1. Project: 'bigquery-public-data'
2. Dataset: 'google_analytics_sample'
3. Table: 'ga_sessions_20170801', 'ga_sessions_20170731', 'ga_sessions_20170730', 'ga_sessions_20170729'

Dataset Setup

Create a new Looker Studio report and connect it to your BigQuery dataset. All tasks should be completed within this report.

Tasks

Question 1: Connecting BigQuery as a Data Source

Objective: Learn how to connect Google BigQuery as a data source in Looker Studio.

Instructions:

1. Data Source Setup:
   - Connect the Google Analytics Sample dataset ('bigquery-public-data.google_analytics_sample.ga_sessions_20170801') to Looker Studio.
   - Select relevant fields including: 'total.Bounces', 'total.Visits', 'country', 'fullVisitorId', 'visitNumber', 'visitStartTime', 'date', 'pageviews', trafficSource.medium', and 'device.deviceCategory'.

Hints:

Use the official Looker Studio documentation for guidance: https://support.google.com/looker-studio/answer/6370296?hl=en#zippy=%2Cin-this-article

Question 2: Combining Data from Multiple Sources

Objective: Learn how to blend data from multiple sources in Looker Studio.

Instructions:
1. Combine the Google Analytics Sample dataset (bigquery-public-data.google_analytics_sample.ga_sessions_20170801) with another Google Analytics dataset, specifically ga_sessions_20170701 from the same google_analytics_sample dataset.
2. Create a blended data source that combines metrics such as visit numbers (visitNumber) and page views (pageviews) across these two dates.
3. Visualize the relationship between visit numbers and pageviews by country
Hints:
Use the data blending documentation to help you blend data from multiple sources
https://support.google.com/looker-studio/answer/9061420?hl=en#zippy=%2Cin-this-article

Question 3: Creating a User Traffic Dashboard
Objective: Build an interactive visualization to show user traffic trends.
Instructions:
1. Create a time series chart showing user sessions over time, broken down by 'trafficSource.medium'.

- Connect and blend the following tables from the Google Analytics sample dataset: 'ga_sessions_20170801', 'ga_sessions_20170731', 'ga_sessions_20170730', and 'ga_sessions_20170729' to create a comprehensive time series.

2. Add a filter to allow viewers to filter sessions by 'device.deviceCategory'.
3. Ensure your dashboard is easily understandable and visually appealing.
Hints:
Check out the documentation to help design the dashboard.
https://cloud.google.com/looker/docs/creating-user-defined-dashboards

Question 4: Creating Calculated Fields
Objective: Use Looker Studio's calculated fields to add more value to your data.
Instructions:
1. Create a calculated field named'bounce_rate_v2', defined as '(totalBounces / totalVisits) * 100 show the percentage bounce rate. Add a condition only to calculate bounce rates for sessions with (pageview>=1).
2. Using a bar chart, Visualize 'bounce_rate_v2' across different 'trafficSource.medium' values.
3. Create a line chart to show the trend of 'bounce_rate_v2' over time for different 'trafficSource.medium' values.

4. Use a scatter plot to visualize the relationship between ‘bounce_rate_v2’ and ‘visitNumber’ across different ‘trafficSource.medium’ values.
Hints:
Refer to the documentation for steps on creating calculated fields.
https://support.google.com/looker-studio/answer/6299685?hl=en#zippy=%2Cin-this-article

Question 5: Using Filters and Controls for Enhanced User Interaction
Objective: Add controls to allow for dynamic filtering of the report.
Instructions:
1. Connect and blend the following tables from the Google Analytics sample dataset: ‘ga_sessions_20170801’, ‘ga_sessions_20170731’, ‘ga_sessions_20170730’, and ‘ga_sessions_20170729’. Add a date range control to your report to allow viewers to select a custom date range that covers multiple dates.
2. Add a dropdown filter control for ‘country’ to make the report more interactive.
3. Ensure these filters work seamlessly with all visualizations on the dashboard.
Hints:
Refer to the Looker Studio Access Controls documentation for help adding and configuring controls. https://cloud.google.com/looker/docs/access-control-and-permission-management

Submission Instructions
1. Generate a shareable link for your Looker Studio report, ensuring the TA has viewing permissions. Also, include the link to the Moodle assignment folder.
2. Please complete and share your assignment by November 20, 2024, at 11:59 PM.