Final Solution:
Conflict Analytics Lab

OpenJustice

Contents

- Value Proposition
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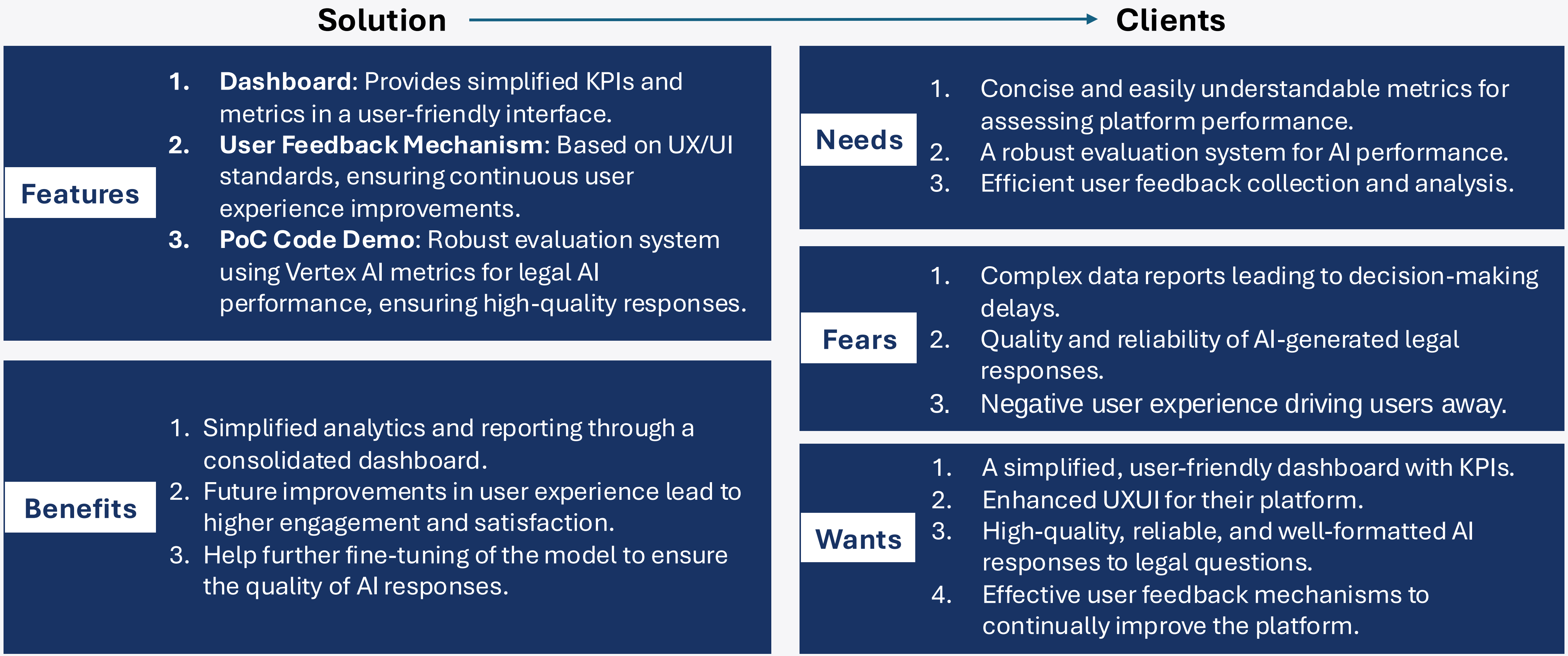
Value Proposition



Solution → Clients

Features

1. **Dashboard**: Provides simplified KPIs and metrics in a user-friendly interface.
2. **User Feedback Mechanism**: Based on UX/UI standards, ensuring continuous user experience improvements.
3. **PoC Code Demo**: Robust evaluation system using Vertex AI metrics for legal AI performance, ensuring high-quality responses.

Benefits

1. Simplified analytics and reporting through a consolidated dashboard.
2. Future improvements in user experience lead to higher engagement and satisfaction.
3. Help further fine-tuning of the model to ensure the quality of AI responses.

Needs

1. Concise and easily understandable metrics for assessing platform performance.
2. A robust evaluation system for AI performance.
3. Efficient user feedback collection and analysis.

Fears

1. Complex data reports leading to decision-making delays.
2. Quality and reliability of AI-generated legal responses.
3. Negative user experience driving users away.

Wants

1. A simplified, user-friendly dashboard with KPIs.
2. Enhanced UXUI for their platform.
3. High-quality, reliable, and well-formatted AI responses to legal questions.
4. Effective user feedback mechanisms to continually improve the platform.

Note: link to reference template https://www.peterjthomson.com/2013/11/value-proposition-canvas/

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KPI/Metric Development - Google Analytics

KPIs

1. **Acquisition KPIs**:
   - Number of new users
2. **Engagement KPIs:**
   - Bounce rate
   - Engagement rate
   - Number of engaged sessions
3. **Conversion KPIs**:
   - Conversion rate
4. **Retention KPIs:**
   - Retention rate
   - Churn rate
5. **UXUI KPIs:**
   - Net promoter score
   - Customer satisfaction score

Metrics

1. Total number of users
2. Total number of sessions
3. Average session duration
4. User stickiness
5. Total user engagement time
6. Traffic attribution
7. User segments (country, language, age, gender, etc.)
8. Overall GA Score (customized calculation)
   - 20% * #New users + 20% * #Engaged sessions + 30% * Bounce rate + 30% * Engagement rate
9. Misunderstanding rate
10. Non-response rate
11. Number of follow-up questions in each conversation

Note: 1) all the KPIs with underline are those being proposed and future implementation.
2) See Appendix A, B, and C for all definitions of KPIs and metrics.

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KPI/Metric Development - Conversation Data

Metrics

1. Question answering (main focus):
   - question_answering_quality
   - QuestionAnsweringHelpfulness
   - QuestionAnsweringCorrectness
   - QuestionAnsweringRelevance

2. General text generation:
   - Bleu
   - Rouge
   - Coherence
   - Fluency
   - Groundedness
   - Fulfillment

3. Summarization:
   - summarization_quality
   - summarization_helpfulness
   - summarization_verbosity

Note: all the metrics with underline are those being proposed and future implementation.

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User Feedback Mechanism Proposal I

Category	Question	Where to add	Format	Importance
General	How likely are you to recommend our OpenJustice AI to a friend or colleague?	Separate user feedbac section on web	11-point 0-6: detractors (unhappy customers) 7-8: passives (neutral customers) 9-10: promoters (happy customers)	• To calculate Net Promoter Score KPI (Calculation: subtract the percentage of detractors from the percentage of promoters.)
	How satisfied were you with your experience with our OpenJustice AI?	Separate user feedbac section on web	1-5 Likert Scale 1. Very Dissatisfied: The user is very unhappy with the product/service. 2. Dissatisfied: The user is unhappy with the product/service. 3. Neutral: The user feels indifferent about the product/service. 4. Satisfied: The user is happy with the product/service. 5. Very Satisfied: The user is very happy with the product/service.	• To calculate Customer Satisfaction Score KPI (Calculation: the sum of all positive responses, divided by the total responses collected, then multiplied by 100.)
	What is your overall impression of our OpenJustice AI?	Separate user feedbac section on web	Text	• Gathering qualitative data so we can perform text analysis to drive informed decision making.
	What changes or enhancements would most improve your overall satisfaction with our platform?	Separate user feedbac section on web	Text	• Encouraging detailed feedback to identify platform's strength and weakness.

Note: these will be implemented by the CA Lab team in near future.

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User Feedback Mechanism Proposal II

Category	Question	Where to add	Format	Importance
Content	The answers provided are clear in format and understandable.	After completing a conversation	1-5 Likert Scale 1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree	• Evaluate the model performance by single conversation to get more accurate feedback and to know if a certain field of topics need to be fine-tuned.
	The responses generated are relevant and helpful to my queries.	After completing a conversation	Same as above	• Ensures the AI meets user expectations and fulfills its purpose.
	The content is up-to-date and accurate.	After completing a conversation	Same as above	
	Appendix D question form	Separate user feedback section on web	Text + multiple choice	• Detailed feedback from the user and future opportunities of doing user interviews to improve the model. • Helps to define what would be the most frequent issue for the AI model.

Note: these will be implemented by the CA Lab team in near future.

User Feedback Mechanism Proposal III

Category	Question	Where to add	Format	Importance
Webpage performance	The website is stable and loads quickly.	After completing a conversation	1-5 Likert Scale 1. Strongly Disagree 2. Disagree 3. Neutral 4. Agree 5. Strongly Agree	• Evaluate the webpage performance by single interaction to get more accurate feedback and to better maintain the website.
	The functions (Chat History, Upload PDF, etc.) are easy to follow.	After completing a conversation	Same as above	• Ensure users to access relevant information quickly and efficiently. • Enhances user satisfaction and reduces frustration
	Appendix E question form	Separate user feedback section on web	Text + multiple choice	• Detailed feedback from the user and future opportunities of doing user interviews to maintain the webpage. • Helps to define the technical issues encountered while using the website.

Note: these will be implemented by the CA Lab team in near future.

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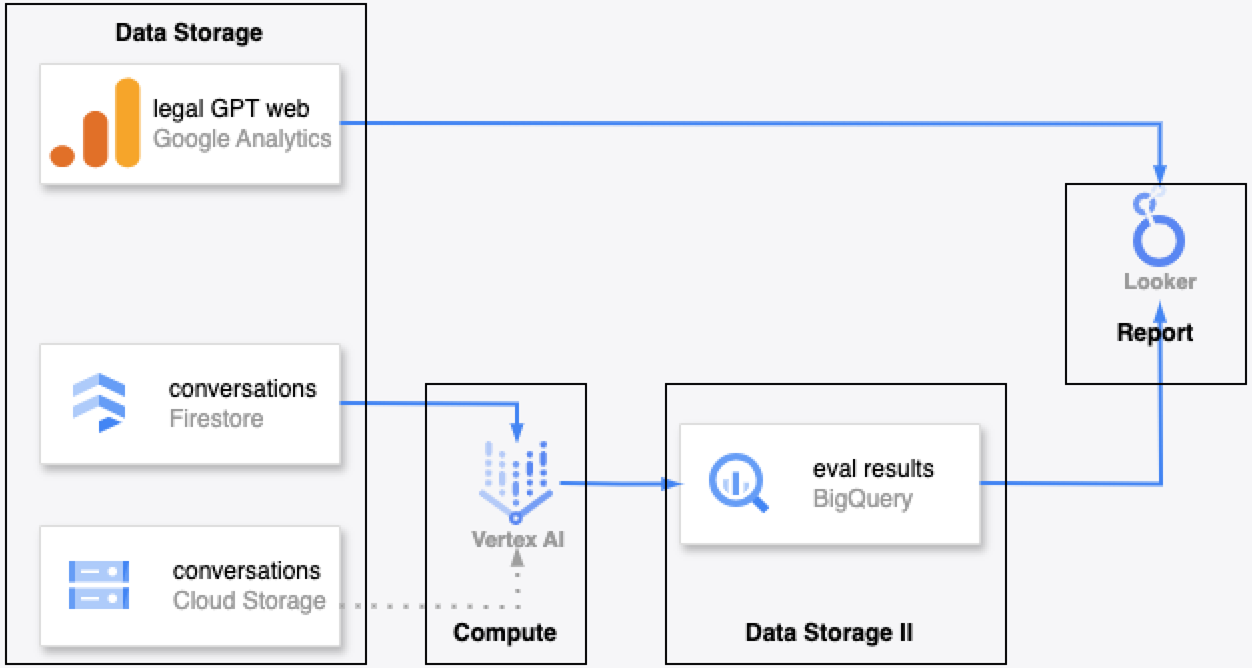
Technology Architecture



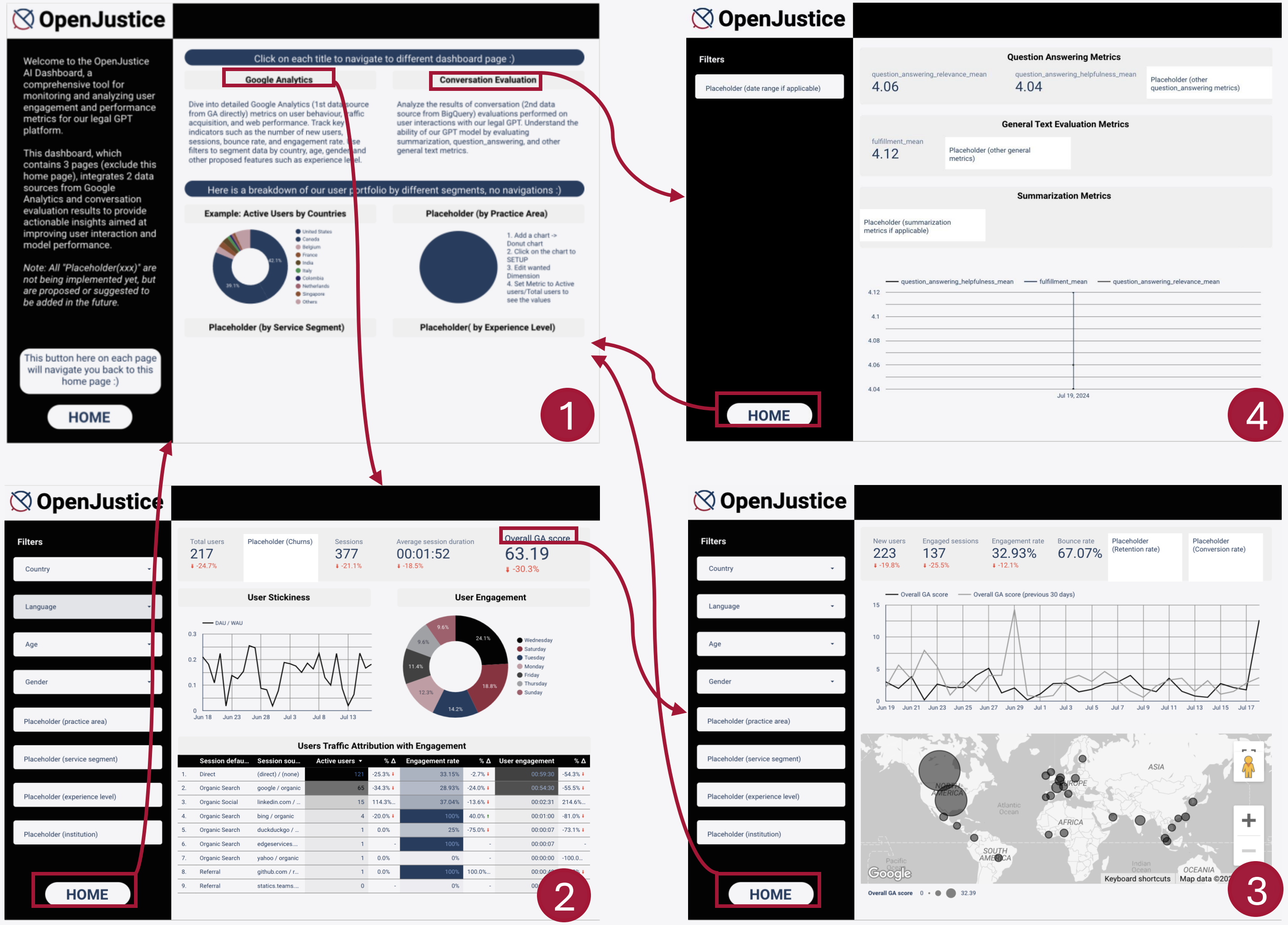
Note: Google Cloud platform is used to align with their current working environment.

Data Flow:
1. Data Collection and Storage: Google Analytics (raw), Firestore (raw), and BigQuery (processed)
2. Data Processing: Vertex AI (conversation data only)
3. Data Reporting: Looker Studio

Architecture Layers:

- Storage:
  - **Google Analytics:** tracking and analyzing user behavior on the platform.
  - **Firestore:** the primary database for storing legal AI conversational data.
  - **BigQuery:** serving as a data warehouse to store the evaluation results from code notebook.
  - **Cloud Storage (optional - this was setting up in a personal account for testing purposes using Excel files):** storing datasets and files.
- Compute (Appendix F, G, H, and I for code breakdown):
  - **Vertex AI:** powers evaluating and improvingimprovement of the legal AI's performance.
- Report:
  - **Looker Studio:** data visualization and reporting through interactive dashboards, which containing both Google Analytics metrics and conversational data evaluation results.

UXUI



Welcome to the OpenJustice AI Dashboard, a comprehensive tool for monitoring and analyzing user engagement and performance metrics for our legal GPT platform.

This dashboard, which contains 3 pages (exclude this home page), integrates 2 data sources from Google Analytics and conversation evaluation results to provide actionable insights aimed at improving user interaction and model performance.

Note: All "Placeholder(xxx)" are not being implemented yet, but are proposed or suggested to be added in the future.

This button here on each page will navigate you back to this home page :)

Click on each title to navigate to different dashboard page :)

Google Analytics

Dive into detailed Google Analytics (1st data source from GA directly) metrics on user behaviour, traffic acquisition, and web performance. Track key indicators such as the number of new users, sessions, bounce rate, and engagement rate. Use filters to segment data by country, age, gender and other proposed features such as experience level.

Conversation Evaluation

Analyze the results of conversation (2nd data source from BigQuery) evaluations performed on user interactions with our legal GPT. Understand the ability of our GPT model by evaluating summarization, question_answering, and other general text metrics.

Here is a breakdown of our user portfolio by different segments, no navigations :)

1. Add a chart -> Donut chart
2. Click on the chart to SETUP
3. Edit wanted Dimension
4. Set Metric to Active users/Total users to see the values

Total users 217 -24.7% | Placeholder (Churns) | Sessions 377 -21.1% | Average session duration 00:01:52 -18.5% | Overall GA score 63.19 -30.3%

Users Traffic Attribution with Engagement

	Session defau...	Session sou...	Active users ▼	% Δ	Engagement rate	% Δ	User engagement	% Δ
1.	Direct	(direct) / (none)	121	-25.3% ↓	33.15%	-2.7% ↓	00:59:30	-54.3% ↓
2.	Organic Search	google / organic	65	-34.3% ↓	28.93%	-24.0% ↓	00:54:30	-55.5% ↓
3.	Organic Social	linkedin.com / ...	15	114.3%...	37.04%	-13.6% ↓	00:02:31	214.6%...
4.	Organic Search	bing / organic	4	-20.0% ↓	100%	40.0% ↑	00:01:00	-81.0% ↓
5.	Organic Search	duckduckgo / ...	1	0.0%	25%	-75.0% ↓	00:00:07	-73.1% ↓
6.	Organic Search	edgeservices....	1	-	100%	-	00:00:07	-
7.	Organic Search	yahoo / organic	1	0.0%	0%	-	00:00:00	-100.0...
8.	Referral	github.com / r...	1	0.0%	100%	100.0%...	[illegible]	[illegible] ↓
9.	Referral	statics.teams....	0	-	0%	-	[illegible]	[illegible]

New users 223 -19.8% | Engaged sessions 137 -25.5% | Engagement rate 32.93% -12.1% | Bounce rate 67.07% | Placeholder (Retention rate) | Placeholder (Conversion rate)

Question Answering Metrics

question_answering_relevance_mean 4.06 | question_answering_helpfulness_mean 4.04 | Placeholder (other question_answering metrics)

General Text Evaluation Metrics

fulfillment_mean 4.12 | Placeholder (other general metrics)

Summarization Metrics

Placeholder (summarization metrics if applicable)

1. Home Page
   - ○ Introduction of the dashboard pages and their usage.
   - ○ Current user portfolios to help understand user segments.
2. Google Analytics Overview
   - ○ Main KPIs and metrics defined earlier with comparisons with past periods.
3. Google Analytics Aggregated KPI
   - ○ Breakdown of the customized KPI, Overall GA Score (which KPIs are included to calculated this value and their trends).
4. Conversation Evaluation Metrics (BigQuery)
   - ○ The evaluation results of the conversational data (3 aspects).

Note: the direction arrows indicate the connections between pages when clicking on the text.

Note: 1) link to dashboard views https://lookerstudio.google.com/embed/reporting/46996a46-3e99-49b5-b038-b1b5b1837740/page/p_eatbulqajd

2) Appendix J to U for user guide and more explanations

Appendix

- KPI/Metrics Definitions
- User Feedback Detailed Forms
- Code Breakdown
- Dashboard Guide

A - Google Analytics KPIs' Definitions

1. **Acquisition KPIs**:
   - Number of new users
2. **Engagement KPIs:**
   - Bounce rate: the percentage of users who leave the chatting page without interacting.
   - Engagement rate: engaged sessions / total sessions.
   - Number of engaged sessions: the number of sessions that lasted 10 seconds or longer, or had 1 or more key events or 2 or more page or screen views.
3. **Conversion KPIs:**
   - Conversion rate: the percentage of users who complete a desired action (e.g., sign up, make an engagement).
4. **Retention KPIs:**
   - Retention rate: the percentage of users who continue using the platform over a given timeframe.
   - Churn rate: the rate at which users stop using the platform over a specific period.
5. **UXUI KPIs:**
   - Net promoter score: how satisfied users were with their overall experience.
   - Customer satisfaction score: how well a product or service fulfills users’ expectations

Note: 1) all the metrics with underline are those being proposed and future implementation.
2) link to the Google Analytics reference website
https://support.google.com/analytics/answer/13947485?hl=en&sjid=16883852291625120365-NA&visit_id=638572226648757371-3016463232&ref_topic=13948007&rd=1

B - Google Analytics Metrics' Definitions

1. Total number of users
2. Total number of sessions
3. Average session duration
4. User stickiness: DAU/WAU shows the percentage of users who engaged in the last 24 hours out of the users who engaged in the last 7 days.
5. Total user engagement time: the amount of time users spend with the web page in focus
6. Traffic attribution: channel distribution for session traffic including the number of active users, engagement rate and time with comparisons with the past period
7. User segments (country, language, age, gender, etc.)
8. Overall GA Score: a customized aggregated value by giving certain KPIs different weights to measure the performance.
    - 20% * #New users + 20% * #Engaged sessions + 30% * Bounce rate + 30% * Engagement rate
9. Misunderstanding rate: estimates how frequently the AI misunderstands user queries, leading to incorrect responses.
10. Non-response rate: the number of times the AI has failed to push some content following a user question (due to lack of content or misunderstanding).
11. Number of follow-up questions in each conversation

Note: all the metrics with underline are those being proposed and future implementation.

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C - Conversation Data Metrics' Definitions

1. **Question answering (main focus)**:
   - question_answering_quality: describes the model's ability to answer questions given a body of text to reference.
   - QuestionAnsweringHelpfulness: describes the model's ability to provide important details when answering a question.
   - QuestionAnsweringCorrectness: describes the model's ability to correctly answer a question.
   - QuestionAnsweringRelevance: describes the model's ability to respond with relevant information when asked a question.
2. **General text generation**:
   - Bleu: holds the result of an algorithm for evaluating the quality of the prediction.
   - Rouge: compares the provided prediction parameter against a reference parameter
   - Coherence: describes the model's ability to provide a coherent response.
   - Fluency: describes the model's language mastery.
   - Groundedness: describes the model's ability to provide or reference information included only in the input text.
   - Fulfillment: describes the model's ability to fulfill instructions.
3. **Summarization**:
   - summarization_quality: describes the model's ability to summarize text.
   - summarization_helpfulness: describes the model's ability to satisfy a user's query by summarizing the relevant details in the original text without significant loss in important information.
   - summarization_verbosity: measures if a summary is too long or too short.

Note: 1) all the metrics with underline are those being proposed and future implementation.
2) link to the Google Vertex AI reference website https://cloud.google.com/vertex-ai/generative-ai/docs/models/determine-eval

D - Content Feedback Detailed Form

1. Email
2. System message and chat log
3. What were you expecting from the completion?
4. Why is the model output not ideal?
    - The model isn’t adhering to the system message
    - The model’s response is inaccurate
    - The model’s response is not useful
    - Other
5. Please provide more details of why the output is not ideal. For instance, what is inaccurate about the response?
6. Would you be interested in being contacted for further collaboration with our research team?
    - Yes
    - No
7. Is there anything else you’d like to share about your experience?

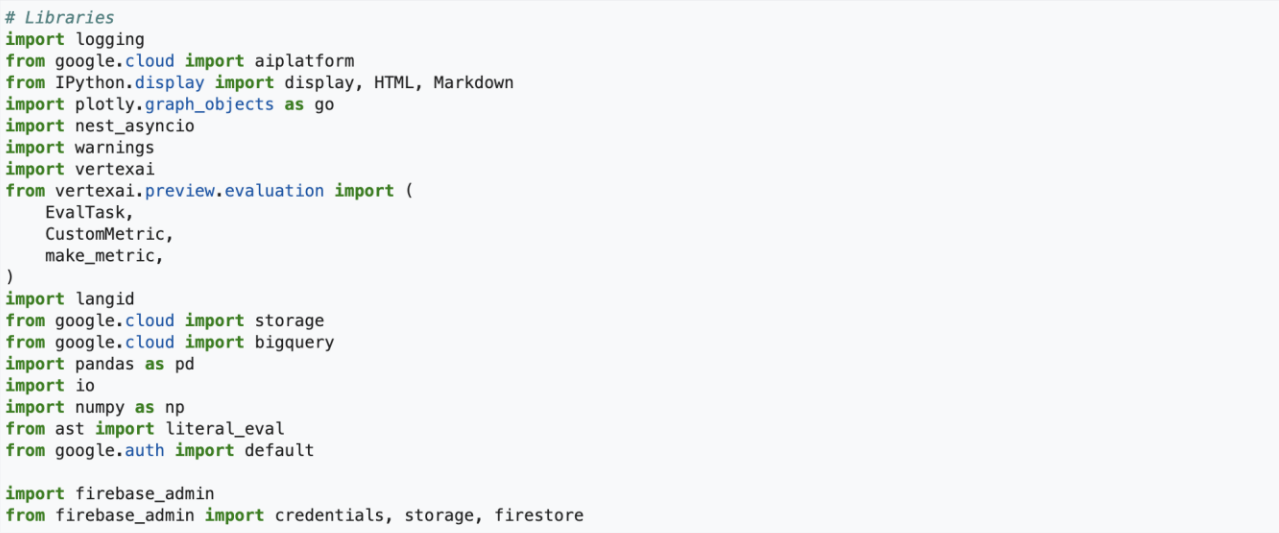
Note: link to reference form from ChatGPT https://openai.com/form/chat-model-feedback/

E - Webpage Feedback Detailed Form

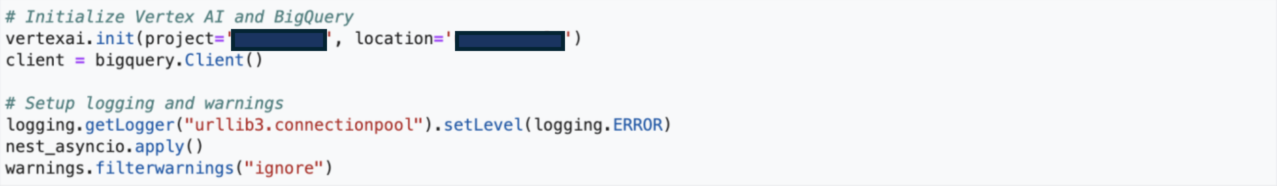
1. Email
2. System error message
3. What was your last action/navigation?
4. Why is the webpage not performing well?
   - The loading time is too long
   - The responding time is too long
   - The webpage does not generate any response
   - The webpage is not saving the conversation as a chat history
   - Other future function issues
   - Others
5. Please provide more details of the problems that you have encountered. For instance, if a certain legal question is not getting any responses.
6. Would you be interested in being contacted for further collaboration with our research team?
   - Yes
   - No
7. Is there anything else you'd like to share about your experience?

Note: the option with underline is being proposed and future implementation.

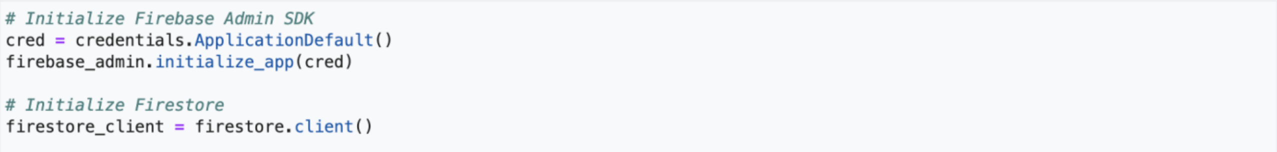
F - Initialization



```
# Libraries
import logging
from google.cloud import aiplatform
from IPython.display import display, HTML, Markdown
import plotly.graph_objects as go
import nest_asyncio
import warnings
import vertexai
from vertexai.preview.evaluation import (
    EvalTask,
    CustomMetric,
    make_metric,
)
import langid
from google.cloud import storage
from google.cloud import bigquery
import pandas as pd
import io
import numpy as np
from ast import literal_eval
from google.auth import default

import firebase_admin
from firebase_admin import credentials, storage, firestore
```



```
# Initialize Vertex AI and BigQuery
vertexai.init(project='[redacted]', location='[redacted]')
client = bigquery.Client()

# Setup logging and warnings
logging.getLogger("urllib3.connectionpool").setLevel(logging.ERROR)
nest_asyncio.apply()
warnings.filterwarnings("ignore")
```

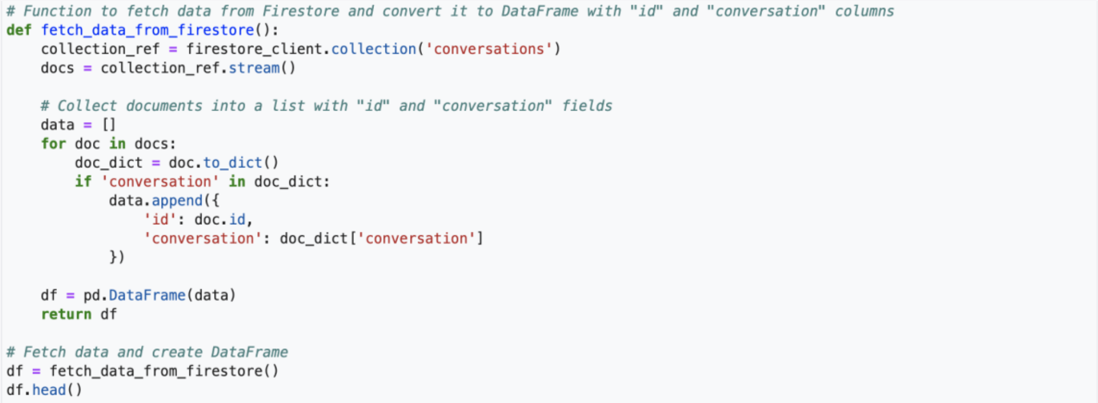


```
# Initialize Firebase Admin SDK
cred = credentials.ApplicationDefault()
firebase_admin.initialize_app(cred)

# Initialize Firestore
firestore_client = firestore.client()
```

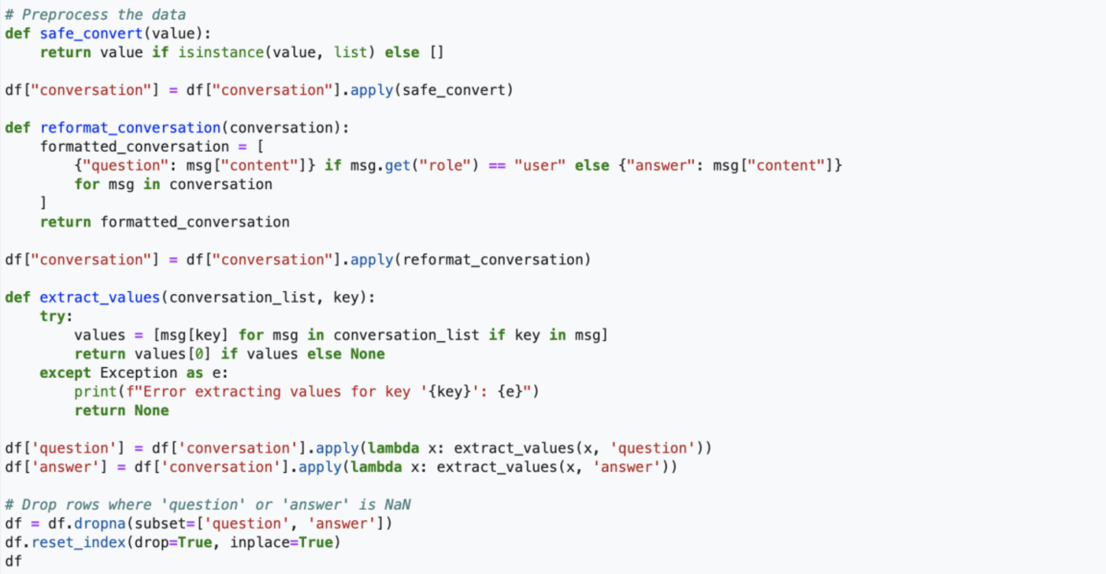
Note: the notebook is set up in client's Google Cloud with all the prerequisites installed.

1. SDK installation:
   - Google Cloud SDK: Ensure have the Google Cloud SDK is installed and configured on machine.
   - Python Packages: Install the required Python packages using pip.
2. Service Initialization and Configuration:
   - Google Cloud Platform (GCP) Setup:
     - Vertex AI: Initialize Vertex AI with project ID and location.
     - BigQuery: Ensure GCP project has BigQuery enabled and have access to it.
   - Firebase Setup:
     - Firebase Admin SDK: Initialize Firebase Admin SDK using application default credentials.
     - Firestore: Ensure Firestore is enabled in Firebase project.
     - Storage: Ensure Firebase Storage is enabled in Firebase project.

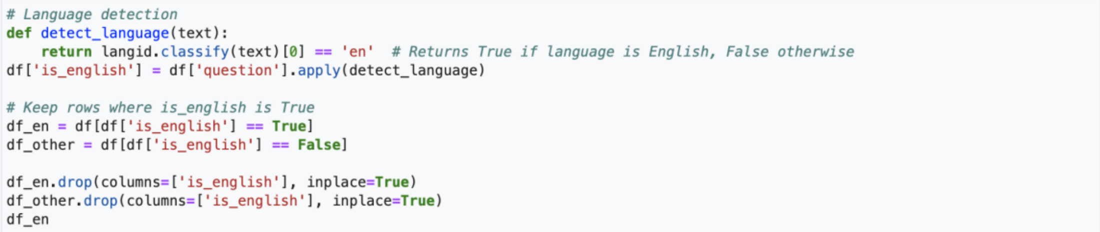
G - Data Preprocessing



```
# Function to fetch data from Firestore and convert it to DataFrame with "id" and "conversation" columns
def fetch_data_from_firestore():
    collection_ref = firestore_client.collection('conversations')
    docs = collection_ref.stream()

    # Collect documents into a list with "id" and "conversation" fields
    data = []
    for doc in docs:
        doc_dict = doc.to_dict()
        if 'conversation' in doc_dict:
            data.append({
                'id': doc.id,
                'conversation': doc_dict['conversation']
            })

    df = pd.DataFrame(data)
    return df

# Fetch data and create DataFrame
df = fetch_data_from_firestore()
df.head()
```



```
# Preprocess the data
def safe_convert(value):
    return value if isinstance(value, list) else []

df["conversation"] = df["conversation"].apply(safe_convert)

def reformat_conversation(conversation):
    formatted_conversation = [
        {"question": msg["content"]} if msg.get("role") == "user" else {"answer": msg["content"]}
        for msg in conversation
    ]
    return formatted_conversation

df["conversation"] = df["conversation"].apply(reformat_conversation)

def extract_values(conversation_list, key):
    try:
        values = [msg[key] for msg in conversation_list if key in msg]
        return values[0] if values else None
    except Exception as e:
        print(f"Error extracting values for key '{key}': {e}")
        return None

df['question'] = df['conversation'].apply(lambda x: extract_values(x, 'question'))
df['answer'] = df['conversation'].apply(lambda x: extract_values(x, 'answer'))

# Drop rows where 'question' or 'answer' is NaN
df = df.dropna(subset=['question', 'answer'])
df.reset_index(drop=True, inplace=True)
df
```



```
# Language detection
def detect_language(text):
    return langid.classify(text)[0] == 'en'  # Returns True if language is English, False otherwise
df['is_english'] = df['question'].apply(detect_language)

# Keep rows where is_english is True
df_en = df[df['is_english'] == True]
df_other = df[df['is_english'] == False]

df_en.drop(columns=['is_english'], inplace=True)
df_other.drop(columns=['is_english'], inplace=True)
df_en
```

1. Fetch the data from the Firestore "conversation" collection.
2. Reformat the "Conversation" column to a standard "question-answer" pair for future evaluation.
3. Seperate the "Conversation" column to two columns, "question" and "answer" each.
4. Since Vertex AI doesn't provide high accuracy with non English text, store the English conversation in a separate data frame and only evaluate those only.

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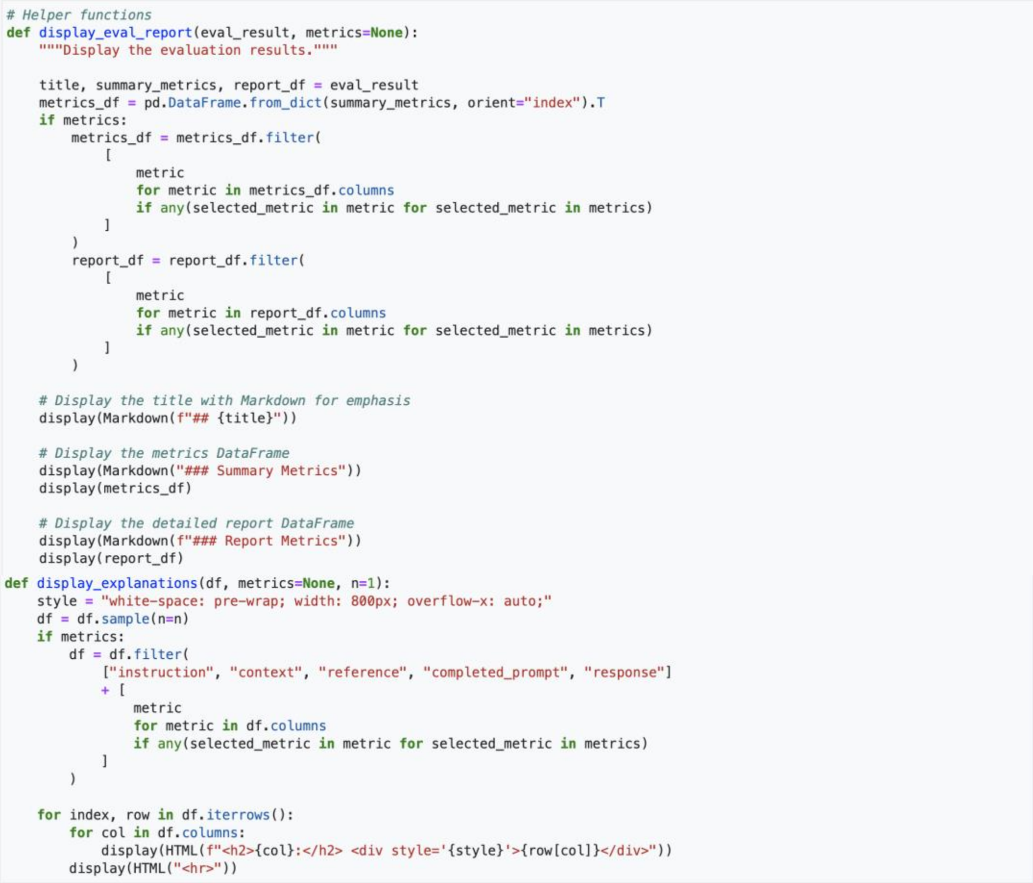
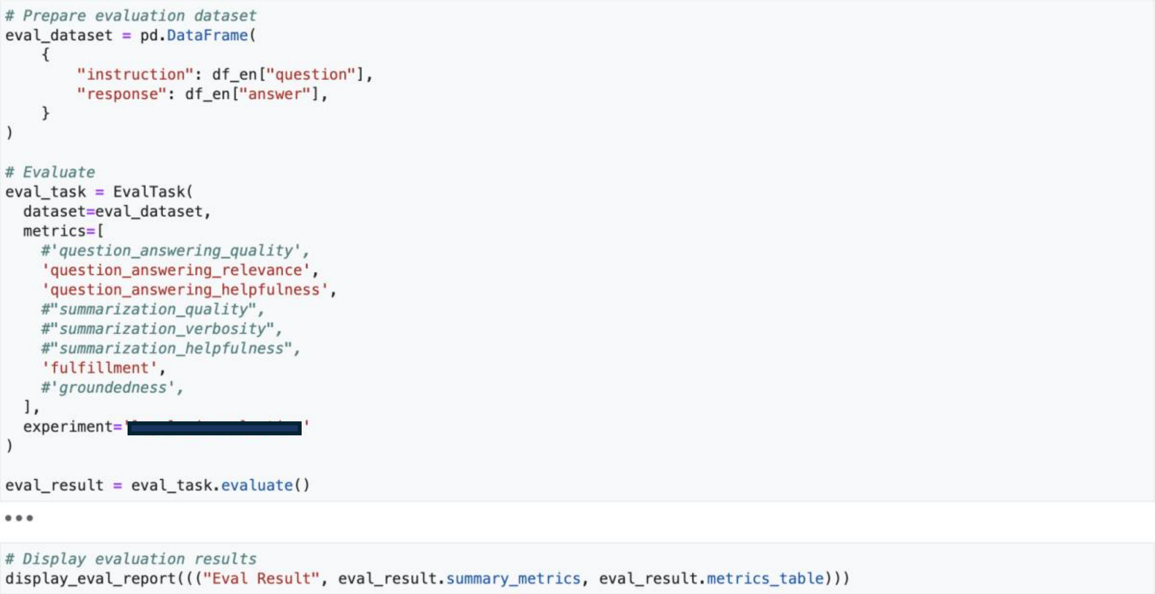
H - Evaluation



```python
# Helper functions
def display_eval_report(eval_result, metrics=None):
    """Display the evaluation results."""

    title, summary_metrics, report_df = eval_result
    metrics_df = pd.DataFrame.from_dict(summary_metrics, orient="index").T
    if metrics:
        metrics_df = metrics_df.filter(
            [
                metric
                for metric in metrics_df.columns
                if any(selected_metric in metric for selected_metric in metrics)
            ]
        )
        report_df = report_df.filter(
            [
                metric
                for metric in report_df.columns
                if any(selected_metric in metric for selected_metric in metrics)
            ]
        )

    # Display the title with Markdown for emphasis
    display(Markdown(f"## {title}"))

    # Display the metrics DataFrame
    display(Markdown("### Summary Metrics"))
    display(metrics_df)

    # Display the detailed report DataFrame
    display(Markdown(f"### Report Metrics"))
    display(report_df)
def display_explanations(df, metrics=None, n=1):
    style = "white-space: pre-wrap; width: 800px; overflow-x: auto;"
    df = df.sample(n=n)
    if metrics:
        df = df.filter(
            ["instruction", "context", "reference", "completed_prompt", "response"]
            + [
                metric
                for metric in df.columns
                if any(selected_metric in metric for selected_metric in metrics)
            ]
        )

    for index, row in df.iterrows():
        for col in df.columns:
            display(HTML(f"<h2>{col}:</h2> <div style='{style}'>{row[col]}</div>"))
        display(HTML("<hr>"))
```



```python
# Prepare evaluation dataset
eval_dataset = pd.DataFrame(
    {
        "instruction": df_en["question"],
        "response": df_en["answer"],
    }
)

# Evaluate
eval_task = EvalTask(
  dataset=eval_dataset,
  metrics=[
    #'question_answering_quality',
    'question_answering_relevance',
    'question_answering_helpfulness',
    #"summarization_quality",
    #"summarization_verbosity",
    #"summarization_helpfulness",
    'fulfillment',
    #'groundedness',
  ],
  experiment=[redacted]'
)

eval_result = eval_task.evaluate()
```

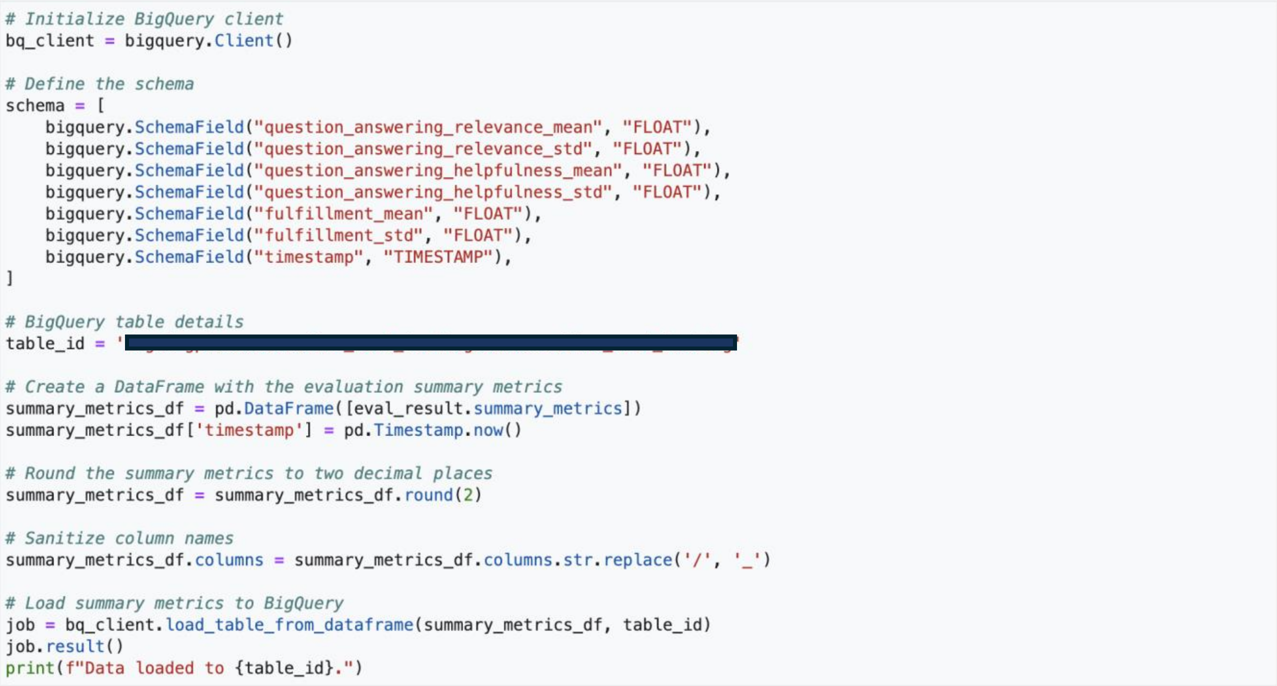
```
•••
```

```python
# Display evaluation results
display_eval_report((("Eval Result", eval_result.summary_metrics, eval_result.metrics_table)))
```

1. Two helper functions to display the evaluation report and example explanation.
2. Self-identified metrics (for now, only display those that can be done with only user questions and AI responses).

Note: link to the reference notebook from Google Vertex AI website https://colab.research.google.com/github/GoogleCloudPlatform/generative-ai/blob/main/gemini/evaluation/evaluate_rag_rapid_evaluation_sdk.ipynb#scrollTo=tdMpJnLKXvsk

I - BigQuery



```
# Initialize BigQuery client
bq_client = bigquery.Client()

# Define the schema
schema = [
    bigquery.SchemaField("question_answering_relevance_mean", "FLOAT"),
    bigquery.SchemaField("question_answering_relevance_std", "FLOAT"),
    bigquery.SchemaField("question_answering_helpfulness_mean", "FLOAT"),
    bigquery.SchemaField("question_answering_helpfulness_std", "FLOAT"),
    bigquery.SchemaField("fulfillment_mean", "FLOAT"),
    bigquery.SchemaField("fulfillment_std", "FLOAT"),
    bigquery.SchemaField("timestamp", "TIMESTAMP"),
]

# BigQuery table details
table_id = '[redacted]

# Create a DataFrame with the evaluation summary metrics
summary_metrics_df = pd.DataFrame([eval_result.summary_metrics])
summary_metrics_df['timestamp'] = pd.Timestamp.now()

# Round the summary metrics to two decimal places
summary_metrics_df = summary_metrics_df.round(2)

# Sanitize column names
summary_metrics_df.columns = summary_metrics_df.columns.str.replace('/', '_')

# Load summary metrics to BigQuery
job = bq_client.load_table_from_dataframe(summary_metrics_df, table_id)
job.result()
print(f"Data loaded to {table_id}.")
```

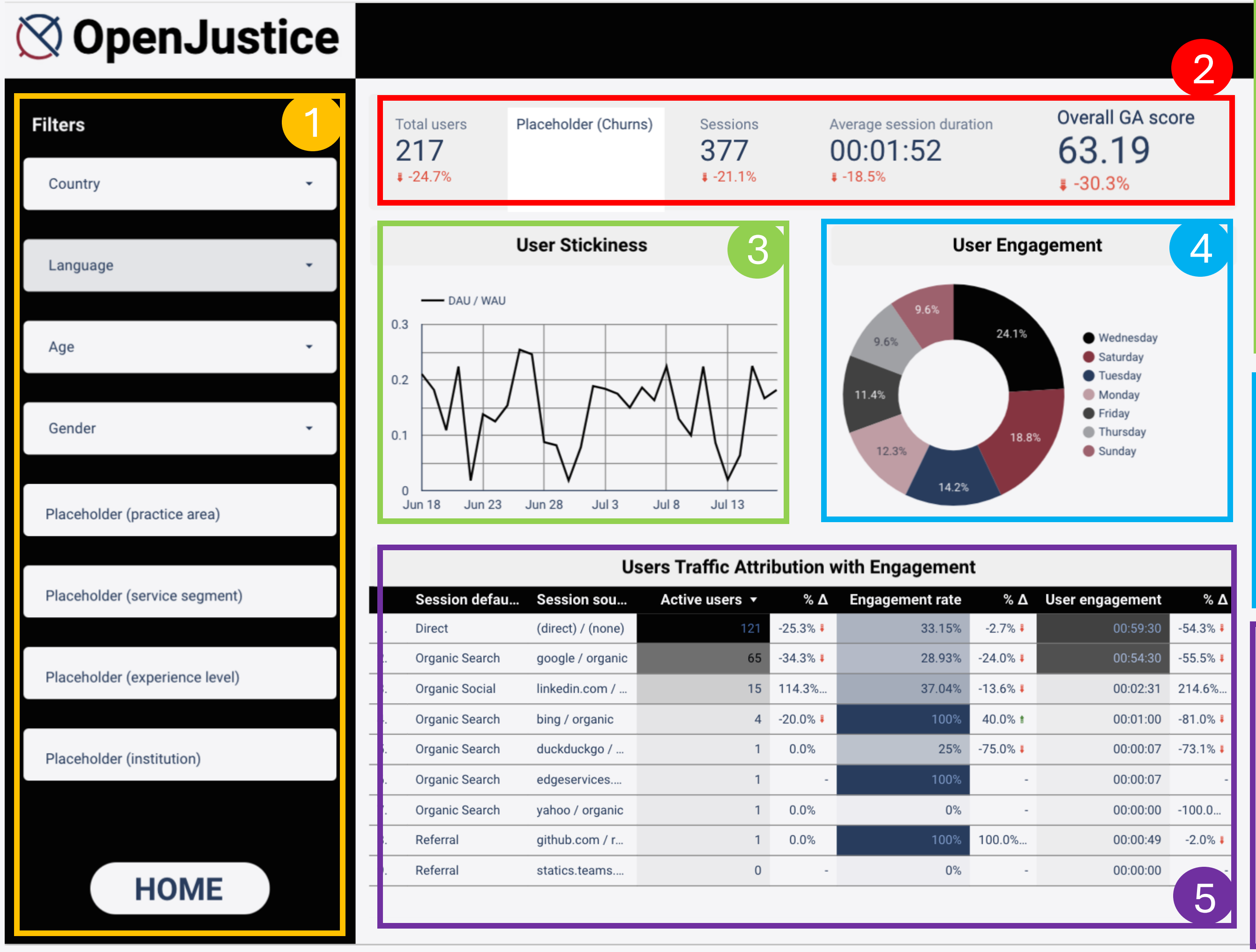
1. More metrics name can be added into "schema" later when they are evaluated.
2. Only load the summary metrics of the data file into BigQuery instead of each rows' result (so the dashboard will only display the average scores for the entire data).

J - Page 1 Overview

Scorecards:
Important metrics that contain data for the past 30 days with a comparison

Filters:
Including all types of segments.

1. Country and Language are currently available
2. Age and Gender don't have data stored
3. Other place holders are proposed to be included in the future



Total users	Placeholder (Churns)	Sessions	Average session duration	Overall GA score
217		377	00:01:52	63.19
↓ -24.7%		↓ -21.1%	↓ -18.5%	↓ -30.3%

Users Traffic Attribution with Engagement

Session defau...	Session sou...	Active users ▾	% Δ	Engagement rate	% Δ	User engagement	% Δ
Direct	(direct) / (none)	121	-25.3% ↓	33.15%	-2.7% ↓	00:59:30	-54.3% ↓
Organic Search	google / organic	65	-34.3% ↓	28.93%	-24.0% ↓	00:54:30	-55.5% ↓
Organic Social	linkedin.com / ...	15	114.3%...	37.04%	-13.6% ↓	00:02:31	214.6%...
Organic Search	bing / organic	4	-20.0% ↓	100%	40.0% ↑	00:01:00	-81.0% ↓
Organic Search	duckduckgo / ...	1	0.0%	25%	-75.0% ↓	00:00:07	-73.1% ↓
Organic Search	edgeservices....	1	-	100%	-	00:00:07	-
Organic Search	yahoo / organic	1	0.0%	0%	-	00:00:00	-100.0...
Referral	github.com / r...	1	0.0%	100%	100.0%...	00:00:49	-2.0% ↓
Referral	statics.teams....	0	-	0%	-	00:00:00	-

User stickiness over time:
DAU/WAU shows the percentage of users who engaged in the last 24 hours out of the users who engaged in the last 7 days. A higher ratio suggests good engagement and user retention

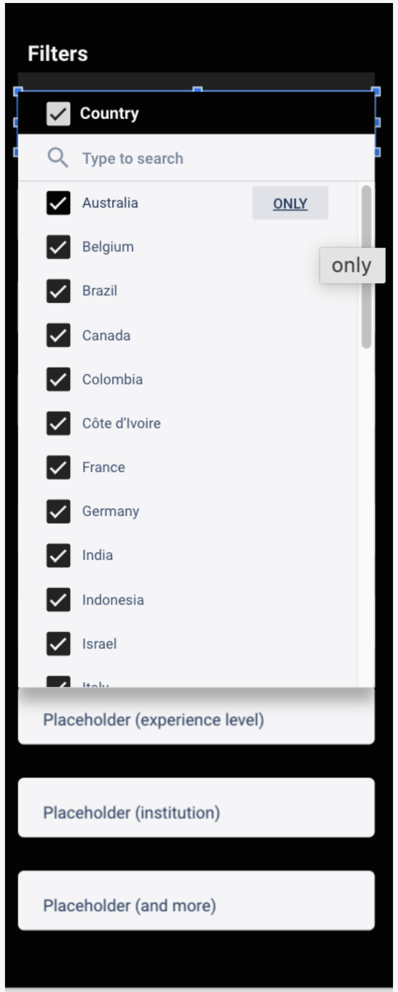
User engagement by days:
The amount of time users spend with the web page in focus in each day of the week to see the distributions

Traffic attribution for channels:
The breakdown of channel distribution for session traffic including the number of active users, engagement rate and time with comparisons with the past period

K - Page 1 Filters

To use:

1. Click on a certain filter to select the ones you want
2. Or to select the filter again to clear selections
3. Change the Placeholders by "Add a control -> Drop-down list" and change the "Control field", no Metric needed



Filters

☑ Country

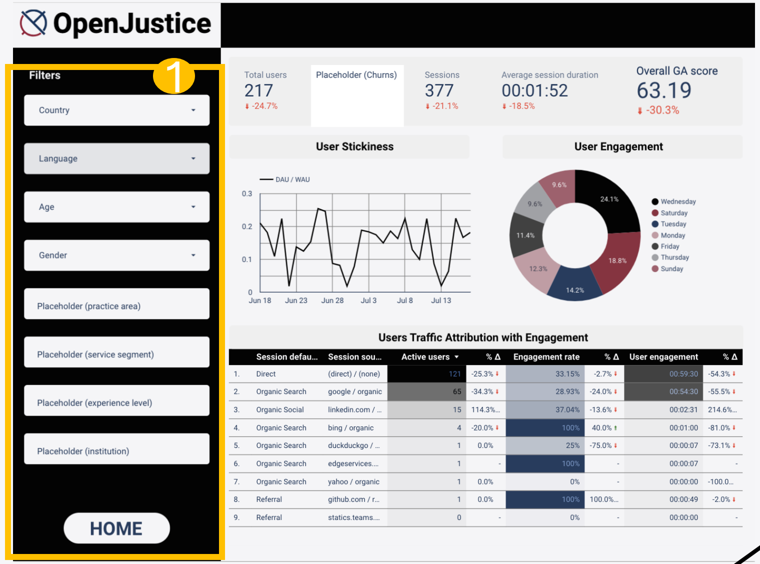
Type to search

- ☑ Australia ONLY
- ☑ Belgium
- ☑ Brazil
- ☑ Canada
- ☑ Colombia
- ☑ Côte d'Ivoire
- ☑ France
- ☑ Germany
- ☑ India
- ☑ Indonesia
- ☑ Israel
- ☑ Italy

Placeholder (experience level)

Placeholder (institution)

Placeholder (and more)



OpenJustice

Filters

- Country
- Language
- Age
- Gender
- Placeholder (practice area)
- Placeholder (service segment)
- Placeholder (experience level)
- Placeholder (institution)

HOME

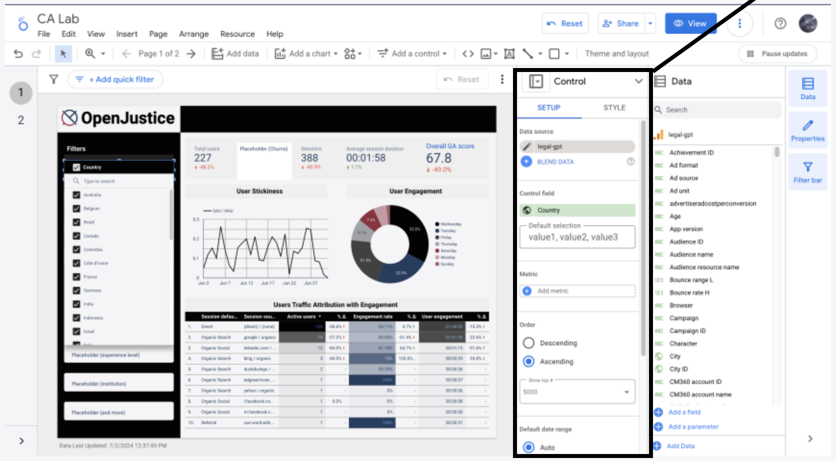
Total users	Placeholder (Churns)	Sessions	Average session duration	Overall GA score
217 -24.7%		377 -21.1%	00:01:52 -18.5%	63.19 -30.3%

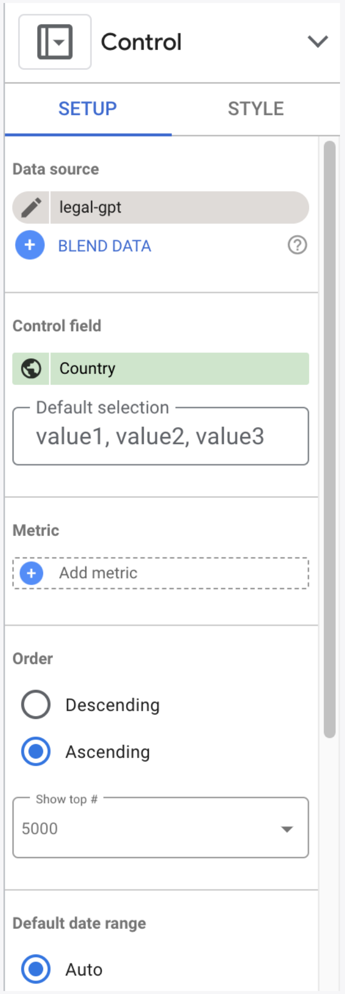
User Stickiness

User Engagement

Users Traffic Attribution with Engagement

	Session defau...	Session sou...	Active users ▾	% Δ	Engagement rate	% Δ	User engagement	% Δ
1.	Direct	(direct) / (none)	121	-25.3%	33.15%	-2.7%	00:59:30	-54.3%
2.	Organic Search	google / organic	65	-34.3%	28.93%	-24.0%	00:54:30	-55.5%
3.	Organic Social	linkedin.com / ...	15	114.3%...	37.04%	-13.6%	00:02:31	214.6%...
4.	Organic Search	bing / organic	4	-20.0%	100%	40.0%	00:01:00	-81.0%
5.	Organic Search	duckduckgo / ...	1	0.0%	25%	-75.0%	00:00:07	-73.1%
6.	Organic Search	edgeservices....	1	-	100%	-	00:00:07	-
7.	Organic Search	yahoo / organic	1	0.0%	0%	-	00:00:00	-100.0...
8.	Referral	github.com / r...	1	0.0%	100%	100.0%...	00:00:49	-2.0%
9.	Referral	statics.teams....	0	-	0%	-	00:00:00	-





Control

SETUP STYLE

Data source

legal-gpt

BLEND DATA

Control field

Country

Default selection: value1, value2, value3

Metric

Add metric

Order

○ Descending

● Ascending

Show top #: 5000

Default date range

● Auto

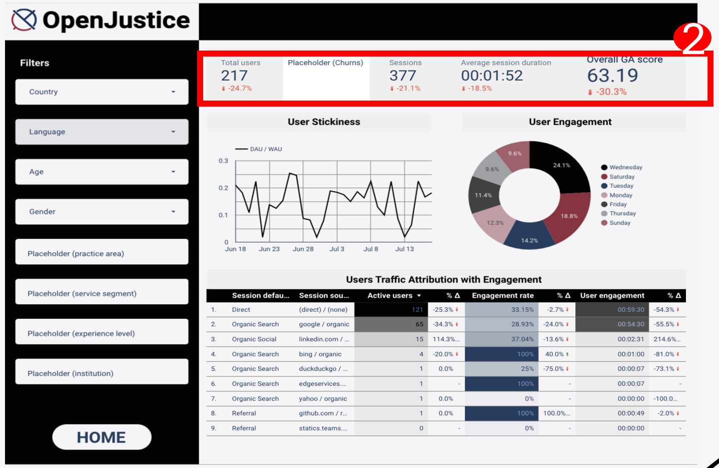
To edit: There will be a Control bar on the right that allows to make changes to the elements

OpenJustice

L - Page 1 Scorecards

1. Total users
2. Churn: number of users churning, and it can be used to calculate churn rate in the future (change the placeholder with a Scorecard by "Add a chart -> (1st) Scorecard" in the future)
3. Sessions: user interactions with the website that take place within a given time frame
4. Average session duration
5. Overall GA score: customized aggregation of several KPIs. Clicking on it will lead to the second page

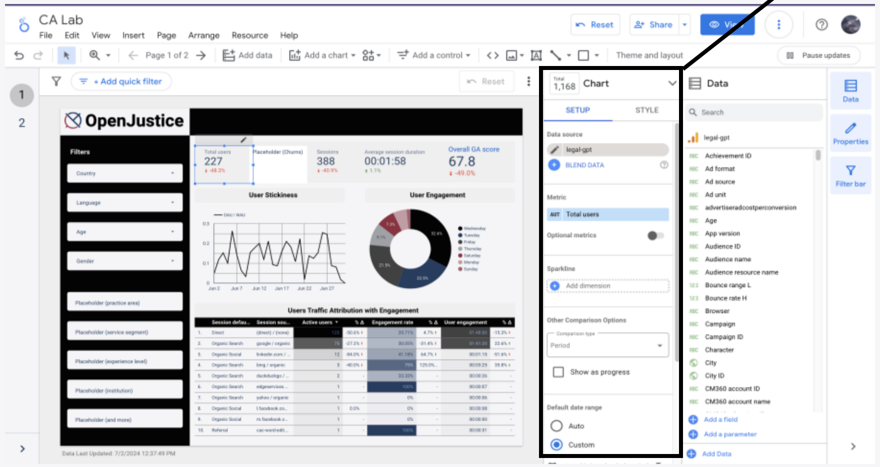
** All the values are now set to the last 30 days, and they can be changed.

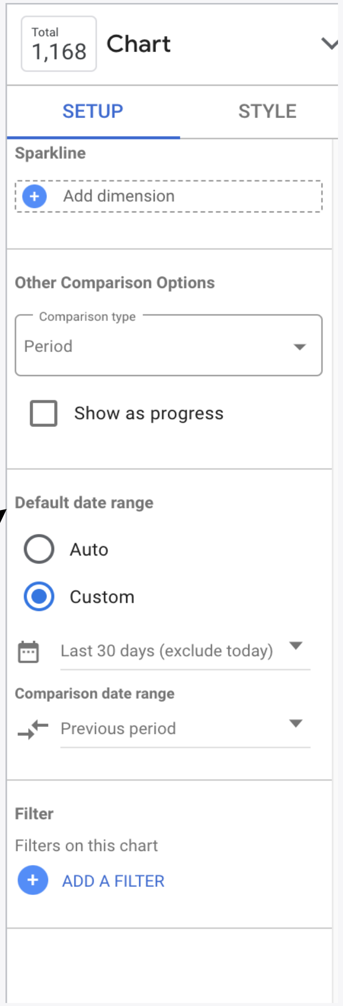


Total users	Placeholder (Churns)	Sessions	Average session duration	Overall GA score
217		377	00:01:52	63.19
-24.7%		-21.1%	-18.5%	-30.3%

Users Traffic Attribution with Engagement

	Session defau...	Session sou...	Active users ▾	% Δ	Engagement rate	% Δ	User engagement	% Δ
1.	Direct	(direct) / (none)	121	-25.3%	33.15%	-2.7%	00:59:30	-54.3%
2.	Organic Search	google / organic	65	-34.3%	28.93%	-24.0%	00:54:30	-55.5%
3.	Organic Social	linkedin.com / ...	15	114.3%...	37.04%	-13.6%	00:02:31	214.6%...
4.	Organic Search	bing / organic	4	-20.0%	100%	40.0%	00:01:00	-81.0%
5.	Organic Search	duckduckgo / ...	1	0.0%	25%	-75.0%	00:00:07	-73.1%
6.	Organic Search	edgeservices....	1	-	100%	-	00:00:07	-
7.	Organic Search	yahoo / organic	1	0.0%	0%	-	00:00:00	-100.0...
8.	Referral	github.com / r...	1	0.0%	100%	100.0%...	00:00:49	-2.0%
9.	Referral	statics.teams....	0	-	0%	-	00:00:00	-





Total 1,168 Chart

SETUP STYLE

Sparkline

- Add dimension

Other Comparison Options

Comparison type: Period

□ Show as progress

Default date range

○ Auto

● Custom

Last 30 days (exclude today)

Comparison date range

Previous period

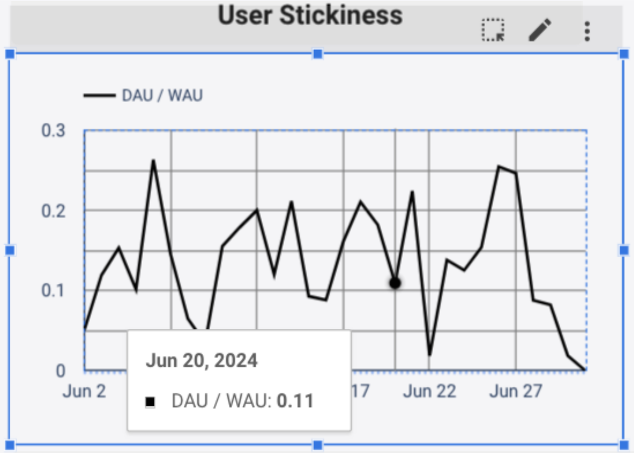
Filter

Filters on this chart

ADD A FILTER

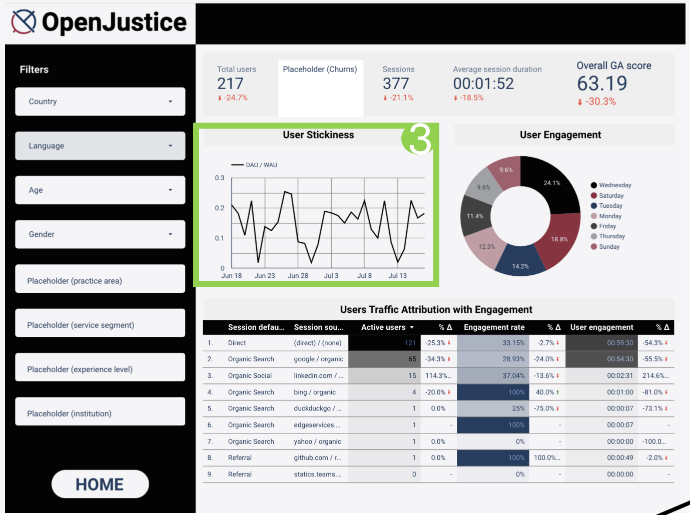
To edit:
Total user card as an example to change the time range, on the right Control bar, change "Default date range"

M - Page 1 Line Chart



Jun 20, 2024

■ DAU / WAU: 0.11



Total users 217 -24.7%

Placeholder (Churns)

Sessions 377 -21.1%

Average session duration 00:01:52 -18.5%

Overall GA score 63.19 -30.3%

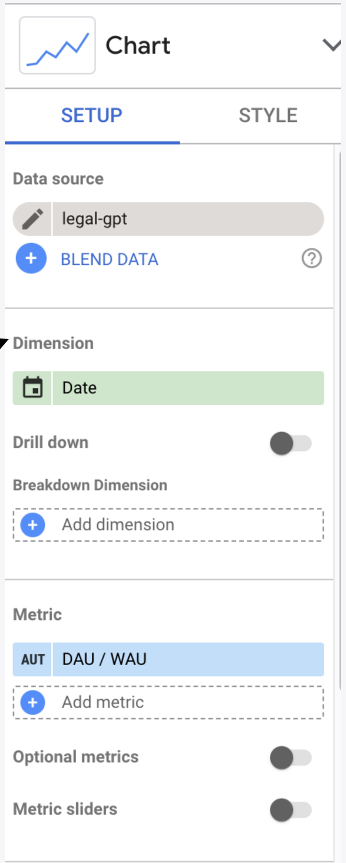
User Stickiness

User Engagement

Users Traffic Attribution with Engagement

	Session defau...	Session sou...	Active users ▾	% Δ	Engagement rate	% Δ	User engagement	% Δ
1.	Direct	(direct) / (none)	121	-25.3%	33.15%	-2.7%	00:59:30	-54.3%
2.	Organic Search	google / organic	65	-34.3%	28.93%	-24.0%	00:54:30	-55.5%
3.	Organic Social	linkedin.com / ...	15	114.3%...	37.04%	-13.6%	00:02:31	214.6%...
4.	Organic Search	bing / organic	4	-20.0%	100%	40.0%	00:01:00	-81.0%
5.	Organic Search	duckduckgo / ...	1	0.0%	25%	-75.0%	00:00:07	-73.1%
6.	Organic Search	edgeservices....	1	-	100%	-	00:00:07	-
7.	Organic Search	yahoo / organic	1	0.0%	0%	-	00:00:00	-100.0...
8.	Referral	github.com / r...	1	0.0%	100%	100.0%...	00:00:49	-2.0%
9.	Referral	statics.teams....	0	-	0%	-	00:00:00	-

** The time range is now set to the last 30 days, and they can be changed.



Data source: legal-gpt

Dimension: Date

Drill down

Breakdown Dimension

Metric: AUT DAU / WAU

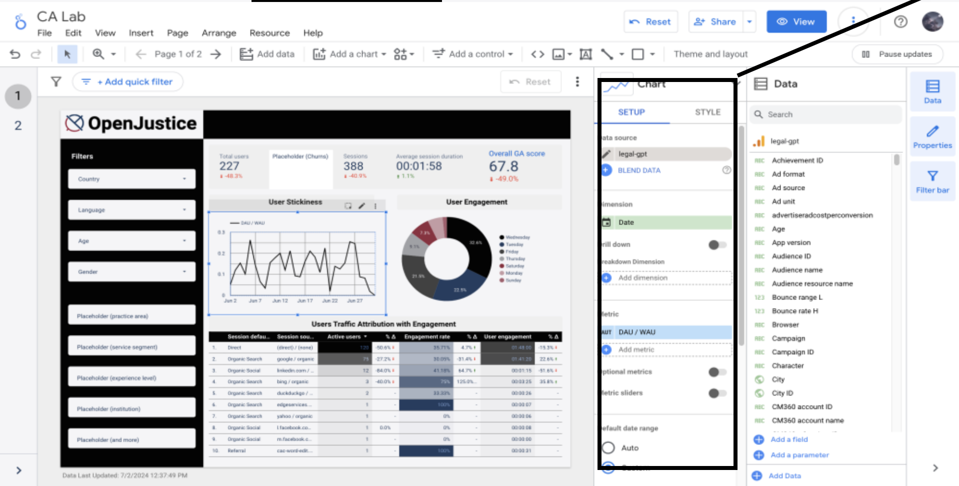
Optional metrics

Metric sliders

To edit:

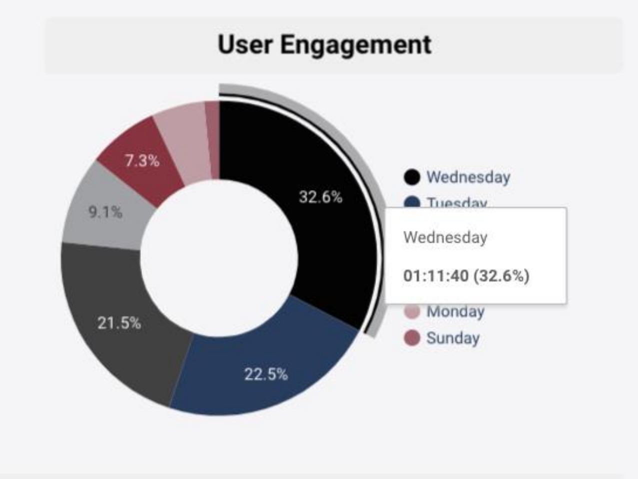
1. The same way to adjust time range on the right Control bar, change "Default date range"
2. Change "Dimension" to choose display date, month, and so on

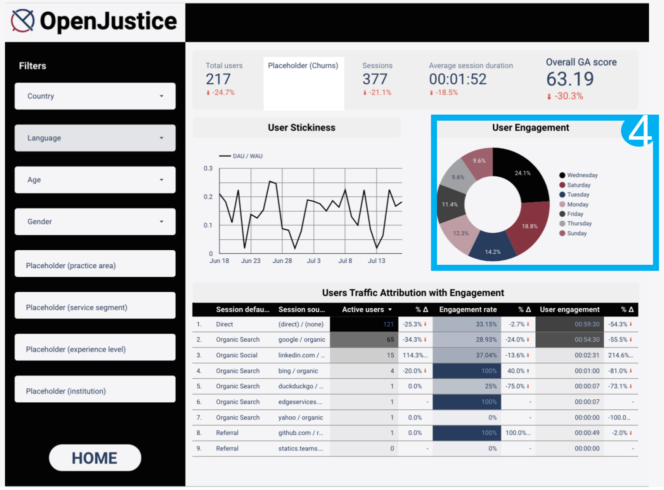
To use:
Move the mouse to a certain point will show the value of a certain date



Data Last Updated: 7/2/2024 12:37:49 PM

N - Page 1 Pie Chart



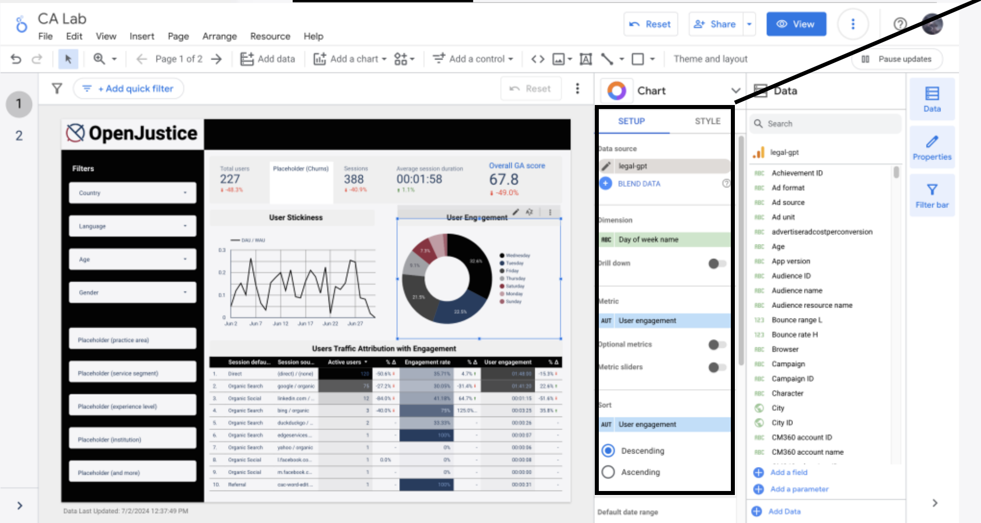


Total users	Placeholder (Churns)	Sessions	Average session duration	Overall GA score
217 -24.7%		377 -21.1%	00:01:52 -18.5%	63.19 -30.3%

Users Traffic Attribution with Engagement

	Session defau...	Session sou...	Active users ▾	% Δ	Engagement rate	% Δ	User engagement	% Δ
1.	Direct	(direct) / (none)	121	-25.3%	33.15%	-2.7%	00:59:30	-54.3%
2.	Organic Search	google / organic	65	-34.3%	28.93%	-24.0%	00:54:30	-55.5%
3.	Organic Social	linkedin.com / ...	15	114.3%...	37.04%	-13.6%	00:02:31	214.6%...
4.	Organic Search	bing / organic	4	-20.0%	100%	40.0%	00:01:00	-81.0%
5.	Organic Search	duckduckgo / ...	1	0.0%	25%	-75.0%	00:00:07	-73.1%
6.	Organic Search	edgeservices....	1	-	100%	-	00:00:07	-
7.	Organic Search	yahoo / organic	1	0.0%	0%	-	00:00:00	-100.0...
8.	Referral	github.com / r...	1	0.0%	100%	100.0%...	00:00:49	-2.0%
9.	Referral	statics.teams....	0	-	0%	-	00:00:00	-

** The time range is now set to the last 30 days, and they can be changed.

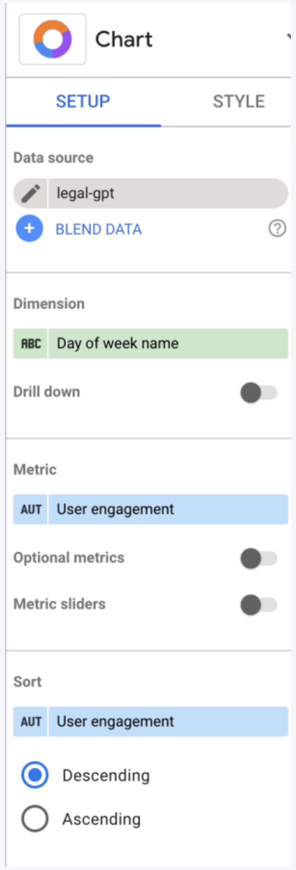


Total users	Placeholder (Churns)	Sessions	Average session duration	Overall GA score
227 -48.3%		388 -40.9%	00:01:58 1.1%	67.8 -49.0%

Users Traffic Attribution with Engagement

	Session defau...	Session sou...	Active users ▾	% Δ	Engagement rate	% Δ	User engagement	% Δ
1.	Direct	(direct) / (none)	120	-50.6%	35.71%	4.7%	01:48:00	-15.3%
2.	Organic Search	google / organic	75	-27.2%	30.05%	-31.4%	01:41:20	22.6%
3.	Organic Social	linkedin.com / ...	12	-84.0%	41.18%	64.7%	00:01:15	-51.6%
4.	Organic Search	bing / organic	3	-40.0%	75%	125.0%...	00:03:25	35.8%
5.	Organic Search	duckduckgo / ...	2	-	33.33%	-	00:00:26	-
6.	Organic Search	edgeservices....	1	-	100%	-	00:00:07	-
7.	Organic Search	yahoo / organic	1	-	0%	-	00:00:06	-
8.	Organic Social	l.facebook.co...	1	0.0%	0%	-	00:00:08	-
9.	Organic Social	m.facebook.c...	1	-	0%	-	00:00:00	-
10.	Referral	cac-word-edit...	1	-	100%	-	00:00:31	-

Data Last Updated: 7/2/2024 12:37:49 PM



Data source: legal-gpt

Dimension: Day of week name

Metric: User engagement

Sort: User engagement

● Descending

○ Ascending

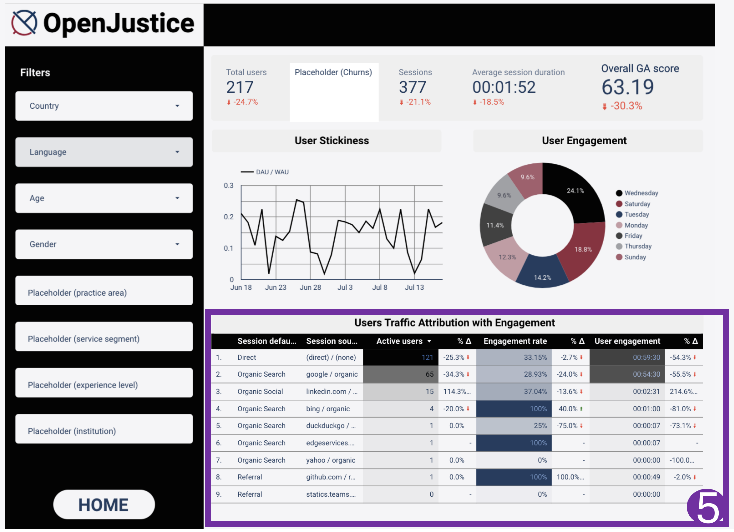
To use:
Move the mouse to a certain part will show the value of a certain day of the week

To edit:

1. The same way to adjust time range on the right Control bar, change "Default date range"
2. Change "Dimension" to choose to display the engagement time by different categories

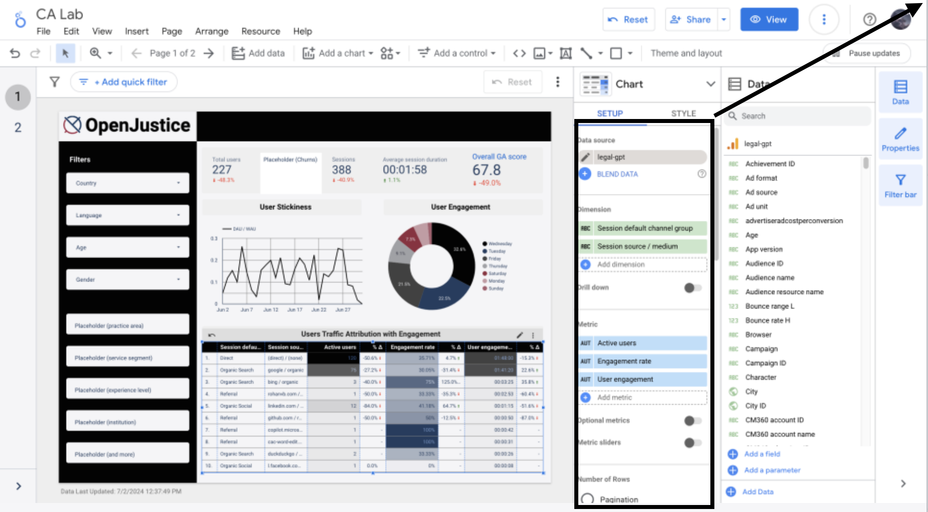
O - Page 1 Table

1. Session default channel group: the channels by which users arrived at the site when they initiated new sessions
2. Sessions source and medium: source is where the website's traffic comes from (individual websites, Google, Facebook etc). Medium is how it got there (organic traffic, paid traffic, referral etc), which can help understand where our users came from
3. Active users
4. Engagement rate: the percentage of engaged sessions
5. User engagement

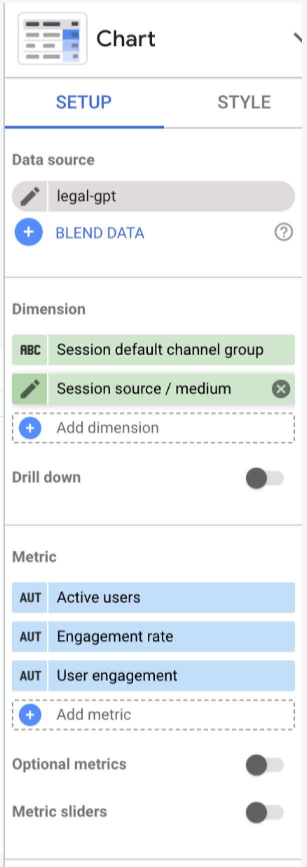


Users Traffic Attribution with Engagement

	Session defau...	Session sou...	Active users ▾	% Δ	Engagement rate	% Δ	User engagement	% Δ
1.	Direct	(direct) / (none)	121	-25.3%	33.15%	-2.7%	00:59:30	-54.3%
2.	Organic Search	google / organic	65	-34.3%	28.93%	-24.0%	00:54:30	-55.5%
3.	Organic Social	linkedin.com / ...	15	114.3%...	37.04%	-13.6%	00:02:31	214.6%...
4.	Organic Search	bing / organic	4	-20.0%	100%	40.0%	00:01:00	-81.0%
5.	Organic Search	duckduckgo / ...	1	0.0%	25%	-75.0%	00:00:07	-73.1%
6.	Organic Search	edgeservices....	1	-	100%	-	00:00:07	-
7.	Organic Search	yahoo / organic	1	0.0%	0%	-	00:00:00	-100.0...
8.	Referral	github.com / r...	1	0.0%	100%	100.0%...	00:00:49	-2.0%
9.	Referral	statics.teams....	0	-	0%	-	00:00:00	



** The time range is now set to the last 30 days, and they can be changed.



Data source: legal-gpt

Dimension:
- Session default channel group
- Session source / medium

Drill down

Metric:
- Active users
- Engagement rate
- User engagement

Optional metrics

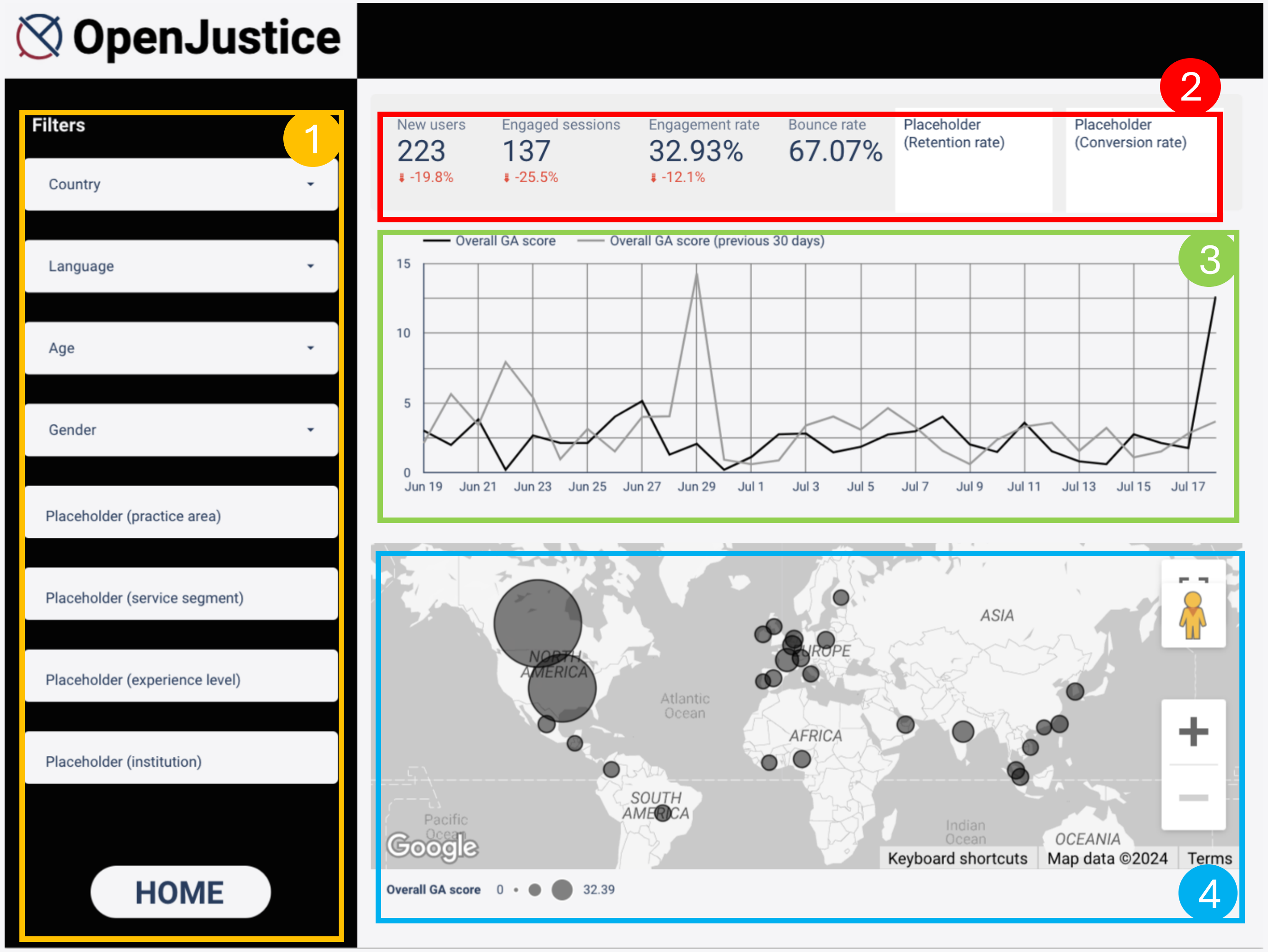
Metric sliders

To edit:

1. The same way to adjust time range on the right Contro l bar, change "Default date range"
2. Change what dimensions and metric to include

P - Page 2 Overview

Filters: The same filter as page 1



New users 223 -19.8%

Engaged sessions 137 -25.5%

Engagement rate 32.93% -12.1%

Bounce rate 67.07%

Placeholder (Retention rate)

Placeholder (Conversion rate)

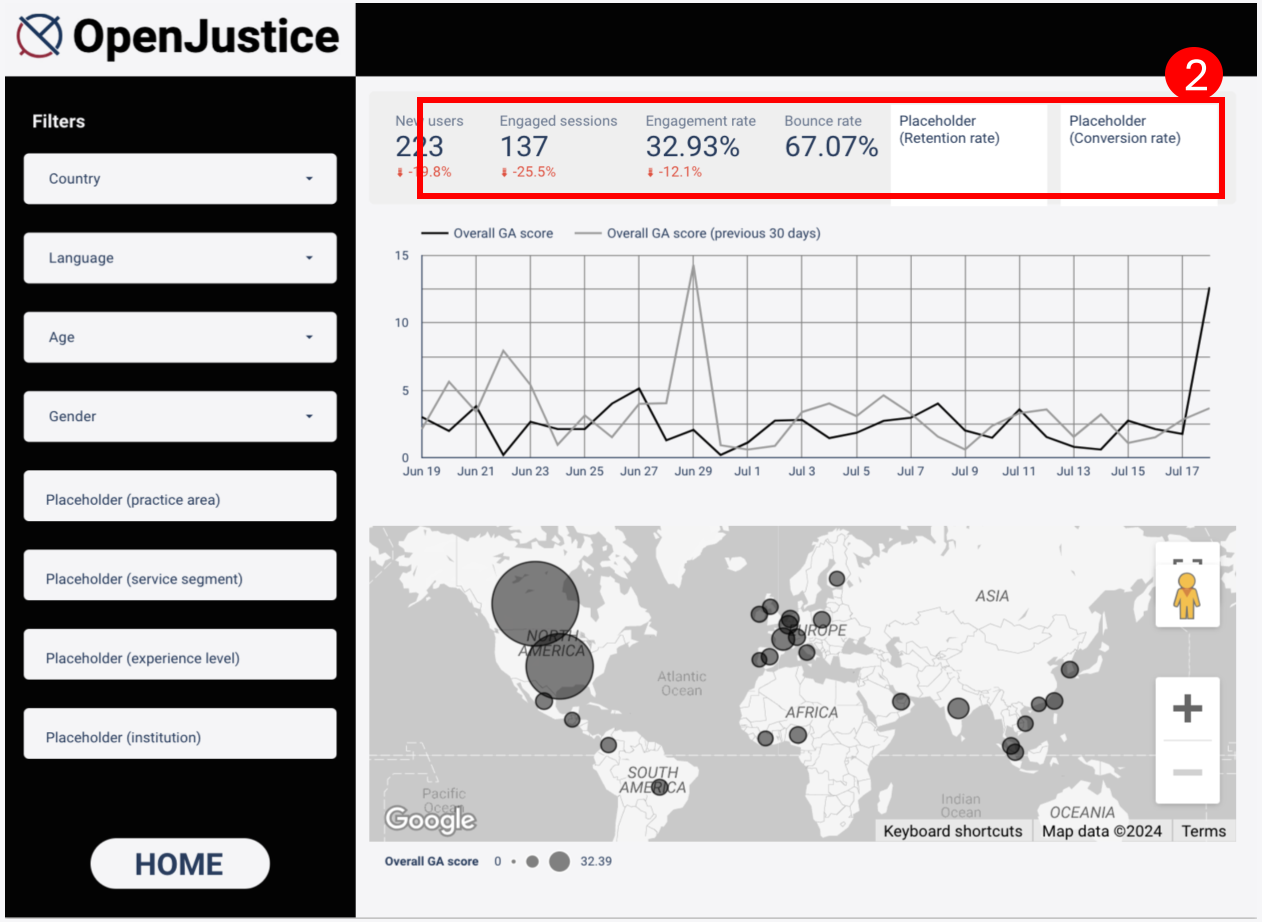
Scorecards:
Important KPIs used to calculate the Overall GA score, each contains data for the past 30 days with a comparison of the last period

Overall GA score over time:
Now, it uses 4 KPIs and weights of New users (20%), Engaged sessions (20%), Engagement rate (30%), and Bounce rate (30%) to calculate the score. The KPIs used and weights assigned can be changed

User maps:
The visualization of the user distribution geographically, and larger dot represents a higher density. The map will zoom in if a certain country is selected from the filter on the left

Q - Page 2 Scorecards

1. New users
2. Engaged sessions: a session that lasts longer than 10 seconds, has a key event**, or has at least 2 pageviews or screen views
3. Engagement rate
4. Bounce rate: the percentage of sessions that were not engaged
5. Retention rate: shows the percentage of users who return each day in their first 42 days
6. Conversion rate: the percentage of users who complete a desired action (e.g., sign up, make an engagement)

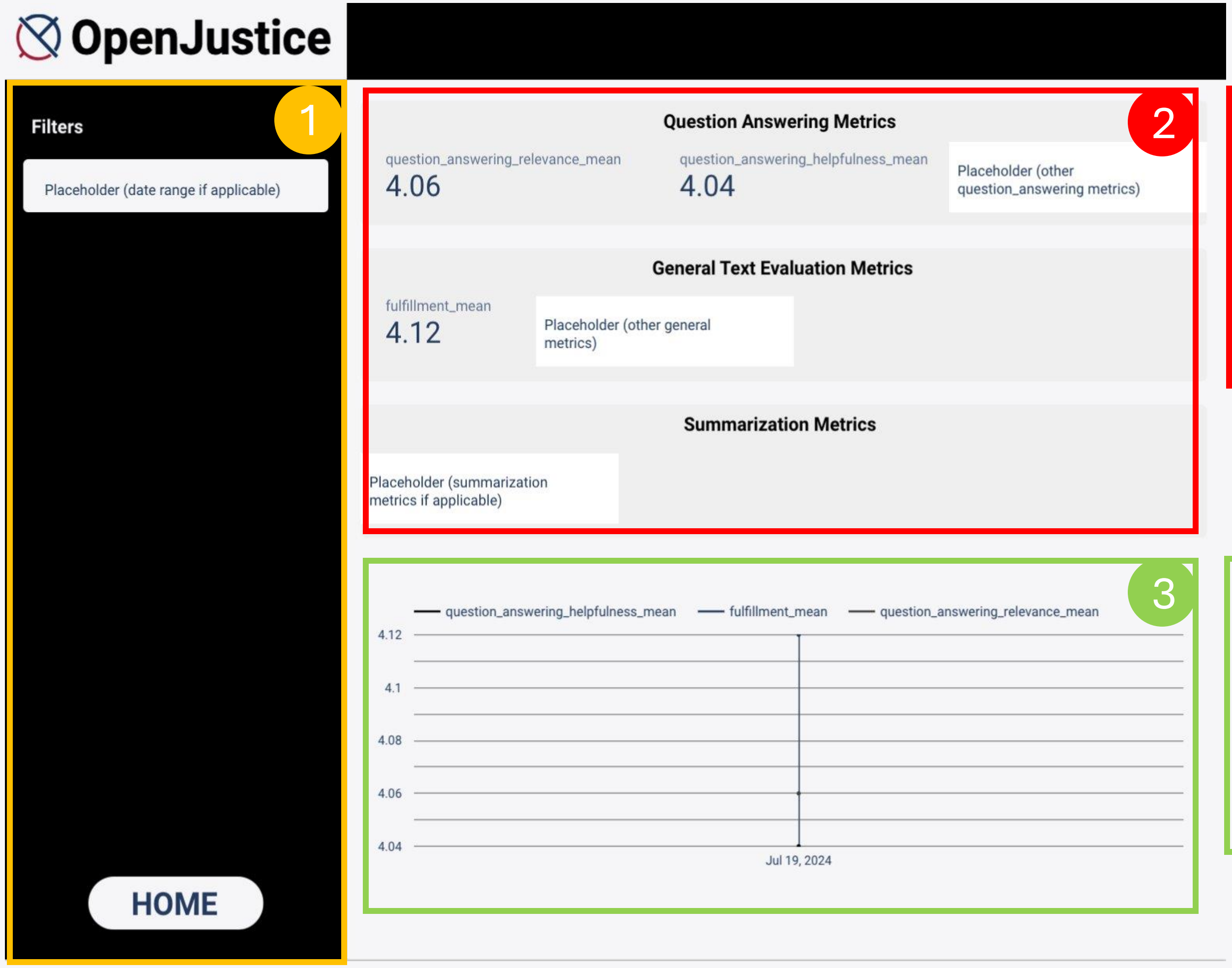


New users	Engaged sessions	Engagement rate	Bounce rate	Placeholder (Retention rate)	Placeholder (Conversion rate)
223	137	32.93%	67.07%		
-19.8%	-25.5%	-12.1%			

** A key event is an event that measures an action that's particularly important to the success of business

R - Page 3 Overview

Filters:
Since it is a starting point for evaluating the conversation data, this proof-of-concept dashboard doesn't have any applicable filters yet, but later implementation is available.



Filters

Placeholder (date range if applicable)

Question Answering Metrics

question_answering_relevance_mean
4.06

question_answering_helpfulness_mean
4.04

Placeholder (other question_answering metrics)

General Text Evaluation Metrics

fulfillment_mean
4.12

Placeholder (other general metrics)

Summarization Metrics

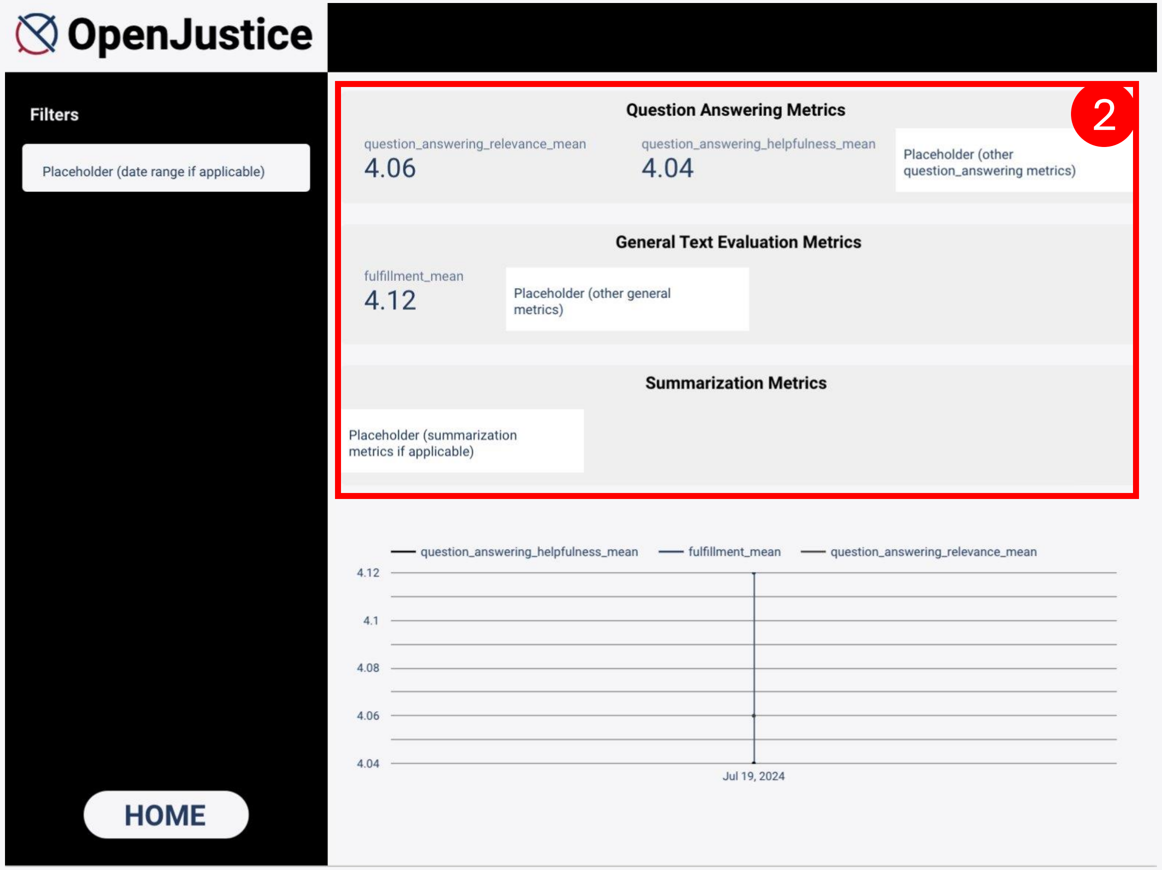
Placeholder (summarization metrics if applicable)

question_answering_helpfulness_mean
fulfillment_mean
question_answering_relevance_mean
4.12
4.1
4.08
4.06
4.04
Jul 19, 2024

Scorecards:
Important metrics from evaluation results, which display the average score.
Placeholders are
for later possible metrics to be added.

Line chart:
Allow users to see a trend of evaluation scores changing over time, only one evaluation is included for now as a starting point

S - Page 3 Scorecards



OpenJustice

Filters

Placeholder (date range if applicable)

Question Answering Metrics

question_answering_relevance_mean 4.06

question_answering_helpfulness_mean 4.04

Placeholder (other question_answering metrics)

General Text Evaluation Metrics

fulfillment_mean 4.12

Placeholder (other general metrics)

Summarization Metrics

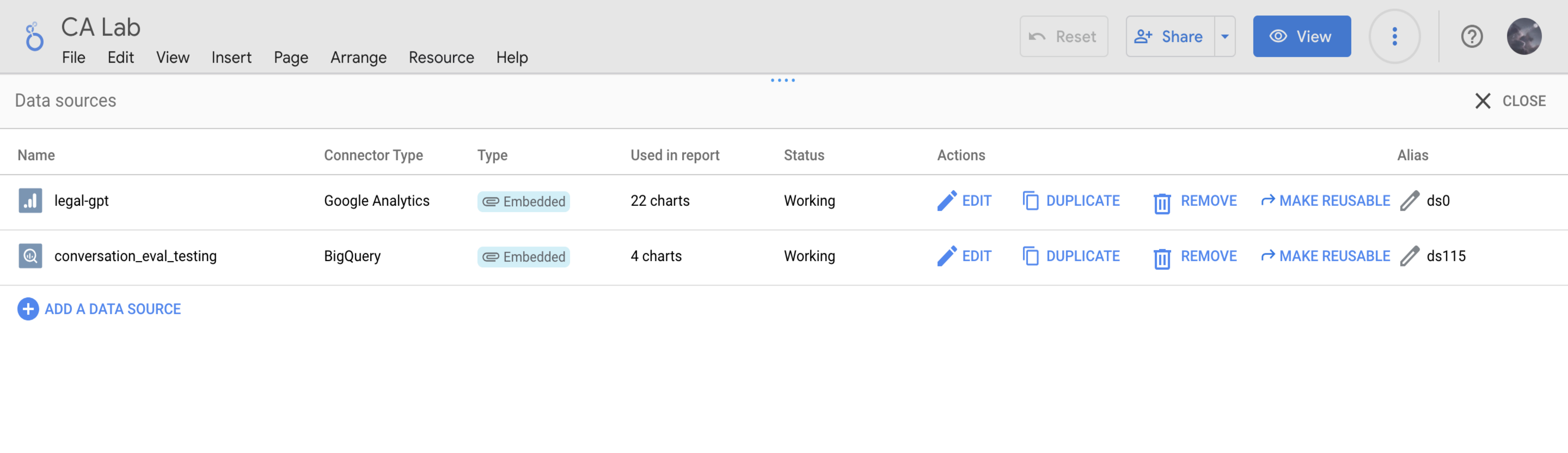
Placeholder (summarization metrics if applicable)

2
question_answering_helpfulness_mean
fulfillment_mean
question_answering_relevance_mean
4.12
4.1
4.08
4.06
4.04
Jul 19, 2024
HOME

Metrics (Vertex AI default): there are the metrics that can be implemented now or in the future, more data features needed

1. Question answering (main focus): to evaluate the model's ability to answer questions (partially available now)
   - question_answering_quality
   - QuestionAnsweringHelpfulness
   - QuestionAnsweringCorrectness
   - QuestionAnsweringRelevance
2. General text generation: to evaluate the model's ability to ensure the responses are useful, safe, and effective for your users (partially available now)
   - Bleu
   - Rouge
   - Coherence
   - Fluency
   - Groundedness
   - Fulfillment
3. Summarization: to evaluate model summarization (NOT applicable for now)
   - summarization_quality
   - summarization_helpfulness
   - summarization_verbosity

T - Different Data Sources



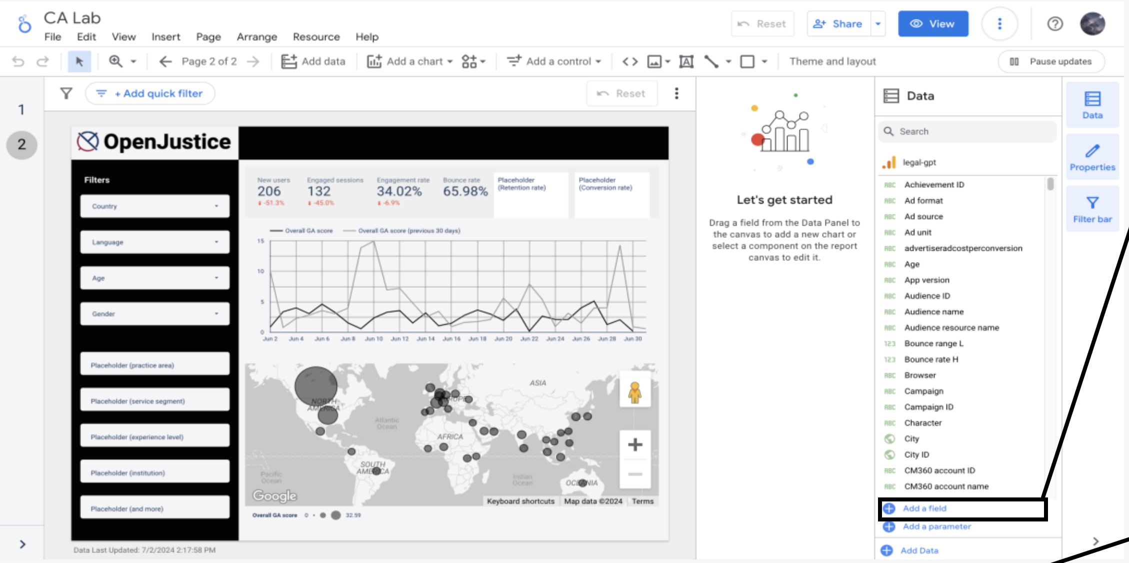
Name	Connector Type	Type	Used in report	Status	Actions	Alias
legal-gpt	Google Analytics	Embedded	22 charts	Working	EDIT DUPLICATE REMOVE MAKE REUSABLE	ds0
conversation_eval_testing	BigQuery	Embedded	4 charts	Working	EDIT DUPLICATE REMOVE MAKE REUSABLE	ds115

ADD A DATA SOURCE

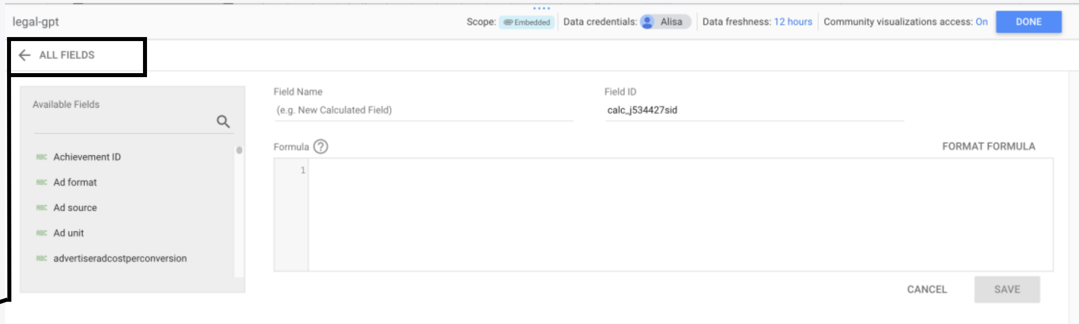
1. Resource -> Manage added data sources
2. This page will show the data sources that are connected to the dashboard (all data displayed are real-time values)
3. The BigQuery data can be modified from the notebook in Vertex AI:
   - Google Cloud -> Search "Vertex AI" -> workbench -> Open instance (START) -> Open Jupyter Notebook -> Run the notebook and a new row of evaluation results of all the conversation data in Firestore will be added with a new timestamp (Vertex AI, Firestore, and BigQuery are already initialized in the notebook)

OpenJustice

U - Creating New Field (e.g. Overall GA score)



On the right where displays the data source:
Add a field -> Add calculated field
After filling the Formula, click on SAVE and then DONE



legal-gpt Scope: Embedded Data credentials: Alisa Data freshness: 12 hours Community visualizations access: On DONE

← ALL FIELDS

Available Fields

- Achievement ID
- Ad format
- Ad source
- Ad unit
- advertiseradcostperconversion

Field Name: (e.g. New Calculated Field)

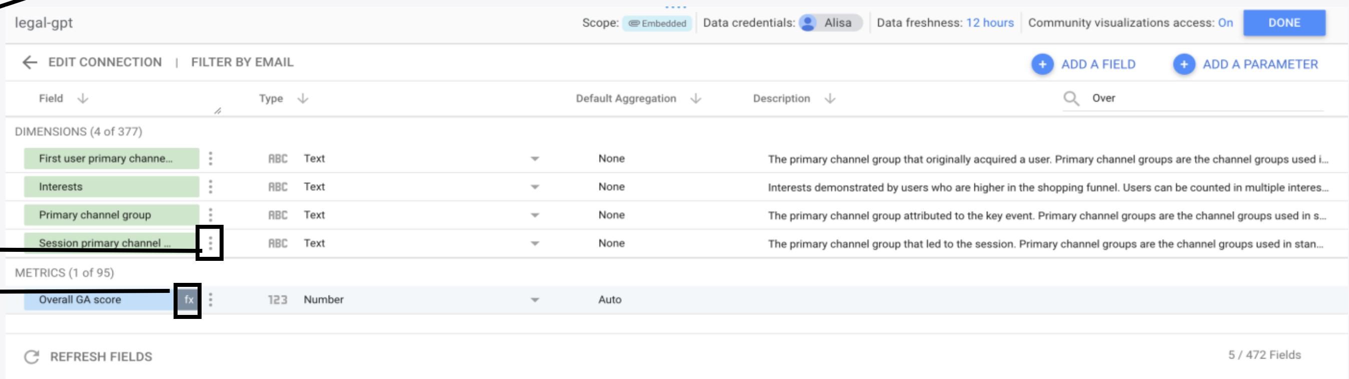
Field ID: calc_j534427sid

Formula FORMAT FORMULA

CANCEL SAVE

To modify, delete a Field:

1. Click on ALL FIELDS
2. Search the Field we want to change
3. Click the dots on the right to remove it
4. Click on the fx to modify the formula



legal-gpt Scope: Embedded Data credentials: Alisa Data freshness: 12 hours Community visualizations access: On DONE

← EDIT CONNECTION | FILTER BY EMAIL ADD A FIELD ADD A PARAMETER

Field	Type	Default Aggregation	Description
DIMENSIONS (4 of 377)			
First user primary channe...	ABC Text	None	The primary channel group that originally acquired a user. Primary channel groups are the channel groups used i...
Interests	ABC Text	None	Interests demonstrated by users who are higher in the shopping funnel. Users can be counted in multiple interes...
Primary channel group	ABC Text	None	The primary channel group attributed to the key event. Primary channel groups are the channel groups used in s...
Session primary channel ...	ABC Text	None	The primary channel group that led to the session. Primary channel groups are the channel groups used in stan...
METRICS (1 of 95)			
Overall GA score fx	123 Number	Auto	

Search: Over

REFRESH FIELDS 5 / 472 Fields