Accenture North America Data Analytics and Visualization Job Simulation on Forage – October 2023

First up, why has Accenture built this program?
The recruitment team at Accenture has created this program to educate and identify great candidates.

Here are some key facts about this program:

- You are working as a Data Analyst at Accenture.
- You work within a larger team, where each member has a different role and level of responsibility.
- Your team has been assigned a new project for a client called **Social Buzz.**
- You're hoping for a promotion at work, and this is an exciting opportunity for you to showcase your data analysis and visualization skills.

As a Data Analyst at Accenture, you'll get to work across a range of different clients and projects. This keeps things interesting, as there are always new problems to solve and new topics to learn about. However, our clients often want accurate results in a tight timeframe. The pace of work is fast and you'll need to get up to speed on new projects as quickly as possible.

Task 1

Read the brief from Social Buzz

One of Accenture's Managing Directors, Mae Mulligan, is the client lead for Social Buzz. She has reviewed the brief provided by Social Buzz and has assembled a diverse team of Accenture experts to deliver the project. Mae has scheduled a project kick off call with the internal Accenture project team for tomorrow morning. Ahead of the call, Mae has shared the project brief so you can get up to speed on what Social Buzz need help with.

Read the brief to:

- Understand the client and business problem at hand.
- Identify the requirements that need to be delivered for this project.
- Identify which tasks you should focus on as a Data Analyst.

Brief: Client name: **Social Buzz**

Client industry: Social–media & content creation

Year established: 2010

Location of HQ: San Francisco

Number of employees: 250

Background: Social Buzz was founded by two former engineers from a large social media conglomerate, one from London and the other from San Francisco. They left in 2008 and both met in San Francisco to start their business. They started Social Buzz because they saw an opportunity to build on the foundation that their previous company started by creating a new platform where content took centre stage. Social Buzz emphasizes content by keeping all users anonymous, only tracking user reactions on every piece of content. There are over 100 ways that users can react to content, spanning beyond the traditional reactions of likes, dislikes, and comments. This ensures that trending content, as opposed to individual users, is at the forefront of user feeds. Over the past 5 years, Social Buzz has reached over 500 million active users each month. They have scaled quicker than anticipated and need the help of an advisory firm to oversee their scaling process effectively. Due to their rapid growth and digital nature of their core product, the amount of data that they create, collect and must analyze is huge. Every day over 100,000 pieces of content, ranging from text, images, videos and GIFs are posted. All of this data is highly unstructured and requires extremely sophisticated and expensive technology to manage and maintain. Out of the 250 people working at Social Buzz, 200 of them are technical staff working on maintaining this highly complex technology. Up until this point, they have not relied on any third-party firms to help them get to where they are. However, there are 3 main reasons why they are now looking at bringing in external expertise: 1) They are looking to complete an IPO by the end of next year and need guidance to ensure that this goes smoothly. 2) They are still a small company and do not have the resources to manage the scale that they are currently at. They could hire more people, but they want an experienced practice to help instead. 3) They want to learn data best practices from a large corporation. Due to the nature of their business, they have a massive amount of data so they are keen on understanding how the world's biggest companies manage the challenges of big data. To start our engagement with Social Buzz, we are running a 3 month initial project in order to prove to them that we are the best firm to work with. They are expecting the following: – An audit of their big data practice – Recommendations for a successful IPO – An analysis of their content categories that highlights the top 5 categories with the largest aggregate popularity

Tasks to be delegated:

- Creation of an up-to-date big data best practices presentation
- Extraction of sample data sets using SQL
- On-site audit of their data-centre
- merging of sample data set tables
- Virtual session with Social Buzz team to present previous client success stories relevant to them
- Preparation of best practice document for IPO
- Loading of sample data sets into Accenture sandbox database

- Technology architecture workshop with Social Buzz Data Team to understand their technology landscape
- Stress testing of their technology to identify weak spots –
- Communication with previous IPO companies within our client base for reference stories –
- Analysis of sample data sets with visualizations
- Full documentation of the process that we can guide them through for IPO

The team delegated for this study
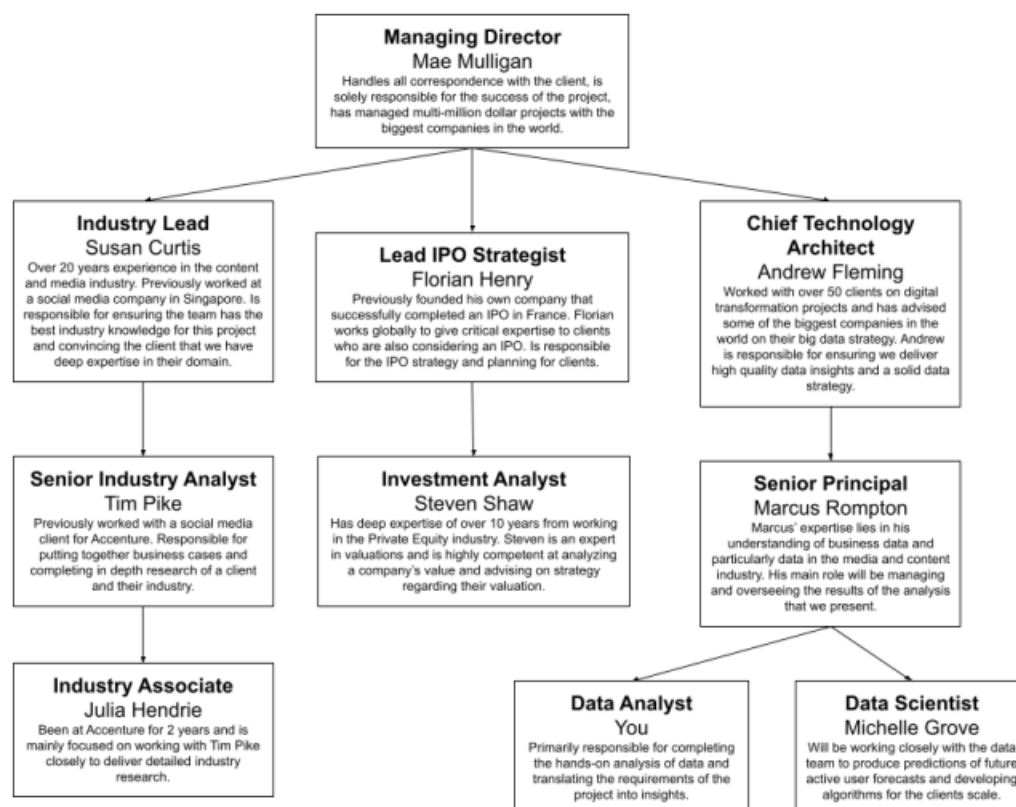
Let's dive into the data

So, let's have a look at what data you have to work with. The client has sent through:

- **3 data sets** – each data set contains different columns and values
- **A data model** – this shows the relationships between all of the data sets, as well as any links that you can use to merge tables.
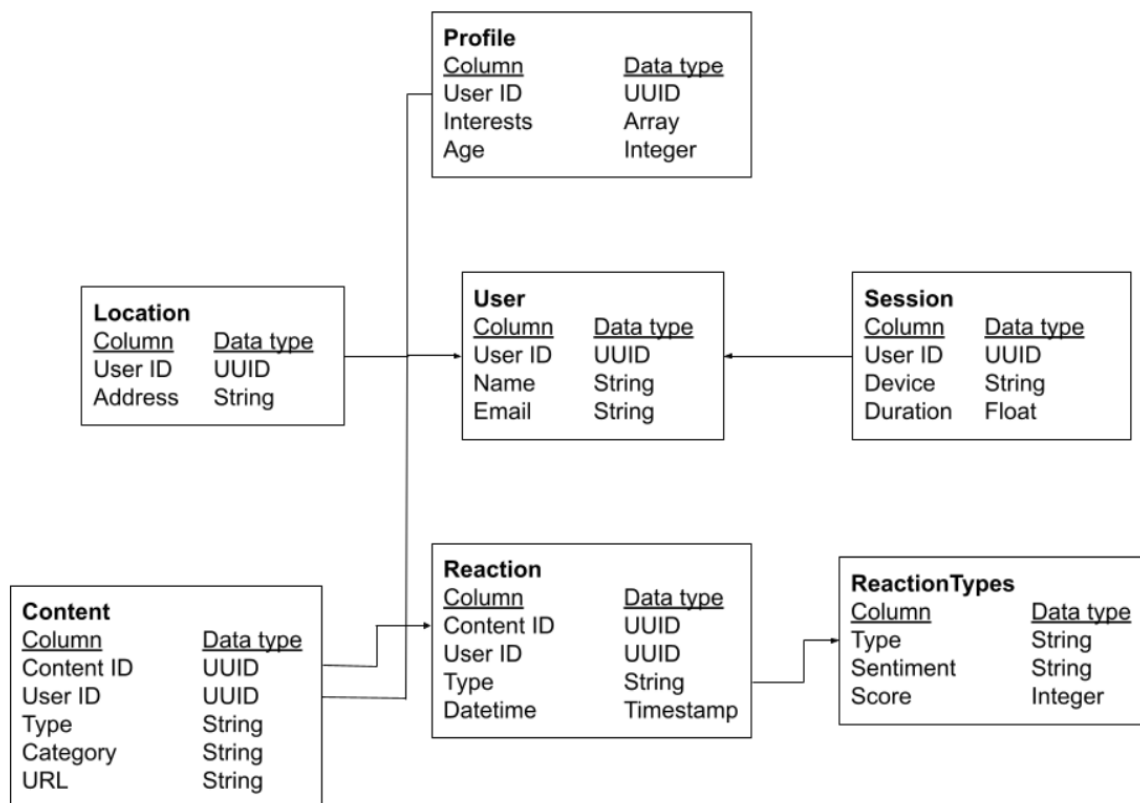
There is a lot of information here and it's easy to get lost in the data. So, to make sure you are using the right data to answer the business questions you'll follow these steps:

1. Requirements gathering
2. Data cleaning
3. Data modelling

Datasets:

1. Reaction
2. Content
3. Reactiontypes

Data model as given

Profile

Column	Data type
User ID	UUID
Interests	Array
Age	Integer

Location

Column	Data type
User ID	UUID
Address	String

User

Column	Data type
User ID	UUID
Name	String
Email	String

Session

Column	Data type
User ID	UUID
Device	String
Duration	Float

Content

Column	Data type
Content ID	UUID
User ID	UUID
Type	String
Category	String
URL	String

Reaction

Column	Data type
Content ID	UUID
User ID	UUID
Type	String
Datetime	Timestamp

ReactionTypes

Column	Data type
Type	String
Sentiment	String
Score	Integer

Task 2

Data Cleaning is a common and very important task when working with data.
What you need to do:

Clean the data by:

- removing rows that have values which are missing,

- changing the data type of some values within a column, and
- removing columns which are not relevant to this task.
- Think about how each column might be relevant to the business question you're investigating. If you can't think of why a column may be useful, it may not be worth including it.

Tools used:

MySQL and PowerQuery

Your end result should be three cleaned data sets.

Task 3

Data Modelling

Now we want to figure out the top 5 categories. To complete your data modelling, follow these steps:

1. Create a final data set by merging your three tables together

- We recommend using the Reaction table as your base table, then first join the relevant columns from your Content data set, and then the Reaction Types data set.

2. Figure out the Top 5 performing categories

- Add up the total scores for each category.
- Hint: You can use the "Sum If" formula(if using excel)

Tools used:

- MySQL

Task 4

Make a presentation to show your insights by populating slides 7 – 10 with your data insights. For each slide, think about:

- Agenda – What will your presentation cover?
- Project Recap – What are the key points from the brief?
- Problem – What is the problem that you answer in this presentation?
- The Analytics team – Who is on your team?

- As a reminder from the earlier task – this includes: Andrew Fleming (Chief Technical Architect), Marcus Rompton (Senior Principle), and yourself!
- Process – How did you complete your analysis?

We know that the client wants to understand the top 5 content categories. Have a think about what are the best ways to present this? In a pie chart? In a bar chart?

There are also some other interesting insights that we might want to share with them. For example:

- How many unique categories are there?
- How many reactions are there to the most popular category?
- What was the month with the most posts?

Tools used:

PowerPoint Presentation

SUMARY

Tasks undertaken:

- Completed a simulation focused on advising a hypothetical social media client as a Data Analyst at Accenture
- Cleaned, modelled and analyzed 7 datasets to uncover insights into content trends to inform strategic decisions
- Prepared a PowerPoint deck and video presentation to communicate key insights for the client and internal stakeholders

What did I learn?

- What are the responsibilities of a Data Analyst at Accenture
- What is a typical project team structure
- How to review a client project brief
- How to clean, model and analyze data to create valuable insights for the client
- How to connect the business and the data, and how to communicate relevant and engaging insights in a presentation
- How to prepare for and present insights to a client in a presentation

Skills learned:

- Calculating measures
- Defining KPIs
- Insight and Actions
- Power BI dashboard
- Self-reflection

Certificate of completion: