Report on HNG Hire Data Model, Implementation and Dashboard

Introduction

The task involved developing a data model for HNG Hire, implementing the model in MySQL, and using the data to create a dashboard for visualizing hiring statistics. The aim is to track various aspects of the hiring process, including candidate availability, application statuses, recruiter activities, and company locations. This report details the design and implementation of the data model, the data insertion process, and the creation of a dashboard using Looker to display key hiring metrics.

Data Model Design

The data model was designed to capture essential aspects of the hiring process, including candidate information, company details, job postings, applications, and the status of each stage of the recruitment process. The key tables created in the model are:

Key Entities and Relationships:

- **Candidates**: Represents job seekers with attributes like FullName, Email, PhoneNumber, LocationID, StackID, ExperienceLevel, CurrentStatus, and CareerGoals.
- **Job Postings**: Contains details of job openings such as PositionTitle, StackID, LocationID, PostedDateID, and JobType.
- **Applications**: Tracks candidates' applications to job postings, with fields like ApplicationStatus and ApplicationDateID.
- **Interviews**: Records details of interviews linked to applications, with fields for the Interviewer, InterviewDateID, and LocationID.
- **Hiring Decisions**: Captures the outcome of the hiring process, storing decisions like Hired, Rejected, or Pending.

Each entity is linked by foreign keys, ensuring the integrity of relationships between tables.

To simulate real-world scenarios, dummy data was inserted into each table. The data included:

- Various dates for tracking hiring events.
- Locations representing different cities in the USA.
- Technology stacks commonly used in the industry.
- Multiple companies across various industries.
- Recruiters associated with these companies.

- Candidates with varying levels of experience and availability.
- Job postings for different roles.
- Applications submitted by candidates.
- Interview records and corresponding hiring decisions.

Creating of Dashboard

Using Looker, a dashboard was created to visualize key metrics derived from the data model. The dashboard was designed to provide an overview and allow stakeholders to filter and analyze data based on specific criteria. The key metrics displayed in the dashboard are:

1. **Candidates by Stack**

   Displays the distribution of candidates across different technology stacks, enabling the identification of areas with the highest or lowest availability of talent.

2. **Application Status Overview**:

   Provides a snapshot of the current status of all applications, showing the number of applications in various stages such as Pending, Interviewing, Rejected, and Hired.

3. **Location of Hiring Companies**:

   Visualizes the geographical distribution of companies that are hiring, providing insights into regional hiring trends and opportunities.

4. **Recruiter Activity**:

   Displays the activity status of recruiters (Active, Inactive), allowing for the monitoring of recruiter engagement and performance.

Filters and Analytical Capabilities

To enhance the dashboard's usability, several filters were implemented, allowing users to drill down into the data and extract meaningful insights. These filters include:

- **Date Range**: Users can select specific time periods to analyze hiring trends over time.
- **Technology Stack**: Allows for filtering candidates and job postings based on the technology stack.
- **Experience Level**: Finding all Senior-level candidates across different stacks who are currently interviewing.
- **Application Status**: Viewing all job applications that are currently pending or have been rejected.

These filters make the dashboard a powerful tool for decision-makers to monitor the hiring process, optimize recruitment strategies, and allocate resources effectively.

Data Analysis Limitations

It is important to note that the analysis presented in this report is based on dummy data created for the purpose of demonstrating the functionality and capabilities of the data model and dashboard. As such, the findings and insights generated from this dashboard are not reflective of HNG Hire and should not be used for making actual business decisions. A more meaningful analysis would require the integration of real, historical data, which would enable a deeper exploration of hiring trends, recruiter performance, and candidate pipelines.

Conclusion

The data model and dashboard developed for HNG Hire provide a robust framework for tracking and analyzing the hiring process. The model's design ensures data integrity and flexibility, while the dashboard offers valuable insights into interns availability, application progress, and recruiter performance.

Link to Dashboard

https://lookerstudio.google.com/reporting/63039806-0d96-4920-9a0d-db6116bec70c