

PROJECT REPORT

DOCUMENTATION

PROJECT - GLOBETREK INSIGHTS: NAVIGATING GLOBAL COUNTRY DATA WITH IBM COGNO

TEAM ID

NM2023TMID07560

DATA ANALYTICS WITH TABLEAU

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INTRODUCTION

In our increasingly interconnected world, understanding global country data is essential for businesses, organizations, and individuals. Whether you're looking to make informed investment decisions, track geopolitical developments, or simply explore the world's diverse cultures and economies, access to accurate and up-to-date information is crucial. That's where GlobeTrek Insights comes into play.

GlobeTrek Insights is a powerful and innovative platform designed to provide you with a comprehensive understanding of global country data. Leveraging the robust capabilities of IBM Cognos, GlobeTrek Insights offers a user-friendly and data-driven approach to navigating the complexities of the international landscape.



In a world marked by rapid change, understanding global country data is essential. Whether you're exploring untapped markets, assessing risks, or making informed decisions, GlobeTrek Insights empowers you with the knowledge you need to navigate the global landscape effectively.

Project Overview:

The GlobeTrek Insights project is a data analytics initiative that aims to navigate and make sense of global country data using IBM Cognos, a powerful business intelligence and data analytics platform. This project's objective is to provide in-depth insights into various aspects of countries worldwide, such as economic indicators, social metrics, demographic information, and more. By harnessing the capabilities of IBM Cognos, we intend to create a comprehensive and user-friendly tool for data-driven decision-making and analysis.

Key Project Components:

1. **Data Collection:** The project will begin by gathering data from diverse sources, such as public repositories, government databases, international organizations, and proprietary datasets. This data will encompass a wide range of categories, including but not limited to GDP, population, healthcare, education, infrastructure, and political stability.
2. **Data Integration:** The collected data will be processed and integrated into a centralized database. This integration process will involve data cleansing, transformation, and standardization to ensure consistency and accuracy.
3. **IBM Cognos Implementation:** IBM Cognos will serve as the primary platform for data visualization and analysis. We will design and develop custom dashboards, reports, and data models within the Cognos environment to provide a user-friendly interface for exploring and interacting with the data.
4. **User Access and Security:** Access controls and data security measures will be implemented to ensure that only authorized users can access and manipulate the data. This will protect sensitive information and maintain data integrity.
5. **Data Analysis and Reporting:** Users will have the ability to generate reports and conduct various types of analysis using the GlobeTrek Insights tool. This could include trend analysis, comparative studies, predictive modeling, and more.
6. **User Training:** To maximize the utility of GlobeTrek Insights, we will provide training and support to users. This will include training on how to navigate the system, create custom reports, and interpret the data.
7. **Continuous Updates:** The project will include a mechanism for periodic data updates to keep the information current and relevant. This ensures that users are working with the latest data available.
8. **Feedback and Improvement:** User feedback will be actively encouraged, and improvements to the tool will be implemented based on user needs and changing data requirements.

Expected Outcomes:

The GlobeTrek Insights project is expected to yield the following outcomes:

Comprehensive Data Access: Users will have a comprehensive and centralized source for global country data, making it easier to access and analyze information for decision-making.

Data-Driven Decision-Making: The project will empower organizations and individuals to make data-driven decisions by providing insights and trends at their fingertips.

Time and Cost Efficiency: Users can save time and resources by having an all-in-one platform for data analysis, eliminating the need for extensive data collection and analysis.

Data Accuracy: By standardizing and cleansing the data, the project will improve data accuracy, ensuring reliable insights and decision support.

User Empowerment: Through training and user support, the project will empower users to harness the full potential of the GlobeTrek Insights tool.

PURPOSE OF GLOBETREK INSIGHTS

Data Aggregation: We bring together a wealth of data from various sources, including economic indicators, demographic information, political landscapes, and cultural insights, all in one place.

Interactive Dashboards: Our intuitive dashboards make it easy to visualize and analyze data, helping you uncover trends and make data-driven decisions.

Real-time Updates: Stay on top of current events and developments with our real-time data feeds, ensuring you always have access to the latest information.

Customization: Tailor the platform to your specific needs, whether you're a business professional, researcher, student, or global enthusiast.

Collaboration: Share insights and collaborate with colleagues or peers, fostering a deeper understanding of the world's many facets.

LITERATURE SURVEY:

EXISTING PROBLEM AND REFERENCES

ITEM	AUTHOR	OBJECTIVE	FINDINGS
Building Qualities	SALEEH	Measure residential satisfaction on building variables and environment	Overall satisfaction is high through the listed variables particularly on dwelling units, services by developers and neighbourhood facilities and environment
	FUJIWARA	Measure residential satisfaction on building variables and environment	Relationship of people's preferences and housing quality are measured and tested, thus outlining detailed building qualities variables
	UKOHA AND BEAMISH	Examines resident satisfaction with housing provision pertaining to specific housing features Measuring perceived quality of urban environments and location on the city of Istanbul	Decent living condition and increase of housing quality are achieved through the testing of variables outlined on housing features
Locational Qualities	Tiirkoglu	Measure urban sprawl of urban housing with factor of locations	Important physical and locational characteristics are outlined such as dwelling plans and average distance towards amenities e.g shopping centres, entertainment centres
	McDonald	Outlining important neighbourhood aspects that affects satisfaction of housing residents	Indicators and variables on location outlined and their relationship with housing demand and supply were analyzed
Neighbourhood Qualities	Vrbka & Combs	Outlining important neighbourhood aspects that affects satisfaction of housing residents	The living space and living units adequacies are outlined and analyzed as major factor in determining neighbourhood condition towards housing resident's satisfaction
	Burby &Rohe	Measurement of enforcement conditions and actions towards complaints filed in neighbourhood	Relationship of enforcement towards complaints high is seen to affect and increase quality of living in structured neighbourhood areas.

REFERENCES

Review of Building, Locational, Neighbourhood Qualities Affecting House Prices in Malaysia

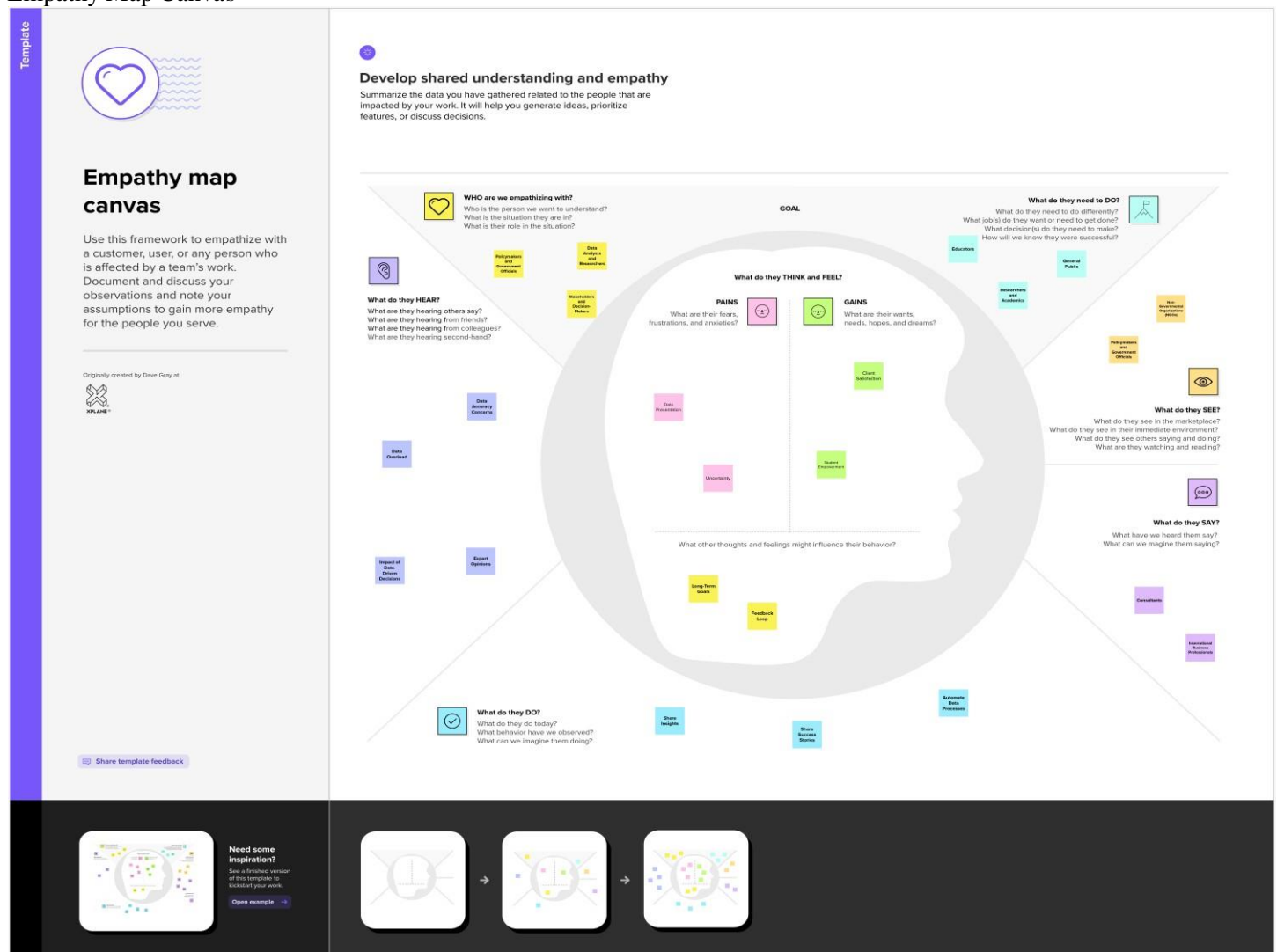
- October 2016
- [Procedia - Social and Behavioral Sciences](#) 234:452-46
- DOI:[10.1016/j.sbspro.2016.10.263](#)

PROBLEM STATEMENT:

GlobeTrek Insights, a travel and tourism company, is seeking to enhance its data analytics capabilities by leveraging IBM Cognos to navigate and analyze global country data. The company currently faces several challenges related to managing and gaining insights from this data. The problem statement includes Data complexity, Data Quality, Data Accessibility ,Performance Issue and Real-time Insights

IDEATION AND PROPOSED SOLUTION:

Empathy Map Canvas



Ideation & Brainstorming


1

Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.


PROBLEM


In our increasingly interconnected world, there's a growing need for accessible, reliable, and up-to-date global country data.





Key rules of brainstorming


To run an smooth and productive session


 Stay in topic.

 Encourage wild ideas.

 Defer judgment.

 Listen to others.

 Go for volume.

 If possible, be visual.

2

Brainstorm

Write down any Ideas that come to mind that address your problem statement.

10 minutes

Dhanush K V

Comprehensive Data Aggregator

Data Quality Assurance

Jeff Samuel S

User-Friendly Interface

Custom Data Filters

Jerrinth Raj G

Alerts and Notifications

Integration with APIs

Sanjay Kumar S

Educational Resources

Mobile App

REQUIREMENT ANALYSIS:

Define Project Objectives: Start by clearly defining the objectives of your project. What do you intend to achieve by navigating global country data with IBM Cognos? This might include generating insights, making data-driven decisions, or improving data accessibility.

FUNCTIONAL REQUIREMENTS:

User Authentication and Authorization: Users should be able to create accounts and log in securely. Different user roles should be defined with varying levels of access and permissions.

Data Integration and Storage: The system should be able to integrate and store global country data from various sources, such as databases and APIs. Data should be regularly updated to ensure accuracy and relevance.

Data Visualization and Reporting : Users should have the ability to create custom reports and visualizations using IBM Cognos tools.

Export and Sharing: Users should be able to export reports and visualizations in various formats (e.g., PDF, Excel). Shareable links or embedded code for reports should be provided.

Data Analysis Tools: Advanced data analysis tools should be integrated, allowing users to perform calculations, comparisons, and trend analysis

User Personalization: Users should have the option to save and customize their dashboards and reports. Personalized notifications and alerts based on user-defined criteria.

Data Security: Implement data encryption and access controls to ensure the security and privacy of sensitive data.

NON FUNCTIONAL REQUIREMENTS:

Third-Party Services: If the system relies on third-party services or APIs, ensure that it can gracefully handle interruptions or changes in those services.

Data Privacy and Ethics :Adhere to ethical guidelines regarding the use and storage of country data, respecting privacy and sensitive information.

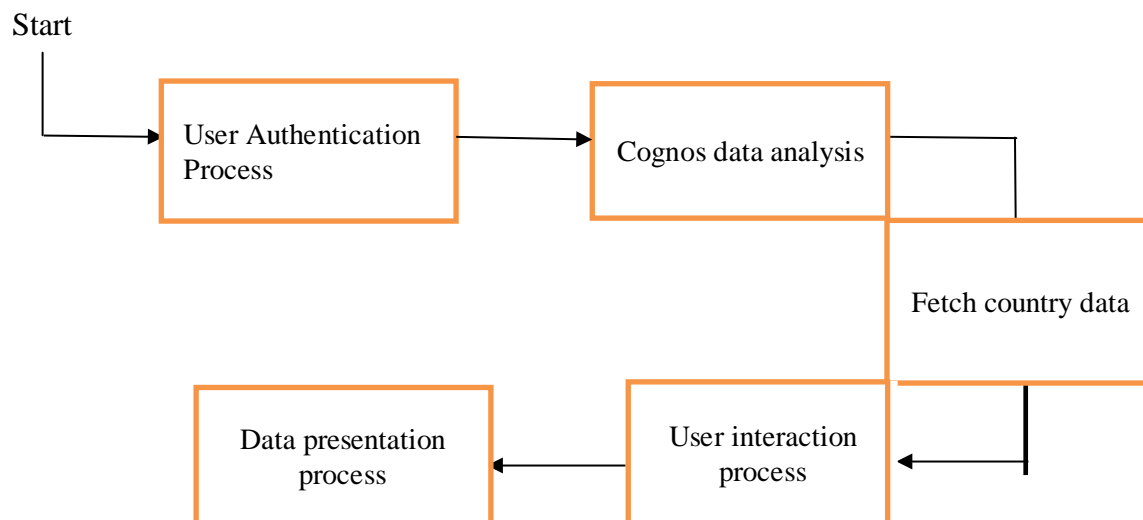
Documentation and Training:

- Provide comprehensive documentation for system administrators and end-users.
- Offer training and support resources to help users navigate the system effectively.

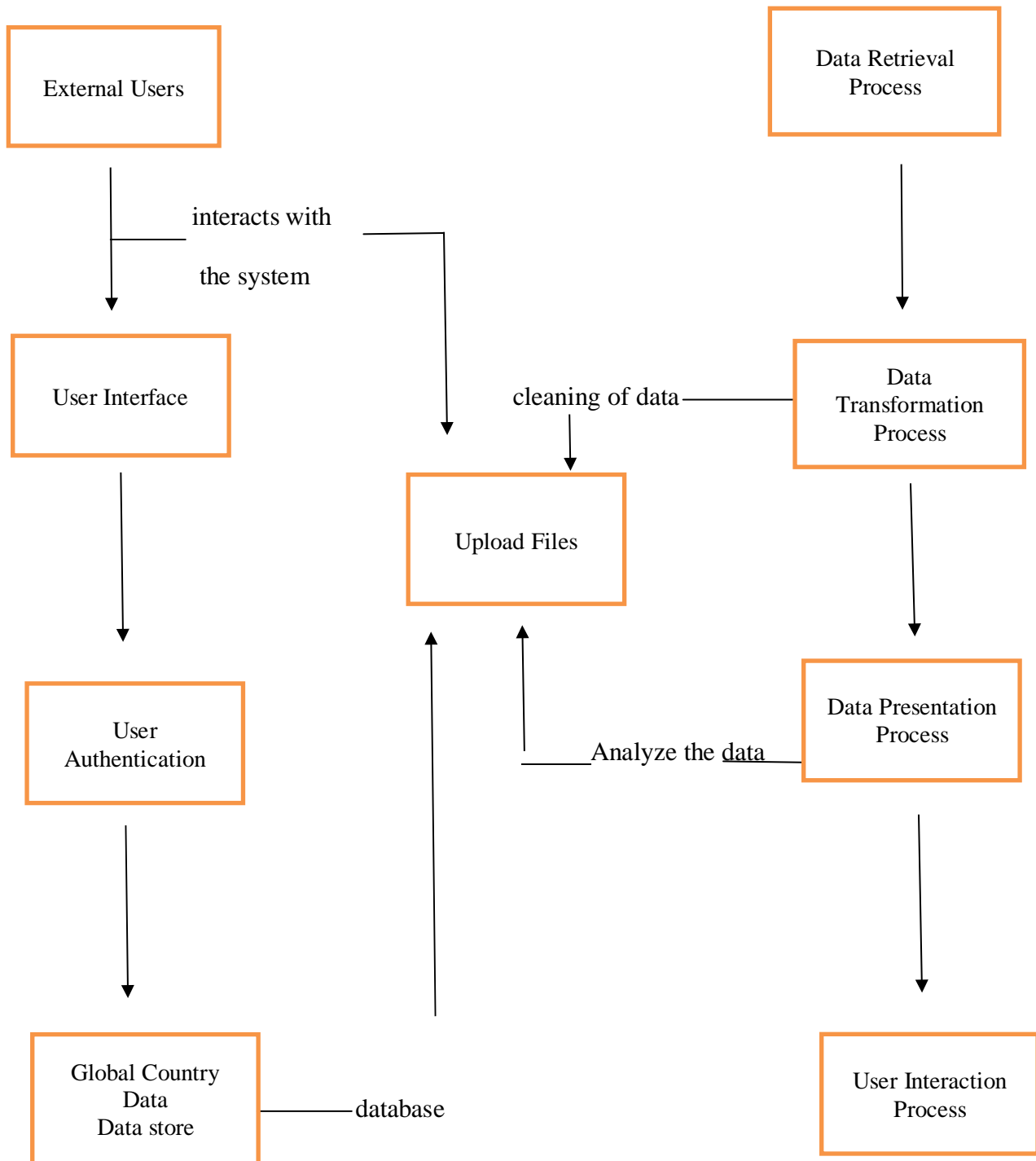
Reliability:Error Handling: Implement proper error handling mechanisms to ensure the system gracefully handles errors and exceptions.

Cost Control: Implement mechanisms to monitor and control operational costs, especially in cloud-based environments.

PROJECT DESIGN:



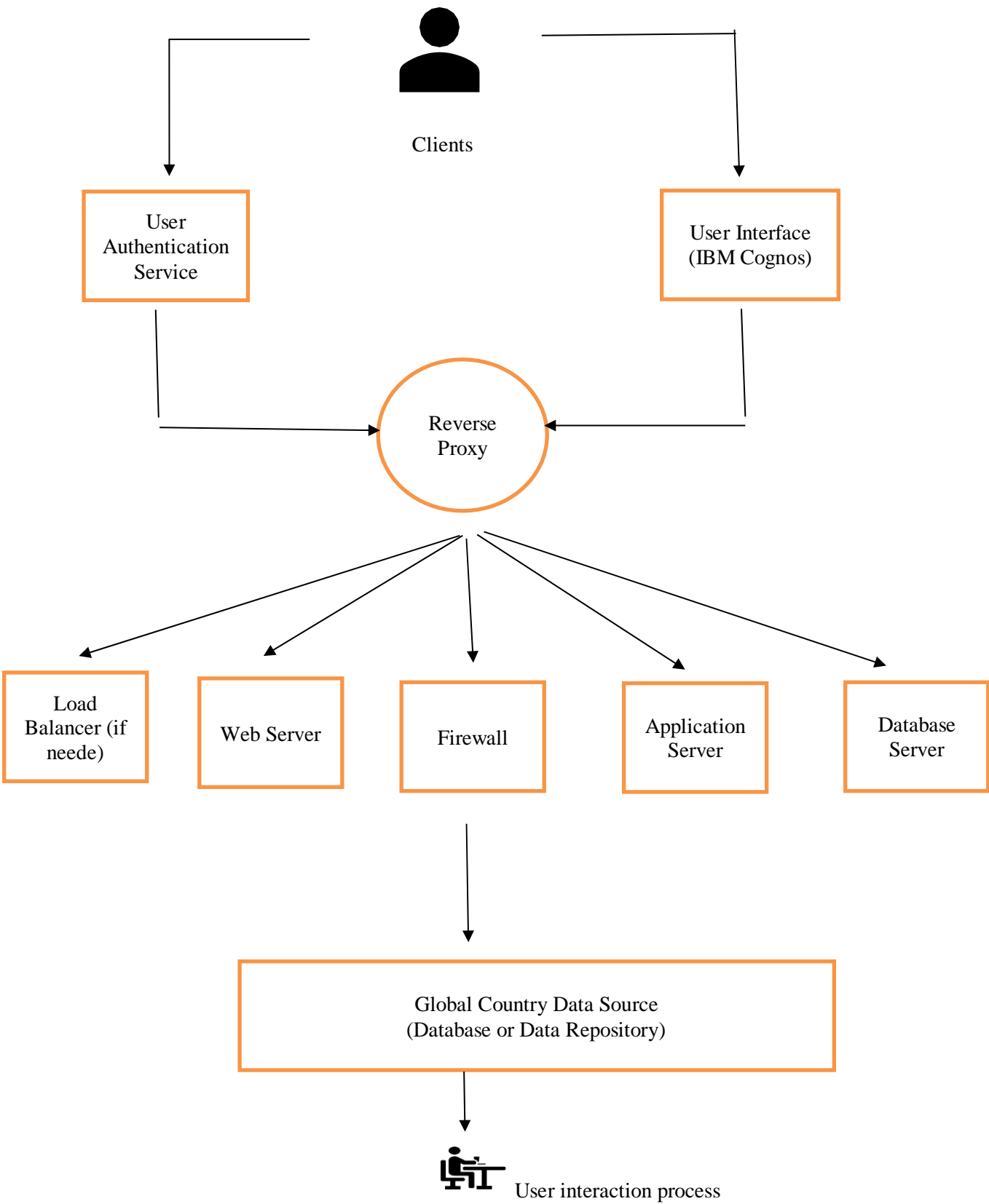
DFD Level 0:



user stories:

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail		Medium	Sprint-1
	Login	USN-5	As a user, I can log into the application by entering email & password		High	Sprint-1
	Dashboard					
Customer (Web user)						
Customer Care Executive						
Administrator						

SOLUTION ARCHITECTURE:



PROJECT PLANNING AND SCHEDULING:

TECHNICAL ARCHITECTURE:

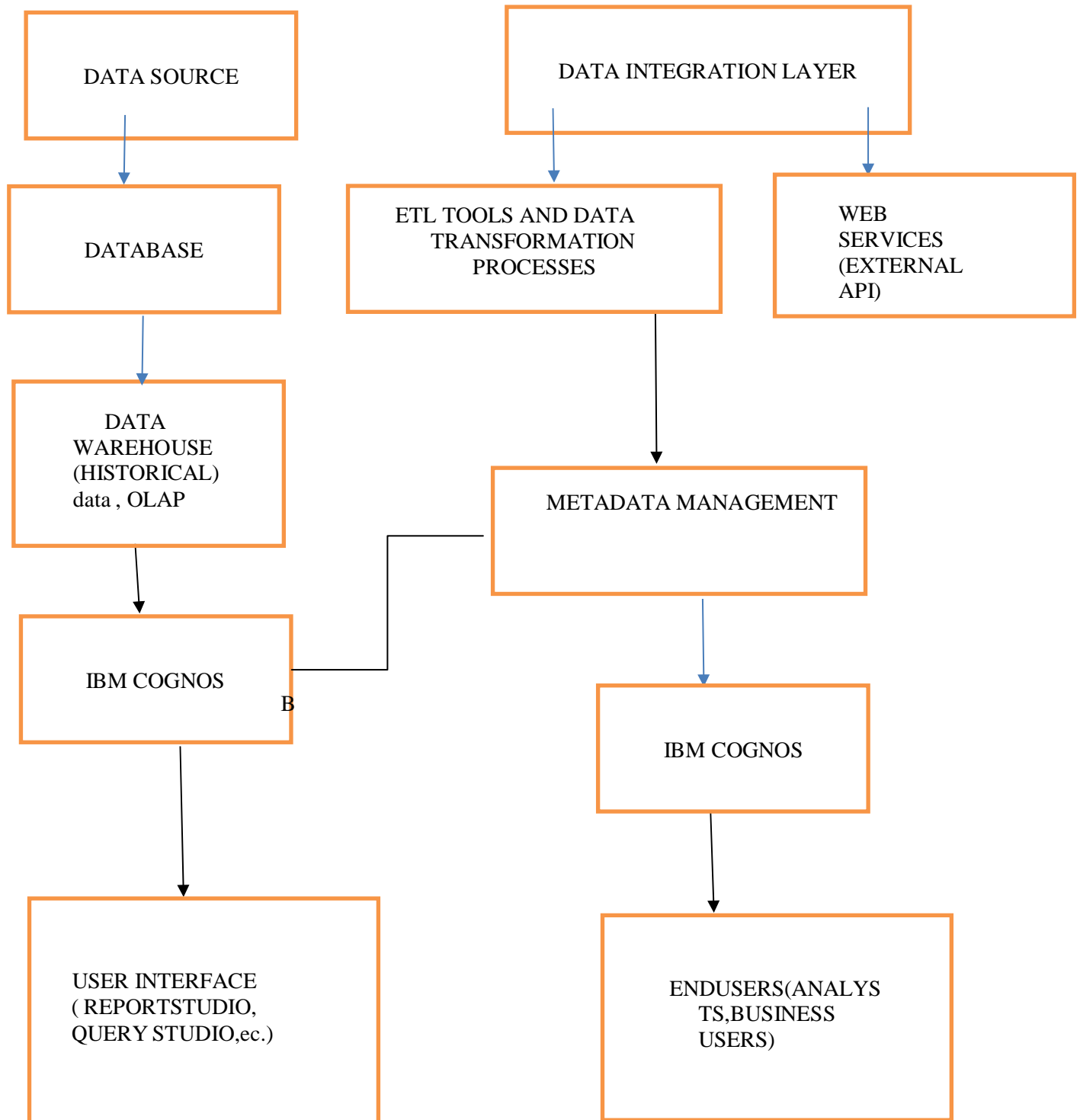


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Graphical access for interaction	DBMS, CSS, Java / Angular Js / React Js etc.
2.	Application Logic-1	Report generation and data transformation	Javascript, , Business Rules Engine
3.	Application Logic-2	Customer business rules and logic	Data validation rules, Business RulesEngine
4.	Application Logic-3	Data validation and integrity	SQL, Relational Databases
5.	Database	Data Storage and retrieval	AWS RDS, Azure SQL, etc.
6.	Cloud Database	Cloud based data storage	Amazon S3, Azure Blob Storage etc.
7.	File Storage	Storing Unstructured data	REST, SOAP API, etc.
8.	External API-1	Data retrieval from external sources	REST, SOAP API, etc.
9.	External API-2	Data integration with external sources	Aadhar API, etc.
10.	Machine Learning Model	Advanced data analysis and predictions	Python, Tensor flowetc.
11.	Infrastructure (Server / Cloud)	Computing resources for Cognos	Virtualization ,cloud services etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Utilizes community-developed software components.	Apache Hadoop, Python.
2.	Security Implementations	Measures to protect data and resources.	SSL/TLS, OAuth.
3.	Scalable Architecture	Easily expands to handle growth.	Kubernetes, Load Balancers

SPRINT PLANNING AND ESTIMATION:

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Data Access	USN-1	Develop a web portal for data access	5	High	Team member 1,2
Sprint-1	Data Access	USN-2	Implement data categorization by country	3	Medium	Team member 3
Sprint-1	Data Security	USN-3	Implement user authentication and authorization	5	High	Team member 3,4
Sprint-2	Reporting	USN-4	Develop a report authoring tool	8	High	Team member 3
Sprint-2	Reporting	USN-5	Enable users to define filters and aggregations	5	Medium	Team member 3,4
Sprint-3	Data Integration	USN-6	Develop connectors to external APIs	8	High	Team member 1
Sprint-3	Performance Optimization	USN-7	Implement query optimization techniques	5	High	Team member 1,2
Sprint-4	Performance Optimization	USN-8	Evaluate and enhance report rendering speed	3	Medium	Team member 2

SPRINT DELIEVERY AND SCHEDULING:

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	2 Days	20 Oct 2023	22 Oct 2023	20	23 Oct 2023
Sprint-2	20	2 Days	20 Oct 2023	22 Oct 2023	20	23 Oct 2023
Sprint-3	20	2 Days	20 Oct 2023	22 Oct 2023	20	23 Oct 2023
Sprint-4	20	2 Days	20 Oct 2023	22 Oct 2023	20	23 Oct 2023

Velocity:

Imagine we have a 10-day sprint duration, and the velocity of the team is 20 (points per sprint). Let's calculate the team's average velocity (AV) per iteration unit (story points per day)

$$AV = \frac{\text{sprint duration}}{\text{velocity}} = \frac{20}{10} = 2$$

CODING:

FEATURE 1:

Data Sources: Clearly cite the sources of the data used, promoting transparency and trustworthiness.

You can maintain a local database or data file with global country data and use a programming language to query and navigate this data. Here's an example using Python and a JSON file:

```
import json

def get_country_data_from_file(country_name):
    with open('countries.json', 'r') as file:
        data = json.load(file)
        for country in data:
            if country['name']['common'] == country_name:
                return country
    return None

# Example usage
country_name = "United States"
country_data = get_country_data_from_file(country_name)
if country_data:
    print(country_data)
```

FEATURE 2:

- 1. Data Visualizations:** Utilize interactive charts and graphs to visualize key data points, such as GDP, population growth, and more, to facilitate better understanding.
- 2. Comparative Analysis:** Compare multiple countries side by side to identify similarities and differences across various metrics like education, healthcare, or economic indicators.

Using an API (Application Programming Interface): You can utilize a public API that provides global country data. One such popular API is the REST Countries API, which offers extensive information about countries worldwide. You can access it using HTTP requests. Here's an example in Python using the requests library:\

```
import requests
```

```
def get_country_data(country_name):  
    url = f"https://restcountries.com/v3.1/name/{country_name}"  
    response = requests.get(url)  
  
    if response.status_code == 200:  
        data = response.json()  
        # Process the data as needed  
        return data  
    else:  
        print(f"Failed to retrieve data for {country_name}")  
        return None
```

```
# Example usage
```

```
country_name = "United States"  
country_data = get_country_data(country_name)  
if country_data:  
    print(country_data)
```

DATABASE SCHEMA:

```
-- Create the database
```

```
CREATE DATABASE GlobeTrekInsights;
```

```
-- Use the database
```

```
USE GlobeTrekInsights;
```

```
-- Table to store information about countries
```

```
CREATE TABLE Countries (  
    CountryID INT PRIMARY KEY AUTO_INCREMENT,  
    Name VARCHAR(255) NOT NULL,
```

```

Code CHAR(3) NOT NULL,
Continent VARCHAR(50),
Population INT,
Area FLOAT,
Capital VARCHAR(100),
Currency VARCHAR(50)
);

-- Table to store information about cities
CREATE TABLE Cities (
    CityID INT PRIMARY KEY AUTO_INCREMENT,
    Name VARCHAR(255) NOT NULL,
    CountryID INT,
    Population INT,
    Latitude FLOAT,
    Longitude FLOAT,
    FOREIGN KEY (CountryID) REFERENCES Countries(CountryID)
);

-- Table to store information about languages
CREATE TABLE Languages (
    LanguageID INT PRIMARY KEY AUTO_INCREMENT,
    Name VARCHAR(100) NOT NULL
);

-- Table to store the relationships between countries and languages
CREATE TABLE CountryLanguages (
    CountryID INT,
    LanguageID INT,
    PRIMARY KEY (CountryID, LanguageID),
    FOREIGN KEY (CountryID) REFERENCES Countries(CountryID),
    FOREIGN KEY (LanguageID) REFERENCES Languages(LanguageID)
);

-- Table to store information about tourist attractions
CREATE TABLE TouristAttractions (
    AttractionID INT PRIMARY KEY AUTO_INCREMENT,
    Name VARCHAR(255) NOT NULL,

```

```

CountryID INT,
CityID INT,
Description TEXT,
FOREIGN KEY (CountryID) REFERENCES Countries(CountryID),
FOREIGN KEY (CityID) REFERENCES Cities(CityID)
);

-- Table to store user reviews for tourist attractions
CREATE TABLE Reviews (
    ReviewID INT PRIMARY KEY AUTO_INCREMENT,
    AttractionID INT,
    UserID INT,
    Rating INT,
    Comment TEXT,
    FOREIGN KEY (AttractionID) REFERENCES TouristAttractions(AttractionID)
);

-- Table to store user information
CREATE TABLE Users (
    UserID INT PRIMARY KEY AUTO_INCREMENT,
    Username VARCHAR(100) NOT NULL,
    Email VARCHAR(255) NOT NULL,
    Password VARCHAR(255) NOT NULL
);

-- Table to store user favorite attractions
CREATE TABLE UserFavorites (
    UserID INT,
    AttractionID INT,
    PRIMARY KEY (UserID, AttractionID),
    FOREIGN KEY (UserID) REFERENCES Users(UserID),
    FOREIGN KEY (AttractionID) REFERENCES TouristAttractions(AttractionID)
);

-- Table to store user comments on attractions
CREATE TABLE UserComments (
    CommentID INT PRIMARY KEY AUTO_INCREMENT,
    UserID INT,

```

AttractionID INT,
 Comment TEXT,
 FOREIGN KEY (UserID) REFERENCES Users(UserID),
 FOREIGN KEY (AttractionID) REFERENCES TouristAttractions(AttractionID)
);

-- Table to store user ratings on attractions

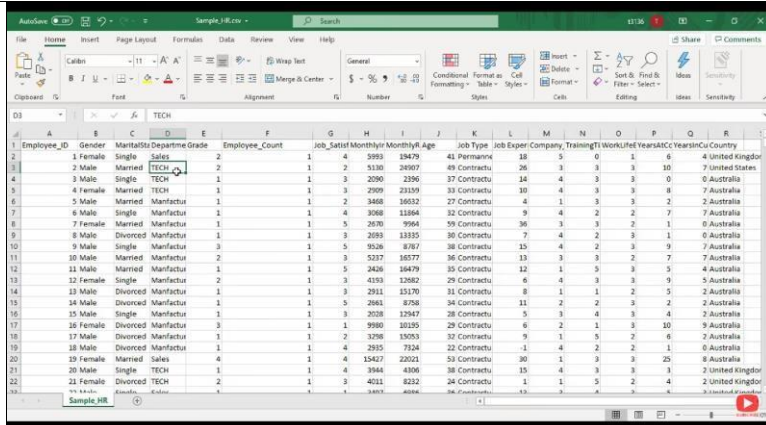
CREATE TABLE UserRatings (
 RatingID INT PRIMARY KEY AUTO_INCREMENT,
 UserID INT,
 AttractionID INT,
 Rating INT,
 FOREIGN KEY (UserID) REFERENCES Users(UserID),
 FOREIGN KEY (AttractionID) REFERENCES TouristAttractions(AttractionID)
);

PERFORMANCE TESTING

PERFORMANCE METRICES:

S.No.	Parameter	Screenshot / Values
1.	Dashboard design	 <p>The screenshot displays a 'HR Summary Report' dashboard. It includes several key metrics and charts:</p> <ul style="list-style-type: none"> Gender Diversity: A pie chart showing 50.0% Female and 50.0% Male. Strength By Marital Status: A pie chart showing 33.3% Married, 33.3% Single, and 33.3% Divorced. Years of Experience: A gauge chart showing a range from 0 to 10 years. Average Monthly Income: A card showing 6.5K. Average Monthly Rate: A card showing 14.3K. Average Job Experience: A card showing 13.924. Employee Count: A card showing 1.47K. Employee Count by Department & By Gender: A bar chart showing counts for Human Resources, Marketing, Sales, and Tech across Male and Female. Monthly Income by Department & by Gender: A bar chart showing income for Human Resources, Marketing, Sales, and Tech across Male and Female.

2. Data Responsiveness



Employee_ID	Gender	MaritalStatus	Department	Grade	Employee_Count	Job_Sat	Month	Year	Age	Job Type	Job Experience	Company	Training	WorkLife	YearsAtComp	YearsInCurr	Country
1	Female	Single	Sales	2	1	4	5993	19479	41	Permanent	38	5	0	1	6	4	United Kingdom
2	Male	Married	TECH	2	1	2	5130	24907	49	Contractu	26	3	3	3	10	7	United States
3	Male	Single	TECH	1	1	3	2090	2396	37	Contractu	14	4	3	3	0	0	Australia
4	Female	Married	TECH	1	1	3	2909	23139	33	Contractu	10	4	3	3	8	7	Australia
5	Male	Married	Manufactur	1	1	2	3468	16532	27	Contractu	4	1	3	3	2	2	Australia
6	Male	Single	Manufactur	1	1	4	3068	11864	32	Contractu	9	4	2	2	7	7	Australia
7	Female	Married	Manufactur	1	1	3	2670	9964	59	Contractu	36	3	3	2	1	0	Australia
8	Male	Divorced	Manufactur	1	1	3	2093	13335	30	Contractu	7	4	2	3	1	0	Australia
9	Male	Single	Manufactur	3	1	5	9526	8787	38	Contractu	15	4	2	3	9	7	Australia
10	Male	Married	Manufactur	2	1	3	5237	16577	36	Contractu	13	3	3	2	7	7	Australia
11	Male	Married	Manufactur	1	1	3	2426	16479	35	Contractu	12	1	5	3	2	4	Australia
12	Female	Single	Manufactur	2	1	3	4193	12862	29	Contractu	6	4	3	3	9	5	Australia
13	Male	Divorced	Manufactur	1	1	3	2911	15170	31	Contractu	8	1	1	2	5	2	Australia
14	Male	Divorced	Manufactur	1	1	5	2661	8736	34	Contractu	11	2	2	2	3	2	Australia
15	Male	Single	Manufactur	1	1	3	2038	12947	28	Contractu	5	3	4	3	4	2	Australia
16	Female	Divorced	Manufactur	3	1	1	9980	10195	29	Contractu	6	2	1	3	10	9	Australia
17	Male	Divorced	Manufactur	1	1	2	3298	19053	32	Contractu	9	1	5	2	2	6	Australia
18	Male	Divorced	Manufactur	1	1	4	2935	7324	22	Contractu	1	4	2	2	1	0	Australia
19	Female	Married	Sales	4	1	4	15427	22021	53	Contractu	30	1	3	3	25	8	Australia
20	Male	Single	TECH	1	1	4	3944	4306	38	Contractu	15	4	3	3	1	1	United Kingdom
21	Female	Divorced	TECH	2	2	3	4011	8232	24	Contractu	1	1	5	2	4	2	United Kingdom
22	Male	Single	Manufactur	1	1	4	3468	16532	27	Contractu	4	1	3	3	2	2	Australia

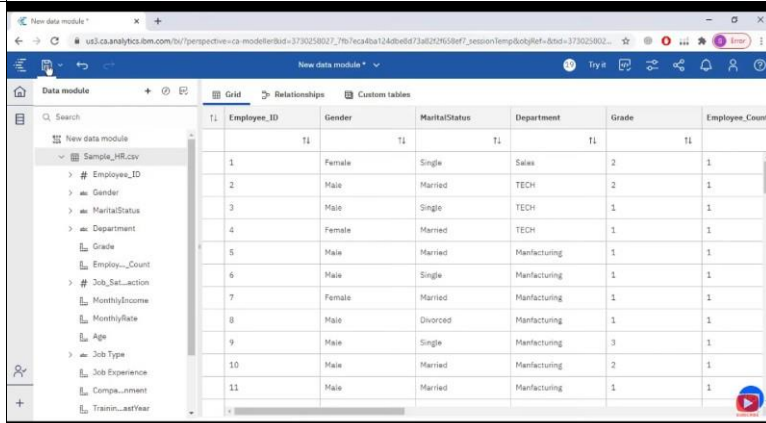
AROUND 150 RESPONSES

3. Amount Data to Rendered (DB2 Metrics)

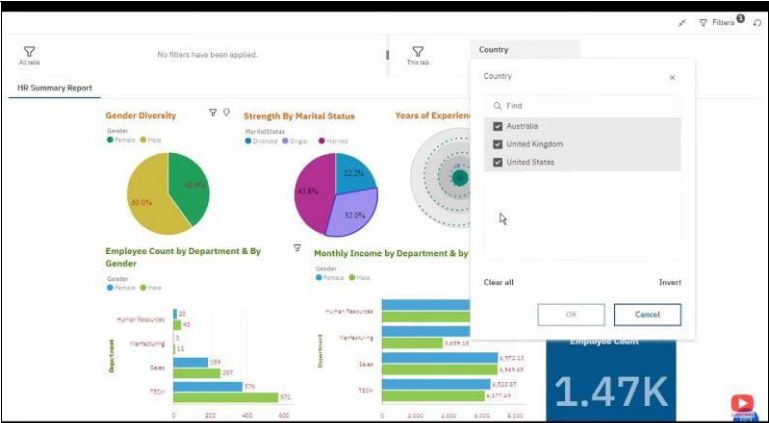
Sample_HR.xlsx														1/16/2024	
File Home Insert Page Layout Formulas Data Review View Help														Share Comments	
Cables T A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A A 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AROUND 150 RESPONSES

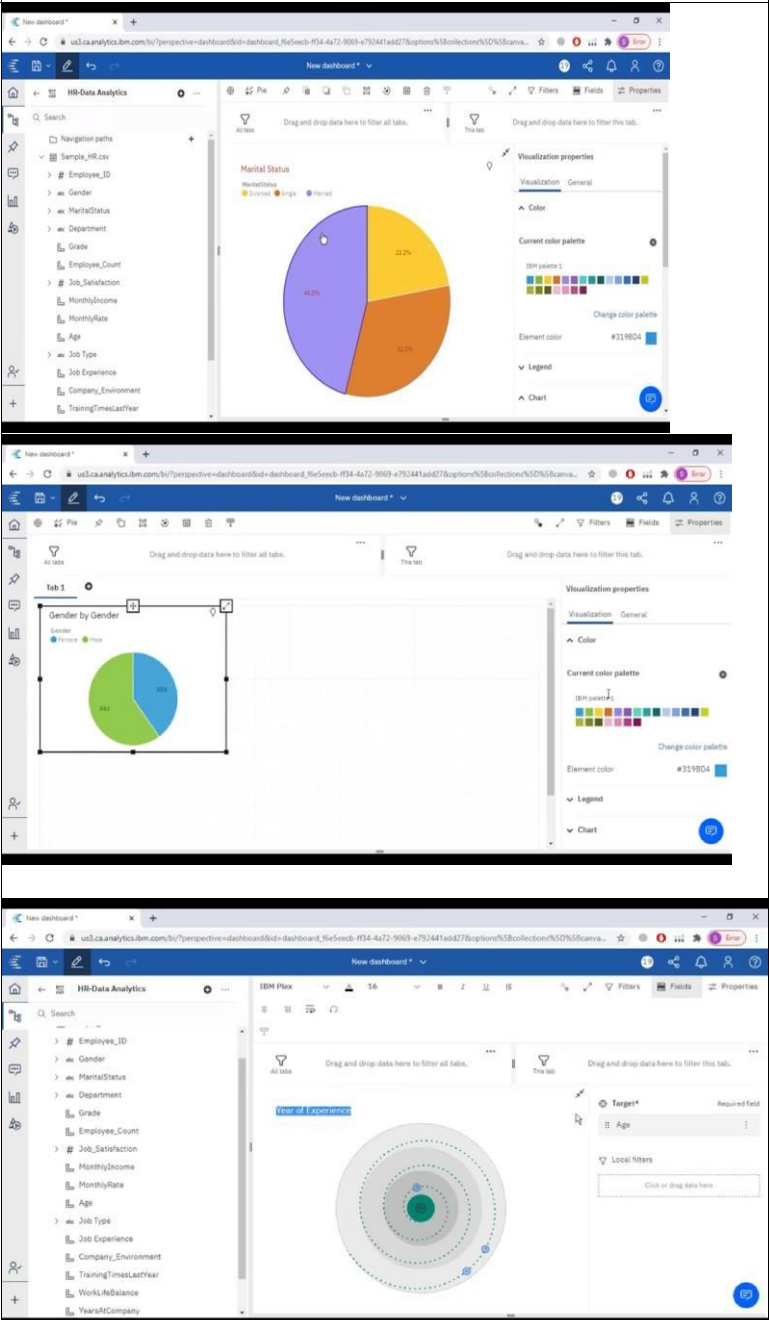
4. Utilization of Data Filters



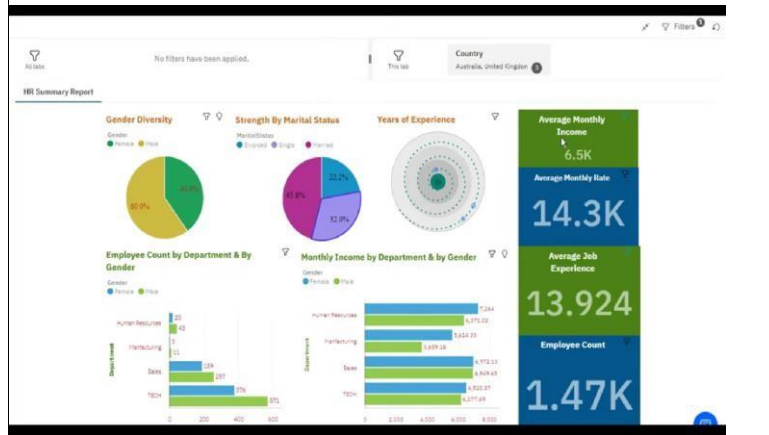
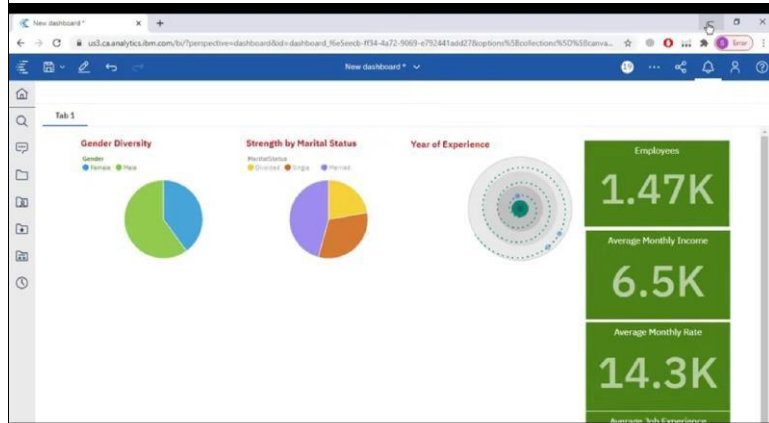
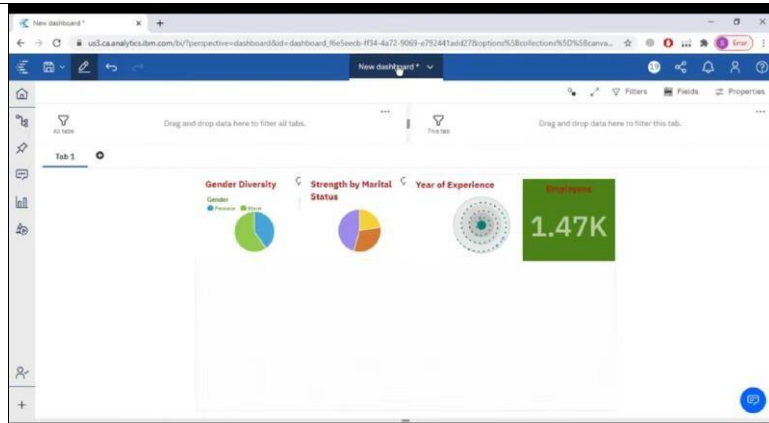
Employee_ID	Gender	MaritalStatus	Department	Grade	Employee_Count
1	Female	Single	Sales	2	1
2	Male	Married	TECH	2	1
3	Male	Single	TECH	1	1
4	Female	Married	TECH	1	1
5	Male	Married	Manufacturing	1	1
6	Male	Single	Manufacturing	1	1
7	Female	Married	Manufacturing	1	1
8	Male	Divorced	Manufacturing	1	1
9	Male	Single	Manufacturing	3	1
10	Male	Married	Manufacturing	2	1
11	Male	Married	Manufacturing	1	1



5. Effective User Story



6. Descriptive Reports



RESULT:

OUTPUT SCREENSHOT:

DATASET: AROUND 150 RECORDS

EmployeeID	Gender	MaritalStatus	Department	Grade	Employee_Satisfaction	Job_Satisfaction	MonthlySalary	MonthlyRate	Age	Job Type	Job Experience	Company	Training	WorkLife	YearsAtCompany	YearsInCurrent	Country
1	Female	Single	Sales	2	1	4	5993	19479	41	Permanen	18	5	0	1	6	4	United Kingdom
2	Male	Married	TECH	2	1	2	5130	24907	49	Contractu	26	3	3	3	10	7	United States
3	Male	Single	TECH	1	1	3	2090	2396	37	Contractu	14	4	3	3	0	0	Australia
4	Female	Married	TECH	1	1	3	2909	23159	33	Contractu	10	4	3	3	8	7	Australia
5	Male	Married	Manufactur	1	1	2	3468	16632	27	Contractu	4	1	3	3	2	2	Australia
6	Male	Single	Manufactur	1	1	4	3068	11864	32	Contractu	9	4	2	2	7	7	Australia
7	Female	Married	Manufactur	1	1	5	2670	9964	59	Contractu	36	3	3	2	1	0	Australia
8	Male	Divorced	Manufactur	1	1	3	2693	13335	30	Contractu	7	4	2	3	1	0	Australia
9	Male	Single	Manufactur	3	1	5	9526	8787	38	Contractu	15	4	2	3	9	7	Australia
10	Male	Married	Manufactur	2	1	3	5237	16577	36	Contractu	13	3	3	2	7	7	Australia
11	Male	Married	Manufactur	1	1	5	2426	16479	35	Contractu	12	1	5	3	5	4	Australia
12	Female	Single	Manufactur	2	1	3	4193	12682	29	Contractu	6	4	3	3	9	5	Australia
13	Male	Divorced	Manufactur	1	1	3	2911	15170	31	Contractu	8	1	1	2	5	2	Australia
14	Male	Divorced	Manufactur	1	1	5	2661	8758	34	Contractu	11	2	2	3	2	2	Australia
15	Male	Single	Manufactur	1	1	3	2028	12947	28	Contractu	5	3	4	3	4	2	Australia
16	Female	Divorced	Manufactur	3	1	1	9980	10195	29	Contractu	6	2	1	3	10	9	Australia
17	Male	Divorced	Manufactur	1	1	2	3298	15053	32	Contractu	9	1	5	2	6	2	Australia
18	Male	Divorced	Manufactur	1	1	4	2935	7324	22	Contractu	-1	4	2	2	1	0	Australia
19	Female	Married	Sales	4	1	4	15427	22021	53	Contractu	30	1	3	3	25	8	Australia
20	Male	Single	TECH	1	1	4	3944	4306	38	Contractu	15	4	3	3	3	2	United Kingdom
21	Female	Divorced	TECH	2	1	3	4011	8232	24	Contractu	1	1	5	2	4	2	United Kingdom
22	Male	Single	Sales	1	1	1	2407	6086	26	Contractu	13	2	4	3	6	3	United Kingdom

Grade	Employee_Count	Job_Satisfaction	Monthl	Monthl	Age	Job Typ	Job Experienc	Compa	Trainin	WorkLi	YearsAtCompa	YearsInCurren	Country
2	2	1	4	5993	19479	41	Permanen	18	5	0	1	6	United Kingdom
3	2	1	2	5130	24907	49	Contractu	26	3	3	3	10	United States
4	1	1	3	2090	2396	37	Contractu	14	4	3	3	0	Australia
5	1	1	3	2909	23159	33	Contractu	10	4	3	3	8	Australia
6	1	1	2	3468	16632	27	Contractu	4	1	3	3	2	Australia
7	1	1	4	3068	11864	32	Contractu	9	4	2	2	7	Australia
8	1	1	5	2670	9964	59	Contractu	36	3	3	2	1	Australia
9	1	1	3	2693	13335	30	Contractu	7	4	2	3	1	Australia
10	3	1	5	9526	8787	38	Contractu	15	4	2	3	9	Australia
11	2	1	3	5237	16577	36	Contractu	13	3	3	2	7	Australia
12	1	1	5	2426	16479	35	Contractu	12	1	5	3	5	Australia
13	2	1	3	4193	12682	29	Contractu	6	4	3	3	9	Australia
14	1	1	3	2911	15170	31	Contractu	8	1	1	2	5	Australia
15	1	1	5	2661	8758	34	Contractu	11	2	2	3	2	Australia
16	1	1	3	2028	12947	28	Contractu	5	3	4	3	4	Australia
17	3	1	1	9980	10195	29	Contractu	6	2	1	3	10	Australia
18	1	1	2	3298	15053	32	Contractu	9	1	5	2	6	Australia
19	1	1	4	2935	7324	22	Contractu	-1	4	2	2	1	Australia
20	4	1	4	15427	22021	53	Contractu	30	1	3	3	25	Australia
21	1	1	4	3944	4306	38	Contractu	15	4	3	3	3	United Kingdom
22	2	1	3	4011	8232	24	Contractu	1	1	5	2	4	United Kingdom
23	1	1	1	2407	6086	26	Contractu	13	2	4	3	6	United Kingdom

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Clipboard Font Alignment Number Styles Cells Editing Ideas Sensitivity

Calibri 11 A A Wrap Text General Conditional Formatting Format as Table Cell Styles Insert Delete Sort & Find & Filter Select Ideas Sensitivity

G1 Job_Satisfaction

Employee_ID	Gender	Marital	Depart	Grade	Employee_Count	Job_Satisfaction	Month	Month	Age	Job Typ	Job Exp	Compa	Trainin	WorkLi	YearsAt	YearsIn	Co
1	Female	Single	Sales	2	Sort Smallest to Largest		5993	19479	41	Permanne	18	5	0	1	6	4	Un
2	Male	Married	TECH	2	Sort Largest to Smallest		5130	24907	49	Contractu	26	3	3	3	10	7	Un
3	Male	Single	TECH	1	Sort by Color		2090	2396	37	Contractu	14	4	3	3	0	0	Aus
4	Female	Married	TECH	1	Sheet View		2909	23159	33	Contractu	10	4	3	3	8	7	Aus
5	Male	Married	Manufactur	1	Clear Filter From "Job_Satisfaction"		3468	16632	27	Contractu	4	1	3	3	2	2	Aus
6	Male	Single	Manufactur	1	Filter by Color		3068	11864	32	Contractu	9	4	2	2	7	7	Aus
7	Female	Married	Manufactur	1	Number Filters		2670	9964	59	Contractu	36	3	3	2	1	0	Aus
8	Male	Divorced	Manufactur	1	Search		2693	13335	30	Contractu	7	4	2	3	1	0	Aus
9	Male	Single	Manufactur	3	(Select All)		9526	8787	38	Contractu	15	4	2	3	9	7	Aus
10	Male	Married	Manufactur	2	1		5237	16577	36	Contractu	13	3	3	2	7	7	Aus
11	Male	Married	Manufactur	1	2		2426	16479	35	Contractu	12	1	5	3	5	4	Aus
12	Female	Single	Manufactur	2	3		4193	12682	29	Contractu	6	4	3	3	9	5	Aus
13	Male	Divorced	Manufactur	1	4		2911	15170	31	Contractu	8	1	1	2	5	2	Aus
14	Male	Divorced	Manufactur	1	5		2661	8758	34	Contractu	11	2	2	3	2	2	Aus
15	Male	Single	Manufactur	1			2028	12947	28	Contractu	5	3	4	3	4	2	Aus
16	Female	Divorced	Manufactur	3			9980	10195	29	Contractu	6	2	1	3	10	9	Aus
17	Male	Divorced	Manufactur	1			3298	15053	32	Contractu	9	1	5	2	6	2	Aus
18	Male	Divorced	Manufactur	1			2935	7324	22	Contractu	-1	4	2	2	1	0	Aus
19	Female	Married	Sales	4			15427	22021	53	Contractu	30	1	3	3	25	8	Aus
20	Female	Single	TECH	1			3944	4306	38	Contractu	15	4	3	3	3	2	Un
21	Female	Divorced	TECH	2			4011	8232	24	Contractu	1	1	5	2	4	2	Un
22	Male	Single	Sales	1			2407	6086	26	Contractu	12	2	4	3	6	3	Un

Sample_HR

AutoSave Sample_HR.csv Search t3136

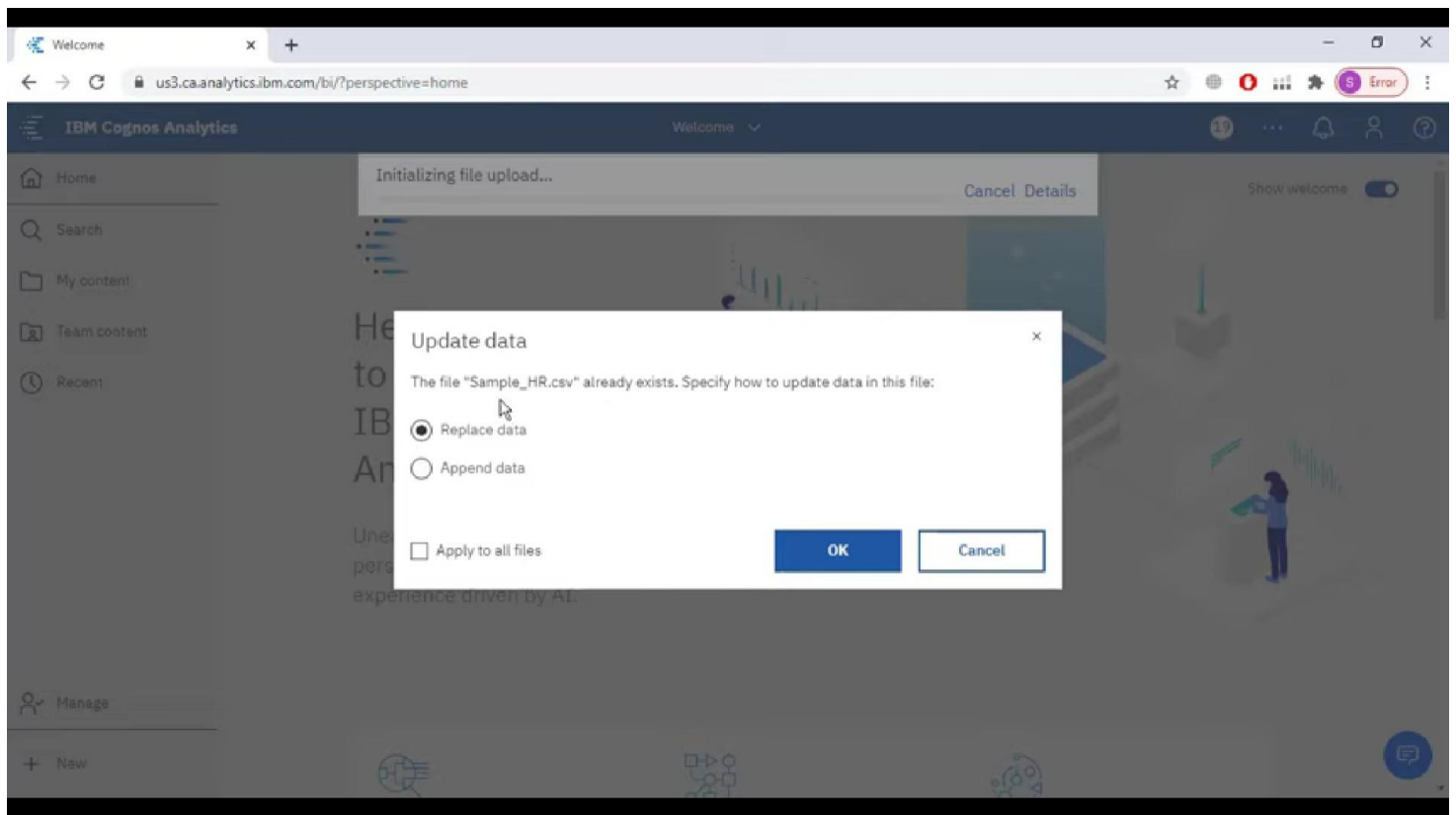
File Home Insert Page Layout Formulas Data Review View Help

Clipboard Font Alignment Number Styles Cells Editing Ideas Sensitivity

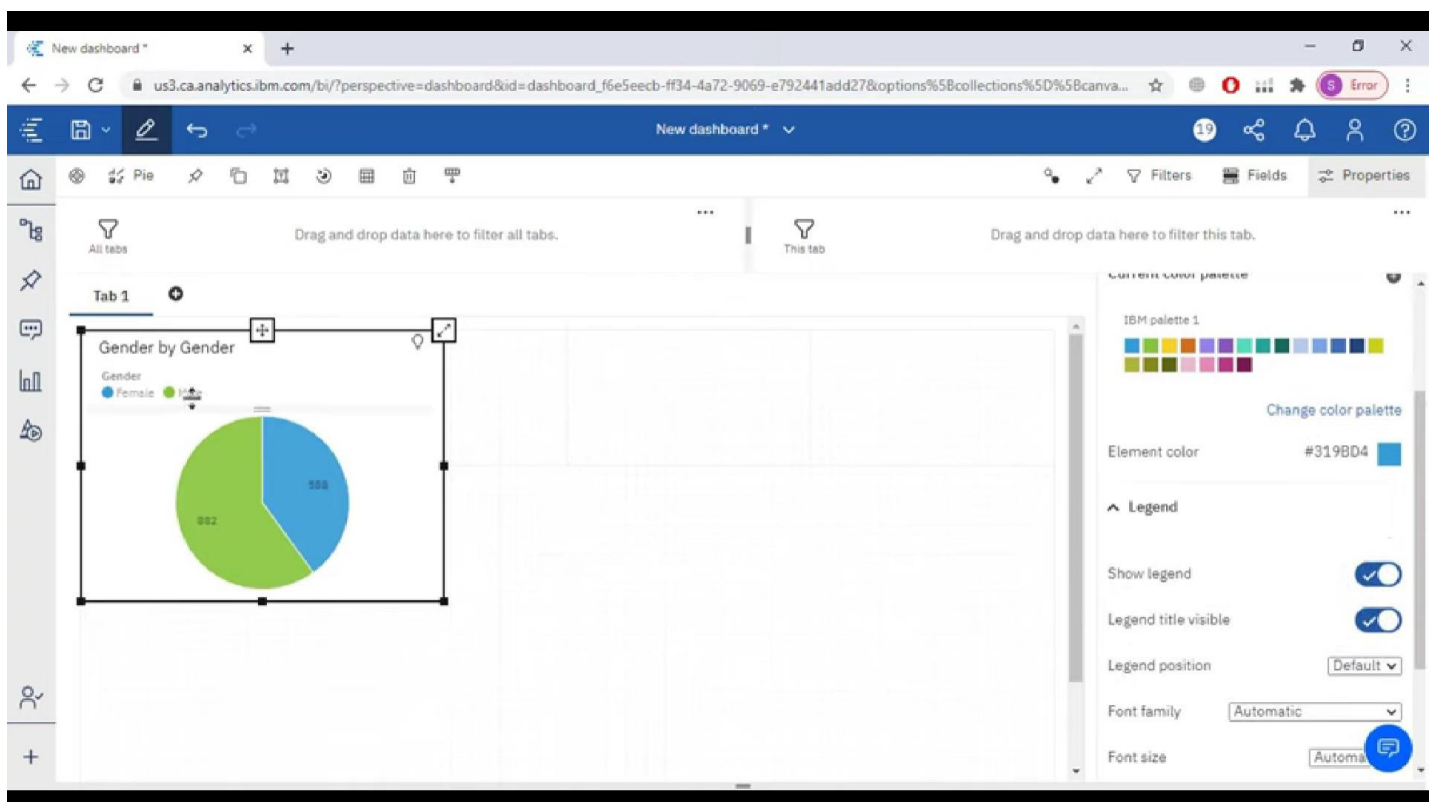
R1 Country

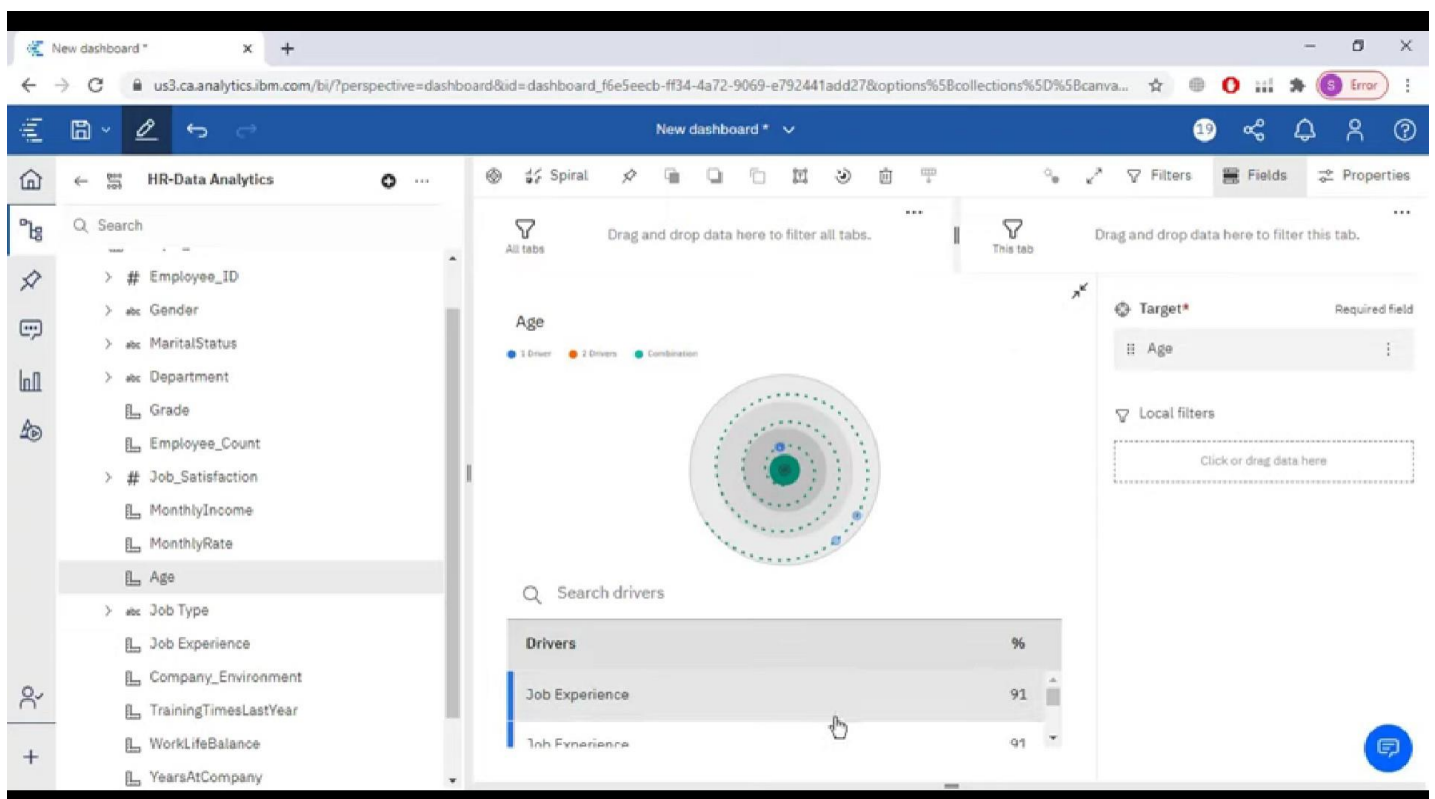
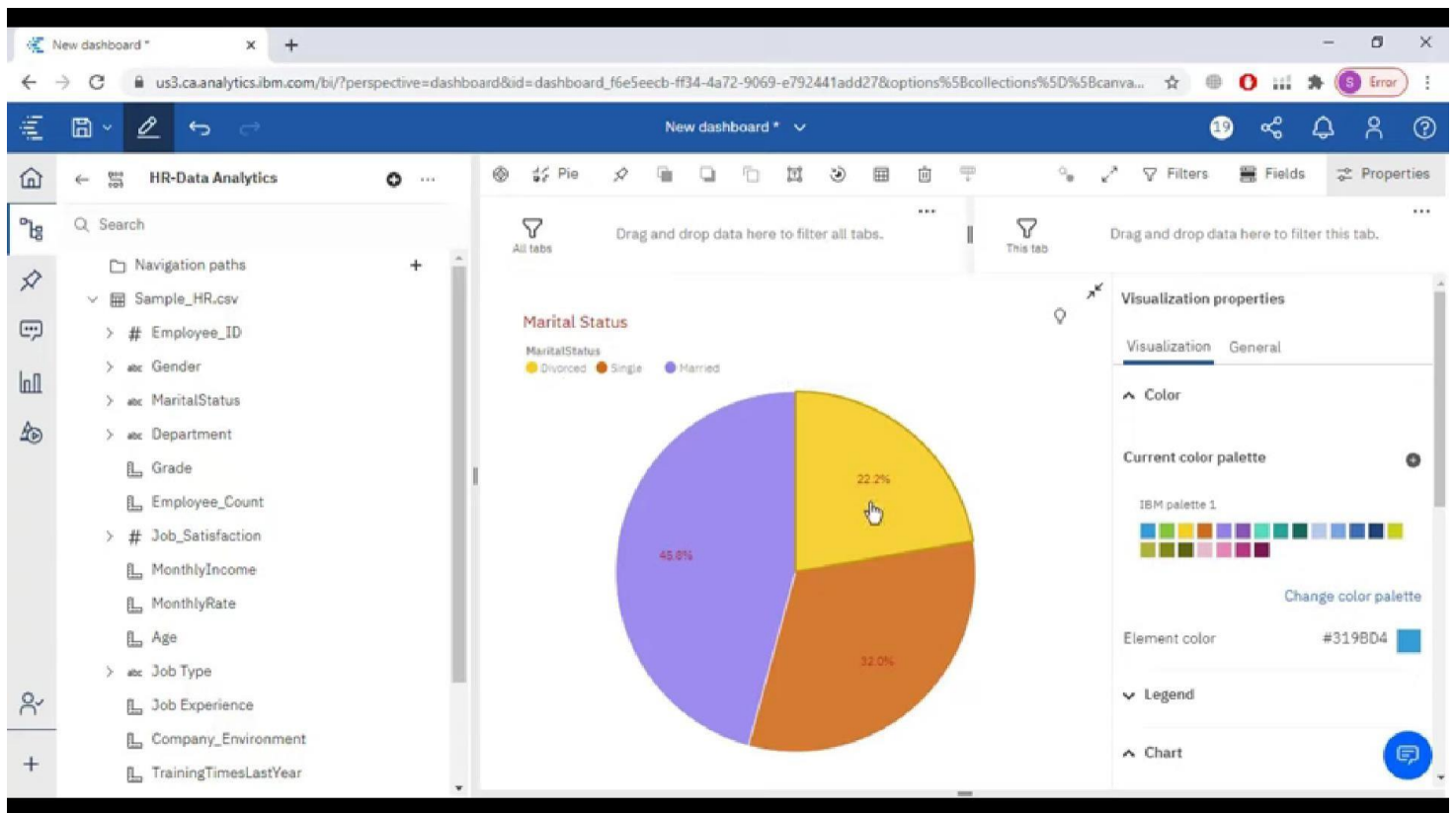
Grade	Employee_Count	Job_Satisfaction	Month	Month	Age	Job Typ	Job Experienc	Compa	Trainin	WorkLi	YearsAtCompa	YearsInCurre	Country
2	1	1	4	5993	19479	41	Permanne	18	5	0	1	Sort A to Z	ngdom
3	2	1	2	5130	24907	49	Contractu	26	3	3	3	Sort Z to A	ntes
4	1	1	3	2090	2396	37	Contractu	14	4	3	3	Sort by Color	
5	1	1	3	2909	23159	33	Contractu	10	4	3	3	Sheet View	
6	1	1	2	3468	16632	27	Contractu	4	1	3	3	Clear Filter From "Country"	
7	1	1	4	3068	11864	32	Contractu	9	4	2	2	Filter by Color	
8	1	1	5	2670	9964	59	Contractu	36	3	3	2	Text Filters	
9	1	1	3	2693	13335	30	Contractu	7	4	2	3	Search	
10	3	1	5	9526	8787	38	Contractu	15	4	2	3	(Select All)	
11	2	1	3	5237	16577	36	Contractu	13	3	3	2	Australia	
12	1	1	5	2426	16479	35	Contractu	12	1	5	3	United Kingdom	
13	2	1	3	4193	12682	29	Contractu	6	4	3	3	United States	
14	1	1	3	2911	15170	31	Contractu	8	1	1	2		
15	1	1	5	2661	8758	34	Contractu	11	2	2	3		
16	1	1	3	2028	12947	28	Contractu	5	3	4	3		
17	3	1	1	9980	10195	29	Contractu	6	2	1	3		
18	1	1	2	3298	15053	32	Contractu	9	1	5	2		
19	1	1	4	2935	7324	22	Contractu	-1	4	2	2		
20	4	1	4	15427	22021	53	Contractu	30	1	3	3		
21	1	1	4	3944	4306	38	Contractu	15	4	3	3		
22	2	1	3	4011	8232	24	Contractu	1	1	5	2		
23	1	1	1	2407	6086	26	Contractu	12	2	4	3		

Sample_HR



DESIGNING PHASE





New dashboard * x +

us3.ca.analytics.ibm.com/bi/?perspective=dashboard&id=dashboard_f6e5eeb-ff34-4a72-9069-e792441add27&options%5Bcollections%5D%5Bcanva...

New dashboard * v

19

HR-Data Analytics

Navigation paths

- Sample_HR.csv
 - # Employee_ID
 - Gender
 - MaritalStatus
 - Department
 - Grade
 - Employee_Count
 - # Job_Satisfaction
 - MonthlyIncome
 - MonthlyRate
 - Age
 - Job Type
 - Job Experience
 - Company_Environment
 - TrainingTimesLastYear

Summary

Drag and drop data here to filter all tabs.

This tab

Drag and drop data here to filter this tab.

Value* Required field

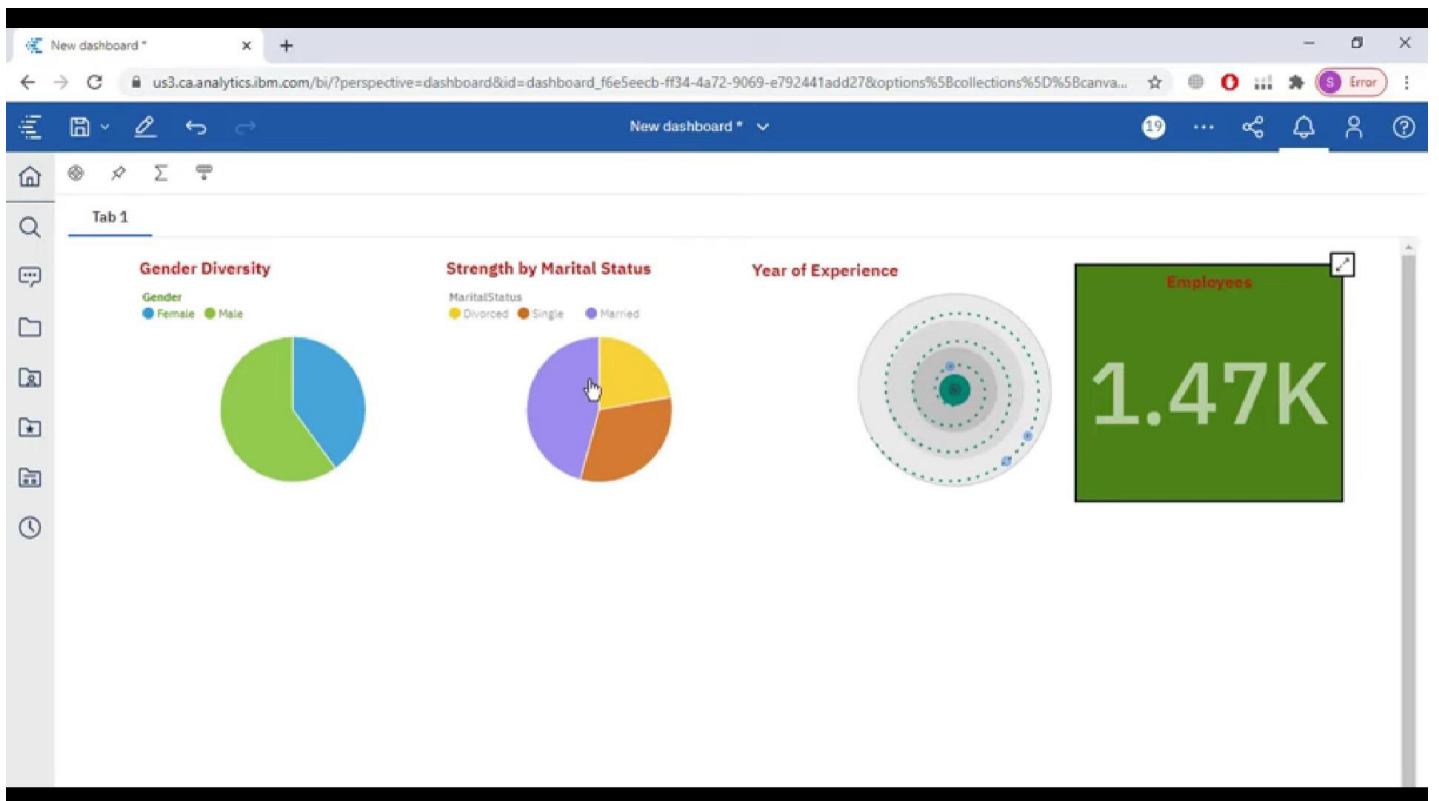
Click or drag data here

Local filters

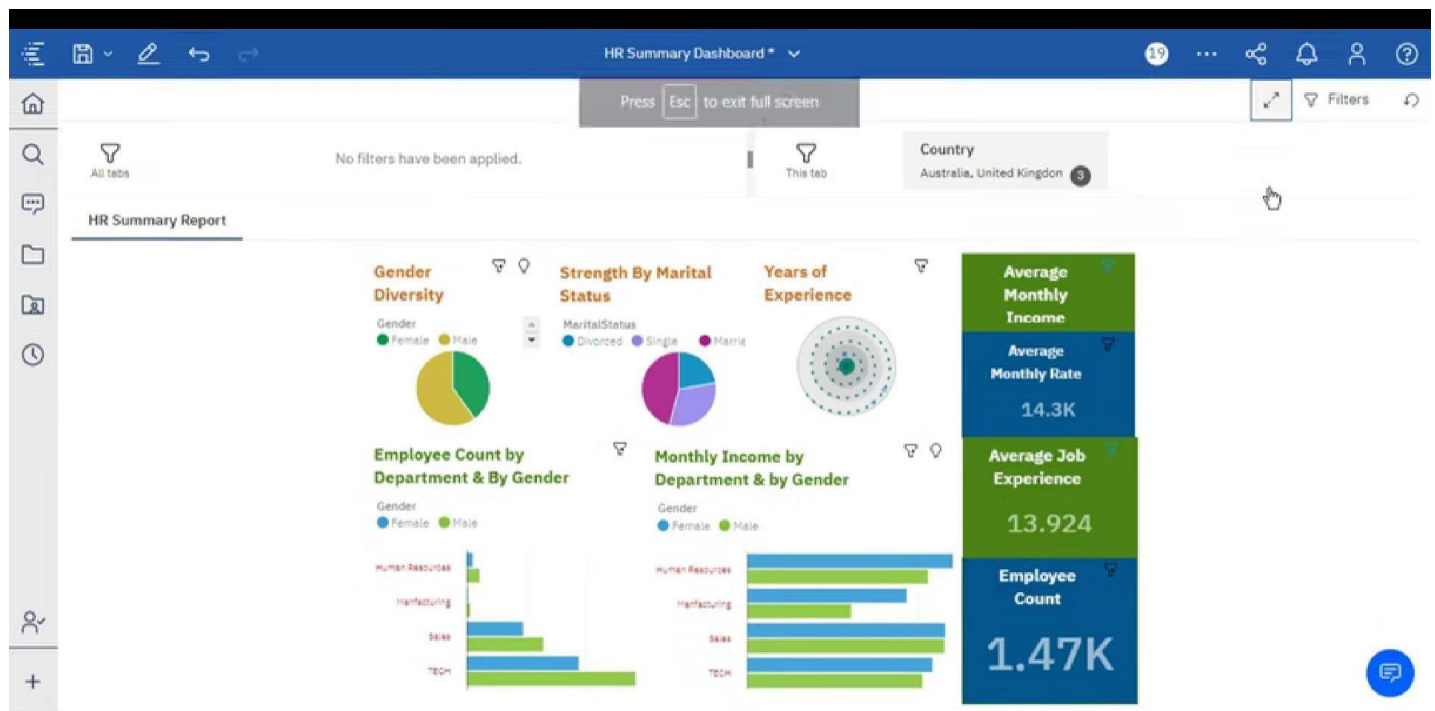
Click or drag data here

1,234,567
abcde

Build your visualization
Drag data here or onto the fields.



FINAL OUTPUT:



ADVANTAGES AND DISADVANTAGES

ADVANTAGES:

1. Comprehensive Data Source:

- GlobeTrek Insights provides a wide range of data about different countries, including economic, social, political, and environmental information. This comprehensive data can be invaluable for businesses, policymakers, researchers, and travelers looking to make informed decisions.

2. Data Accuracy and Reliability:

- When properly maintained, GlobeTrek Insights can offer reliable and up-to-date data. It can help users gain a better understanding of global trends and conditions, making it easier to plan and make strategic decisions.

3. Data Visualization and Analysis Tools:

- GlobeTrek Insights often includes data visualization and analysis tools that make it easier to interpret and present data in a meaningful way. These tools can help users identify patterns and trends more effectively.

4. Geospatial Information:

- For users who require geographical data, GlobeTrek Insights can provide maps and geographic information systems (GIS) data that can be useful for various purposes, including logistics, urban planning, and natural resource management.

5. Time-Saving:

- GlobeTrek Insights can save users a significant amount of time and effort when conducting research on multiple countries. Instead of scouring the internet for data from various sources, users can find most of what they need in one place.

DISADVANTAGES:

1. Cost:

- Access to GlobeTrek Insights can be expensive, particularly for businesses and organizations that require frequent access to the data. Subscription fees or licensing costs can be a significant barrier for smaller entities.

2. Data Accuracy Concerns:

- While GlobeTrek Insights aims to provide accurate data, errors can still occur. Users should exercise caution and verify critical data points independently, especially when making important decisions based on the information.

3. Limited Customization:

- GlobeTrek Insights may not always allow users to customize the data to their specific needs. Users may find themselves restricted by predefined categories or variables, which can limit the usefulness of the data for their unique requirements.

4. Overwhelming Amount of Data:

- The vast amount of data available in GlobeTrek Insights can be overwhelming for users who are not familiar with data analysis. Interpreting and making sense of the data may require expertise in data science or statistics.

5. Data Lag:

- In rapidly changing global conditions, there may be a lag in data updates. Some information might not be as current as users need, potentially affecting the accuracy of their decisions.

6. Privacy and Security:

- Users should be cautious about sharing sensitive information when using GlobeTrek Insights, as it may involve sharing data with the platform, which could raise privacy and security concerns.

CONCLUSION:

- 1. Data-Driven Decision Making:** GlobeTrek Insights provides an extensive repository of data on countries around the world. From economic indicators and cultural insights to political landscapes and climate data, this platform equips users with the tools needed to make data-driven decisions, whether it's for personal travel, business expansion, or policy formulation.
- 2. Geopolitical Understanding:** In an era where global events can have far-reaching consequences, GlobeTrek Insights has played a crucial role in promoting geopolitical literacy. By offering historical context and real-time updates on international affairs, it fosters a deeper understanding of the world's hotspots and the forces at play.
- 3. Risk Assessment and Preparedness:** Travelers, businesses, and governments alike have benefited from GlobeTrek Insights' risk assessment features. With data on safety, health, and political stability, users can proactively plan for potential challenges and emergencies, ensuring a safer and more secure journey.
- 4. Cultural Sensitivity:** An often overlooked but critical aspect of international engagement is cultural sensitivity. GlobeTrek Insights provides valuable insights into the customs, traditions, and social norms of different countries, enabling users to approach foreign interactions with respect and understanding.
- 5. Sustainable Travel and Business:** The platform promotes sustainable practices by highlighting environmental data and eco-friendly initiatives in different countries. This encourages travelers and businesses to make choices that contribute to a more sustainable and responsible global community.

In conclusion, GlobeTrek Insights serves as a valuable compass in an increasingly interconnected and complex world. Its wealth of information, analytical tools, and real-time updates make it an indispensable resource for those seeking to navigate the global landscape with confidence and wisdom. Whether it's for individual travelers, international corporations, or governments, this platform has proven itself as an invaluable asset for informed decision-making, risk management, and global engagement.

FUTURE SCOPE:

GlobeTrek Insights, a platform focused on navigating global country data, has significant potential for future growth and development. As the world becomes increasingly interconnected, data-driven insights about countries and regions are in high demand for a variety of purposes, including business expansion, international relations, and travel planning. Here are some potential future scopes and directions for GlobeTrek Insights:

1. **Enhanced Data Sources:** Continuously expanding and improving the sources of data can be a significant area of focus. This could include real-time data streams, additional economic indicators, social data, and political developments.
2. **Advanced Analytics:** Employing advanced data analytics, including machine learning and artificial intelligence, to provide more accurate and insightful predictions and recommendations based on the available data.
3. **Personalized User Experiences:** Tailoring the platform to individual users' needs and preferences, such as business analysts, policymakers, or tourists. This might involve custom dashboards, alerts, and reports

APPENDIX:

SOURCE CODE:

Record. Json :

```
import json

def get_country_data_from_file(country_name):
    with open('countries.json', 'r') as file:
        data = json.load(file)
        for country in data:
            if country['name']['common'] == country_name:
                return country
    return None

# Example usage
country_name = "United States"
country_data = get_country_data_from_file(country_name)
if country_data:
    print(country_data)
```

request.py

```
def get_country_data(country_name):
    url = f"https://restcountries.com/v3.1/name/{country_name}"
    response = requests.get(url)
```

```

if response.status_code == 200:
    data = response.json()
    # Process the data as needed
    return data
else:
    print(f"Failed to retrieve data for {country_name}")
    return None

# Example usage
country_name = "United States"
country_data = get_country_data(country_name)
if country_data:
    print(country_data)

```

DATABASE SCHEMA:

```

-- Create the database
CREATE DATABASE GlobeTrekInsights;

-- Use the database
USE GlobeTrekInsights;

-- Table to store information about countries
CREATE TABLE Countries (
    CountryID INT PRIMARY KEY AUTO_INCREMENT,
    Name VARCHAR(255) NOT NULL,
    Code CHAR(3) NOT NULL,
    Continent VARCHAR(50),
    Population INT,
    Area FLOAT,
    Capital VARCHAR(100),
    Currency VARCHAR(50)
);

-- Table to store information about cities
CREATE TABLE Cities (

```

```

CityID INT PRIMARY KEY AUTO_INCREMENT,
Name VARCHAR(255) NOT NULL,
CountryID INT,
Population INT,
Latitude FLOAT,
Longitude FLOAT,
FOREIGN KEY (CountryID) REFERENCES Countries(CountryID)
);

-- Table to store information about languages
CREATE TABLE Languages (
    LanguageID INT PRIMARY KEY AUTO_INCREMENT,
    Name VARCHAR(100) NOT NULL
);

-- Table to store the relationships between countries and languages
CREATE TABLE CountryLanguages (
    CountryID INT,
    LanguageID INT,
    PRIMARY KEY (CountryID, LanguageID),
    FOREIGN KEY (CountryID) REFERENCES Countries(CountryID),
    FOREIGN KEY (LanguageID) REFERENCES Languages(LanguageID)
);

-- Table to store information about tourist attractions
CREATE TABLE TouristAttractions (
    AttractionID INT PRIMARY KEY AUTO_INCREMENT,
    Name VARCHAR(255) NOT NULL,
    CountryID INT,
    CityID INT,
    Description TEXT,
    FOREIGN KEY (CountryID) REFERENCES Countries(CountryID),
    FOREIGN KEY (CityID) REFERENCES Cities(CityID)
);

-- Table to store user reviews for tourist attractions
CREATE TABLE Reviews (
    ReviewID INT PRIMARY KEY AUTO_INCREMENT,

```

```
AttractionID INT,  
UserID INT,  
Rating INT,  
Comment TEXT,  
FOREIGN KEY (AttractionID) REFERENCES TouristAttractions(AttractionID)  
);
```

-- Table to store user information

```
CREATE TABLE Users (  
    UserID INT PRIMARY KEY AUTO_INCREMENT,  
    Username VARCHAR(100) NOT NULL,  
    Email VARCHAR(255) NOT NULL,  
    Password VARCHAR(255) NOT NULL  
);
```

-- Table to store user favorite attractions

```
CREATE TABLE UserFavorites (  
    UserID INT,  
    AttractionID INT,  
    PRIMARY KEY (UserID, AttractionID),  
    FOREIGN KEY (UserID) REFERENCES Users(UserID),  
    FOREIGN KEY (AttractionID) REFERENCES TouristAttractions(AttractionID)  
);
```

-- Table to store user comments on attractions

```
CREATE TABLE UserComments (  
    CommentID INT PRIMARY KEY AUTO_INCREMENT,  
    UserID INT,  
    AttractionID INT,  
    Comment TEXT,  
    FOREIGN KEY (UserID) REFERENCES Users(UserID),  
    FOREIGN KEY (AttractionID) REFERENCES TouristAttractions(AttractionID)  
);
```

-- Table to store user ratings on attractions

```
CREATE TABLE UserRatings (  
    RatingID INT PRIMARY KEY AUTO_INCREMENT,  
    UserID INT,
```

```
AttractionID INT,  
Rating INT,  
FOREIGN KEY (UserID) REFERENCES Users(UserID),  
FOREIGN KEY (AttractionID) REFERENCES TouristAttractions(AttractionID)  
);
```

GITHUB LINK:

<https://github.com/Sanjavy01/naanmudhalvan.git>

DEMO LINK:

<https://drive.google.com/file/d/1hdUrj6fzMMekmZR0ySOlAUyGooqSMmXS/view?usp=sharing>