DATA DOMINATORS: A COMPARTIVE STUDY OF TOP GLOBAL UNIVERSITY IN DATA ANALYTIC

CONTENT:

CHAPTER 1
INTRODUCTION

This comparative study aims to delve into the world of top global universities offering programs and research opportunities in data analytics. We will examine and assess these institutions based on various criteria, including academic excellence, research output, industry partnerships, and global impact. The purpose of this study is to provide prospective students, educators, and industry stakeholders with valuable insights into the leading institutions shaping the future of data analytics.

As we embark on this journey to evaluate and compare top universities, it is essential to recognize that the landscape of data analytics is dynamic and evolving. New techniques, tools, and applications are continually emerging, and universities play a critical role in adapting and advancing their programs to meet these ever-changing demands. Furthermore, the global context in which data analytics operates is diverse and multifaceted, with different regions and cultures influencing the development and application of data-driven insights.

1.1 PROJECT OVERVIEW

Data analytics has become an integral part of decision-making across various industries, making it essential for universities to offer data analytics programs. "Data Dominators" is a research project that aims to conduct a comprehensive comparative study of data analytics programs in universities. The goal is to provide valuable insights for students, educators, and institutions seeking to enhance their data analytics offerings.

1.2 PURPOSE

Informing Prospective Students: This project aims to help prospective students interested in pursuing a career in data analytics make informed decisions about their higher education choices. By comparing and ranking data analytics programs, it provides valuable insights into the strengths and weaknesses of these programs, enabling students to select the one that best suits their goals and aspirations.

Improving Educational Institutions: By evaluating and comparing data analytics programs, the project provides universities and educational institutions with feedback on their offerings. This feedback can be used to enhance their curricula, faculty expertise, and support services, ultimately improving the quality of education provided in the field of data analytics.

Supporting Policy and Funding Decisions: Policymakers and funding organizations can use the project's findings to allocate resources effectively and support initiatives that promote data analytics education. It helps guide decisions on investment in data analytics programs, scholarships, and resources to meet the growing demand for data analytics skills.

Promoting Industry-Academia Collaboration: The project assesses the industry engagement and partnerships of universities, which can foster stronger ties between academia and industry. This collaboration can lead to more internship opportunities, research projects, and job placements, benefiting students and the workforce.

CHAPTER 2

LITERATURE SURVEY

2.1 EXISTING PROBLEM

Lack of Standardization: Data analytics programs vary significantly in terms of curriculum, focus areas, and course offerings among different universities. This lack of standardization can make it difficult for students to assess the quality and relevance of programs.

Rapidly Evolving Field: Data analytics is a rapidly evolving field, and keeping educational programs up-to-date with the latest tools, technologies, and best practices can be a challenge. Outdated curricula can hinder students' preparedness for the job market.

Inadequate Faculty Expertise: The quality and expertise of faculty members teaching data analytics courses can vary. Some universities may struggle to attract or retain faculty with practical industry experience, which is crucial for imparting real-world skills to students.

Limited Industry Engagement: Many data analytics programs lack strong ties to industry, which can result in missed opportunities for students to gain practical experience through internships, co-op programs, or industry projects.

2.2 REFERENCE

Academic Journals: Look for research papers and articles in academic journals related to data analytics education, curriculum development, and program assessments. Journals like the "Journal of Data Science Education" or "Journal of Data Analytics" might be helpful.

Educational Websites: University websites and departmental pages often provide detailed information about their data analytics programs, faculty, and resources.

Surveys and Reports: Professional organizations and government bodies often publish reports and surveys related to data analytics education. For example, reports from the U.S. Bureau of Labor Statistics or industry-specific reports can provide valuable insights.

Interviews and Surveys: Conducting interviews or surveys with students, faculty, and alumni from data analytics programs can yield firsthand insights and data for your study.

2.3 PROBLEM STATEMENT DEFINTION

A problem statement is a clear, concise, and well-defined description of an issue or challenge that needs to be addressed. It serves as a foundational element in problem-solving, research, and project planning by clearly articulating the problem, its context, and its significance. A well-crafted problem statement typically includes the following components:

The Problem Description: A specific and detailed explanation of the problem or challenge, highlighting its essential characteristics, causes, and effects. This part of the statement helps to clarify the nature of the problem.

The Context: Information about the environment or conditions in which the problem exists. This can include relevant background information, constraints, or external factors that contribute to the problem.

The Impact or Significance: An explanation of why the problem is important or why it needs to be solved. This should include the potential consequences of not addressing the problem and the benefits of solving it

The Stakeholders: Identification of the individuals, groups, or entities affected by or involved in the problem. Understanding the stakeholders helps to assess the problem from various perspectives.

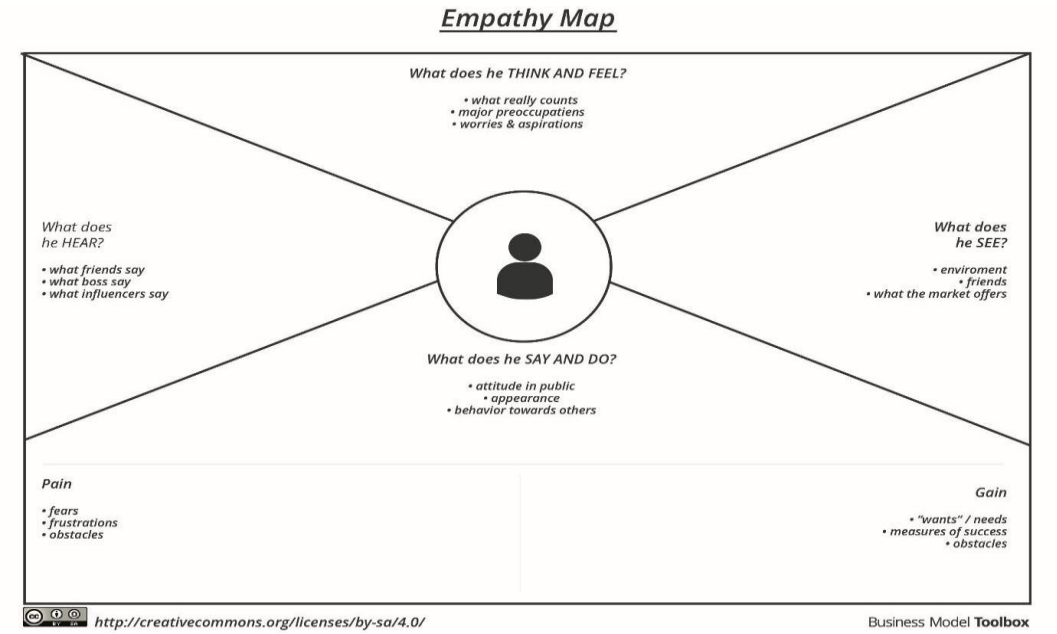
The Scope: Establishing the boundaries of the problem by defining what is included and excluded. This helps prevent scope creep and ensures that the problem statement remains focused.

Measurable Objectives: If applicable, including specific, measurable goals or outcomes that indicate the problem's resolution. This is essential for evaluating the success of any efforts to solve the problem.

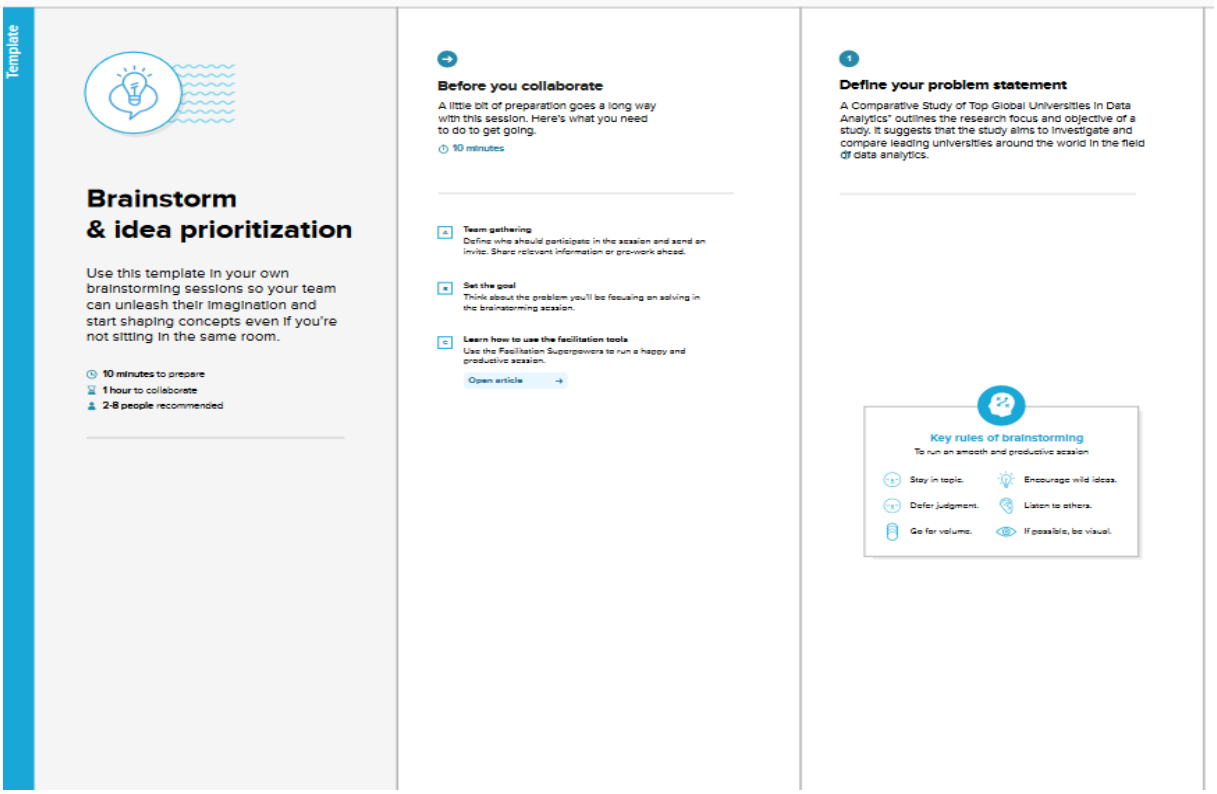
CHAPTER 3

IDEATION & PROPOSED SOLUTION

3.1 EMPATHY MAP



3.2 IDEATION AND BRAIN STROMING



2

Brainstorm

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

10 minutes

Person 1

Selection Criteria

Curriculum Analysis

Person 3

Industry Partnerships

Student Success

Person 2

Faculty Expertise

Research Output

Person 4

International Exposure

Diversity and Inclusivity

3

Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you and break it up into smaller sub-groups.

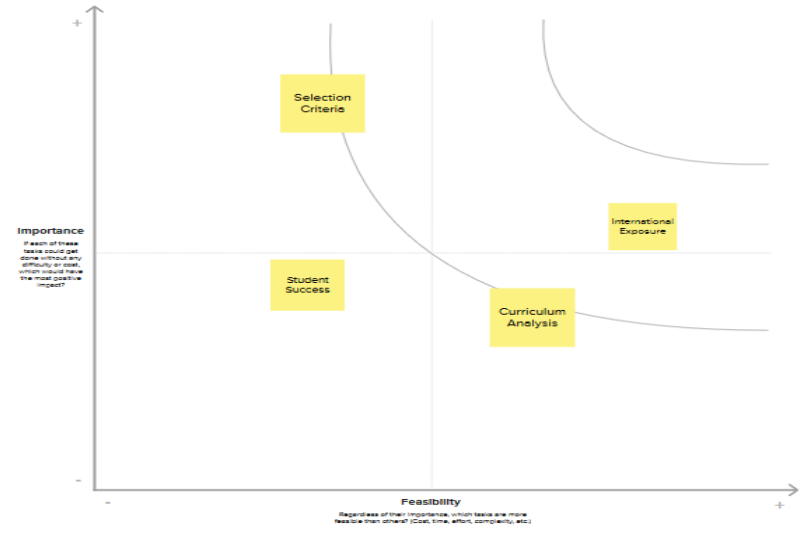
20 minutes

4

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes



CHAPTER 4

REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIRMENTS

Feature Descriptions: Functional requirements describe the features or capabilities the software must have. These can range from basic actions like user authentication to more complex operations like data processing or integration with external systems.

Use Cases: Use cases or scenarios outline how the system should behave under various conditions. These describe the interaction between the user or system and the software, specifying the inputs, expected outputs, and the steps involved.

User Interface: Functional requirements often include specifications for the user interface, detailing how users interact with the system. This can involve layout, navigation, forms, buttons, and other UI elements.

Data Handling: These requirements specify how the system manages data. This includes data input, storage, retrieval, manipulation, and data validation rules.

Error Handling: Functional requirements outline how the system should respond to errors, exceptions, or unexpected events. This includes error messages, notifications, and recovery processes.

4.2 NON – FUNCTIONAL REQUIREMENT ANALYSIS

Performance: These requirements define the system's speed, responsiveness, and scalability. Examples include response times, throughput, and the ability to handle a certain number of concurrent users or transactions.

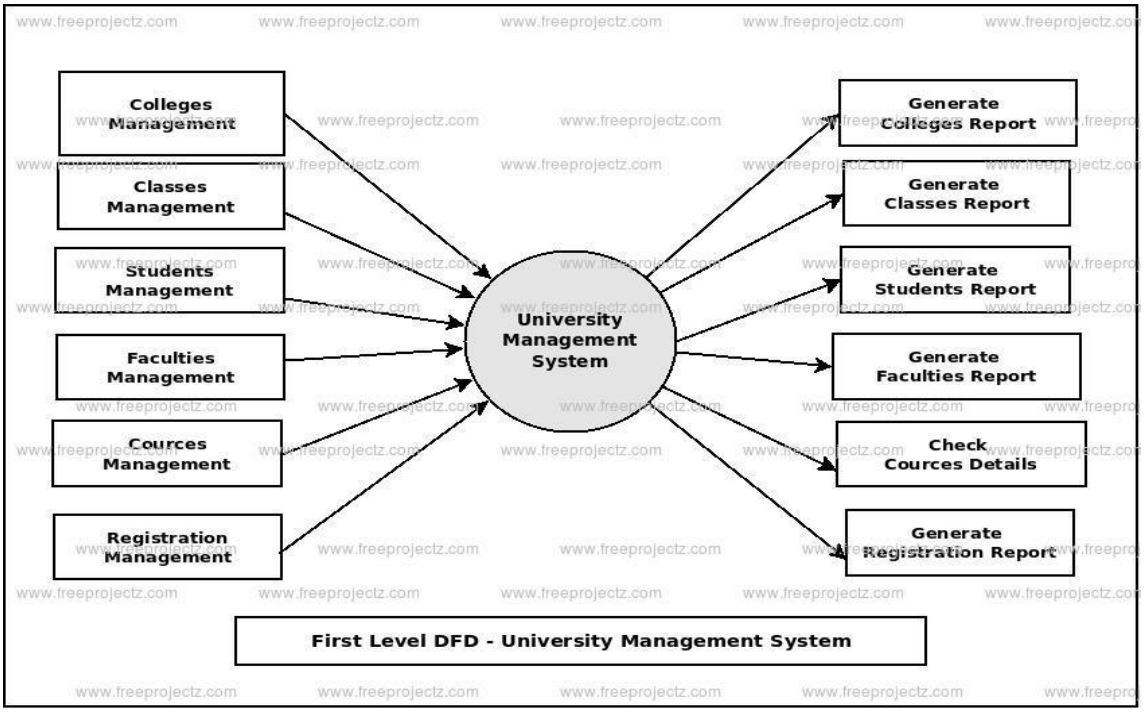
Scalability: Scalability requirements outline how the system should adapt and perform as the user base or data load grows. This can involve horizontal or vertical scaling strategies.

Availability: Availability requirements specify the system's uptime and reliability, often expressed as a percentage (e.g., 99.9% uptime). It defines how frequently maintenance or downtime is allowed.

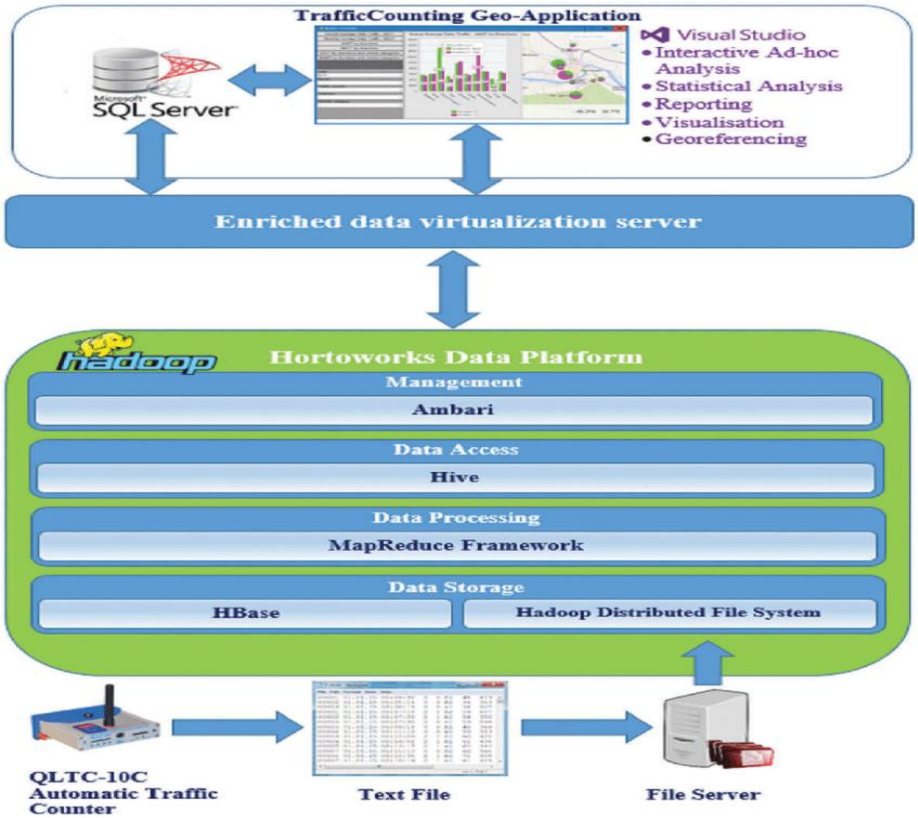
Reliability: Reliability requirements indicate the system's ability to function without failures or errors over a specific duration. They may specify mean time between failures (MTBF) or error rates.

CHAPTER 5
PROJECT PLANNING &SCHEDULING

5.1 DATA FLOW DIAGRAM & USER STORIES



5.2 SOLUTION & ARCHITECTURE



CHAPTER 6

PROJECT PLANNING & SCHEDULING

6.1 TECHNICAL ARCHITECTURE

Technical architecture refers to the high-level design and structure of a software system, application, or IT infrastructure. It encompasses the arrangement of components, technologies, and systems that work together to support the functionality and performance of a software solution. Technical architecture is a crucial aspect of software development and IT planning, as it defines the framework within which a system operates. Here are key components and considerations within technical architecture

6.2 SPRINT PLANNING & ESTIMATION

Sprint planning and estimation are integral parts of the Agile development methodology, particularly in Scrum. These processes help development teams determine what work will be completed in the upcoming sprint (typically a 2-4 week development cycle) and how long it will take. Here's an overview of sprint planning and estimation:

Sprint Planning:

Sprint planning is a collaborative meeting that occurs at the beginning of each sprint. It involves the Scrum Team, which includes the Product Owner, Scrum Master, and Development Team. The primary goal of sprint planning is to define what work will be done during the sprint and how that work will be accomplished. It consists of two main parts:

6.3 SPRINT DELIVERY SCHEDULE

The sprint delivery schedule, also known as the sprint timeline or sprint calendar, outlines the key dates and milestones for a sprint in Agile development, particularly within the Scrum framework. A sprint typically lasts 2-4 weeks and involves various activities that follow a specific schedule. Here's an example of a sprint delivery schedule for a two-week sprint:

CHAPTER 7
CODING & SOLUTION

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Data Dominators - Comparative Study of Top Global Universities in Data Analytics</title>
    <style>
        body {
            background-color: #000; /* Dark black background color */
            color: #fff; /* White text color */
            font-family: Arial, sans-serif;
            margin: 0;
            padding: 0;
        }
        header {
            background-image: url('college-background.jpg'); /* Replace 'college-background.jpg' with your image file */
            background-size: cover;
            text-align: center;
            padding: 150px 0;
        }
        header h1 {
            font-size: 36px;
        }
        nav {
            position: absolute;
            top: 10px;
            left: 10px;
```

```
        }
        nav ul {
            list-style: none;
        }
        nav ul li {
            display: inline;
            margin-right: 20px;
        }
        main {
            text-align: center;
            padding: 20px;
        }
        section {
            padding: 20px;
        }
    </style>
</head>
<body>
    <header>
        <h1>Data Dominators - Comparative Study of Top Global Universities in Data Analytics</h1>
    </header>
    <nav>
        <ul>
            <li><a href="#home">Home</a></li>
            <li><a href="#about">About</a></li>
            <li><a href="#dashboard">Dashboard</a></li>
            <li><a href="#team">Team</a></li>
            <li><a href="#dropdown">Dropdown</a></li>
            <li><a href="#context">Context</a></li>
            <li><a href="#get-started">Get Started</a></li>
```

```
        </ul>
    </nav>
    <main>
        <section id="home">
            <h2>Home</h2>
            <p>Welcome to Data Dominators - Comparative Study of Top Global Universities in Data Analytics.</p>
        </section>
        <section id="about">
            <h2>About</h2>
        </section>
        <section id="dashboard">
            <h2>Dashboard</h2>
        </section>
        <section id="team">
            <h2>Team</h2>
        </section>
        <section id="dropdown">
            <h2>Dropdown</h2>
        </section>
        <section id="context">
            <h2>Context</h2>
        <section id="get-started">
            <h2>Get Started</h2>
                </section>
    </main>
    <footer>
        <p>&copy; 2023 Data Dominators - Comparative Study of Top Global Universities in Data Analytics</p>
    </footer>
</body>
```

</html>

CHAPTER 8

PERFORMANCE TESTING

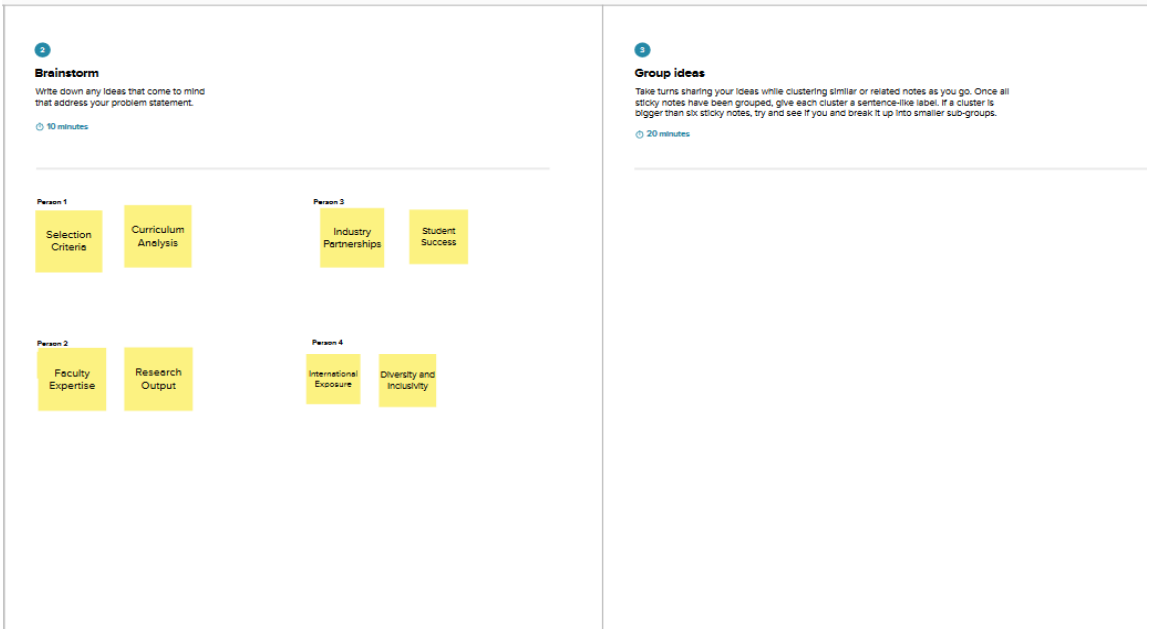
8.1 PERFORMANCE METRICS

S.No.	Parameter	Screenshot / Values
1.	Dashboard design	No of Visualizations / Graphs - 9
2.	Data Responsiveness	Real-Time Data Integration Efficient Data Retrieval
3.	Amount Data to Rendered (DB2 Metrics)	Database
4.	Utilization of Data Filters	Query Optimization Indexing and Sorting
5.	Effective User Story	No of Scene Added - 8
6.	Descriptive Reports	No of Visulizations / Graphs - 9

CHAPTER 9

RESULTS

9.1 OUTPUT SCREEN SHOTS



CHAPTER 10

ADVANTAGES & DISADVANTAGES

10.1 ADVANTAGES

comparative studies of top global universities in data analytics offer several advantages for students, researchers, and educational institutions. Here are some of the key benefits:

Program Evaluation: Comparative studies help prospective students and their families assess the strengths and weaknesses of data analytics programs at different universities. This information is crucial for making informed decisions about where to pursue their education.

Quality Assessment: These studies enable students to gauge the quality of education, faculty expertise, and resources available at various universities, helping them identify institutions that are leaders in the field of data analytics.

Specialization Identification: Comparative studies can reveal the specific areas of data analytics in which universities excel. This information is valuable for students looking to specialize in particular aspects of data analytics, such as machine learning, data science, or business analytics.

Research Opportunities: For researchers, these studies can help identify universities with strong research programs in data analytics, potentially leading to collaborations, access to cutting-edge research, and funding opportunities.

10.2 DISAVANTAGES

Data Accuracy: The quality of comparative studies heavily relies on the accuracy and reliability of the data sources. Inaccurate or outdated information can mislead students and researchers.

Subjective Criteria: Comparative studies often involve subjective criteria and rankings, which may not reflect individual preferences and priorities. What is considered a top university by one source may not align with an individual's specific goals.

Limited Scope: Some comparative studies may focus on a narrow set of criteria or a limited number of universities, potentially missing out on excellent programs that do not fit the selected parameters.

Changing Landscape: The field of data analytics is constantly evolving, and universities frequently update their programs to keep pace with industry trends. Comparative studies might not capture the most current developments in the field.

CHAPTER 11

CONCLUSION

In conclusion, comparative studies of top global universities in data analytics offer valuable insights for students and researchers, helping them assess the strengths and weaknesses of different programs, identify areas of specialization, and make informed decisions about their education and research endeavors. These studies can also shed light on the quality of education, faculty expertise, and available resources, as well as provide a global perspective on data analytics education.

However, it's important to recognize the potential disadvantages and limitations of such studies. They may rely on subjective criteria, lack individualized guidance, and oversimplify complex factors. Additionally, they may not capture the rapidly evolving nature of the field and may overlook excellent programs in less well-known regions or institutions.

To maximize the benefits of comparative studies, individuals should use them as one of many sources of information. They should conduct additional research, consider their personal preferences and goals, and take into account factors such as campus culture, location, and affordability when making decisions about their education and research opportunities in data analytics. Ultimately, the choice of a university should align with an individual's unique aspirations and needs.

CHAPTER 12

FUTURE SCOPE

The future scope of data analytics and data science in academia, industry, and research is promising and continues to evolve rapidly. Here are some key areas where the field is expected to grow and expand in the coming years:

Industry Demand: Data analytics is in high demand across various industries, including finance, healthcare, e-commerce, marketing, and more. As organizations increasingly rely on data-driven decision-making, the demand for skilled data analysts and data scientists is expected to continue to rise.

Artificial Intelligence and Machine Learning: Data analytics will intersect more with artificial intelligence (AI) and machine learning (ML) as businesses seek to leverage predictive and prescriptive analytics to make smarter decisions. This will create opportunities for researchers and practitioners in these areas.

Big Data: The proliferation of big data sources and the need to process, analyze, and derive insights from large and complex datasets will remain a significant focus. Data analytics programs will need to keep pace with technological advancements in handling big data.

Ethics and Privacy: With the increasing use of data, ethical considerations and data privacy will become more important. There will be a growing need for experts who can navigate the ethical implications of data analytics.

CHAPTER 13

APPENDIX

SOURCE CODE:

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Data Dominators - Comparative Study of Top Global Universities in Data Analytics</title>
    <style>
        body {
            background-color: #000; /* Dark black background color */
            color: #fff; /* White text color */
            font-family: Arial, sans-serif;
            margin: 0;
            padding: 0;
        }

        header {
            background-image: url('college-background.jpg'); /* Replace 'college-background.jpg' with your image file */
            background-size: cover;
            text-align: center;
            padding: 150px 0;
        }

        header h1 {
            font-size: 36px;
        }

        nav {
```

```
            position: absolute;
            top: 10px;
            left: 10px;
        }

        nav ul {
            list-style: none;
        }

        nav ul li {
            display: inline;
            margin-right: 20px;
        }

        main {
            text-align: center;
            padding: 20px;
        }

        section {
            padding: 20px;
        }
    </style>
</head>
<body>
    <header>
        <h1>Data Dominators - Comparative Study of Top Global Universities in Data Analytics</h1>
    </header>

    <nav>
```

```
    <ul>
      <li><a href="#home">Home</a></li>
      <li><a href="#about">About</a></li>
      <li><a href="#dashboard">Dashboard</a></li>
      <li><a href="#team">Team</a></li>
      <li><a href="#dropdown">Dropdown</a></li>
      <li><a href="#context">Context</a></li>
      <li><a href="#get-started">Get Started</a></li>
    </ul>
  </nav>

  <main>
    <section id="home">
      <h2>Home</h2>
      <p>Welcome to Data Dominators - Comparative Study of Top Global Universities in Data Analytics.</p>
    </section>

    <section id="about">
      <h2>About</h2>

    </section>

    <section id="dashboard">
      <h2>Dashboard</h2>

    </section>

    <section id="team">
      <h2>Team</h2>
```

```
        </section>

        <section id="dropdown">
            <h2>Dropdown</h2>

        </section>

        <section id="context">
            <h2>Context</h2>



        <section id="get-started">
            <h2>Get Started</h2>

        </section>
    </main>

    <footer>
        <p>&copy; 2023 Data Dominators - Comparative Study of Top Global Universities in Data Analytics</p>
    </footer>
</body>
</html>
```

GIT HUB: https://github.com/Kavyapolam

PROJECT DEMO LINK: https://drive.google.com/file/d/1fVl5zOgsnOXTa8dSGl9IHwnE00U9zMUX/view?usp=drivesdk