Basic Details of the Team and Problem Statement

Ministry/Organization Name/Student Innovation: Ministry of Education

PS Code: SIH1434

Problem Statement Title: Making career choices and AI based counselling accessible to every child at secondary level along with aptitude tests and detailed career paths.

Team Name: Sinister Six!

Team Leader Name: Avani Brahmbhatt

Institute Code (AISHE): U-0136

Institute Name: Gujarat University

Theme Name: Smart Education

Idea/Approach Details

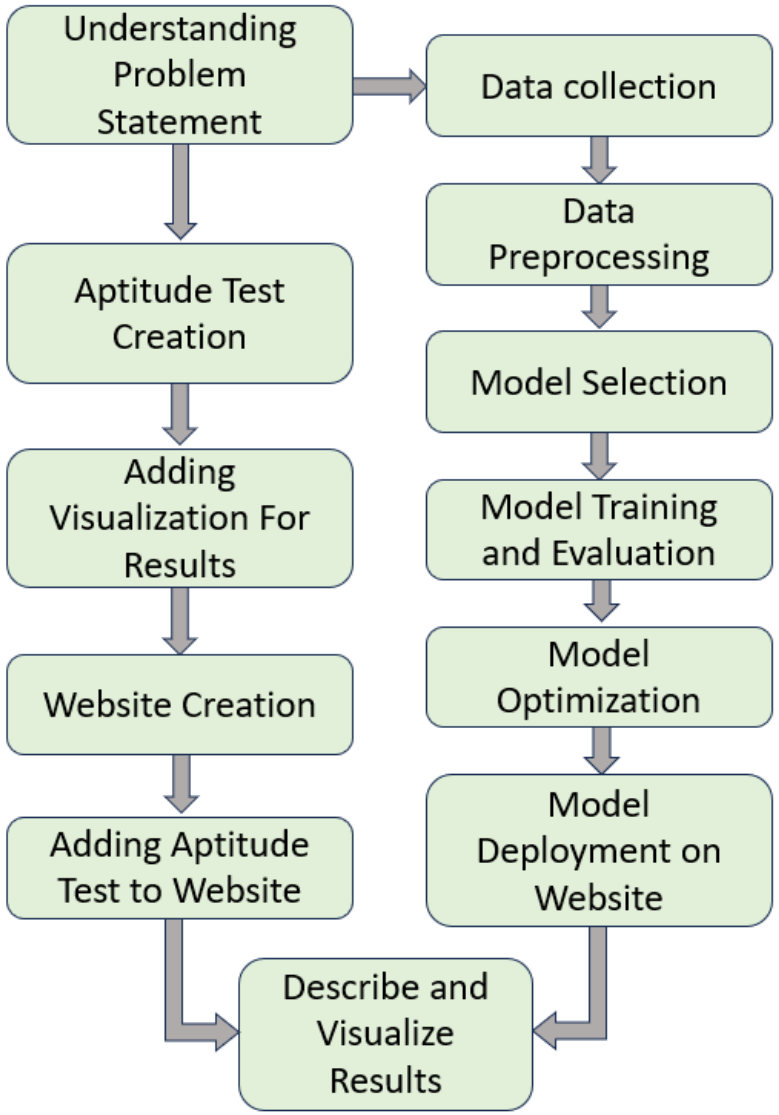
Describe your idea/Solution/Prototype here:

- A significant majority of individuals appear to be grappling with a lack of clarity regarding the various job roles available and the optimal career paths to pursue in alignment with their preferences.
- To address this issue, we have developed aptitude tests designed to assess students' skills and aptitudes, ultimately guiding them towards suitable career choices based on their unique interests and abilities.
- Furthermore, we intend to utilize a machine learning model to make predictions about the outcomes of these assessments and visualize the results for better comprehension.

Describe your Technology stack here:

- Jupyter Notebook and VS Code- Python Libraries- Scikit Learn, Matplotlib, Pandas, Numpy, tkinterhtml
- Streamlit for website development
- Google Forms for data collection
- Flask for model deployment

Project Workflow



Idea/Approach Details

Describe your Use Cases here

- ***Educational Institutions:*** Educational institutions can use this system to help students make informed decisions about their future career paths.
- ***Career Counseling Centers:*** Career counselors can leverage the aptitude tests and machine learning predictions to offer more accurate and data-driven guidance to their clients. This can lead to higher client satisfaction and better career outcomes.
- ***Research and Education:*** Researchers and educators can employ this system for studies related to career choices, workforce trends, and the effectiveness of career guidance programs.
- ***Non-profit Organizations:*** Nonprofits working with youth can use these tools to empower young individuals in making informed decisions about their educational and career paths, potentially reducing dropout rates.

Describe your Dependencies / Show stopper here

- ***Personalization and Accuracy:***
  - Ensuring that the AI-driven recommendations were highly personalized and accurate for individual users was a complex task, especially when dealing with users from diverse backgrounds and career stages.
  - **Solution:** We employed advanced machine learning algorithms, including collaborative filtering and content-based filtering, to improve recommendation accuracy.

- ***Data Quality and Quantity:***
  - Obtaining high-quality and diverse data on job market trends and user profiles was a significant challenge. Data availability and consistency varied across different regions and industries.
  - **Solution:** We implemented data preprocessing techniques to clean and standardize incoming data. Additionally, we actively collaborated with data providers and job search platforms to improve data quality.

Team Member Details

Team Leader Name: Avani Brahmbhatt

Branch (Btech/Mtech/PhD etc): Msc Integrated | Stream (ECE, CSE etc): Data Science | Year (I,II,III,IV): III

Team Member 1 Name: Zurin Lakdawala

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Team Member 2 Name: Nandni Barot

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Team Member 3 Name: Mit Thaker

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Team Member 4 Name: Priyanshi Limbachiya

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Team Member 5 Name: Himadri Raval

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