Idea/Approach Details

Technology Bucket :	**Energy/Renewable Energy**
Category :	**Software**
Ministry Name :	**Ministry of Coal**
Problem Code :	**RK6**
Team Leader Name :	**Ankit Patel**
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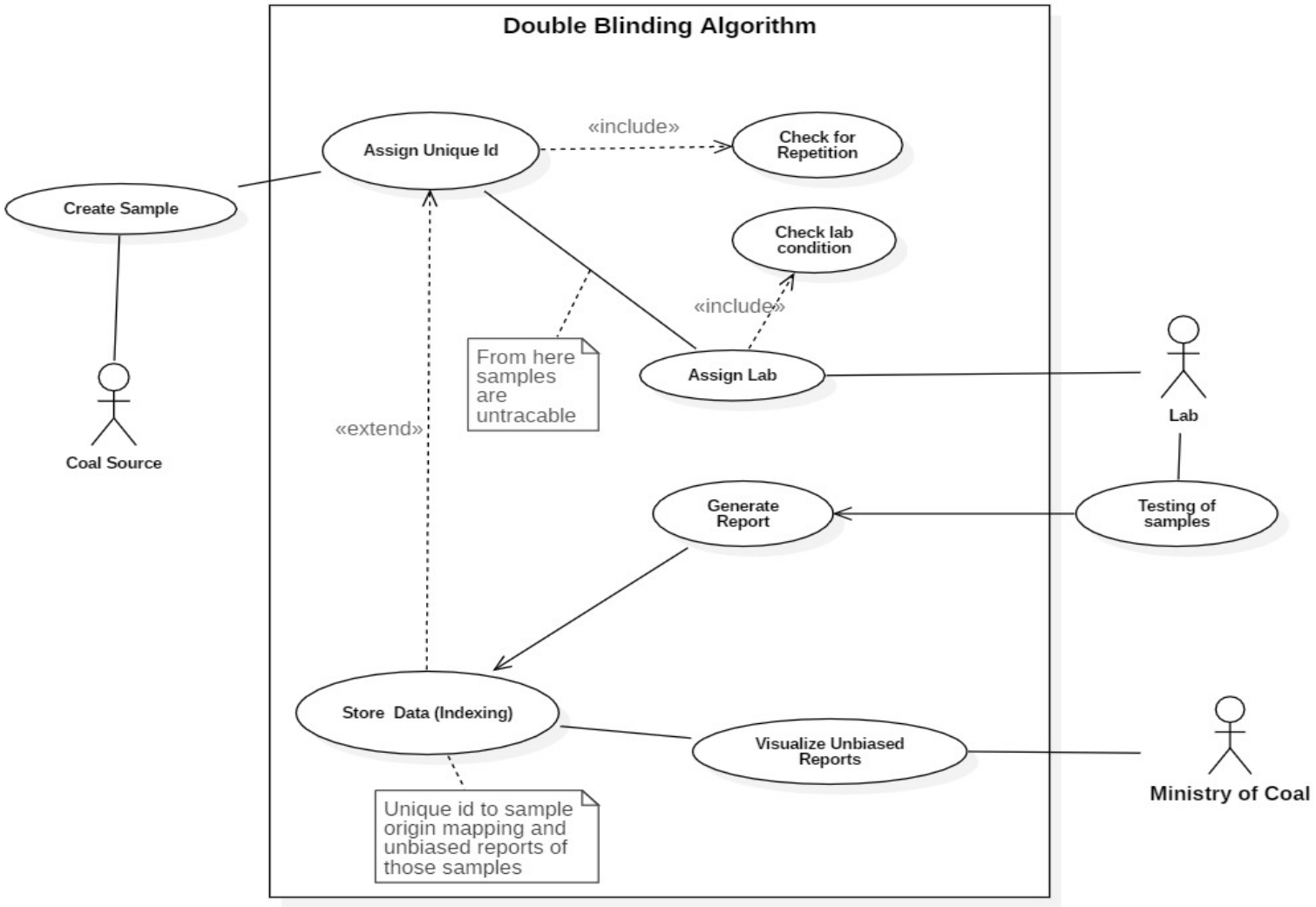
Idea in Brief

Double Blinding of coal samples can be achieved by assigning a pseudo-random value to given samples according to a predefined index and then unbiased results are visualized, the steps can be broken down as :

- Coal Samples from various sources are assigned a **Random Id.** using a dedicated **pseudo-random number generator**.
- These **untraceable** samples are then sent to labs for testing and quality assurance, the results from labs are assigned to the sample Id.
- The software user then, can use the **Index table** to generate an **Unbiased database** of quality testing reports.
- Apart from this the user has ability to **Track performance** of various coal sources and testing laboratories.

Use Case Diagram



Technology Stack

Our project utilizes technology from various disciplines of computer science:

- We intend to utilize **Database Management Software** like Oracle.
- To assign a random, untraceable Id., we propose use of a dedicated **Pseudo-Random Generator**
- To store the large amount of data generated a **Cloud based storage** platform(Google BigQuery, AWS etc.)will be utilized.
- To visualize processed Data, python libraries like **Matplotlib** and **Seaborn** will be used.

Dependencies

There are some requirements that need to be satisfied for proper execution of project:

- Comprehensive Database of various sources/companies from where samples are extracted.
- Information regarding Availability Status of Labs performing testing.