**3.Requirements Gathering**

**Stakeholder Analysis:** Identifying key stakeholders is crucial for aligning the project objectives with business needs. The primary stakeholders include:

* **HR Managers:** Require insights to improve employee retention strategies.
* **Executives & Decision-Makers:** Need data-driven reports to optimize workforce planning.
* **Data Science Team:** Responsible for implementing and refining predictive models.
* **Employees:** Their feedback and concerns about workplace conditions impact the model’s effectiveness.

**User Stories & Use Cases:**

* **User Story 1:** As an HR manager, I want to analyze employee attrition trends so that I can implement better retention policies.
* **User Story 2:** As a data scientist, I want to develop machine learning models to predict attrition so that the company can take proactive measures.
* **Use Case Example:** A company detects a high probability of attrition among mid-level employees and introduces targeted incentives to improve retention.

**Functional Requirements:**

* Data preprocessing and cleaning capabilities.
* Exploratory data analysis with visual insights.
* Predictive modeling using machine learning.
* Model evaluation and accuracy assessment.
* Reporting and visualization tools for HR professionals.

**Non-functional Requirements:**

* **Performance:** The system should process datasets efficiently within a reasonable timeframe.
* **Security:** Employee data must be anonymized and stored securely.
* **Usability:** The platform should have an intuitive interface for HR professionals.
* **Reliability:** The predictive model should maintain accuracy across different datasets.