**BUSINESS REQUIREMENTS DOCUMENT (BRD)**

**Project Name**: Data-Driven Employee Performance and Retention Platform  
**Date**: November 5, 2024  
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**1. PROJECT OVERVIEW**

**1.1 Introduction/Background**

Welcome to the Employee Performance and Retention Platform Project. This initiative aims to use advanced data analytics and machine learning to address one of the most critical business challenges 10alytics—employee attrition and performance management. This task is undertaken by a multidisciplinary team (Data Analysts, Data Scientists, Business Analysts, HR Analysts, Agile Project Managers and Developer) working together to help the company understand and predict employee behavior and take proactive steps to improve retention and employee satisfaction.

**1.2 Purpose**  
This document defines the requirements for a platform that predicts employee attrition, analyzes performance trends, and recommends personalized retention strategies. The goal of this platform is to enable proactive talent management, improve employee engagement, reduce turnover, and enhance productivity.

**1.3 Scope**  
The platform will collect and analyze data from various HR and performance management systems to predict attrition risk, monitor performance trends, and provide actionable insights for retaining top talent. Key functions include predictive analytics, performance tracking, and personalized retention recommendations.

**Team**: Data Analyst, Data Scientist, HR Analyst, Business Analyst, Agile Project Manager

**Tools/Technologies**: Python, Excel, SQL, Power BI/Tableau, Scikit-learn, Jira, WhatsApp

**1.4 OBJECTIVES & BENEFITS.**

**1. Access to Advanced Analytics Tools**

* **Objective:** To ensures accurate insights into attrition trends and performance metrics.
* **Benefit**: Provide HR Analysts with cutting-edge analytics platforms (e.g., Power BI, Tableau, or custom AI/ML tools) to simplify data visualization and analysis.

**2. Dedicated Learning and Development Opportunities**

* **Objective:** To equip the HR analysts to enhance predictive accuracy for attrition and refine personalized retention strategies.
* **Benefit**: Proactive decision in identifying and offering relevant trainings and courses that will improve the performances and control attrition of the employees.

**3. Access to Real-Time Employee Engagement Platforms**

* **Objective**: To enables quick identification of at-risk employees and data-backed retention solutions.
* **Benefit**: Provide platforms like Glint or Officevibe to collect real-time feedback and engagement data from employees.

**4. Recognition and Performance Bonuses**

* **Objective**: To motivates HR analysts to craft and implement impactful retention solutions.
* **Benefit**: Tie incentives to successful attrition reduction strategies and improvements in team performance metrics.

**5. Collaboration with Behavioral Psychologists and Coaches**

* **Objective**: To drive deeper understanding of engagement factors to develop effective, personalized retention strategies.
* **Benefit**: Partner HR analysts with experts to decode employee behavioral trends and refine retention efforts.

**6. Flexible Work Arrangements**

* **Objective**: To improve productivity and reduces attrition within the analytics team itself, serving as a case study for organizational retention strategies.
* **Benefit**: Offer remote work options or hybrid models for HR analysts, alongside well-being allowances for health and mental support.

**7. Data Access and Governance Tools**

* **Objective**: To streamline attrition prediction and trend analysis workflows.
* **Benefit**: This will ensure HR analysts have secure access to historical and real-time data through robust cloud solutions and integrated dashboards.

**8. Employee Insights Lab**

* **Objective**: To encourage innovation and ensures precision in addressing attrition risks.
* **Benefit**: Establish a dedicated space for HR analysts to experiment with new predictive models and test retention strategies.

**9. Employee Retention Toolkit**

* **Objective:** To help HR analysts implement data-driven, personalized solutions efficiently.
* **Benefit**: Provide HR analysts with resources like customizable templates for retention plans, incentive program ideas, and benchmarking data.

**10. Quarterly Strategy Workshops**

* **Objective**: To promote continuous learning and aligns strategies with evolving trends.
* **Benefit**: Organize workshops to review retention strategies, share results, and explore advanced methodologies.

**2. STAKEHOLDERS**

|  |  |
| --- | --- |
| **Role** | **Responsibility** |
| Project Sponsor | Approves project scope and budget |
| HR Leadership | Uses the platform to make strategic retention decisions |
| HR Analytics Team | Supports data integration and analytics functions |
| App Developers | Manages platform infrastructure and security |
| End Users (HR Analysts/Managers) | Accesses data insights and recommendations |
| APMs | Sprint planning, tracking progress, risk management, stakeholder communication. |
| Data Analysts | Perform exploratory data analysis and assist with data visualization business stakeholders. Data cleaning, feature selection, creating reports and dashboards, analyzing trends in the data. |
| Data Scientists | Develop and test predictive models that forecast employee attrition and performance. Model selection, training, testing, evaluation, hyperparameter tuning, optimization |
| Business Analysts | Ensure alignment between the platform’s outputs and the business goals. Translate business requirements into technical requirements. Analyze the business needs, communicate with stakeholders, gather requirements, validate platforms features with HR and management. |

**3. POINT OF CONTACTS**

|  |  |  |
| --- | --- | --- |
| **Title** | **Phone Numbers** | **Email Addresses** |
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**4. BUSINESS REQUIREMENTS**

|  |  |  |
| --- | --- | --- |
| **Requirement ID** | **Requirement Description** | **Priority** |
| BR-01 | The platform should collect and integrate data from HR, payroll, and performance management systems. | High |
| BR-02 | Predict employee attrition risk using machine learning models. | High |
| BR-03 | Recommend retention strategies based on attrition risk factors. | High |
| BR-04 | Ensure secure access to sensitive HR data with role-based permissions. | High |
| BR-05 | Display real-time performance trends by individual, team, and department. | Medium |
| BR-06 | Generate customized reports on attrition, performance, and retention actions. | Medium |

**5. FUNCTIONAL REQUIREMENTS**

|  |  |  |
| --- | --- | --- |
| **Function ID** | **Function Description** | **Priority** |
| FR-01 | **Data Integration**: Aggregate and cleanse data from HR, payroll, and performance systems. | High |
| FR-02 | **Attrition Prediction**: Develop models to analyze historical and real-time data to predict attrition risk. | High |
| FR-03 | **Retention Recommendations**: Generate personalized retention strategies (e.g., training, compensation adjustments, mentoring). | High |
| FR-04 | **User Permissions**: Implement role-based access controls to secure sensitive data. | High |
| FR-05 | **Performance Analysis**: Track and visualize performance metrics such as ratings, goal completion, and feedback trends. | Medium |
| FR-06 | **Reporting and Dashboard**: Enable users to view customized reports and dashboards that display attrition, performance, and retention data. | Medium |

**6. NON-FUNCTIONAL REQUIREMENTS**

|  |  |  |
| --- | --- | --- |
| **Requirement ID** | **Requirement Description** | **Priority** |
| NFR-01 | **Performance**: Ensure that data processing times remain within acceptable thresholds for real-time insights. | High |
| NFR-02 | **Data Security**: Comply with data privacy regulations (e.g., GDPR) and ensure secure data storage and transfer. | High |
| NFR-03 | **Reliability**: Ensure 99.9% uptime to maintain access to critical HR data insights. | High |
| NFR-04 | **Scalability**: Platform must support scalability to accommodate increasing data and user access. | Medium |
| NFR-05 | **Usability**: Interface must be intuitive and user-friendly for HR and managerial staff with minimal training. | Medium |
| NFR-06 | **Compliance:** Adherence to relevant regulations (e.g., GDPR, CCPA). | High |

**7. DATA REQUIREMENTS**

**7.1 Data Sources**

* HR Systems: Employee demographics, job role, tenure, etc.
* Payroll: Compensation, incentives, benefits.
* Performance Management: Ratings, goals, feedback.
* Exit interviews
* Employees data survey

**7.2 Data Fields**

| **Field Name** | **Source** | **Description** |
| --- | --- | --- |
| Employee ID | HR System | Unique identifier for each employee |
| Job Role | HR System | Employee’s role within the organization |
| Performance Rating | Performance System | Recent performance review rating |
| Attrition Prediction Score | Platform | Predicted probability of attrition |
| Retention Strategy | Platform | Recommended action for retention |

**8. USER STORIES AND ACCEPTANCE CRITERIA**

|  |  |
| --- | --- |
| **User Stories** | **Acceptance Criteria** |
| **Login Epic:**  As a HR analyst, I want to be able to log into the integrated HRIS system with my username and password so that I can view HR related information | * User should be able to login successfully with valid credentials * User should be able to view the HR Dashboard * System should display errors where user inputs the wrong credentials. * System should display the appropriate error when the user does not have access to the system.   **Description**   * The system will be integrated into an existing HR application to fetch staff information, to enable the system to calculate the attrition rate using the data analysis matrix. |
| **Attrition Rate Epic:**  As a HR analyst, I want to be able to know the attrition likelihood trends over the next three years and to determine individual employees having likelihood (risk) of leaving the company | * Predictive model using machine learning algorithms and historical data. * Attrition risk scores displayed for each employee and team. * Ability to adjust model parameters and retain the model as needed |
| As a HR analyst, I want to be able to compare attrition rate across different years in company so as to identify and report on individuals and teams that present a higher attrition rate risk than others. | * User should view attrition rate across different years in company   Years in company category:  1-5  6-10  11-15  16-20  21-25  26-30 |
| As a HR analyst, I want to be able to compare attrition rate across different departments as to identify and report on individuals and teams that present a higher attrition rate risk than others. | * Users should view attrition rates across different departments. * User should be able to view number of staff that have left in the last 3/6/9/12 months * Users should be able to view their reason(s) for leaving. * System should be able to show their reporting line and HOD names. |
| As a HR analyst, I want to be able to compare attrition rate across different job levels roles to identify and report on individuals and teams that present a higher attrition rate risk than others. | * User should be able to view attrition rate across different Job levels |
| **Retention Epic:**  As a HR analyst, I want to be able to determine the impact of Work Life Balance as an HR initiatives on employee engagement and to report on its effect on employee retention | **Description**  The system will be integrated into an existing HR application to fetch staff information, to enable the system to calculate the retention rate using the data analysis matrix.  **Acceptance Criteria:**   * Display with appropriate visualization to show the relationship between Work Life Balance and Employee performance * User should be able to view employee performance level as indicative of employee engagement (retention). |
| As a HR manager, I want to be able to track key retention metrics by Job Satisfaction across different years to be able to report on individual employee or teams’ retention levels whether low or high. | * User should be able to view each employee’s job satisfaction levels as it relates to performance. * User should be able to view job satisfaction in the last 1/2/3/4/5 years * Visualization should show employees with high satisfaction levels in red and low satisfaction levels in blue |
| As a HR manager, I want to be able to track key retention metrics by Relationship Satisfaction in given time to be able to report on individual employee or teams’ retention levels whether low or high to make personalized retention strategies. | * User should be able to view each employee’s relationship satisfaction levels as it relates to performance. * User should be able to view relationship satisfaction in the last 1/2/3/4/5 years * Visualization should show employees with high satisfaction levels in red and low satisfaction levels in blue |
| As a HR manager, I want to be able to track key retention metrics by Environment Satisfaction over time to be able to report on individual employees or teams’ retention levels whether low or high to make personalized retention strategies. | * Users should be able to view each employee’s environmental satisfaction levels as it relates to performance. * User should be able to view environment satisfaction in the last 1/2/3/4/5 years * Visualization should show employees with high satisfaction levels in red and low satisfaction levels in blue |
| **Turnover Epic:**  As a HR analyst, I want to be able to know if there is employee turnover and to report on individual employee the reasons for leaving the company | **Description:**  The system will be integrated into an existing HR application to fetch staff information, to enable the system to calculate the turnover rate using the data analysis matrix.  **Acceptance Criteria:**   * User should be able to view Employee Feedback in exit interview * User should be able to view Demographics (age, gender, education). |
| **Performance Epic:**  As a HR analyst, I want to be able to know employee performance trends and to report on individual employee and teams on performance levels | * Users should be able to view average performance rating on employee performance dashboard. * User should be able to view top five performing and least five performing employees. * System should be able to show their reporting line and HOD names. |
| **Platform Display Features Epic**  As a HR analyst, I want to be able to view the overall attrition rate to know the overview value of attrition levels. | * Users should see the calculated overall attrition rate on the attrition dashboard. * Display in a chart the employee attrition risk scores as (low, medium, high) for each employee on the attrition dashboard |
| As a HR analyst, I want to be able to view the total number of employees, number of active employees to know the headcount of the workforce at one glance. | * Calculate and display the total number of employees on the employee performance dashboard. * Calculate and display the number of active employees on the employee performance dashboard. * Display the top five performing employees in green. * Display the least five performing employees in red |
| As a HR analyst, I want to be able to predict the likelihood of employees leaving the company. | * Based on HR data such as tenure, engagement, salary progression, and performance reviews. * Display in an appropriate chart for easy visualization. * Include a drill-down feature allowing HR to see more detailed reports for individual employees or departments. |
| As a HR analyst, I want to be able to view the number of active employees to know the headcount of the workforce at one glance | * User should see the calculated number of active employees on the employee performance dashboard |
| As a HR analyst, I want to be able to view the average employee performance rate to identify employee performance level | * Based on HR data such as tenure, engagement, salary progression, and performance reviews. * Display in an appropriate chart for easy visualization. * Include a drill-down feature allowing HR to see more detailed reports for individual employees or departments. * Enable HR to track individual or department-wide performance |
| As an HR Manager, I want to be able to make performance predictions to know future performance trends | * Use historical performance review scores to project outcomes. * Provide early warnings for employees whose performance is expected to decline. * Display in an appropriate chart for easy visualization. * Include a drill-down feature allowing HR to see more detailed reports for individual employees or departments. * Enable HR to track individual or department-wide performance |
| As a HR Manager, I want performance predictions recommendations to know future performance trends | * Use historical performance review scores to project outcomes. * Provide recommendations that offer relevant insights in real-time as new data is ingested. |
| **Data Privacy & Security Epic:**  As a HR Analyst, I want to ensure data security and privacy | * Data is encrypted and secure. * Access controls are in place and enforced. * Data privacy is maintained and compliant |
| As a HR Analyst, I want to Implement access controls and permissions | * Access controls are in place and enforced. * Permissions are granular and configurable. * Access is secure and compliant |

**12. CONSTRAINTS AND ASSUMPTIONS**

* **Constraints**: Integration with existing systems may require additional security and data mapping.
* **Assumptions**:
  + All required data is accessible and can be integrated into the platform.
  + End-users will receive adequate training on how to use the platform.

**13. RISKS AND MITIGATIONS**

| **Risk** | **Mitigation** |
| --- | --- |
| Data Privacy Compliance | Implement encryption, anonymization, and strict data access controls. |
| Model Inaccuracy | Regularly update and validate the machine learning models for accuracy. |
| Resistance to New System Adoption | Provide training and emphasize benefits to increase user buy-in. |

**14. TIMELINE, MILESTONES AND DELIVERABLES**

|  |  |  |
| --- | --- | --- |
| **Week** | **Milestone** | **Deliverables** |
| **Week 1** | Project Kickoff & Planning | Project charter, team roles defined, communication channels set up |
| **Week 2** | Data Collection, Data Access and Repository  For Application | Data extraction from HR Systems, data cleansing, preliminary EDA, App Access by HR to upload new data |
| **Week 3** | Exploratory Data Analysis (EDA) | Insight from EDA, Summary Report, Visualization, data preparation for modelling. |
| **Week 4** | Model Development (Attrition) | Attrition prediction model developed, initial performance evaluation |
| **Week 5** | Model Development (Performance) | Performance prediction developed, tuning and evaluation |
| **Week 6** | Dashboard Development | Design and build dashboards (attrition risk, performance insights) |
| **Week 7** | User Testing & Feedback | Conduct user testing, collect feedback, refine models/dashboards |
| **Week 8** | Final Deployment & Project Close-Out | Deploy platform, final presentation to stakeholders, project wrap up. |

**15. SECURITY AND PRIVACY**

The following consequences follows breach of security on this application:

1. Disclosure of secrets or sensitive information
2. Disclosure of privileged/privacy information about the user and unauthorized inputs

**The following Security is required:**

1. Physical security.
2. Access by user role or types.

**16. APPROVAL & SIGNOFFS**

**Document Approval**

All parties involved acknowledge that they have read, understood, and agree with all the requirements as specified in this document.

|  |  |  |
| --- | --- | --- |
| **Stakeholder** | **Signature** | **Date** |
| Project Sponsor |  |  |
| HR Manager |  |  |
| HR Analyst |  |  |
| APM |  |  |
| Data Analyst |  |  |
| Data Scientist |  |  |
| Business Analyst |  |  |
| App Developers |  |  |