IBDL Platform Documentation

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1. Introduction

1.1 Project Overview

The IBDL Platform is a comprehensive software solution designed for the IBDL Training Center. It aims to enhance the training experience for trainees and streamline administrative tasks for the center. The platform comprises four interconnected modules: Exam Module, E-learning Module, Assessment Tests Module, and Training Module. Additionally, the system offers both a web application and mobile applications for iOS and Android platforms, ensuring accessibility and convenience for users.

1.2 Purpose

The IBDL Platform's primary purpose is to provide a robust and user-friendly ecosystem that empowers both trainees and administrators. It enables real-time tracking of trainees during exams, remote access to course resources through e-learning, facilitates assessments using machine learning models, and delivers an engaging training experience akin to Kahoot and Code of Talent platforms. The platform will assist managers in identifying the right roles for each trainee based on their skills, work style, knowledge, and personality.

1.3 Scope

The IBDL Platform will cover the following key aspects:

Real-time tracking and exam management for trainees.

Access to course resources remotely through a web application and mobile applications.

Assessment tests utilizing machine learning models for role suitability determination.

A training module offering Kahoot and Code of Talent-like features with comprehensive reports.

1.4 Objectives

The main objectives of the IBDL Platform project are as follows:

Create an Exam Module that enables live real-time tracking of trainee performance and allows administrators to edit trainee answers.

Develop an E-learning Module that provides remote access to courses through web and mobile applications.

Implement an Assessment Tests Module using machine learning models to help managers determine trainee suitability for specific job roles.

Create a Training Module with features inspired by popular platforms like Kahoot and Code of Talent, incorporating a user-friendly UX/UI design and generating reports for all trainees.

Build a robust web dashboard to control all platform features efficiently.

2. System Architecture

2.1 High-Level Architecture

The IBDL Platform will adopt a modular and scalable architecture, ensuring flexibility and ease of maintenance. The system's architecture will consist of the following components:

Front-end: Developed using modern web technologies for both the web application and mobile applications.

Back-end: Utilizing robust server-side technologies to handle data processing and communication with various modules.

Database: A centralized database to store user information, course content, assessments, and exam data.

Machine-learning: machine learning models will be used to effectively perform a task without the need for explicit instructions, relying on hidden patterns and inference instead.

2.2 Technologies Used

The following technologies will be utilized in the IBDL Platform:

Front-end: HTML, CSS, JavaScript, React.js for web, and Flutter for mobile applications.

Back-end: PHP with Laravel for RESTful APIs.

Database: MySQL for storing structured data.

3. Modules

3.1 Exam Module

The Exam Module will enable real-time tracking of all trainees during exams. Administrators will have the capability to edit trainee answers when necessary. The module will ensure fair and secure examination processes while providing accurate and immediate feedback to trainees.

3.2 E-learning Module

The E-learning Module will provide trainees with remote access to course resources through web and mobile applications. Users can access lectures, videos, and other educational materials at their convenience. Progress tracking will be available for trainees.

3.3 Assessment Tests Module

The Assessment Tests Module will leverage machine learning models to assess trainees' skills, work style, knowledge, and personality. Based on the results, managers can identify the most suitable roles for each trainee within the organization.

3.4 Training Module

The Training Module will offer features like Kahoot and Code of Talent platforms. Trainees will experience interactive and gamified learning activities. The module will have a powerful UX/UI design and generate comprehensive reports to track trainee progress and performance.

4. User Roles and Permissions

The IBDL Platform will define the following user roles with corresponding permissions:

Administrator: Full access to all modules, including exam editing, course content management, and assessment results.

Trainer: Access to the Training Module and the ability to manage training content and view trainee reports.

Trainee: Access to E-learning Module, Exam Module, Assessment Module and Training Module, and personal progress tracking.

5. Web Application

5.1 Features

The web application will provide the following features:

Dashboard for administrators and trainers with an overview of exam statistics, course progress, and assessment results.

Real-time exam tracking with the ability to review and edit trainee answers.

E-learning resources, including lectures, videos, quizzes, and assignments.

Machine learning-based assessment tests for role suitability determination.

Gamified training experiences like Kahoot and Code of Talent.

Comprehensive reports for trainee performance evaluation.

6. Mobile Application (iOS & Android)

6.1 Features

The mobile applications for iOS and Android platforms will include the following features:

Access to E-learning resources on the go.

Notifications for upcoming exams, new course content, and training sessions.

Interactive training experiences with gamified elements.

In addition to IBDL website basic features.

7. Deployment and Scaling

The IBDL Platform will be deployed on scalable cloud infrastructure to handle varying user loads. Continuous integration and continuous deployment (CI/CD) practices will be followed to ensure rapid updates and bug fixes.

8. Data Security and Privacy

The platform will implement robust data security measures, including encryption for sensitive information, full encrypted API, secure authentication protocols, and access control mechanisms. User data will be handled in compliance with data protection laws and regulations.

9. Conclusion

The IBDL Platform is a sophisticated software solution that transforms the IBDL Training Center's training experience. With its interconnected modules, real-time tracking, remote access, machine learning-based assessments, and engaging training features, the platform will empower trainees, trainers, and administrators alike, fostering a culture of continuous learning and growth within the organization.