

IBDL Core Business System: Functional Requirements Document (FRD)

1. Introduction

This Functional Requirements Document (FRD) details the specific functionalities that the IBDL Core Business System will provide to meet the business objectives outlined in the Business Functional Document (BFD). This document serves as a comprehensive guide for the development team, specifying the system's behavior, inputs, outputs, and interactions from a user's perspective. It translates the high-level business needs into actionable, testable requirements.

2. System Overview

The IBDL Core Business System is a web-based application designed to manage the end-to-end processes for IBDL's various stakeholders. It will be developed using Laravel for the backend and React for the frontend, ensuring a scalable and maintainable solution. The system will centralize operations related to accreditation, course management, exam booking, and trainee management, providing tailored functionalities for each user role.

3. Functional Requirements by Module

This section details the functional requirements, organized by the core modules of the system. Each requirement is identified with a unique ID for traceability.

3.1. User Management Module

This module handles user registration, authentication, authorization, and profile management for all system users.

FR-UM-001: User Registration * **Description:** The system SHALL allow new users (Training Centers, Testing Centers, Trainers, Individual Trainees) to register for an account. * **Inputs:** Full Name, Email Address, Password, Password Confirmation, User Role (selected from a predefined list: Training Center, Testing Center, Trainer, Trainee). * **Processing:** * The system SHALL validate all input fields (e.g., valid email format, password strength, matching passwords). * The system SHALL encrypt the user's password before storing it. * The system SHALL create a new user record in the database with a default status (e.g., 'pending' for accreditation-seeking roles, 'active' for individual trainees). * The system SHALL assign the selected user role to the new user. * The system SHALL send a welcome email to the newly registered user. * **Outputs:** Confirmation message, redirection to a relevant dashboard or accreditation application page.

FR-UM-002: User Login * **Description:** The system SHALL allow registered users to log in to their accounts. * **Inputs:** Email Address, Password. * **Processing:** * The system SHALL authenticate the user against stored credentials. * Upon successful authentication, the system SHALL generate and return an API token (e.g., using Laravel Sanctum). * The system SHALL redirect the user to their respective dashboard based on their assigned role. * **Outputs:** API token, access to role-specific functionalities, error message for invalid credentials.

FR-UM-003: User Logout * **Description:** The system SHALL allow authenticated users to securely log out of their accounts. * **Inputs:** User action (e.g., clicking 'Logout' button). * **Processing:** The system SHALL invalidate the user's current session and API token. * **Outputs:** Redirection to the login page.

FR-UM-004: User Profile Management * **Description:** The system SHALL allow authenticated users to view and update their profile information. * **Inputs:** User action, updated profile data (e.g., Name, Email, Password). * **Processing:** * The system SHALL retrieve the current user's profile data. * The system SHALL validate updated input fields. * The system SHALL update the user's record in the database. * **Outputs:** Updated profile information, confirmation message.

FR-UM-005: Role-Based Access Control (RBAC) * **Description:** The system SHALL enforce access restrictions based on the user's assigned role. * **Processing:** The system SHALL prevent unauthorized access to modules, features, and data not permitted by the user's role. * **Outputs:** Access granted/denied, appropriate error messages for unauthorized attempts.

3.2. Accreditation Management Module

This module manages the application, review, and approval process for Training Centers, Testing Centers, and Trainers.

FR-AM-001: Accreditation Application Submission * **Description:** The system SHALL allow registered Training Centers, Testing Centers, and Trainers to submit their accreditation applications. * **Inputs:** Application Type (Training Center, Testing Center, Trainer), detailed organizational/personal information (e.g., Company Name, Address, Contact Person, Contact Email, Contact Phone, Qualifications), and required supporting documents (e.g., Business License, Tax Registration, Trainer Certificates, Facility Photos) with their expiry dates. * **Processing:** * The system SHALL validate all submitted data fields. * The system SHALL securely store uploaded documents and link them to the application. * The system SHALL create an accreditation application record with an initial status of 'pending_approval_1'. * The system SHALL associate the application with the submitting user. * **Outputs:** Confirmation of submission, application ID, initial status displayed to the applicant.

FR-AM-002: View Accreditation Application Status (Applicant) * **Description:** The system SHALL allow applicants to view the current status and progress of their accreditation application. * **Inputs:** Authenticated applicant user. * **Processing:** The system SHALL retrieve and display the current approval level, overall status (e.g., 'pending_approval_1', 'pending_approval_2', 'pending_approval_3', 'approved', 'rejected'), and any rejection reasons. * **Outputs:** Accreditation status screen.

FR-AM-003: View All Accreditation Applications (IBDL Admin) * **Description:** The system SHALL allow IBDL Admins to view a list of all accreditation applications. * **Inputs:** Authenticated IBDL Admin user. * **Processing:** * The system SHALL retrieve all accreditation applications. * The system SHALL allow filtering applications by status (e.g., 'pending', 'approved', 'rejected') and type (e.g., 'training_center', 'trainer'). * The system SHALL display key information for each application (e.g., Applicant Name, Type, Current Status, Submission Date). * **Outputs:** List of accreditation applications.

FR-AM-004: View Single Accreditation Application Details (IBDL Admin) * **Description:** The system SHALL allow IBDL Admins to view detailed information for a specific accreditation application. * **Inputs:** Authenticated IBDL Admin user, Application ID. * **Processing:** The system SHALL retrieve and display all submitted data, including uploaded documents, for the selected application. * **Outputs:** Detailed accreditation application view.

FR-AM-005: Approve Accreditation Application (IBDL Admin) * **Description:** The system SHALL allow IBDL Admins to approve an accreditation application at specific levels (Approval 1, Approval 2, Approval 3). * **Inputs:** Authenticated IBDL Admin user, Application ID, Approval Level. * **Processing:** * The system SHALL validate that the admin has the authority to approve at the specified level. * The system SHALL update the application status to the next pending approval level or 'approved' if it's the final level. * The system SHALL record the admin's action (who, when) for audit purposes. * The system SHALL trigger an automated email notification to the applicant about the status change. * **Outputs:** Updated application status, confirmation message.

FR-AM-006: Reject Accreditation Application (IBDL Admin) * **Description:** The system SHALL allow IBDL Admins to reject an accreditation application at any stage. * **Inputs:** Authenticated IBDL Admin user, Application ID, Rejection Reason. * **Processing:** * The system SHALL update the application status to 'rejected'. * The system SHALL store the provided rejection reason. * The system SHALL record the admin's action (who, when) for audit purposes. * The system SHALL trigger an automated email notification to the applicant with the rejection reason. * **Outputs:** Updated application status, confirmation message.

3.3. Corporate Account Management Module

This module enables corporate clients to manage their purchased credits, add employees, and book exams for them.

FR-CAM-001: View Corporate Account Dashboard * **Description:** The system SHALL display a dashboard for Corporate Accounts showing their available credits, number of enrolled employees, and a summary of recent activities. * **Inputs:** Authenticated Corporate Account user. * **Processing:** The system SHALL retrieve and display relevant data from the corporate account and associated employee/booking records. * **Outputs:** Corporate Account dashboard.

FR-CAM-002: Add Single Employee (Trainee) * **Description:** The system SHALL allow Corporate Account Administrators to add individual employees as trainees. * **Inputs:** Employee Full Name, Employee Email Address. * **Processing:** * The system SHALL validate input fields. * The system SHALL check if the Corporate Account has sufficient credits for the new employee. * If credits are sufficient, the system SHALL deduct the required credits from the Corporate Account's balance. * The system SHALL create a new user account for the employee with the 'trainee' role. * The system SHALL automatically generate and send login credentials to the employee's email address. *

Outputs: Confirmation message, updated credit balance, new employee listed under the corporate account.

FR-CAM-003: Bulk Add Employees (Trainees) * **Description:** The system SHALL allow Corporate Account Administrators to add multiple employees as trainees via a bulk upload mechanism. * **Inputs:** File containing employee data (e.g., CSV with Name, Email columns). * **Processing:** * The system SHALL parse the uploaded file and validate each employee record. * The system SHALL check if the Corporate Account has sufficient credits for all employees in the bulk upload. * If credits are sufficient, the system SHALL deduct the required credits. * The system SHALL create new user accounts for all valid employees with the 'trainee' role. * The system SHALL automatically generate and send login credentials to each new employee's email address. * The system SHALL provide a report of successful and failed employee additions. * **Outputs:** Confirmation message, updated credit balance, list of added employees, error report for failed additions.

FR-CAM-004: Manage Employee Profiles (Corporate Account) * **Description:** The system SHALL allow Corporate Account Administrators to view and manage (e.g., edit basic details, deactivate) employee profiles under their account. * **Inputs:** Authenticated Corporate Account user, Employee ID, updated employee data. * **Processing:** The system SHALL retrieve, validate, and update employee records associated with the corporate account. * **Outputs:** Updated employee list/profile.

FR-CAM-005: Book Exam for Employee * **Description:** The system SHALL allow Corporate Account Administrators to book exams for their enrolled employees. * **Inputs:** Employee ID, desired Exam, selected Testing Center, preferred Date and Time. * **Processing:** * The system SHALL validate the booking request (e.g., employee eligibility, testing center availability). * The system SHALL create an exam booking record with a 'pending_approval' status. * The system SHALL trigger the exam booking approval workflow (see FR-EBM-003). * **Outputs:** Confirmation of booking request, booking ID, initial status displayed.

3.4. Individual Trainee Module

This module provides functionalities for individual learners to access e-learning and manage their exam journey.

FR-ITM-001: View Trainee Dashboard * **Description:** The system SHALL display a personalized dashboard for individual trainees, showing their purchased kits, e-

learning course progress, and upcoming exam bookings. * **Inputs:** Authenticated Individual Trainee user. * **Processing:** The system SHALL retrieve and display relevant data from the trainee's records. * **Outputs:** Trainee dashboard.

FR-ITM-002: Access E-learning Content * **Description:** The system SHALL allow trainees to access e-learning courses associated with their purchased kits. * **Inputs:** Authenticated Trainee user, Course ID. * **Processing:** * The system SHALL verify the trainee's entitlement to the course. * The system SHALL display embedded learning content (videos, PDFs, SCORM, external links). * **Outputs:** E-learning course viewer.

FR-ITM-003: Track E-learning Progress * **Description:** The system SHALL track and display the trainee's progress and completion percentage for each e-learning course. * **Inputs:** Trainee interaction with learning content. * **Processing:** The system SHALL record completion of modules/lessons and update the overall progress percentage for the course. * **Outputs:** Progress indicators (e.g., progress bar, completion status).

FR-ITM-004: Book Exam (Individual Trainee) * **Description:** The system SHALL allow individual trainees to book their certification exams. * **Inputs:** Desired Exam, selected Testing Center, preferred Date and Time. * **Processing:** * The system SHALL display a list of accredited Testing Centers. * The system SHALL display available exam slots for selected Testing Centers. * The system SHALL validate the booking request. * The system SHALL create an exam booking record with a 'pending_approval' status. * The system SHALL trigger the exam booking approval workflow (see FR-EBM-003). * **Outputs:** Confirmation of booking request, booking ID, initial status displayed.

3.5. Learning Content Management Module

This module provides tools for IBDL Admins to manage e-learning content.

FR-LCM-001: Create/Edit Course * **Description:** The system SHALL allow IBDL Admins to create new e-learning courses and edit existing course details. * **Inputs:** Course Title, Description, Status (e.g., 'active', 'draft'). * **Processing:** The system SHALL validate inputs and store/update course records. * **Outputs:** New/updated course record.

FR-LCM-002: Add Content to Course * **Description:** The system SHALL allow IBDL Admins to add various types of learning content to a specific course. * **Inputs:** Course ID, Content Type (Video, PDF, SCORM, External Link), Content Title, Description, URL (for video/external link) or File Upload (for PDF/SCORM). * **Processing:** * The system

SHALL validate content inputs based on type. * The system SHALL securely store uploaded files. * The system SHALL associate the content with the specified course. * **Outputs:** Confirmation of content addition, content record.

FR-LCM-003: Manage Course Content * **Description:** The system SHALL allow IBDL Admins to view, edit, reorder, and remove content within a course. * **Inputs:** Course ID, Content ID, updated content details, reordering instructions. * **Processing:** The system SHALL update/delete content records and adjust content order within a course. * **Outputs:** Updated course content list.

3.6. Question Bank Management Module

This module allows IBDL Admins to manage exam questions and configure exam generation rules.

FR-QBM-001: Create Question * **Description:** The system SHALL allow IBDL Admins to create new exam questions. * **Inputs:** Question Text, Difficulty Level (Easy, Intermediate, Hard), Topic, Associated Certificate, Answer Options (text and indication of correctness). * **Processing:** The system SHALL validate inputs and store the new question record. * **Outputs:** New question record.

FR-QBM-002: View/Edit Question * **Description:** The system SHALL allow IBDL Admins to view and edit existing questions. * **Inputs:** Question ID, updated question details. * **Processing:** The system SHALL retrieve and update the question record. * **Outputs:** Updated question record.

FR-QBM-003: Manage Question Versions * **Description:** The system SHALL support versioning of questions, allowing IBDL Admins to track changes and potentially revert to previous versions. * **Inputs:** Question ID, versioning actions. * **Processing:** The system SHALL maintain a history of changes for each question. * **Outputs:** Question version history.

FR-QBM-004: Configure Exam Rules * **Description:** The system SHALL allow IBDL Admins to define rules for generating exams for each certificate. * **Inputs:** Certificate ID, Total Number of Questions, Distribution of Difficulty Levels (e.g., count of Easy, Intermediate, Hard questions), Optional Topics to include. * **Processing:** The system SHALL store these rules and associate them with the specified certificate. * **Outputs:** Configured exam rules for the certificate.

3.7. Exam Booking and Administration Module

This module handles the booking, approval, and administration of exams.

FR-EBM-001: View Available Testing Centers * **Description:** The system SHALL display a list of accredited Testing Centers available for exam booking. * **Inputs:** User request (Trainee or Corporate Account). * **Processing:** The system SHALL retrieve and display details of active, accredited Testing Centers. * **Outputs:** List of Testing Centers (Name, Address, Contact Info).

FR-EBM-002: View Available Exam Slots * **Description:** The system SHALL display available exam dates and time slots for a selected Testing Center. * **Inputs:** Testing Center ID, optional Date filter. * **Processing:** The system SHALL retrieve and display available slots, considering capacity and existing bookings. * **Outputs:** List of available dates and times with seat availability.

FR-EBM-003: Exam Booking Approval Workflow * **Description:** The system SHALL manage a multi-party approval workflow for exam bookings. * **Inputs:** Booking ID, Action (Approve, Reject, Propose Reschedule), Reason (for Reject/Reschedule), New Date/Time (for Reschedule). * **Processing:** * The system SHALL notify the selected Testing Center and IBDL Admin of a new booking request. * Both Testing Center and IBDL Admin SHALL have the ability to Approve, Reject, or Propose a Reschedule. * If a reschedule is proposed, the system SHALL notify the trainee/corporate account for acceptance/rejection. * The system SHALL update the booking status accordingly. * The system SHALL trigger relevant email notifications. * **Outputs:** Updated booking status, notifications.

FR-EBM-004: Direct Exam Slot Assignment (IBDL Admin) * **Description:** The system SHALL allow IBDL Admins to directly assign a trainee to a specific exam slot, bypassing the standard approval workflow. * **Inputs:** Booking ID, Testing Center ID, Exam Date, Exam Time. * **Processing:** The system SHALL update the booking record to 'confirmed' and notify the trainee. * **Outputs:** Confirmed booking, notification.

FR-EBM-005: Generate Temporary Exam Login * **Description:** The system SHALL automatically generate temporary, one-time login credentials for trainees approximately 10 minutes before their scheduled exam. * **Inputs:** Scheduled Exam Booking. * **Processing:** * A scheduled background process SHALL generate unique, time-limited login credentials. * The system SHALL make these credentials available to the Testing Center proctor. * The system SHALL ensure these logins are valid only for

the specific exam and potentially restricted to the Testing Center's network. * **Outputs:** Temporary login credentials.

FR-EBM-006: Auto-Generate Exam Content * **Description:** The system SHALL dynamically generate exam content for a trainee upon their successful login with temporary credentials on exam day. * **Inputs:** Trainee Login, Certificate ID. * **Processing:** The system SHALL retrieve questions from the Question Bank based on the configured exam rules for the specific certificate (e.g., number of easy, intermediate, hard questions, topics). * **Outputs:** Unique exam instance for the trainee.

FR-EBM-007: Exam Monitoring (IBDL Admin) * **Description:** The system SHALL provide tools for IBDL Admins to monitor ongoing exams. * **Inputs:** Authenticated IBDL Admin user. * **Processing:** The system SHALL display real-time status of active exams, potentially including trainee progress, and allow for intervention (e.g., pausing exam, rescheduling). * **Outputs:** Exam monitoring dashboard.

3.8. Notification System Module

This module handles automated email notifications for various system events.

FR-NS-001: Send Automated Email Notifications * **Description:** The system SHALL send automated email notifications to relevant stakeholders for critical events. * **Events (Examples):** * User Registration Confirmation * Accreditation Application Status Change (Submitted, Approved at Level 1/2/3, Rejected) * Corporate Account Employee Added (with login credentials) * Exam Booking Request Submitted * Exam Booking Status Change (Approved, Rejected, Rescheduled Proposal, Rescheduled Confirmed) * Temporary Exam Login Details (to Testing Center) * **Processing:** * The system SHALL use predefined email templates. * The system SHALL populate templates with dynamic data relevant to the event. * The system SHALL dispatch emails to the identified recipients. * **Outputs:** Sent email notifications.

FR-NS-002: Notification Templates Management (IBDL Admin) * **Description:** The system SHALL allow IBDL Admins to view and manage (e.g., edit content, enable/disable) email notification templates. * **Inputs:** Authenticated IBDL Admin user, Template ID, updated template content. * **Processing:** The system SHALL store and retrieve email templates. * **Outputs:** Updated notification templates.

4. Non-Functional Requirements

This section outlines the non-functional requirements that define the quality attributes of the system.

4.1. Performance

- **NFR-PERF-001:** The system SHALL load all major pages (dashboards, forms, lists) within 3 seconds under normal load conditions (e.g., 100 concurrent users).
- **NFR-PERF-002:** API response times SHALL not exceed 1 second for 90% of requests.
- **NFR-PERF-003:** Bulk operations (e.g., bulk employee upload) SHALL complete within 60 seconds for up to 1000 records.

4.2. Scalability

- **NFR-SCAL-001:** The system SHALL be capable of supporting up to 10,000 active users and 1,000 concurrent users without significant performance degradation.
- **NFR-SCAL-002:** The database SHALL be designed to handle a projected growth of 20% in data volume per year for the next 5 years.

4.3. Security

- **NFR-SEC-001:** The system SHALL implement industry-standard authentication (e.g., token-based authentication for APIs) and authorization mechanisms (RBAC).
- **NFR-SEC-002:** All sensitive data (passwords, personal information, exam content) SHALL be encrypted at rest and in transit (HTTPS).
- **NFR-SEC-003:** The system SHALL be protected against common web vulnerabilities including, but not limited to, SQL Injection, Cross-Site Scripting (XSS), and Cross-Site Request Forgery (CSRF).
- **NFR-SEC-004:** User passwords SHALL be hashed using a strong, one-way hashing algorithm (e.g., bcrypt).
- **NFR-SEC-005:** The system SHALL implement rate limiting for login attempts to prevent brute-force attacks.

- **NFR-SEC-006:** All file uploads SHALL be scanned for malicious content and restricted by type and size.

4.4. Reliability and Availability

- **NFR-REL-001:** The system SHALL maintain an uptime of 99.5% during business hours (9 AM - 5 PM local time, Monday-Friday).
- **NFR-REL-002:** The system SHALL ensure data integrity and consistency across all modules.
- **NFR-REL-003:** The system SHALL implement a robust error logging and monitoring mechanism to identify and address issues proactively.

4.5. Usability

- **NFR-USAB-001:** The user interface SHALL be intuitive and easy to navigate for all user roles, requiring minimal training.
- **NFR-USAB-002:** The system SHALL provide clear and concise feedback to users for all actions (e.g., success messages, validation errors).
- **NFR-USAB-003:** The system SHALL be responsive and accessible across various devices and screen sizes (desktop, tablet, mobile).

4.6. Maintainability

- **NFR-MAINT-001:** The codebase SHALL adhere to established coding standards and best practices for Laravel and React.
- **NFR-MAINT-002:** The system SHALL be modular, allowing for independent development, testing, and deployment of components.
- **NFR-MAINT-003:** Comprehensive technical documentation (API documentation, code comments) SHALL be maintained.

4.7. Integrability

- **NFR-INTEG-001:** The system SHALL expose well-documented RESTful APIs for all core functionalities to facilitate future integrations.
- **NFR-INTEG-002:** The system SHALL support integration with external email service providers for notifications.

5. Data Dictionary (Key Entities)

This section provides a high-level overview of key data entities and their attributes. A detailed database schema will be provided in the technical design document.

5.1. User

- **Description:** Represents any user of the system (Admin, Training Center, Testing Center, Trainer, Trainee, Corporate Account).
- **Attributes:** `id`, `name`, `email`, `password` (hashed), `role`, `status` (e.g., 'active', 'inactive', 'pending'), `created_at`, `updated_at`.

5.2. Accreditation

- **Description:** Stores details of accreditation applications.
- **Attributes:** `id`, `user_id` (FK to User), `type` (e.g., 'training_center', 'testing_center', 'trainer'), `status` (e.g., 'pending_approval_1', 'approved', 'rejected'), `application_data` (JSON/text field for specific details), `documents` (JSON/text field for document references), `rejection_reason`, `created_at`, `updated_at`.

5.3. CorporateAccount

- **Description:** Represents an organization that purchases credits and manages employees.
- **Attributes:** `id`, `user_id` (FK to User), `company_name`, `contact_person`, `contact_email`, `available_credits`, `created_at`, `updated_at`.

5.4. Employee (Trainee under Corporate Account)

- **Description:** Represents a trainee associated with a Corporate Account.
- **Attributes:** `id`, `user_id` (FK to User), `corporate_account_id` (FK to CorporateAccount), `created_at`, `updated_at`.

5.5. KitPurchase

- **Description:** Represents a purchase of an IBDL kit by an individual trainee.
- **Attributes:** `id`, `trainee_user_id` (FK to User), `kit_type`, `purchase_date`, `activation_status`, `created_at`, `updated_at`.

5.6. Course

- **Description:** Represents an e-learning course.
- **Attributes:** `id`, `title`, `description`, `status` (e.g., 'active', 'draft'), `created_at`, `updated_at`.

5.7. LearningContent

- **Description:** Represents a piece of content within a course.
- **Attributes:** `id`, `course_id` (FK to Course), `type` (e.g., 'video', 'pdf', 'scorm', 'external_link'), `title`, `description`, `url` (for video/external), `file_path` (for PDF/SCORM), `order_index`, `created_at`, `updated_at`.

5.8. TraineeCourseProgress

- **Description:** Tracks an individual trainee's progress in an e-learning course.
- **Attributes:** `id`, `trainee_user_id` (FK to User), `course_id` (FK to Course), `progress_percentage`, `completed_at`, `created_at`, `updated_at`.

5.9. Question

- **Description:** Represents a question in the question bank.
- **Attributes:** `id`, `text`, `difficulty` (e.g., 'easy', 'intermediate', 'hard'), `topic`, `certificate_id` (FK to Certificate), `options` (JSON array of options and correctness), `version`, `created_at`, `updated_at`.

5.10. Certificate

- **Description:** Represents an IBDL certification.

- **Attributes:** `id`, `name`, `description`, `exam_rules` (JSON for question distribution), `created_at`, `updated_at`.

5.11. TestingCenter

- **Description:** Represents an accredited testing center.
- **Attributes:** `id`, `user_id` (FK to User), `name`, `address`, `contact_info`, `status` (e.g., 'accredited', 'pending'), `created_at`, `updated_at`.

5.12. ExamBooking

- **Description:** Represents a booking for a certification exam.
- **Attributes:** `id`, `trainee_user_id` (FK to User), `testing_center_id` (FK to TestingCenter), `certificate_id` (FK to Certificate), `exam_date`, `exam_time`, `status` (e.g., 'pending_approval', 'confirmed', 'rejected', 'rescheduled'), `proposer_user_id` (FK to User, for reschedule proposals), `proposed_date`, `proposed_time`, `rejection_reason`, `created_at`, `updated_at`.

5.13. TemporaryExamLogin

- **Description:** Stores temporary login credentials for exam day.
- **Attributes:** `id`, `exam_booking_id` (FK to ExamBooking), `username`, `password`, `expires_at`, `is_used`, `created_at`.

5.14. Notification

- **Description:** Stores system notifications sent to users.
- **Attributes:** `id`, `user_id` (FK to User), `type`, `message`, `is_read`, `created_at`.

6. Glossary

- **BFD:** Business Functional Document
- **FRD:** Functional Requirements Document
- **IBDL:** International Business Driving License

- **UI/UX:** User Interface/User Experience
- **API:** Application Programming Interface
- **CRUD:** Create, Read, Update, Delete
- **ORM:** Object-Relational Mapping
- **CORS:** Cross-Origin Resource Sharing
- **SCORM:** Sharable Content Object Reference Model
- **RBAC:** Role-Based Access Control
- **XSS:** Cross-Site Scripting
- **CSRF:** Cross-Site Request Forgery

This FRD provides a detailed specification of the functional requirements for the IBDL Core Business System. It will serve as the primary reference for the development team during implementation and for quality assurance during testing.