

Product Requirements Document (PRD)

Product Name: SkillBridge

Version: 1.0

Team: ThreeMovesAhead

Tagline: Turning skill data into actionable growth plans

1. Executive Summary

SkillBridge is a centralized competency mapping and Training Need Identification (TNI) platform that acts as the diagnostic layer between organizational standards and employee development. It replaces fragmented spreadsheets and subjective evaluations with a data-driven, role-aware system that:

- Defines standardized skill frameworks
- Benchmarks expected proficiency with version control
- Identifies training needs automatically
- Measures skill improvement and training ROI over time

2. Vision & Purpose

Purpose

To provide organizations with a single source of truth for skills, assessments, and training decisions.

Vision

To enable fair, measurable, and scalable workforce development by connecting:

- What the organization expects
- What employees can actually do
- What training is truly required

3. Problem Statement

Organizations today lack:

- A standardized way to define and manage skills
- Role-based skill benchmarking
- Automated training-need identification
- Visibility into post-training improvement and ROI

Impact

- Subjective assessments
- Generic training programs
- Wasted training budgets
- No measurable upskilling outcomes

4. Target Users & Roles

Role	Description
System Admin	Owns system configuration, skill frameworks, benchmarks, and org-wide analytics. Job titles may include HR, L&D, or Operations roles.
Team Lead	Maps relevant skills, assesses direct reports, tracks team growth. Team Lead capability is derived dynamically based on reporting hierarchy—any employee with direct reports becomes a Team Lead.
Employee	Views skill gaps, growth journey, and assigned training

Unified Employee Model

- All users exist in a single Employee repository
- Team Lead capability is derived dynamically from reporting hierarchy (TeamLeadID)
- System roles: System Admin or Employee (default)

5. System Architecture Concept

Unified Hierarchy Model

- Single Employees table
- Reporting structure via TeamLeadID
- Permissions controlled by System Role (System Admin / Employee)
- Team Lead status determined at runtime based on whether employee has direct reports

6. Functional Requirements

6.1 System Admin

A. Organization & System Configuration

- Department Management (Engineering, Sales, HR)

- Assessment cycle configuration (e.g., quarterly cycles with configurable start/end dates)
- Notification & reassessment window settings
- Role-Based Access Control (RBAC)
 - Only System Admin can edit Global Benchmarks
 - Only System Admin role has access to admin features

B. Skills & Competency Framework

- **Core Principle:** All skill attributes, categories, and types must be database-driven and configurable via the Admin UI. No classifications should be hardcoded in the codebase.
- **Dynamic Master Data Management:**
 - **Manage Skill Categories:**
 - Admin must have an interface to Create, Read, Update, and soft Delete (CRUD) skill categories
 - Example use cases (User defined): Technical, Non-Technical, Behavioral, Domain-Specific, Soft Skills
 - These must be stored in a lookup table (e.g., SkillCategories)
 - **Manage Criticality Levels:**
 - Admin must have an interface to CRUD criticality definitions and weights
 - Example use cases (User defined): Low, Medium, High, Mission Critical
 - These must be stored in a lookup table (e.g., SkillCriticalities)
 - **Proficiency Scale:**
 - Hardcoded to 1-10 scale (integer values only)
- **Skill Management (CRUD):**
 - Admin adds/edits/soft-deletes specific Skills (e.g., “Java”, “Communication”)
 - **Skill Fields:**
 - Name: Text input
 - Description: Text area
 - Category: Dropdown selector (Populated dynamically from the SkillCategories table)
 - Criticality: Dropdown selector (Populated dynamically from the SkillCriticalities table)
 - Global Benchmark Score: Numeric input (1-10 integer validation)
- **Benchmarking Rules with Version Control:**
 - Global Benchmark = Organization’s expected standard
 - Version Control: Each benchmark value must maintain:
 - EffectiveStartDate (required (current))

- EffectiveEndDate (nullable - null indicates current/active benchmark)
- When benchmark changes from 7 → 8:
 - Previous record: EffectiveEndDate = date of change
 - New record: EffectiveStartDate = date of change, EffectiveEndDate = null
- Historical benchmark changes do not affect past assessments (assessments reference benchmark value at time of assessment)
- Growth tracking over time uses benchmark version applicable to each assessment period

C. Employee Management

- **CRUD Employees**
- **Required Fields:**
 - Employee ID
 - Name
 - Email
 - Job Title
 - Department
 - Team Lead (TeamLeadID)
 - Employee Status: Active / Inactive
- **System Role Assignment:**
 - Employee (default)
 - System Admin (permission-based)
- **Team Lead Status:**
 - Automatically derived at runtime
 - Any employee with direct reports (based on TeamLeadID) has Team Lead capabilities
 - No explicit “Team Lead” role assignment required

D. Training Need Identification (TNI) Logic

- **Core Formula:**
 - Gap = BenchmarkScore - EmployeeScore
 - If Gap > 0 → Training Required (TNI = YES)
 - If Gap ≤ 0 → Competent (TNI = NO)
- **Advanced Logic:**
 - Skill criticality weighting
 - Configurable ignore threshold (e.g., Gap ≤ 1)
- **Training Assignment:**
 - Training sessions are created and assigned manually by System Admin

- Manual assignment considers mutual consent and time availability of employees and trainers
- System does not enforce automated prioritization, prerequisites, or capacity limits

E. Organization-wide Dashboards & Analytics

- **Dashboards:**

- Skill gap heatmap (Org / Dept / Role)
- TNI dashboard (filter by skill, team, department)
- Training demand forecast
- Internal trainer availability

- **KPIs:**

- % employees below benchmark
- Top critical skill gaps
- Average improvement post-training
- Training coverage vs demand
- Total number of disputes raised per Team Lead
- Dispute resolution metrics

F. Training & Session Management

- **Trainer Pool:**

- Internal & external trainers
- Trainer eligibility logic:
- Team Lead can flag any direct report employee as potential trainer for a particular skill

- **Session Scheduling:**

- Skill-based session creation (manual)
- Auto-suggest trainers based on eligibility
- Date, time, mode (online/offline)
- Manual employee allocation by System Admin
- Capacity tracking (informational only, not enforced)

G. Dispute Resolution

- **Dispute Management Interface:**

- View list of active disputes raised by employees
- Filter disputes by Department, Team Lead, or Status (Open/Resolved)

- **Dispute States:**

- **Open:** Employee has raised dispute or disagreed with resolution

- **Resolved:** Admin has taken action, employee has not responded or agreed
- **Resolution Actions:**
 - Review Team Lead’s original rating and comments
 - Review Employee’s dispute reason
 - **Edit Rating:** Admin can manually override the disputed score to resolve the conflict
 - **Dismiss Dispute:** Admin can reject the dispute (with rejection reason) and retain the original score
- **Dispute Re-escalation:**
 - After admin resolves dispute, employee receives notification with two options:
 - **Agree:** Dispute closes permanently with status “Resolved”
 - **Disagree:** Dispute state changes from “Resolved” back to “Open” and reappears on admin dashboard
 - No limit on re-escalation cycles
- **Audit & Notification:**
 - System logs the admin ID who resolved/dismissed the dispute with timestamp
 - Automated email/notification to Employee and Team Lead upon resolution
 - Full audit trail of all dispute state changes
- **Dispute Constraints:**
 - Employees can only dispute assessments from the current active assessment cycle
 - Multiple skill ratings can be included in a single dispute submission
 - No rate limiting—employees can raise multiple disputes simultaneously

6.2 Team Lead (Role employee but some other employees have reference to this using TeamLeadID)

Inherits all Employee capabilities

A. Team Visibility

- Can only view employees directly reporting to them (based on TeamLeadID)
- No access to org-wide analytics

B. Skill Mapping (Contextual Relevance)

- Map relevant skills to each direct report
- Choose from global skill library
- Different employees can have different skill sets even in same department

C. Skill Assessment & Feedback

- Score mapped skills using 1–10 hardcoded scale (integer values only)
- Benchmark for each skill must be visible during rating
- Assessment Submission: All mapped skills must be assessed and submitted together (no partial submissions or draft saving)
- **Rating Rules:**
 - Integer values only (1-10)
 - Mandatory comment if score < threshold (configurable, default < 7)
 - Assessments are timestamped upon submission
 - **Assessment Locking:** Once submitted, assessments are locked from Team Lead edits
 - **Exception:** Can be edited only by System Admin if disputed by employee

D. Team Dashboard

- Team skill gap overview
- Employee-wise growth tracking
- Skill-wise score trends
- Training completion vs improvement

6.3 Employee

A. Skill & Growth Dashboard

- **View:**
 - Assigned skills
 - Actual score vs benchmark (using benchmark version at time of assessment)
 - Gap visualization (Red / Amber / Green)
 - Growth timeline
 - Strengths & improvement areas

B. Training Experience

- View assigned training sessions
- Post-training: Feedback submission

C. Dispute Management

- **Raise Dispute:**
 - Option to dispute specific skill rating(s) provided by Team Lead
 - Constraint: Dispute button only available for assessments in the current active assessment cycle
 - Multiple skills can be disputed in a single submission

- **Dispute Form:**
 - Select skill(s) to dispute
 - Mandatory text field: “Reason for Dispute”
 - Submit to System Admin
- **Status Tracking:**
 - View status of raised disputes:
 - **Open:** Pending admin review or employee disagreed with resolution
 - **Resolved:** Admin has resolved, awaiting employee response or employee agreed
- **Post-Resolution Actions:**
 - Upon receiving admin’s resolution, employee must choose:
 - **Agree with Resolution:** Dispute closes permanently
 - **Disagree with Resolution:** Dispute reopens and returns to admin dashboard as “Open”

7. Reassessment & Growth Tracking

- Reassessment window opens automatically after training completion
- Configurable delay (e.g., 14 days after scheduled training session end date)
- Only skills covered in the training are reopened for reassessment
- **Side-by-side comparison:**
 - Pre-training score
 - Post-training score
 - Benchmark value (version at time of reassessment)
- TNI flag auto-removed if post-training score meets or exceeds benchmark

8. Business Rules & Constraints

- Team Leads can assess only their direct reports (based on TeamLeadID)
- Only assessments from the current active cycle can be disputed
- Assessment scores can be edited only by System Admin and only when disputed
- Audit logs for all data creation and modification
- No hard deletes for any data in entire system (soft delete with status flags: Active/Inactive)
- **Employee Role/Department Change Mid-Cycle:**
 - When employee’s TeamLeadID changes, all pending/open assessments are automatically closed
 - New Team Lead is responsible for fresh skill mapping
 - Previous assessments remain in history but are not carried over
 - Admin updates TeamLeadID; new Team Lead updates relevant skill mappings

9. Non-Functional Requirements

- Strong RBAC enforcement
- Secure handling of PII & performance data
- Scalable to 10k+ employees
- Optimized hierarchy queries (recursive depth up to 10)
- Clear, accessible UI for gap analysis
- Soft delete implementation across all entities

10. Reporting & Analytics

- TNI Report (Skill-wise, Dept-wise)
- Skill Gap Heatmap
- Training Effectiveness Report (using benchmark versions for accurate trend analysis)
- Assessment completion rates
- Team Lead adoption metrics
- Team Lead Dispute Frequency Report
- Dispute Resolution Time & Re-escalation Metrics

11. Implementation Phases

- **Phase 1:** User management, skill framework, benchmarks with version control
- **Phase 2:** Team Lead assessments, TNI logic, mid-cycle employee change handling
- **Phase 3:** Training management, dashboards
- **Phase 4:** Reassessment, analytics, feedback, Dispute Resolution System with re-escalation
- **Phase 5 (Future):** AI recommendations, mentorship matching, advanced notifications, compliance features

12. Success Metrics

- Reduction in skill gaps over time (using version-controlled benchmarks)
- % of training mapped to real gaps
- Post-training score improvement
- Assessment completion rate
- Reduced manual HR effort
- Clear training ROI visibility
- Dispute resolution satisfaction rate
- Team Lead assessment adoption rate

13. Future Enhancements

- AI-based skill inference
- Predictive training recommendations
- Mentorship auto-matching
- Microsoft Teams / Calendar integration
- Career path & succession planning