NEX-G
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NEX-G AUTOMATION LLP

RESCUE ASSESSMENT APPLICATION (RAP)

Digital Site Evaluation & Safety Compliance Infrastructure

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Installation **Configuration** **Operation** **Integration** **Maintenance**

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1. Product Overview

The **Nex-G Rescue Assessment Application (RAP)** is a multi-tier risk intelligence platform designed to digitize site evaluations and enforce safety compliance across high-risk industrial environments. By syncing field-ready Android evaluation frameworks with centralized administrative cloud dashboards, RAP streamlines safety planning through four specialized modules: Rescue Site Assessment (RSA), Rescue Operation Record (ROR), Incident Observation Report (IOR), and Rescue Plan (RP).

Core Software Capabilities:

- Multi-tenant role-based governance (Superadmin, Company Admin, Project Admin, Field Rescuer).
- 4-Module Safety Suite (RSA, ROR, IOR, and RP) for comprehensive risk management.
- Resilient offline SQLite caching for uninterrupted form entry in zero-connectivity zones.
- REST API cloud sync automatically transmitting JSON payloads and photographic media when online.
- Automated server-side TCPDF/FPDF compiler generating audit-ready Rescue Assessment Reports (RAR).

2. System Governance & Operating Guidelines

> **Multi-Tenant Hierarchy Notice:** Access privileges are assigned based on role tiers. Company Admins manage facility allocations, while Project Admins audit field compliance inputs.

- **Offline Data Security:** Assessment forms and photographic evidence are encrypted in local device SQLite tables until cloud synchronization succeeds.
- **Gear Verification:** Mandatory digital checklist profiles enforce inspection of life lines, body harnesses, ropes, and anchor points prior to permit generation.
- **Audit Trail:** Generated RAR reports include immutable timestamps, GPS coordinates, and server security stamps.

3. Technical Specifications

System Component	Specification Details	Notes
Web Admin Dashboard	HTML5, CSS3, JavaScript, Bootstrap 5 UI	Centralized administrative command deck
Admin Engine & DB	PHP Environment with MySQLi Transaction Layers	Multi-tenant project, user & media database schema
Field Mobile Client	Native Java / XML Android Mobile Framework	Field assessment client application
Local Data Buffer	SQLite Database Engine	Resilient local offline caching for forms & images
Data Pipeline	Lightweight REST API (PHP + JSON Format)	Secure encrypted telemetry communication
Document Compiler	TCPDF / FPDF Server-Side PDF Synthesizer	Automated, server-stamped PDF report generation
Operational Suite Modules	RSA, ROR, IOR, and RP Frameworks	4 integrated safety assessment modules
Media Ingest Core	Multi-Photo Media Stream Ingest	Captures & attaches site/anchor images directly into logs
Role Hierarchy	Superadmin / Company / Project / Field User	Strict multi-tenant Role-Based Access Control (RBAC)
Deployment Layout	Centralized Enterprise Cloud Web Server	High-availability cloud hosting instance

4. Assessment Architecture & Workflow

Sequence from field site evaluation to automated cloud report compilation:

01. Site Evaluation
Field rescuer initiates RSA/ROR/IOR/RP checklist on mobile app.

02. Media Ingest
Captures photo evidence of anchor points, harnesses & gear.

03. REST API Sync
Offline SQLite cache syncs via REST API when online.

04. RAR Compilation
Server generates printable, stamped PDF Rescue Reports.

5. Specialized Operational Safety Suite Modules

Module Name	Operational Functionality & Purpose
RSA (Rescue Site Assessment)	Evaluates confined space layouts, hazard vectors, load anchor tolerances, and entry obstacles.
ROR (Rescue Operation Record)	Maintains an auditable structural timeline tracking deployment maneuvers step-by-step.
IOR (Incident Observation Report)	Real-time tracking interface to log structural errors, equipment defects, or safety breaches.
RP (Rescue Plan)	Establishes pre-approved safety escape vectors, team roles, and critical response directions.

6. Multi-Tenant Role Hierarchy

Superadmin
Global configuration manager with absolute visibility to structure corporate entities and global app controls.

Company Admin
Manages regional facility allocations, registers lower administrators, and provisions Field Rescuer profiles.

Project Admin
Monitors project safety overviews, audits incoming compliance assessments, and tracks performance KPIs.

Field User (Rescuer)
Ground-level mobile executor generating critical RSA, ROR, IOR, and RP risk payloads in the field.

7. Frequently Asked Questions (FAQ)

- **What modules are included in RAP?** Four modules: RSA (Site Assessment), ROR (Operation Record), IOR (Incident Observation), and RP (Rescue Plan).
- **Can assessments be completed offline?** Yes, local SQLite caching allows full form and media entry without network reception.
- **How does cloud synchronization work?** Cached records auto-sync to the cloud via REST API/JSON when connectivity is restored.
- **What report formats are generated?** Automated, server-stamped PDF Rescue Assessment Reports (RAR) ready for auditing.

8. Troubleshooting Guide

Symptom	Possible Cause	Recommended Action
Offline assessment data fails to sync	Network drop / invalid API token	Verify cellular/Wi-Fi connection and refresh user session authentication in app settings.
Photographic attachment fails to upload	Image file size exceeds limit	Ensure camera resolution setting in mobile app is set to default standard compressed mode.
Generated PDF report missing photos	Media upload incomplete during sync	Trigger manual re-sync in mobile app to ensure all queued SQLite media blobs are uploaded.
User access denied for project creation	Role permissions restricted	Contact Company Admin to verify user role is set to Project Admin or higher.

9. System Maintenance & Care

- Regularly clear local cached temporary files in the mobile app to ensure optimal SQLite performance.
- Perform routine cloud database backups via the Web Admin Dashboard console to preserve historical logs.
- Ensure field Android devices maintain updated RAP client app binaries and Play Services libraries.
- Verify camera lens cleanliness on mobile devices before conducting anchor point photographic documentation.

10. Support and Service Contact

For technical assistance, custom module integration, API documentation, or enterprise deployment guidance, contact Nex-G Automation LLP:

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