

## RALLY FIELD TECHNICIAN APP – DATABASE ERD

This document describes the core database tables and their relationships (Entity Relationship Diagram in textual form) for the Rally Field Technician App and Admin Panel.

### 1. TABLE: users

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Columns:

- id (PK)
- name
- email (unique)
- password\_hash
- role (TECHNICIAN / ADMIN)
- status (ACTIVE / DISABLED)
- created\_at
- updated\_at

Relationships:

- One-to-many with tech\_pdfs (created\_by)
- One-to-many with buildings (optional: last\_updated\_by)

### 2. TABLE: buildings

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Columns:

- id (PK)
- display\_name
- short\_name (optional)
- address\_line1
- address\_line2 (optional)
- city
- state
- country
- lat (optional)
- lng (optional)
- serviced\_by (enum/string)
- technology\_type (e.g., GPON, DSL)
- infrastructure\_type (e.g., ClearTrack, Conduit)

- techs\_per\_install\_raw (string from Excel)
- complexity\_score (int 0–100)
- required\_techs (int)
- notes (text)
- created\_at
- updated\_at

Relationships:

- One-to-many with floors
- One-to-many with risers
- One-to-many with images
- One-to-many with tech\_pdfs
- Many-to-many with technologies (via building\_technologies)

### 3. TABLE: technologies

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Columns:

- id (PK)
- name (e.g., Nokia, Huawei, SmartOLT, Positron)
- description (optional)

Relationships:

- Many-to-many with buildings (via building\_technologies)
- One-to-many with tech\_pdfs

### 4. TABLE: building\_technologies

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Columns:

- id (PK)
- building\_id (FK → buildings.id)
- technology\_id (FK → technologies.id)
- is\_primary (bool)

Relationships:

- Many-to-one to buildings
- Many-to-one to technologies

### 5. TABLE: floors

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Columns:

- id (PK)
- building\_id (FK → buildings.id)
- floor\_label (string: "G", "1", "2", "PH")
- sort\_order (int)
- created\_at
- updated\_at

Relationships:

- Many-to-one to buildings
- One-to-many with risers (if riser is anchored to a floor)
- One-to-many with images (floor-specific images)

## 6. TABLE: risers

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Columns:

- id (PK)
- building\_id (FK → buildings.id)
- name (e.g., "Riser 1", "Riser East")
- side (enum: SINGLE / EAST / WEST)
- floor\_id (FK → floors.id) (main floor where riser is located)
- description (text)
- created\_at
- updated\_at

Relationships:

- Many-to-one to buildings
- Many-to-one to floors
- One-to-many with images (riser-specific)
- Optional: Many-to-many to floors via riser\_floor\_links (for coverage)

## 7. TABLE: riser\_floor\_links (optional advanced)

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Columns:

- id (PK)
- riser\_id (FK → risers.id)
- floor\_id (FK → floors.id)
- distance\_meters (optional)

- is\_above (bool) // in relation to riser's main floor

Used for:

- More advanced "nearest above / below" calculation for risers.

## 8. TABLE: images

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Columns:

- id (PK)
- building\_id (FK → buildings.id)
- floor\_id (FK → floors.id, nullable)
- riser\_id (FK → risers.id, nullable)
- category (enum: PARKING / RISER / LOBBY / OTHER)
- title
- description
- file\_url
- sort\_order
- created\_at
- updated\_at

Relationships:

- Many-to-one to buildings
- Optional many-to-one to floors
- Optional many-to-one to risers

## 9. TABLE: tech\_pdfs

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Columns:

- id (PK)
- building\_id (FK → buildings.id)
- technology\_id (FK → technologies.id)
- title
- file\_url
- created\_by (FK → users.id)
- created\_at
- updated\_at

Relationships:

- Many-to-one to buildings

- Many-to-one to technologies
- Many-to-one to users (created\_by)

## 10. ERD SUMMARY (TEXT DIAGRAM)

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users (1) ■■■■< tech\_pdfs >■■■■ (1) technologies

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buildings (1) ■■■■< floors

| | \■■■■< risers >■■■■ (optional) riser\_floor\_links >■■■■ floors

|

■■■■< images

buildings (M) >■■■■< (M) technologies via building\_technologies

### Key Relationships:

- A building has many floors, risers, images, and tech\_pdfs.
- A technology can be linked to many buildings.
- A riser belongs to a single building and is anchored to a main floor.
- Images can belong to a building, and optionally a specific floor or riser.
- ONT PDFs (tech\_pdfs) are building + technology specific and are created by users.

### This schema supports:

- Technician app lookups for building → floors → risers → images → PDFs.
- Admin panel CRUD for all related entities.