PPE Detection System - Entity Relationship Diagram

Self
Ref

USERS

⬕ id (PK)	SERIAL
⬕ email (UK)	VARCHAR
⬕ username (UK)	VARCHAR
⬕ password_hash	VARCHAR
⬕ first_name	VARCHAR
⬕ last_name	VARCHAR
⬕ role	VARCHAR
⬕ status	VARCHAR
⬕ registration_date	TIMESTAMP
⬕ approved_date	TIMESTAMP
⬕ approved_by (FK)	INTEGER
⬕ last_login	TIMESTAMP
⬕ phone	VARCHAR
⬕ company	VARCHAR

1:N

1:N

USER_ACTIVITY_LOGS

⬕ id (PK)	SERIAL
⬕ user_id (FK)	INTEGER
⬕ activity_type	VARCHAR
⬕ description	TEXT
⬕ video_filename	VARCHAR
⬕ detection_results	JSON
⬕ ip_address	INET
⬕ user_agent	TEXT
⬕ created_at	TIMESTAMP
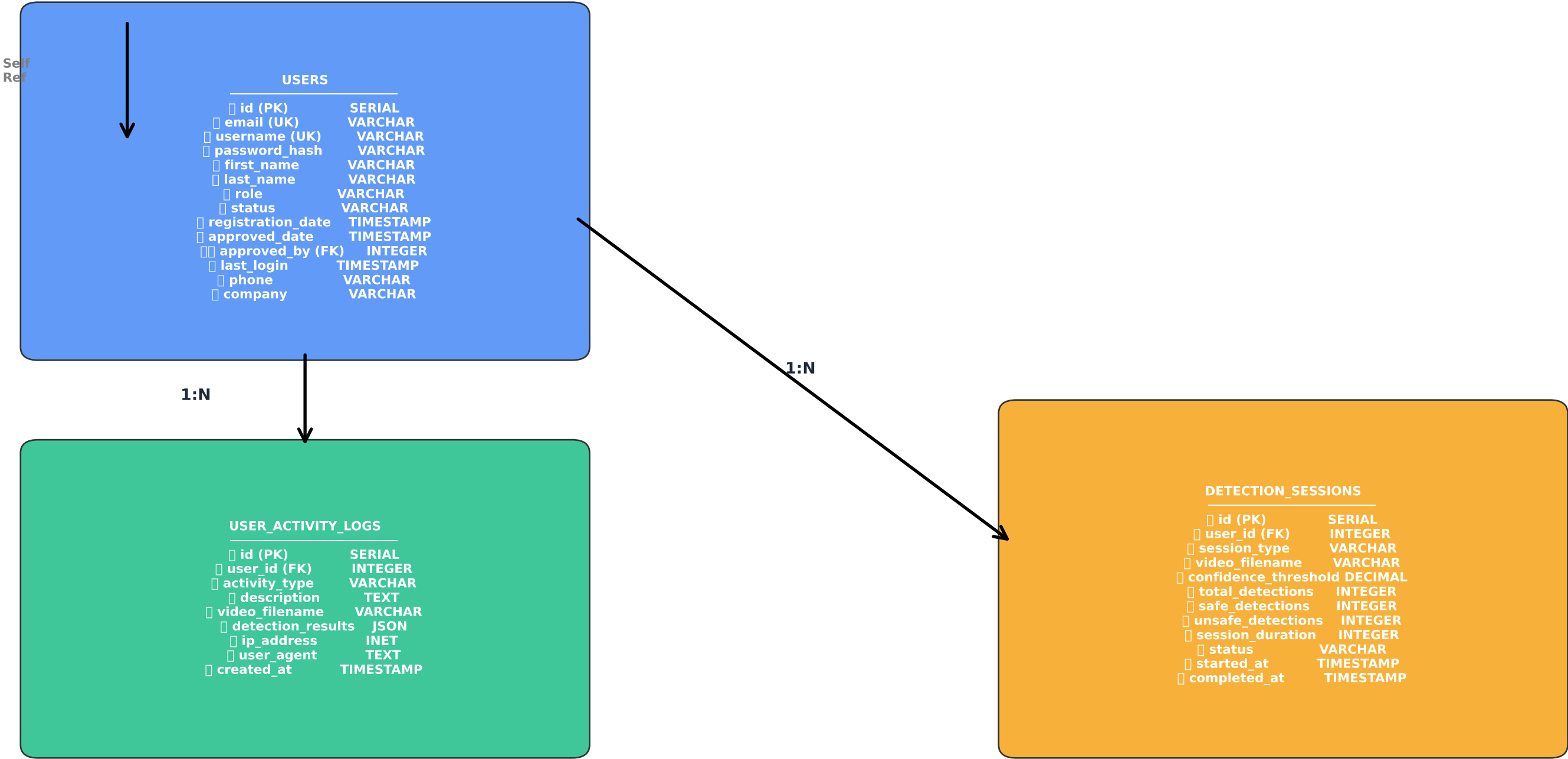
DETECTION_SESSIONS

⬕ id (PK)	SERIAL
⬕ user_id (FK)	INTEGER
⬕ session_type	VARCHAR
⬕ video_filename	VARCHAR
⬕ confidence_threshold	DECIMAL
⬕ total_detections	INTEGER
⬕ safe_detections	INTEGER
⬕ unsafe_detections	INTEGER
⬕ session_duration	INTEGER
⬕ status	VARCHAR
⬕ started_at	TIMESTAMP
⬕ completed_at	TIMESTAMP

Relationship Types:

• Users ↔ Activity Logs: One-to-Many (1:N) - One user can have multiple activity entries
• Users ↔ Detection Sessions: One-to-Many (1:N) - One user can have multiple detection sessions
• Users ↔ Users: Self-Reference - Admin users can approve other users (approved_by field)

Key Features:
⬕ Primary Keys (PK)   ⬕ Unique Keys (UK)   ⬕ Foreign Keys (FK)   ⬕ CASCADE DELETE

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