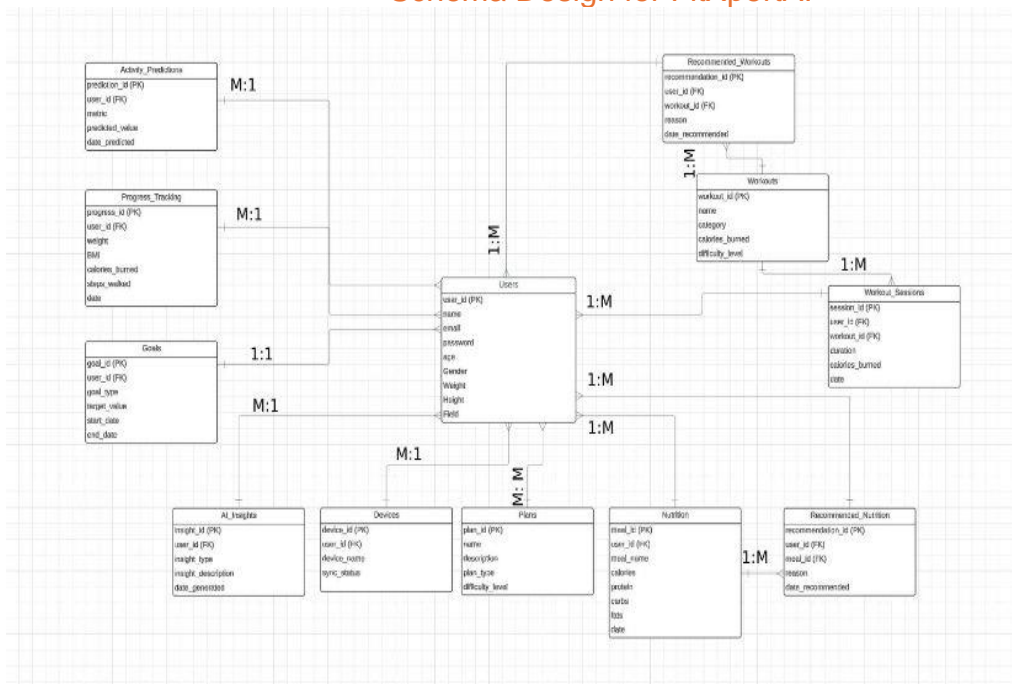


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FitXpert AI – SCHEMA DESIGN**Schema Design for FitXpertAI****Tables and Attributes****1. Users Table**

- Stores user details including login credentials and fitness attributes.

Column	Data Type	Description
user_id	INT (PK)	Unique identifier for each user
name	VARCHAR	User's full name
email	VARCHAR	Email (Unique)
password	VARCHAR	Hashed password
gender	VARCHAR	Male/Female/Other
age	INT	User's age
height	FLOAT	Height in cm
weight	FLOAT	Weight in kg

fitness_level	VARCHAR	Beginner, Intermediate, Advanced
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2. Workouts Table

- Stores different workout types, their calorie burns rates, and difficulty levels.

Column	Data Type	Description
workout_id	INT (PK)	Unique identifier for each workout
name	VARCHAR	Name of the workout
category	VARCHAR	Workout type (e.g., Strength, Cardio)
calories_burned_per_minute	FLOAT	Estimated calorie burn per minute
difficulty_level	VARCHAR	Beginner, Intermediate, Advanced

3. Workout Sessions Table

- Logs user workout sessions, including duration and calories burned.

Column	Data Type	Description
session_id	INT (PK)	Unique identifier for each session
user_id	INT (FK)	User performing the workout
workout_id	INT (FK)	Workout type
duration	INT	Duration in minutes
calories_burned	FLOAT	Total calories burned
date	TIMESTAMP	Date and time of session

4. Progress Tracking Table

- Stores user fitness progress over time, including weight changes and steps walked.

Column	Data Type	Description
progress_id	INT (PK)	Unique identifier for each progress entry
user_id	INT (FK)	User whose progress is recorded
weight	FLOAT	User's weight at that time
BMI	FLOAT	Calculated BMI
calories_burned	FLOAT	Total calories burned
steps_walked	INT	Steps taken
date	TIMESTAMP	Date of progress entry

5. Goals Table

- Stores user-defined fitness goals such as weight loss, muscle gain, etc.

Column	Data Type	Description
goal_id	INT (PK)	Unique identifier for the goal
user_id	INT (FK)	User setting the goal
goal_type	VARCHAR	Type of goal (e.g., Weight Loss, Muscle Gain)
target_value	FLOAT	Target weight, steps, or calories burned
start_date	TIMESTAMP	Goal start date
end_date	TIMESTAMP	Goal end date

6 Nutrition Table

- Stores user meal data, including calories and macronutrients.

Column	Data Type	Description
meal_id	INT (PK)	Unique identifier for the meal
user_id	INT (FK)	User logging the meal
meal_name	VARCHAR	Name of the meal
calories	FLOAT	Total calorie intake
protein	FLOAT	Protein content (g)
fats	FLOAT	Fat content (g)
carbs	FLOAT	Carbohydrate content (g)

7. AI Insights Table

- Stores AI-generated insights for users, based on fitness patterns.

Column	Data Type	Description
insight_id	INT (PK)	Unique identifier for the insight
user_id	INT (FK)	User receiving the insight
insight_type	VARCHAR	Type of insight (Workout, Nutrition, Progress)
insight_description	TEXT	AI generated analysis and recommendations
date_generated	TIMESTAMP	Date insight was created

8. Activity Predictions Table

- Stores AI-predicted future fitness trends based on past data.

Column	Data Type	Description
prediction_id	INT (PK)	Unique identifier for the prediction
user_id	INT (FK)	User for whom the prediction is generated
metric	VARCHAR	Predicted metric (Weight, Steps, Calories)
predicted_value	FLOAT	Expected value based on AI analysis
date_predicted	TIMESTAMP	Future date for prediction

9. Recommended Workouts Table

- Stores AI-recommended workouts for users based on performance.

Column	Data Type	Description
recommendation_id	INT (PK)	Unique identifier for the recommendation
user_id	INT (FK)	User receiving the workout suggestion
workout_id	INT (FK)	Suggested workout
reason	TEXT	AI-generated reason for recommendation
date_recommended	TIMESTAMP	Recommendation date

10. Plans Table

- Stores predefined workout plans for users to follow.

Column	Data Type	Description
plan_id	INT (PK)	Unique identifier for the plan
name	VARCHAR	Name of the plan
description	TEXT	Plan details
plan_type	VARCHAR	Type of plan (Beginner, Intermediate, Advanced)
difficulty_level	VARCHAR	Plan difficulty

Schema References & Relationships

Table	Referenced Table	Reference Type
users.user_id	devices.user_id	1:1
users.user_id	workout_sessions.user_id	1:M
users.user_id	progress_tracking.user_id	1:M
users.user_id	nutrition.user_id	1:M
users.user_id	ai_insights.user_id	1:1
users.user_id	activity_predictions.user_id	1:M
users.user_id	recommended_workouts.user_id	1:M
users.user_id	recommended_nutrition.user_id	1:M
workout_sessions.workout_id	workouts.workout_id	1:M
users.user_id	goals.user_id	1:M
goals.goal_id	progress_tracking.goal_id	1:M
recommended_workouts.workout_id	workouts.workout_id	M:1
recommended_nutrition.meal_id	nutrition.meal_id	M:1