

Requirements

MEMBERS:

Members should be able to register and manage their profiles, setting personal fitness goals and inputting health metrics.

gain access to a personalized dashboard that tracks their exercise routines, fitness achievements, and health statistics.

enable members to schedule, reschedule, or cancel personal training sessions with certified trainers.

members can register for group fitness classes, workshops, and other events.

The club's unique selling point is its loyalty program; every transaction earns members loyalty points, which can be redeemed for future services.

TRAINERS:

empower trainers with tools to manage their schedules, view member profiles, and input progress notes after each training session.

ADMINISTRATIVE STAFF:

managing room bookings, monitoring fitness equipment maintenance, and updating class schedules.

oversee billing, process payments for membership fees, personal training sessions, and other services.

TRAINER

<u>trainerID</u>	name	contact_info	schedule
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PT_SESSION

<u>memberID</u>	<u>trainerID</u>	<u>sessionID</u>	date	time	progress_notes
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MEMBER

<u>memberID</u>	name	contact_info	health_metrics	fitness_goals	loyalty_pts
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BILLING

<u>billID</u>	memberID	amount	date	service_type	payment_method
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GROUP_FITNESS

<u>classID</u>	description
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CLASS_SCHEDULE

<u>roomID</u>	<u>classID</u>	date	time
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ROOM

<u>roomID</u>	type	maintenance_schedule
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EVENT_SCHEDULE

<u>eventID</u>	<u>roomID</u>	date	time
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EVENT

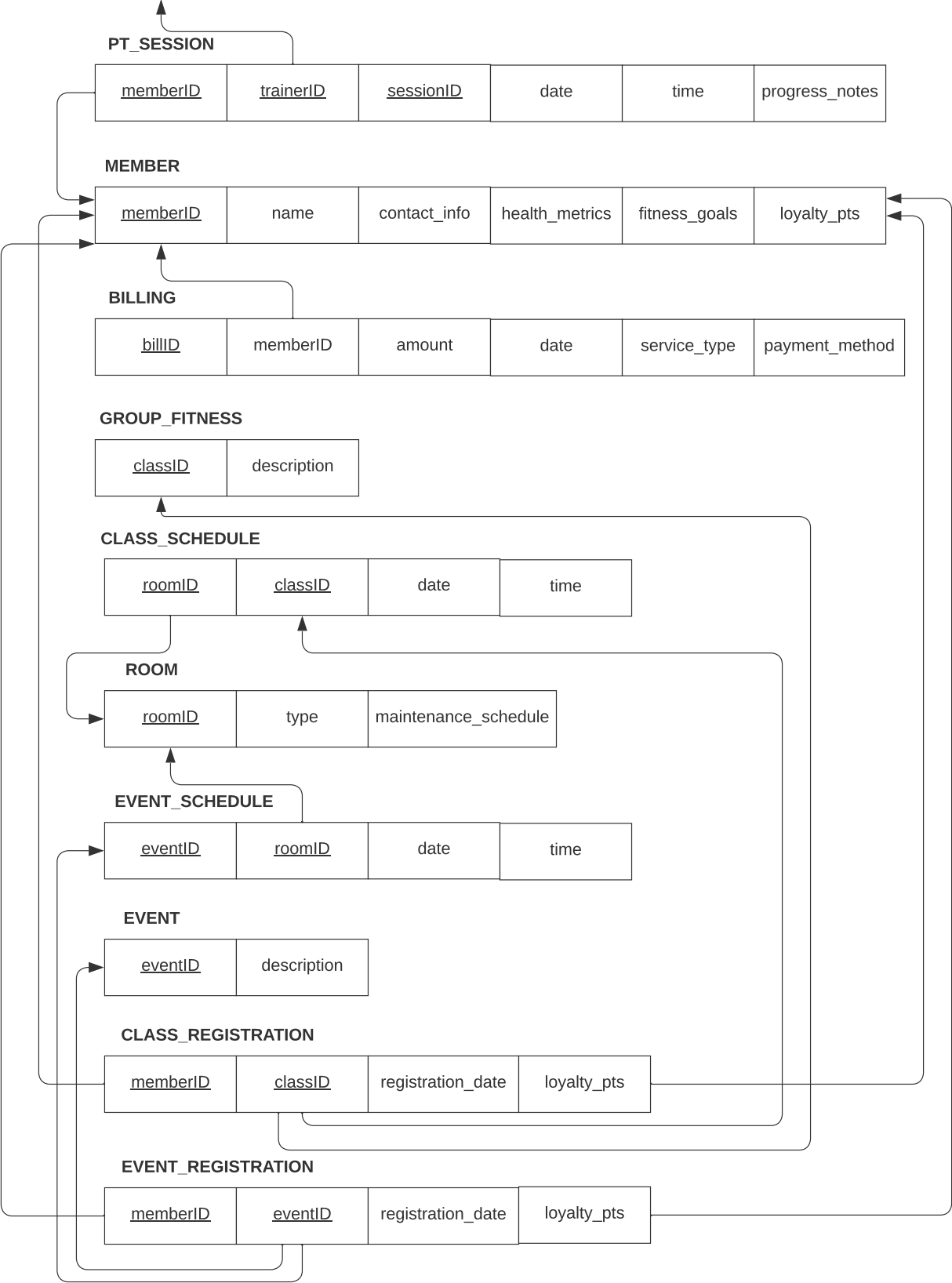
<u>eventID</u>	description
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CLASS_REGISTRATION

<u>memberID</u>	<u>classID</u>	registration_date	loyalty_pts
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EVENT_REGISTRATION

<u>memberID</u>	<u>eventID</u>	registration_date	loyalty_pts
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2NF/3NF

TRAINER:

pk: trainerID

attributes: name, contact_info, schedule

All attributes are directly dependent on the pk indicating 2NF, and there are no transitive dependencies, meaning 3NF.

PT_SESSION:

pk: sessionID

attributes: memberID, trainerID, date, time, progress_notes

All attributes are directly dependent on the pk indicating 2NF, and there are no transitive dependencies, meaning 3NF.

MEMBER:

pk: memberID

attributes: name, contact_info, health_metrics, fitness_goals

All attributes are directly dependent on the pk indicating 2NF, and there are no transitive dependencies, meaning 3NF.

BILLING:

pk: billID

attributes: memberID, amount, date, service_type, payment_method

All attributes are directly dependent on the pk indicating 2NF, and there are no transitive dependencies, meaning 3NF.

CLASS_SCHEDULE:

Composite pk: classID, roomID

attributes: date, time

All attributes are directly dependent on the composite pk indicating 2NF, and there are no transitive dependencies, meaning 3NF.

CLASS_SCHEDULE:

Composite pk: classID, roomID

attributes: date, time

All attributes are directly dependent on the composite pk indicating 2NF, and there are no transitive dependencies, meaning 3NF.

ROOM:

pk: roomID

attributes: type, maintenance_schedule

All attributes are directly dependent on the pk indicating 2NF, and there are no transitive dependencies, meaning 3NF.

EVENT_SCHEDULE:

Composite pk: eventID, roomID

attributes: date, time

All attributes are directly dependent on the composite pk indicating 2NF, and there are no transitive dependencies, meaning 3NF.

EVENT:

pk: eventID

attributes: description

All attributes are directly dependent on the pk indicating 2NF, and there are no transitive dependencies, meaning 3NF.

CLASS_REGISTRATION:

Composite pk: memberID, classID

attributes: registration_date, loyalty_pts

All attributes are directly dependent on the composite pk indicating 2NF, and there are no transitive dependencies, meaning 3NF.

EVENT_REGISTRATION:

Composite pk: memberID, eventID

attributes: registration_date, loyalty_pts

All attributes are directly dependent on the composite pk indicating 2NF, and there are no transitive dependencies, meaning 3NF.

Decomposition

Originally, I had EVENT/EVENT_SCHEDULE and CLASS/CLASS_SCHEDULE as one table each respectively. However, this made it no longer 2NF because 'description' was only dependent on 'eventID'/'classID' and not on the composite primary key.

TRAINER

<u>trainerID</u>	name	contact_info	schedule
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PT_SESSION

<u>memberID</u>	<u>trainerID</u>	<u>sessionID</u>	date	time	progress_notes
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MEMBER

<u>memberID</u>	name	contact_info	health_metrics	fitness_goals	loyalty_pts
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BILLING

<u>billID</u>	memberID	amount	date	service_type	payment_method
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GROUP_FITNESS

<u>roomID</u>	<u>classID</u>	date	time	description
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ROOM

<u>roomID</u>	type	maintenance_schedule
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EVENT

<u>eventID</u>	<u>roomID</u>	date	time	description
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CLASS_REGISTRATION

<u>memberID</u>	<u>classID</u>	registration_date	loyalty_pts
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EVENT_REGISTRATION

<u>memberID</u>	<u>eventID</u>	registration_date	loyalty_pts
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