Go Green Bikes

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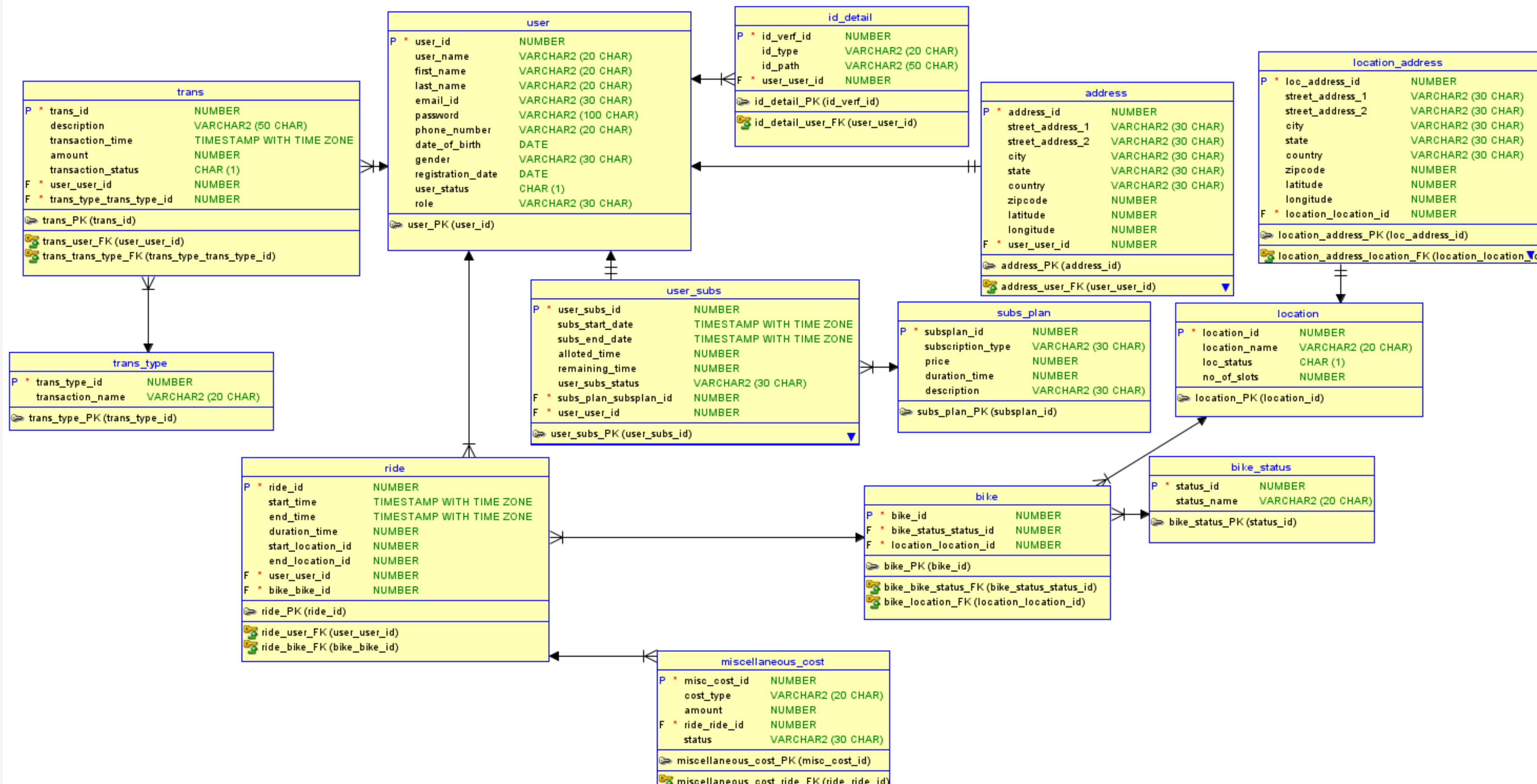
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Business Problem and Solution

Our company, GoGreen, aims to provide a sustainable and convenient transportation solution for urban commuters. To address the need for efficient, eco-friendly mobility options, we have developed a comprehensive database system to manage user registrations, bike availability, rides, subscriptions, and transactions.

GoGreen will operate a bike share program with a fleet of bikes distributed across multiple stations within our service areas. Users will be able to access bikes from any station, ride to their destination, and return the bike to any station within the network. This solution will promote sustainable transportation, reduce congestion, and enhance mobility options for urban commuters.

Relational Diagram

trans
P	*	trans_id	NUMBER
		description	VARCHAR2 (50 CHAR)
		transaction_time	TIMESTAMP WITH TIME ZONE
		amount	NUMBER
		transaction_status	CHAR (1)
F	*	user_user_id	NUMBER
F	*	trans_type_trans_type_id	NUMBER

trans_PK (trans_id)

trans_user_FK (user_user_id)
trans_trans_type_FK (trans_type_trans_type_id)

user
P	*	user_id	NUMBER
		user_name	VARCHAR2 (20 CHAR)
		first_name	VARCHAR2 (20 CHAR)
		last_name	VARCHAR2 (20 CHAR)
		email_id	VARCHAR2 (30 CHAR)
		password	VARCHAR2 (100 CHAR)
		phone_number	VARCHAR2 (20 CHAR)
		date_of_birth	DATE
		gender	VARCHAR2 (30 CHAR)
		registration_date	DATE
		user_status	CHAR (1)
		role	VARCHAR2 (30 CHAR)

user_PK (user_id)

id_detail
P	*	id_verf_id	NUMBER
		id_type	VARCHAR2 (20 CHAR)
		id_path	VARCHAR2 (50 CHAR)
F	*	user_user_id	NUMBER

id_detail_PK (id_verf_id)

id_detail_user_FK (user_user_id)

location_address
P	*	loc_address_id	NUMBER
		street_address_1	VARCHAR2 (30 CHAR)
		street_address_2	VARCHAR2 (30 CHAR)
		city	VARCHAR2 (30 CHAR)
		state	VARCHAR2 (30 CHAR)
		country	VARCHAR2 (30 CHAR)
		zipcode	NUMBER
		latitude	NUMBER
		longitude	NUMBER
F	*	location_location_id	NUMBER

location_address_PK (loc_address_id)

location_address_location_FK (location_location...

address
P	*	address_id	NUMBER
		street_address_1	VARCHAR2 (30 CHAR)
		street_address_2	VARCHAR2 (30 CHAR)
		city	VARCHAR2 (30 CHAR)
		state	VARCHAR2 (30 CHAR)
		country	VARCHAR2 (30 CHAR)
		zipcode	NUMBER
		latitude	NUMBER
		longitude	NUMBER
F	*	user_user_id	NUMBER

address_PK (address_id)

address_user_FK (user_user_id)

trans_type
P	*	trans_type_id	NUMBER
		transaction_name	VARCHAR2 (20 CHAR)

trans_type_PK (trans_type_id)

user_subs
P	*	user_subs_id	NUMBER
		subs_start_date	TIMESTAMP WITH TIME ZONE
		subs_end_date	TIMESTAMP WITH TIME ZONE
		alloted_time	NUMBER
		remaining_time	NUMBER
		user_subs_status	VARCHAR2 (30 CHAR)
F	*	subs_plan_subsplan_id	NUMBER
F	*	user_user_id	NUMBER

user_subs_PK (user_subs_id)

subs_plan
P	*	subsplan_id	NUMBER
		subscription_type	VARCHAR2 (30 CHAR)
		price	NUMBER
		duration_time	NUMBER
		description	VARCHAR2 (30 CHAR)

subs_plan_PK (subsplan_id)

location
P	*	location_id	NUMBER
		location_name	VARCHAR2 (20 CHAR)
		loc_status	CHAR (1)
		no_of_slots	NUMBER

location_PK (location_id)

ride
P	*	ride_id	NUMBER
		start_time	TIMESTAMP WITH TIME ZONE
		end_time	TIMESTAMP WITH TIME ZONE
		duration_time	NUMBER
		start_location_id	NUMBER
		end_location_id	NUMBER
F	*	user_user_id	NUMBER
F	*	bike_bike_id	NUMBER

ride_PK (ride_id)

ride_user_FK (user_user_id)
ride_bike_FK (bike_bike_id)

bike
P	*	bike_id	NUMBER
F	*	bike_status_status_id	NUMBER
F	*	location_location_id	NUMBER

bike_PK (bike_id)

bike_bike_status_FK (bike_status_status_id)
bike_location_FK (location_location_id)

bike_status
P	*	status_id	NUMBER
		status_name	VARCHAR2 (20 CHAR)

bike_status_PK (status_id)

miscellaneous_cost
P	*	misc_cost_id	NUMBER
		cost_type	VARCHAR2 (20 CHAR)
		amount	NUMBER
F	*	ride_ride_id	NUMBER
		status	VARCHAR2 (30 CHAR)

miscellaneous_cost_PK (misc_cost_id)

miscellaneous_cost_ride_FK (ride_ride_id)

Team Member	Contribution
Abhilash Kumar Gorle	Created Tables Insert, Update and Delete packages for Rides Testing
Vasavi Sai Nunna	App Admin Creation User Creation and Permission Grants Insert, Update and Delete packages for Users Testing
Dinesh Reddy	Insert, Update and Delete Packages for User_subs Insert, Update and Delete Packages for Admin Sample Data Insertion Testing
Sunil Mallela	Insert, Update and Delete packages for Bikes Sample Data Insertion Views

Conclusion

The Go_Green database is pivotal for supporting a sustainable urban bike rental service, with its design aimed at promoting efficient data management and meeting operational needs.