

Zero or one to zero or many: Each area can have zero or one parent_areas. Some areas are the start of the "area tree" so have a null parent_area. Each id of an area could be a prent_area zero or many times since some areas have many children.

users		
PK	id	varchar
	display_name	varchar
	start_date	date
	age	int
	other_interests	varchar
	points	int

admins_areas		
PK, FK	user_id	varchar
PK, FK	area_id	varchar

areas		
PK	id	varchar
	name	varchar
	description	varchar
	getting_there	varchar
FK	parent_area_id	varchar
	elevation	int
	corodinales	varchar
FK	shared_by_id	varchar
	shared_on	date
	views	int

classics		
PK, FK	route_id	varchar
PK, FK	area_id	varchar

One and only one to zero or many: In classics, admins_areas, routes - there is exactly one area_id per instance, and the area could appear in those tables zero or many times. There are empty areas, areas with no admins, and areas with no classics.

ticks		
PK	id	serial
FK	user_id	varchar
FK	route_id	varchar
	date	date
	pitches	int
	style	varchar
	secondary_style	varchar
	notes	varchar

todos		
PK, FK	user_id	varchar
PK, FK	route_id	varchar

One and only one to zero or many: In admins_areas, ticks, areas, difficulty_ratings, todos, star_ratings, and routes - there has to be exactly one user_id in the instance of the relation, but a user_id can appear in the table zero or many times. For example, a tick is associated to exactly one user, but a user can have zero or many ticks.

difficulty_ratings		
PK, FK	user_id	varchar
PK, FK	route_id	varchar
FK	difficulty_rating	varchar
FK	danger_rating	varchar
FK	aid_rating	varchar

route_types		
PK, FK	route_id	varchar
PK	type	varchar

One and only one to one or many: Each route (represented by route_id) has to have at least one route type.

routes		
PK	id	varchar
FK	area_id	varchar
	description	varchar
	location	varchar
	protection	varchar
FK	difficulty_rating	varchar
FK	danger_rating	varchar
FK	aid_rating	varchar
FK	commitmet_rating	varchar
	length	int
	pitches	int
	first_accent	varchar
FK	shared_by_id	varchar
	shared_on	date
	views	int

star_ratings		
PK, FK	user_id	varchar
PK, FK	route_id	varchar
	star_rating	int

difficulty_numbers		
PK	yds_grade	varchar
	numeric	serial

danger_numbers		
PK	danger_grade	varchar
	numeric	serial

commitment_numbers		
PK	commitment_grade	varchar
	numeric	serial

One and only one to zero or many: In difficulty_ratings and routes - the grade that is associated with difficulty_numbers, danger_numbers, and commitment_numbers, is in the numbers tables exactly once, and in the row exactly once. That grade can appear the the ratings and routes tables zero or many times.