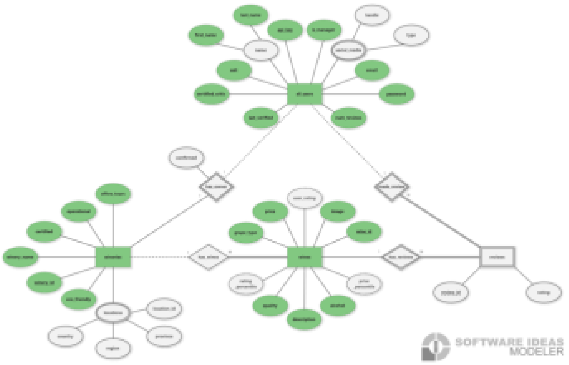
Converting (E)ER to Relational Mapping

Step 1: Mapping of regular(strong) entitiy types



all_users

VARCHAR(32) api_key	VARCHAR(32) first_name	VARCHAR(64) last_name	VARCHAR(50) email	VARCHAR(64) password	VARCHAR(12) salt	INT() num_reviews	DATE() last_verified	TINYINT(1) certified_critic	TINYINT(1) is_manager

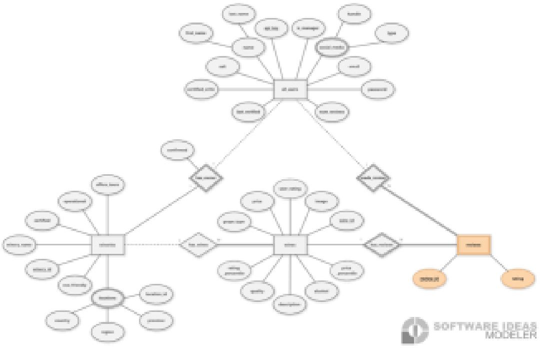
wines

INT() wine_id	VARCHAR(50) type	VARCHAR(64) grape_type	VARCHAR(255) image	VARCHAR(255) description	FLOAT() price	TINYINT(1) quality	FLOAT() alcohol	VARCHAR(256) designation

wineries

INT() winery_id	VARCHAR(64) winery_name	TINYINT(1) certified	TINYINT(1) operational	TINYINT(1) offers_tours	TINYINT() eco_friendly

Step 2: Mapping of weak entitiy type



all_users

VARCHAR(32) api_key	VARCHAR(32) first_name	VARCHAR(64) last_name	VARCHAR(50) email	VARCHAR(64) password	VARCHAR(12) salt	INT() num_reviews	DATE() last_verified	TINYINT(1) certified_critic	TINYINT(1) is_manager

reviews

VARCHAR(32) api_key	INT() wine_id	INT() review_id	FLOAT() rating

wines

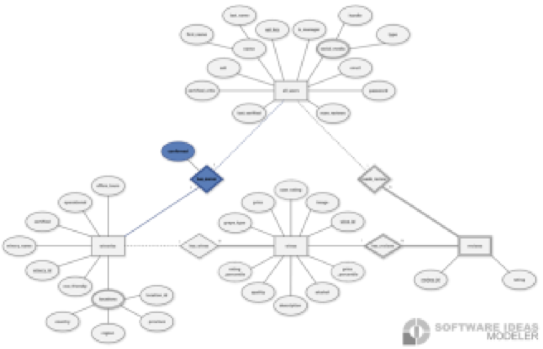
INT() wine_id	VARCHAR(50) type	VARCHAR(64) grape_type	VARCHAR(255) image	VARCHAR(255) description	FLOAT() price	TINYINT(1) quality	FLOAT() alcohol	VARCHAR(256) designation

wineries

INT() winery_id	VARCHAR(64) winery_name	TINYINT(1) certified	TINYINT(1) operational	TINYINT(1) offers_tours	TINYINT() eco_friendly

Step 3: Mapping binary (1:1) relationships

Approach take : Foreign key approach (approach 1)



all_users

VARCHAR(32) api_key	VARCHAR(32) first_name	VARCHAR(64) last_name	VARCHAR(50) email	VARCHAR(64) password	VARCHAR(12) salt	INT() num_reviews	DATE() last_verified	TINYINT(1) certified_critic	TINYINT(1) is_manager

reviews

VARCHAR(32) api_key	INT() wine_id	INT() review_id	FLOAT() rating

wines

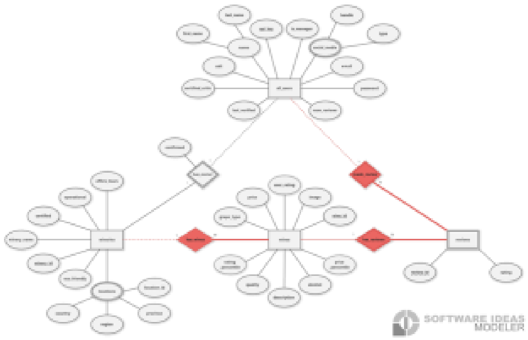
INT() wine_id	VARCHAR(50) type	VARCHAR(64) grape_type	VARCHAR(255) image	VARCHAR(255) description	FLOAT() price	TINYINT(1) quality	FLOAT() alcohol	VARCHAR(256) designation

wineries

INT() winery_id	VARCHAR(32) api_key	TINYINT(1) confirmed	VARCHAR(64) winery_name	TINYINT(1) certified	TINYINT(1) operational	TINYINT(1) offers_tours	TINYINT() eco_friendly

Step 4: Mapping binary (1:N) relationships

Second approach take: creating seperate relation for 1:N



all_users

VARCHAR(32) api_key	VARCHAR(32) first_name	VARCHAR(64) last_name	VARCHAR(50) email	VARCHAR(64) password	VARCHAR(12) salt	INT() num_reviews	DATE() last_verified	TINYINT(1) certified_critic	TINYINT(1) is_manager

reviews

VARCHAR(32) api_key	INT() wine_id	INT() review_id	FLOAT() rating	VARCHAR(255) comment

wines

INT() wine_id	INT() winery_id	VARCHAR(50) type	VARCHAR(64) grape_type	VARCHAR(255) image	VARCHAR(255) description	FLOAT() price	TINYINT(1) quality	FLOAT() alcohol	VARCHAR(256) designation

wineries

INT() winery_id	VARCHAR(32) api_key	TINYINT(1) confirmed	VARCHAR(64) winery_name	TINYINT(1) certified	TINYINT(1) operational	TINYINT(1) offers_tours	TINYINT() eco_friendly

Step 5: Mapping binary (M:N) relationships

N/A no M:N relationships
need to be mapped

Step 6: Mapping multivalued attributes

social_media

VARCHAR(32)	VARCHAR(64)	VARCHAR(32)
api_key	handle	type

all_users

VARCHAR(32)	VARCHAR(32)	VARCHAR(64)	VARCHAR(50)	VARCHAR(64)	VARCHAR(12)	INT()	DATE()	TINYINT(1)	TINYINT(1)
api_key	first_name	last_name	email	password	salt	num_reviews	last_verified	certified_critic	is_manager

reviews

VARCHAR(32)	INT()	INT()	FLOAT()
api_key	wine_id	review_id	rating

wines

INT()	INT()	VARCHAR(50)	VARCHAR(64)	VARCHAR(255)	VARCHAR(255)	FLOAT()	TINYINT(1)	FLOAT()	VARCHAR(256)
wine_id	winery_id	type	grape_type	image	description	price	quality	alcohol	designation

wineries

INT()	VARCHAR(32)	TINYINT(1)	VARCHAR(64)	TINYINT(1)	TINYINT(1)	TINYINT(1)	TINYINT()
winery_id	api_key	confirmed	winery_name	certified	operational	offers_tours	eco_friendly

locations

INT()	INT()	VARCHAR(12)	VARCHAR(30)	VARCHAR(50)
winery_id	location_id	country	province	region

Step 7: Mapping N-ary relationships

N/A No N-ary relationships need to be mapped

Step 8: Mapping Specialization and generalization

N/A No specialization/generalization needed to be mapped

Final Mapping:

social_media

VARCHAR(32)	VARCHAR(64)	VARCHAR(32)
api_key	handle	type

all_users

VARCHAR(32)	VARCHAR(32)	VARCHAR(64)	VARCHAR(50)	VARCHAR(64)	VARCHAR(12)	INT()	DATE()	TINYINT(1)	TINYINT(1)
api_key	first_name	last_name	email	password	salt	num_reviews	last_verified	certified_critic	is_manager

reviews

VARCHAR(32)	INT()	INT()	FLOAT()
api_key	wine_id	review_id	rating

wines

INT()	INT()	VARCHAR(50)	VARCHAR(64)	VARCHAR(255)	VARCHAR(255)	FLOAT()	TINYINT(1)	FLOAT()	VARCHAR(256)
wine_id	winery_id	type	grape_type	image	description	price	quality	alcohol	designation

wineries

INT()	VARCHAR(32)	TINYINT(1)	VARCHAR(64)	TINYINT(1)	TINYINT(1)	TINYINT(1)	TINYINT()
winery_id	api_key	confirmed	winery_name	certified	operational	offers_tours	eco_friendly

locations

INT()	INT()	VARCHAR(12)	VARCHAR(30)	VARCHAR(50)
winery_id	location_id	country	province	region