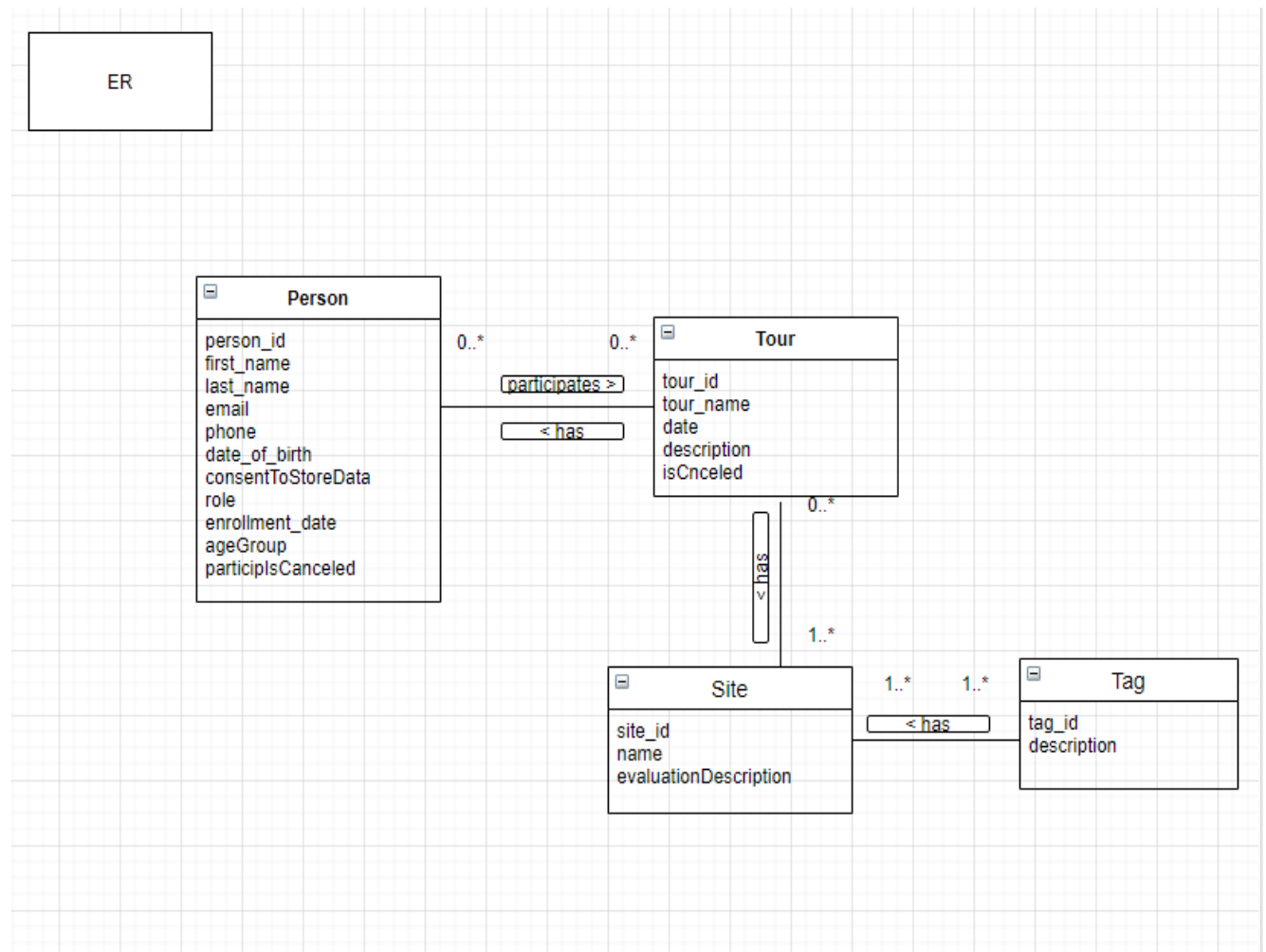**DM CASE Design**

1 ER Diagram

2 Relational schema

BCNF validation

Tour (tour_id , name, description, date, isCancelled)

PK (tour_id) -> name, description, date, isCancelled

Person (person_id , last_name, first_name, email, phone, ageGroup, consentToStoreData, enrollment_date, role)

PK (person_id) -> lats_name, first_name, email, phone, ageGroup, consentToStoreData, enrollment_date, role)

TourPerson (person_id, tour_id, particIsCanceled

PK (person_id, tour_id) -> particIsCanceled

FK person_id REFERENCES Person (person_id)

FK tour_id REFERENCES Tour (tour_id)

Site (site_id , name)

PK (site_id) -> name

TourSite (tour_id, site_id)

PK (tour_id, site_id)

FK tour_id REFERENCES Tour (tour_id)

FK site_id REFERENCES Site (site_id)

Tag (tag_id, description)

PK (tag_id) -> description

TagSIte (tag_id, site_id)

PK (tag_id, site_id)

FK tag_id REFERENCES Tag (tag_id)

FK site_id REFERENCES Site (site_id)

SiteEvaluation (site_id, person_id, evaluation_id, description)

PK (site_id, person_id) -> evaluation_id, description

FK site_id REFERENCES Site (site_id)

FK person_id REFERENCES Person (person_id)

3 Repository

ENTITY TYPE DESCRIPTIONS

ENTITY TYPE	Description	Synonyms, aliases	Occurrence
Person	A person who enrolls for a tour	Customer, member	
Tour	A route that consists of combination of different sites	Trip, excursion	no less than 3 participants in each tour, otherwise - cancellation
Tag	An information related to the site	Marker, title	limitless
Site	An attraction in city what tours consists of	Waypoint	many, because each tour consists of several sites
SiteEvaluation	A record for feedback	Feedback	limitless

ATTRIBUTE TYPE DESCRIPTIONS

Person

Attribute type	Description	Data type	Value required	Identity attribute or part of it	Special domain
name	Name of a customer	Text	Yes	-	-
lastname	Last name of a customer	Integer	Yes	-	-
email	Customers e-mail address	Text	Yes	Yes	Valid e-mail format
phone_number	Customer phone number	Integer	Yes	-	-
ageGroup	Age group which customer belongs to	Text	-	-	
consent	Person's agreement on storing his data	Text	Yes	-	-
role	Which role the customer has while on tour	Text	Yes		'participant', 'organiser'
enrollment_date	Date when the customer enrolled for a tour	Date			

Tour

Attribute type	Description	Data type	Value required	Identity attribute or part of it	Special domain

name	Name of a tour	Text	Yes	Yes	-
description	A content of a tour	Text	Yes	-	-
date	Tour's date	Date	Yes	-	-
isCancelled	Tour status	Text	Yes		'Y', 'N'

SiteEvaluation

Attribute type	Description	Data type	Value required	Identity attribute or part of it	Special domain
description	Given evaluation for each site	Text	Yes	-	-

Site

Attribute type	Description	Data type	Value required	Identity attribute or part of it	Special domain
name	Name of a site	Text	Yes	Yes	-

Tag

Attribute type	Description	Data type	Value required	Identity attribute or part of it	Special domain
name	Name of a tag	Text	Yes	Yes	-

TABLE DESCRIPTIONS

Person

Column	Description	Data type	Value required	Keys	Special domain
Person_id	Unique person identifier	VARCHAR(5)	Yes	PRIMARY KEY (surrogate key)	-
First_name	Name of person	VARCHAR(50)	Yes	-	-
Last_name	Surname of person	VARCHAR(50)	Yes	-	-
E-mail	Person's email address	VARCHAR(50)	Yes	ALTERNATE KEY (UNIQUE)	Valid e-mail format
Phone_number	Person's phone number	INTEGER	Yes	-	-

ageGroup	Age group a person belongs to	DATE	-		-
consentToStoreData	Person's permission to store personal data	CHAR(1)	Yes		'N', 'Y'
role	Which role the customer has while on tour	VARCHAR(50)	Yes		'participant', 'organiser'
Enrollment_date	Date when person enrolled for a tour	DATETIME	Yes		

Tour

Column	Description	Data type	Value required	Keys	Special domain
Tour_id	Inique tour identifier	CHAR(4)	Yes	PRIMARY KEY (surrogate key	
name	Name of a tour	VARCHAR(50)	Yes	-	-
description	A content of a tour	VARCHAR(150)	Yes	-	-
date	Date of the tour	DATE	Yes	-	-
isCancelled	Status of the tour	CHAR(1)	YES	-	'Y', 'N'

TourPerson

Column	Description	Data type	Value required	Keys	Special domain
Tour_id	Inique tour identifier	CHAR(4)	Yes	IN PRIMARY KEY FOREIGN KEY 1 => Tour	
Person_id	Unique person identifier	CHAR(5)	Yes	IN PRIMARY KEY FOREIGN KEY 2 => Person	
partIsCancelled	Person who cancelled his participation	CHAR(1)	Yes	-	'N', 'Y'

Site

Column	Description	Data type	Value required	Keys	Special domain
site_id	Inique site identifier	CHAR(4)	Yes	PRIMARY KEY (surrogate key)	
name	Name of the site	VARCHAR(50)	Yes	ALTERNATE KEY (UNIQUE)	-

TourSite

Column	Description	Data type	Value	Keys	Special domain

			required		
Tour_id	Unique tour identifyer	CHAR(4)	Yes	IN PRIMARY KEY FOREIGN KEY 1 => Tour	
site_id	Inique site identifier	CHAR(4)	Yes	IN PRIMARY KEY FOREIGN KEY 2 => Site	

Tag

Column	Description	Data type	Value required	Keys	Special domain
tag_id	Inique tag identifier	CHAR(4)	Yes	PRIMARY KEY (surrogate key)	
name	Name of the tag	VARCHAR(50)	Yes	ALTERNATE KEY (UNIQUE)	-

SiteTag

Column	Description	Data type	Value required	Keys	Special domain
Tag_id	Unique tag identifyer	Integer	Yes	IN PRIMARY KEY FOREIGN KEY 1 => Tag	autonumber
site_id	Inique site identifier	Integer	Yes	IN PRIMARY KEY FOREIGN KEY 2 => Site	autonumber

SiteEvaluation

Column	Description	Data type	Value required	Keys	Special domain
Site_id	Unique site identifier	CHAR(4)	Yes	IN PRIMARY KEY FOREIGN KEY 1 => Site	-
Person_id	Unique person identifier	CHAR(5)	Yes	IN PRIMARY KEY FOREIGN KEY 2 => Person	-
description	Given evaluation for each site	VARCHAR(50)	Yes	-	-

4 DB Diagram