Design of the database

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1 Program Description

This is a database for ordering a ticket on the events.

2 Design database for CDP program

Main entities of the database are:

- User;
- Event;
- Ticket.

2.1 User entity

User entity, illustrated on a figure 2.1, represents user in the database and have several fields:

Name	Type	Description	Constraints
`id`	*integer*	unique identifier of the user	**Primary Key**
`name`	*text*	name of the user	**Unique**
`email`	*text*	email of the user	**Unique**
`created_date`	*text*	date of instance creation in the UTC	**N\A**
`updated_date`	*text*	date of the last update in the UTC	

Indexes for user entity:

Name	Type
`name`	*B-tree*
`email`	*B-tree*

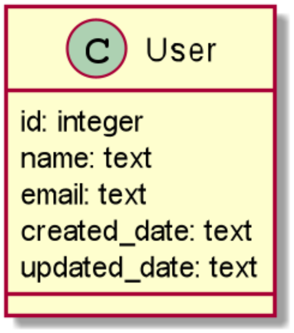

Figure 1: User representation in the database

2.2 Event entity

Event entity, illustrated on a figure 2 , represents event in the database and have several fields:

Name	Type	Description	Constraints
`id`	*integer*	unique identifier of the event	**Primary Key**
`title`	*text*	title of the event	**Unique**
`date`	*text*	start date of the event in the UTC	
`created_date`	*text*	date of instance creation in the UTC	**N\A**
`updated_date`	*text*	date of the last update in the UTC	

Indexes for event entity:

Name	Type
`title`	*B-tree*
`date`	*B-tree*

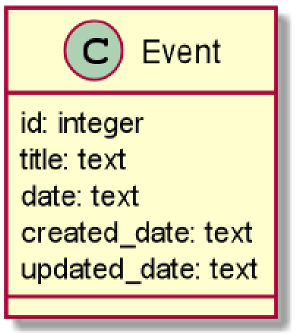

Figure 2: Event representation in the database

2.3 Ticket entity

Ticket entity, illustrated on a figure 3 , represents ticket in the database and have several fields:

Name	Type	Description	Constraints	
`id`	*integer*	unique identifier of the ticket	**Primary Key**	
`user_id`	*integer*	id of the user which has ordered this ticket	**Secondary Key**	
`event_id`	*integer*	id of the event on which ticket is booked	**Secondary Key**	**Unique**
`place`	*integer*	number of place of the ticket	**N\A**	
`category`	*string*	category of the ticket	**N\A**	
`created_date`	*string*	date of instance creation in the UTC		
`updated_date`	*string*	date of the last update in the UTC		

Indexes for ticket entity:

Name	Type
`event_id`	*B-tree*
`user_id`	*B-tree*
`category`	*B-tree*

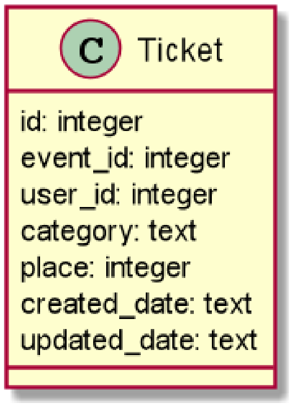

Figure 3: Ticket representation in the database

3 Implementation of the database design in the PostgresSQL

3.1 User table

SQL command:

```
CREATE TABLE public."user"
(
id integer NOT NULL,
name character varying(50) NOT NULL,
email character varying(50) NOT NULL,
created_date character varying(50),
updated_date character varying(50),
PRIMARY KEY (id),
CONSTRAINT name_unique UNIQUE (name),
CONSTRAINT email_unique UNIQUE (email)
);

ALTER TABLE IF EXISTS public."user"
OWNER to postgres;
```

3.2 Event table

SQL command:
```
CREATE TABLE public.event
(
id integer NOT NULL,
title character varying(50) NOT NULL,
date character varying(50) NOT NULL,
created_date character varying(50),
updated_date character varying(50),
PRIMARY KEY (id),
CONSTRAINT title_date UNIQUE (title, date)
);

ALTER TABLE IF EXISTS public.event
OWNER to postgres;
```

3.3 Ticket table

SQL command:
```
CREATE TABLE public.ticket
(
id integer NOT NULL,
user_id integer NOT NULL,
event_id integer NOT NULL,
place integer NOT NULL,
category character varying(30) NOT NULL,
created_date character varying(50),
updated_date character varying,
PRIMARY KEY (id),
CONSTRAINT unique_event_id_place UNIQUE (event_id, place),
CONSTRAINT foreign_key_user_id FOREIGN KEY (user_id)
REFERENCES public."user" (id) MATCH SIMPLE
ON UPDATE NO ACTION
ON DELETE NO ACTION
NOT VALID,
CONSTRAINT foreign_key_event_id FOREIGN KEY (event_id)
REFERENCES public.event (id) MATCH SIMPLE
ON UPDATE NO ACTION
ON DELETE NO ACTION
NOT VALID
);

ALTER TABLE IF EXISTS public.ticket
OWNER to postgres;
```

3.4 Database entity relations

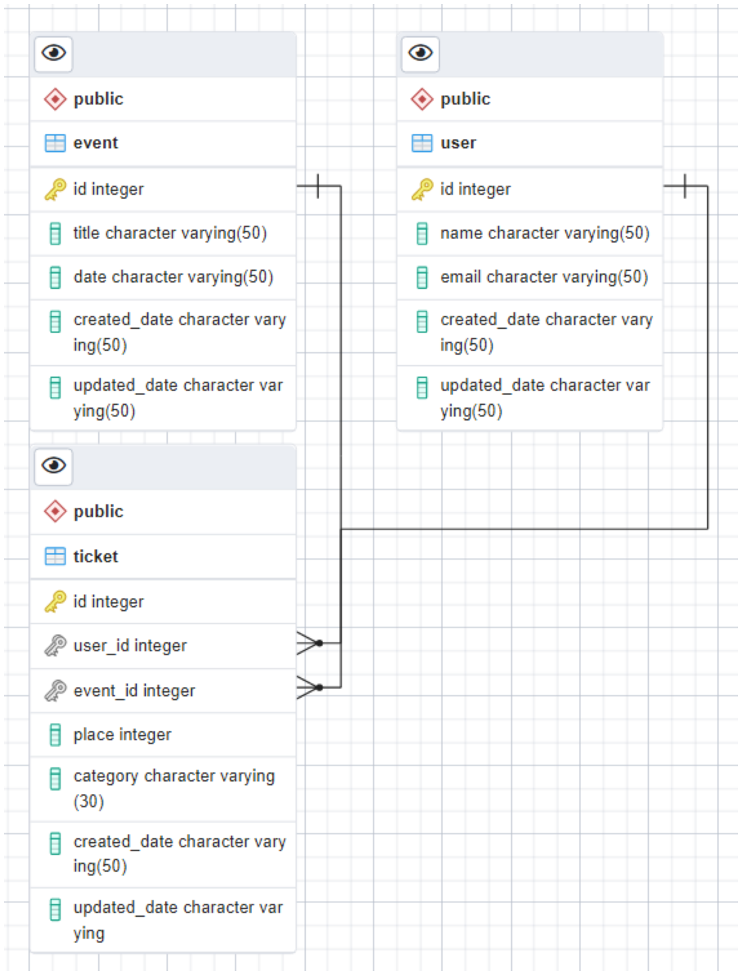
public
event
id integer
title character varying(50)
date character varying(50)
created_date character varying(50)
updated_date character varying(50)
public
user
id integer
name character varying(50)
email character varying(50)
created_date character varying(50)
updated_date character varying(50)
public
ticket
id integer
user_id integer
event_id integer
place integer
category character varying (30)
created_date character varying(50)
updated_date character varying

Figure 4: Entities relation in the database