



База данни за приюти

*Изготвено С. Николова, А. Радева,
М. Илиева, И. Йорданов, И. Великова*



Съдържание

- *Обхват и перспективи на проекта*
- *Диаграми*
- *Обосновка на решението*
- *Примери със заявки*
- *Примери с ограничения*
- *Примери с индекси и изгледи*
- *Примери с тригери*
- *Възможни подобрения*



Обхват и перспективи на проекта

1

Обхват на проекта

2

Перспективи на проекта



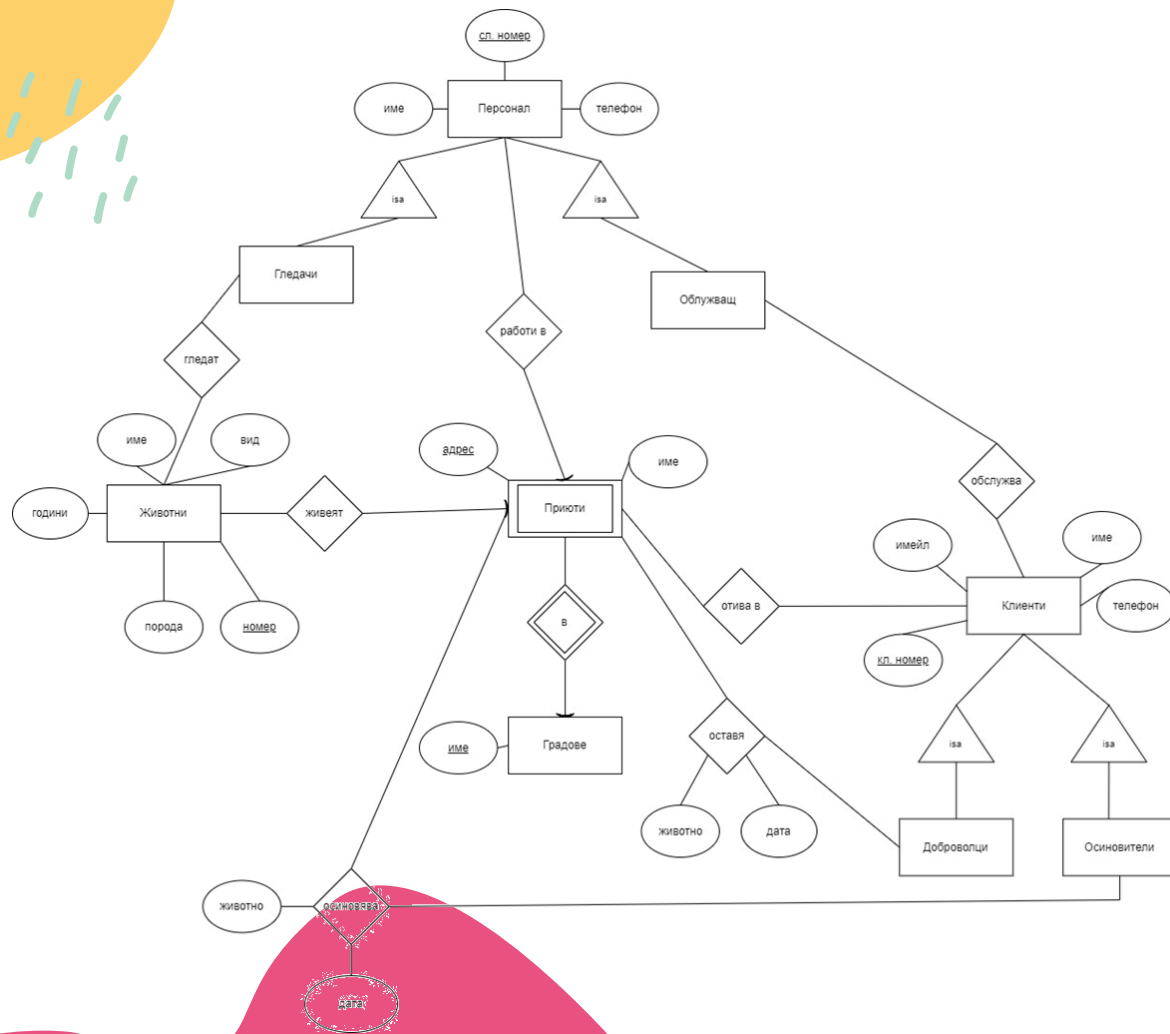


Схема на релациите

- Animals (animalID, name, breed, species, age, shelterAddress, townName);
- Towns (name);

-----OO-----

Clients (clientID, name, email, phoneNumber);

- ClientsVolunteers (clientID, name, email, phoneNumber);
- ClientsAdopters (clientID, name, email, phoneNumber);
- ClientsVolunteersAdopters (clientID, name, email, phoneNumber);

----- E/R -----

- Personnel (privateID, name, phoneNumber, shelterAddress, townName);
- AnimalKeepers (privateID);
- Staff (privateID);
- Shelters (address, name, townName);

- takesCare (animalID, privateID);

inhabits (animalID, address, townName)X;

- adopts (address, townName, animal, date, clientID);

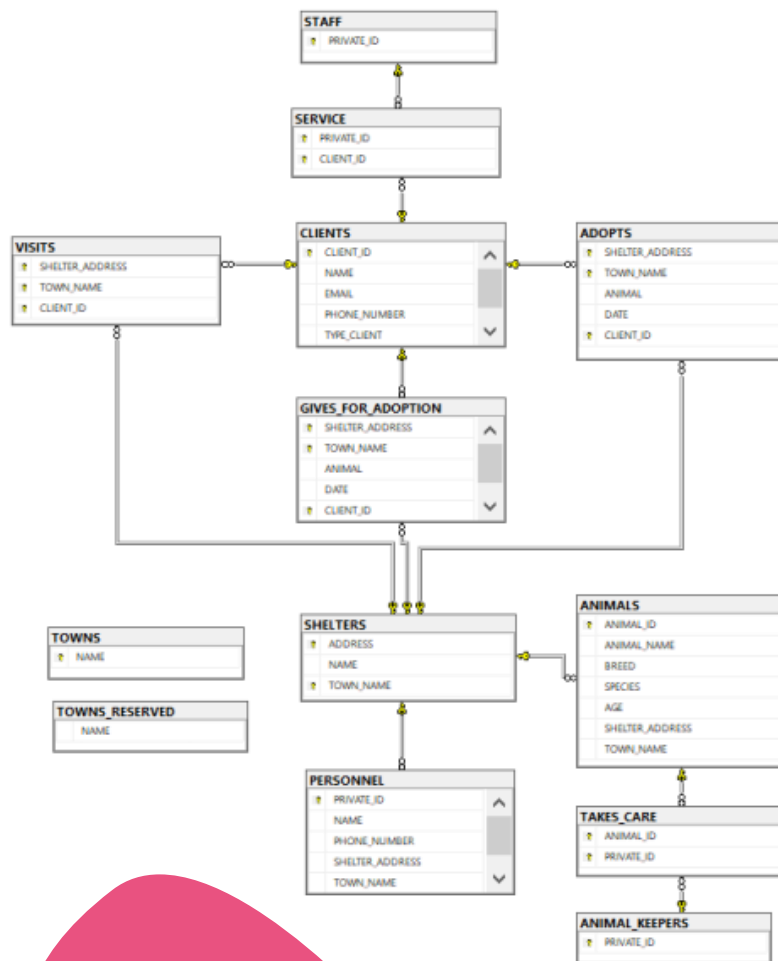
worksIN (privateID, address, townName)X;

visits (address, townName, clientID);

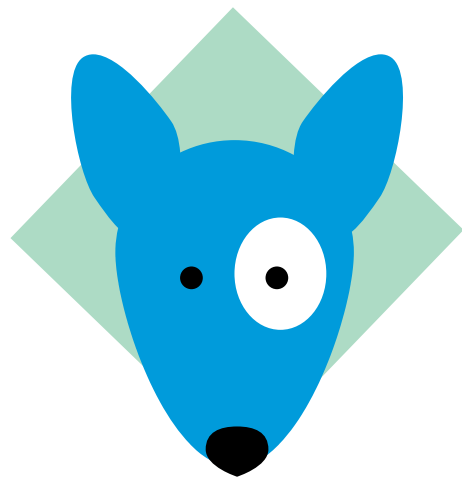
- givesForAdoption (address, townName, clientID, animal, date);

service (privateID, clientID);

“Clients (clientID, name, email, phoneNumber, Type);”



*Примерни прости
заявки и заявки
върху две и повече
релации*



```
SELECT a.ANIMAL_NAME  
FROM ANIMALS a  
WHERE a.ANIMAL_ID=12332
```

	ANIMAL_NAME
1	Doug

*Извежда името на животно с
идентификационен номер
12332*






```
SELECT a.ANIMAL_NAME  
FROM ANIMALS a  
WHERE a.SPECIES='Dog'  
AND a.BREED='Labrador'
```

	ANIMAL_NAME
1	Doug


*Извежда имената на кучетата
от порода лабрадор*






```
SELECT c.NAME
FROM CLIENTS c, GIVES_FOR_ADOPTION g, SHELTERS s
WHERE c.CLIENT_ID=g.CLIENT_ID
AND g.SHELTER_ADDRESS=s.ADDRESS
AND g.TOWN_NAME=s.TOWN_NAME
AND s.TOWN_NAME='Sofia'
```

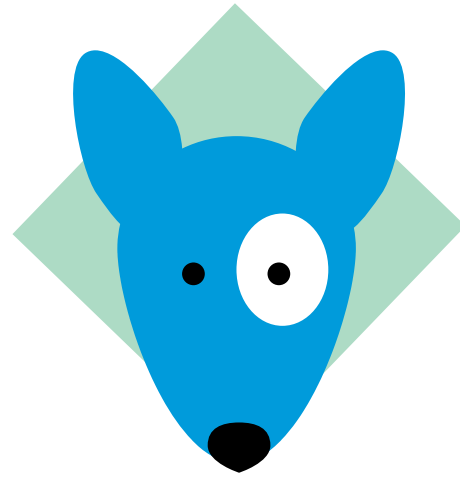
	NAME
1	Ivan
2	Silvester



*Извежда имената на клиентите, които са дали
животно за осиновяване на приют в град София*



*Примери
с подзаявки*



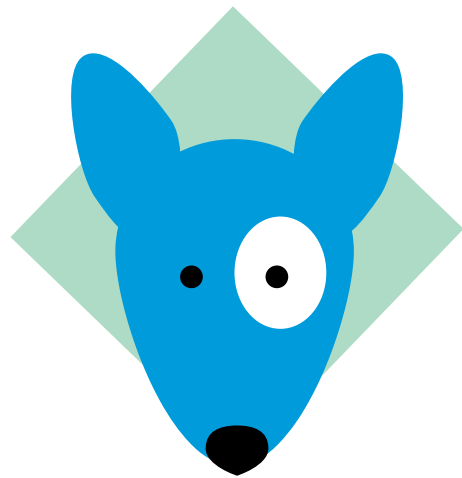
```
select TOWN_NAME
  from visits
 where CLIENT_ID in (select CLIENT_ID
                     from CLIENTS
                     where TYPE_CLIENT='volunteer')
```



	TOWN_NAME
1	Shumen
2	Sofia
3	Pleven
4	Varna
5	Vidin



Извежда имената само на тези градове, които биват посещавани от доброволци

*Примерни заявки
със съединения*





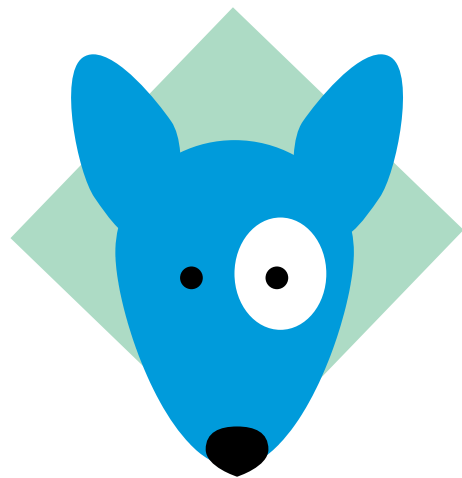
```
SELECT p.PRIVATE_ID, p.NAME, s.NAME
FROM PERSONNEL p
JOIN SHELTERS s ON p.SHELTER_ADDRESS = s.ADDRESS
JOIN ANIMALS a ON s.ADDRESS = a.SHELTER_ADDRESS
WHERE a.SPECIES = 'Dog' OR a.SPECIES = 'Cat';
```


	PRIVATE_ID	NAME	NAME
1	123456	Denitza	PetMe
2	874367	Kaloyan	PetMe
3	125467	Deniz	Animal Care
4	209240	Gergana	Animal Care

*Извежда персонала, чийто приют се грижи за котки
или кучета*



*Примерни заявки
с групиране и агрегация*





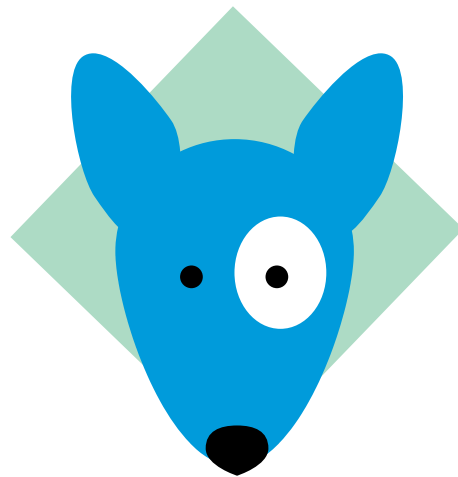
```
select s.TOWN_NAME, s.ADDRESS, count(p.PRIVATE_ID) as PERSONEL_NUMBER from
PERSONNEL p
join SHELTERS s on p.SHELTER_ADDRESS=s.ADDRESS and p.TOWN_NAME=s.TOWN_NAME
group by s.ADDRESS, s.TOWN_NAME
```

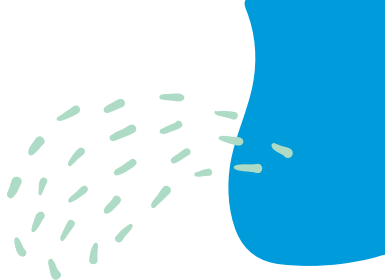

	TOWN_NAME	ADDRESS	PERSONEL_NUMBER
1	Pleven	San Stefano	2
2	Shumen	Aleksander Todorov 15	2
3	Sofia	James Boucher 14	2
4	Varna	Todor Kablev 10	2
5	Vidin	Tsar Simeon Veliki	2

Извежда адресите и броя на работещия персонал във всеки приют



*Пример с
ограничения*







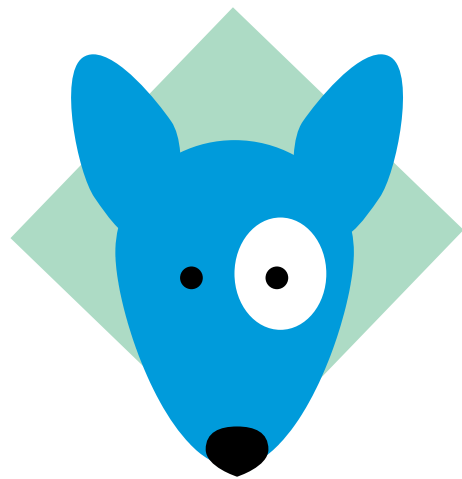
```
ALTER TABLE ANIMALS  
ADD CONSTRAINT PK_ANIMALS PRIMARY KEY(ANIMAL_ID);
```

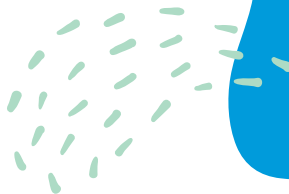
```
ALTER TABLE TOWNS  
ADD CONSTRAINT PK_TOWNS PRIMARY KEY(NAME);
```

```
ALTER TABLE CLIENTS  
ADD CONSTRAINT PK_CLIENTS PRIMARY KEY(CLIENT_ID);
```



*Примери с
изгледи и индекси*

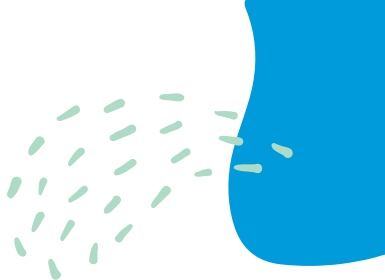







```
GO
CREATE VIEW v_Number_Of_Animals
AS
SELECT s.NAME, s.ADDRESS, s.TOWN_NAME, COUNT(a.ANIMAL_ID) number_of_animals
FROM Shelters s, Animals a
WHERE s.ADDRESS=a.SHELTER_ADDRESS AND s.TOWN_NAME=a.TOWN_NAME
GROUP BY s.NAME, s.ADDRESS, s.TOWN_NAME
GO
```

*Извежда името, адреса на приюта и броя на
животните в него*

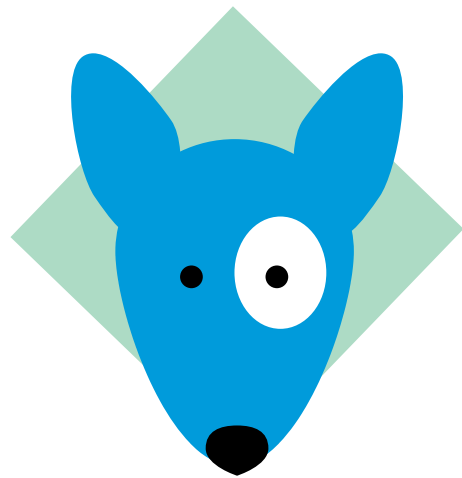





```
CREATE INDEX IDX_ANIMALS_SPECIES ON ANIMALS(SPECIES);  
CREATE INDEX IDX_ANIMALS_BREED ON ANIMALS(BREED);  
CREATE INDEX IDX_PERSONNEL_SHELTER_ADDRESS ON PERSONNEL(SHELTER_ADDRESS);  
CREATE INDEX IDX_PERSONNEL_TOWN_NAME ON PERSONNEL(TOWN_NAME);
```



Пример с тригери





```
GO
CREATE TRIGGER TRG_CLIENTS_VISITS_COUNT
ON VISITS
FOR INSERT
AS
BEGIN
    Declare @addr VARCHAR(30)
    SELECT @addr = SHELTER_ADDRESS FROM inserted

    Declare @townName VARCHAR(30)
    SELECT @townName = TOWN_NAME FROM inserted

    Declare @counter int
    SELECT @counter = (SELECT COUNT(v.CLIENT_ID) FROM VISITS v WHERE v.SHELTER_ADDRESS = @addr AND v.TOWN_NAME = @townName)

    IF ( @counter > 10 )
        PRINT ('Shelter limit for clients reached!')

END
GO
```



Следи броят на посетителите на даден приют да не надвишава 10 клиенти

Възможни подобрения



Нови таблици



Повече атрибути



*Благодарим Ви
за вниманието!*

