

## PROJECT 3: ANIMAL CARE



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## PROJECT 3: ANIMAL CARE

- **DETERMINING BUSINESS NEEDS**

- Choose a meaningful name for your consulting company: **COUNSULT.io**



- Conduct an interview between the director and the consulting company to determine the business needs of the organization.

- **DOCUMENTING BUSINESS REQUIREMENTS**

- **Construct business rules**

- BUSINESS NEEDS Animal Care Related:

- The SHELTER needs to track the information related to the animals: animal ID, species, age, neuter status, vaccinations, and health concerns.
- The CAGE occupation also must be tracked.
- The RECORDS and TRANSACTIONS needs to track the directory and the delivery of the animals to the SHELTER including: transaction ID, timestamp, record description, date adopted.

- Adoption:

- The SHELTER needs to track the ADOPTERS information including: adopter ID, order ID, name, contact number, address, date adopted, and email address
- The SHELTER needs to track the date the animal was adopted.

- **Construct (at least two) structural rules** (*indicate the types of information to be stored and how the information elements are interrelated. ex: each animal must have a unique identification number*)

- Each SHELTER may contain ANIMALS such as dogs, cats, and the occasional other types of animal (bird, snake)
- Each SHELTER must have a shelter ID, name, address and location, as well as a list of EMPLOYEES who work there.
- Each SHELTER is divided into different SECTIONS for different ANIMALS.
- Each SECTION contains one or more CAGES for the animals.
- Each ANIMAL must have the following information: name, age, sex, species, breed, vaccinations, neuter status and other health concerns.

- An EMPLOYEE must have the following information: employee ID, name, age, position, address, contact number, email address. and animal specialty.
    - An ADOPTER must fill up the information sheet with the following information: name, address, phone number, email, and animal preference.
    - RECORDS are created for every ANIMAL.
    - The three types of RECORDS are MEDICAL RECORDS, ENTRY RECORDS, and ADOPTION RECORDS.
    - A TRANSACTION is made every time an ANIMAL is adopted by an ADOPTER.
  - **Construct two procedural rules** (related to workflow or business process. Ex: each animal must undergo a medical examination when it arrives at the shelter)
    - When an ANIMAL enters the shelter, it must be assigned an ID, a temporary collar, and a CAGE with a unique cage ID.
    - Each ANIMAL must undergo a medical examination given by one of the qualified EMPLOYEES upon arrival at the shelter.
  - **Document assumptions**
- **UNDERSTANDING CRUD REQUIREMENTS**

\*HINT: All entities need to have one create and retrieve function. This means that you need to have an interview notes or a business rule that points to entering data in the entity and viewing the data once it's in the database.

Entity	Interview Notes or Business Rules	CRUD Function
Animal	When an ANIMAL enters the shelter, it must be assigned an ID and a temporary collar. After the required information is noted, each ANIMAL must be assigned to a cage with a unique cage ID.	CREATE
	An ANIMAL must be tracked using its assigned ID.	RETRIEVE
	An ANIMAL's records may be updated when necessary.	UPDATE
	When an ANIMAL is either adopted by an ADOPTER, the ANIMAL is no longer placed in the system.	DELETE
Adopter	An ADOPTER must fill up the information sheet with the	CREATE

	<p>following information: name, address, phone number, email, animal preference.</p> <p>An ADOPTER's information must be available for perusal for the EMPLOYEES of the SHELTER.</p>	RETRIEVE
Employee	<p>An EMPLOYEE must have the following information: employee ID, name, age, position, address, and contact number.</p> <p>EMPLOYEE information must be available for access for the employer.</p> <p>EMPLOYEE information must be updated when needed (especially when it comes to contact number and address)</p> <p>When an EMPLOYEE quits or retires, they must be removed from the system.</p>	<p>CREATE</p> <p>RETRIEVE</p> <p>UPDATE</p> <p>DELETE</p>
Shelter	<p>Each SHELTER must have a shelter ID, name and address or location, as well as a list of EMPLOYEES who work there.</p> <p>Each SHELTER must have information tracking all of the ANIMALS currently residing there.</p> <p>EMPLOYEES may transfer from one SHELTER to another. ANIMALS may also be transferred in case of special circumstances (no available space, animal specialist is in another branch, etc.)</p>	<p>CREATE</p> <p>RETRIEVE</p> <p>UPDATE</p>
Transaction	<p>A TRANSACTION is required whenever an ADOPTER wants to adopt an ANIMAL</p> <p>All TRANSACTIONS must be available for the perusal of the EMPLOYEES.</p>	<p>CREATE</p> <p>RETRIEVE</p>

Section	<p>A SECTION is available for different species of ANIMALS within the SHELTER.</p> <p>A SECTION has information available on hand for the EMPLOYEES.</p>	<p>CREATE</p> <p>RETRIEVE</p>
Cage	<p>A CAGE has its own unique cage ID and capacity.</p> <p>A CAGE must be checked for availability.</p>	<p>CREATE</p> <p>RETRIEVE</p>
Record	<p>A RECORD is created every time an ANIMAL enters the SHELTER or is adopted by an ADOPTER.</p> <p>An ANIMAL'S RECORDS must be available for perusal of the EMPLOYEES.</p> <p>The RECORDS must be updated when necessary.</p>	<p>CREATE</p> <p>RETRIEVE</p> <p>UPDATE</p>

- **PRESENTING REQUIREMENTS**

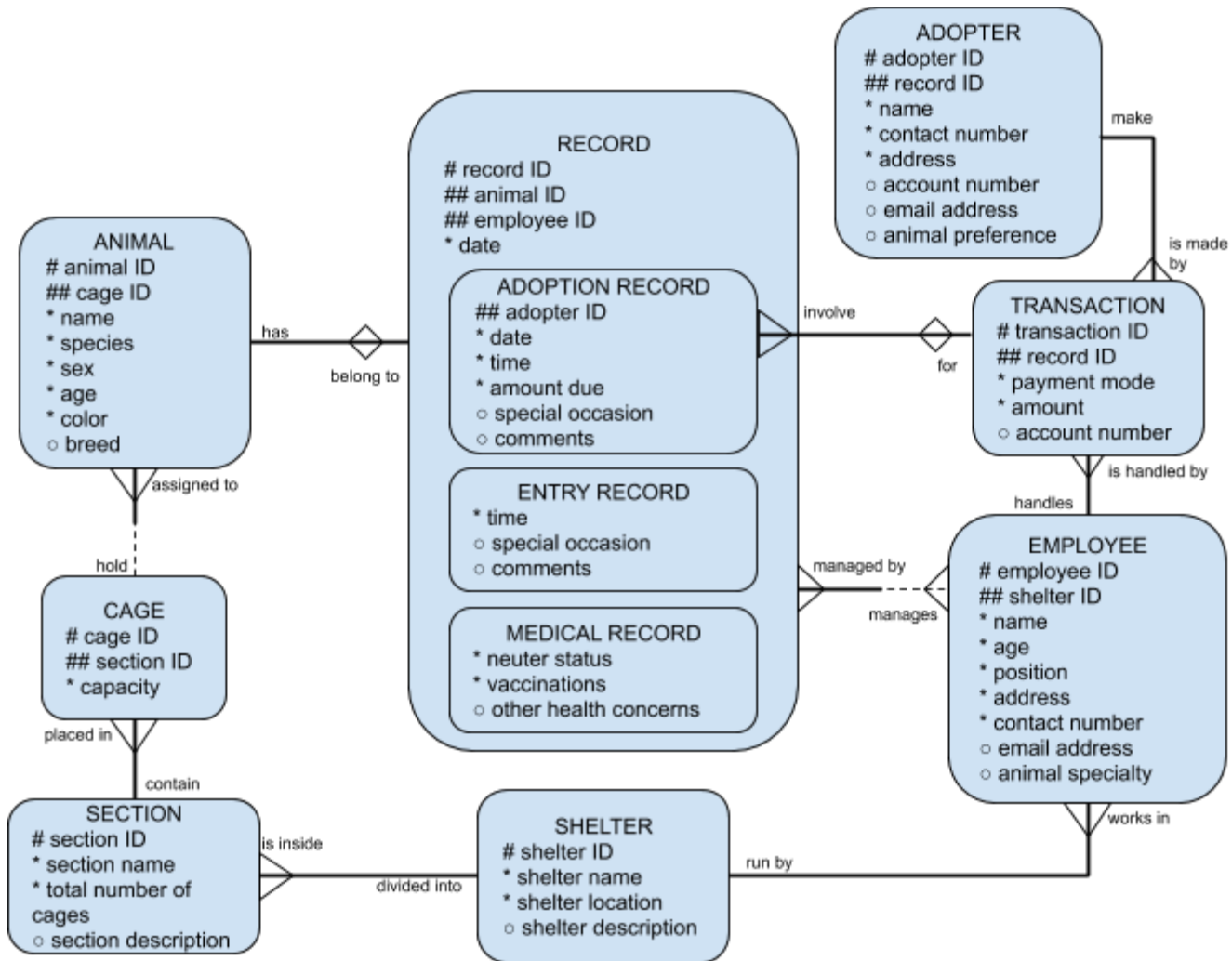
Create a presentation for the Animal Care director. Organize your presentation. Each presentation must contain the following:

- Statement of the problem

Statement of the proposed solution

- The information requirements of the business/organization clearly stated ( you should have this from your interview notes)
- The business rules as they apply to the information requirements of the company/organization stated as single sentences (you should have this from the previous step)
- The assumptions and constraints that are to be considered clearly stated. Assumptions can be relationships or rules for the data model that you do not have time to verify. The can also be conditions that need to be true in order for the proposed solution to be successful. These may not be directly reflected in the ERD.
- Entity relationship model

## Entity Relationship Diagram



- **MODIFICATIONS**

Modify the Animal Care ERD based on the input received from the presentation to the director of the Animal Care. Produce a Design Revision Document outlining the changes made since the presentation was given. Include the modified ERD with the Design Revision Document.

The Design Revision Document may have the following contents:

- Project Name
- Presentation Date
- Consultant Name
- Presentation Attendees
- Business Requirements Identified
- New Business Requirements Impact Statement
- Request for Approval – Signature line

- **NEW REQUIREMENTS**

Make modifications to your Animal Care ERD based on these additional requirements:

- *“Even though we did not require employees of the shelter to be part of the design, we do need to know which employee received the animal at the shelter. No need to tie it to our employee system – we just want to capture the name.”*
- *“We also need to know the date and time the animal was taken in at the shelter.”*
- *“We also need to know special information about the date the animal is adopted (was the date a holiday?) and special notes about the date. For special notes, we’d like to know things such as, “general weather conditions” or “schools finish this week for summer.”*
- *“We’re trying to find trends that affect animal adoption. We need this information so that we can give good reports to our staffing manager about the number of employees needed for each shift and on special days of the year. You don’t need to design information about “shifts” (we already have that in the other system).”*
- Think of at least one report or statistic that can be generated from the future system that includes the modifications you just made. Document how you imagine these reports could be used in the business.
- **ADDING THE TIME ELEMENT TO THE ANIMAL CARE ERD**  
Read the following extra requirement and modify the ERD.

*“We’d also like to capture data on the days that animals are brought to the shelter. Does it happen more after holidays? On rainy days? This will help us staff the shelter more appropriately if we anticipate a large number of animals being dropped off.”*

## Counsel.io

Adopter's Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 <b>adopter_id</b> 🔑	int(20)			No	None			Change  Drop  More
<input type="checkbox"/>	2 <b>record_id</b> 🔑	int(20)			No	None			Change  Drop  More
<input type="checkbox"/>	3 <b>name</b>	varchar(20)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	4 <b>contact_number</b>	varchar(20)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	5 <b>address</b>	varchar(50)	utf8mb4_general_ci		No	None			Change  Drop  More

Adoption Records Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 <b>adopter_id</b> 🔑	int(20)			No	None			Change  Drop  More
<input type="checkbox"/>	2 <b>record_id</b> 🔑	int(11)			No	None			Change  Drop  More
<input type="checkbox"/>	3 <b>animal_id</b> 🔑	int(11)			No	None			Change  Drop  More
<input type="checkbox"/>	4 <b>employee_id</b> 🔑	int(11)			No	None			Change  Drop  More
<input type="checkbox"/>	5 <b>date</b>	date			No	None			Change  Drop  More
<input type="checkbox"/>	6 <b>time</b>	time			No	None			Change  Drop  More
<input type="checkbox"/>	7 <b>amout_due</b>	date			No	None			Change  Drop  More
<input type="checkbox"/>	8 <b>special_occasion</b>	varchar(30)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	9 <b>comments</b>	varchar(100)	utf8mb4_general_ci		No	None			Change  Drop  More

Animals Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 <b>animal_id</b> 🔑	int(20)			No	None			Change  Drop  More
<input type="checkbox"/>	2 <b>cage_id</b> 🔑	int(20)			No	None			Change  Drop  More
<input type="checkbox"/>	3 <b>name</b>	varchar(30)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	4 <b>species</b>	varchar(20)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	5 <b>sex</b>	varchar(10)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	6 <b>age</b>	int(3)			No	None			Change  Drop  More
<input type="checkbox"/>	7 <b>color</b>	varchar(10)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	8 <b>breed</b>	varchar(10)	utf8mb4_general_ci		No	None			Change  Drop  More

Animals Data:

			<b>animal_id</b>	<b>cage_id</b> ▲ 1	<b>name</b>	<b>species</b>	<b>sex</b>	<b>age</b>	<b>color</b>	<b>breed</b>
<input type="checkbox"/>	Edit	Copy	Delete	200001	192371	BroBro	dog	male	10	Brown
<input type="checkbox"/>	Edit	Copy	Delete	200002	192372	Jaba	bird	female	10	Gray Jap
<input type="checkbox"/>	Edit	Copy	Delete	200005	192373	Agulish	cat	female	10	Yellow
<input type="checkbox"/>	Edit	Copy	Delete	200006	192374	Voli Jun	lizard	female	29	Green
<input type="checkbox"/>	Edit	Copy	Delete	200004	192375	JunJun	Dog	male	21	black askal
<input type="checkbox"/>	Edit	Copy	Delete	200003	192376	JamJam	cat	female	19	White Askal



### Cages Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	<b>cage_id</b>			int(20)	No	None		Change  Drop  More
<input type="checkbox"/>	2	<b>section_id</b>			int(20)	No	None		Change  Drop  More
<input type="checkbox"/>	3	<b>capacity</b>			int(3)	No	None		Change  Drop  More

### Employees Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	<b>employee_id</b>			int(20)	No	None		Change  Drop  More
<input type="checkbox"/>	2	<b>shelter_id</b>			int(20)	No	None		Change  Drop  More
<input type="checkbox"/>	3	<b>name</b>			varchar(50)	utf8mb4_general_ci	No	None	Change  Drop  More
<input type="checkbox"/>	4	<b>age</b>			varchar(2)	utf8mb4_general_ci	No	None	Change  Drop  More
<input type="checkbox"/>	5	<b>position</b>			varchar(20)	utf8mb4_general_ci	No	None	Change  Drop  More
<input type="checkbox"/>	6	<b>address</b>			varchar(50)	utf8mb4_general_ci	No	None	Change  Drop  More
<input type="checkbox"/>	7	<b>contact_number</b>			varchar(20)	utf8mb4_general_ci	No	None	Change  Drop  More

### Entry Records Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	<b>record_id</b>			int(20)	No	None		Change  Drop  More
<input type="checkbox"/>	2	<b>animal_id</b>			int(20)	No	None		Change  Drop  More
<input type="checkbox"/>	3	<b>employee_id</b>			int(20)	No	None		Change  Drop  More
<input type="checkbox"/>	4	<b>time</b>			time		No	None	Change  Drop  More
<input type="checkbox"/>	5	<b>special_occasion</b>			varchar(30)	utf8mb4_general_ci	No	None	Change  Drop  More
<input type="checkbox"/>	6	<b>comments</b>			varchar(100)	utf8mb4_general_ci	No	None	Change  Drop  More

### Medical Records Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	<b>record_id</b>			int(20)	No	None		Change  Drop  More
<input type="checkbox"/>	2	<b>animal_id</b>			int(20)	No	None		Change  Drop  More
<input type="checkbox"/>	3	<b>employee_id</b>			int(20)	No	None		Change  Drop  More
<input type="checkbox"/>	4	<b>neuter_status</b>			varchar(50)	utf8mb4_general_ci	No	None	Change  Drop  More
<input type="checkbox"/>	5	<b>vaccinations</b>			varchar(50)	utf8mb4_general_ci	No	None	Change  Drop  More
<input type="checkbox"/>	6	<b>other_health_concerns</b>			varchar(150)	utf8mb4_general_ci	No	None	Change  Drop  More

Records Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 <b>record_id</b> 🔑	int(20)			No	None			Change  Drop  More
<input type="checkbox"/>	2 <b>animal_id</b> 🔑	int(20)			No	None			Change  Drop  More
<input type="checkbox"/>	3 <b>employee_id</b> 🔑	int(20)			No	None			Change  Drop  More
<input type="checkbox"/>	4 <b>date</b>	date			No	None			Change  Drop  More

Section Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 <b>section_id</b> 🔑	int(20)			No	None			Change  Drop  More
<input type="checkbox"/>	2 <b>section_name</b>	varchar(30)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	3 <b>total_cages</b>	int(3)			No	None			Change  Drop  More
<input type="checkbox"/>	4 <b>section_description</b>	varchar(50)	utf8mb4_general_ci		No	None			Change  Drop  More

Section Data:

				section_id	section_name	total_cages	section_description
<input type="checkbox"/>	Edit	Copy	Delete	120941	birds	30	
<input type="checkbox"/>	Edit	Copy	Delete	120942	reptiles	30	
<input type="checkbox"/>	Edit	Copy	Delete	120943	mammals	60	
<input type="checkbox"/>	Edit	Copy	Delete	120944	amphibians	30	
<input type="checkbox"/>	Edit	Copy	Delete	120945	Unknown	5	


Shelters Table:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 <b>shelter_id</b> 🔑	int(20)			No	None			Change  Drop  More
<input type="checkbox"/>	2 <b>name</b>	varchar(30)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	3 <b>location</b>	varchar(40)	utf8mb4_general_ci		No	None			Change  Drop  More
<input type="checkbox"/>	4 <b>description</b>	varchar(50)	utf8mb4_general_ci		No	None			Change  Drop  More

Shelter Data:

				shelter_id	name	location	description
<input type="checkbox"/>	Edit	Copy	Delete	10000	Shelter Mo	Quezon Hill , Baguio	
<input type="checkbox"/>	Edit	Copy	Delete	10001	Sheltering with You	Engineer's Hill, Baguio	

## Transactions:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	<b>transaction_id</b> 	int(20)		No	None			 Change  Drop  More
<input type="checkbox"/>	2	<b>record_id</b> 	int(50)		No	None			 Change  Drop  More
<input type="checkbox"/>	3	<b>payment_mode</b>	varchar(10) utf8mb4_general_ci		No	None			 Change  Drop  More
<input type="checkbox"/>	4	<b>amount</b>	int(7)		No	None			 Change  Drop  More
<input type="checkbox"/>	5	<b>account_number</b>	int(20)		No	None			 Change  Drop  More