



ASSUMPTION UNIVERSITY

Vincent Mary School of Science and Technology

Department of Information Technology

IT4314 Software Engineering Concepts

Animal Adoption System

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1. Introduction

Animal adoption is the process whereby a person brings an animal, mostly cats and dogs, to their own care. These animals that are either lost or abandoned are taken by the animal control to be kept in animal shelters. Pets that are kept in the shelters for a long time are euthanized to reduce the number of overpopulation of unwanted animals.

The inspiration of this project is a web-based adoption site for people to be more aware of stray animals waiting to be adopted around Thailand. The website is accessible for users and administrators where users can register themselves into the system to view the list of animals waiting to be adopted along with each animal's records such as their (estimated) age, gender, and their description. The administrators are the main authority of the system and they are responsible for adding, editing, updating, and deleting information if necessary.

2. Statement of the Problem

- Animal's Profile**

Most shelter animals have a reputation of being aggressive animals that roam around the streets and are taken in by the animal control because of their wild behavior. Therefore, our project has focused on presenting the user with each animal's personality descriptions to gain the user's interest to adopt the animal.

- Unqualified Adopter**

When an animal is adopted by a person, most organizations do not take caution on whether the animal is taken in by good hands. Therefore a personality evaluation must be taken before someone adopts an animal.

- Information Retrieval**

Animal adoption shelters usually ask the adopter for their contact information but never actually keep in contact with the people who adopt the animals, especially when their records are difficult to retrieve because they are kept as hardcopies.

3. User Requirements

There are two users involved in the system, the user that is interested in adopting the pet and the administrators who takes care of the web application. The requirements are considered as follows:

User:

1. To be able to register as a part of the system.
2. To be able to view the list of animals in the shelters and their basic information order to make decisions to adopt.
3. To be able to send messages or ask questions through the system.
4. To send a request to adopt an animal through the system.
5. To be notified of the adoption results by e-mail.

Administrator:

1. To be able to create, update, delete and query the animal's records in order to manage information.
2. To be able to create, update, delete, and query adoption records to manage information about adoptions made.
3. To be able to approve whether the user who wants to adopt an animal meets the qualifications to raise a pet.
4. To be able to send e-mails to users for their adoption results through the system.
5. To be able to confirm whether the user has come to adopt the animal or canceled their adoption request.

4. Objectives

The goal of this project is to develop a website for users to select animals to adopt conveniently. The main objectives of this website development can be defined as follows:

- To develop a system that provides functions to support users to view the animals in the shelters conveniently.
- To maintain records of animals in the shelters and the users information in a centralized database system.
- To develop a system for administrators to be able to approve the user's answers to the provided questionnaire.
- To inform users of their result after sending their request to adopt an animal.
- To provide a function to send an e-mail to the user whether they are qualified to adopt the animal or not.

5. Scope and Limitations

Scope of the Project

- User registration**

This function allows the user to register as a member to interact with the system. The system requires the user to log-in before going through other processes.

- User must answer the questionnaire**

After registering into the system, it is mandatory for the user to fill in the questionnaire about their background, interests, life style and history of raising a pet.

- Data is input and updated by the administrators**

All animal's records are input and updated by the administrators. Animal records such as their name, breed, gender, approximate age, coat color and size.

- View information online**

The user can view the records of animals in the shelter by going through categories and lists; our system has three separated categories: Cats, Dogs, and Animals with Special needs. The user can also view information about the shelter and also where to contact the shelter.

- Adoption requests**

The user can select the animal they want to adopt and send a request through the system which will then notify the administrator of a new adoption request. The administrator will have to review the questionnaire the user has previously answered to see whether they are capable of adopting an animal or not.

- E-mail notification**

After reviewing the questionnaire, the administrator will send an approval E-mail through the system to the user whether they meet the qualifications of being a decent pet owner or not.

- **Adoption confirmation**

The administrator can confirm to the system whether the user has come to adopt the animal or canceled their adoption request.

- **Recording adoption records**

The system has a database of past adoption records along with the user's contact information which can only be viewed by the administrator.

Limitations

Every user must go through a set of questionnaires provided by the system after signing up which will then be reviewed by the administrator when the user sends a request to adopt an animal. One of the limitations of this system is that the questionnaires can only be approved by the administrator and not approved automatically in the system, so the administrator has to manually go through each questionnaire done by the user to approve whether the user has the qualifications to adopt an animal or not.

Cost and Benefit Analysis

Cost Analysis

GoDaddy - Web Hosting (Economy)

- 1 website
- 100 GB storage
- Unmetered bandwidth
- 1 free domain
- ₦ 3,108/year

Benefits Analysis

1. Users do not have to contact the administrators to know the results of their adoption. They can view their result of their adoption request through e-mail.
2. The reports and information are kept in electronic form and can be easily maintained by the administrators and they can access the records whenever they want to.
3. All reports are kept in an electronic files so that they may last longer and have less chance of being lost or damaged.
4. Administrators can easily manage records such as the animal records, request records, and history records in the system.

Development Tools and Information

Programming Languages

- PHP
- HTML5
- CSS3



Database

- MySQL



Web server

- Apache



Tools manager

- XAMPP



Methodology

1. Project Identification and Selection

In this project, we aimed to develop an online animal adoption system which will focus mainly on managing the animal records.

2. Project Initiation and Planning

To begin the project, we have gathered user requirements of this system and prepared the scope and objective. The results from this phase are scope and limitation, objectives, cost and benefits, features of the proposed system and user interface design.

3. Analyzing System needs

We have studied and identified problems of existing animal shelters, then we developed data flow diagram for the existing system. We also developed data flow diagram (DFD) and entity relation diagram (E-R diagram) for the proposed system.

4. Designing the Proposed System

Based on the analysis phase, we converted E-R diagram into relational database model and created data dictionary and DFD and user interface are designed in this process.

5. Development of the Proposed System

In this phase, we are going to convert the design of proposed system to computer software, which includes computer programming using phpMyAdmin as a software tool written in PHP, which is intended to handle the administration of MySQL, and translating the design specifications into the computer code.

6. Testing the Proposed System

This step is the process of testing whether the programming code will work correctly with the conditions in our system or not. In this phase, we will fix bugs in order to produce a system with maximum performance.

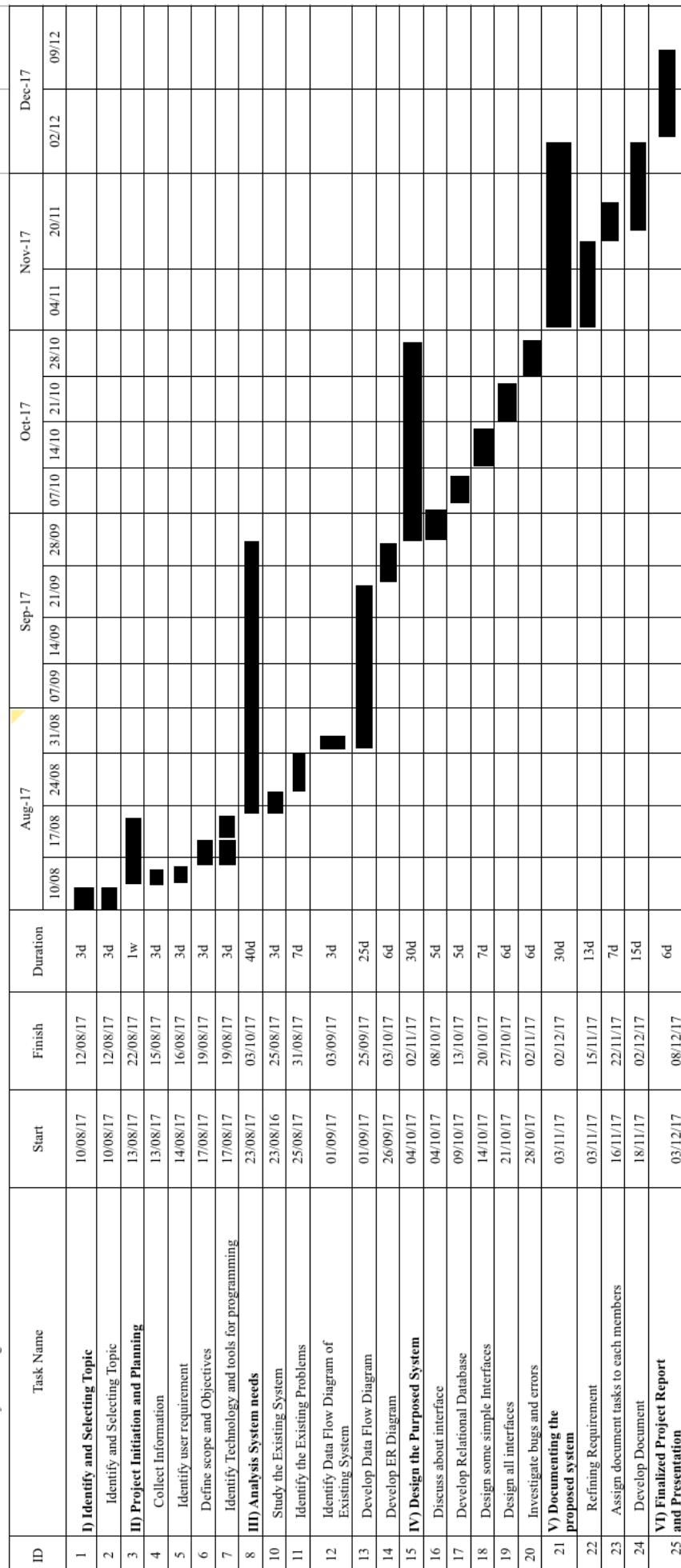
7. Implementing the Proposed System

We wish to launch this system on the internet, so that users are able to view the available animals for adoption and send requests to adopt the animal through the system.

Project Management

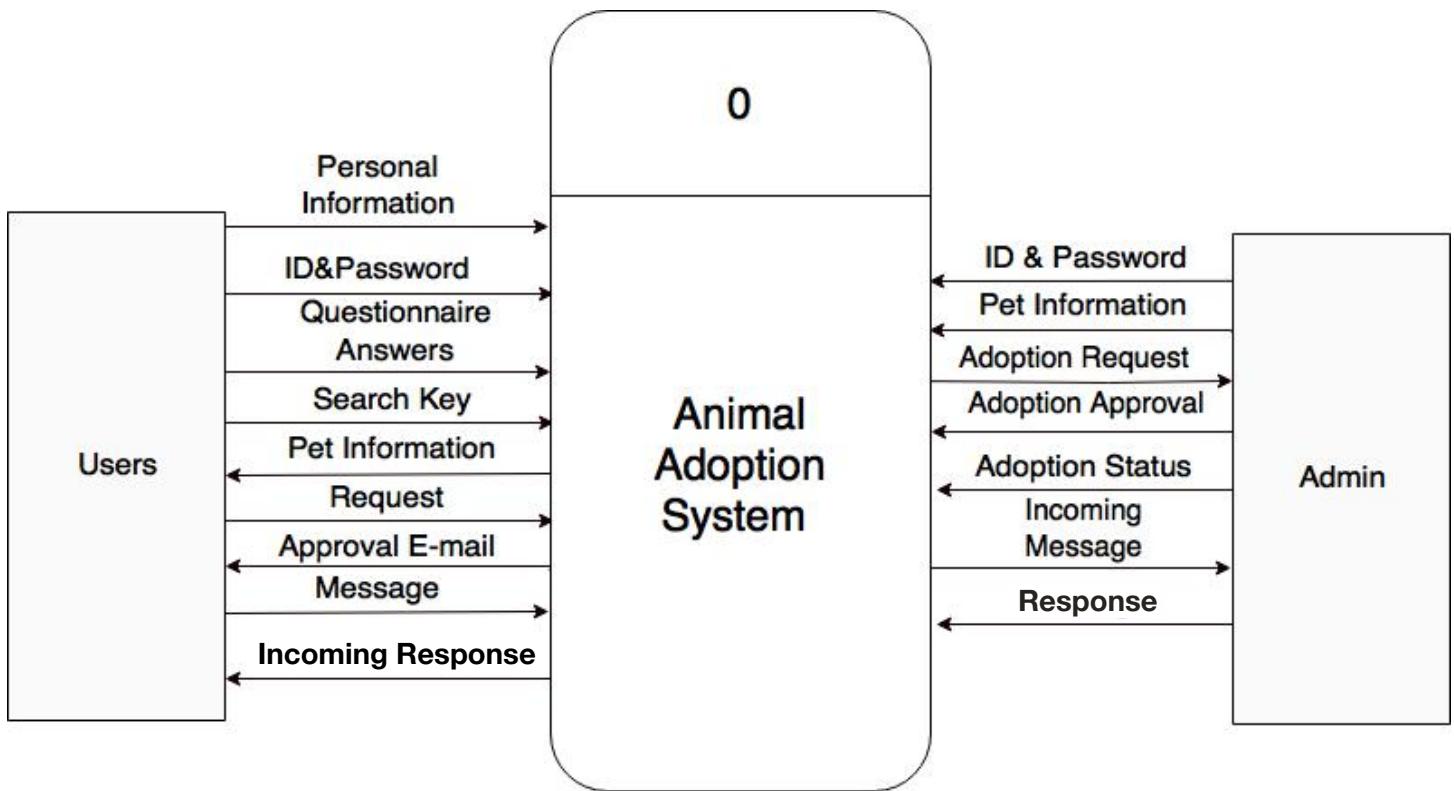
8. Project Management

Table 8: Gantt Chart for Project Management



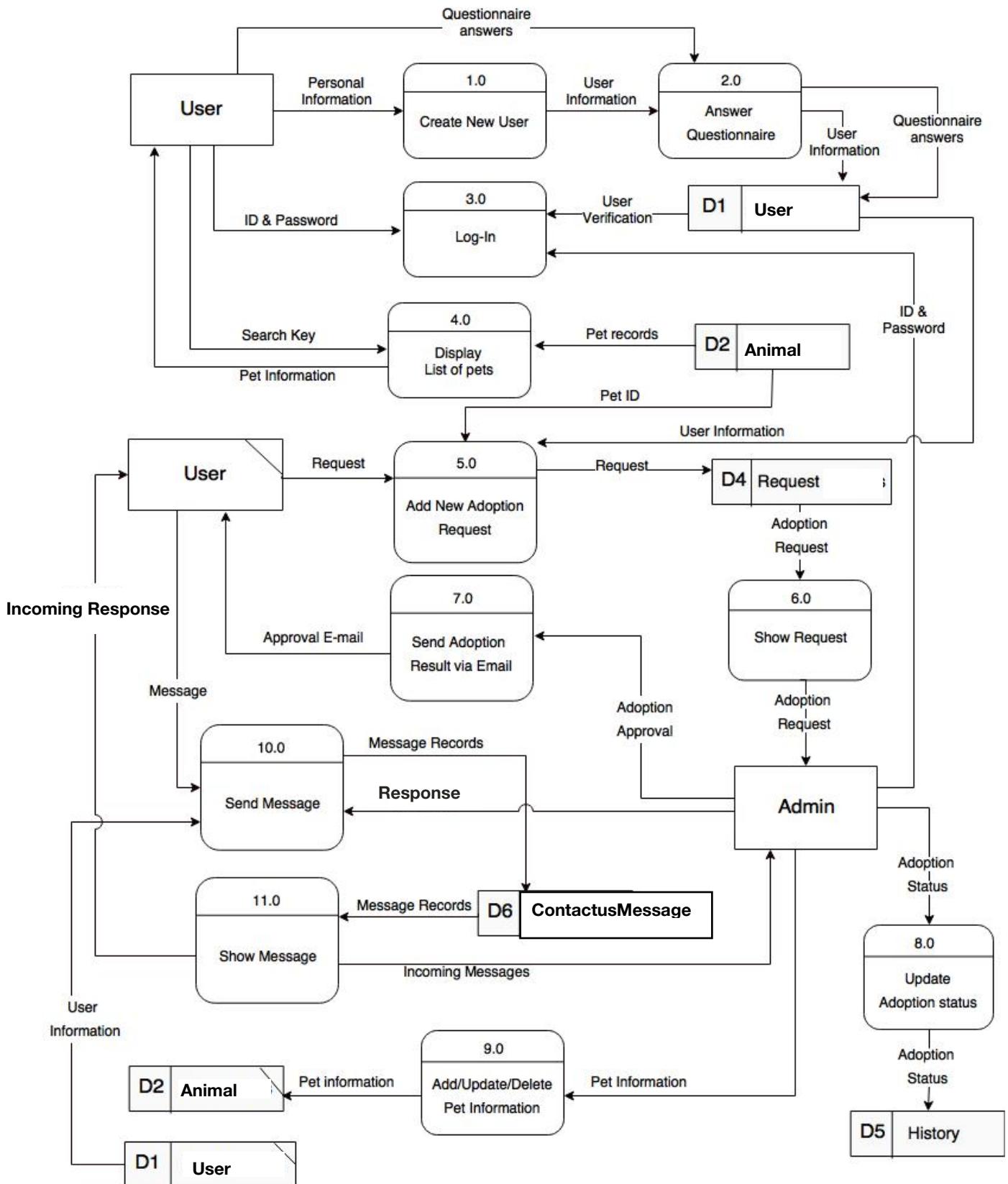
Logical Design of The System

Dataflow Diagram (Context Diagram)

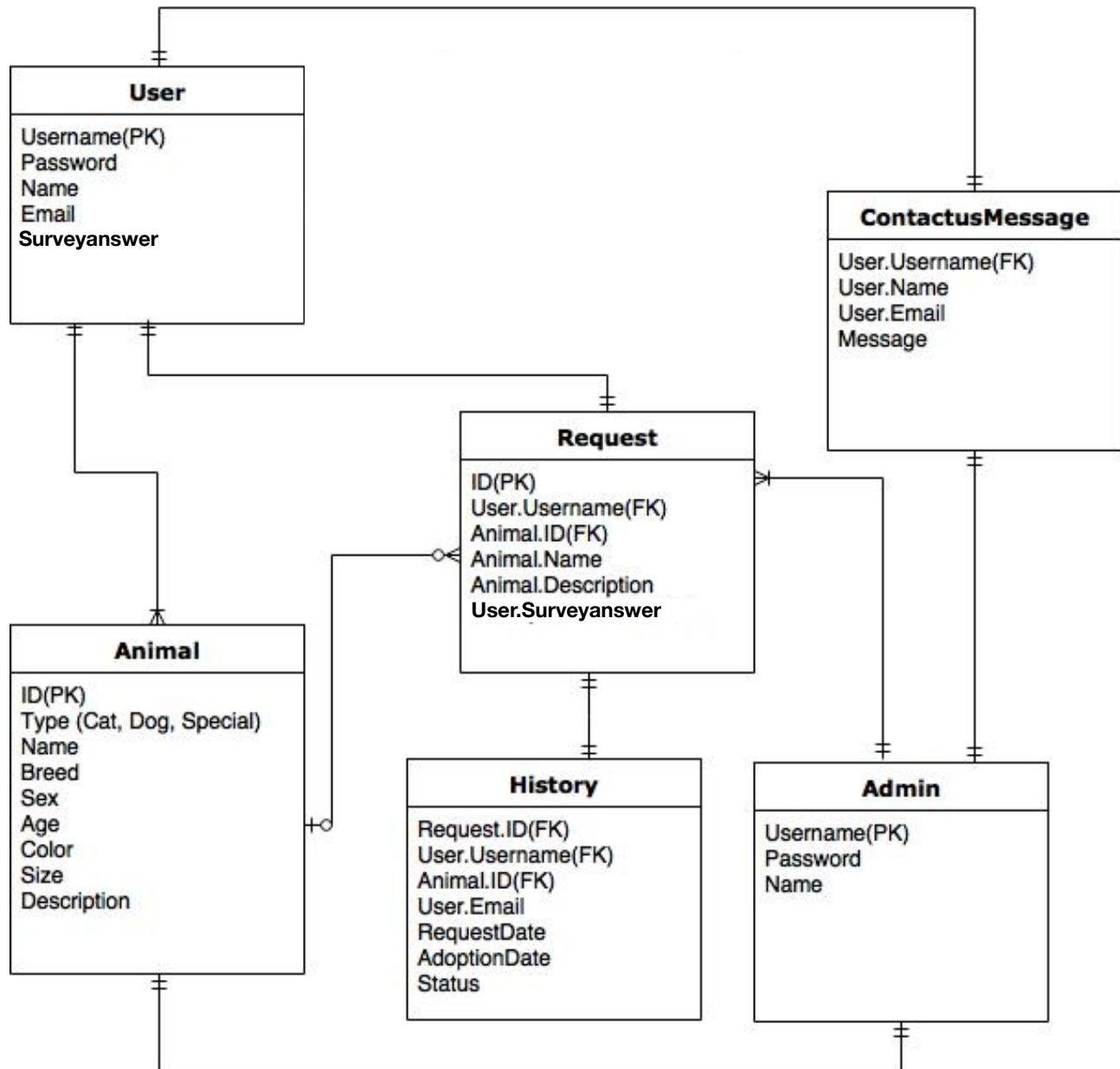


Dataflow Diagram

Level 0



Entity-Relationship Diagram



Data Dictionary

User

Column	Type	Null	Description	Example 1	Example 2
Username (PK)	Varchar (50)	No	Unique key to identify each Username	nook123	nat456
Password	Varchar (50)	No	Password	Axfc213	665679
Name	Varchar (50)	No	Name	Nook	Nat
Email	Varchar (50)	No	Email	nook@hotmail.com	nat@hotmail.com
Surveyanswer	Varchar (1000)	No	Answer	Myself, Family, Other...	Myself, Family, Other...

Animal

Column	Type	Null	Description	Example 1	Example 2
ID (PK)	Varchar (50)	No	Unique key to identify each ID	C0001	D0007
Type	Varchar (50)	No	Type	Cat	Dog
Name	Varchar (50)	No	Name	Joey	Wind
Breed	Varchar (50)	No	Breed	Domestic Cat	Bull Terier
Sex	Varchar (50)	No	Sex	Male	Female
Age	Varchar (50)	No	Age	7	11
Color	Varchar (50)	No	Color	Black-brown	Light-brown
Size	Varchar (50)	No	Size	Medium	Medium
Description	Varchar (100)	No	Description	Joey is unlike other cats, he is outgoing and also likes to...	Wind has been abandoned by different homes...

Admin

Column	Type	Null	Description	Example	Example
Username (PK)	Varchar (50)	No	Unique key to identify each Username	admin1	admin2
Password	Varchar (50)	No	Password	12345678	23456789
Name	Varchar (50)	No	Name	Aun	Mewmew

Request

Column	Type	Null	Description	Example	Example
ID (PK)	Varchar (50)	No	Unique key to identify each ID	1	2
User.Username (FK)	Varchar (50)	No	Unique key to identify each User Username	nook123	nat456
Animal.ID (FK)	Varchar (50)	No	Unique key to identify each Animal ID	1	2
Animal.Name	Varchar (50)	No	Animal Name	Joey	Wind
Animal.Description	Varchar (1000)	No	Animal Description	Joey is unlike other cats, he is outgoing and also likes to...	Wind has been abandoned by different homes...
Surveyanswer.Answer	Varchar (1000)	No	Survey Answer	Myself, Me, 2...	Myself, My partner, None...

History

Column	Type	Null	Description	Example	Example
Request.ID(FK)	Varchar (50)	No	Unique key to identify each ID	1	2
User.Username (FK)	Varchar (50)	No	Unique key to identify each User Username	nook123	nat456
Animal.ID (FK)	Varchar (50)	No	Unique key to identify each Animal ID	1	2
Animal.Name	Varchar (50)	No	Animal Name	Joey	Wind
RequestDate	Varchar (1000)	No	Requesting date	5/12/2017	8/12/2017
AdoptionDate	Varchar (1000)	No	Date of adoption	11/12/2017	10/12/2017
Status	TinyInt(1)	No	Adoption status	1 = Adopt	0 = Cancel

ContactusMessage

Column	Type	Null	Description	Example	Example
User.Username (FK)	Varchar (50)	No	Unique key to identify each User.Username	nook123	nat456
User.Name	Varchar (50)	No	User name	Nook	Nat
User.Email	Varchar (50)	No	User Email	nook@hotmail.com	nat@hotmail.com
Message	Varchar (1000)	No	Message	Hi, I would like to know how to feed the cat	Hi, I would like to know how to feed the dog

Interface Designs

User

User's homepage

The screenshot shows the homepage of an animal adoption website. At the top, there is a navigation bar with links for Home, Animal, My Request, About Us, Contact us, Login, and a search icon. Below the navigation is a logo featuring a dog and a cat with the text "Animal Adoption". The main search interface includes dropdown menus for Dogs (selected), Cats, and Pets with special needs. Under "BREED", "ANY" is selected. Under "SEX", "ANY" is selected. Under "AGE", "ANY" is selected. There are also dropdown menus for "COLOR" and "SIZE", both set to "ANY". A "Search" button is located to the right of the search filters. Below the search area, there is a section titled "Featured Pets:" with four cards. Each card contains a small circular profile picture of an animal and its name in bold capital letters. Below each name is a brief description. The pets listed are ANGIE (a cat found in a dumpster), BELLA (a friendly dog), BILLY (a sleepy-head dog), and MARLEY (a dog found with siblings). At the bottom of the page, there is a taskbar with icons for Windows, Start, Cortana, and various system functions, along with the date and time (8:45 AM, 4/9/2016).

Home Animal My Request About Us Contact us Login Q

Animal Adoption

Dogs Cats Pets with special needs

BREED ANY ▽

SEX ANY ▽

AGE ANY ▽

COLOR ANY ▽

SIZE ANY ▽

Search

Featured Pets:

ANGIE
Angie was found
in a dumpster near...

BELLA
Bella is a family
friendly dog...

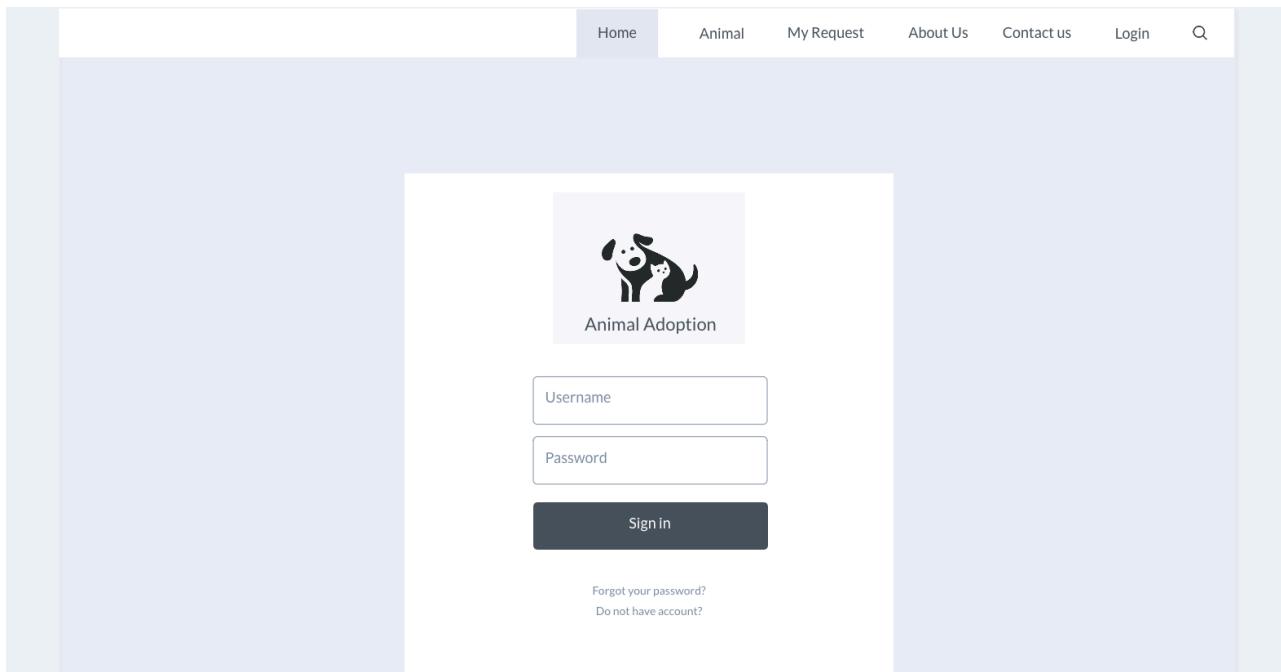
BILLY
Billy is a sleepy-head.
He can sleep for...

MARLEY
Marley and his siblings
were found in a...

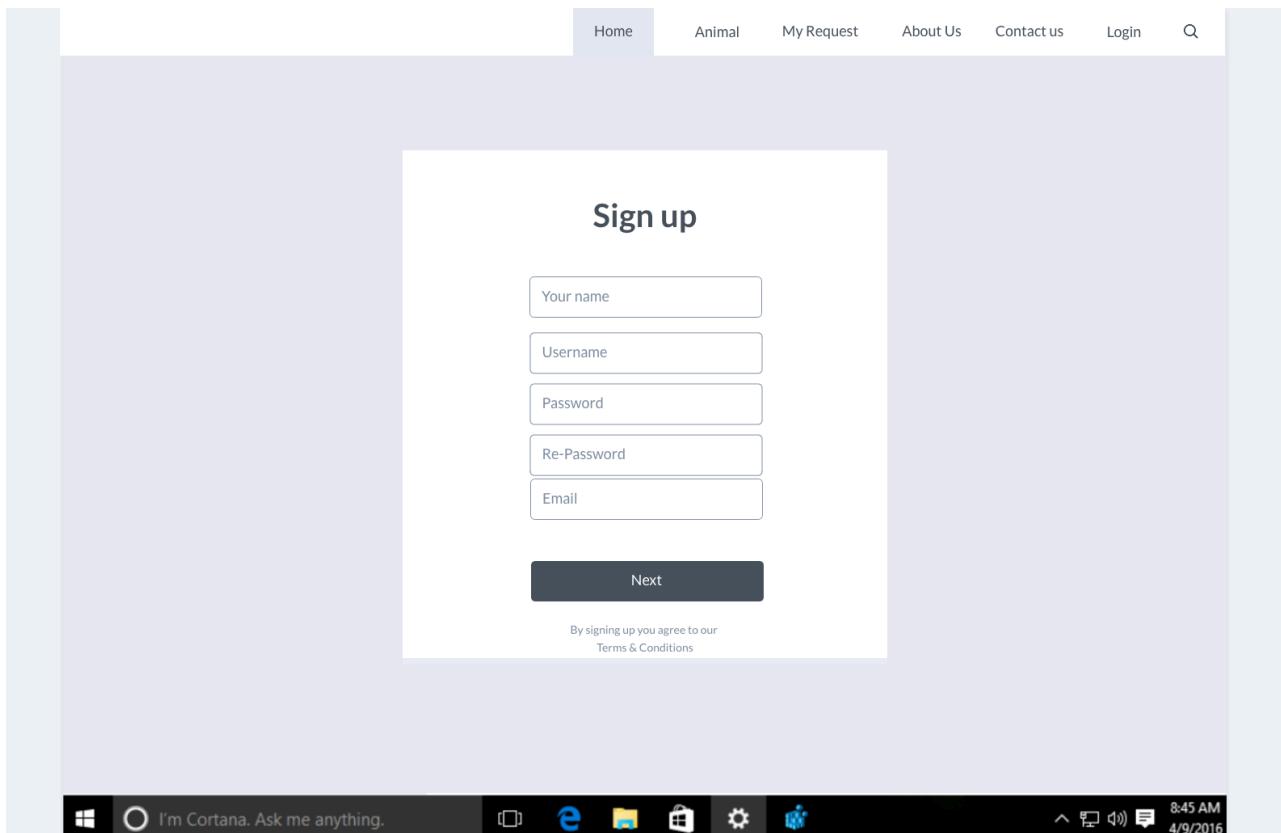
I'm Cortana. Ask me anything.

8:45 AM 4/9/2016

Log-in page



Sign-up page



Questionnaire form

Animal Adoption

Home Animal My Request About Us Contact us Login Q

Animal Adoption
Pet Adoption Questionnaire
Click to select the following options

Your Family

Who are you planning to adopt this pet for?
Myself | Family | Other:

Who will be the primary caregiver for this pet?
Me | My partner | My child | Other:

Number of children at home:

List the ages of the children at home:

Pet allergies in the family?
Yes | No

Your lifestyle

Type of residence?
House | Condominium | Studio | Mansion | Other:

Where will your pet stay during the day?
Indoors | Indoors (cage/crate) | Free-roaming | Garage | Fenced yard:
Other:

Where will your pet sleep at night?

Windows 10 Taskbar: I'm Cortana. Ask me anything. Icons: File Explorer, Edge, File Manager, Settings, Task View. Date/Time: 8:45 AM 4/9/2016

View Animals - All

Animal Adoption

Home Animal My Request About Us Contact us Login Q

Animal

- All
- Dogs
- Cats
- Pets with Special Needs

Age

Gender

Coat Length & Color

Search

ANGIE
Angie was found in a dumpster near...

BELLA
Bella is a family friendly dog...

BILLY
Billy is a sleepy-head. He can sleep for...

MARLEY
Marley and his siblings were found in a...

MAXY
Maxy's back legs are unable to...

QUINCY
Quincy was a kitten when he was found...

1 2 3 ... 20 21 22

Windows 10 Taskbar: I'm Cortana. Ask me anything. Icons: File Explorer, Edge, File Manager, Settings, Task View. Date/Time: 8:45 AM 4/9/2016

View Animals - Dogs

Home Animal My Request About Us Contact us Login Q



Animal Adoption

Animal

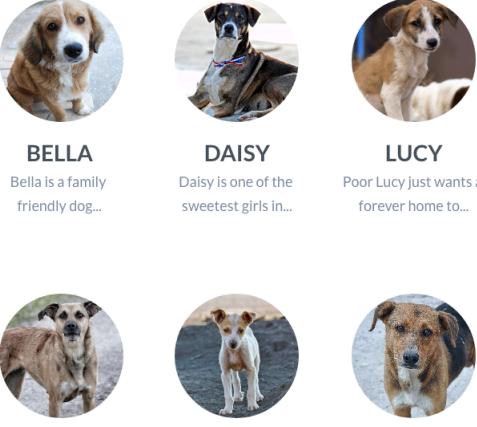
- All
- Dogs
- Cats
- Pets with Special Needs

Age

Gender

Coat Length & Color

Search



BELLA
Bella is a family friendly dog...

DAISY
Daisy is one of the sweetest girls in...

LUCY
Poor Lucy just wants a forever home to...

LEO
This poor baby was abandoned by...

MARLEY
Marley and his siblings were found in a...

THOR
We all know Thor the god of thunder, but...

1 2 3 ... 20 21 22

I'm Cortana. Ask me anything.

8:45 AM
4/9/2016

View Animals - Cats

Home Animal My Request About Us Contact us Login Q



Animal Adoption

Animal

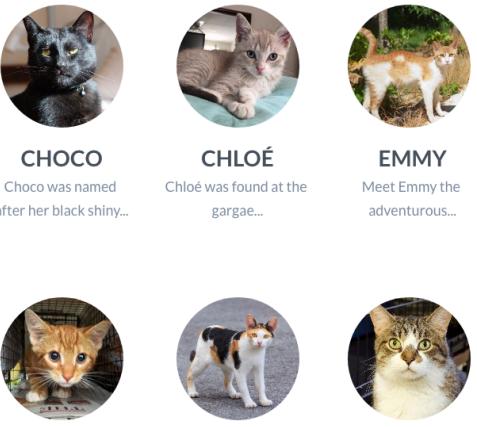
- All
- Dogs
- Cats
- Pets with Special Needs

Age

Gender

Coat Length & Color

Search



CHOCO
Choco was named after her black shiny...

CHLOÉ
Chloé was found at the garage...

EMMY
Meet Emmy the adventurous...

HALO
Poor Halo was found in a bag at the...

JIM
Jim is an independent cat....

QUINCY
Quincy was a kitten when he was found...

1 2 3 ... 20 21 22

I'm Cortana. Ask me anything.

8:45 AM
4/9/2016

View Animals - Pets with Special Needs

The screenshot shows a web page titled "View Animals - Pets with Special Needs". At the top right are navigation links: Home, Animal (which is highlighted), My Request, About Us, Contact us, Login, and a search icon. On the left is a sidebar with a logo of a dog and cat, and sections for "Animal", "Age", "Gender", and "Coat Length & Color", each with dropdown menus. Below these are buttons for "Search" and "Reset". The main content area displays six animal profiles in a 2x3 grid:

Image	Name	Description
	ARMY	Army has leg paralysis, making him...
	ANNE	Annie was beaten by her previous...
	ANGIE	Angie was found in a dumpster near...
	FELIX	Felix is a deaf cat. He is unable to...
	MAXY	Maxy's back legs are unable to...
	PENNY	Penny is a loving companion but...

At the bottom of the main content area is a page navigation bar with numbers 1 through 22. The status bar at the bottom of the screen shows the Windows logo, Cortana, battery level, signal strength, and the date/time: 8:45 AM, 4/9/2016.

View Animals' Profile

The screenshot shows a detailed view of an animal profile. The top navigation bar includes Home, Animal (highlighted), My Request, About Us, Contact us, Login, and a search icon. The sidebar on the left is identical to the one in the previous screenshot. The main content area features a large image of a black cat named "SHADOW" lying down. To the left of the main image is a vertical stack of five smaller images of the same black cat in different poses. Below the images is a summary of the cat's details:

SHADOW ♂

Location found: Ladprao, Bangkok
Approximate age: 9 months

Description: Shadow is a very laid back cat who just loves to chill. He was found as a stray that had taken up residence outside of a local home. All he wanted was to come inside. That Good Samaritan brought Shadow to us in hopes that he would find that forever, inside home that he yearns for. Shadow likes to cuddle, likes to drink water from a faucet, loves to talk and chatter.

On the far right of the profile summary is a blue "Adopt Me!" button. The status bar at the bottom of the screen shows the Windows logo, Cortana, battery level, signal strength, and the date/time: 8:45 AM, 4/9/2016.

About Us

The screenshot shows the 'About Us' page of the Animal Adoption website. At the top, there is a navigation bar with links for Home, Animal, My Request, About Us (which is highlighted in blue), Contact us, Login, and a search icon. To the left, there is a logo featuring a black silhouette of a dog and a cat. Below the logo, the text 'Animal Adoption' is displayed. The main content area has a light blue background and features a section titled 'ANIMAL ADOPTION' in bold capital letters. Underneath this, there is a paragraph of text describing the shelter's services and goals. To the right of the text is a large, close-up photograph of a white dog with brown spots, looking directly at the camera with its tongue slightly out. A small play button icon is overlaid on the dog's paw. At the bottom of the page, there is a standard Windows taskbar with icons for Start, File Explorer, Edge, File Manager, Task View, Settings, and Cortana, along with the date and time (8:45 AM, 4/9/2016).

Contact Us

The screenshot shows the 'Contact Us' page of the Animal Adoption website. The layout is similar to the 'About Us' page, with a navigation bar at the top. The 'Contact Us' link in the navigation bar is highlighted in blue. The main content area features a logo with a dog and cat, followed by the text 'Contact Us'. To the right, there is contact information: Email: contact@animaladoption.ac.th, Tel: 1-800-676-2775; 1-800-767-7223, and Facebook: www.facebook.com/animaladoption. Below this, there is a map showing a location marked with a blue pin. To the right of the map, there is a box with the heading 'Visit us' containing the address: Animal Adoption, 15/22 Bang-Na, Bangkok, 10200, 408-996-1010. At the bottom of the page is a blue button labeled 'Leave us a message!'. The bottom of the screen shows the Windows taskbar with the same set of icons and system status information as the previous screenshot.

Contact Us - Send message

Home Animal My Request About Us Contact us Login Q


Animal Adoption

Animal Age Gender Coat Length & Color

Search

We would *love* to hear from you!
Please use the **Contact Form** to send us a message.

Name:

Message:

Your Email Address: Send

8:45 AM 4/9/2016

Administrator

Log Out Q


Animal Adoption

Animal- All Add Animal Customer Request Customer Messages History

 ANGIE Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla [EDIT](#) [DELETE](#)

 BELLA Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla [EDIT](#) [DELETE](#)

 BILLY Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla [EDIT](#) [DELETE](#)

 LEO Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla [EDIT](#) [DELETE](#)

 MAXY Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla [EDIT](#) [DELETE](#)

 QUINCY Lorem ipsum dolor sit amet, consectetur adipiscing elit. Nulla [EDIT](#) [DELETE](#)

1 2 3 ... 20 21 22

8:45 AM 4/9/2016

Administrator: Edit Animals

Log Out Q



Animal Adoption

Animal- All

Add Animal

Customer Request

Customer Messages

History

Dogs Cats Special needs



Upload image

Name: BELLA

Breed: Golden-Mix

Sex: Female

Age: 5

Description: Bella is a family friendly dog. Her previous owner passed away in 2015 leaving her in our care

Color: Brown-White

Size: Large

SAVE

I'm Cortana. Ask me anything.

8:45 AM
4/9/2016

Administrator: Add Animal

Log Out Q



Animal Adoption

Animal-All

Add Animal

Customer Request

Customer Messages

History

Dogs Cats Special needs



Upload image

Name: [Empty]

Breed: Any

Sex: Any

Age: Any

Description: [Empty]

Color: Any

Size: Any

SAVE

I'm Cortana. Ask me anything.

8:45 AM
4/9/2016

Administrator: View requests

The screenshot shows a web-based application for animal adoption. On the left, a sidebar menu includes Home, Add Animal, Customer Request (highlighted in blue), Customer Messages, and History. The main content area displays three user requests in a grid:

User	Pet	Description	Action Buttons
Nat	MARLEY	I want to own this pet for my family...	Adopted Cancel
Nook	ANGIE	I love to see him in my family	Adopted Cancel
Aun	BILLY	I love this dog so much	Adopted Cancel

Below the grid is a navigation bar with links 1, 2, 3, ..., 20, 21, 22. At the bottom, a taskbar shows the Windows logo, Cortana status, system icons, and the date/time (8:45 AM, 4/9/2016).

Administrator: View Users' Request

The screenshot shows a detailed view of a user's adoption request. The sidebar menu is identical to the previous screen. The main content area is titled "Animal Adoption Pet Adoption Questionnaire" and shows the user "mewmew802". The form consists of several sections:

- Your Family**

Who are you planning to adopt this pet for?
Myself | Family | Other:

Who will be the primary caregiver for this pet?
Me | My partner | My child | Other:

Number of children at home:

List the ages of the children at home:

Pet allergies in the family?
Yes | No
- Your lifestyle**

Type of residence?
House | Condominium | Studio | Mansion | Other:

Where will your pet stay during the day?
Indoors | Indoors (cage/crate) | Free-roaming | Garage | Fenced yard:
Other:

Where will your pet sleep at night?
Indoors | Outdoors | Enclosure | Other:

At the bottom, a taskbar shows the Windows logo, Cortana status, system icons, and the date/time (8:45 AM, 4/9/2016).

Administrator: View Users' Messages

The screenshot shows the 'Customer Messages' section of the application. On the left, a sidebar menu includes 'Animal-All', 'Add Animal', 'Customer Request', 'Customer Messages' (which is selected and highlighted in blue), and 'History'. The main content area is titled 'CUSTOMER MESSAGES' and displays a table with four rows of user information. Each row contains a 'User Username', 'Name', 'User Email', and a 'Message' column with a link: 'Click here to see detail.'.

User Username	Name	User Email	Message
nook123	Nook	nook@hotmail.com	Click here to see detail.
nat456	Nat	nat@hotmail.com	Click here to see detail.
siwapong_s	Aun	siwa@hotmail.com	Click here to see detail.
natthaaaa	Wind	nnn4@hotmail.com	Click here to see detail.

At the bottom, a Windows taskbar shows icons for File Explorer, Edge, File History, Settings, and Task View, along with system status indicators like battery level and network connection. The date and time are 4/9/2016 at 8:45 AM.

Administrator: View Adoption History

The screenshot shows the 'History' section of the application. On the left, a sidebar menu includes 'Animal- All', 'Add Animal', 'Customer Request', 'Customer Messages', and 'History' (which is selected and highlighted in blue). The main content area is titled 'HISTORY' and displays a table with five rows of adoption request data. The columns are 'Request ID', 'User ID', 'Animal ID', 'Request Date', 'Adoption Date', 'Contact Information', and 'Status'. The 'Status' column uses color coding: green for approved requests (1, 3, 4) and red for one disapproved request (2).

Request ID	User ID	Animal ID	Request Date	Adoption Date	Contact Information	Status
1	nook123	C0001	5/12/2017	11/12/2017	nook@hotmail.com	APPROVED
2	nat456	D0007	8/12/2017	-----	nat@hotmail.com	DISAPPROVED
3	siwapong_s	SC0012	10/12/2017	11/12/2017	siwa@hotmail.com	APPROVED
4	natthaaaa	SC0003	18/12/2017	20/12/2017	nnn4@hotmail.com	APPROVED

At the bottom, a Windows taskbar shows icons for File Explorer, Edge, File History, Settings, and Task View, along with system status indicators like battery level and network connection. The date and time are 4/9/2016 at 8:45 AM.