Pet Sign In Web Application

CS-670-IA Research Project Seminar

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# Abstract

Pet Sign In is a web application to sign in pets at a work environment. The idea behind this web application is to do two things:

1. Anyone with a pet will be required to abide to the pet policy.
2. Keep audit trail on when a pet is signed in.

# Introduction

## 2.1 Background

At my old job pet friendly, we were required do the following:

1. Fill in a form about our pets
2. Send the pet documentation to the Human Resource team for approval
3. Once approved, the front desk would require us to fill out a form requiring the following:
   1. Name
   2. Pet’s Name
   3. Shots up to date check
   4. Understanding of the dog policy
   5. Signature

I got tired of doing the same process over and over so I thought of making a web application that requires minimum work from Human Resource, wasted paper and stress free.

## 2.2 Goals and Objectives

This project’s goal is to simplify the process of getting your dog registered and signed in.

* An employee can:
  + Create an account
  + Sign into their account once activated
  + Sign in their pet(s)
  + Manage their pet(s)
    - Add, edit or disable
  + Manage their account
    - Change their password
    - Reset their password
    - Reset their account activation ode
    - View their account activity
* An employee administrator can:
  + Manage their account
  + Managed an employee with a registered account
    - Reset their password
    - Reset their account activation ode
    - View their account activity
    - Disable a registered user’s account or pet
  + Manage their pet(s)
    - Add, edit or disable their pet
  + Manage the company’s pet policy
* A super administrator can:
  + View the website’s code errors
  + Manage administrators:
    - Promote registered users to administrators
    - Demote administrators to registered users

The following is a list of opportunities this product will bring to dog friendly places:

* Free to use
* Mobile friendly website
* Fast registration process
* Easy login process to sign in pet
* Allows the company to have a audit trail of all pets
* Using latest security to protect data in transit and at rest
* Database is manually backed up on a weekly basis

## 2.3 Scope

This website is a pet sign in application installed in a pet friendly company’s website. It will only be accessible via the company’s intranet and not made available on the internet. The idea is to facilitate the sign in process of bringing in your pet to a pet friendly environment. More to be added later.

## 2.4 Intended Audience

The audience for this document is anyone looking to understand this project and how it is designed.

## 2.5 Computer Application

* Agent Ransack
* Fiddler4
* FileZilla
* Google Chrome
* Internet Explorer 11
* Microsoft Excel, PowerPoint, Visio and Word
* MySQL Workbench
* Notepad ++
* PuTTY
* IntelliJ Idea

## 2.6 Web Application

* CPanel
* Dropbox
* GitHub
* JSFiddle
* Runnables

## 2.7 Languages

* HTML 5
* JavaScript
* PHP
* MySQL

## 2.8 Libraries

* Bootstrap
* jQuery
* Joyride

# 3 Analysis Overview

## 3.1 System Usage

## 3.2 Assumptions, Dependencies and Constraints

The availability of the website will depend on the service availability of the hosting company.

## 3.3 Development Methods

|  |  |
| --- | --- |
| Machine | |
| OS Name | Microsoft Windows 7 Professional |
| Version | 6.1.7601 Service Pack 1 Build 7601 |
| OS Manufacturer | Microsoft Corporation |
| System Manufacturer | INTEL |
| System Model | DZ68BC |
| System Type | x64-based PC |
| Processor | Intel(R) Core(TM) i7-2600K CPU @ 3.40GHz, 3401 Mhz, 4 Core(s), 8 Logical Processor(s) |
| BIOS Version/Date | Intel Corp. BCZ6810H.86A.0021.2011.0831.1555, 8/31/2011 |
| SMBIOS Version | 2.6 |
| Total Physical Memory | 16.0 GB |
| Total Virtual Memory | 32.0 GB |
| C Drive | 238 GB |

# 4 Requirements

## 4.1 Inputs – Data

User:

* Email
  + Extension must match company email address
* Password
  + Password between 8-45 characters long
* Active – 1 use
  + Application functions are disabled if its 0
  + Email needs to be verified via ActivationCode method
* Attempts – 2 uses
  + Each failed login or registration to a registered account attempt adds an increments of 1
  + >4 locks the account
* AdminCode – 3 uses
  + Code 0 is a registered user
  + Code 1 is an administrator
  + Code 2 a super administrator
* ActivationCode – 1 use
  + A code sent to the email to verify the email address
* Disabled – 1 use
  + Can only be disabled by administrators

Pet:

* Name
* Breed
* DOB
* Sex
* Picture
* Disabled

## 4.2 Outputs – Information

Account Activity

Error logging:

|  |  |
| --- | --- |
| Error Messages | |
| Error 0 | (PHP errors, varies) |
| Error 1 | Oops, something went wrong. Contact an administrator with this error message. |
| Error 5 | Oops, something went wrong. Contact an administrator with this error message. |
| Error 9 | Oops, something went wrong. Contact an administrator with this error message. |
| Error 10 | Please enter a valid GMAIL e-mail address (your.name@gmail.com). |
| Error 11 | Not a valid e-mail address. |
| Error 15 | Your account is not activate. Wait or contact an Admin. |
| Error 19 | This account doesn't exist. Please click on "Register for a new account". |
| Error 20 | Password must contain at least six characters. |
| Error 21 | Password must be different from your email. |
| Error 22 | Password must contain at least one number (0-9). |
| Error 23 | Password must contain at least one lowercase letter (a-z). |
| Error 24 | Password must contain at least one uppercase letter (A-Z). |
| Error 25 | Invalid email and/or password. If you forgot your password, reset it. |
| Error 26 | Please fill all of the fields. |
| Error 27 | Your old passwords don't match and/or they match with your new password. |
| Error 28 | Your old passwords don't match and/or they match with your new password. |
| Error 29 | Your old passwords don't match and/or they match with your new password. |
| Error 50 | This breed already exist. |
| Error 51 | You already have a pet name (pet name). Please pick a different name. |
| Error 112 |  |
| Error 113 |  |
| Error 114 |  |
| Error 115 |  |
| Error 116 |  |
| Error 117 |  |
| Error 118 |  |
| Error 119 |  |
| Error 87 | Your account will be locked out soon. |
| Error 89 | This account has been locked. Reset your account or contact the administrator. |
| Error 99 | Your session expired, please sign in again. |

## 4.3 Processes – Manual/Automatic

Manual:

* Administrator uploads company pet policy PDF
* User approves, updates, notifies and close accounts

Automatic:

* Account activity logging
* Error logging

## 4.4 Storage – Database

* All data will be stored in a MySQL Database.

## 4.5 Control – Interfaces

The website will consist of three roles:

* Registered user
* Administrator
* Super administrator

Each will have distinct rights and ability throughout the application.

## 4.6 Timelines and deadlines

|  |  |  |
| --- | --- | --- |
| Phase | Start Date | End Date |
| Iteration 1 | | |
| Phase | Start Date | End Data |
| Inception | 05/17/2015 | 11/03/2015 |
| Iteration 2 | | |
| Elaboration | 11/04/2015 | 11/29/2015 |
| Construction | 11/30/2015 | 12/07/2015 |
| Iteration 3 | | |
| Inception | 12/08/2015 | 12/09/2015 |
| Elaboration | 12/09/2015 | 12/09/2015 |
| Construction | 12/09/2015 | 12/09/2015 |
| Transition |  |  |
| Iteration 4 | | |
| Inception | 12/09/2015 | 12/15/2015 |
| Elaboration | 12/09/2015 | 12/30/2015 |
| Construction | 12/09/2015 | 12/30/2015 |
| Transition | 12/09/2015 | 12/30/2015 |
| Iteration 5 | | |
| Inception | 12/31/2015 | 12/31/2015 |
| Elaboration | 12/31/2015 | 2/25/2015 |
| Construction | 12/31/2015 | 2/25/2015 |
| Transition | 12/31/2015 | 2/25/2015 |
| Iteration 6 | | |
| Construction | 2/25/2015 | 3/11/2015 |
| Transition | 2/25/2015 | 3/11/2015 |

## 4.7 Training

A help how to will be available on the website. I will be using Joyride (see 2.6) as the tour.

## 4.9 Use Cases

|  |  |
| --- | --- |
| Use Case Name | Register |
| Description | Create an account. |
| Actors | Visitor. |
| Pre-Conditions | Valid Gmail email account. |
| Basic Flow | 1. Enter email address  2. Enter password (Needs 1 lower case, upper case, number.  3. Click on “Terms and Conditions” and read it.  4. Click on “I agree” radio button.  5. Click on the “Register” button. |
| Post Conditions | - Newly registered email will receive an email about recent registration stating to wait for Admin to approve account. |
| Alternate Flows | - Clicking on the “I do not agree” radio button will disable the “Register” button.  - Leaving empty text fields will give you Error 26. - Not using a gmail.com email address will give you Error 10. - Using an invalid email will give you Error 11.  - Passwords shorter than 6 characters long will give you Error 20.  - Password matching the email address will give you Error 21.  - Password not containing one number (0-9) will give you Error 22.  - Password not containing one lowercase letter (a-z) will give you Error 23.  - Password not containing one uppercase letter (A-Z) will give you Error 24.  - Registering with an already registered account will give you Error 87.  - Registering with an already registered account will give you Error 89. |
| Notes | None. |

|  |  |
| --- | --- |
| Use Case Name | Sign In |
| Description | Sign into the website. |
| Actors | User. |
| Pre-Conditions | Account is enable. |
| Basic Flow | 1. Enter email address.  2. Enter password.  3. Click on the “Sign in” button. |
| Post Conditions | None. |
| Alternate Flows | - Leaving empty text fields will give you Error 26. - Not using a gmail.com email address will give you Error 10. - Using an invalid email will give you Error 11.  - Passwords shorter than 6 characters long will give you Error 20.  - Password matching the email address will give you Error 21.  - Password not containing one number (0-9) will give you Error 22.  - Password not containing one lowercase letter (a-z) will give you Error 23.  - Password not containing one uppercase letter (A-Z) will give you Error 24.  - Signing in with an incorrect password will give you Error 87.  - Signing in with an incorrect password will give you Error 89. |
| Notes | None. |

|  |  |
| --- | --- |
| Use Case Name | Add Pet |
| Description | Add a pet |
| Actors |  |
| Pre-Conditions |  |
| Basic Flow |  |
| Post Conditions |  |
| Alternate Flows | - Leaving empty text fields will give you Error 26. |
| Notes |  |

|  |  |
| --- | --- |
| Use Case Name | Upload pet document |
| Description |  |
| Actors |  |
| Pre-Conditions |  |
| Basic Flow |  |
| Post Conditions |  |
| Alternate Flows |  |
| Notes |  |

## 4.10 Assess Project Worth in terms of Cost vs. Value

### 4.10.1 Estimated Costs

Total Development Cost Estimate: $0.00

|  |  |  |
| --- | --- | --- |
| Operation Cost | | |
| Name | Description | Cost |
| Computer Hardware |  | $0.00 |
| Computer Software |  | $0.00 |
| Hosting |  | $0.00 |
| Books |  | $0.00 |
| Others |  | $0.00 |
|  | Total |  |

|  |  |  |
| --- | --- | --- |
| Personal Cost | | |
| Name | Description | Cost |
| Programmer |  | $0.00 |
| Database Administrator |  | $0.00 |
| System Analyst |  | $0.00 |
|  | Total |  |

### 4.10.2 Value

## 4.13 Preliminary Project Plan

### 4.13.1 Master Schedule

### 4.13.2 Resource Assignment

**Personnel:**

* 1 Programmer/DBA/System Analyst

## 4.14 Browser Compatibility

|  |  |
| --- | --- |
| Browser | Version |
| Chrome |  |
| Firefox |  |
| Internet Explorer |  |
| Opera |  |
| Safari |  |

## 4.15 Security

The only risk assessment if this application is to be stolen or disappear is as followed:

* Negligible
* Loss of personal information

### 4.15.1 Overview

A variety of Open Web Application Security Project’s (OWASP) suggestions will be applied.

https://www.owasp.org/index.php/Session\_Management\_Cheat\_Sheet

### 4.15.2 Information Gathering

Because I’m being hosting by a commercial company, it simple for someone to navigate the different services offered by the company and determine the sort of system I’m running on.

### 4.15.3 Business Logic, Authentication and Authorization

### 4.15.4 Session Management

### 4.15.5 Data Validation

### 4.15.6 Vulnerabilities

My system is vulnerable to Denial of Service.

### 4.15.8 Auditing

### 4.15.9 Risk Assessments

All these are in my book1 excel file. Will transfer it here later

Website is forced into a HTTPS/SSL connection therefore all sessions are protected

Every action taking on an account will be logged in the history tab of that particular account, as well as the pet.

The dashboard will show a brief history of the user’s account.

All actions can notify the account holder of a new log.

A two factor login will be optional (via email or possibly phone multimedia message).

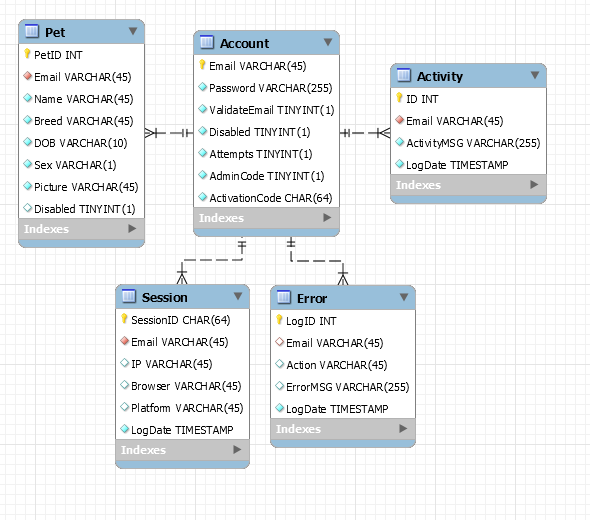
# 5 Design

## 5.1 Use Case Diagram

## 5.2 Context Dataflow Diagram



## 5.3 Entity Relationship Diagram



## 5.5 Dataflow Diagram

## 5.6 Activity Diagram







## 5.7 Conceptual Website Diagram



## 6 Database Stored Procedures

# 7 Screenshots