SW Engineering CSC648/848 Spring 2021
“Zooble”
Section 04 Team 2

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Milestone 4
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GitHub Repository:
https://github.com/CSC-648-SFSU/csc648-04-sp21-Team02

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M2 V1	**4/1/2021**
M1 V2	**3/20/2021**
M1 V1	**3/5/2021**

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Section I: Product Summary

Product Name: Zooble

List of Functional Commitments:

1. General Users
    a. General Users can search for Registered Users (businesses, shelters, pets, pet owners) and can use their location to find businesses, shelters, and adoptable pets near them.
    b. General Users can view profiles of Registered Users.
    c. General Users can create an Account
2. Registered Users
    a. Registered Users can create a User Profile and profiles for their pets.
    b. Registered Users can make edits to their profile
    c. Registered Users can make posts and photo posts to their feed that will be seen by Registered Users following them
    d. Registered Users can follow other Registered Users and like other Registered User's Posts
3. Registered Business
    a. Registered Business profile can be viewed by a registered user
    b. Shall inherit all the functionality of a registered user
4. Registered Shelter
    a. Registered Shelters can create a Shelter Profile and profiles for pets.
    b. Shall inherit all the functionality of a registered user
5. Profile
    a. Can display photos posted by the registered user that owns the profile
    b. Profiles shall display followers
    c. Profiles shall display the pets owned by the profile owner
6. Pet Profile
    a. Pet profiles can be edited by the registered pet owner or registered shelter that owns the pet.
7. Registered Business Profile
    a. Registered Business Profiles shall inherit the functionality of Profiles
    b. Registered Business Profiles can provide Business Info (Business Hours, Address, Phone Number)
    c. Registered Business Profiles can be viewed by all users
    d. A Registered Business Profile can be edited by the Registered User who created it.

8. Registered Shelter Profile
    a. Registered Shelter Profiles can provide Business Info (Business Hours, Address, Phone Number)
    b. Registered Shelters shall display the Pets that reside at the Registered Shelter.
9. Posts
    a. Posts shall display text and/or images.
    b. Posts shall be able to be liked by Registered Users.
    c. Posts can be commented on by Registered Users
10. Comments
    a. Comments shall display the Display Name of the Registered User who posted the comment
    b. Comments shall direct Registered Users to the Profile of Registered User who posted the comment
    c. Comments shall show the time they were posted
11. Messages
    a. Messages can be sent from a Registered User to another Registered User
    b. Messages shall allow Registered Users to view the sent time and display name of the user
12. Followers
    a. Registered Users are able to see a list of Registered Users that they are followed by
13. Following
    a. Registered Users are able to see a list of the Registered Users that they are following.
14. Search
    a. Users can search businesses, shelters, pets owned by shelters, and pet owners by display name.
    b. Users can search for businesses, shelters, and pets owned by shelters by their address.
    c. Users can search for businesses, shelters, and pets, by business category, available types of pets, and pet type or cat/dog breed respectively
15. Feed
    a. The Feed shall display the posts of the Registered Users that a Registered User is following
    b. The Feed shall display posts sorted by time posted by most recent to least recent
16. Map Search

    a. Map Search will display the locations of Registered Businesses, Registered Shelters and adoptable pets.
    b. Map Search will allow users to filter results for Pets, Registered Businesses, and Registered Shelters by their attributes:
        i. Pet Type, Color, Size, Age, Breed (if cat or dog).
        ii. Business Type
        iii. Shelter’s available type of pets

17. Notification
    a. Notifications shall appear when a Registered User receives a Message.

Unique Feature:

Our website combines the functionality of a social media website with pet search tools and business directories. Although there are many websites that encapsulate one or even two of these functionalities, our website is the only one that combines all three to create a pet-focused hub for shelters, businesses, and pet owners to make connections and grow their businesses. However its singular unique feature is a search function that allows Pet Owners to view businesses, shelters, and adoptable pets near them on a map, which is a feature that is completely unique across all competitors.

Website URL:

https://www.zooble.link

Section II: Usability Test Plan

1. **Map Search:**

Test Objectives:

Our unique feature, the Map Search, will be tested on the efficiency and accuracy of searching for Registered Businesses, Pets, Registered Users, and Registered Shelters. The following features of the Map Search will be examined:

Search Results - Are the search results located nearby? Do they include information that is relevant to the users?

Filtering - Do the filters function as expected? Do the filter options provide good functionality?

Sorting - Does sorting sort items as expected? Do sorting options provide good functionality to the user? Is the default sorting option the most useful sorting option available?

Map Display - Does the Map display the correct entities on screen? Does the map display a well-sized radius of results? Does the map provide a useful locational context for the entities displayed on it?

Test Description:

System setup:

User is using a personal computer (PC) or laptop that is capable of running one or more of the following browsers: Chrome: 90.x.x.x,89.x.x.x, Safari: 14.x.x.x, 13.x.x.x, Firefox: 88.x, 87.x. The user is on the Zooble website homepage.

Starting point:

The starting point for using the Map Search is on the homepage of the website, where the search bar is able to be accessed.

Intended users:

General Users who want to search for a Pet, Business, or Shelter.

URL: https://www.zooble.link/

Usability Task Description:

Task	Description
Task	Search for a pet, business, shelter, or user
Machine State	Home page is displayed, search bar is in default state with no input yet
Successful completion criteria	User has navigated to the search results page and the expected search results are displayed
Benchmark	Completed in 4 sec

Usability Test Table:

Test Case	% Completed	Errors	Comments
Search for Pet	100	None	Overlapping the cluster of map markers for pets at shelter is confusing. Should be more clear that the only pets being shown are pets at shelters, and which shelters they are at.
Search for Business	100	None	Overlapping cluster of map markers for businesses located in same building
Search for Shelter	100	None	Details about shelters should be shown on search result card (same

			applies for other search categories)
Search for Pet Owner	100	None	Display of the map next to search results that don’t show locations is confusing and unnecessary. Going to next page button should not be available if there are no more results
Filtering for a Dog with the Dog breed of Norwich Terrier	100	None	
Filtering for Cats and Dogs with Breed of ‘American Staffordshire Terrier’	0	Only Produces search result of Dogs with Breed of ‘American Staffordshire Terrier’	Maybe this feature is not necessary as it seems like a very small percentage of users would use it Seems like selecting breed overrides any selection of pet types

Questionnaire

User 1: X
- Age: 62

User 2: X
- Age: 61

User 3: X
- Age: 31

	Strongly disagree	**disagree**	**Neutral**	**Agree**	**Strongly Agree**
1. The filtering functions of the “Map Search” were easy to use and per my expectations.		X	XX		
2. Navigating using the “Map Search” was straightforward and intuitive.				XXX	
3. The search results from the “Map Search” were relevant and accurate.			X	XX	

2. Upload Post:

Test Objectives

The objectives of testing Upload Post are to determine the ability of the feature to handle uploading and displaying information correctly. This is important because this is the starting point for user's interactions with each other as well as business and shelter's opportunity to grow their customer reach.The following features will be examined:

Text Post - Is text able to be inputted into the Post box? When the user chooses to upload the post, does the text display correctly? Are limitations on post length and content imposed by the website enforced?

Image Upload - Is the image being uploaded of the right size? Is there any image pixelation or stretching? Is the image cut off? Does it appear in the feed when successfully uploaded?

Post Display - Does the Post display persistently on the Feed? Does the Post display persistently on the profile of the User who uploaded it? Does the post display properly in the constraints of the post box on the user's computer?

Test Description

System setup:

User is using a personal computer (PC) or laptop that is capable of running one or more of the following browsers:
Chrome: 90.x.x.x,89.x.x.x,
Safari: 14.x.x.x, 13.x.x.x,
Firefox: 88.x, 87.x. The user is on the Zooble website and has created and logged in to their Registered User account. They have navigated to their Feed Page where they are able to create a post and post it to their feed.

Starting point:

The starting point for making a post is on the Feed page where there is a textbox and button that allows the input of text and an image file to be uploaded and posted.

Intended users:

Registered Users (e.g. Pet Owners, Pet Businesses, Pet Shelters) who want to post information and images on their feed.

URL: https://www.zooble.link/feed

Usability Task Description

Task	Description
Task	Upload an image
Machine State	The Registered User is on the Feed, with a page populated with multiple posts and the create post section
Successful completion criteria	User has created a post. The post is able to be viewed on the feed and clicked on to open its modal.
Benchmark	Completed in 1 min.

Usability Test Table

Test Case	% Completed	Errors	Comments
Post Text	100%	None	One user reported that It wasn't straightforward if he had to add an image or he could add a text only to his post.
Upload Image	100%	None	One user reported that the layout wasn't as straightforward as it should be.
Post Image and Text	100%	None	User is able to successfully post

			an image and text.
Post Display	75%	The text post modal window has display issues.	Image Posts and text posts show up fine on the user's feed. The image post modal window looks great. The text post modal window shows up weird and incorrectly. The container box is shrunk because there is no image which distorts the whole modal window.

Questionnaire

User 1: X
  - ○ (Age: 31)

User 2: X
  - ○ (Age: 26)

User 3: X
  - ○ (Age: 25)

	Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
Finding the "Create a Post" button was straightforward				X	XX
The layout of the "Create a Post" page is user-friendly		X	X	X	
I found the "Create a Post" feature to be easy to use and per my expectations	X		X	X	

3. Create a pet profile

Test Objectives

The objective of testing Create a Pet Profile is to determine the ability to create a new profile for a pet. We see this as important to test as it is what sets the social media aspect of our site apart from other social media sites. It may be what draws people to the website because of that uniqueness and fun factor . Also it will allow shelters to showcase their pets and create adoption opportunities, which is one of the main purposes of the shelter’s account existence.The following features will be examined:

Display Information for Pet - Does the text that is inputted for the Pet name display correctly? If applicable, are you able to choose the right breed of pet? Does the pet correctly link to the right Owner?

Image Upload - Does the image display correctly when chosen as the new Pet Profile image? Does the image upload successfully when selected from the user’s computer?

Siblings (Pet Owner) - Does your new Pet Profile that is created display on the Pet Owners My Pets page? Is the new Pet Profile able to be displayed on the Pet Owner Profile?

Housemates (Pet Shelter) - Does your new Pet Profile that is created display on the Pet Shelters My Pets page? Is the new Pet Profile able to be displayed on the Pet Shelters Profile?

Test Description

System setup:

User is using a personal computer (PC) or laptop that is capable of running one or more of the following browsers: Chrome: 90.x.x.x,89.x.x.x, Safari: 14.x.x.x, 13.x.x.x, Firefox: 88.x, 87.x. The user is on the Zooble website and has created and logged in to their Registered User account. They have navigated to their Profile Page, where they are able to access the “Create a Pet Profile” feature.

Starting point:

The starting point for creating a Pet Profile is the My Pets page where they are able to access the button for creating a Pet Profile.

Intended users:

Registered Pet Owners and Registered Shelters who want to upload a profile for a pet.

URL:

https://www.zooble.link/MyPets

Usability Task Description

Task	**Description**
Task	Create a profile for a pet
Machine State	Modal to enter pet information has just loaded
Successful completion criteria	User has created a profile for a pet, and it can be displayed and navigated to
Benchmark	Completed in 1 min

Usability Test Table

Test Case	**% Completed**	**Errors**	**Comments**
Enter Name	100%	N/A	Text fields were readable and understandable
Enter Pet Type	100%	N/A	Text fields were readable and understandable
Enter Pet Color(s)	100%	N/A	Slight confusion from one tester

			over inputting multiple options/scrolling down
Enter Pet Age	100%	N/A	Text fields were readable and understandable
Enter Pet Size	100%	N/A	Text fields were readable and understandable. Comment that pet size was not applicable to all types of pets as it is intuitive - i.e. chinchillas.
Enter Pet Breed	100%	N/A	Choices were understandable. One comment from tester that not all pets were covered - “Other” option

Questionnaire

User 1: X (Age 63)
User 2: X (Age 54)
User 3: X (Age 20)

	Strongly disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
The layout of the “Create a Pet Profile” page is easy to navigate.				X	X X
The different elements of the “Create a Profile” page were well-integrated				X X	X
Inputting information into the “Create a Profile” page was straightforward.			X	X X	

4. Send a message

Test Objectives:

We are testing the ability for users to send messages. The “send a messages” function should perform per user expectations. The user should be able to easily compose a message and send it to another user.

Test Description

System setup:

User is using a personal computer (PC) or laptop that is capable of running one or more of the following browsers: Chrome: 90.x.x.x,89.x.x.x, Safari: 14.x.x.x, 13.x.x.x, Firefox: 88.x, 87.x. The user is on the Zooble website and has created and logged in to their Registered User account. A message is sent to the user before they have logged in

Starting point:

The starting point for Message is on the Feed after login.

Intended users:

Any registered user of any type.

URL:

https://www.zooble.link/Messages

Usability Task Description

Task	**Description**
Task	Send a message
Machine State	User is logged in and and on the messages page
Successful completion criteria	User would be able to send a message to another user successfully.
Benchmark	Completed in 10 seconds

Usability Test Table

Test Case	% Completed	Errors	Comments
Input message subject	100%	None	The user provided no comments
Input message body	100%	None	The user provided no comments
Send message	100%	None	I like the color of the button!

Questionnaire

User 1: X

- (Age: 31)

User 2: X

- (Age: 31)

User 3: X

- (Age: 28)

	Strongly disagree	disagree	Neutral	Agree	Strongly Agree
The layout of the “Send a message” page is easy to navigate.					XXX
The different elements of the ““Send a message” page were well-integrated				X	XX
Inputting information into the “Send a message” page was straightforward.					XXX
The experience of sending a message matched my expectations.		X	X	X	

5. Commenting on a post:

Test Objectives:

Users can comment on other users' posts. The test would check if the process of commenting on a post is working as expected. This needs to be tested as a social media website. Our users should be able to interact and share their thoughts with other users easily. It is also a good candidate for testing because it is a feature that could have multiple users using it at the same time on the same post

Test Description

System setup:

User is using a personal computer (PC) or laptop that is capable of running one or more of the following browsers: Chrome: 90.x.x.x,89.x.x.x, Safari: 14.x.x.x, 13.x.x.x, Firefox: 88.x, 87.x. The user is on the Zooble website and has created and logged in to their Registered User account. They have navigated to their Feed, where they are able to view posts and use the Comment feature to leave a comment on them.

Starting point:

The starting point is a Post that is displayed on the Feed of the user

Intended users:

Any registered user of any type.

URL:

https://www.zooble.link/Feed

Usability Task Description

Task	Description
Task	Comment on a post in the “feed” section
Machine State	Post is displayed, comment box is open
Successful completion criteria	User has drafted and posted a comment on a “feed” post
Benchmark	Completed in 15 sec

Usability Test Table

Test Case	% Completed	Errors	Comments
Comment	0%	Not Functional	When trying to post a comment it does not display the comment on the post

Questionnaire

- User 1: **X**
  - (Age Range: 25-34)
- User 2: X
  - (Age Range: 18-24)
- User 3: **X**
  - (Age Range: 18-24)

	Strongly disagree	disagree	Neutral	Agree	Strongly Agree
Figuring out how to post a comment was easy.	**X**		**XX**		
The layout of the “Comment on a Post” feature was understandable.				**XX**	**X**
Comments created by the “Comment on a Post” feature were not clearly displayed.	**XX**		**X**		

Section III: QA Test Plan

QA Test Plan 1:

- Test Objectives: To test that the website shall support upload of image files under 5 MB of the .jpg image formats
- HW and SW Setup
  - OS: Windows 10 Education Version10.0.19041 Build 19041
  - Browser: Brave Version 1.24.82 Chromium 90.0.4430.93
  - CPU: AMD Ryzen 7 3700X 8-core Processor   3.60 GHz
  - RAM: 16.0 GB
  - System: 64-bit Operating System, x64-based processor
  - URL: https://zooble.link/Feed
- Feature to be Tested: Uploading a photo
- QA Test Plan:

Test	Test Title	Test Description	Test Input	Expected Correct Output	Test Results (PASS/FAIL)
1	.jpg upload	Create a post that will upload .jpg image no more than 5 MB	Add text and select .jpg file under 5 MB to upload	The resulting post will be displayed on feed	PASS
2	.png upload	Create a post that will upload .png	Add text and select .png file to upload	PNG file type will not be accepted	PASS
3	Greater than 5 MB .jpg	Create a post that will upload .jpg image greater than 5 MB	Add text and select .jpg file larger than 5 MB to upload	.jpg file type will not be accepted due to size	PASS

QA Test Plan 2:

- Test Objectives: To test the website shall encrypt user passwords
- HW and SW Setup
  - OS: macOS Catalina version 10.15.6
  - Browser: Google Chrome Version 90.0.4430.93
  - RAM: 8 GB 2133 MHz
  - System: 2.3 GHz Dual-Core Intel Core i5
  - URL: https://zooble.link/signup-page
- Feature to be Tested: Whether passwords are successfully encrypted in the database and are kept secure throughout the process
- QA Test Plan:

Test #	Test Title	Test Description	Test Input	Expected Correct Output	Test Results (PASS/FAIL)
1	Browser Vulnerabilities	The URL and HTML of the Signup Page will be checked to see if the original password is visible	first name: Em last name: Powers username: Encrypted email: encrypted@test.com password: Encrypt9!	The password is obfuscated in the text field and URL	PASS
2	Query Encryption	The query from the Signup Page containing the password will be checked to see if the password is encrypted.	first name: Em last name: Powers username: Encrypted email: encrypted@test.com password: Encrypt9!	The password is not human-readable in the page source Javascript query.	PASS
3	Database Encryption	The database will be checked to ensure that the password is securely	first name: Em last name: Powers username: Encrypted	The password appears as a bcrypt hash in the	PASS

		encrypted.	email: encrypted@test.com password: Encrypt9!	MySQL database.	

QA Test Plan 3:

- Test Objectives: To test the map search function on the website with 4 seconds
- HW and SW Setup
  - OS: Ubuntu 20.04
  - Browser: Firefox 88.0.1
  - RAM: 16 GB
  - CPU: Intel i5-8265U @ 1.60 GHz
  - System: 64 bit Operating System
  - URL: https://www.zooble.link/
- Feature to be Tested: Efficiency of map search
- QA Test Plan:

Test #	Test Title	Test Description	Test Input	Expected Correct Output	Test Results (PASS/FAIL)
1	Search	Initiate a Search by providing a display name	Search for the term “Daniel” with the category set to Pet Owners	The two profile search results with the display names of “Daniel” with no markers on map within 4 seconds	Pass
2	Page Change	Change the page on a search results page with more than 10 results	Search for all businesses(blank search term) with the location set to ‘1465 Dupre Ct Concord CA’ Switch to the second page of the results	9 Farthest away businesses from 1465 Dupre Ct within the default range of 5 miles and 9 corresponding markers within 4 seconds	Pass
3	Filtering	Filter Search Results to	Set the Business	4 Businesses	Pass

			Category Filter while viewing the business search results to ‘Grooming’	with business category of ‘Grooming’ within 4 seconds	

QA Test Plan 4:

- Test Objectives: To ensure that users must be authenticated before posting, liking and commenting.
- HW and SW Setup
    - OS: macOS Big Sur version 11.3.1
    - Browser: Microsoft Edge Version 90.0.818.51 (Official build) (64-bit)
    - RAM: 8 GB 1600 MHz DDR3
    - CPU: 1.7 GHz Dual-Core Intel Core i7
    - System: 64 bit Operating System
    - URL: https://www.zooble.link/Feed
- Feature to be Tested: Submitting a post, liking a post and commenting on a post.
- QA Test Plan:

Test #	Test Title	Test Description	Test Input	Expected Correct Output	Test Results (PASS/FAIL)
1	Posting	Unauthenticated user would try to submit a post on the website.	Some text in the post body.	Post won’t be created.	PASS
2	Liking	Unauthenticated user would try to like a post	Liking a post.	Like won’t be accepted	PASS
3	Commenting	Unauthenticated user would try to comment on a post.	Some text in the comment text input.	Comment won’t be accepted	PASS

QA Test Plan 5:

- Test Objectives: Test when the user searches for a business the results will be ordered based on proximity to the address entered.
- HW and SW Setup
  - OS: Windows 10 Home
  - Browser: Google Chrome Version 90.0.4430.93 (Official Build) (64-bit)
  - RAM: 16.0 GB
  - CPU: Intel(R) Core(TM) i7-7700HQ CPU @ 2.80GHz
  - System: 64-bit operating system, x64-based processor
  - URL: https://www.zooble.link/MapSearch
- Feature to be Tested: Accuracy of Map Search Results with
- QA Test Plan:

Test #	Test Title	Test Description	Test Input	Expected Correct Output	Test Results (PASS/FAIL)
1	Ordered by distance - with address entered	Test search results ordered by distance with address entered	Address: 1465 Dupre Ct Concord CA" Selected sort by distance	9 businesses from 1465 Dupre Ct Concord CA within the default range of 5 miles will be shown on search results	PASS
2	Ordered by distance - no address entered	Test search results ordered by distance with no address entered	No address entered Selected sort by distance	User will be asked to use their current location for searching. If user accepts to use their location for searching: 9 businesses from user's current address within the default range of 5 miles will be shown on search results If user does not accept the request	FAIL: If the user does not accept the request to use the location then they are not taken to the search results page with no message display of why they were not taken to the

				: No results will be shown	page
3	Ordered by distance - with a business type entered	Test search results ordered by distance with business type and address entered	Type: Grooming Address: 1465 Dupre Ct Concord CA Selected sort by distance	9 given type of businesses from 1465 Dupre Ct Concord CA within the default range of 5 miles will be shown on search results	FAIL: Different types of businesses were shown

Section IV: Code Review

1. **Coding Style:** We employed several techniques to keep code well organized and well functioning. We have been using the Stroustrup indentation style across our frontend and backend files. For calls to the backend, the backend code itself, and our React hooks we had been using arrow functions, while for all other functions we used the normal function notation.

   We utilized CSS modules to organize the styling attributes of our frontend files and also avoid conflicts in styling classes. We used a separate Global CSS file to establish font sizes, font families, and UI Colors.

   All React components were written as functions, not as classes, and we relied on hooks to update the UI and perform certain repetitive functionality. We separated our frontend files into separate folders of components and the pages that are made up of components. We put pages that were related to the same section of the site each in their own separate folder. For example, the second page of a form like sign up would go in the same folder as the first page. We held the same philosophy in organizing our smaller components, where all the modals would go in one folder, all the nav elements in another, etc.

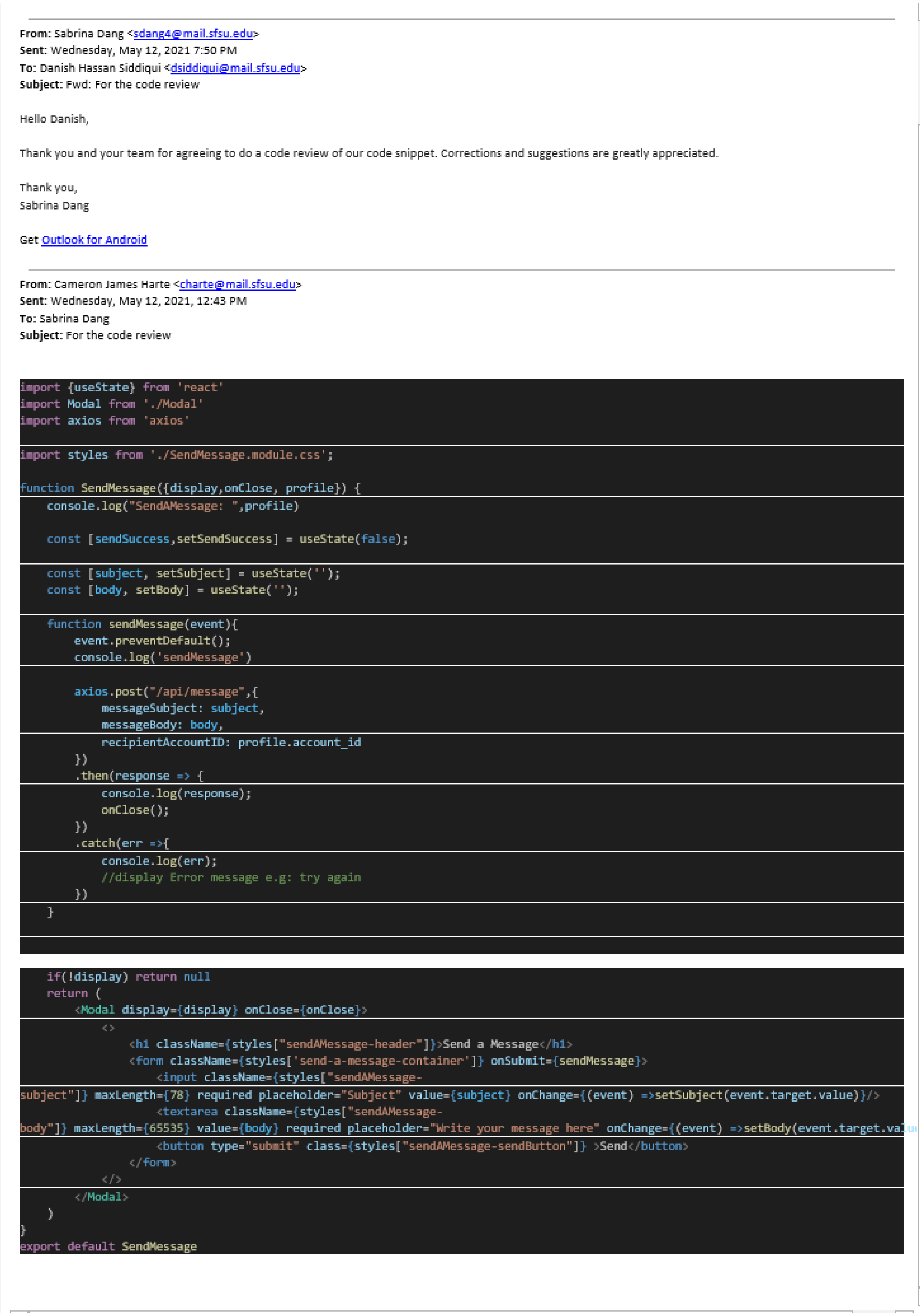
   We had a few components that were made up of smaller components, but we generally tried to limit this by using our best judgement on whether certain files needed to be components or not. These decisions were usually based on the frequency of their use across the website or how receptive they are to the passing in of data.

   We tried to deconstruct props whenever possible to make it more readable for other team members, and to avoid the need for team members to spend time retracing code back to the parent components.We tried to avoid ambiguous variable names whenever possible

   On the backend we separated the files into a folder of all routes that separated files by functionality as well as a db.js file to hold the logic in connecting to our database and finally a index.js file with the logic to start the backend server,the application of all the middleware on the app including the session configuration used for authentication, and the use of the all the routers exported from their respective routes.

2. Coding Review

a. Original email of our code sent to Team 4's team lead Danish Siddiqui



From: Sabrina Dang <sdang4@mail.sfsu.edu>
Sent: Wednesday, May 12, 2021 7:50 PM
To: Danish Hassan Siddiqui <dsiddiqui@mail.sfsu.edu>
Subject: Fwd: For the code review

Hello Danish,

Thank you and your team for agreeing to do a code review of our code snippet. Corrections and suggestions are greatly appreciated.

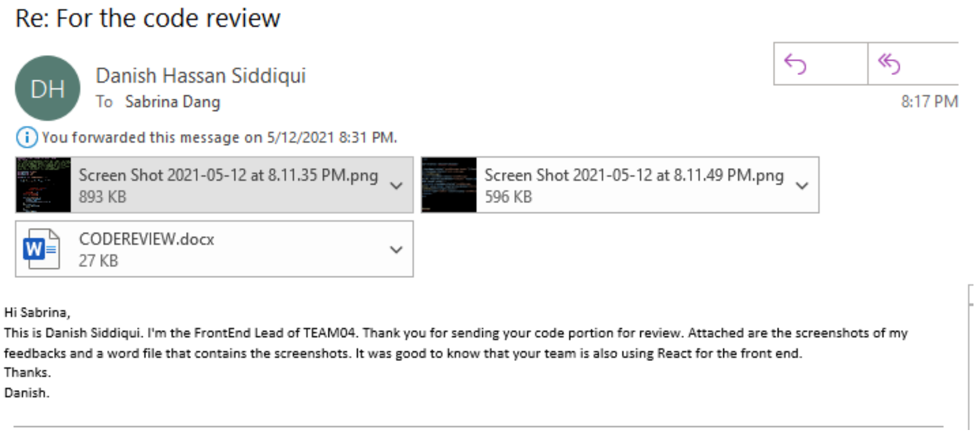
Thank you,
Sabrina Dang

Get Outlook for Android

From: Cameron James Harte <charte@mail.sfsu.edu>
Sent: Wednesday, May 12, 2021, 12:43 PM
To: Sabrina Dang
Subject: For the code review

```
import {useState} from 'react'
import Modal from './Modal'
import axios from 'axios'

import styles from './SendMessage.module.css';

function SendMessage({display,onClose, profile}) {
    console.log("SendAMessage: ",profile)

    const [sendSuccess,setSendSuccess] = useState(false);

    const [subject, setSubject] = useState('');
    const [body, setBody] = useState('');

    function sendMessage(event){
        event.preventDefault();
        console.log('sendMessage')

        axios.post("/api/message",{
            messageSubject: subject,
            messageBody: body,
            recipientAccountID: profile.account_id
        })
        .then(response => {
            console.log(response);
            onClose();
        })
        .catch(err =>{
            console.log(err);
            //display Error message e.g: try again
        })
    }


    if(!display) return null
    return (
        <Modal display={display} onClose={onClose}>
            <>
                <h1 className={styles["sendAMessage-header"]}>Send a Message</h1>
                <form className={styles['send-a-message-container']} onSubmit={sendMessage}>
                    <input className={styles["sendAMessage-
subject"]} maxLength={78} required placeholder="Subject" value={subject} onChange={(event) =>setSubject(event.target.value)}/>
                    <textarea className={styles["sendAMessage-
body"]} maxLength={65535} value={body} required placeholder="Write your message here" onChange={(event) =>setBody(event.target.valu
                    <button type="submit" class={styles["sendAMessage-sendButton"]} >Send</button>
                </form>
            </>
        </Modal>
    )
}
export default SendMessage
```

b. Team 4’s Code Review with comments/suggestions



Re: For the code review

DH Danish Hassan Siddiqui
To Sabrina Dang

8:17 PM

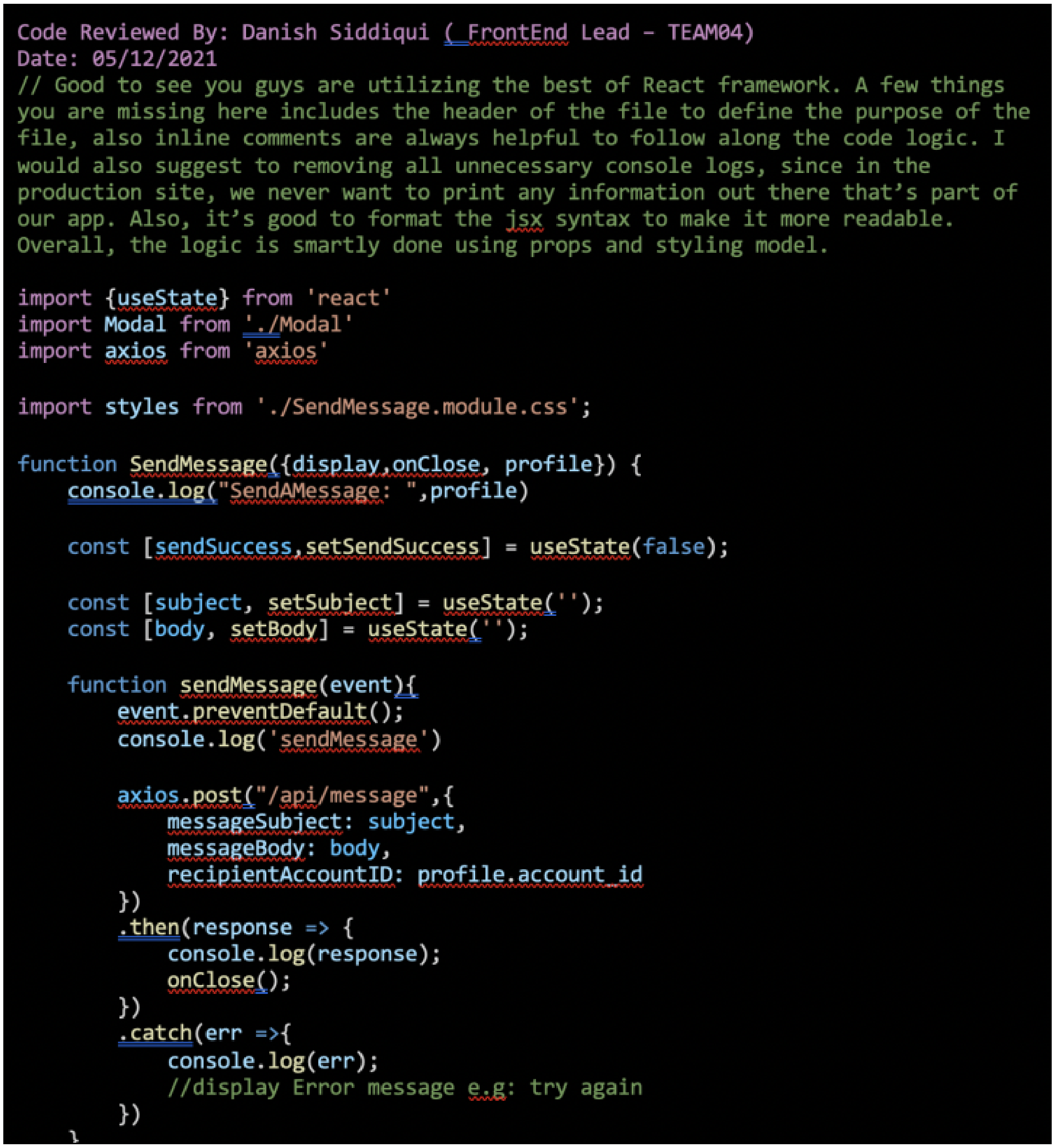
You forwarded this message on 5/12/2021 8:31 PM.

Screen Shot 2021-05-12 at 8.11.35 PM.png
893 KB

Screen Shot 2021-05-12 at 8.11.49 PM.png
596 KB

CODEREVIEW.docx
27 KB

Hi Sabrina,
This is Danish Siddiqui. I'm the FrontEnd Lead of TEAM04. Thank you for sending your code portion for review. Attached are the screenshots of my feedbacks and a word file that contains the screenshots. It was good to know that your team is also using React for the front end.
Thanks.
Danish.

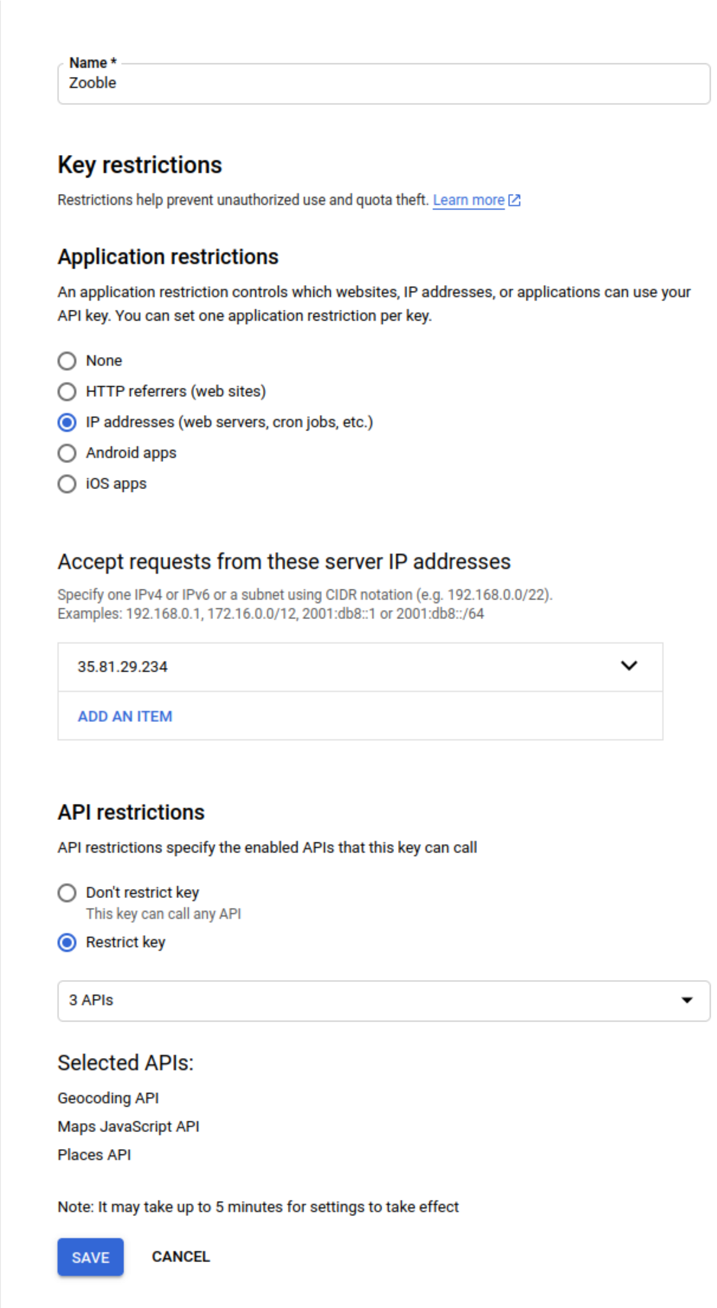


```
Code Reviewed By: Danish Siddiqui ( FrontEnd Lead - TEAM04)
Date: 05/12/2021
// Good to see you guys are utilizing the best of React framework. A few things
you are missing here includes the header of the file to define the purpose of the
file, also inline comments are always helpful to follow along the code logic. I
would also suggest to removing all unnecessary console logs, since in the
production site, we never want to print any information out there that’s part of
our app. Also, it’s good to format the jsx syntax to make it more readable.
Overall, the logic is smartly done using props and styling model.

import {useState} from 'react'
import Modal from './Modal'
import axios from 'axios'

import styles from './SendMessage.module.css';

function SendMessage({display,onClose, profile}) {
    console.log("SendAMessage: ",profile)

    const [sendSuccess,setSendSuccess] = useState(false);

    const [subject, setSubject] = useState('');
    const [body, setBody] = useState('');

    function sendMessage(event){
        event.preventDefault();
        console.log('sendMessage')

        axios.post("/api/message",{
            messageSubject: subject,
            messageBody: body,
            recipientAccountID: profile.account_id
        })
        .then(response => {
            console.log(response);
            onClose();
        })
        .catch(err =>{
            console.log(err);
            //display Error message e.g: try again
        })
    }
```

Section V: Self Check on Best Practices for Security

User Passwords: User passwords are encrypted using the bcrypt hashing module before being stored in the Database.

Google API Key: The Google Maps API key will be restricted to access by our website's IP Address and restricted for use with the APIs that are used on our website (Geocoding API, Maps Javascript API, Places API):



Name *
Zooble

Key restrictions

Restrictions help prevent unauthorized use and quota theft. Learn more

Application restrictions

An application restriction controls which websites, IP addresses, or applications can use your API key. You can set one application restriction per key.

○ None
○ HTTP referrers (web sites)
● IP addresses (web servers, cron jobs, etc.)
○ Android apps
○ iOS apps

Accept requests from these server IP addresses

Specify one IPv4 or IPv6 or a subnet using CIDR notation (e.g. 192.168.0.0/22).
Examples: 192.168.0.1, 172.16.0.0/12, 2001:db8::1 or 2001:db8::/64

35.81.29.234

ADD AN ITEM

API restrictions

API restrictions specify the enabled APIs that this key can call

○ Don't restrict key
This key can call any API
● Restrict key

3 APIs

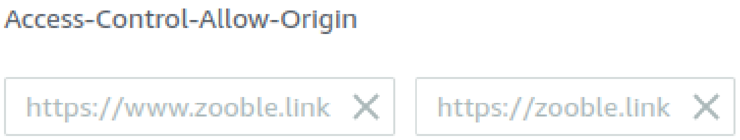
Selected APIs:

Geocoding API
Maps JavaScript API
Places API

Note: It may take up to 5 minutes for settings to take effect

SAVE CANCEL

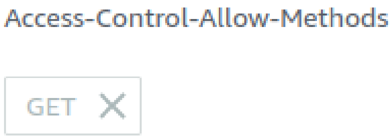
Image Storage: We created a function with AWS Lambda which will assist us in image upload by returning a pre-signed URL. As the pre-signed URL allows image upload to occur to our storage bucket on AWS, we need to make sure that the endpoint is only accessible from our website's domain by configuring the Cross-Origin Resource Sharing configuration of the API endpoint:



Access-Control-Allow-Origin

https://www.zooble.link

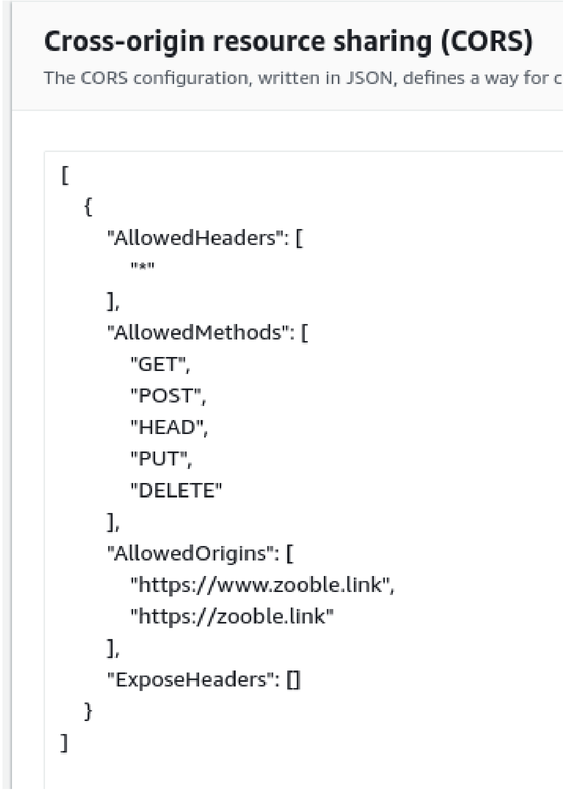
https://zooble.link



Access-Control-Allow-Methods

GET

We also need to restrict access to the S3 bucket itself as it contains user images We allowed it to be accessed only by our website's domain by configuring its Cross-Origin Resource Sharing:

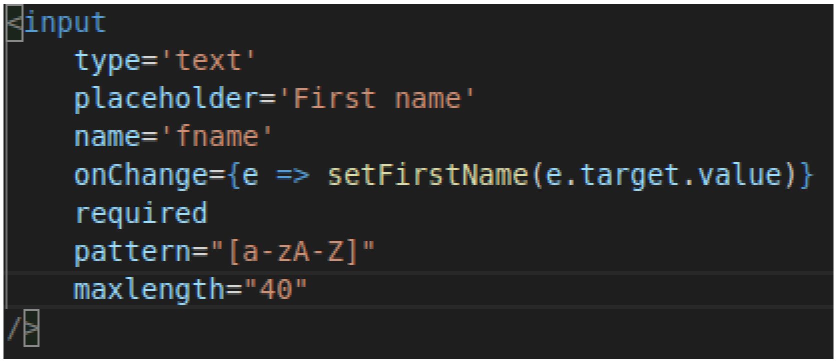


Cross-origin resource sharing (CORS)

The CORS configuration, written in JSON, defines a way for c

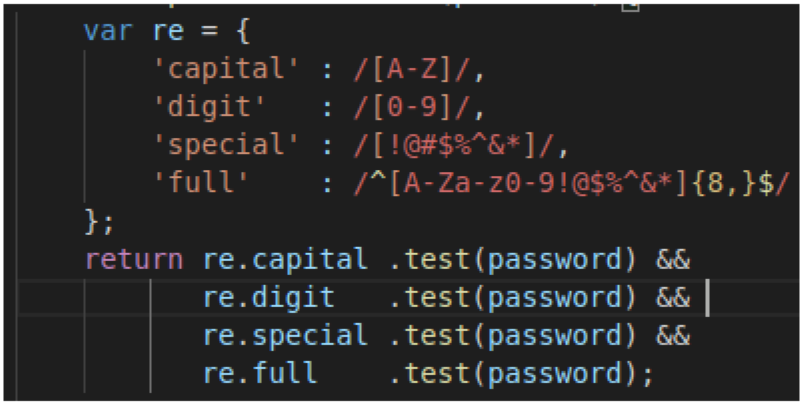
```
[
  {
    "AllowedHeaders": [
      "*"
    ],
    "AllowedMethods": [
      "GET",
      "POST",
      "HEAD",
      "PUT",
      "DELETE"
    ],
    "AllowedOrigins": [
      "https://www.zooble.link",
      "https://zooble.link"
    ],
    "ExposeHeaders": []
  }
]
```

Input Data Validation:
We do an initial check that input into an input field does not exceed a certain length, and that it matches the appropriate pattern of characters



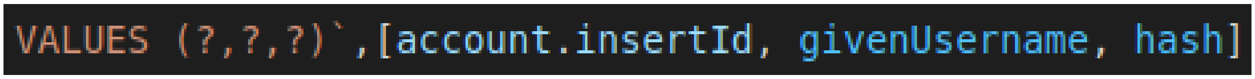
```
<input
   type='text'
   placeholder='First name'
   name='fname'
   onChange={e => setFirstName(e.target.value)}
   required
   pattern="[a-zA-Z]"
   maxlength="40"
/>
```

We do more specific validation for items like the password, which needs to meet certain requirements, by using a regular expression and the Javascript test function before inserting into the database,



```
var re = {
    'capital' : /[A-Z]/,
    'digit'   : /[0-9]/,
    'special' : /[!@#$%^&*]/,
    'full'    : /^[A-Za-z0-9!@$%^&*]{8,}$/
};
return re.capital .test(password) &&
       re.digit   .test(password) &&
       re.special .test(password) &&
       re.full    .test(password);
```

Because we are taking free text field data that is inputted into the database through queries, in parts of our application, we made sure to include protection against SQL query injection by using placeholders



```
VALUES (?,?,?)`,[account.insertId, givenUsername, hash]
```

Section VI: Adherence to original Non-functional Specs

1. **Performance Requirements (speed, accuracy, latency, delay…):**
    a. Page load times for user visible content on all pages shall be kept under 4 seconds on the desktop and mobile browsers **(ON TRACK)**
    b. Time to first byte for all website pages shall be kept under 1.5 seconds on desktop and mobile browsers **(ON TRACK)**
    c. All website pages shall make less than 75 requests on desktop and mobile browsers **(ON TRACK)**
    d. Web page size for all pages shall be kept under 1.5 MB **(ON TRACK)**
2. **Security Requirements**
    a. User credentials are checked against the database when a user tries to login **(DONE)**
    b. Token in cookie authenticates if a user is logged in order to post, comment, delete, and send messages, or access protected routes. **(ON TRACK)**
    c. Token in cookie authenticates what type of user is logged in to dictate the appearance and mobility **(ON TRACK)**
    d. Passwords are encrypted when stored in the DB and decrypted when necessary, such as to check against login credentials **(DONE)**
    e. All passwords shall be at least 8 characters **(DONE)**
    f. All passwords shall be a mix of upper and lower-case letters and numbers. **(DONE)**
    g. Fault tolerance shall be achieved by hosting the website and database instances in multiple isolated data centers across multiple availability zones in the western United States **(DONE)**
    h. The website database shall be hosted on a private network in Amazon Web Services, and only accessible by the website server **(DONE)**
3. **Storage:**
    a. An account page description will have a limit of 280 CHAR **(ON TRACK)**
    b. An account username will have a limit of 15 CHAR **(ON TRACK)**
    c. A display name will have a limit of 50 characters **(ON TRACK)**
    d. A post by a user will have a limit of 280 CHAR **(ON TRACK)**
    e. Comments by users will have a limit of 280 CHAR **(ON TRACK)**
    f. Photos shall be compressed for storage purposes **(ON TRACK)**
    g. User uploaded image content shall be uploaded to a secure Amazon S3 storage bucket **(DONE)**
    h. User uploaded image content shall be downloaded from a secure Amazon S3 storage bucket **(DONE)**
4. **Privacy (What's collected, how it's used)**
    a. The site shall disclose what privacy information it collects from users **(DONE)**

   b. The site shall disclose how users' information is utilized **(DONE)**
   c. The site shall display a Privacy Policy during account creation that outlines the collection and utilization of user data **(DONE)**
   d. A pet owner can choose to share their location with the website to access certain functionality **(DONE)**
   e. A pet owner's location data is not visible/shared to any other user. **(DONE)**
   f. A registered business must provide a business address on sign up but this information is not shared with any parties outside of the site **(DONE)**
   g. A registered shelter must provide a business address on sign up but this information is not shared with any parties outside of the site **(DONE)**
   h. Moderators can remove any content from display on the website that is deemed in violation of other user's privacy or safety. **(ON TRACK)**
   i. All users shall be able to delete their account, deleting all linked information from the database **(ON TRACK)**

5. **Legal Requirements (Licensing):**
   a. Privacy information and intellectual property rights shall be audited **(DONE)**
   b. When users post content to the site, it remains their intellectual property **(DONE)**
   c. The content of the site shall be protected by copyright that prohibits commercial use without permission. Noncommercial use is acceptable **(DONE)**
6. **Scalability**
   a. The website shall work as intended under the stress of 1, 100, 1,000, and 10,000 users with negligible differences in performance **(ON TRACK)**
   b. The website shall be able to keep pace with an expanding user **(ON TRACK)** base, and will maintain storage space and rapid processing speeds
   c. The website shall be able to keep the time between failures to a minimum under the stress of 1, 100, 1,000, and 10,000 users **(ON TRACK)**
   d. The complexity of database queries shall keep pace with an increasing number of visitors/users **(ON TRACK)**
7. **Capability**
   a. The website shall work as intended under the stress of up to 10,000 users using the site at once **(ON TRACK)**
   b. The website will be tested and confirmed to have full functionality on: **(ISSUE: May not have time to fully implement and test mobile support)**
      i. Desktop
         1. Google Chrome: 90.x.x.x,89.x.x.x
         2. Firefox: 88.x.x, 87.x.x
         3. Safari: 14.x, 13.x
      ii. Mobile
         1. Chrome: 90.x.x.x, 89.x.x.x
         2. Safari: 14.x, 13.x
         3. Samsung Internet Browser: 14.x.x.x, 13.x.x.x

8. **Media Content**
    a. The website shall support upload of image files of the .jpg image formats **(DONE)**
    b. The website shall support display of user uploaded image files of .jpg image format **(DONE)**
9. **Usability**
    a. The website shall retain full functionality on mobile, tablet, and laptop/desktop screen sizes. **(ISSUE: May not have time to make UI completely responsive)**
    b. The website shall be verified to have easily readable text and usable interface elements at mobile screen resolutions from 540 x 960 to 1644 x 3840 **(ISSUE: May not have time to fully implement and test mobile support on the various screen sizes/aspect ratios)**
    c. The website shall be verified to have easily readable text and usable interface elements at desktop screen resolutions from 1024 x 768 to 3840 x 2160 **(ISSUE: May not have time to fully implement and test desktop support on the various screen sizes/aspect ratios)**
    d. The website shall use a simple user interface to reduce user confusion and promote ease of use **(DONE)**
    e. The website shall have an onboarding process that will guide users through the process of creating user profile when they first sign up **(ISSUE: We are going to have informative placeholder messages instead to reduce our workload)**
    f. The website shall have an onboarding process for each page that a user navigates to for the first time **(ISSUE: We are going to have informative placeholder messages instead to reduce our workload)**
    g. The website shall draw inspiration in interface layout from popular social media platforms like Facebook, Instagram and Twitter to accelerate user onboarding **(DONE)**
    h. The website shall have a logical page flow so user navigation is intuitive **(DONE)**
    i. The website shall assist user's productivity on the site by maximizing information displayed on screen **(ISSUE: We decided to go with a philosophy of each page having a specific functionality focus)**
    j. The website shall allow users to modify and delete information on their account **(ON TRACK)**
    k. When icons are used in the site's interface, they will be chosen or designed to be simple for users to understand **(DONE)**
10. **Monetization**
    a. Registered Users shall be able to create accounts and have a profile displayed on the website for free **(ON TRACK)**
    b. Registered Shelters shall be able to create an account and have a profile displayed on the website for free **(ON TRACK)**
    c. Registered Businesses shall be able to create an account and have a profile displayed on the website for free **(ON TRACK)**
    d. Registered Businesses shall be able to subscribe to the premium

business plan **(ISSUE: We are not implementing premium business accounts as a priority 1 feature due to time constraints)**

e. Registered Businesses with the Premium Business plan shall be featured prominently on user searches (map search and standard search) for businesses in the same category, and on user feeds even when users do not follow them **(ISSUE: We are not implementing premium business accounts as a priority 1 feature due to time constraints)**

f. Featured Businesses shall be featured in feeds and searches(map search and standard search), as stated above, based on proximity to the user's location **(ISSUE: We are not implementing premium business accounts as a priority 1 feature due to time constraints)**

11. Coding Standards

a. Team members shall be required to provide meaningful comments for each non-trivial line of code **(ISSUE:)**

b. Each code file shall have a heading section giving a short description of the file's functionality, and the main author(s) of the file, and indicate any missing or inconsistent functionality **(ISSUE: Decided this would take time away from other more important tasks)**

c. Any code with limited or inconsistent functionality during the course of the development process shall also be noted as such in explanatory comments besides the code **(ISSUE: We have instead opted to explain limited functionality of certain components during meetings as it can done more clearly)**

d. Any code that adversely affects the functionality of other code shall be commented out until a resolution can be reached **(DONE)**

e. All code shall be logically separated by functionality within files **(ON TRACK)**

f. All code shall be logically separated by functionality across files **(ON TRACK)**

12. Repository Standards

a. The project Github repository will have three primary branches: master, development, and testing **(DONE)**

b. Incremental code commits will be made regularly and large infrequent code commits shall be avoided **(ON TRACK)**

c. Commit messages will be required to be descriptive in nature **(DONE)**

d. Dependency lists shall be kept up to date when pushing to any branch of the repository **(DONE)**

e. .gitignore files shall be kept up to date when pushing to any branch of the repository **(DONE)**

f. Frontend code pushed to the testing branch shall be reviewed and tested by the frontend lead when committing and pushing to the master branch **(ISSUE: We decided this added unnecessary delay to getting code deployed and updated)**

g. Backend code pushed to the testing branch shall be reviewed and tested by the backend lead when committing and pushing to the master branch **(ISSUE: We decided this added unnecessary delay to getting code deployed and updated)**

h. Frontend code pushed to the testing branch shall be tested and verified to be fully functioning on all browsers listed in Section 7 of this document before committing to the master branch. **(ISSUE: We decided this added unnecessary delay to getting code deployed and updated)**

i. Backend code pushed to the testing branch shall be tested and verified to be fully functioning on all browsers listed in Section 7 of this document before committing to the master branch. **(ISSUE: We decided this added unnecessary delay to getting code deployed and updated)**

j. The frontend lead retains the right to reject code not up to these coding standards at any point during the review process, but will provide meaningful reasoning when this action is taken **(ISSUE: We decided this added unnecessary delay to getting code deployed and updated)**

k. The backend lead retains the right to reject code not up to these coding standards at any point during the review process, but will provide meaningful reasoning when this action is taken **(ISSUE: We decided this added unnecessary delay to getting code deployed and updated)**

13. **Project and Documentation Standards**

a. Trello will be used as the collaboration tool to keep the project's tasks and team members organized **(DONE)**

b. Documentation shall be written to be comprehensible by people with non-technical backgrounds when possible **(ON TRACK)**

c. Documentation shall be free from any typos or grammatical errors **(DONE)**

d. Project Members shall each read and review each milestone fully before submission **(ON TRACK)**

e. Project Members shall unanimously agree that each milestone reaches the standards set by the group before submission. **(ON TRACK)**

f. Project Members contributions to documentation shall be tracked through Google Docs **(DONE)**

14. **Coding Environment**

a. The browser preferred to test the website during our development is Google Chrome **(ISSUE: We are currently using different browsers to develop on, which can be an advantage because we can see bugs on different platforms)**

b. Project members shall maintain an Ubuntu 20.04 operating system image via virtual machine or native install to develop and test code **(ISSUE: Some project member's computers do not support Ubuntu or are lacking in the RAM required to run Virtualbox. We came up with a local environment configuration not requiring**

Ubuntu that replicated the functionality on the server)

15. **Databases**
    1. The preferred cloud database provider for the website shall be Amazon RDS **(DONE)**
    2. The preferred RDBMS for the website shall be MySQL **(DONE)**
    3. Database storage shall not exceed 20 GB in size per AWS Free Tier Limits **(ON TRACK)**
    4. The website database shall be designed to use this allocated storage efficiently as possible **(ISSUE: Deletion of unused image files from storage when users delete their images off the website is not set up yet)**
    5. Automatic Database backups shall occur every 7 days **(DONE)**
16. **Networks**
    1. Network connections shall use ISO network standards **(ON TRACK)**
    2. Users from across the United States shall be able to connect to and access the site **(DONE)**
    3. The network routers shall be able to forward messages to anyone in the United States **(DONE)**
    4. Low network latency shall be provided for users by hosting the website instance in multiple isolated data centers across multiple availability zones in the western United States **(DONE)**

Section VII: Contribution Details

For this milestone the contributors for the backend team were Wameedh, Daniel, and Em. Wameedh attended backend meetings to discuss the milestone and the backend deadlines and features. Wameedh contributed to all sections of this milestone. Adding to that, He was responsible for QA test plan# 4 and usability test of “Send a Message” feature. Wameedh contributed to editing the user profile, pet ownership, and creating a post, editing post comments, liking a post, and deleting a post. Wameedh also implemented the follow-unfollow user endpoint. Wameedh also helped in the communication process among the team members. He was active in trying to follow up with each team member on their tasks and was there to help when someone needed help. Wameedh made a suggestion that improved the performance of our team which was that the team leads should have a meeting every week where they would update each other on what each team has done and what needs to be done. This suggestion didn’t take away from the general meeting but rather improved the overall communication between the frontend and backend teams. Daniel attended weekly backend meetings to discuss milestone and backend deadlines and features. Daniel was responsible for the adherence to the original non-function specs section of this milestone. He contributed to the self-check on best practices for security. He tested the Map Search for our QA test plan. He did the Map Search testing for the Usability test plan. He contributed to the map search for the backend. He also led the backend code review.

Our backend lead Em organized and facilitated weekly backend meetings to discuss milestone and backend deadlines and features. Em was the lead for the component formatting and questionnaires for the Usability Test plan. Em was responsible for testing Create a Pet Profile section of the Usability Test plan. She was responsible for testing password security in the QA test plan. She was responsible for the dynamic pages/profiles backend work and resetting registered users’ email in the backend. Our frontend team include Sabrina, Wenjie, Wameedh, and Daniel. The frontend lead Cameron implemented axios calls on the frontend pages and components. Cameron updated the Trello board with new bugs that needed to be fixed while testing and he also created new cards for the frontend team to stay on task. Cameron also contributed to creating Trello cards on the backend board with response and request made with axios calls, this was suggestion made by Wameedh which also improved the communication between the backend and the frontend teams. Cameron executed the testing for usability uploading a post and QA tests. Cameron also maintained communication with Em the backend lead and continued to lead the frontend team meeting contributions. He also participated in team meetings by reviewing our documentation and implementation details alongside Wameedh. Sabrina implemented axios calls on the frontend pages and components. She created Trello cards on the backend board for the axios calls needed for the frontend. Sabrina also updated the frontend Trello board with new bugs found while testing and she participated in team meetings reviewing the documentation. Sabrina executed the testing for usability commenting on a post and QA tests. Wenjie implemented axios calls on the frontend pages that included the profile page. Created trello cards with bugs being found while he made tests. Wenjie implemented loading UI and handled Redirects. Wenjie executed the testing for QA.

Daniel helped the frontend stay on track and was always available to answer questions or provide help. He implemented axios calls on the frontend pages and components. Created Trello cards for the frontend to stay on track. He stayed in constant communication with the frontend and backend teams to plan out implementations. As for me, the team lead I kept communication with the Team leads to get an update on our priorities and lead the general team meetings to discuss the future priorities and goals of the project. I did the code reviews for the other team that did our code reviews.