ITMD 465/565

# Lab React Dog Gallery

## Introduction

In this lab we will be experimenting with some additional React concepts like lifecycle events, components, state and props, JSX, ES6 Modules, and webpack.

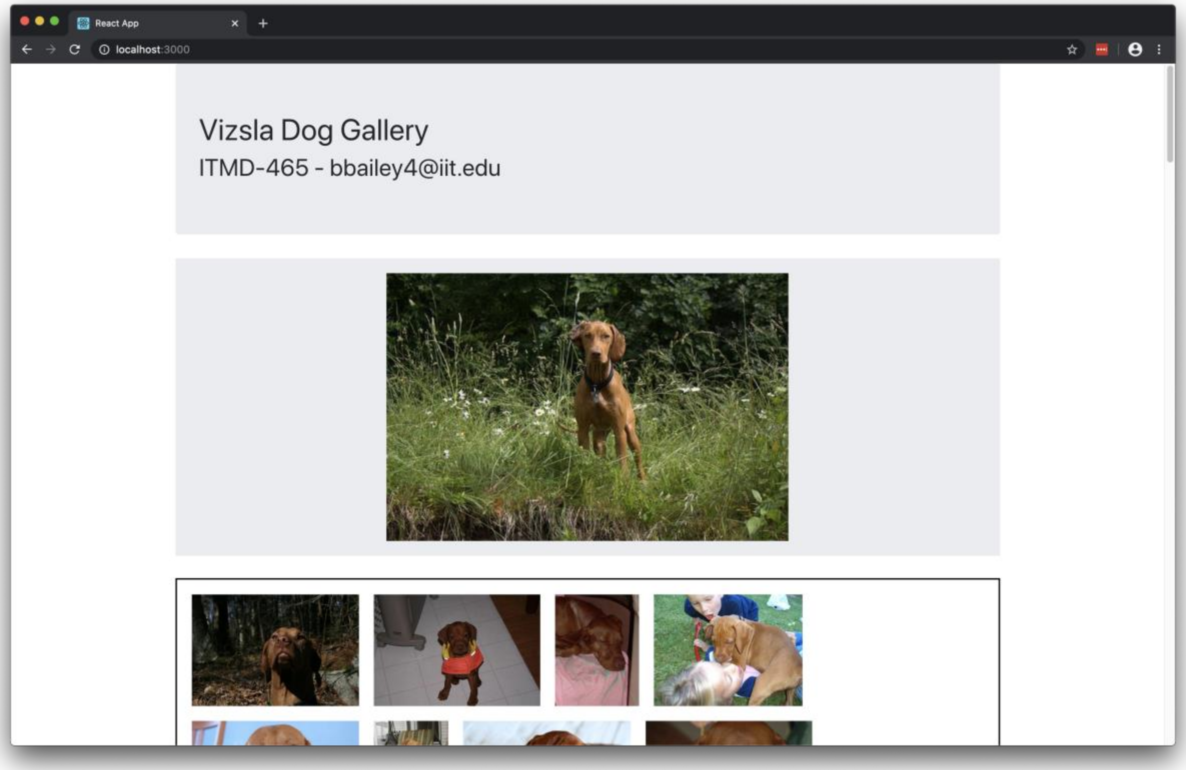
## Objective

The objective is to build a small React application with components using JSX. You will also be retrieving your data from a public API. You will be building a small image gallery of dog images form the dog api. This lab files will be submitted as a zip file containing your project folder to the blackboard assignment. Do not include the node_modules folder.

## Requirements/Process

- You must submit this Lab as a zip file containing your project folder to the blackboard assignment. Do not include the node_modules folder.
- Use react-create-app to create a node project called dog-gallery, just like we previously demonstrated in class.
- Please add an author key in the package.json file to have your name and email address in it. Create react app does not add an author key in the package.json file but you can add one at the top level just like name and version.
  "author": "name and email"
- Make sure you are looking at your browser's dev tools console for errors if you are having issues. React give you very detailed error messages and warnings in the console.
- You will need to use the following API: [https://dog.ceo/dog-api/](https://dog.ceo/dog-api/)
- Read the documentation at the Dog API site to find out any URLs your AJAX requests will need to use.
- Create React App will setup your project for you and give you two NPM scripts.
  - npm run start – Starts webpack dev server
  - npm run build – Compiles to build directory in production mode
- You will build this app out of components just like our last couple demos. Use the App.js component as the main app component's starting point and build from there. Put your custom components in a components directory in the src directory.
- I would suggest adding a CSS framework such as bootstrap to the project to make any styling simpler. Review previous demos showing us add bootstrap to a create react app based project.
- The idea for this project is to use the dog api to get photos of dogs based on a breed selection and then show those images in an image grid gallery. There will also be a featured image that shows a random image of the selected breed on load or whatever dog image you click from the grid.

- 465 Students need to use at minimum 2 additional custom components. One being the FeaturedImage component and the other is the ImageGrid component.
- 565 Students need to use at minimum the same 2 components as 465 students and one additional one the BreedSelect component.
- You may create any additional custom components you like in the app, just make sure you implement the ones mentioned above.
- Use the below screenshots to show possible ways to layout the application. These are using very basic styles and bootstrap. You can make your app look like the samples shown here or in the video or you can completely style it how you like as long as the functionality is the same.



Vizsla Dog Gallery

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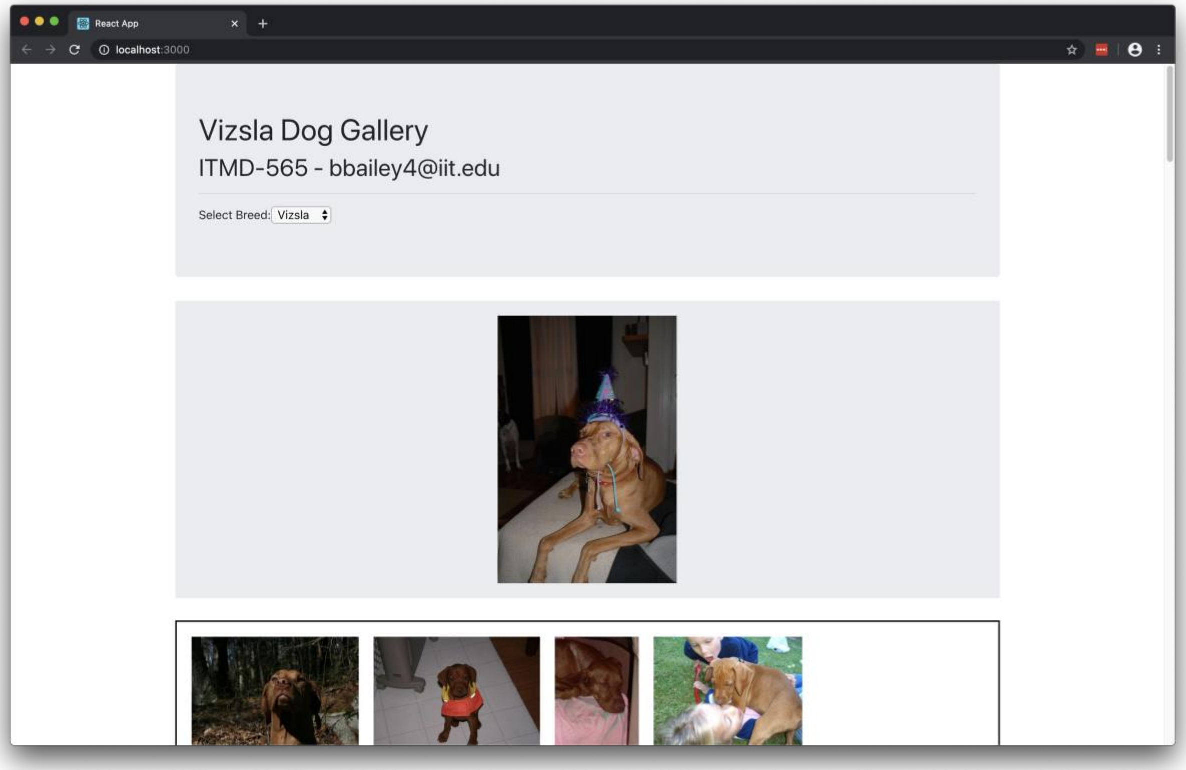

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Select Breed: Vizsla

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- 465 Students will need to pick a dog breed from the api and use that one breed. 565 Students need to add the BreedSelect component to all a user to select from a minimum of 3 breeds. You may hard code the breed names in the select component. If you want to go further on your own you can load the breed list from the api into the select, but that is not required.
- Watch Lab demo video for preview of functionality.
- Below is some specific info about the App/Components
- Lab needs a page header that includes
  - Headline with “Breed Dog Gallery”
    - Substitute Breed with whatever dog breed you choose
    - 565 students should dynamically put whatever breed is selected in the headline.
  - Sub-Headline with your class number and your email
  - 565 students add the BreedSelect component in the page header too
- App.js Component
  - Use the component that react create app made for you, just remove their markup and start from there.
  - I would suggest keeping all application state in this component and passing it as props to child components
  - 2 state items you will need to keep track of are the featured image url and an array of image urls for the grid.
  - 565 students will also need to keep track of the selected breed.

    - If you keep all state here you will need methods in this component to update the values in state from other components. 465 students will need to be able to update the featured image when one is clicked in the grid and 565 students will also need to be able to update the featured image based on what is selected in the BreedSelect component.
    - Initial AJAX request will probably need to be done in the componentDidMount lifecycle event and updated AJAX calls will need to be done in the componentDidUpdate lifecycle event.
    - https://reactjs.org/docs/react-component.html
    - 
- FeaturedImage Component
    - The FeaturedImage component should just be able to display an image based on the url it is passed as a prop.
    - Try to add styling so that the images are a consistent height so the grid isn't bouncing up and down on different featured image sizes when they load. You can set the image wrapper a specific height and have the actual image height be set to 100%.
    - The FeaturedImage component should load a random image from the selected breed when the app loads and then show whatever image is clicked in the image grid.
    - 565 students should have this component show a random image of the selected breed whenever the breed select is changed too.
    - The loading and logic should be performed in the App component. All this component needs to do is show the image which was passed to it as a prop.
- ImageGrid Component
    - This component should display a grid of image thumbnails
    - You will need to add CSS styles so that the images are all similar in size
    - The component will need to have a prop which should be an array of image urls you give it and it produces the grid by looping though that array.
    - This component could be very simple and just be a wrapping div and a bunch of image tags styled appropriately.
    - This component will also need a prop that gives it the handler function to update the featured image when a thumbnail is clicked.
- BreedSelect component (565 Only)
    - This component should render output as an HTML <select> tag
    - Pick at least 3 breed names to put in the select list. You can pick whichever ones you want and you can code them right in the select options.
    - This component should take in as a prop a function to handle changing the selected breed in the App component's state.
    - This function should be used with the <select> tag's onChange attribute.
    - **Not Required**, but if you want to go further you could fill the select options with a call to the API for the list of breeds in the componentDidMount lifecycle method.

## README File

No additional readme files other than the ones described in the lab directions. If you can not get this lab working then you need to submit a comprehensive written readme that explains everything you tried and how you attempted to troubleshoot the problems you were having. This should include any console errors you could not solve or problems with dependencies. You need to include screenshots and document the assignment and your process well. If your app does not run you will be graded on how good/complete your readme is. Please submit it as PDF format.

## Due Date / Late Policy

This assignment is due **Saturday May 2, 2020 11:59 PM Chicago Time**. **No Extensions or Exceptions. Assignments will not be accepted after this date, you will get a zero. I can not take regular assignments once finals week begins and regular class week ends.**

## Submission Guidelines

You must upload your submission, to the blackboard assignment by the due date. The submission must be in the following format and structure. If you do not submit your assignment exactly as specified, you will receive an immediate 5% deduction.

### *Submission Format Specification:*

**Zip your project as your myIITusername_lab_dog-gallery.zip and it should contain your entire project folder. Do not include the node_modules folder. Make sure you compile the finished project using the npm script before submitting. I will be grading the compiled version.**

**Things you may need to use**
**Lifecycle events**
**componentDidMount()**
**componentDidUpdate()**
**this.state**
**this.setState**
**this.props**
**AJAX requests, fetch API, axios library**