



Application development Discover Wild Animals

1. Create a design that will be easily understood by all target audiences



Welcome to the ZIP Community!

E-mail:

Password:

Login

Not a member? [Sign up now](#)



Welcome to the ZIP Community!


E-mail:

Password:

Password is incorrect

Login

Not a member? [Sign up now](#)



Welcome to the ZIP Community!

E-mail:

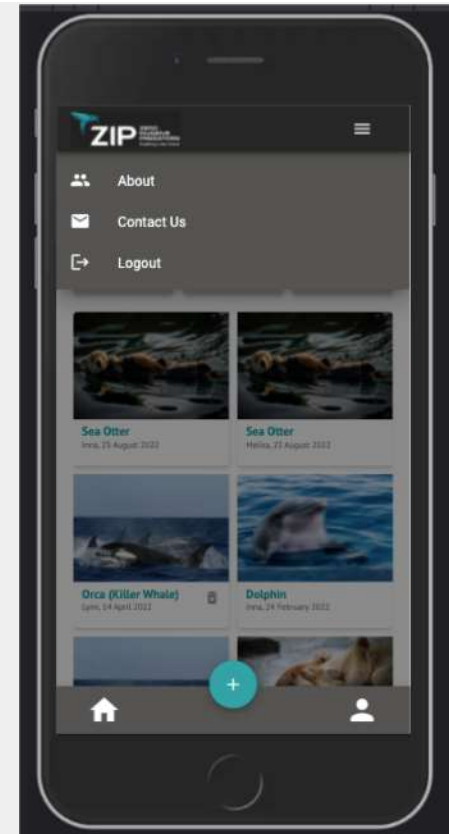
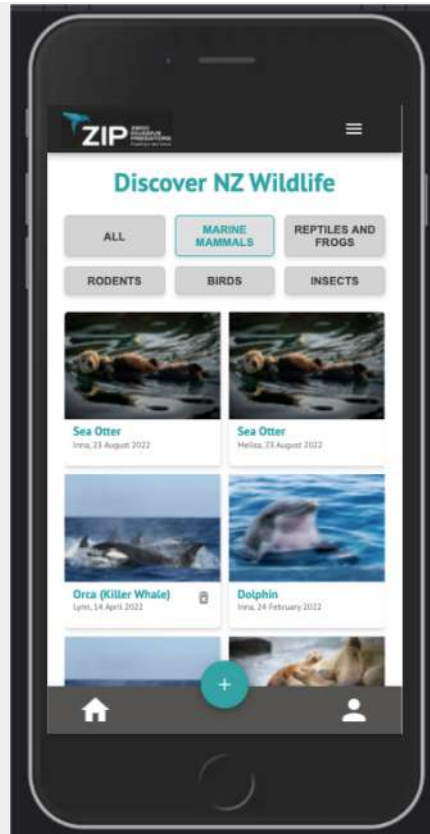
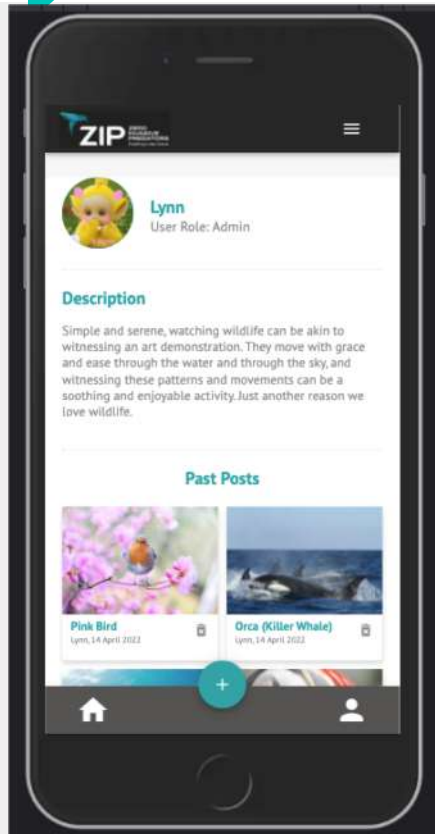
E-mail must be a valid e-mail

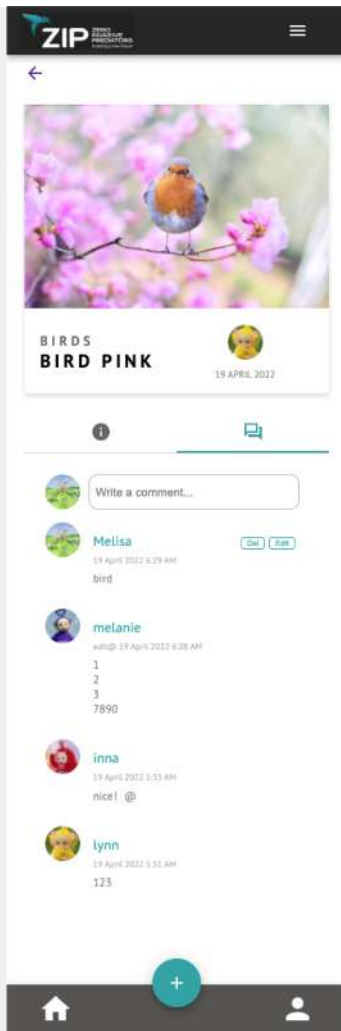
Password:

Login

Not a member? [Sign up now](#)

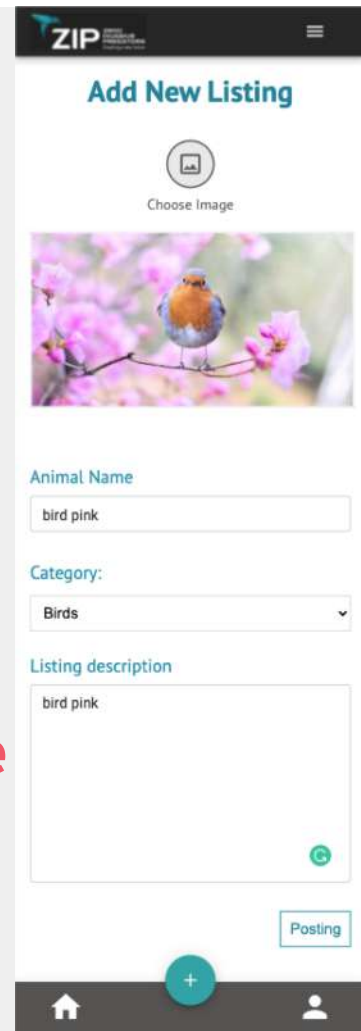
1. Create a design that will be easily understood by all target audiences





Post Detail page
Comments page

Add Post page

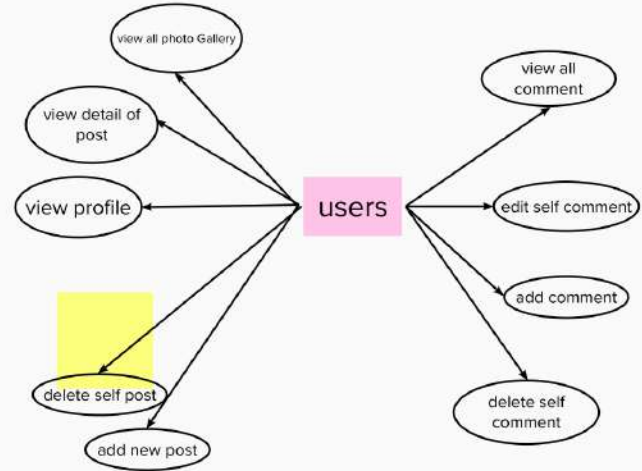


2. UML diagrams & User cases

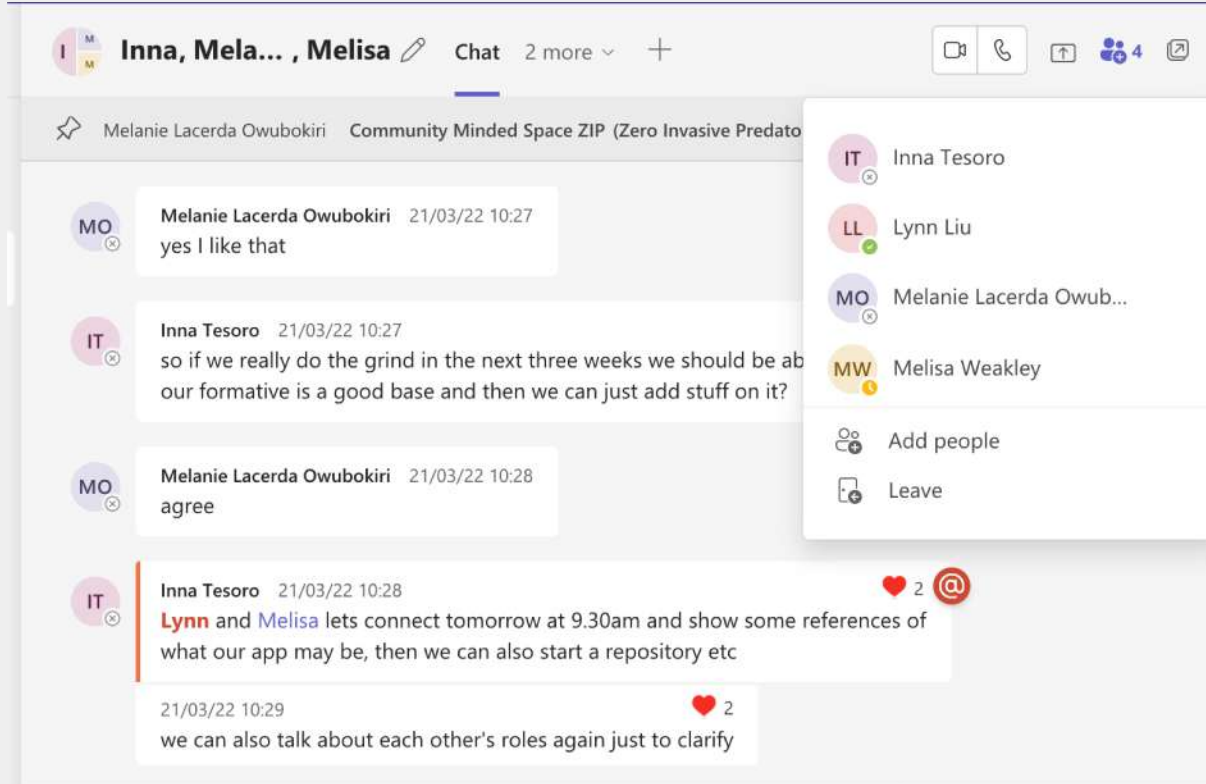
User cases :

- 1.user add posts photos and descriptions about animals.
- 2.user browses photo Gallery.
- 3.user browses profile page.
- 4.user views the post detail information including comments
- 5.user delete own post at home and profile page.
- 6.user leaves comments / ask questions/ feedback.
- 7.user edit self comments.
- 8.user delete self comments.

UML



3. Agile meetings



Every morning daily Scrum meetings were held during the project. To run our meeting we used Micro- soft teams platform (workplace chat and video/call meetings). During the daily Scrum we inspected progress of our work.

The example of Agile meeting (daily Scrum) is represented on the sreenshoot.

4. Framework or libraries



React

is JavaScript front-end library for building user interfaces which was created by Facebook



Axios

Is the color of gold, butter and ripe lemons. In the spectrum of visible light, yellow is found between green and orange. is a library used to make HTTP requests from the browser. In our React applications we often need to retrieve data from external APIs so it can be displayed in our web pages. Axios makes it easy to send asynchronous HTTP requests to REST endpoints and perform CRUD operations.

```
};  
axios  
  .patch(`//localhost:4000/api/update-comment/${updateCID}`, update)  
  .then((response) => {  
    console.log(response.data);  
    sethaveUpdate(!haveUpdate);  
  });  
setupupdateCID("");
```

```
};  
axios  
  .post("//localhost:4000/api/add-comment", formdata)  
  .then((response) => {  
    setupdatData(response.data._id);  
    setcommentValue("");  
    // console.log('SAVE It');  
  });
```

```
axios  
  .get(`http://localhost:4000/api/animals-detail/${props.pID}`)  
  .then((response) => {  
    setDetailData(response.data.post_detail);  
    sethavePostData(true);  
  })  
  .catch(function (error) {
```

4. Framework or libraries



Reach/router

is a routing library for React written and maintained by one of the original creators of react-router, Ryan Florence.

```
<Routes>
  <Route
    index
    element={<Discover getPostID={getPostID} />}
  />
  <Route
    path="/postId"
    element={<Detail pID={postId} />}
  />
  <Route path="/add" element={<Add />} />
  <Route
    path="/profile"
    element={<Profile getPostID={getPostID} />}
  />
  <Route path="/about" element={<About />} />
  <Route path="/contact" element={<Contact />} />
</Routes>
```



MUI

is the most popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web. It contains CSS- and JavaScript-based design templates for typography, forms, buttons, navigation, and other interface React components

```
import AppBar from "@mui/material/AppBar";
import Box from "@mui/material/Box";
import Toolbar from "@mui/material/Toolbar";
import IconButton from "@mui/material/IconButton";
import MenuIcon from "@mui/icons-material/Menu";
import SwipeableDrawer from "@mui/material/SwipeableDrawer";
import List from "@mui/material/List";
import ListItem from "@mui/material/ListItem";
import ListItemIcon from "@mui/material/ListItemIcon";
import ListItemText from "@mui/material/ListItemText";
import ZIPlogo from '../img/logo.png'
import EmailIcon from '@mui/icons-material/Email';
import GroupIcon from '@mui/icons-material/Group';
import LogoutIcon from '@mui/icons-material/Logout';
```


5. API Research

GET API

1. <http://localhost:4000/api/animals> 【View all posts】
2. <http://localhost:4000/api/animals-category/:name> 【View posts by category Name】
3. <http://localhost:4000/api/animals-detail/:postID> 【View detail】
4. <http://localhost:4000/api/profile/:userID> 【View profile】
5. <http://localhost:4000/api/login-by-email/:email> 【check login email】
6. <http://localhost:4000/api/comments/:postID> 【list all comments】

POST API

1. <http://localhost:4000/api/add-comment> 【Add a comment】
2. <http://localhost:4000/api/upload-images> 【upload a image】
3. <http://localhost:4000/api/add-animals> 【Add a post】

5. API Research

DELETE API

1. <http://localhost:4000/api/delete-comment-by-id/:id> 【Delete one comment】
2. <http://localhost:4000/api/delete-comment-by-postID/:id> 【Delete many comments】
3. <http://localhost:4000/api/delete-animals/:id> 【Delete one post】

PATCH API

1. <http://localhost:4000/api/update-comment/:id> 【Updata comment】

DB SCHEMA

```
const animalSchema = new Schema({
  // _id: mongoose.Schema.Types.ObjectId,
  images: String,
  category: String,
  description: String,
  postTime: Date,
  titleName: String,
  userID: {type: mongoose.Schema.Types.ObjectId, ref: 'User'}
},
```

```
const userSchema = new Schema({
  _id: mongoose.Schema.Types.ObjectId,
  userName: String,
  email: String,
  password: String,
  useImg: String,
  userDescription: String,
  serRole: String
},
```

```
const commentSchema = new Schema({
  // _id: mongoose.Schema.Types.ObjectId,
  postID: String,
  comment: String,
  userID: {type: mongoose.Schema.Types.ObjectId, ref: 'User'},
  createTime: Date,
  updateTime: Date
},
```

```
const imgSchema = new Schema({
  _id: mongoose.Schema.Types.ObjectId,
  imgCollection: Array
}, {
```

6. project dependencies / React-APP



@material-ui/core

simply a library that allows to import and use different components to create a user interface in React applications



@mui/icons-material

This package provides the Google Material icons packaged as a set of React components



axios

is a library used to make HTTP requests from the browser . Makes it easy to send asynchronous HTTP requests to REST endpoints and perform CRUD operations



@emotion/react

is a library designed for writing css styles with JavaScript.



@emotion/styled

is very similar to css except you call it with an html tag or React component and then call that with a template literal for string styles or a regular function call for object styles.



js-cookie

A simple, lightweight JavaScript API for handling browser cookies

6. project dependencies / React-APP



moment.js

is one of the libraries for formatting dates in JavaScript. Helps display local time and published relative time



React

This package provides the Google Material icons packaged as a set of React components



React-dom

is a library used to make HTTP requests from the browser . Makes it easy to send asynchronous HTTP requests to REST endpoints and perform CRUD operations



react-scripts

A simple, lightweight JavaScript API for handling browser cookies



react-router-dom

is used to build SPA that have many pages or components but the page is never refreshed instead the content is dynamically fetched based on the URL of React Router Dom.



react-swipeable-views

Make the React component for swipeable

6. project dependencies / Server-End



Body-parser

Express body-parser is an npm library used to process data sent through an HTTP request body. middleware. Uploading imgs data in this APP.



Cors

allows to configure the web API's security. allowing other domains to make requests against images API in this APP.



Express

used for designing and building web applications quickly and easily.



Mongoose

It manages relationships between data, provides schema validation, and is used to translate between objects in code and the representation of those objects in MongoDB.



Multer

is a node. js middleware for handling multipart/form-data , which is primarily used for uploading files



UUID

A UUID (Universal Unique Identifier) is a 128-bit value used to uniquely identify an object or entity on the internet. Rename uploaded images to avoid duplicate file names

7. Research technical options - MERN

MONGODB

is a cross-platform document database which is schema-less. Data is stored in flexible documents with a JSON based query language. The content, size, and number of fields in the documents can differ from one to the next. This means that the data structure to be changed over time. MongoDB is flexible and easy to scale.



M

E

EXPRESS

is a Node.js web application framework. It is fast, minimal and flexible framework which was used to save from writing full web server code by hand. The Express framework is designed for building robust web applications and APIs. Many popular frameworks are based on Express.

R

N

React is JavaScript front-end library for building user interfaces. React has component-based approach which let us maintain and render components on its own and offers the reusability of the code. It makes app development faster and easier.

REACT

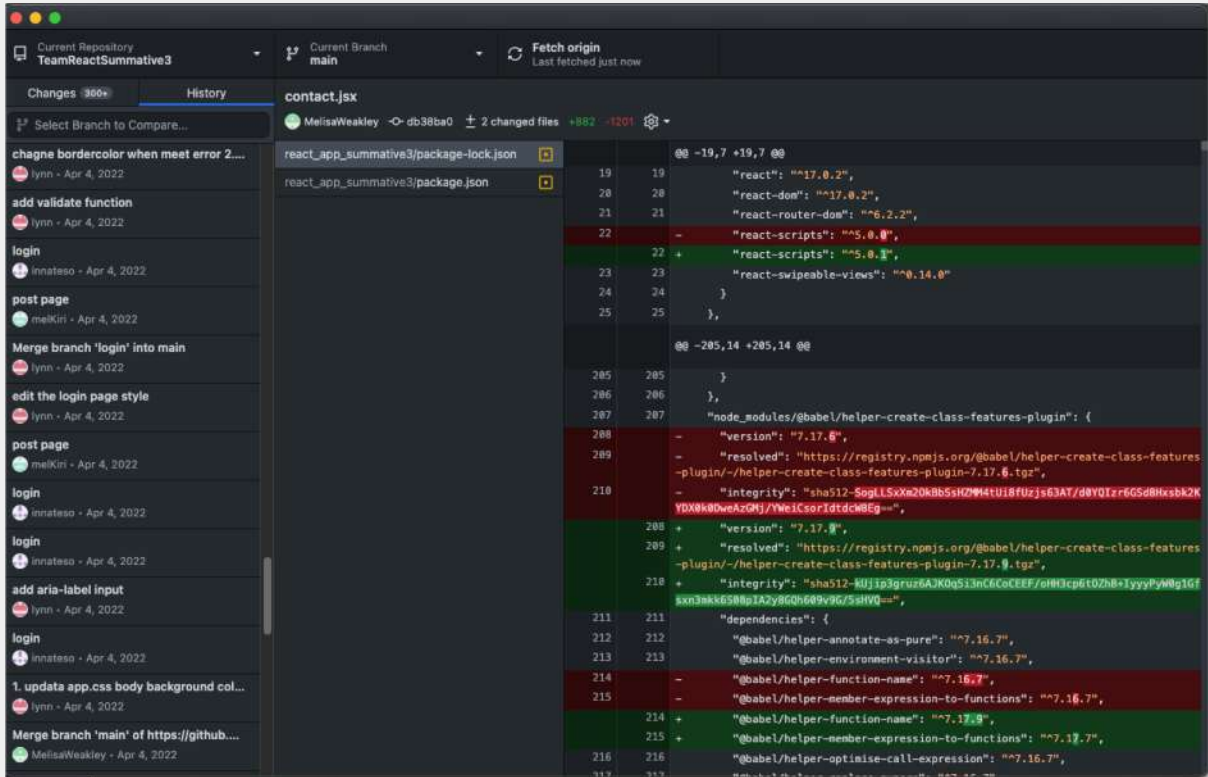
Node.js is a platform built on Chrome's JavaScript runtime for easily building fast and scalable network applications. Node.js brings JavaScript to the server. It can execute JavaScript code outside of a browser.

NODE.JS

9. GitHub

During the project we applied professional best practices for using an online repository hosting service collaboratively and contributed code written to an acceptable standard to a remote repository:

GitHub was used as a version control tool. We used Terminal to write Git commands. Using a GitHub repo made it easy to keep track of our group project. GitHub makes clear who is responsible for which part of the project.



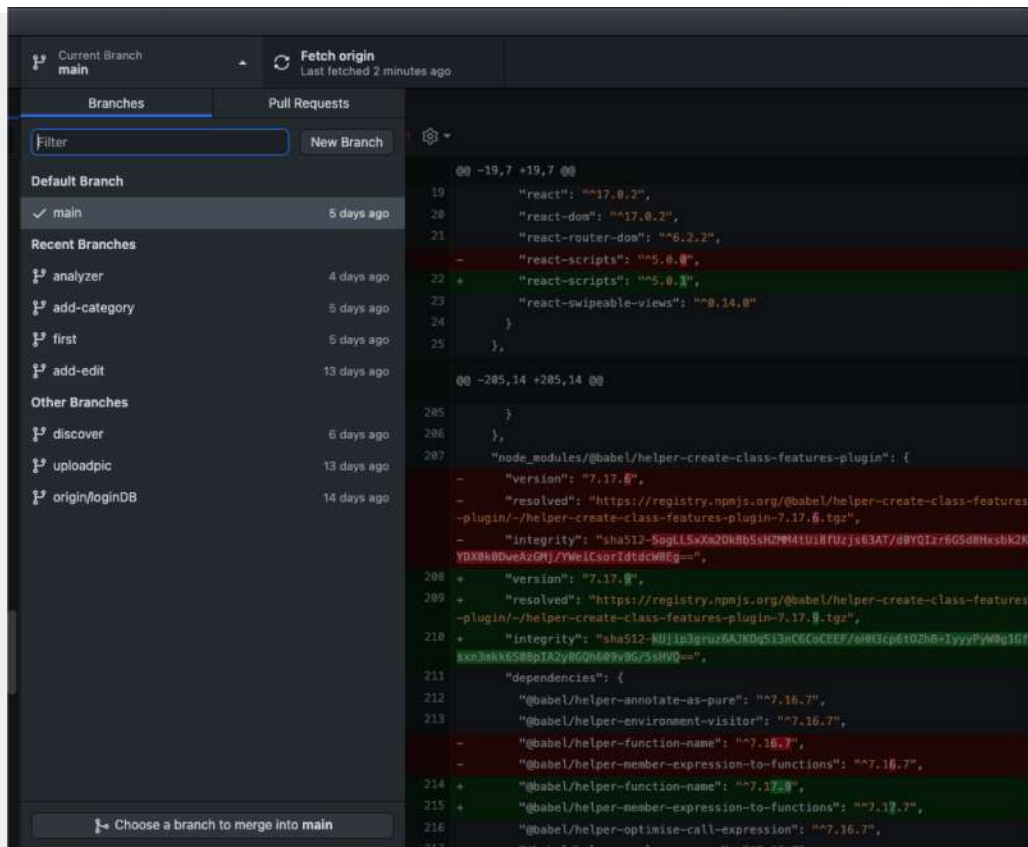
9. GitHub

Inside repos we created separate branches to work on different page

Branch add-Category(for category filter feature on the **Home** page)

Branch uploadpic(for upload image and add new post feature on the **Add** page)

Branch add-edit(for add , edit and delete comments feature on the **comment** page)



9. GitHub

Commits

we made commits of logical complete units every day because there are easier to understand and revert when something goes wrong. When did commits always wrote appropriate good commit messages which clearly explained what part of work was done. Commit messages helped to collaborate and contribute to group tasks.

Pushing, pulling and merging

Before push to remote repository. I use to git add first. Then git pull and merge remote and local if have conflict. After that , i will commit and push it

Thus large amount of code has been contributed, reviewed and merged into remote repository. We applied version control online repository hosting service and follow Yoobee Version control best practice. Our team was highly productive in collaborative use of version controls tools to manage a group web project.

Mural

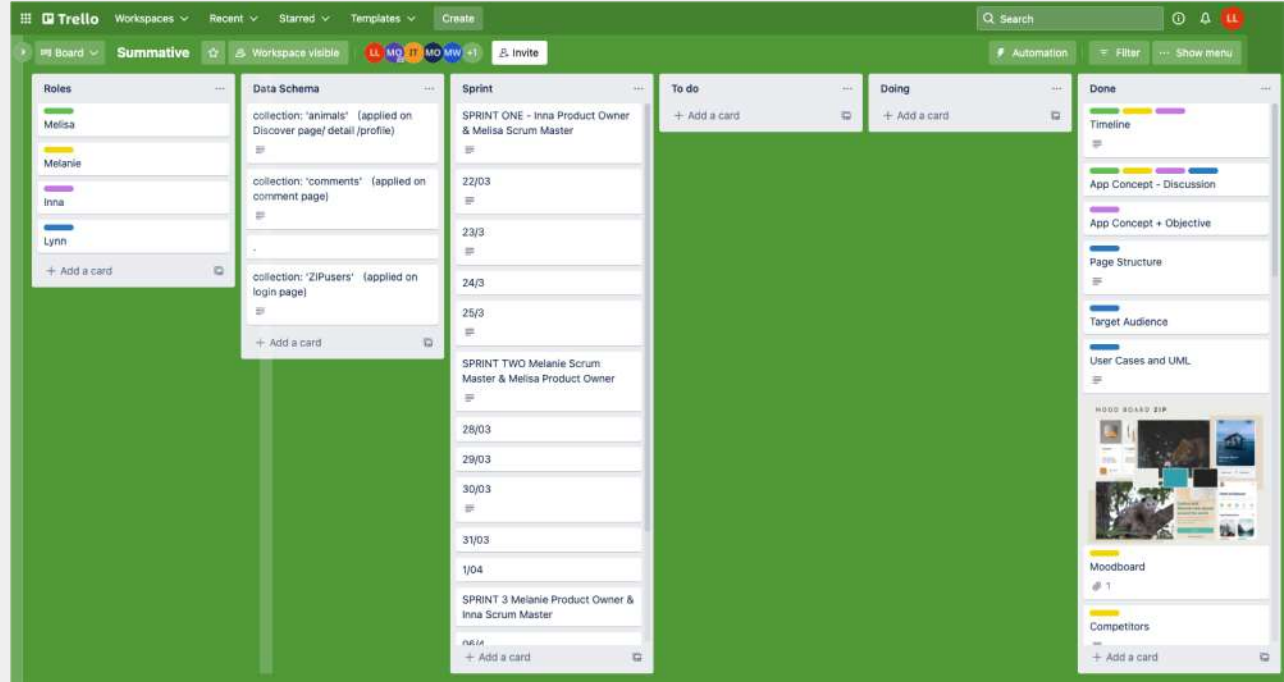
- [illegible]

19

10. PROJECT MANAGEMENT

Trello

- Task Assignment
- Project Progress



Development

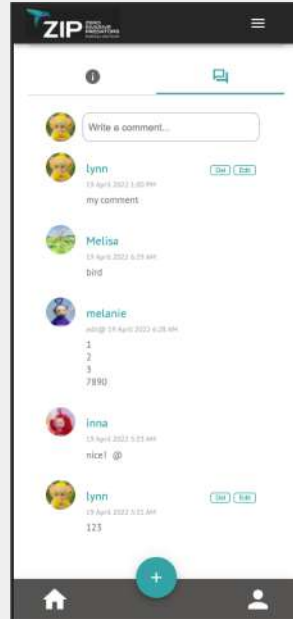


Detail page & Comment Page

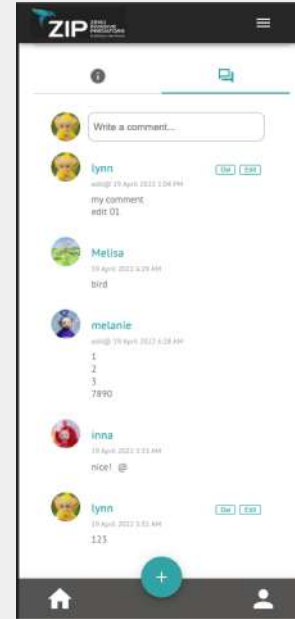
Comment – views/add/update/delete



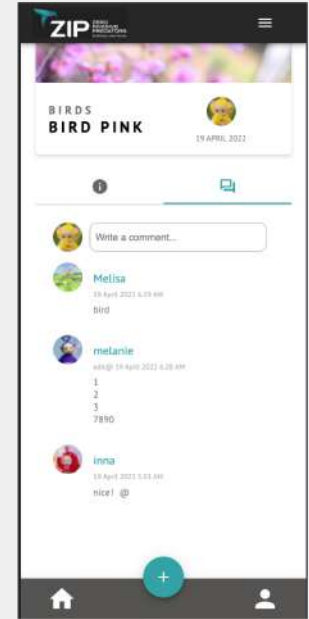
When click the comment input, A modal box will appear, with enough space to write long comment



Comments are automatically displayed in the top
Comments you own can be edited and deleted



When a comment is modified, the time of modification will be displayed.



After the comment is deleted, the page is automatically updated

Development

ISSUE 01

The content of comment is displayed on one line and different format with submitted .

SOLOTION

- .Comment-wrap: {white-space:pre-wrap }
- <div style={ {whiteSpace: 'pre-wrap'}} dangerousSetInnerHTML={ {__html: replaceInfo}}>

Development

ISSUE 02

Before posting the comment , should input field white / empty spaces validation

SOLOTION

```
const [commentValue, setcommentValue] = useState("");
const [havecomment, setHaveComment] = useState(false);
const handlecommentChange = (e) => {
  setcommentValue(e.target.value);
  if (e.target.value.replace(/\s/g, "") === "") {
    setHaveComment(false);
  } else {
    setHaveComment(true);
  }
};
```


Development

ISSUE 03

MongoDB stores times in UTC by default , we should format local time after fetch data.

SOLOTION

```
import moment from "moment";
import "moment/locale/en-nz";

moment.locale("en-nz");

<div>{moment(detailData.postTime).format("LL")}</div>
```

Development

ISSUE 04

Custom Hook for reuse get data function in different components

SOLOTION

Custom **UseGetData** Hook

```
import { useState, useEffect } from "react";
import axios from "axios";

function UseGetData(url) {
  const [data, setData] = useState([]);
  const [isLoading, setIsLoading] = useState(false);
  const [isError, setIsError] = useState(false);
  const [error, setError] = useState("");

  useEffect(() => {
    const fetchData = async () => {
      setIsError(false);
      setIsLoading(true);

      try {
        const result = await axios(url);
        setData(result.data);
        console.log('from useGetData = ', result.data);
      } catch (error) {
        setIsLoading(false);
      }

      fetchData();
    }, []);

    return { data, isLoading, isError, error };
  }

  export default UseGetData;
```

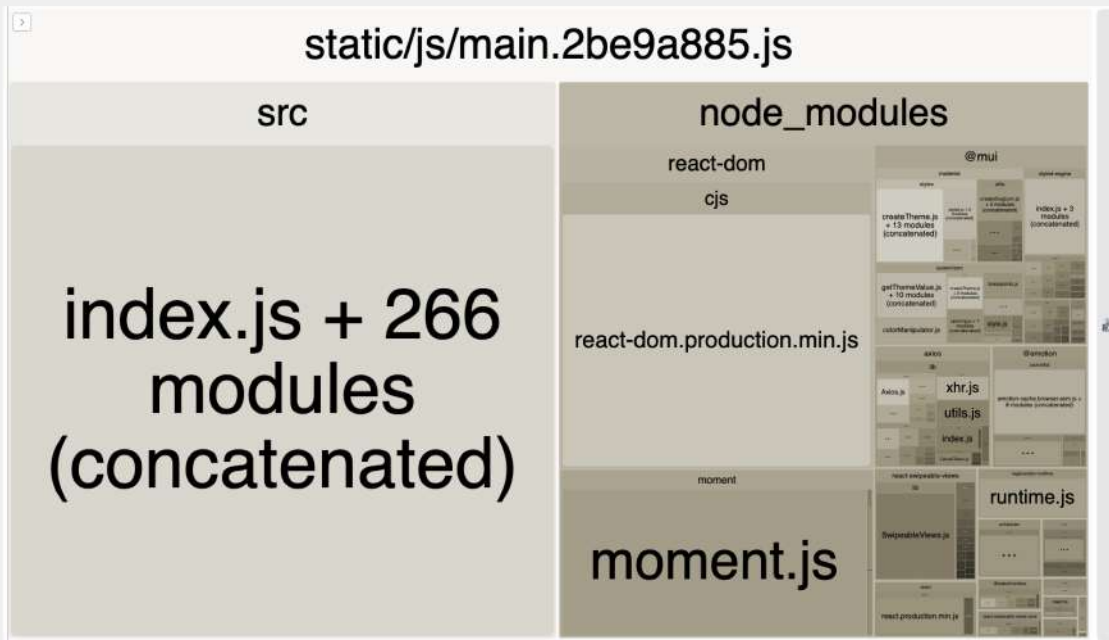
Development

ISSUE 05

Take a long time for npm start the react app, and the production bundle size larger than 5 MiB

SOLOTION 01

used [webpack-bundle-analyzer](#) to analyse the bundle size



Development

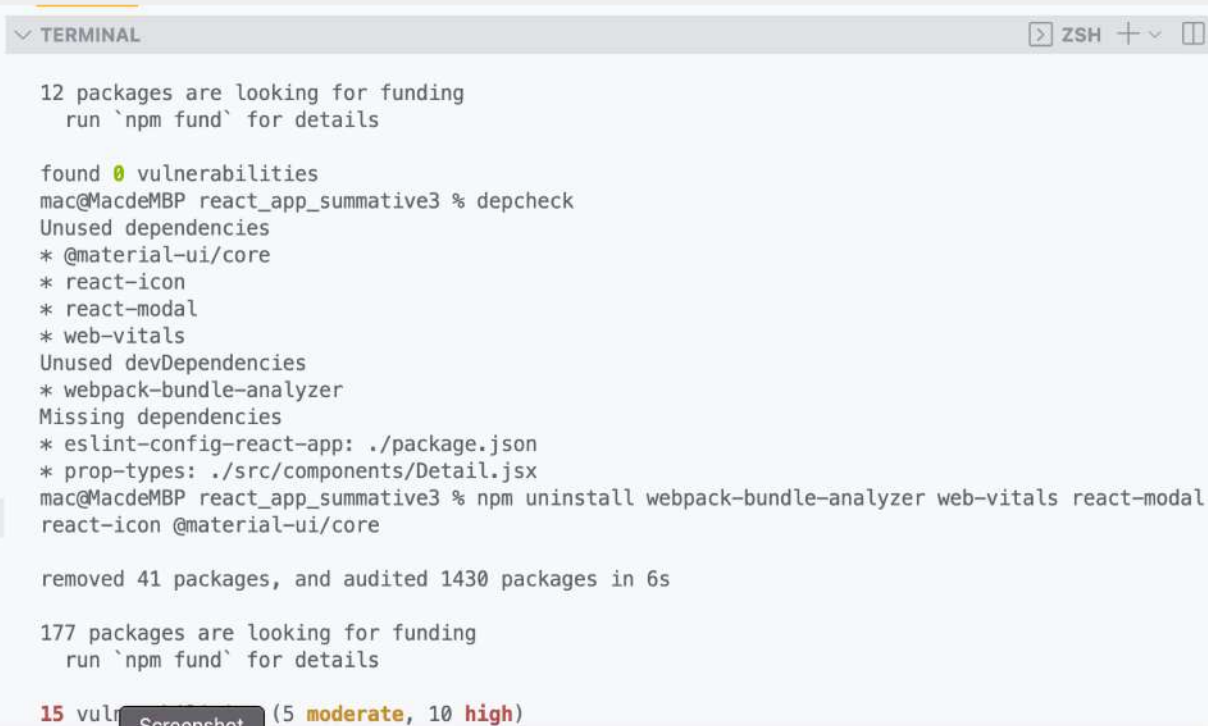
ISSUE 05

Take a long time for npm start the react app, and the production bundle size larger than 5 MiB

SOLOTION 02

Checked and delete unused Dependencies

- npm install -g depcheck
- Depcheck
- npm uninstall



```
▼ TERMINAL
12 packages are looking for funding
  run `npm fund` for details

found 0 vulnerabilities
mac@MacdeMBP react_app_summative3 % depcheck
Unused dependencies
* @material-ui/core
* react-icon
* react-modal
* web-vitals
Unused devDependencies
* webpack-bundle-analyzer
Missing dependencies
* eslint-config-react-app: ./package.json
* prop-types: ./src/components/Detail.jsx
mac@MacdeMBP react_app_summative3 % npm uninstall webpack-bundle-analyzer web-vitals react-modal
react-icon @material-ui/core

removed 41 packages, and audited 1430 packages in 6s

177 packages are looking for funding
  run `npm fund` for details

15 vulnerabilities (5 moderate, 10 high)
```

Development

ISSUE 05

Take a long time for npm start the react app, and the production bundle size larger than 5 MiB

SOLOTION 03

Minimizing bundle size

- `npm add -D react-app-rewired customize-cra`
- Modify `package.json` commands:

```
"scripts": {  
  - "start": "react-scripts start",  
  + "start": "react-app-rewired start",  
  - "build": "react-scripts build",  
  + "build": "react-app-rewired build",  
  - "test": "react-scripts test",  
  + "test": "react-app-rewired test",  
  "eject": "react-scripts eject"  
}
```

Java Script Best Practice Document

Name functions and variables logically

1. I used logical names for variables and functions which could be easily and understandable and informative about functionality:
2. Always declare variables with var (or in ES6 - let, const).

Examples :

```
const [author, setauthor] = useState(Cookies.get("userID"));
const [commentValue, setcommentValue] = useState("");
const [havecomment, setHaveComment] = useState(false);
const handlecommentChange = (e) => {--
};

const handlePost = (e) => {--
};

//getdata
const [detailData, setDetailData] = useState({});
const [updatData, setupdatData] = useState();
const [detailisLoading, setdetailisLoading] = useState(true);
const [detailisError, setdetailisError] = useState(false);
const [detailError, setdetailError] = useState("");
const [havePostData, sethavePostData] = useState(false);
useEffect(() => {--
}, []);

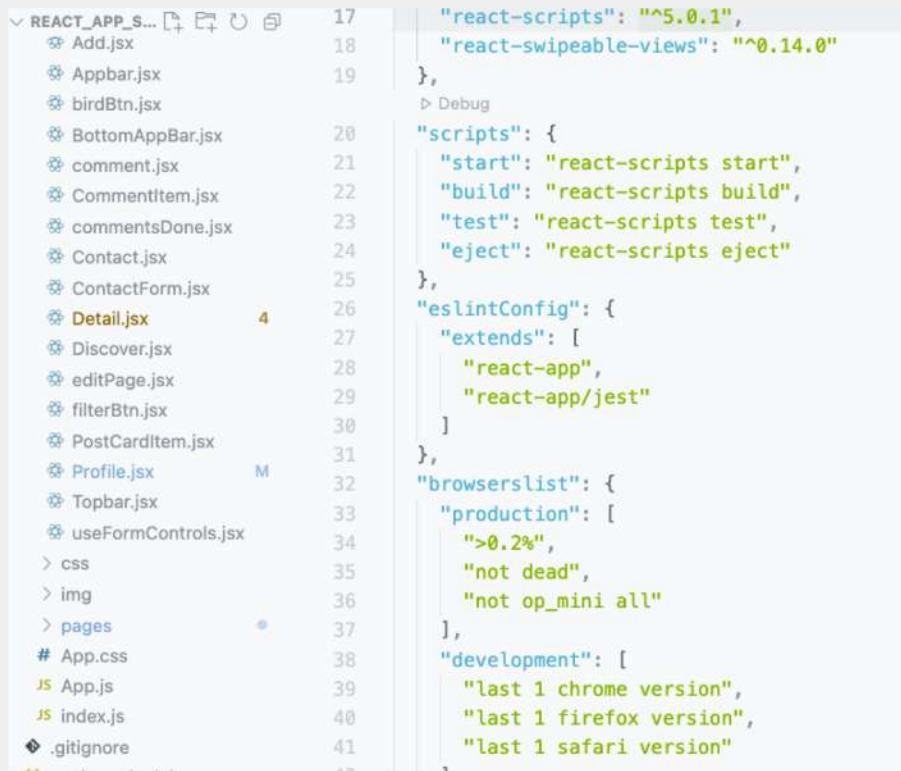
//GET COMMENT DATA
const [commentData, setcommentData] = useState({});
const [iscommentLoading, setiscommentLoading] = useState(false);
const [flagDele, setsflagDele] = useState(false);
const [haveUpdate, sethaveUpdate] = useState(false);
const shortcomment = (newflag) => {
  setsflagDele(newflag);
};
```

Use a Javascript linting tool

- **Use a Javascript linting tool**

I used esLint as linting tool to discover problems with their JavaScript code without executing it.

Examples :



```
17 17
18 18
19 19
20 20
21 21
22 22
23 23
24 24
25 25
26 26
27 27
28 28
29 29
30 30
31 31
32 32
33 33
34 34
35 35
36 36
37 37
38 38
39 39
40 40
41 41
42 42

"react-scripts": "^5.0.1",
"react-swipeable-views": "^0.14.0"
},
  > Debug
  "scripts": {
    "start": "react-scripts start",
    "build": "react-scripts build",
    "test": "react-scripts test",
    "eject": "react-scripts eject"
  },
  "eslintConfig": {
    "extends": [
      "react-app",
      "react-app/jest"
    ]
  },
  "browserslist": {
    "production": [
      ">0.2%",
      "not dead",
      "not op_mini all"
    ],
    "development": [
      "last 1 chrome version",
      "last 1 firefox version",
      "last 1 safari version"
    ]
  }
}
```


Always use semicolons

- **Always use semicolons.**

I used semicolons as every statement must be terminated with a semicolon.

Examples :

```
179
180 //GET COMMENT DATA
181 const [commentData, setcommentData] = useState({});
182 const [iscommentLoading, setiscommentLoading] = useState(false);
183 const [flagDele, setsflagDele] = useState(false);
184 const [haveUpdate, sethaveUpdate] = useState(false);
185 const shortcomment = (newflag) => {
186   setsflagDele(newflag);
187 };
```

Use Arrow function for React

Use Arrow function for React

I used arrow function to simplify function scope and solving the this keyword by making it more simpler

Examples :

REACT_APP_SUMMATIVE3	95	
⚙ Add.jsx	96	<code>const handleChangeIndex = (index) => {</code>
⚙ AppBar.jsx	97	<code> setValue(index);</code>
⚙ birdBtn.jsx	98	<code>};</code>
⚙ BottomAppBar.jsx	99	
⚙ comment.jsx	100	<code>//////////DialogActions about new comment</code>
⚙ CommentItem.jsx	101	<code>const [open, setOpen] = React.useState(false);</code>
⚙ commentsDone.jsx	102 >	<code>const handleClickOpen = () => {...</code>
⚙ Contact.jsx	104	<code>};</code>
⚙ ContactForm.jsx	105 >	<code>const handleClose = () => {...</code>
⚙ Detail.jsx	109	<code>};</code>
⚙ Discover.jsx	110	<code>const [author, setauthor] = useState(Cookies.get("userID"));</code>
⚙ editPage.jsx	111	<code>const [commentValue, setcommentValue] = useState("");</code>
⚙ filterBtn.jsx	112	<code>const [havecomment, setHaveComment] = useState(false);</code>
⚙ PostCardItem.jsx	113 >	<code>const handlecommentChange = (e) => {...</code>
⚙ Profile.jsx	120	<code>};</code>
⚙ Topbar.jsx	121 >	<code>const handlePost = (e) => {...</code>
⚙ useFormControls.jsx	155	<code>};</code>

REFLECTION

Because it is a team work, we did not decide which framework to use at the beginning, so we referenced two react icon dependent packages. As the project gradually completed, we depended on more and more packages, causing it to take a lot of time to npm start. . After that, we optimize the bundle size and remove the packages with duplicate functions.

Faced with the problem of formatting data , I chose to install the moment.JS library, but the library here is too burdensome for simple formatting time.

When entering value in the comment input, the onChange function is used to monitoring the form as a controlled component, so that each input of a letter will trigger the re-rendering of the children component. If the amount of data I think, there will be meet efficiency problem. Should try the USRREF approach next time.

There are still some areas need improve in this APP, such as

1. After the comment is deleted successfully, a pop-up alert box can be added, indicating that the deletion operation has been completed.
2. After the profile page loading data, set the catch error prompt. The current version can fetch all data and display it by default, but once no data is obtained, the page is blank but does not tell the specific reason.