Mattermost

How the magic of Open Source helps our project

Introduction

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Introduction

Agenda

1. **What is Open Source?**
2. npm and node_modules
3. Understanding
4. Fixing
5. Changing
6. Closing

01

What is Open Source?

Misconceptions

- It’s free!
- Free labour!
- It is not economically viable
- It is a niche

What is Open Source?

- According to the Open Source Initiative
  - Code availability
  - Derived works
  - No discrimination
  - Free redistribution

https://opensource.org/osd/

What kind of Open Source exist?

- Based on the openness
  - Open Source
  - Open Core
  - Code available
- Based on the license [1]
  - GPL
  - BSD
  - MIT
  - … Many others

[1] https://www.mend.io/blog/top-open-source-licenses-explained/

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02

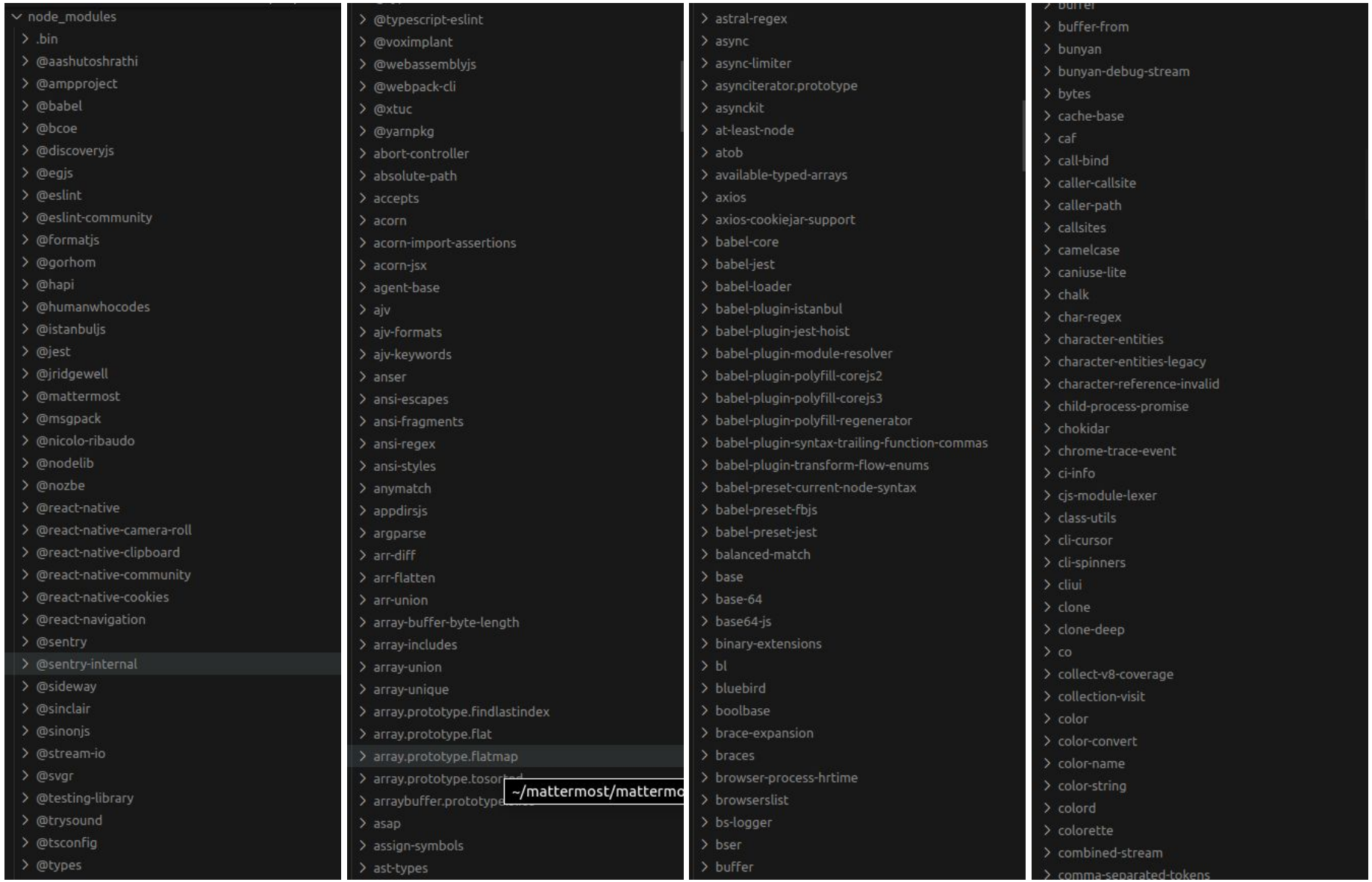
npm and node_modules

What is npm?

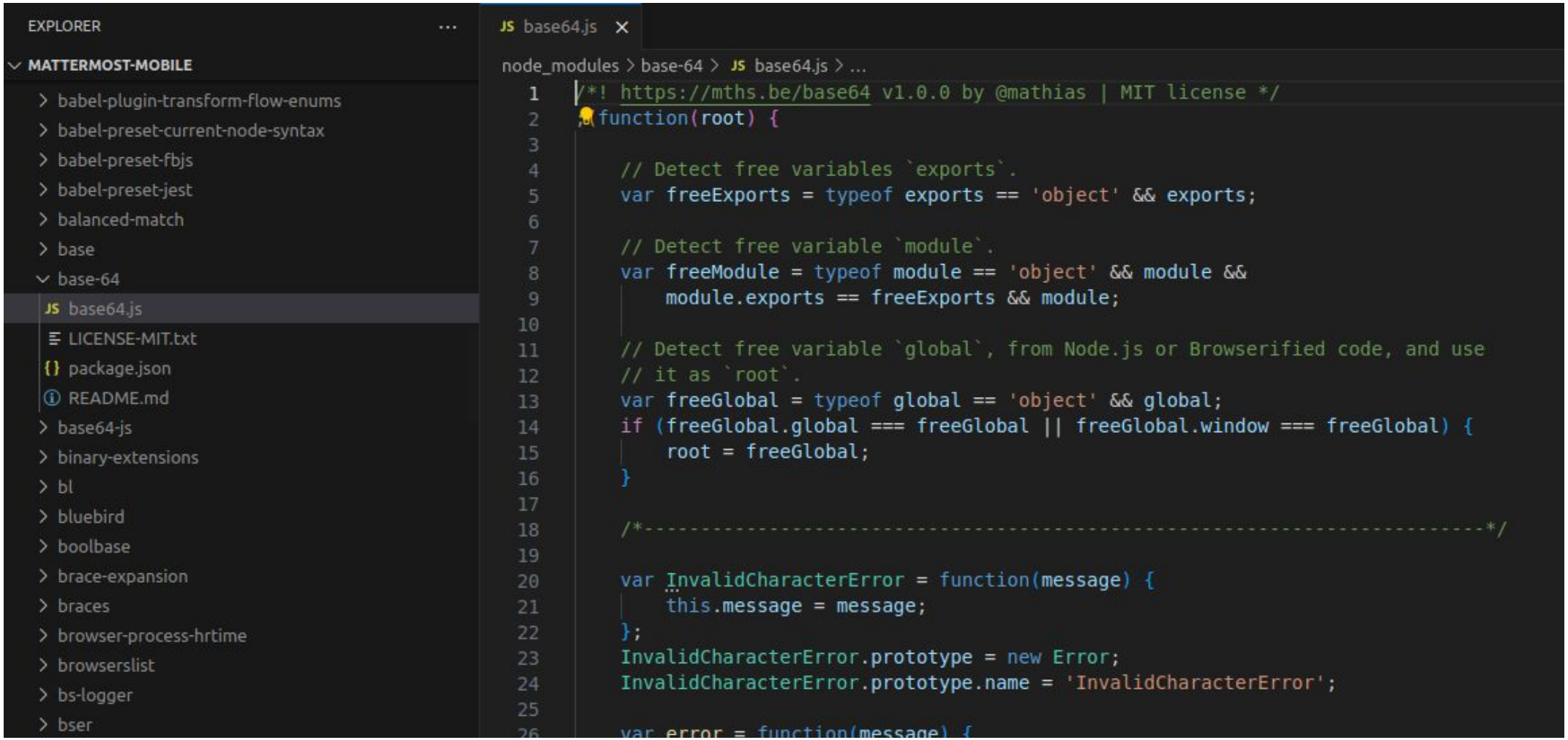
- Node.js Package Manager
- Registry of open source packages
- Command line client

https://www.npmjs.com/about

node_modules folder



node_modules folder



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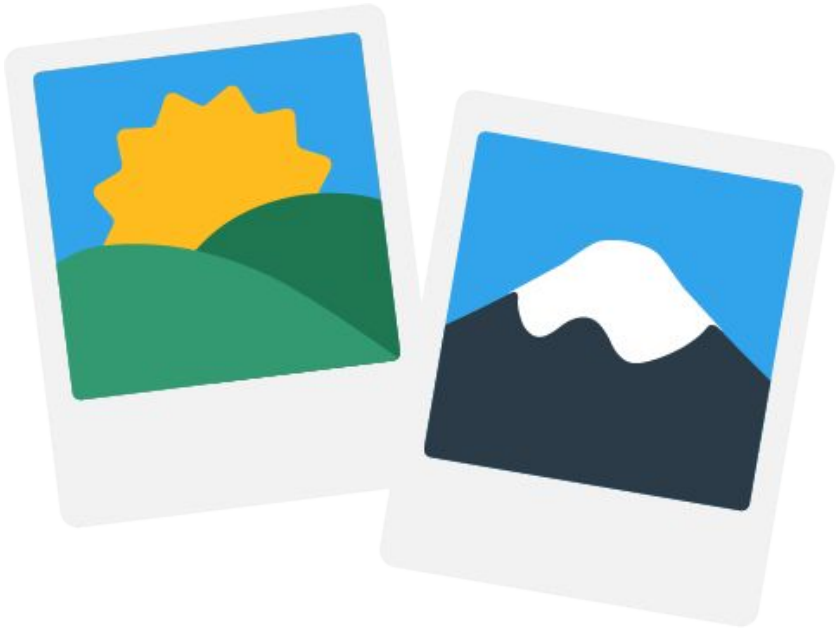
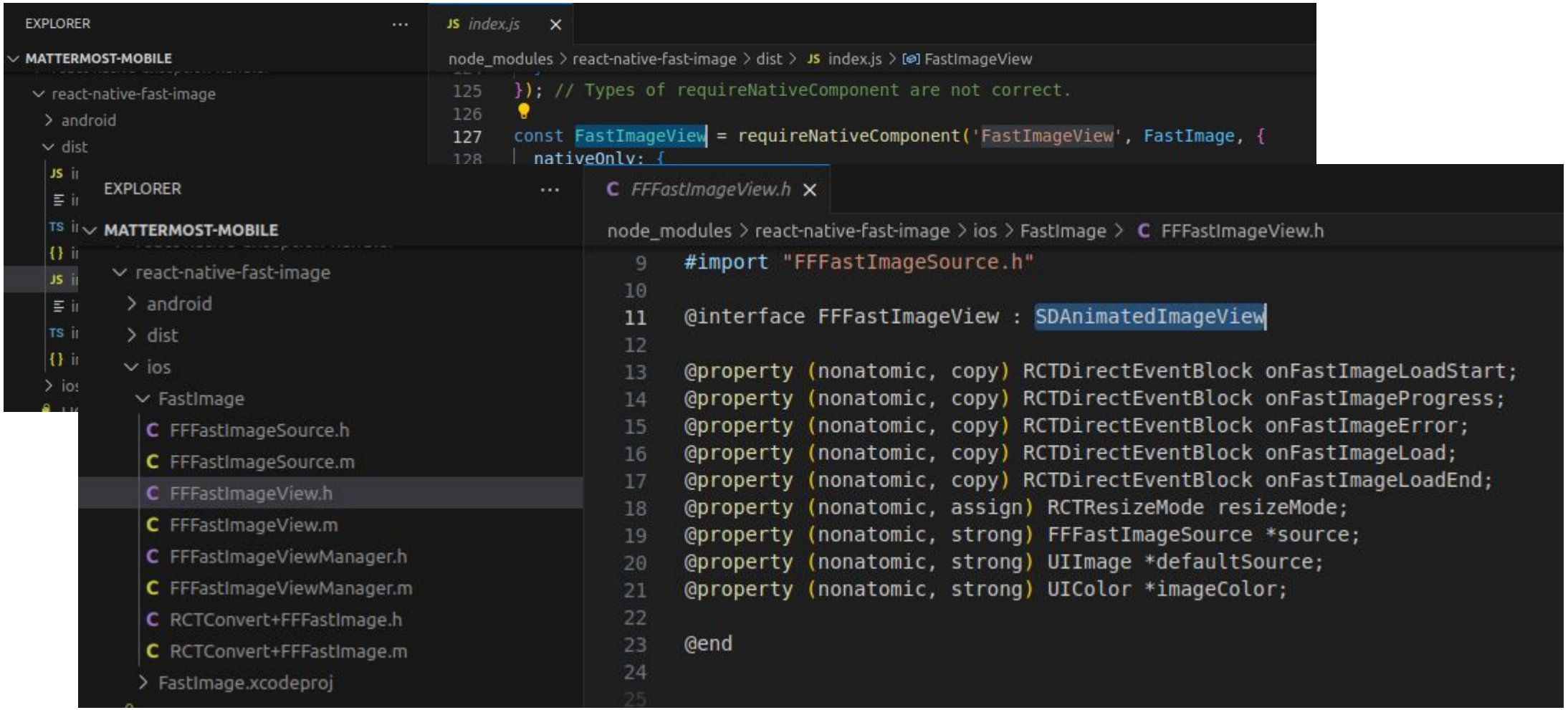
03

Understanding

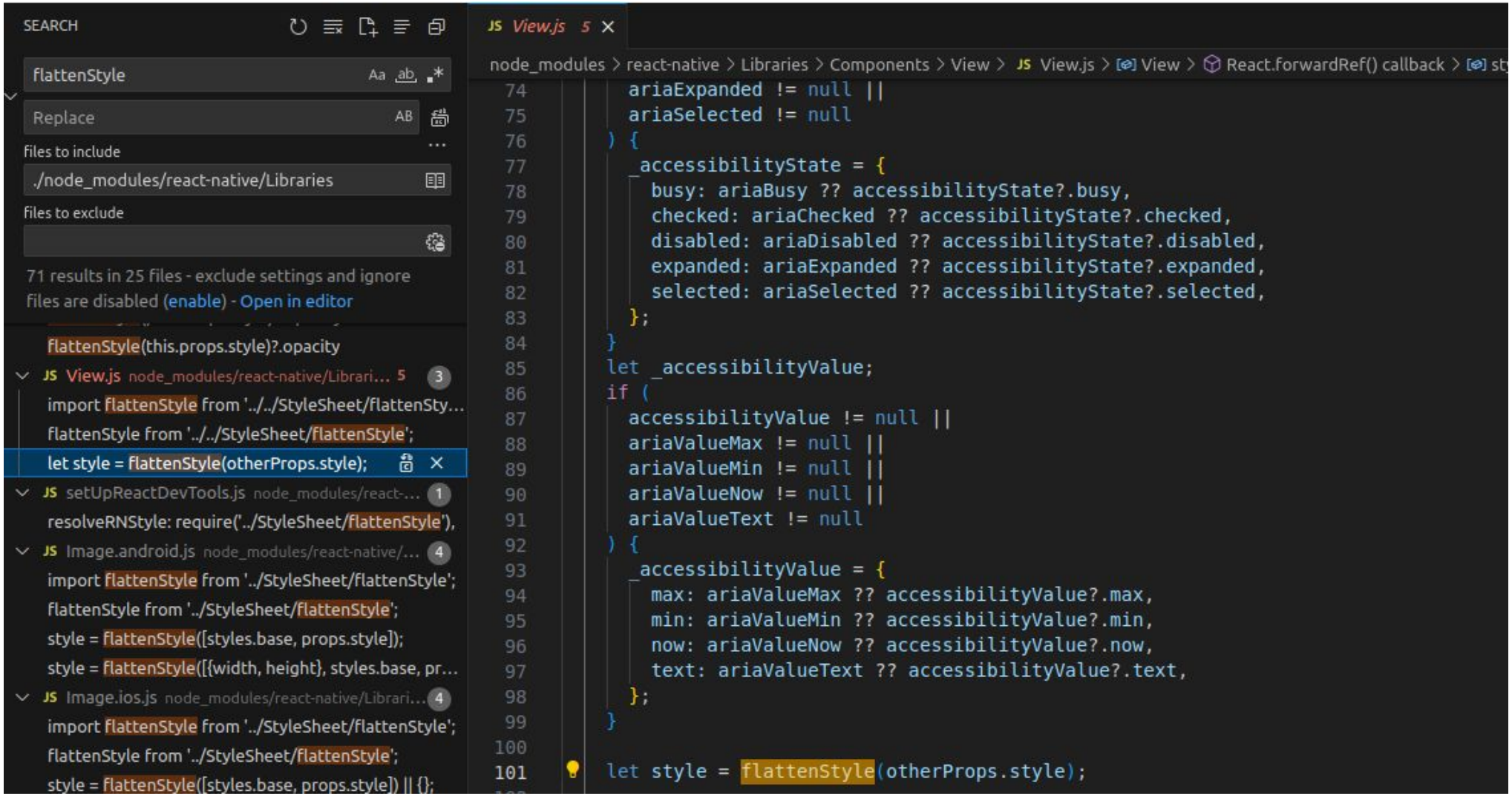
The image problem



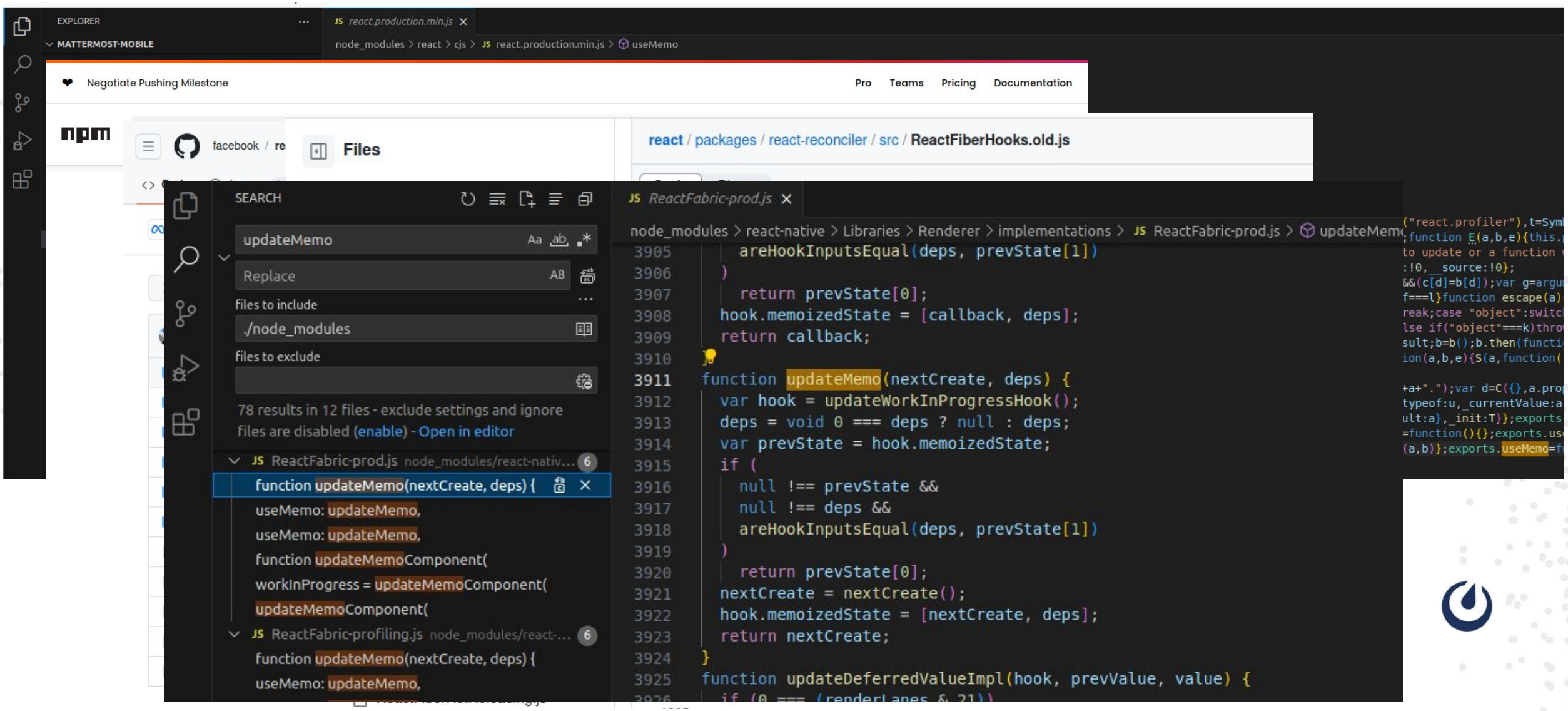
Going deeper



Another example



What if I can't find it?



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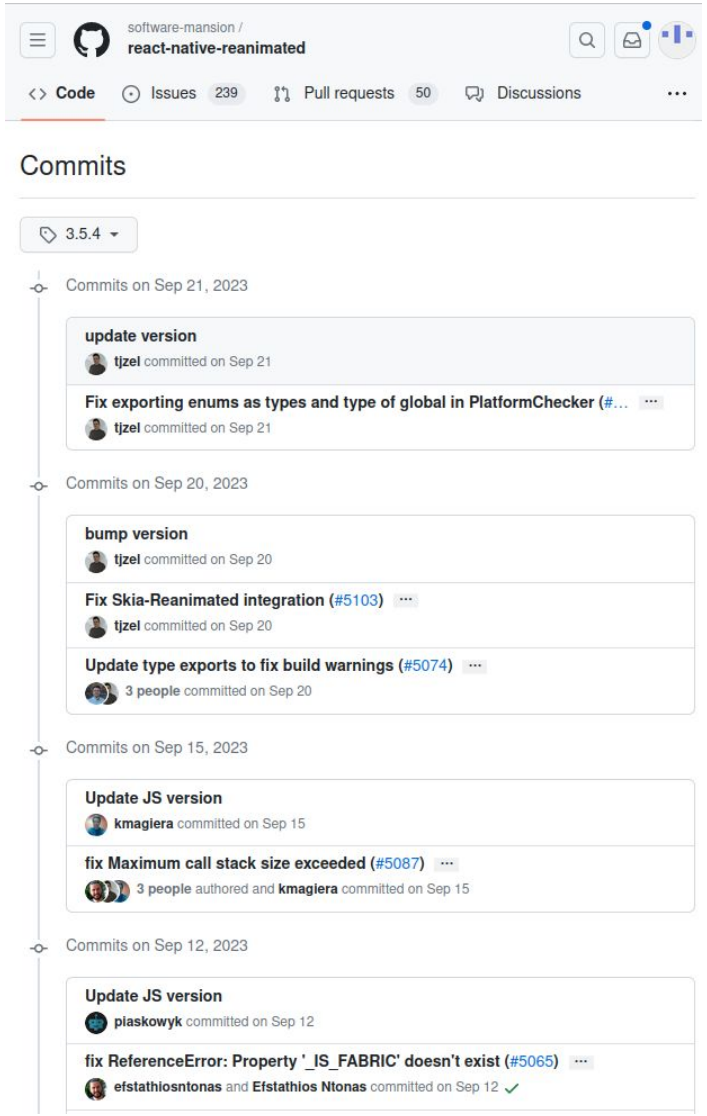
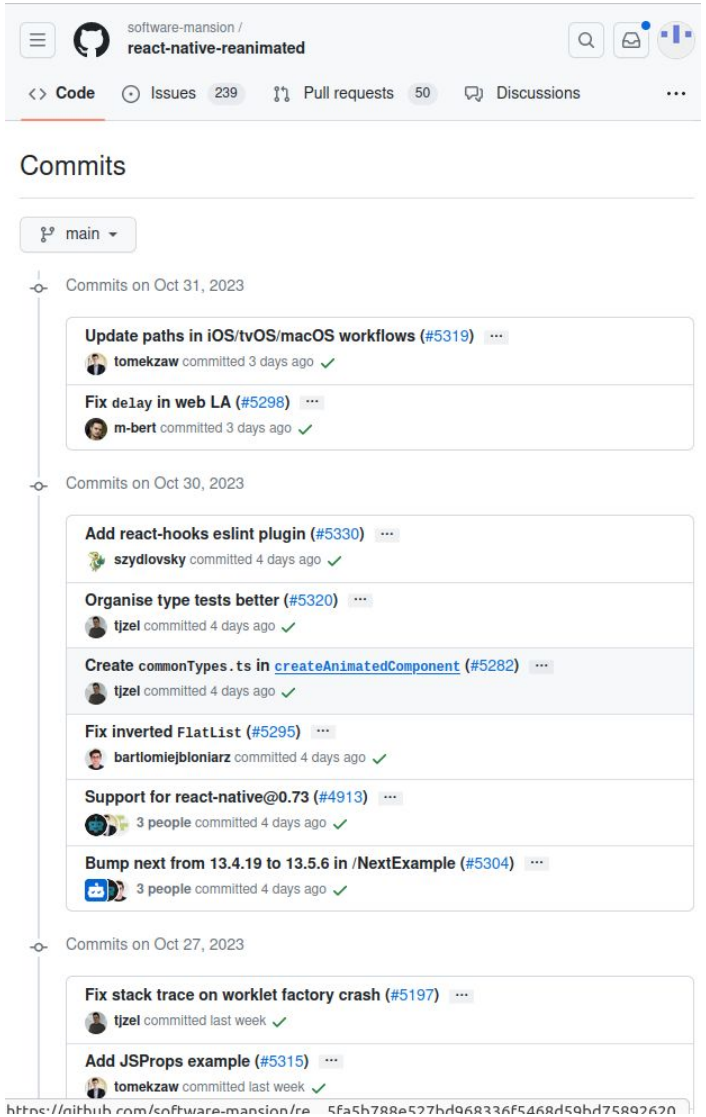
04

Fixing

I want it from master

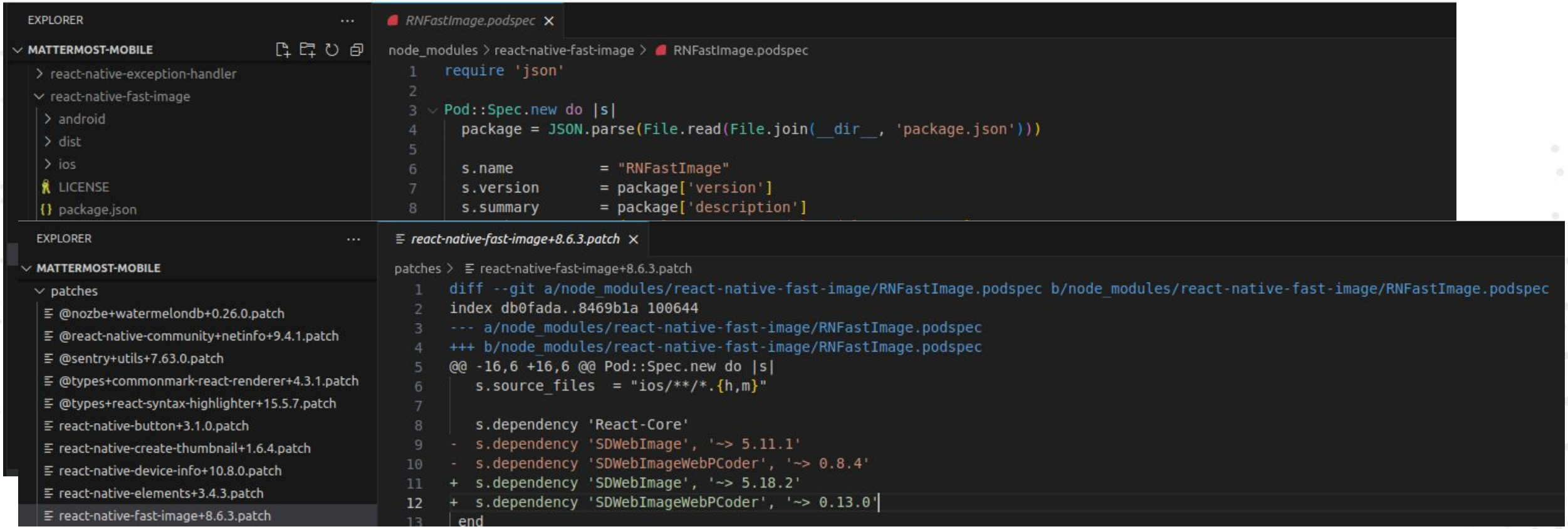




My options

- Wait for the new release
- Import from main
- Create a fork and import from the fork
- Patch the package

npx patch-package



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05
Changing

react-native-haptic-feedback

Files

master

Go to file t

github

react-native-haptic-feedback / android / src / main / java / com / mkuczera / vibrateFactory / VibrateFactory.java

abuciuman Fix: Package name

Code Blame 39 lines (34 loc) · 2.45 KB Code 55% faster with GitHub Copilot

EXPLORER

MATTERMOST-MOBILE

node_modules

patches

@nozbe+watermelondb+0.26.0.patch
@react-native-community+netinfo+9.4.1.patch
@sentry+utils+7.63.0.patch
@types+commonmark-react-renderer+4.3.1.patch
@types+react-syntax-highlighter+15.5.7.patch
react-native-button+3.1.0.patch
react-native-create-thumbnail+1.6.4.patch
react-native-device-info+10.8.0.patch
react-native-elements+3.4.3.patch
react-native-fast-image+8.6.3.patch
react-native-haptic-feedback+2.0.3.patch

index.tsx react-native-haptic-feedback+2.0.3.patch

patches > react-native-haptic-feedback+2.0.3.patch

```
1  diff --git a/node_modules/react-native-haptic-feedback/android/src/main/java/com/mkuczera/VibrateFactory
2  index 167118f..e7b8fc4 100644
3  --- a/node_modules/react-native-haptic-feedback/android/src/main/java/com/mkuczera/VibrateFactory/Vibrat
4  +++ b/node_modules/react-native-haptic-feedback/android/src/main/java/com/mkuczera/VibrateFactory/Vibrat
5  @@ -15,7 +15,7 @@ import com.mkuczera.VibrateWithCreatePredefined;
6   public class VibrateFactory {
7       static Map<String, Vibrate> vibrateMap = new HashMap<>();
8       static {
9  -        vibrateMap.put("impactLight", new VibrateWithDuration(new long[]{0, 20}));
10 +        vibrateMap.put("impactLight", new VibrateWithDuration(new long[]{0, 5}));
11          vibrateMap.put("impactMedium", new VibrateWithDuration(new long[]{0, 40}));
12          vibrateMap.put("impactHeavy", new VibrateWithDuration(new long[]{0, 60}));
13          vibrateMap.put("notificationSuccess", new VibrateWithDuration(new long[]{0, 40 ,60, 20}));
14
```

VibrateFactory.java

VibrateWithCreatePredefine...

VibrateWithDuration.java

VibrateWithHapticConstant.j...

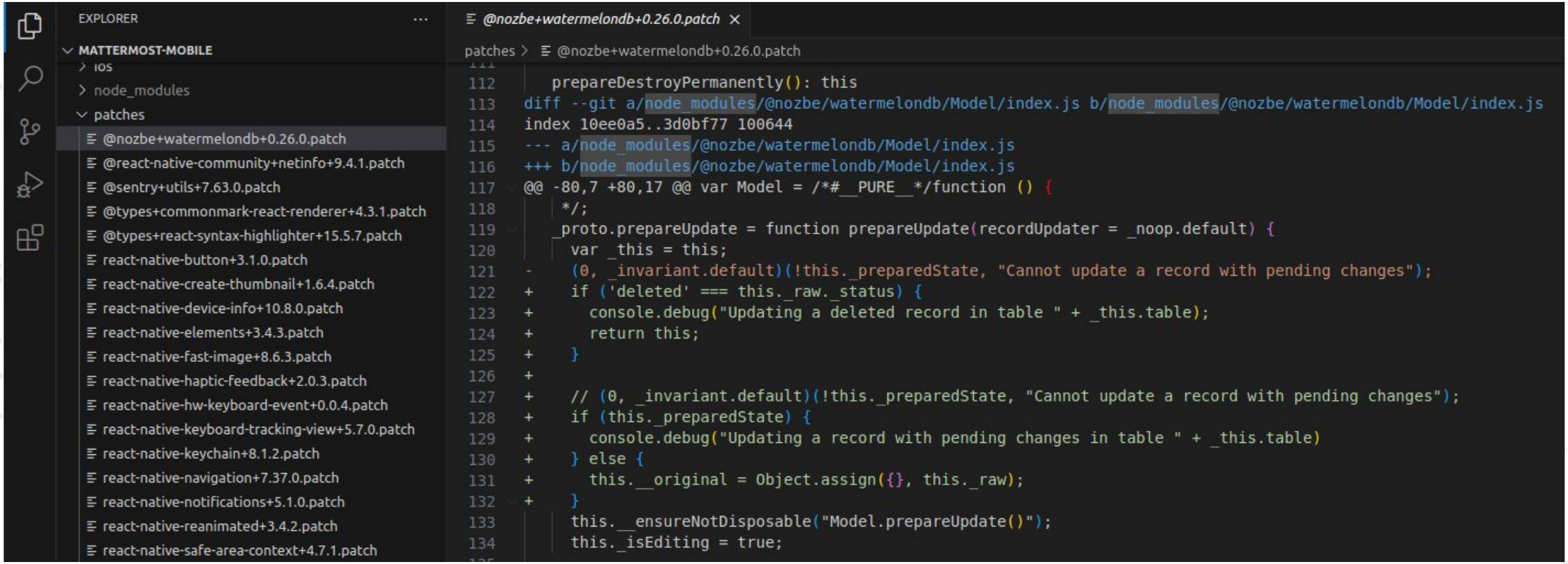
```
15          vibrateMap.put("impactHeavy", new VibrateWithDuration(new long[]{0, 60}));
16          vibrateMap.put("notificationSuccess", new VibrateWithDuration(new long[]{0, 40 ,60, 20}));
17          vibrateMap.put("notificationWarning", new VibrateWithDuration(new long[]{0, 20, 60, 40}));
18          vibrateMap.put("notificationError", new VibrateWithDuration(new long[]{0, 20, 40, 30, 40, 40}));
19          vibrateMap.put("rigid", new VibrateWithDuration(new long[]{0, 30}));
```

WatermelonDB constraints

```
115          const preparedState = record._preparedState
116          if (!preparedState) {
117            invariant(record._raw._status !== 'disposable', `Cannot batch a disposable record`)
118            throw new Error(`Cannot batch a record that doesn't have a prepared create/update/delete`)
119          }
```

```
prepareUpdate(recordUpdater: (this) => void = noop): this {
  invariant(!this._preparedState, `Cannot update a record with pending changes. Update attempted for table ${this.table} and record ${this.id}.`)
```

WatermelonDB constraints



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06
Closing

Community

- Code
- Localization
- Security
- QA
- Troubleshooting in the Community server
- Bug reports
- Feature proposals

Give back

- Open your code
- Open your tools
- Contribute to open source
- Donate

Summary

- Get comfortable with node_modules (or the equivalent for your package manager)
- Dive deeper into libraries to have a better understanding of what you are doing
- Be able to fix libraries before the change gets upstream
- Be able to patch libraries so they work the way you want

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Thank you.

Connect

Mattermost office / Community server:

community.mattermost.com

Slides: