N technical implementation

In the whole project, we adopted the development method of separating the front end and the back end, in this way, we can focus on the unilateral learning and development of front-end technology or back-end technology during the development process to improve efficiency. During the test the source of the BUG can also be found more quickly and sent to the front-end or back-end engineers for modification respectively. Focusing on the future, by separating the front end and the back end, the real front end and the back end can be decoupled to reduce the server load caused by the increase of traffic in the future. If the server goes down due to excessive business requirements, there will be no significant impact on the front-end pages. Meanwhile, due to asynchronous loading, no matter how complex the front-end pages are, the response speed of the server will not be affected. In this section, we are going to introduce Front End and Back End.

N.1 Front End:

We divided the front end into two parts, customs’ interface and employees’ interface. Both of them were built based on VUE framework. When we coding the most different between VUE and traditional HTML+JavaScript+CSS model is in VUE frameworks we put all these three parts into one file. This method is called Single file VUE componentized development model, we will introduce it in N.1.2. The code in a VUE file look like the figure N.

N.1.1 Responsive programming:

Responsive programming is one of the features of the VUE framework, there is a folder called store, a file called store.js can be found in this folder. This file is the key part to realize the responsive programming. The code in this file can be divided into three part:view(Mapping state to the view declarative), state(Data sources that drive applications), actions(Responds to a state change caused by user input on the view), it looks like the figure N. All state changes happened on store, will be managed on store’s action part, this method called Centralized State Management. Because of using Centralized State Management, we can find which kind of mutation will happen and how. When an error happened, we will also have a Log of what happened lead to BUG.

N.1.2 Component Development

Another features of VUE framework is component development. Its implementation is mainly embodied in the use of iView component library. The advantages of iView component library are:

1.high quality, rich function, delicate and beautiful UI.

2.friendly API which makes components insert on web more easily.

3.An official document of every detail.

4.Single file VUE componentized development model

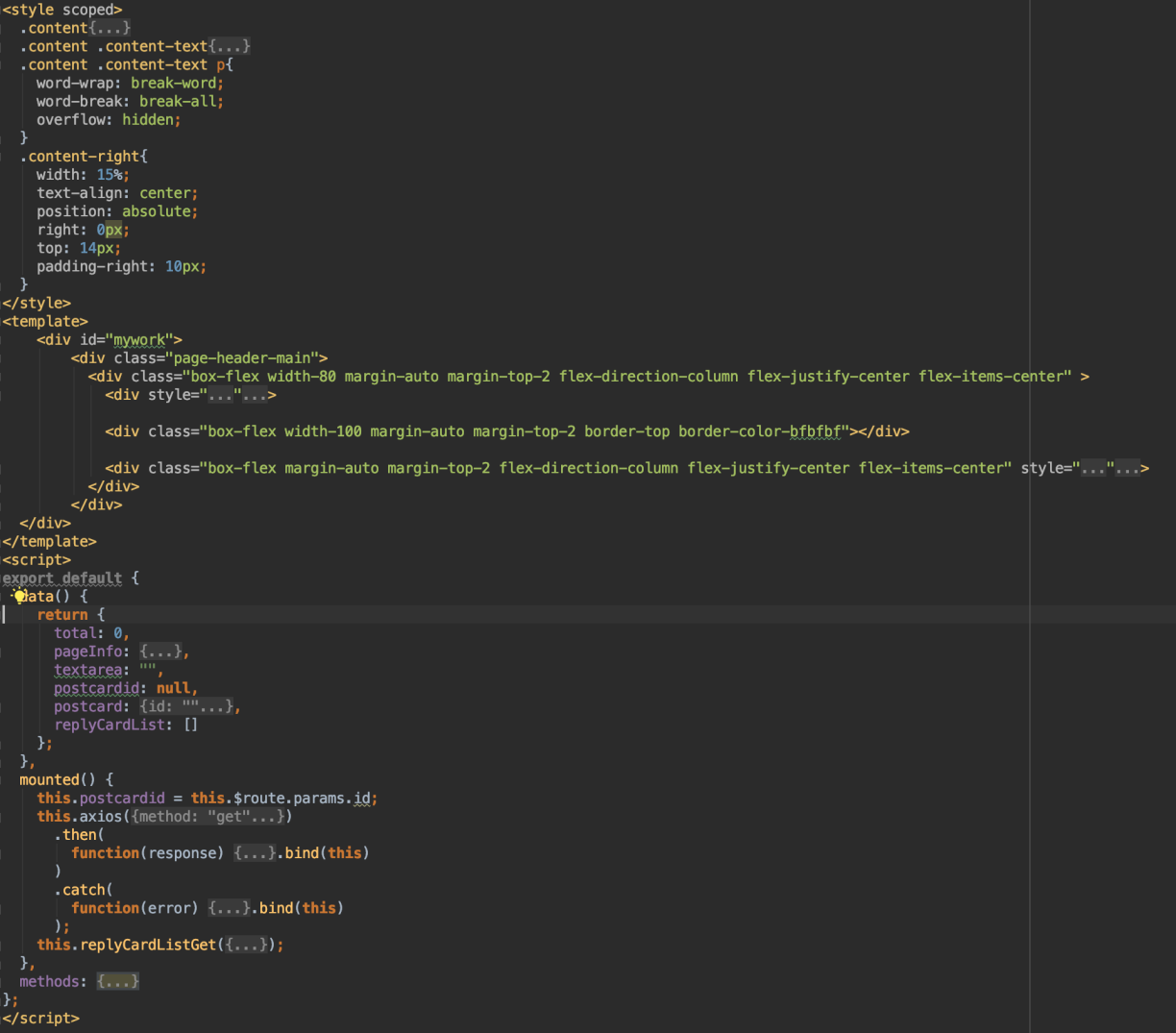
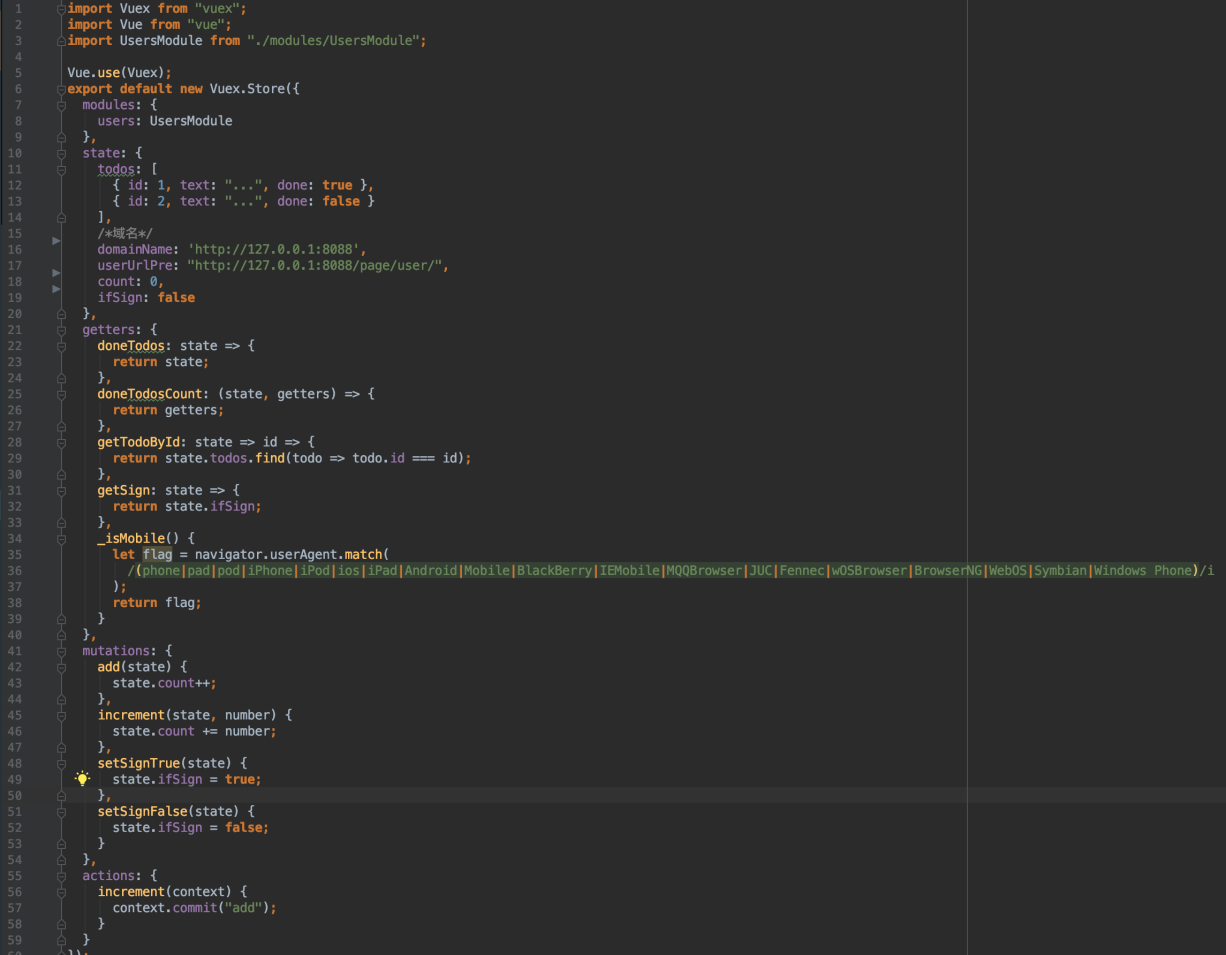
5.Developed base on npm+webpack+babel, Compatible ES2015[[1]](#footnote-0).

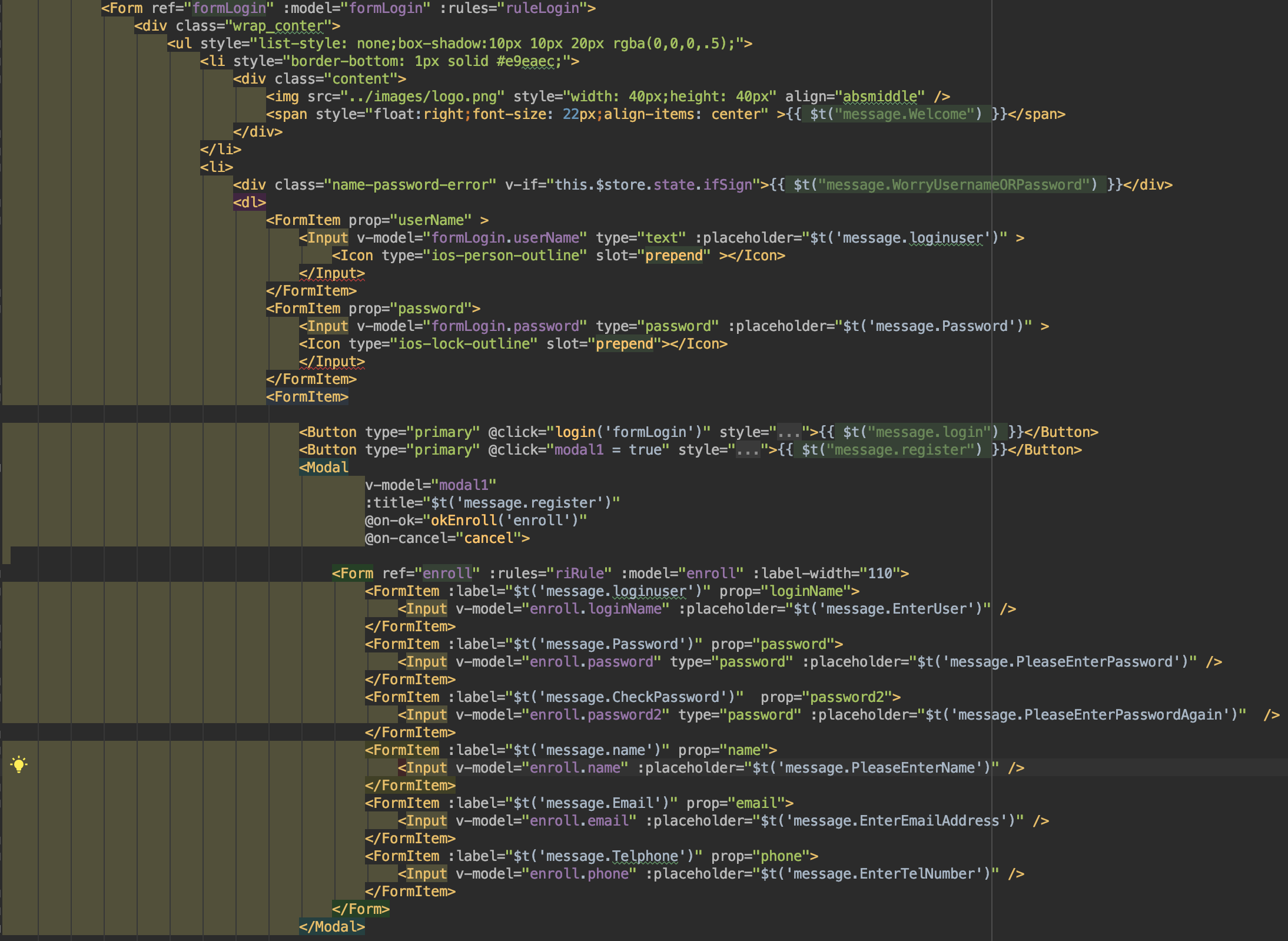
Let’s talk about the advantage No.4: Single file VUE componentized development model. Look at figure N, we can find out there are three labels: template, javascript, style. In a single VUE file, template is responsible for templates, javascript is responsible for logic, and style is responsible for styles.The idea behind this is that a single file component corresponds to a functional component, and the template, style, and business logic for that component all adopt the idea of nearby maintenance. From the perspective of component reusability and late maintainability, this concept greatly improves the development efficiency of componentization. VUE single files are neither JavaScript, HTML, nor CSS files. In our development process, we think of a page as a large component composed of multiple components

Then we will introduce how the different components combine to realized all functions in our system.

N.1.3 Login page

We think of the entire login page as a large component, with a smaller component in the center that provides a location where the company logo is displayed to the customer, as well as an input box for the customer to enter the user name and password. Below is the login and registration button, which triggers an event that interacts with the back end and receives the return value from the back end. In this way, the user name and password confirmation and user rights distinction. The implementation code for this section is as Figure N.  
The company logo is showed by <img/> label,





1. Also called ECMAScript 6 which is a standard of JavaScript released on 2015. [↑](#footnote-ref-0)