

Web Front-end MVC Framework and Its Development Exploration

Jia Zhao

Sichuan Minzu College, Kangding County in Ganzi Tibetan Autonomous Prefecture in Sichuan Province, 626000

Abstract: With the rapid development of modern science and technology, the complexity of Web applications is also increasing. Web front-end development has attracted much attention. MVC framework, as an innovative software construction mode with obvious advancement in the process of Web front-end development, effectively reduces the difficulty of Web application development and improves the efficiency of application development to a certain extent. In the specific Web application design and development work, it is necessary to ensure the effective operation of the application system, but also to ensure that the application system test is safe and has a certain extensibility, so as to ensure that the application system design optimization is reasonable and effective. This paper takes “Web front-end MVC framework and its development” as the research object. By analyzing the basic contents of Web front-end MVC framework and combining with the analysis of key technologies, this paper effectively explores the future development direction of Web front-end MVC framework, so as to effectively promote the application of this technology and provide reliable reference for technological development.

Keywords: Web front end; MVC framework; Development

Fund Project: Research on key technologies of campus network construction in Luding Campus of Sichuan Minzu College XYZB2009ZB.

At a time when intelligent equipment is in a state of full popularity, Web front-end page design technology is becoming more and more complex. In terms of visual experience, friendly interaction and technical special effects, the requirements are gradually increasing, which also requires the continuous improvement of system maintenance level to meet the corresponding design and functional requirements. The process of technology evolution has promoted the continuous improvement of the front-end development model, especially in the case of the gradual increase in the complexity of front-end development, the development of Web front-end framework technology has been widely concerned. Most Web front-end framework technologies have a set of perfect ways to develop and deploy websites, which can achieve perfect purposes such as data interaction and business functions. The front-end design and development personnel, only need to consider the business logic problem, can achieve the corresponding front-end development work, the development efficiency is significantly improved.

1. Overview of MVC Framework for Web Front End

The Internet of Everything has become an inevitable trend in the development of information technology such as the modern Internet. As one of the indispensable technical links, Web front-end technology also needs to keep pace with the times and carry out self-innovation development in order to continuously meet the needs of information technology development.

1.1 The Meaning of MVC Architecture

In the classic MVC(Model View Controller) framework, M(Model) refers to the model, V(View) refers to the view, and C(Controller) refers to the controller. The role of the MVC framework is to be able to separate the M and V codes to ensure that the same program can be expressed in different ways. Among them, View is relatively clearly defined-user interface. The MVC framework is usually divided into three levels: model, view, and control, with different roles and responsibilities, but the three are inseparable. For example, the view layer is mainly used to display web page data. This level cannot edit the program, but in order to

better present the corresponding effects and functions, the visual layer data can be appropriately regulated; the control layer is used to connect the view layer and the model layer. At the same time, it has a regulatory effect, can regulate the key operation flow of the program, and the control layer can respond to corresponding emergencies in time, which is convenient for web page development and maintenance. Not only that, the control layer can also adjust the data model related data appropriately, which can realize the function of reminding the model layer to update, and promote the use of the control layer in the update, which can also make certain adjustments to the visual layer.

1.2 Web front-end MVC framework

Web front-end MVC framework has various forms, Backbone.js, Ember.js, Angular.js, Javascript MVC, etc. are all common framework forms. Although the specific work and functions in the web page are different, they are closely related to each other. For example, when Backbone.js runs, it can effectively solve the problem of web page hierarchy separation, and the operation form is relatively flexible, which is convenient for technicians to simplify and develop flexibly. Ember.js is mainly used for desktop development and is relatively modular and standardized. Ember.js belongs to the Web front-end MVC framework infrastructure, no special processing, long-lasting performance. In addition, the formal function can realize the automatic update function of computer attributes, and can carry out information description and annotation. Angular.js, on the basis of Google, through the construction of a new JS framework, realizes the vocabulary expansion function in web page development and program application, promotes the consistent dynamic and static state of Web pages, and can realize test URL management and separate MVC function ^[1].

2. Key Technologies of Web Front-end Framework

Web front-end MVC framework is the key content of current software and web page development. Compared with the traditional development process, its operation process and data acquisition are simpler, and under the function of background support and other functions, the operation and acquisition are relatively more accurate, and the overall development quality has been effectively improved.

2.1 Modular design idea

Programming has undergone many changes, from the initial functional decomposition structured programming (a method that can separate functional modules with modularity as the core) to the current object-oriented programming (a method that can realize data and operation encapsulation with data structure as the core), the software scale and complexity gradually expand and enhance, and the software architecture becomes more and more complex. Based on modular development, more detailed development can be realized inside the package module. Under the influence of architecture design concept, the development and flexibility of standard architecture are more prominent, and the reuse effect of supporting modules is better. Modular development pays more attention to the role of modules, reduces repeated coding operations, facilitates clear division of labor among personnel, realizes special module design, and is of great significance to improve development efficiency and code quality.

2.2 MVC design pattern

For the application of rich browsers, due to the flexible characteristics of the JavaScript, it is difficult to unify the definition of variables and function codes at the front end of the application program. The number of user request codes, view rendering codes, etc. running at the front end is huge, the parsing efficiency of the browser is obviously reduced, and the speed of page loading is also very slow. According to this, the use of Web front-end MVC framework can effectively realize the front-end program development and maintenance functions. The MVC framework emphasizes the division and development of complex applications in the Web according to three levels: model, view and controller. The view corresponds to the user interface, which can receive user request code information and display background processing results to meet user access Requirements; the model realizes logical processing of data and business; the controller can control system data input and output, realize synchronous processing and display user request and data functions. In addition, the core components can realize the function of autonomous processing tasks, with clear boundaries and clear tasks between them, which is convenient for each to perform its duties, and can effectively reduce the coupling of data processing and display ^[2].

3. Development Direction of MVC Framework for Web Front End

Web front-end MVC framework plays an obvious role in software and web page development, and with the continuous development of information technology, the research direction of the framework has gradually changed.

3.1 Facilitating software development

Web front-end MVC framework belongs to a language environment at the same time. In-depth study of the development and application of Web front-end MVC framework can realize the integration of relevant data and the generation of relevant functions. In the specific use environment, it is necessary to pay attention to the appearance of relevant software development functions. For example, in the process of web page query, interface identification can appropriately use whitelist and blacklist in the process of contact with the language environment to maximize the use efficiency of the query interface, and at the same time ensure that when the query interface is used, the Web front-end MVC framework language environment plays a good role and can effectively promote the development of the software development field^[3].

3.2 The program structure is tight

When using the Web front-end MVC framework to develop the corresponding software, it is necessary to pay attention to the implementation of effective processing of web backend data program targets. Access to relatively more information should be guaranteed to the maximum extent possible. Specific processing, should focus on information and data processing, such as entity and concept processing, generally in the HTML form to do processing, and then by the background to do fill, and then through the corresponding query to obtain important data information. It should be noted here that the form of filling the form and how to obtain important information are the key research directions of the current Web front-end MVC framework to ensure that the corresponding software development can be more effective in processing, analysis and research, To maximize the authenticity of the language environment. In addition to the above, the Web front-end MVC framework, as one of the key operating processes of software development, plays an obvious role in language and data processing, and can provide more reliable assistance for the development of software development.

Concluding remarks:

To sum up, the development of front-end framework technology is becoming more and more mature, and the future development direction will gradually become mature and stable. The new idea of Web front-end will enable the framework to play a greater and more active role in software and web page development. Combined with the above contents, the description of the basic technical content and development direction of the MVC framework at the front end of the Web can obviously find that the MVC framework provides strong support for the development and optimization of the front end of the Web, simplifying the process of corresponding software and web page development, effectively improving the work efficiency of personnel, and continuously promoting the development of the Web field on the basis of continuous research and functional enhancement, it has created favorable conditions for the innovative development of social economy.

References:

- [1] Xin Li. Significance and Front-end Development of MVC Framework for Web Front-end [J]. Computer Fans, 2018(21):84,129.
- [2] Guo Rui, Zhao Yuansu. Overview of Web Front-end Framework Technology [J]. Journal of Beijing Institute of Technology, 2021,20(3):24-27.
- [3] Zhang Yifeng. Research on Design of WEB System Project Based on MVC Framework [J]. Electronic World, 2021(17):53-54.

About the author:

Jia Zhao,female,Chinese,graduate student,assistant,Big data analysis and image analysis