What is back-end development?

People always feel confused concerning full-stack, front-end, and back-end development. Commonly, a full-stack developer is able to handle development on both the client and server sides. The front-end is what users interact with, and the back-end refers to the server side. According to learntocodewith.me (2019), back-end developers are primarily in charge of servers, databases, and applications. Users are rarely aware of the importance of back-end development because they cannot directly access the back-end side. Meanwhile, front-end developers strive to establish and maintain a website where users can directly interact. Therefore, front-end developers and back-end developers have different responsibilities. The following section is to discuss what cloud service is, and then I will attempt to analyze what is back-end developers' challenges with respect to cloud service raising.

As technology develops, the duties of back-end development vary. One thing is that cloud service appears and becomes prevailing. Radiocrafts (2019) points out that people can access data through the internet rather than a local hard drive. Compared with traditional servers, the cloud service has several advantages: lower cost, easier collaboration, and more flexibility. Meanwhile, tech giants like Google are glad to invest 1 billion dollars in cloud services (Reuters, 2021). It is also clear that back-end developers encounter an array of new challenges while cloud service becomes more and more popular. First, security is an important challenge for back-end developers. Some IT experts point out that back-end developers utilize cloud services at the expense of information security. An example is that a back-end developer cannot control machines, networks, and storage using infrastructure as a service (aka IAAS). Data may become lost in the remote data center or during transfer. During Trivector's presentation, Leif discussed that they used TravelVu to collect users' data. If the data is leaked, it is undeniable that users would be reluctant to share their data with Trivector in the future. In the end, Trivector will lose their credential because of data security.

Back-end developers also need to address lagging problems associated with cloud service. In Swedspot's presentation, Niclas introduced the mechanism of Ezentric. With cloud service's help, users are aware of the condition of their vehicles, such as battery status and active events. The users would rather know their vehicles' current situation as soon as possible. Back-end developers need to ensure that their codes are high-efficient, simple, and straightforward so that the users can receive information as quickly as possible. Annotell also attempts to fix a similar problem when they apply an autonomous drive system. In order to address the challenges mentioned above, back-end developers are inclined to choose Java as a programming language. Puzhevich (2022) illustrates that Java is characterized by cross-platform, multi-threading, security, scalable, and open-source libraries.

This article primarily introduces what back-end development is in comparison to front-end development. Back-end developers mainly deal with servers, databases, and applications with which users rarely interact. Moreover, this article discusses what back-end developers handle with respect to cloud service raising. Rather than purely theoretical analyses, this article also offers some real examples. In the end, the paper also analyzes why back-end developers choose Java in order to address these challenges.

Reference:

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