What is the hottest website during the National Holiday?

Chinese Railway Service Centre, what is known as the website '12306'.

Several days before the holiday, I spent almost two hours trying to get a railway ticket for myself so that I can come back to Beijing after the 9-day-holiday, catch up with the classes and prepare for this lecture with my group mates. The website was hard to log in and once you did, it was even harder for users to try any other operations. I can't help asking myself, why does the 12306 website, which was considered convenient and high-tech, make us so annoyed that some people even destroyed their own computers while trying to buy a ticket online because of anger? What takes it so long for the website to select the information we need and show it?

Obviously, the whole website is based on a database. Space, time and certainty are the most important factors while dealing with database. To meet the requirements of database users, we should find some appropriate

ways to take care of the data in the database.

Although the whole process looks simple, when we think about how it works exactly, it doesn't look so simple any more.

In the 1960s, Network database system and hierarchical database system are used for automatic banking business, accounting and order processing system. However, their basic system structure had physical operation and logic operation mixed together. When the physical position of data changes, we must update applications to retrieve a new position, which makes the data query inconvenient.

In June 1970, Dr Codd published a paper named 《A Relational Model of Data for Large Shared Data Banks》, setting the concept of relational database.

After that, SQL was initially developed at IBM by Chamberlin and Boyce in the early 1970s. It was designed to manipulate and retrieve data stored in IBM's original database management system, System R.

The acronym SEQUEL was later changed to SQL because "SEQUEL" was a trademark of a British company.

So, what makes SQL so special? Why did people invent and choose SQL to build up a database?

There is a really important reason here. SQL is a kind of declarable programming language. It tells the system what to do instead of how to do. Users do not need to worry about the specific ways in which your requirements are met. On the other side, there are also many procedural programming languages, such as C and Java, in which the procedure of the data being processed should be paid attention to.

As we already know, SQL is the foundation of database, and also important for us while doing our course project. There are three stages while building a SNS. First is the formulation stage, where we will talk about the SQL grammar. Second, when the number of users grows, the optimization is desired so that the efficiency of the system will be improved. Third, when the number of

users becomes huge, nosql language appears to be popular.

Next, let's welcome Caoliuxing and Wuxianyu, who will talk to us about the SQL grammar in the first stage.