

Databases in the Real World

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WHAT'S COVERED

This tutorial explores real-world scenarios of database usage in business. People engage with many databases in everyday activities. Businesses often need to decide whether creating new databases, adding to existing databases, or avoiding a database is the right decision for their business and customers. You learn about these interactions in two parts:

1. Daily Interactions with Databases
2. To Build or Not to Build

1. Daily Interactions with Databases

You interact with data and databases throughout your life. Previously, you thought about how you interact with databases on a regular day. Here's a hypothetical example of a day for Carlos.



IN CONTEXT Before going to school, Carlos checks his class schedule for the day and his work schedule for after school. The class schedule is stored in his university's database, while his work schedule is stored in his company's database. While going to school, he picks up breakfast at a drive-through window with his credit card. Consider how those menu items are stored and the fast-food restaurant tracks purchases. Since Carlos paid with his credit card, the transaction would not only be tracked by the restaurant, but also by his credit card company.

When Carlos arrives at school, he has to take a math exam through his university's learning management system. Think about how the learning management systems' user accounts would be stored and mapped with courses and instructors, as well as exam questions and responses for each student. After his class, Carlos plans a trip to go home for the upcoming break and books a train ticket. Consider what data the train company would store for the train schedule and for the purchase of the ticket. Just halfway through Carlos's day and already he has had to interact with a significant number of databases.



THINK ABOUT IT

Try to really map out where you may have interacted with a database so far today. Are there apps that you use or games that you play that track your data? How does your news get delivered to you? What about the messages that you send to your friends and family? The list just keeps on growing!

2. To Build or Not to Build

Now consider the business point of view. When should a business use a database, and when is it not really

needed? Databases should be considered if many users would interact with it, especially if some of those users are customers rather than employees. Some users may only need to read data that exists in the database, while others may also need to insert, update and delete data from the business database.

Perhaps the most important consideration for a company is whether it already has an existing database. If it does, it most likely would not create a separate, new database for a new business need. Instead, the business could build on top of that existing database to avoid data redundancy. If we are able to add tables and fields to an existing database, it is certainly simpler to do that rather than create a completely new database.

➡ **EXAMPLE** If a company has an eCommerce site with a database, it would not make sense to build a separate new database to track newsletter signups from its customers. It would make more sense to add a field or table to the existing database to help track the newsletter signup process.

Note that this can depend on the organization, especially if there are third-party resources being used and the organization does not have access to make changes to the database. If this is the case, they may need to create their own database for a different purpose. Or, if it's a new application that they're building that cannot be added to an existing database, then creating a new database may be required. Other times, it could be more efficient to simply use other tracking tools like Excel. Creating a new database is not always the best approach.

Let's recap.

Reasons for a business to build a new database:

- They cannot change their existing database to suit their new need.
- The business needs to construct a new application that cannot connect to an existing database.

Reasons to avoid building a new database:

- The existing database can be adapted to satisfy the need by adding a table or field.
- A simpler or cheaper tool can satisfy the business need.
- A third-party business can provide a service to fill the need.
- The business needs to access the existing data in a new way, rather than to store new data.



SUMMARY

Businesses have many reasons to store data about their customers. There are many different scenarios in which a business may or may not want to use a database. In this tutorial, you saw some of the considerations for using a database in a business. Next time, you will learn about the differences between a database and another means of storing data, the flat file.

Source: Authored by Vincent Tran