Establishing a Music Education Database

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Abstract

A database is an organized collection of data, today typically in digital form. The data are typically organized to model relevant aspects of reality, in a way that supports processes requiring this information. A good database is designed for a specific use and is constructed with the possibility of growth.

In this project, we collect music education data of the East Asia and try to build a database that can share the primary data based on this collection. Hence we can provide opportunity to study about Korea modern music and culture in a broader perspective. In this paper, we explore the database construction methodology for implementing on this project and we see over about data entry and management.

1. Introduction
The term database is correctly applied to the data and their supporting data structures, and not to the database management system (DBMS). The database data collection with DBMS is called a database system. The term database system implies that the data is managed to some level of quality (measured in terms of accuracy, availability, usability, and resilience) and this in turn often implies the use of a general-purpose database management system (DBMS).

2. Database construction methodology
There are 5 steps for constructing the Music education database /Fig. 1/. Firstly, we should preparing input data such as item and genre about explored and classified material and search options.

Second step is database design and implementation. The database design defines the needed data and data structures that such a database comprises. A design is typically carried out according to the common three architectural levels of a database. First, the conceptual level is designed, which defines the over-all picture/view of the database, and reflects all the real-world elements (entities) the database intends to model, as well as the relationships among them. On top of it the external level, various views of the database, are designed according to (possibly completely different) needs of specific end-user types. More external views can be added later. External views requirements may modify the design of the conceptual level (i.e., add/remove entities and relationships), but usually a well-designed conceptual level for an application well supports most of the needed external views.

Next, we should build User Interface (UI) for entering data to the database. And next step is modification of security. Database security deals with all various aspects of protecting the database content, its owners, and its users. It ranges from protection from intentional unauthorized database uses to unintentional database accesses by unauthorized entities (e.g., a person or a computer program).

Finally, the database maintaining step: Various database parameters may need changes and tuning for better performance. application's data structures may be changed or added, new related application programs may be written to add to the application's functionality, etc.

3. Data entry and management
Processing of data management and searching are showed in Fig. 2. We can see music education database, web server and User Interface from this figure. There are 2 methods to collect data about music education. First of them is that the user can enter data using User Interface to the Music Education Database. Secondly, we can import from any other resources.

Fig. 1. Database construction methodology

Fig. 2. Data entry and Management

Searching is just trying to find the information you need. In Fig. 2, we can see basic searching process; the web server read the requested information from database and then displays the search result to the requested user using User Interface.

5. Conclusion
Building a database the right way means the database is working fine, productivity is high, performance is optimal, corporate initiatives are well supported and the organization has the flexibility and underlying foundation, as expressed in the database schema, to move in directions that it needs to move in. Database modeling and design is at the core of a healthy database management and performance foundation.

References

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