

## CHAPTER 1

### INTRODUCTION

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The goal of this project is to learn how to create database and also a relation of database and shape matching methods. A database is an organized collection of data. A relational database, more restrictively, is a collection of schemas, images, tables, queries, reports, views, and other elements. Database designers typically organize the data to model aspects of reality in a way that supports processes requiring information, such as (for example) modeling the availability of rooms in hotels in a way that supports finding a hotel with vacancies. A database-management system (DBMS) is a computer software application that interacts with end users, other applications, and the database itself to capture and analyze data. A general purpose DBMS allows the definition, creation, querying, update, and administration of databases. Databases often inaccurately identify entities of interest. Real databases often contain incomplete, inconsistent, or multiple identifications of entities of interest. For example, an image database of different shapes with multiple variations may have different names or colors or numbers for the same shapes, or different shape with the same name. Image recognition, in the context of machine vision, is the ability of software to identify objects, places, people, writing and actions in images. Computers can use machine vision technologies in combination with camera and artificial intelligence software to achieve image recognition. Image recognition is used to perform a large number of machine vision tasks, such as labeling the content of images with meta-tags, performing image content search and guiding autonomous robots, self driving cars and accident avoidance system. Database management system is a piece of software that provides services for accessing a database, while maintaining all the required features of the data. Commercially available Database management systems in the market are dbase, FoxPro, IMS and Oracle, MySQL, SQL Servers and DB2.

The first task of a database designer is to produce a conceptual data model that reflects the structure of the information to be held in the database. A common approach to this is to develop an entity-relationship model, often with the aid of drawing tools. Another popular approach is the Unified Modeling Language. A successful data

## Shape Retrieval Algorithm

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model will accurately reflect the possible state of the external world being modeled: for example, if people can have more than one phone number, it will allow this information to be captured. Designing a good conceptual data model requires a good understanding of the application domain. Producing the conceptual data model sometimes involves input from business processes, or the analysis of workflow in the organization. This can help to establish what information is needed in the database, and what can be left out. For example, it can help when deciding whether the database needs to hold historic data as well as current data. Having produced a conceptual data model that users are happy with, the next stage is to translate this into a schema that implements the relevant data structures within the database. This process is often called logical database design, and the output is a logical data model expressed in the form of a schema. Whereas the conceptual data model is (in theory at least) independent of the choice of database technology, the logical data model will be expressed in terms of a particular database model supported by the chosen DBMS. (The terms data model and database model are often used interchangeably, but in this article we use data model for the design of a specific database, and database model for the modeling notation used to express that design.)

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