

# Wiki System Application Through Practical Database

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## ABSTRACT

The database system has developed towards providing convenience and practicality. Database systems that have had a tendency can be accessed at various levels and online. So that some database developers provide access through a single account, both email and social media applications. Database optimization is the most interesting issue at this time and applications that are no longer paid for make each individual to the institution have a good and very accurate database.

**Keywords:** database, single account

## 1. INTRODUCTION

Reliable and accurate data (information) must be owned by the organization as a basis for decision making. A manager or an organization needs data as a backbone or a reliable resource to gain a competitive advantage. In a digital era like this there is a lot of information explosion, so it is not easy to get the right information, at the right time, and in the right amount. So, if the organization cannot manage information properly, it will not be a successful organization, and vice versa, an organization that can manage data properly will be successful.

Various information needs to be simplified so that information can be used on target and on time, database systems can simplify information by extracting important parts of the information accurately. The integrated collection of related files, together with detailed data interpretation can be called a database system. Programs that allow access to data contained in databases, also known as Database Management Systems, are software systems [1].

The purpose of using a DBMS is to facilitate data processing. The DBMS provides an effective method of defining, storing, and retrieving information stored in the database system. The role of database and database management systems in managing businesses, governments, schools, universities, banks, etc. is very important.

## 2. BASIC CONCEPTS AND DEFINITIONS

The most basic resource in an organization is data. Organizing and processing the right data is very important in running an organization efficiently. This section describes the database system used as the main term and a formal definition.

### a. Data

In life, data is very important. Data is defined as a known fact which can then be stored and recorded on a computer. Then other experts reveal that data is the raw fact of information [2].

### b. Information

Information and data are two things that are interrelated. Data is part of the information that has been perfected. In other words, information is the result of data that has been processed, arranged or summarized. Then the data that is processed as information is packaged into meaningful content. The content is given to the recipient which is useful in helping to make a decision [3]. Some information can be in the form of pictures, text, documents and sounds, but it must be underlined that information must always be meaningful. So it can be concluded that information has a stronger meaning than data.

Information generated from data processing. The recipient of the information receives the information then forms the basis for making decisions and taking action, which can trigger other actions. In this digital era, there are so many amounts of data, but this makes the quality of the information decrease. Quality information has three attributes, namely information that is accurate, timely and relevant.

1. Accuracy. This means that the information must be accurate and free from error. other than that, the information may not be multiple interpretations so as not to cause errors in the interpretation of the information by the recipient.
2. Punctuality. This means that the information must be available when the recipient needs the information at the right time and time.
3. Relevance. This relates to each recipient of the information. this is a very subjective aspect. In life,

information is relevant for some people but irrelevant for others. For example, camera price information is irrelevant for someone who wants to buy a printer.

So that organizations those who do not realize the importance of information management will be out of business. Meanwhile, an organization that realizes the importance of information and has a good information system that can produce accurate, timely and relevant information will survive.

### c. Meta Data

A data also has data called meta data. Meta data serves to describe objects in the database system so that the system is easier to process or access. Meta data can be database structure, data type size, application, authorization, restrictions, etc. [4], meta data serves as an integral tool for the management of information resources. Meta data has 3 main types:

1. Descriptive metadata, is information related to the identity of a data. Aims to identify the identity of the data. Examples of meta data include traditional library catalogs in the form of metadata, titles, abstracts, authors, and keywords.
2. Structural meta data, this describes data that is combined into one. For example, like sorting a page into chapters.
3. Administrative meta data, here the data is categorized into several sub data. Sub data serves to facilitate data users by categorizing the source, time, and type of data.

### d. Data Dictionary

The term data dictionary is the information center of the data in the database [5]. Serves to assist DBA in database management, definition of user views, and their use. Contains an integral part of the data or the core data. Database integrals such as, attribute names, and definitions for each table in the database. In a data dictionary generally stores and manages the following types of information:

1. Detailed information, is a physical design that can be seen directly of the database, e.g. file size, access point and storage structure etc.
2. Information related to the person or organization of the database users, their responsibilities as users, and the access rights of each user. Complete information about the database schema.
3. High-level description of database transactions, applications and information about user relationships with transactions.
4. Information regarding the relationship between each data item referenced by the transaction database. this serves to determine which transactions can be affected when data definitions are changed.

In the database the data dictionary consists of two types, namely active data dictionaries and passive data dictionaries:

1. Active Data Dictionary, in the active data dictionary all the data in the database is managed automatically by a data management system (DBMS) with a consistent current database structure and definitions. In general, RDBMS has an active data dictionary.
2. Passive Data Dictionary, this type of passive data dictionary is used for documentation purposes that must be kept. Data can be files, about fields, and people for cross-reference. The passive data dictionary is usually maintained by system users and is updated when there is a modification in its database structure. Updating the active data dictionary is done manually by the user, so that inconsistencies can occur with the database.

### e. Database

Collections of data that are interrelated and have meaning are shared with redundant contraction which aims to facilitate one or more applications optimally. Data is stored independently of the programs used by the organization to access data. A general and controlled approach is used in the process of running a database, such as adding new data, modifying, and retrieving existing data in the database.

A database can also be defined as a collection of data which have logical relationships designed to meet the needs of an organization that sticks together. Or it could be called an electronic data review system. An example of a database is a telephone directory containing names, addresses, and telephone numbers of people stored in computer storage. Databases are organized by fields, records, and files. This is briefly explained as follows:

### f. Fields

Called a data item or data element, it is the smallest unit of data that has meaning to its users. Examples include Name, Address, and Telephone Number. This section is represented in the database by value.

### g. Recording

A record is a complete set of fields. This set of fields has multiple values. Or it can be said that a record is a collection of logically related fields and each field has a fixed number of bytes and a fixed data type. Detailed information about specific phone numbers in the database that represent records. A record consists of 2 types of fixed length records and variable length records.

### h. Files

A collection of records that have associations is called a file. Generally, the files have the same type and size, but there can be differences. The length of the notes in the file depends on the size of the notes. Example records in files such as directories on the phone. Examples of more detailed details are provided in Chapter 3.

### 3. INTRODUCTION TO SYSTEM DATABASES

#### a. Preliminary

An organization and institution that wants to gain a competitive advantage places data as an important source. In this digital era, the world is experiencing an information explosion. Where we are like being bombarded with data. These circumstances make it difficult for people or organizations to obtain correct and timely data. Thus, organizations that cannot process data into accurate information will go out of business.

Database systems are a way of simplifying data tasks and constructing useful information in a timely manner. Integrated database system for collecting associated files, along with detailed interpretation data. In the construct term, the diction of Database Management System (DBMS) appears. In the database software, there is a system that aims to allow users to gain access to data in the database, this system is called a DBMS. DBMS is here to provide an effective and easy method to define, store, and retrieve information in the database.

One example of a management database system and database is the google form. This survey tool has become important for businesses, governments, schools, universities, banks, etc. Google Forms are personalizing the information obtained based on a survey or quiz. Then the information that has been collected is automatically transferred to a spreadsheet. The worksheet is filled with survey or quiz data. Currently the form service has undergone many developments according to human needs. Many new features appear in the search menu, random requests to order, one-time ban responses per person, shorter URLs, custom themes, automatically generating suggested answers when creating forms, and the option "Upload files". In October 2014 the upload feature was only available on GSuite. Nowadays everyone can easily share files via Google Drive.

#### b. Context Database Surveys and Automation Engines

In July 2017, Google upgraded itself and added a variety of new features (Figure 1). Starting from the more intelligent response validation "can enter text to identify what was written and ask the user to correct information if it is entered incorrectly [6]. There are file sharing settings in Google Drive, users can request file uploads from individuals outside of multi-answer options in the table. The user can change the changes that affect all new forms depending on the settings that have been made, such as always collecting email addresses

Typically, automation is used for work discipline or to replaces human duties in simple gross or repetitive terms. Automation is present in nearly all verticals and niches, although it is more prevalent in utilities, transportation, manufacturing and security.



Figure 1 Fitur of Google Forms

For example, today some human tasks have been replaced by machines. Many factories have switched from human power to mechanical or robotic power. Humans are only needed to define processes and monitor them, while the whole process of calculating the various components is left to machines, which automatically convert raw materials into finished goods.

Not only in the realm of the business economy. In the realm of technology, the impact of automation is increasing, both on software / hardware and at the machine layer. As the adoption of new machine learning (ML) and artificial intelligence (AI) technologies is currently skyrocketing the evolution of this field.

There is also various software available on the market which are capable of coding an application. In the field of information technology, software scripts can test software products and then process them automatically to generate reports. High levels of automation are advanced business intelligence. In other industries, automation has greatly increased productivity, streamlined production time and lowered costs.

From the most ordinary applications of the most special, which already exist in various something from us daily lives. For example, in controlling household work equipment steam boilers, novelty automatic telephone switchboards, electronic navigation systems and more sophisticated settlement procedures behind autonomous vehicles. Engine power ensures techniques are used effectively in the delivery of products and services. However, this essential results in many projects becoming not needed (especially the incompetent) and ultimately creature transferred.

Mechanization is bound to own a great negative effect on jobs and rewards for all work that does not require special training and skills. Although many of these workers can handily fix new hires, and the effect this technology has on our society is progressive enough to create new opportunities for everyone. World Bank 2019 World Development Report confirm that the positive effects outweigh the negative effects in terms of new industries, but automation-based technology is still a major concern (Figure 2).

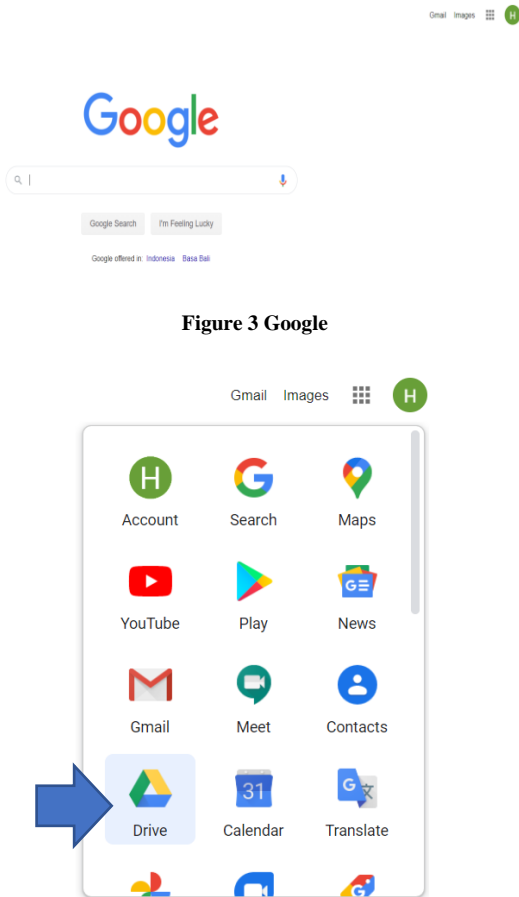


**Figure 2 Automation Based Technology**

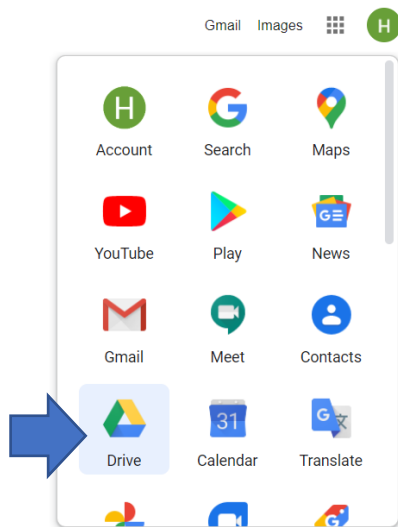
Despite the progress in the update, a few manual breakers have always followed suit, although the tool can do most of the tasks. Automation professionals engaged in the creation, application, and technology of such technologies are in great demand.

**c. Simple Database Application Development**

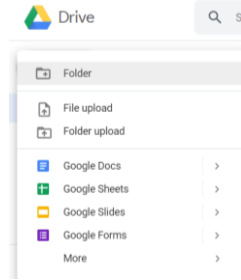
Application development begins with the ownership of a single account, namely Google (Figure 3). The ownership of a single account can provide facilities in the form of a storage area (Figure 4). Enter the drive and create a new folder (workplace) (Figure 5, Figure 6, Figure 7).



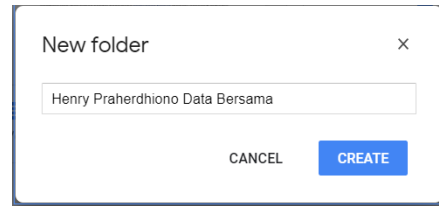
**Figure 3 Google**



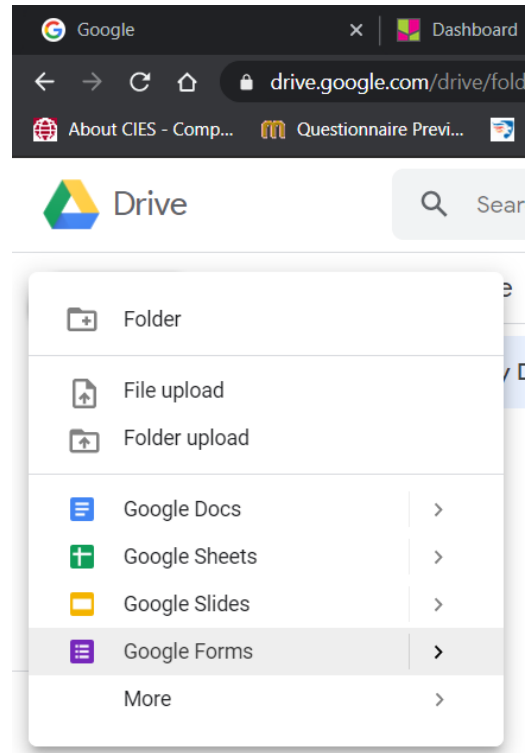
**Figure 4 Google Facilities**



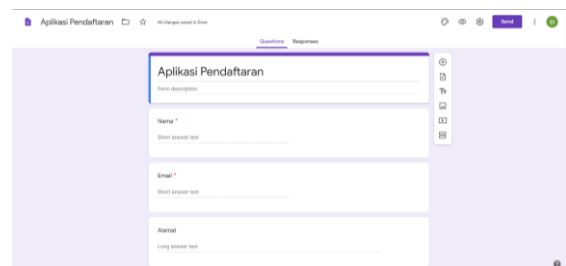
**Figure 5 Creating A New Folder (Workplace)**



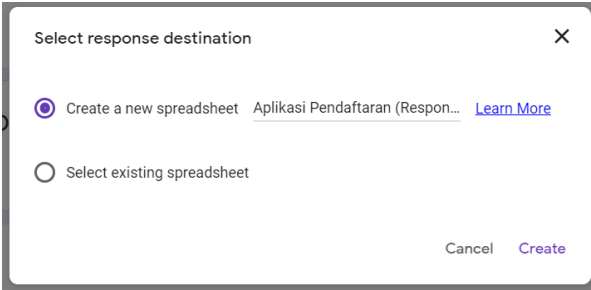
**Figure 6 Folder Stores All Activities**



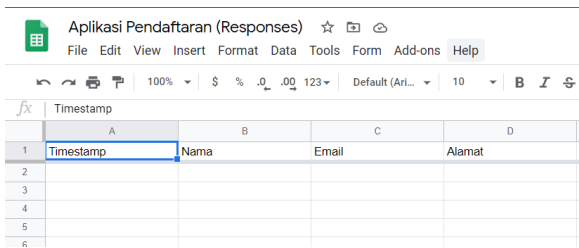
**Figure 7 Create Input Applications**



**Figure 8 Making the Application Connected to the Database**



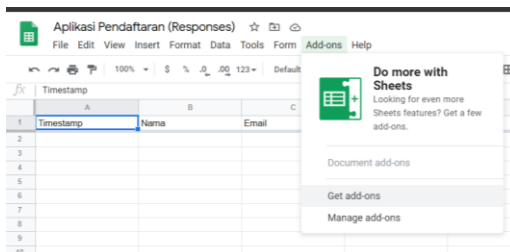
**Figure 9 The Process of Connecting the Application with the Database by Clicking Create**



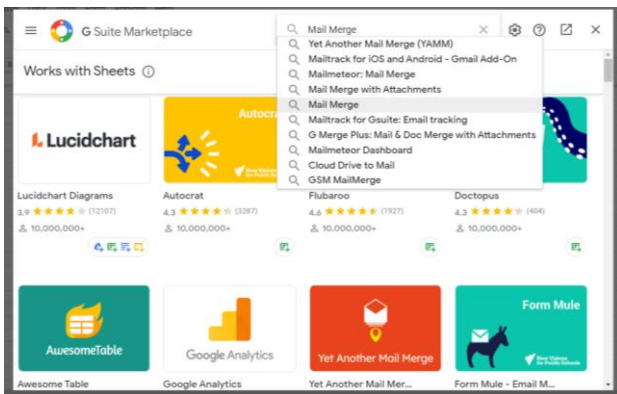
**Figure 10 The Database will be Filled When the Application Will be Filled**

**d. Added Database capabilities**

Database capabilities can be optimized by adding add-ons (Figure 11). Optimization depends on the capabilities of the add-ons or stylists (Figure 12). Ability depends on the type of add-ons, whether free or paid. For example, chose the mail merge add-ons (Figure 13, Figure 14). Then just click install (Figure 15).



**Figure 11 Database Capabilities**

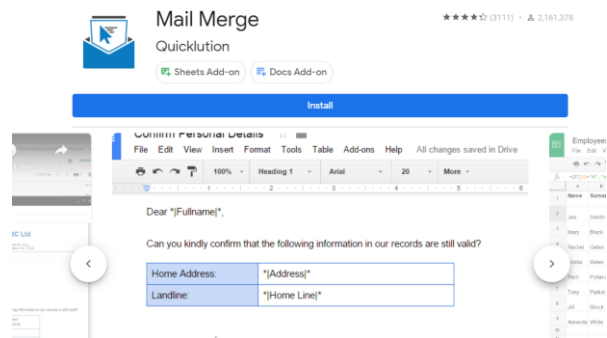


**Figure 12 Optimization Depends**

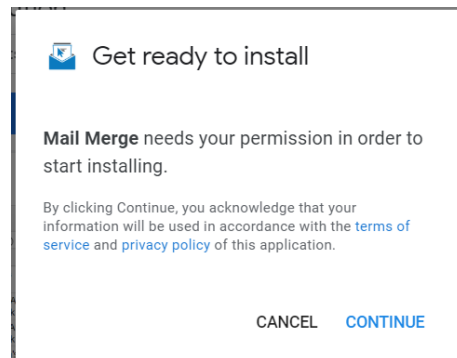


**Mail Merge**  
4.3 ★★★★★ (3111)  
2,161,378

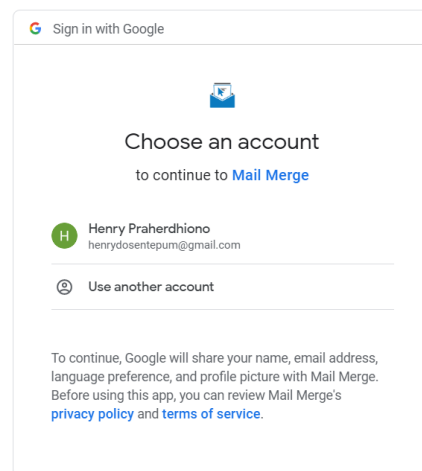
**Figure 13 The Mail Merge Add-Ons**



**Figure 14 Mail Merge**



**Figure 15 Ready to Install**



**Figure 16 Choose A Single Account**

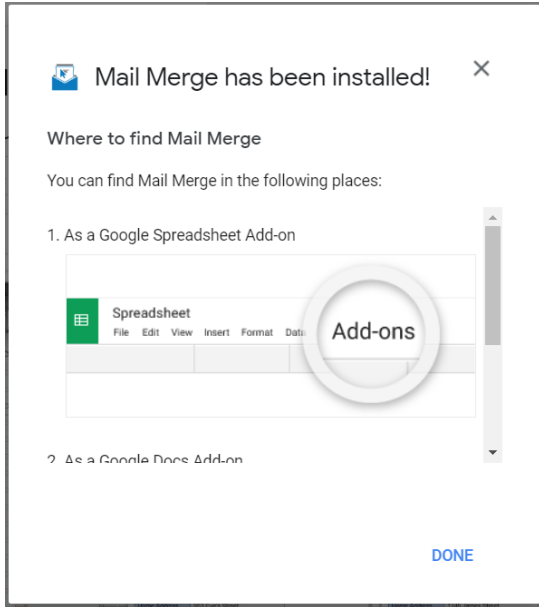


Figure 17 Mail Merger has Been Installed

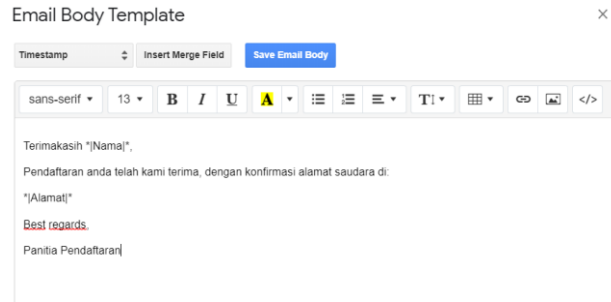


Figure 20 Email for Send

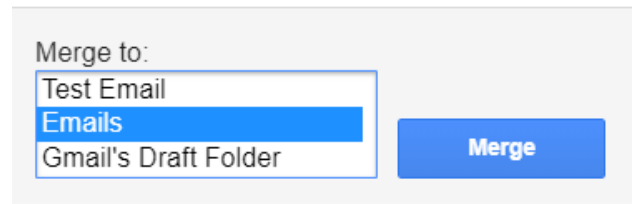


Figure 21 Send to Email

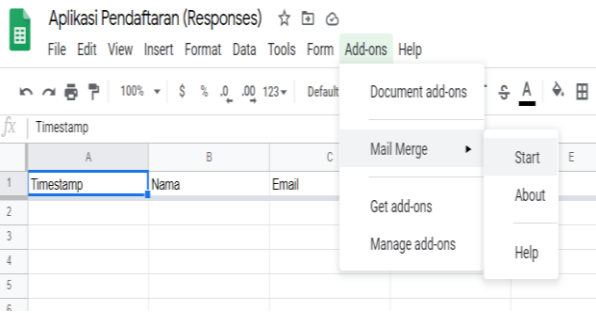


Figure 18 Activate Add-Ons

Sheet is obtained from Form Responses 1 (Figure 19). "Email to" will be sent based on the "Email" entry on the sheet whose name must be exactly the same (Figure 20). Select the email subject and from display name then fill in. Then save (Figure 21), applicants are given the opportunity to enter the application and fill in based on the data held by the prospective participants. Emails then Merge. To be able to run, you must have at least 2 data inputted.

Email Subject ⓘ

Pendaftaran Anggota

Write Email Body | Attachments

From Display Name

Panitia Pendaftaran Anggota

Figure 19 Form Responses

#### 4. CONCLUSION

Database is a collection of data that has been processed and linked to each other and then stored in one or more application systems. Data is stored a way that does not depend on programs used by the community to access data. There are 3 types of approaches to data collection in database systems, adding new data, using existing data that is used in adding new data, using, and retrieving existing data from the database, generalized and controlled. Database can be defined as a collection of legally linked data stored together designed to meet the information needs of the organization. The database can be defined as an electronic filing system. An example of a database is a telephone directory containing telephone numbers, addresses, and names of persons stored on computer storage. Database is organized according to files, records, and fields in a nutshell as follows.

Sector These are units of data that have meaning and are also called a data feature or data element. example fields such as Name, Address, and Phone Number can be represented in a database with values. A record is a collection of fields that contain relationships. In the field, of course, there is data that has been processed. The fields containing the data have a fixed number of bytes and a fixed data type. Alternatively, we can call the record one complete field and each field has multiple values. Specific telephone number detail information that represents the database. Records consist of two types of fixed length and variable-length records. A collection of records related to the meaning of the file. All the records in a file is a collection of related records. The length of a record in a file corresponds to the variables contained in that file. The records in a file are of the same size and type but can also be different. An example is a telephone directory which contains records of different phone holders.

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