Model Rapid Application In Development Information Systems Population Data Processing (Case Study : Tambusai District Office In The Kabupaten Rokan Hulu Riau)

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Abstract

Tambusai district office in the Kabupaten Rokan Hulu Riau Province is an instance that is currently resident in terms of data processing that is processed by computerization. But still using an application program such as Microsoft Word that affect some of the problems that is inaccurate population data information contained in these districts and population data duplication because absence of the key (key) to prevent duplication. In this case the data are processed population is active population data, population data and population data moved has died. It takes an information system to anticipate the issues mentioned above. The information system is designed to implement the model of Rapid Application Development (RAD) where in generating the information system for processing data on population at the District Office Tambusai the regency of Rokan Hulu, Riau Province through a number of phases, beginning with the planning phase requirement needs of the system, involving users to design and build system (the activity is performed repeatedly to reach a mutual agreement), and the last stage of implementation.

Keywords: RAD, Population, District Tambusai

1. Introduction

Produce software to meet the needs of users are clearly not an easy matter. User needs are very varied with different mechanisms and behaviors that require conformity, consistency and synchronization information. A system not only focus on the model and features of a software and programming languages and the use of the database (Sandy, 2015). Significantly apply appropriate methods will deliver tangible results in its use (Vishal, 2013). The system needs a high level of dynamism, availability of time and development costs anggran limited, the need for up to date information, and the need for proximity interaction personal relationship with its characteristics would be more appropriate to apply the method RAD (Rapid Application Development). Tambusai District Office in the district of Rokan Hulu, Riau Province is an institution that is currently resident in terms of data processing that is processed by

computerization. But still using an application program such as Microsoft Word that affect some of the problems that is inaccurate population data information contained in these districts and population data duplication due to the absence of the key (key) to prevent duplication.

In this case the data are processed population is active population data, population data moved and died. Need an information system / software to anticipate the problems mentioned above. The information system is designed to apply the model of Rapid Application Development (RAD). Model RAD is an adaptation of "high speed" of the waterfall model, where rapid development is achieved by using a component-based construction approach (Andrew, 2013). Applying the method of RAD should consider the time and expense of a balanced and more suitable for the development of information systems that excel in terms of speed, accuracy, and lower cost. Involving users in its development so as to increase satisfaction in using the system (Lee, 2002). The use of RAD models in information system designed in this study is based on previous studies that make use of the RAD in generating an electronic information system of commercial furniture. Using the model RAD only takes about 60 days to complete the designed system. This research has the goal of producing software / information system in the processing of data resident on Kecematan Office Tambusai Rokan Hulu Riau by applying RAD models in its design. This software will be useful in efficiently and solve problems in data processing such as population that has been described above.

2. Review of Theory

2.1 Rapid Application Development (RAD)

RAD method has the phases of planning the terms of the needs of the system, the system involving users to design and build the system (the activity is performed repeatedly to reach a mutual agreement), and the last stage of implementation. For the modeling of the RAD method includes Business Modeling, Data Modeling, Process Modeling, Application Generation, Testing and Turnover (Sommerville, 2011). RAD method is very concerned with the involvement of users in the analysis process and its design so that it can meet the needs of users with significantly better and will be able to increase the level of user satisfaction overall system (Sommerville, 2011). The research instrument with interview and observation techniques, and taking the sample using purposive sampling technique. For a number of samples were 30 forms of trading business furniture market products with similar economies of scale enterprise. Selection of how testing is done using data easily checked (easy values), the data that is simple and easy to calculate (typical realistic values), data is extreme (extreme values) and the data is not allowed (illegal values) (Shelly, 2012).

Figure 1. Model RAD (Sandy, 2015)

2.2 Application of Rapid Application Development

Model RAD waterfall and development model adopted in the short time achieved by applying:

a) Component-based construction

(component-based programming Not a procedural).

b) The emphasis on re-use (reuse) software components that already exist.
c) Generation program code automatic / semi automatic.
d) Multiple team (many teams), each team completed the task the same level but not different. The number of teams depends on the area and complexity of the system built.

2.3 Weakness Rapid Application Development

Some things advantages and disadvantages that need to be considered in the implementation of development using RAD models are:

a) Model RAD requires considerable resources, especially for large scale projects.
b) This model is suitable for large scale projects.
c) Model RAD requires a strong commitment between the developer and client, even both can be incorporated in one team
d) The performance of the resulting software can be a problem when the needs can not be module beginning of the process, so approach with this model is not good.
e) The system can not be modularized not suitable for this model.
f) Smoothing and merging of several teams at the end of this process is essential and requires hard work.
g) Projects can fail because of the time agreed upon is not met
h) a high technical risk is also less suitable for this model.

2.4 Stages In Model RAD

Designing in developing systems using RAD methodology has several stages:

Needs Plan (Requirement Planning)

User and analyst meeting to identify the purpose of the system and the information needs to reach the goal. At this stage the most important thing is the involvement of both parties.

Process Systems Design (Design System)

At this stage, the activate of users involved decisive for achieving the goal because the process is doing the design process and make improvements if there is still a mismatch between the user and the analyst design. A user can immediately provide comment if there is a mismatch in the design, designing the system by referring to the documentation of user requirements that have been made in the previous stage. The output of this stage is a software specification that includes the organization of the system in general, structure data and others.

Implementation (Implementation)

This stage is programmer who developed the design stage of a program that has been approved by the user and analyst. Before applied to an organization's testing process conducted prior to the program if there is a mistake or not. At this stage a regular user provides feedback for a system that has been made and approval regarding the system.

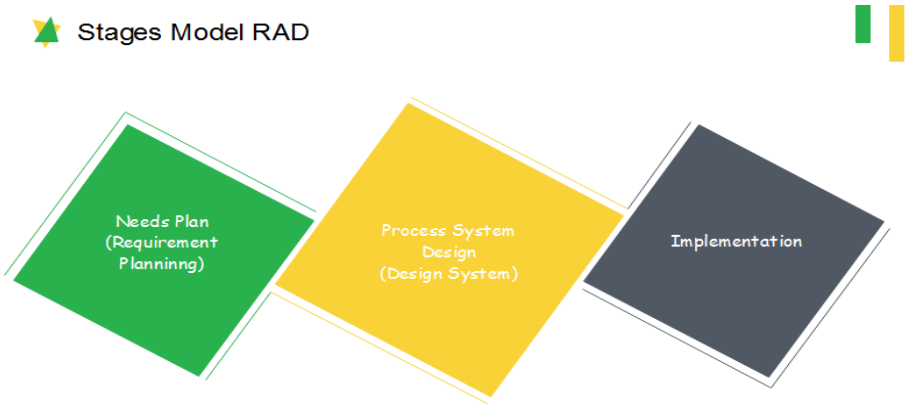


Figure 2. Stages Model RAD

3. Research Methods

Methods used are as follows:

1. Stages Model RAD consisting of plan requirements, system design and implementation.
2. Field Research (Field Research)
   The writer will conduct a review directly to the field (observation) that the Tambusai District Office Kabupaten Rokan Hulu Riau. The author made observations and analyzes of the existing system in the data processing people.
3. Research Laboratory (Research Laboratory)
   The author conducted research lab computer where the data obtained is processed and made its programming to generate an application program in accordance with the existing problems.

   Hardware consists of:
   a. Computer with AMD Athlon (R) 2.1 GHz
   b. 15 inch monitor, keyboard and mouse PS 2
   c. Memory 1024 MB of RAM and 80 GB HDD
   d. Printer Canon PIXMA iP 1980

   The software consists of:
   a. Operating System Windows XP SP2
   b. Microsoft Office Word, Visio and Access 2007
   c. Visual Basic 6.0 programming language

4. Results

Plan Needs

User, system analysts and system design meets on parts that perform data processing at Tambusai District Office population to identify the purpose of the system, the system design will be generated and the information needs to reach the goal. This can be illustrated in the Work Breakdown Structure (WBS).

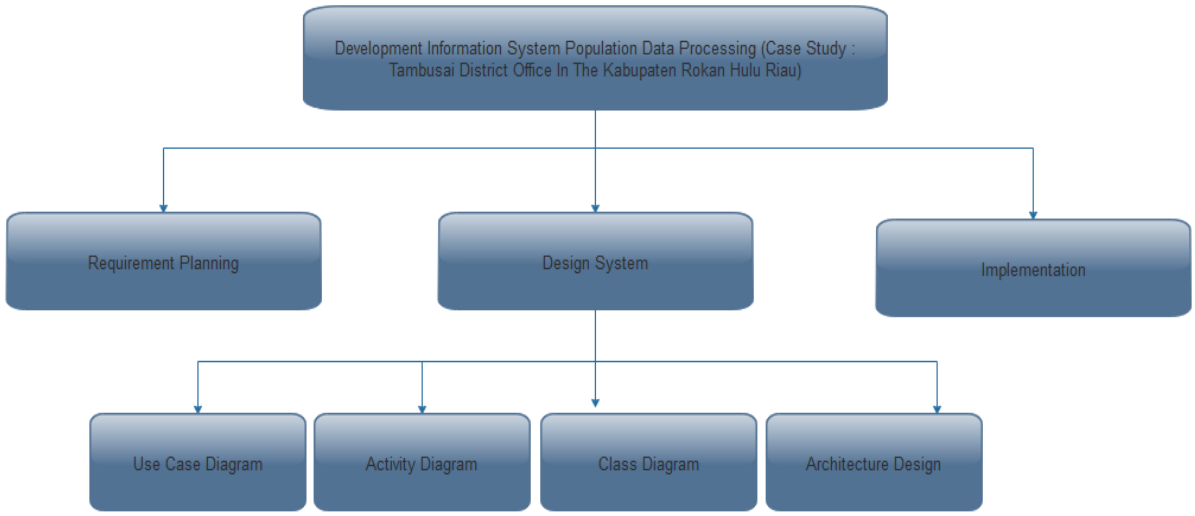


Figure 3. Work Breakdown Structure (WBS)

System design

The system design is made in a use case diagram as in the image below.

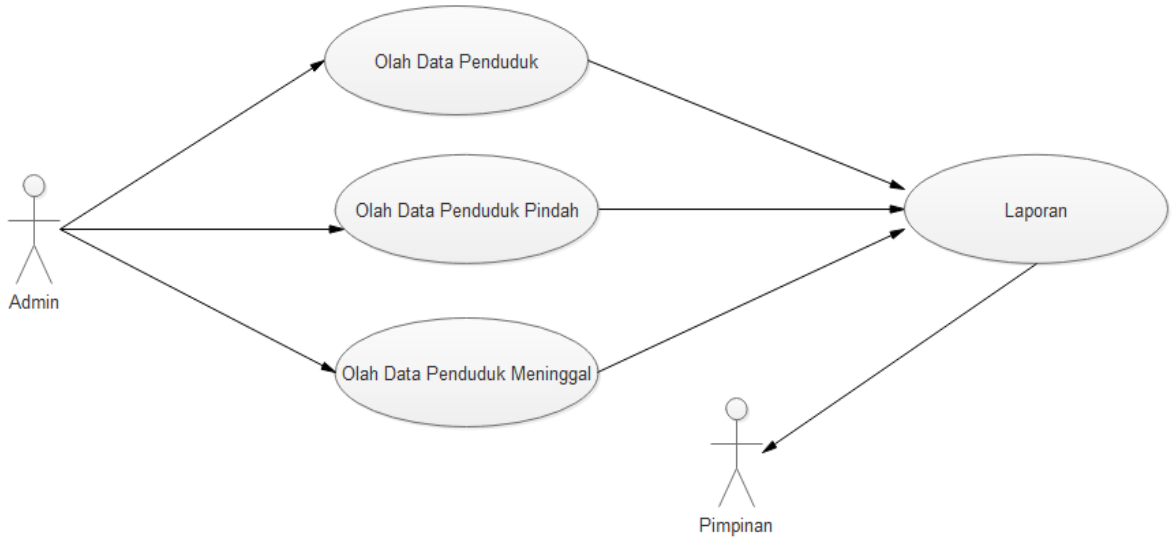


Figure 4. Use Case Diagram

The use case scenarios, namely:

Table 1. Use Case Scenario 1

Identification	
Description Name	Sports Population Data
	Open the population data form which can process the data and input new population data
Actor	Admin
Initial Conditions	Opening population data form
Scenario	
Actor Action	Reaction is System
Selecting the add data button	Input data new population
Selecting the data save button	Save population data
Selecting the cancel button	Cancel for input population data
Selecting the data edit button	Edit population data
Selecting the data delete button	Delete population data
Selecting the search button	Search population data
Selecting the exit button	Exit from population data form
Selecting the report button	Print all report population data

Table 2. Use Case Scenario 2

Identification	
Description Name	Sport Move Population Data
	Open the move population data form which can process the data and input new move population data
Actor	Admin
Initial Conditions	Opening move population data form
Scenario	
Actor Action	Reaction is System
Selecting the add data button	Input data new move population
Selecting the data save button	Save move population data
Selecting the cancel button	Cancel for input move population data
Selecting the data edit button	Edit move population data
Selecting the data delete button	Delete move population data
Selecting the search button	Search move population data
Selecting the exit button	Exit from move population data form
Selecting the report button	Print all report move population data

Table 3. Use Case Scenario 3

Identification	
Description Name	Sport Die Population Data
	Open the die population data form which can process the data and input new diee population data

Actor	Admin
Initial Conditions	Opening die population data form
Scenario	
Actor Action	Reaction is System
Selecting the add data button	Input data new die population
Selecting the data save button	Save die population data
Selecting the cancel button	Cancel for input die population data
Selecting the data edit button	Edit die population data
Selecting the data delete button	Delete die population data
Selecting the search button	Search die population data
Selecting the exit button	Exit from die population data form
Selecting the report button	Print all report die population data

For a description of the data is made in the draft class diagram as in the image below.

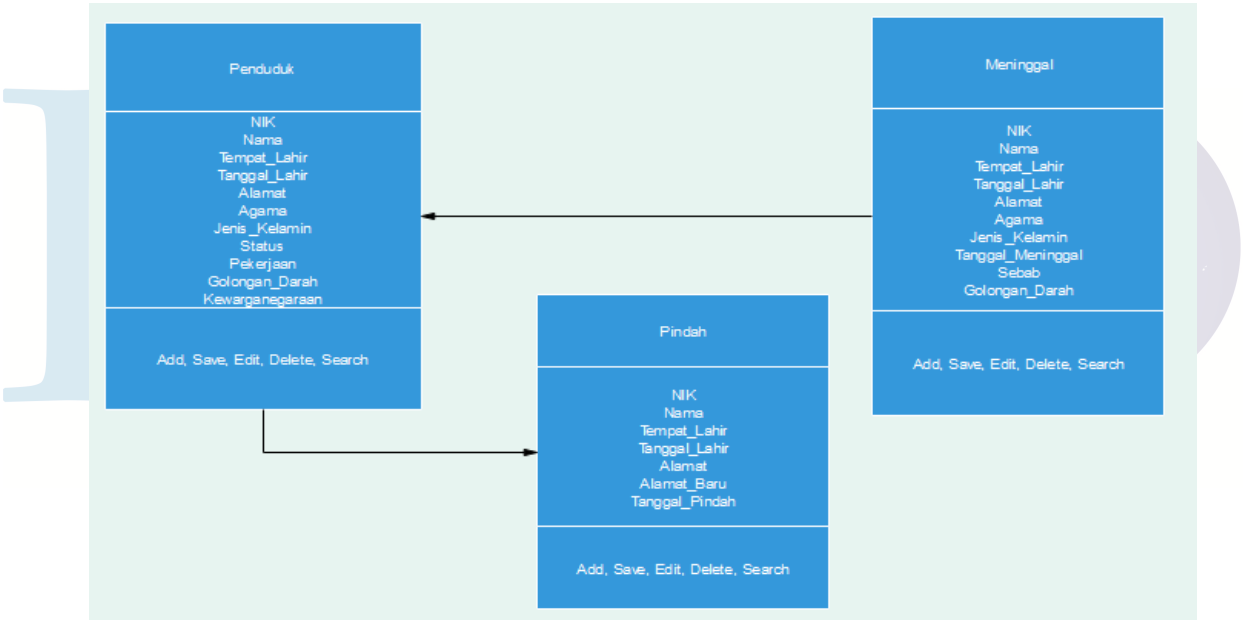


Figure 5. Class Diagram

And then to the architectural design of the information system created can be seen in the image below. Admin perform input population data in the Personal Computer (PC) existing system and input data stored in the database. PC connected to the PC LAN network management. The data has been inputted by admin directly connected to the PC head office. And then to see the data that has been terinput population data is printed through the report.

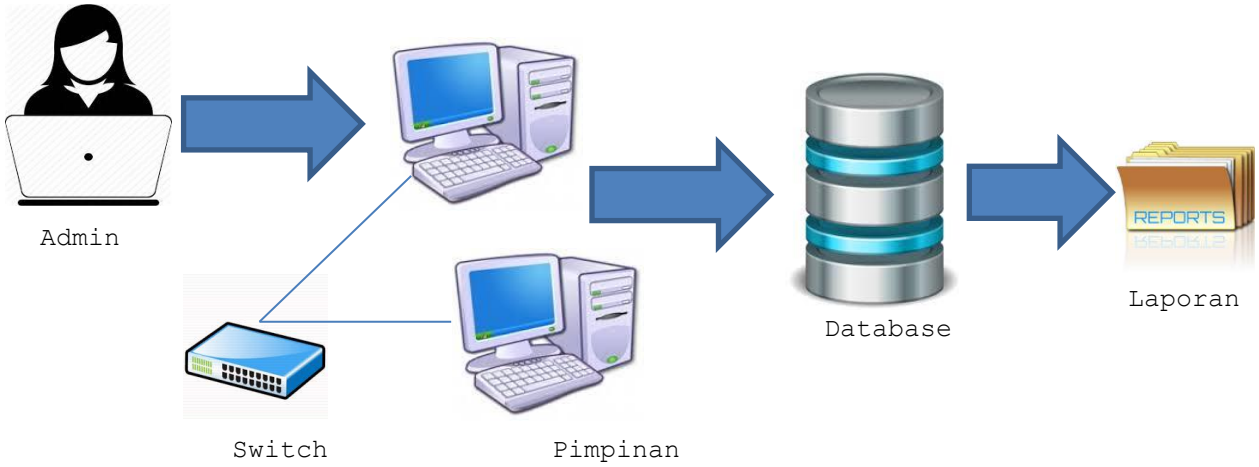


Figure 6. Information System Architecture

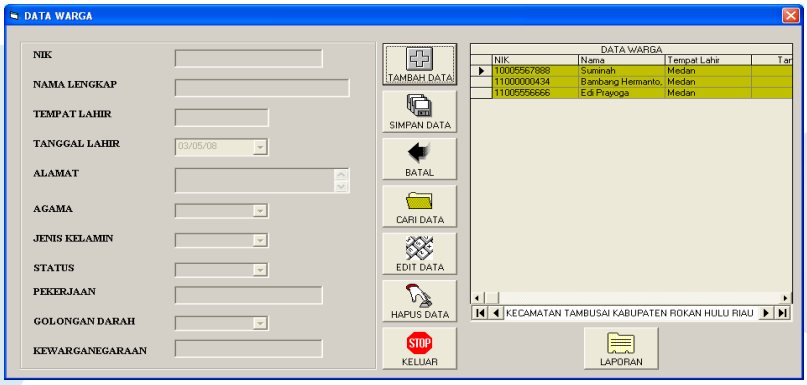


Figure 7. Input Data Population

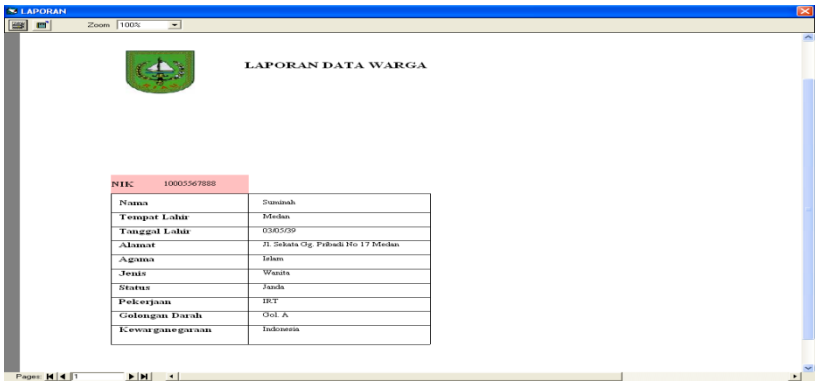


Figure 8. Output Data Population

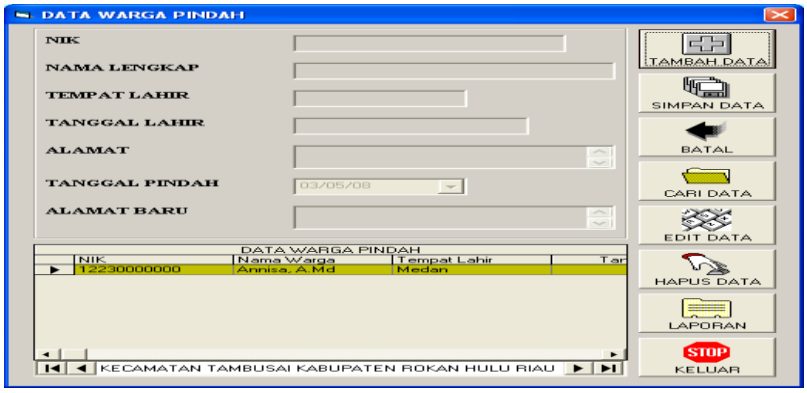
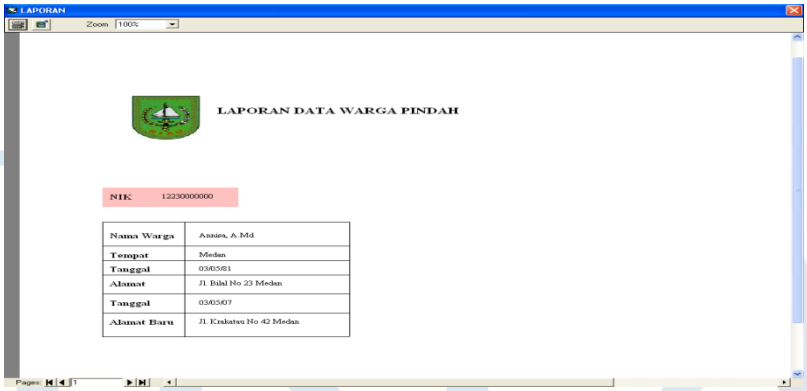
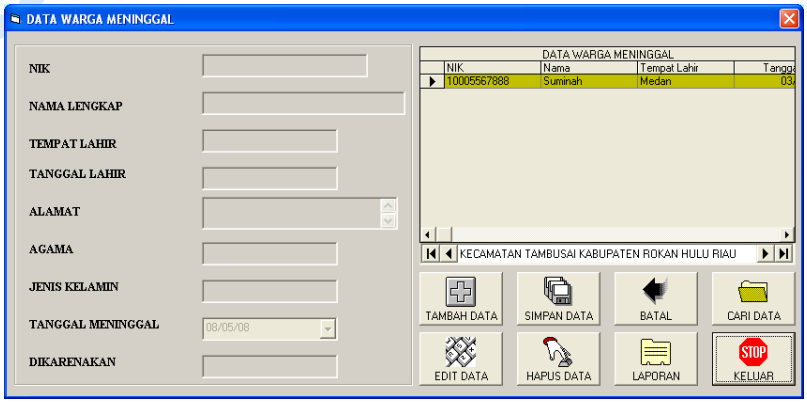


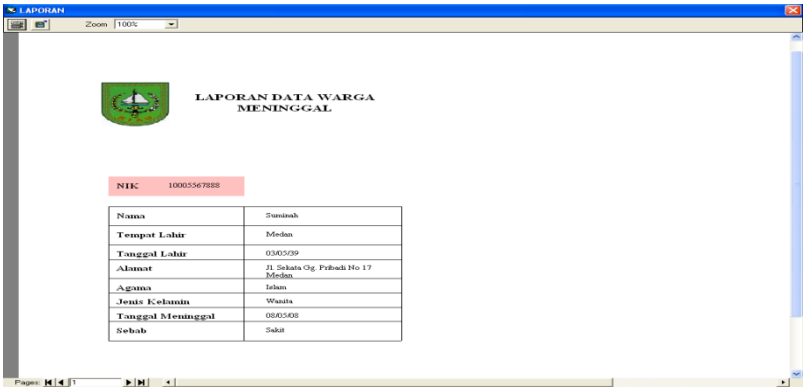
Figure 9. Input Move Population Data



Gambar 10. Output Move Population Data



Gambar 11. Input Die Population Data



Gambar 12. Output Die Population Data

5. Conclusion

1. The application of the model RAD (Rapid Application Development) in generating the information system of population data processing at Tambusai District Office can provide maximum results. In particular, the system can help employees in processing and search the data population and produce accurate information.
2. Selection of the model RAD (Rapid Application Development) in designing information systems population data processing because of these models do not require a lot of teams, the time it takes a short and efficient as well as faster.
3. With this new system the information needs be the base for decision making in terms of population data processing.

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