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INTEGRATED POPULATION DATA RECORDING INFORMATION SYSTEM AT THE RT LEVEL BASED ON MOBILE (CASE STUDY IN CIROYOM CIKELET VILLAGE, GARUT REGENCY)

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ABSTRACT

Population registration is an activity of data collection and recording of population events reports in order to issue population identity documents in the form of family cards and resident identification cards or other population documents issued by the local government. The population registration process is carried out in Ciroyom Cikelet Village, Garut Regency, precisely in Kp Rancaputat RT 03 / RW 04, population registration is still done manually using paper methods so that data is easily lost and damaged.

Population registration here includes resident data according to family cards, current asset data and non-current asset data. The application consists of 4 parts: admin (Sensusu), residents, RT officers, The application was built with the aim of simplifying population data processing and providing population information, especially for residents around RT 03/RW 04 Ciroyom Village and making it easier for residents to apply for KTP cover letters.

This Android-based application system was built with Microsoft Windows 10 Pro, the application creation process used Delphi 10.3 Rio Software with the Pascal Programming Language, MYSQL as the Database, and PHP MyAdmin as a tool for connecting Delphi Software and MYSQL. Based on the results of the tests that have been carried out, the application runs well.

ARTICLE INFORMATION

Keywords:

Registration, Population, Citizens, Android

1. Introduction

Development technology information has push transformation significant in governance administration government , including at the government level smallest like Pillars Neighborhood (RT). Digitalization system administration No only functioning as means recording , but also as instrument strategic in increase accuracy , transparency , and efficiency population data management . Availability of up-to-date and integrated data become need fundamental in support the decision-making process policy , distribution help social , as well as implementation of development programs data- based .

In a way normative , administration population covers activity recording various incident demographic like birth , death , migration residents , as well as changes in social status others that impact the document official population . However Thus , in practice Still there are areas that do recording manually using paper media . Recording model conventional This potential cause various problems , including risks lost documents , damage archives , data duplication , and delay update information . Conditions the can result in mismatch between administrative data with reality factual in the field .

Problems This was also found at the RT level in the Ciroyom Village area , District Cikelet , Regency Garut . The process of recording population data in the RT environment is still ongoing. implemented manually , so that data update no always done in a way periodically . The impact is that there are potential data inaccuracy when used as base verification help social and activity census population . Asynchrony This show existence gap between need will have accurate data and systems management of available data .

On the other hand , development Android -based mobile devices open opportunity For present system more information adaptive and easy accessed by authorities environment . Implementation system mobile- based allows input, update , and processing processes distribution information done in a way more fast and structured . Data integration at the RT level also has the potential support synchronization with system administration at the level village until more agencies high , so that created continuity information in a way vertical .

Based on background behind said , research This focuses on design and development system information population data recording integrated mobile -based at the RT level . The system developed No only accommodate population data according to the Family Card , but also includes asset data recording inhabitant as information supporters in mapping condition social economy society . With existence system This , it is hoped that the data management process will be more effective , accurate , and responsive to changes that occur in the environment public .

Study This expected can give contribution practical in support digitalization administration population on a scale micro , at the same time become an early model development system information integrated that can adapted to other regions with characteristics similar .

2. Method

Study This use approach studies case with method descriptive qualitative combined with design system (system development). Approach studies case chosen Because study focused on one administrative area certain , namely RT 03/RW 04 in Ciroyom Village , District Cikelet , Regency Garut . Through approach this , researcher can do observation in a way deep to problem ongoing population data recording walk as well as formulate solution based appropriate technology with need field .

Descriptive method used For describe condition existing system manual recording , including channel work , data structures , and obstacles faced by managers administration at the RT level . Analysis results the Then become base in designing system information integrated mobile based .

2.1. Data collection technique

Data collection was carried out through a number of technique following :

a. Observation Field

Researchers do observation direct regarding the process of recording population and asset data which is still ongoing done manually . Observation This aim For identify channel work , recording media , and potential problems that arise in practice administration .

b. Interview

Interview done in a way direct to RT head and several inhabitant For get information about need system , obstacles faced , and hope to development system mobile based .

c. Documentation Study

Documentation in the form of population data (such as Family Card and KTP) and archives recording asset inhabitant analyzed For know structure data attributes used in manual system . The data Then made into base in system database design .

d. Literature Study

Researchers do study to regulations administration population , concept system information , as well as reference technical related development application Android based and database management as runway theoretical study .

3. Results and Discussion

3.1. Dataset Description

The dataset used in this study was obtained through direct observation and documentation in RT 03/RW 04, Ciroyom Village, Cikelet District, Garut Regency. The collected data comprises two main groups: population data based on Family Cards (KK) and resident asset data.

3.1.1. Population Data Structure

Population data includes key identity attributes as listed in official administrative documents. The data structure used in the system is designed based on information management needs at the neighborhood level.

Table 1. Population Dataset Structure

No	Data Attributes	Data Type	Information
1	Family Card Number	Varchar	Family Card Number
2	NIK	Varchar	Number Parent Population
3	Full name	Varchar	Identity inhabitant
4	Gender	Varchar	L/P
5	Place and date of birth	Date	Demographic data

6	Religion	Varchar	Trust
7	Marital status	Varchar	Married/Not Married
8	Last education	Varchar	Level education
9	Work	Varchar	Profession
10	Relationship status Family	Varchar	Head / Member

3.1.2. Citizen Asset Data Structure

Asset data collected For give description condition social economy public .

Table 2. Asset Dataset Structure

No	Data Attributes	Data Type	Information
1	Owner Name	Varchar	Owner asset
2	Surface area	Float	In square meters
3	Rice Field Area	Float	In square meters
4	Livestock Data	Integer	Amount cattle
5	Cash	Float	Nominal estimate
6	Savings	Float	Nominal estimate
7	Debt Data	Float	Debt nominal
8	Salary Data	Float	Income monthly
9	Consumption Monthly	Float	Estimate expenditure

The dataset is then integrated into a relational database to enable integrated data processing.

3.2. System Design

The application design presented by the author is the result of an analysis of existing Population Data Recording Applications. It is hoped that this application design will maximize data processing by maintaining the security of both sent and received information.

The application design that the author created is as follows:

1. Application for Admin, used to view and summarize resident or citizen data, current asset data and non-current asset data.
2. Application for Citizens, used to record resident data or input personal data, as well as current asset data and non-current asset data.
3. Application for RT heads, used to monitor resident data in the form of population data, current asset data and non-current asset data.

3.2.1. Context Diagram

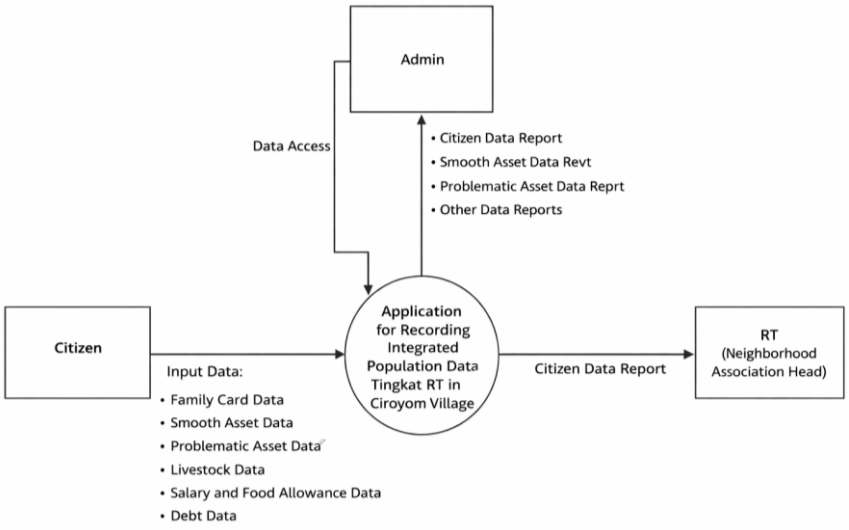

Figure 1. Context Diagram

3.2.2. DFD *Level* 0 From Context Diagram

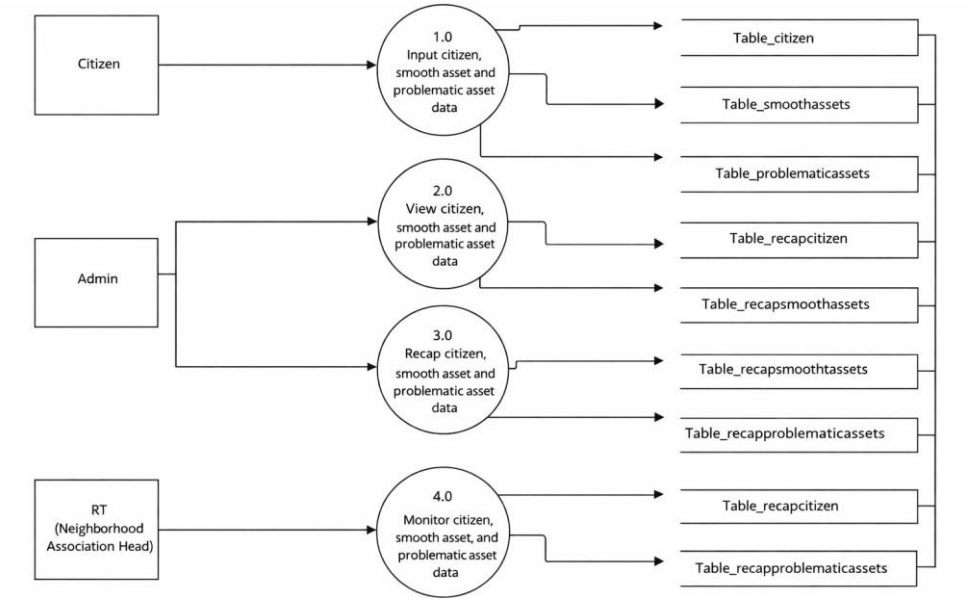

Figure 2. DFD Level 0 of the Context Diagram

Information :

1. Process 1.0 residents record population data according to KK, current asset data, non-current asset data.
2. Process 2.0, namely census officers look at population data, current asset data and non-current asset data.
3. Process 3.0, namely census officers summarize population data, current asset data and non-current asset data.
4. Process 4.0, namely RT monitoring population data, current asset data and non-current asset data.

3.2.3. Entity Relationship Diagram (ERD)

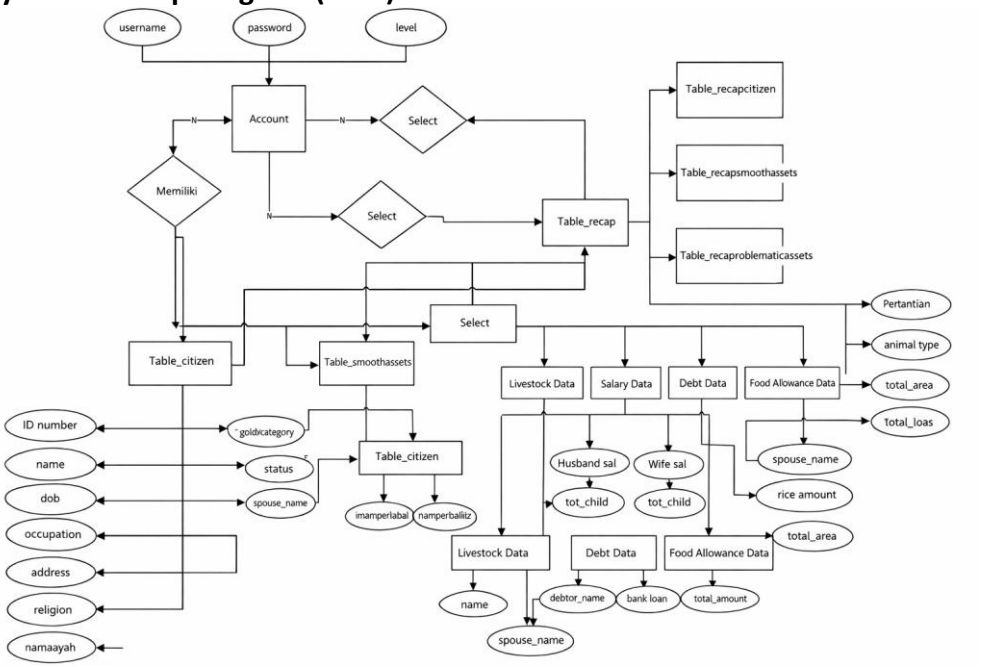

Figure 3. Entity Relationship Diagram

3.2.4. Database Table Structure Design

Design structure table base data or database is specification of the files used in the proposed system and described in the form table, Which inside it there is Name file And primary key Which used as well as records that support the contents of a file or database.

Each record of a file or database has a field name, data type, size from every field, key main as well as information. Following This is table design that will be used in creating the Integrated Population Data Recording Application:

A. Table Name: tbdatapenduduk according to KK

Table 1. Table Data Resident In accordance KK

field	Data Type	Wide	Information
Nik	INTENGER	15	NIK No.
Name	VARCHAR	15	Full name
Date	DATE	10	Place and date of birth
Gender	VARCHAR	10	Gender
Religion	VARCHAR	15	Religion
Status	VARCHAR	10	Status
Work	VARCHAR	10	Work
Address	VARCHAR	15	Full Address
Father	VARCHAR	15	Father's Name
Mother	VARCHAR	10	Mother's Name
Blood	VARCHAR	15	Blood type

B. Name Table : tdataaset

Table 2. Asset Data Table

field	Data Type	Wide	Information
Name	VARCHAR	25	Owner Name
Land	INTENGER	15	Surface area
Cattle	INTENGER	15	Livestock Name
Accounts receivable	INTENGER	15	Name of Receivables
Securities	VARCHAR	15	Owner Name
Supply	VARCHAR	20	Inventory Amount
Savings	INTENGER	15	Amount of savings
Cash	INTENGER	12	Amount of cash
Salary data	INTENGER	10	Head of family salary data
Eating data	INTENGER	10	Residents' food data
Riches	INTENGER	30	Total Wealth

3.3. System Implementation

3.3.1. Form Interface Unit List

Files *Intervace* Which Already made :

Table 3. Register Application Interface

No	Unit Name	Information
1	Login.pass	Login Page
2	Main.pas	Home Page
3	Population Data Page.pas	Population Data Page
4	Current AssetDataPage.pas	Current Assets Data Page
5	PageDataAssetNotCurrent.pas	Non-Current Assets Data Page
6	Family Card Data Page	Family Card Data Page
7	AddAssetDataPage.pas	Add Asset Data Page

3.3.2. Database File Document Implementation

In design tables base data, writer use mysql, the database files are formed as follows:

Table 4. List Table On *Database*

No	Table Name	Information
1	population data	Population Data Table
2	current asset data	Current Assets Data Table
3	non-current asset data	Non-Current Assets Data Table
4	family card data	Family Card Data Table
5	Add data asset	Add Asset Data Table

3.3.3.Application Interface View

3.4. Model Performance Comparison (Manual vs Mobile System)

The evaluation was conducted by comparing the paper-based manual recording system with the mobile-based information system that was developed.

Table 3. System Performance Comparison

Aspect Evaluation	Manual System	Mobile System
Data Input Time	Long	More fast
Risk of Data Loss	Tall	Low
Data Update	Not routine	Real-time
Data Integration	Separated	Integrated
Access to Information	Limited	Flexible
Making Report	Manual	Automatic

Test results show that mobile system capable speed up the recording process and minimize error administrative . Data integration allows RT administrators receive more information comprehensive in one platform.

4. Conclusion

Based on results design , implementation , and testing the system that has been done , can concluded that development system information population data recording integrated mobile-based at the RT level is capable increase effectiveness and efficiency management administration population . The system that was built succeed integrating identity data inhabitant according to Family Card with asset data social economy in one centralized database , so that facilitate the process of recording , updating , and presentation report in a way more fast and systematic .

Compared to with manual method based paper , system Android based shows superiority in aspect data input speed , accuracy information , security storage , as well as convenience access by RT administrators . Implementation technology this also supports data updates continuous (real-time), so that minimize mismatch between condition facts in the field with stored administrative data .

In a way conceptual , research This prove that digitalization administration in government units smallest can become step strategic in increase quality of population data governance . The system developed potential become an early model for development system similar in other regions, to support more data integration wide until level villages and agencies more government tall .

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