



A Web-Based Information System for Detainee Data Management at Badan Narkotika Nasional (BNN) in Jambi Province

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Abstract

This research is based on the problem of manual recording which is at risk of data loss and misuse. This research aims to develop a web-based information system that facilitates the management of prisoner data, detainees, and evidence at the National Narcotics Agency (BNN) of Jambi Province. By applying the Research and Development (R&D) method and the Waterfall approach. The features implemented include input of prisoner data, prisoner data management, and recording of evidence. The test results show that the system works well and makes it easier for officers to record and manage data. The system also provides output in the form of reports which will later make it easier for officers to report starting from prisoner data, detainee data and confiscated evidence data. The system is built into a website-based application. It is hoped that this system will not only replace manual methods, but also make a real contribution in supporting BNN's task in eradicating narcotics abuse. The research findings can be a reference for the development of information systems in other agencies with similar needs.

Keywords: Web-Based Information System; Prisoner Data Management; Evidence Management; National Narcotics Agency (BNN); Research and Development (R&D) Method; Waterfall Model; Reporting System

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1.0 INTRODUCTION

The National Narcotics Agency (BNN) of Jambi Province is a non-ministerial government agency engaged in the eradication of narcotics abuse. BNN has the task of carrying out the government's mandate in the prevention and prevention of the large spread of illicit psychotropics, precursors, and other addictive subjects except for addictive subjects for tobacco and alcohol. Narcotics abuse is a social behavior problem, so it is necessary to provide information or knowledge that must be supported by educational efforts to children from an early age so that they can change children's behavior and mindset, in addition to guiding children to grow to be more mature. Drugs are often said to be "Narcissus" which means dangerous goods that cause people to be drugged so that they do not feel anything. A type of plant that has flowers that can cause people to become unconscious [1].

Previous research by Hidayata, Andi Wapab, Harun Arrasyid in 2022 [2] with the title "Information System for Collecting Data on Inmates in Prisons Using the Web". This research was conducted in the prison (Kraksaan) of Probolinggo Regency, East Java Province. This study discusses the use of web programming as a media for information and data collection of prisoners. The goal is to help the performance of prison employees in collecting data on inmates and visitors, so that the data stored is safer and more accessible. From previous research that is relevant to the problem to be raised, the researcher found a problem, especially in the prison supervision and evidence section or abbreviated as *wastahti* at the Jambi Provincial BNN office where the prisoner's data is only written manually in a book which poses a very large risk of data loss and potential misuse

by irresponsible parties due to the absence of a secure integrated system. Therefore, the researcher developed a website which is now a website that is built to overcome limitations by building an integrated information system that integrates all important features such as data collection of detainees, detainees, evidence data, and pickets into one secure and efficient platform. Based on these problems, the researcher is interested in developing a web-based prisoner data collection information system application at the Jambi Province BNN office

2.0 LITERATURE REVIEW

Relevant research serves as a comparison and reference material in this study. In addition, to prevent any similarities or overlaps with previous studies, the researchers present the findings from previous relevant studies as follows:

Research by Hidayata, Andi Wapab, Harun Arrasyid in 2022 [2] with the title "Information System for Data Collection of Inmates in Prisons Using the Web". This research was conducted in the prison (Kraksaan) of Probolinggo Regency, East Java Province. This study discusses the use of web programming as a media for information and data collection of prisoners. The goal is to help the performance of prison employees in collecting data on inmates and visitors, so that the data stored is safer and more accessible.

The second research was conducted by Fauza Adhima, Naila and Aktiva Oktariyanda, Trenda in 2022 [3] with the title "Strategic management of the national narcotics agency of East Java province in an effort to prevent drug abuse in East Java". This research aims to provide information about BNNP East Java regarding the availability of infrastructure facilities in BNNP East Java, in addition to BNN East Java Province has a clinic intended for the management of SKHPN (Certificate of Narcotics Examination Results).

The third research was conducted by Rianda Ferdy, Budiman Edy and Rosmasari in 2020 [4] with the title "Prisoner Data Management System and Narcotics Crime Search List at the National Narcotics Agency of East Kalimantan Province". The prisoner data management system and the search list for persons for narcotics crimes were built to facilitate the process of entering prisoner data and dpo at the National Narcotics Agency of East Kalimantan Province. This data management system is a system that can increase the efficiency of employees in managing prisoner data and DPO The results of the testing and implementation stages are that the system built can run well and in accordance with the expected results. This system is able to make it easier for employees to collect prisoner and DPO data, search for prisoner and DPO data, archive prisoner and DPO data, and can make it easier to make prisoner and DPO data reports.

The fourth research by Safitri, Nopia in 2020 [5] with the title "Model of Information System for Visitation Services for Inmates in Correctional Institutions of Kuanten Singing Regency". This research aims to develop a web-based information system to improve the efficiency of data processing of inmates and prison visitors at the Kuantan Singingi Correctional Institution. The new system allows the admin login process, data input of inmates, and prison visitors.

The fifth research by Mira Chandra Kirana, Novitasari, and Maidel Fani in 2021 [6] was titled "Web-Based Prisoner Service Information System at the Karimun District Attorney's Office". The background of the research at the Karimun District Prosecutor's Office is because it still uses a manual system in the management of prisoner data, trial schedules, and prisoner visits. The community has to go through a long and manual procedure to obtain permission to visit prisoners. This research aims to develop a web-based information system to manage prisoner data, trial schedule information, trial results, and prisoner visit permits and make it easier for the public to get information and services quickly and efficiently. The difference between the research conducted by the researcher and the previous research is the more complete features by being able to input incumbent data, prisoner data and evidence data where in the previous relevant research there was no complete feature by being able to input incumbent data, prisoners and evidence. In previous relevant research, it only included a few or only one.

3.0 METHODOLOGY

The research approach used in the development of the Prisoner Information System at the Office of the National Narcotics Agency of Jambi Province; this research uses the Research and Development (R&D) method with the Waterfall Model approach. This waterfall model is often also called a linear sequential model that provides a sequential or sequential approach to the software lifecycle starting from analysis, design, coding, testing and support stages [3]. This Waterfall Model begins by analyzing needs, followed by system design, then implementing the system into the website application, followed by testing the built system, and maintaining the system. In the development of a web-based prisoner information system. The R&D method is used to produce

information system products that can solve the problems of recording prisoners, collecting prisoner data and evidence manually. The stages of the research framework include:

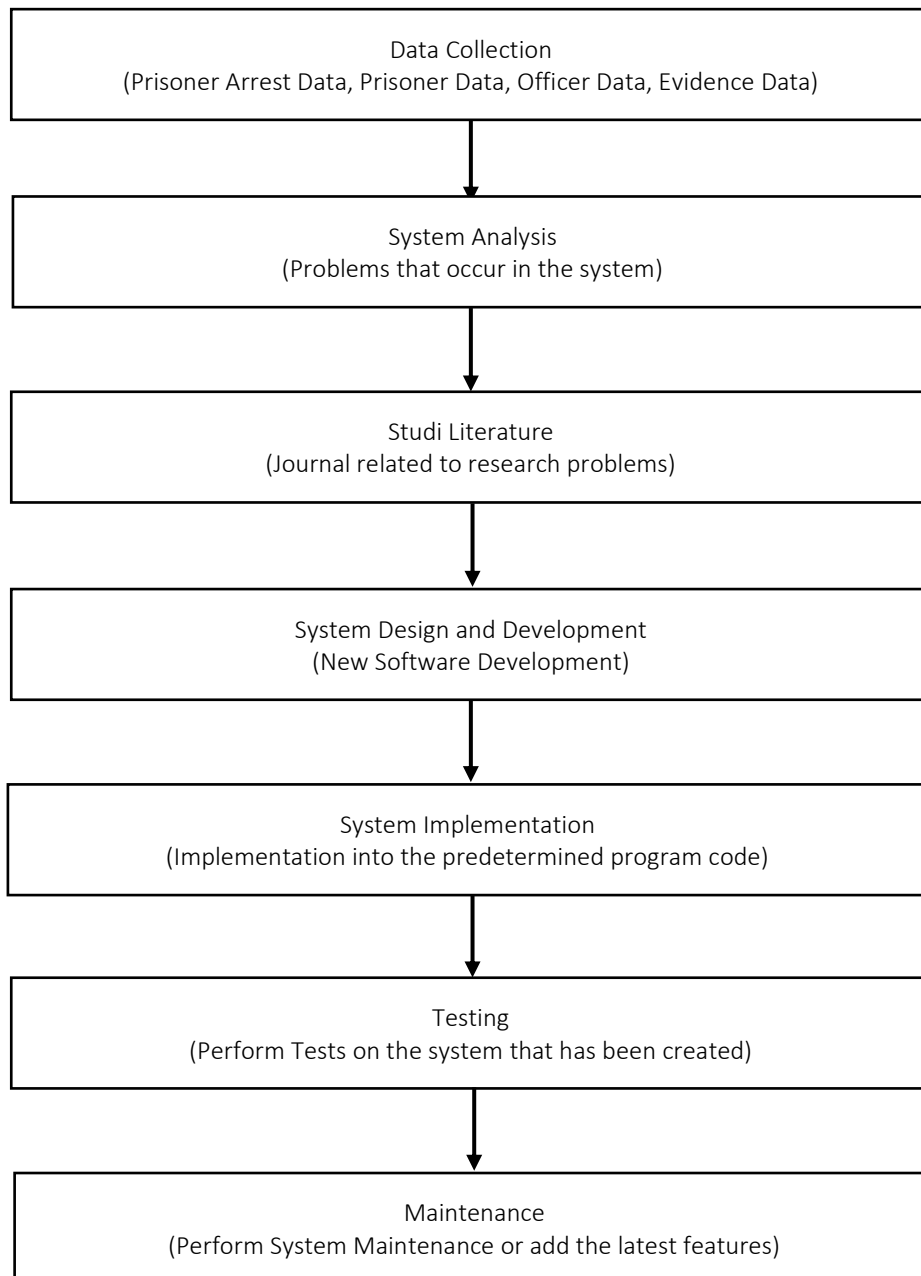


Figure 1. Research Framework

The framework of this research begins by collecting data from detainees, prisoners, evidence and officers to be input on the web and stored in the database, then analyzing what problems exist in the system, looking for journal references related to the system to be built, then applying it to the system with a predetermined program code, then testing the system and maintaining the system periodically.

2.1 System Planning

The system design uses context diagrams and Data Flow Diagrams (DFDs). Data flow diagram or DFD is a data flow diagram system created to help design software for personal, business, or organizational needs. DFD itself consists of three types, namely level 0, level 1, and level 2 diagrams. Context diagrams are the highest level in Data Flow Diagrams (DFDs) that describe systems in general and their interactions with external entities[4]. A

Context Diagram is a diagram that consists of a process and describes the scope of a system. The Context Diagram is the highest level I of DFD that depicts the entire Input to the system or the Output of the system [5]. Context diagram of the Prisoner Information System at the Office of the National Narcotics Agency of Jambi Province Web-Based. As described in the image below:

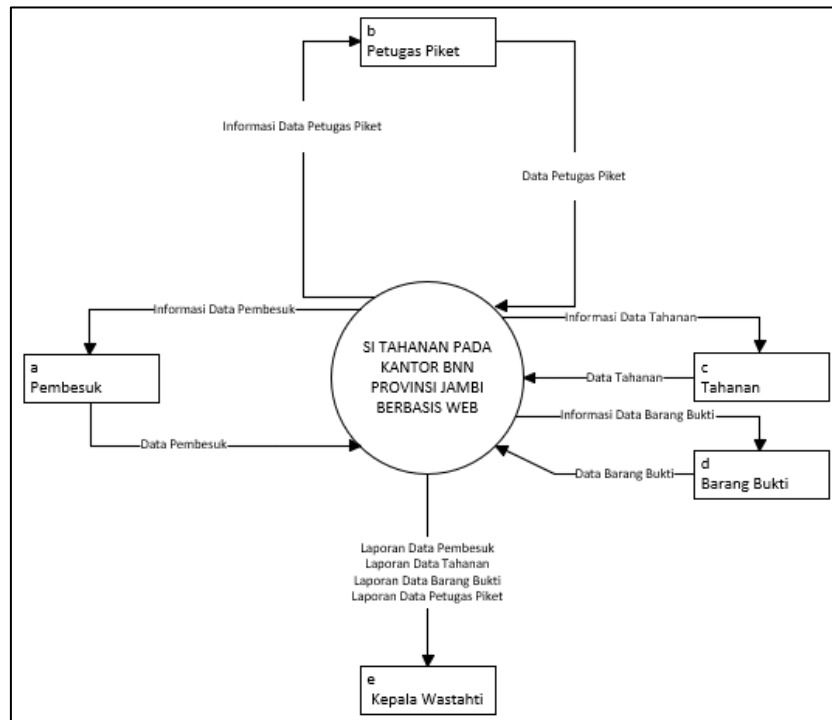


Figure 2 Context Diagram

Explanation from the context diagram of the Prisoner Information System at the Web-Based Jambi Provincial BNN Office has 5 entities, namely pickets, picket officers, prisoners, evidence and the head of wastahti. The first step is that the admin of this system will input data from picket officers who will later become users to input data on detainees, prisoners and evidence. The next step after the picket officer's account is completed, the picket officer can input the detainee data, prisoner data and evidence data into the system which will be stored in the database. After the data is input by the picket officer, later this data can be printed to be used as a report to the head of the wastahti.

Next, the Relationship Diagram to explore data that has a relationship between tables or relationship tables based on key attributes. This ForeignKey plays an important role as a Primary Key link [6]. The tables used in the Prisoner Information System at the Web-Based Jambi Provincial National Narcotics Agency Office are 6 tables, namely: 1). Officer's (user) table, 2). Table of Contents, 3). Detention Table, 4). Table of Evidence, 5). Picket Officer Table, 6). Prisoner Information Table. The table relationships can be seen in Figure 3 below

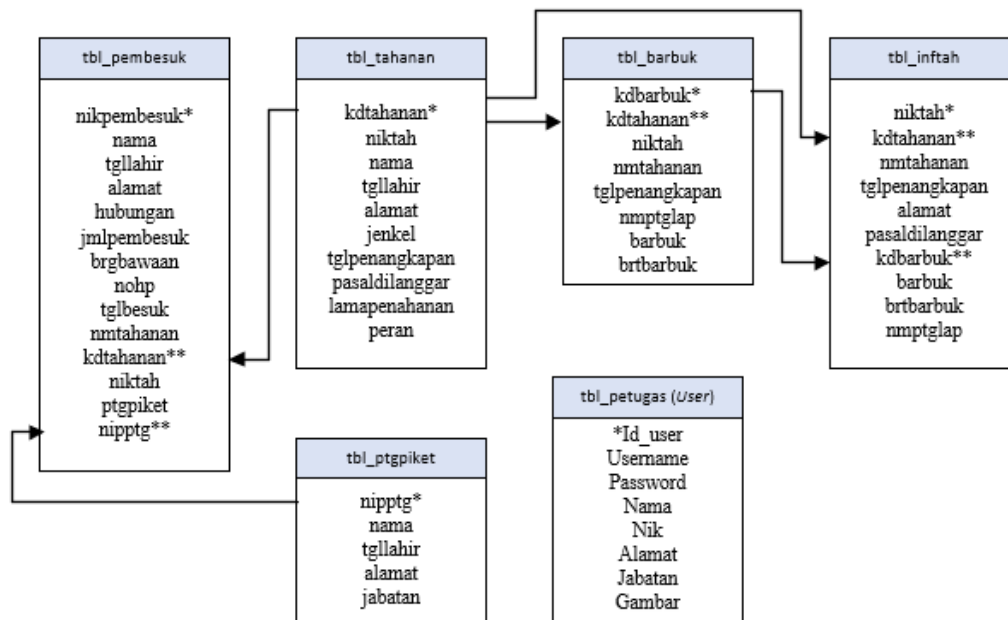


Figure 3. Table Relationships

In the image above, it is explained that tbl_tahanan with the primary key is related to three tables, namely tbl_pembesuk, tbl_barbuk and tbl_infatah after being related to other tables the main key is changed to a guest key (foreign key), then tbl_barbuk with the primary key is related to tbl_infatah after which the main key is changed to a guest key (foreign key) in tbl_infatah. Tbl_ptgpiket with the primary key of the nip is related to the tbl_pembesuk and after that the nip changes to the guest key (foreign key) in the tbl_pembesuk.

4.0 RESULTS AND DISCUSSION

4.1 Home

This main page is the initial menu when we log in to the application, which can be seen in the image.

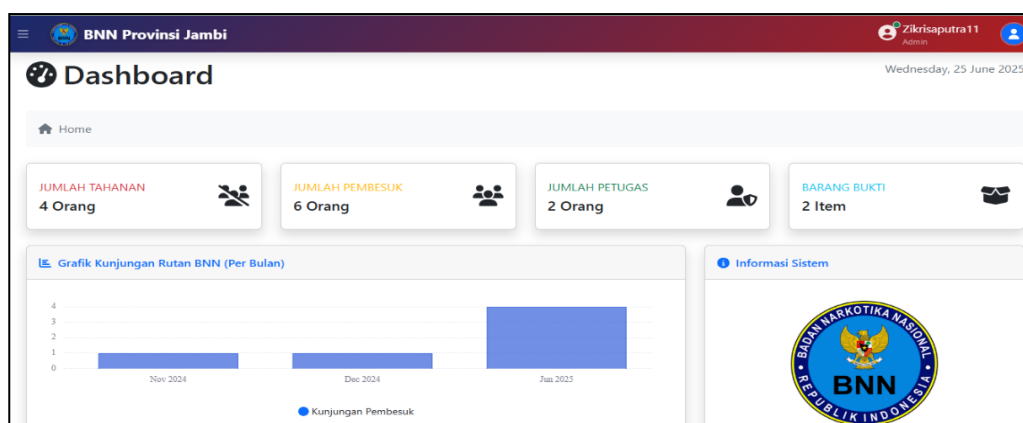


Figure 4 Main Page (Dashboard)

4.2 Scavenger Data Page

This page is a page when after input the data of the buyer, it can be seen in the image.

PILIH	NO	NIK PEMBESUK	NAMA PEMBESUK	TGL LAHIR	ALAMAT	HUBUNGAN	JUMLAH	TGL BESUK	NAMA TAHANAN	KODE TAHANAN	NIK TAHANAN	PETUGAS PIKET	NIP PETUGAS	AKSI
☐	1	1571020989091287	andri	12-09-1998	Sipin	Teman	1	28-07-2025	Supriadi	TAH-001	1571020989091208	Bayu	157109890912	
☐	2	1571098907650801	Joko	12-09-1999	Mayang	Saudara	1	28-07-2025	Supriadi	TAH-001	1571020989091208	Bayu	157109890912	

Figure 5 Feeder Data Page

4.3 Prisoner Data Page

This page is a page when after entering the prisoner data, it can be seen in the image.

Tambah Tahanan

Kode Tahanan: TAH-003

Nama Lengkap:

NIK:

Tanggal Lahir: dd/mm/yyyy

Alamat:

Jenis Kelamin: -- Pilih --

Tanggal Penangkapan: dd/mm/yyyy

Pasal Dilanggar: -- Pilih Pasal --

Lama Penahanan:

Peran: -- Pilih Peran --

Figure 6 Prisoner Data Page

4.4 Picket Worker Data Page

This page is a page when after entering the picket officer's data, it can be seen in the image.

PILIH	NO	NIP PETUGAS	NAMA	TANGGAL LAHIR	ALAMAT	JABATAN	AKSI
☐	1	157109890912	Bayu	12-07-2001	Sipin	Honorir	
☐	2	1571098909201	Junaldi	12-02-1994	Kasang	Pegawai Wastand	

Figure 7 Picket Officer Data Page

4.5 Evidence Data Page

This page is a page when after entering the evidence data, it can be seen in the image.

PILIH	NO	KODE BARANG BUKTI	KODE TAHANAN	NIK TAHANAN	NAMA TAHANAN	TANGGAL PENANGKAPAN	PETUGAS LAPANGAN	BARANG BUKTI	BERAT BARANG BUKTI	AKSI
☐	1	BB-0001	TAH-001	1571020989091208	Supriadi	12-07-2025	Kasi Intelijen	Sabu	12 Gram	
☐	2	BB-0002	TAH-002	1571077009800991	Beni	12-07-2025	Kigati	Ganja	1 Kg	

Figure 8 Evidence Data Page

4.6 Prisoner Information Data Page

This page is a page when after entering the prisoner data and evidence in the prisoner data and evidence input form will automatically enter the prisoner information page where this page is a combination of prisoner data and evidence data that has been inputted, can be seen in the image.

Informasi Tahanan

Home / Informasi Tahanan

Data Tahanan dan Barang Bukti

Cari berdasarkan NIK, Nama, atau Barang Bukti...

Tanggal Awal: dd/mm/yyyy Tanggal Akhir: dd/mm/yyyy Filter

Pilih Semua 10 entries per page

PILIH	NO	KODE TAHANAN	NIK	NAMA TAHANAN	TANGGAL PENANGKARAN	ALAMAT	PASAL DILANGGAR	KODE BARANG BUKTI	BARANG BUKTI	BERAT BARANG BUKTI	KETUA PETUGAS LAPANGAN
☐	1	TAH-001	1571020989091208	Supriadi	12-07-2025	Mayang	Pasal 132	BB-0001	Sabu	12 Gram	Kali Intelijen
☐	2	TAH-002	1571077030980991	Berli	12-07-2025	Kota baru	Pasal 112	BB-0002	Ganja	1 Kg	Kajati

Showing 1 to 2 of 2 entries

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Figure 9 Prisoner Information Page

4.7 Publisher Report Page

On this page is a report page of the input data, which can be seen in the image.

LAPORAN DAFTAR PEMBESUK
BNN PROVINSI JAMBI

NIK	Nama	Pengantar	Alamat	Pemukim	Jumlah Pembesuk	Barang Pembesuk	No. HP	Tanggal Pembesuk	Nama Tahanan	Petugas PBI
1571020989091208	Supriadi	1208-09-12	Sipin	Temen	1	Makamun	082198765430	2025-07-28	Supriadi	Bayu
1571098907050801	Jakki	1208-09-12	Ahyang	Bacutara	1	Makamun	082198765430	2025-07-28	Supriadi	Bayu
1571098907050812	Wika	1208-09-12	Sipin	Temen	1	Makamun	082198765430	2025-07-28	Supriadi	Bayu

Jambi, 29 July 2025

Kepala Wastahi

Print 1 page

Destination: Save as PDF

Pages: All

Layout: Landscape

More settings

Save Cancel

Figure 10 Pages of Resident Report

5.0 CONCLUSION

From this research that has been made and developed, several conclusions and suggestions can be drawn, namely in the first conclusion, the system developed is a digitalization of the previous system which is still manual in data recording. Second, the system created allows for ease in recording data, be it detainee data, prisoner data and evidence data. Third, in this system that has been developed, a feature is provided for printing reports, both prisoner data reports, prisoner data and evidence data. Fourth, the system developed is only for BNN internally, especially in the wastahi section. And fifth, in this developed system, only admins and picket officers can input data. The suggestions in the development of this system are first, the security of the system needs to be improved. Second, improve the look to make it more attractive. Third, develop the system from the website to the mobile application to make it easier for officers. And fourth, a system that will later be integrated with other applications to retrieve information.

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