

Rider Payroll Information System at Mini Station Ninja Xpress Sidoarjo

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ABSTRACT

Information system products are needed in the current era of technological development. The existence of an information system can replace a manual calculation system that has been implemented for many years, one example is the Payroll Information System. The information system related to salary and wage accounting has been adapted by several large companies in Indonesia, but at PT. Andiarta Muzizat (Ninja Xpress), which operates in package delivery services, has not fully adapted or implemented a Payroll Information System, especially for riders (couriers). Therefore we need a Payroll Information System that can calculate quickly and in detail the payroll of the riders (courier) every month. The implementation of the Payroll Information System this time was implemented in one of the branches of Ninja Xpress, namely Mini Station Ninja Xpress Sidoarjo. By using the Extreme Programming (XP) method, which applies the process approach to developing information systems with the stages of planning, design, coding, and testing. The final result of this research is a Payroll Information System that can calculate in detail the income of each rider (courier) starting from the gross salary, rider bonus, and net salary received by the rider (courier) every month in a web format using the PHP programming language and MySQL.

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1. INTRODUCTION

In line with the rapid development of technology in Indonesia, companies currently need a payroll information system that can optimize company performance. A payroll information system is a solution that makes it easier for staff or employees to obtain information related to employee salary data in the company. One of the growing business fields is the field of technology-based goods delivery or receipt services or other logistics, namely, Ninja Xpress which is under the auspices of PT. Andiarta Muzizat. In the era of globalization, there is a lot of competition to lead the business in companies. All competition requires a valid information system to be used by management to make the right decisions that will determine rights improve company performance and become a leader of all companies in the same type of business (S. Suryanto, 2011). In the Journal written by Rahmawati, et al (R. Rahmawati, S. A. Naftali, N. Zukhriyah, I. O. D. Brata, and S. G. Arnan, 2019), it is explained that salary is a reward in the form of money received by an employee as a result of his position as an employee who has contributed and also his thoughts to achieve a goal for the company. The findings reveal that the implementation of an integrated payroll and personnel information system has functioned as a true tool for perpetuating accountability (A. Yunusa, 2021)

In this research, the discussion is the SPH rider from the Mini Station Ninja Xpress. SPH is an abbreviation of Si Penghubung Harapan, which means that Ninja Xpress couriers are expected to act as a

liaison for the hopes of customers. In this SPH program, there are many salary calculation components that are included in the payroll information system. However, the existing payroll information system is considered not optimal, because there are often discrepancies such as performance calculations, especially on rider salaries. At the Mini Station Ninja Xpress Sidoarjo, complaints regarding salaries are often found by riders, this is because from the rider's side, they often have detailed performance calculations. Often there are disputes over salary receipts because riders feel that the salary is insufficient or does not match the performance details that have been calculated by the rider. Based on this background, a study was conducted regarding the Rider Payroll Information System at the Mini Station Ninja Xpress Sidoarjo. Therefore, it is hoped that this research can minimize the occurrence of disputes between salaries and can be an alternative solution to the problem.

2. RESEARCH METHOD

In this study, several stages of activities will be carried out. These stages represent the means to achieve the research objectives of this study. The following is an overview of the research framework that will be implemented

Tables and Figures are presented in the center, as shown in Table 1 and Figure 1, and cited in the manuscript before they appear.

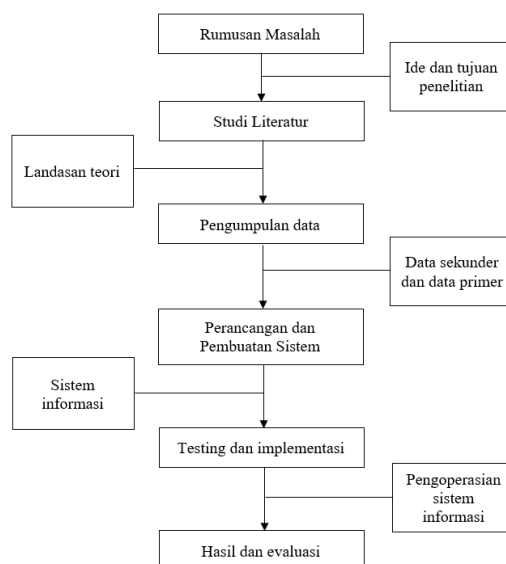


Figure 1. Research Framework

This research began with a field study at the Mini Station Ninja Xpress Sidoarjo, after which a research idea was obtained to discuss the payroll. From this idea, the following problem formulation was obtained: how to make the rider payroll information system an alternative to solving payroll problems and inventorying data for archives at Mini Station Ninja Xpress Sidoarjo.

After the research question was formulated, a literature review was conducted using sources such as journals, books, theses, and previous research as a reference for the study.

Following this stage, data collection began, specifically secondary data directly from the Mini Station Ninja Xpress Sidoarjo branch. This data collection stage was conducted to obtain the information needed to achieve the research objective of developing an information system. After sufficient data were obtained, the next stage was initiated, namely the development of the payroll information system.

The information system used in this study was a web-based information system. After the information system is created, the next step is to proceed to the testing and implementation stages of the information system. This was done to determine whether the information system could run according to the research plan. The final step after the testing and implementation stages was to evaluate the results obtained.

Formulating developer salaries in software development projects is important for organizations to provide fair salaries that motivate developers to work. Salaries can also be used as a reference for planning software development project costs to ensure the financial success of startups. In the literature, developer compensation estimates can be obtained by multiplying the number of hours worked on a project by the developer's hourly rate. However, multiplying the hours worked by the developer's hourly rate is considered unfair because each developer has different competencies and performance levels (Y. A. Rindri, R. Ferdiana, and R. Hartanto, 2019).

3. RESULTS AND DISCUSSIONS

This research consists of several stages of results and discussion, including:

3.1. Planning Stage

The planning stage follows the research methodology stage. At this stage, the steps to be taken in this study were determined. The steps are as follows

1. Data collection

Before designing the application, the following steps were taken preparing secondary data obtained from the Mini Station Ninja Xpress Sidoarjo. The initial step involved collecting secondary data obtained during the field study, as illustrated in the following diagram:

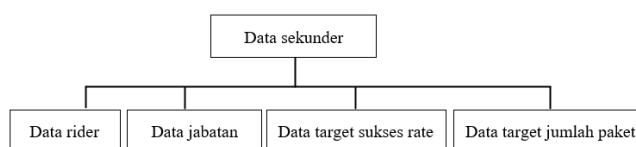


Figure 2. Secondary Data Chart

2. Data Categories

The data categories used in this study are as follows:

a. Rider data

The rider data used in this study consisted of five rider data samples with different positions, as follows:

Table 1. Rider Name Data

No.	Rider	Position
1.	Rider A	Berlian
2.	Rider B	Platinum
3.	Rider C	Emas
4.	Rider D	Perak
5.	Rider E	Perunggu

b. Position data

Position data is used to classify riders based on their performance. The minimum number of working days in the table below is the reference for riders to advance to the next level For example, if Rider A is in the silver position, then that rider must work a minimum of 10 days to advance to the gold position.

Table 2. Position Data

No.	Position	Minimum days of attendance
1.	Berlian	25
2.	Platinum	25
3.	Emas	20
4.	Perak	10
5.	Perunggu	0

c. Target success rate data

In the data shown in the image below, the Mini Station Ninja Xpress Sidoarjo was categorized as JA1. In accordance with the JA1 category, if a rider wants to maintain or advance to the next level, they must meet the targets shown in the image below. If a rider is in the silver position, they must maintain a success rate of 88%.

Table 3. Success Rate Targets

SUCCESS RATE (3 BULAN)	Perak	Emas	Platinu m	Berlian
AA1	88.0%	90.0%	92.0%	94.0%
AB1	88.0%	90.0%	92.0%	94.0%
JA1	88.0%	90.0%	92.0%	94.0%
JA2	88.0%	90.0%	92.0%	94.0%
JA3	88.0%	90.0%	92.0%	94.0%
JB1	88.0%	90.0%	92.0%	94.0%
JB2	88.0%	90.0%	92.0%	94.0%
JB3	88.0%	90.0%	92.0%	94.0%
JC1	88.0%	90.0%	92.0%	94.0%
JC2	88.0%	90.0%	92.0%	94.0%
JC3	88.0%	90.0%	92.0%	94.0%

d. Target number of packages

In accordance with the JA1 category, if a rider wants to maintain or advance to the next level, they must meet the targets shown in the image below. If a rider is at the silver level, they must maintain a minimum target of 1,250 successful deliveries.

Table 4. Successful Package Target

JUMLAH PAKET SUKSES (3 BULAN)	Perak	Emas	Platinu m	Berlian
AA1	1,650	3,375	6,000	9,000
AB1	1,650	3,375	6,000	9,000
JA1	1,250	2,300	4,250	7,550
JA2	1,200	2,250	4,200	7,500
JA3	1,200	2,250	4,200	7,500
JB1	1,080	2,025	3,900	7,125
JB2	1,080	2,025	3,900	7,125
JB3	1,080	2,025	3,900	7,125
JC1	960	1,800	3,600	6,750
JC2	960	1,800	3,600	6,750
JC3	960	1,800	3,600	6,750

3.2. Planning Stage

At this stage, the information system is designed using the data obtained from the previous stage. The steps are as follows:

1. Basic Design

a. Mind Map

Mind mapping is a way to store information in the brain and implement it in a tangible manner. A mind map resembles a road map with several branches. This mental map allows us to organize facts and thoughts in such a way that our brain's natural functioning is engaged from the start, making it easier and more reliable to remember information than using conventional note-taking techniques (I. Aprinawati, 2018). The following is a mind map of the research stages:

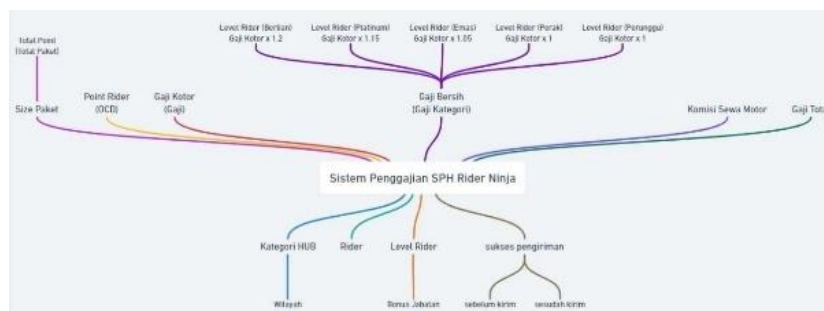


Figure 3. Mind Map SPH Rider of Mini Station Ninja Xpress Sidoarjo

The mind map in this study was designed to determine the application environment in application development, starting from the hub category, which contains a coverage area to determine the scope of the rider's work. The rider, who also has an identity in the form of a rider ID, is then promoted based on his/her position, which also has a bonus depending on the position achieved.

At the top of the mind map is the transaction process, which begins with package size, with several sizes in this study: S (small), M (medium), L (large), and XL (extra large). Sizes S-M were worth 1 point, and sizes L-XL were worth 2.5 points. Thus, after the rider completes the delivery, there will be an accumulation of points based on the total number of packages carried by the rider. Next, once the point total is determined, the gross salary is calculated as follows:

$$\text{Gaji kotor} = (\text{total poin} \times 500) + (\text{persen}\% \times \text{UMK})$$

Figure 4. Formula for Calculating Gross Salary

b. Flowchart

A flowchart shows the flow within a program or system procedure logically and is used primarily as a communication aid and for documentation (A. K. Kusri and A. Koniyo, 2007). The following is an image of the flowchart

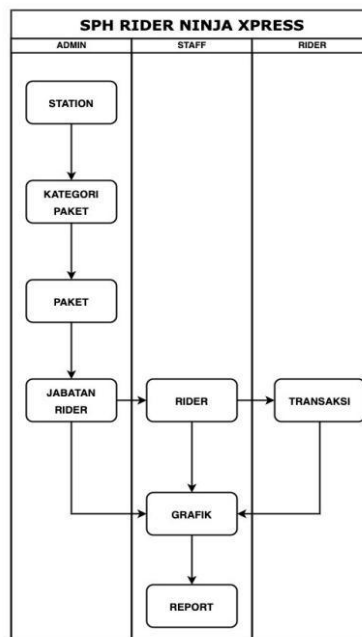


Figure 5. Modular Flowchart

Figure 7 shows the overall flowchart of the research process. The admin in this research can perform all accesses, including adding package categories, packages, rider positions, riders, conducting transactions, viewing graphs and downloading reports.

Meanwhile, staff are only limited to accessing rider additions and conducting transactions to fill in the riders' daily income. In the rider section, only graphs and the total number of packages carried can be viewed.

Figure 8 shows the transaction flowchart, which includes rider salary calculations for each day. It begins by entering the transaction date, followed by selecting the rider and entering the quantity. The quantities in the flowchart above are divided into two categories: small and bulky packages. The small category had a constant value of 1 point, whereas the bulky category had 2.5 points. Once the quantity is entered, it is accumulated as points. After the points are calculated, the gross salary is determined based on the points earned.

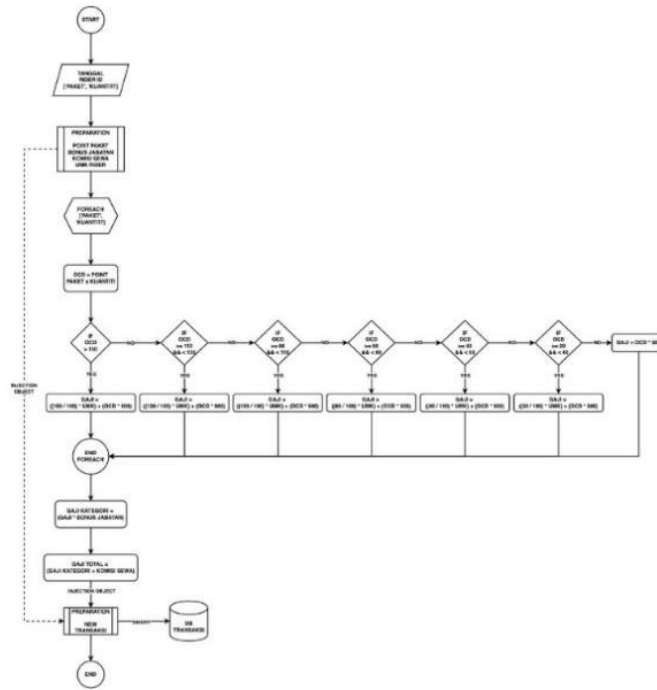


Figure 6. Transaction Flowchart

The following is the formula for calculating gross salary :

Table 5. Formula for Calculating Gross Salary

No.	Point	Calculation
1.	>150	$(150\% * UMK) + (poin * 500)$
2.	≥ 110 dan < 150	$(130\% * UMK) + (poin * 500)$
3.	≥ 80 dan < 110	$(100\% * UMK) + (poin * 500)$
4.	≥ 60 dan < 80	$(65\% * UMK) + (poin * 500)$
5.	≥ 40 dan < 60	$(45\% * UMK) + (poin * 500)$
6.	≥ 20 dan < 40	$(30\% * UMK) + (poin * 500)$
7.	< 20	$poin * 500$

After determining the gross salary, the net salary is calculated based on the rider's position as follows:

Table 6. Formula for Calculating Net Salary

No.	Jabatan	Perhitungan
1.	Berlian	$gaji\ kotor * 1,2$ dan bonus jabatan 500.000
2.	Platinum	$gaji\ kotor * 1,15$ dan bonus jabatan 300.000
3.	Emas	$gaji\ kotor * 1,05$ dan bonus jabatan 100.000
4.	Perak	$gaji\ kotor * 1$ dan tidak mendapatkan bonus jabatan
5.	Perunggu	$gaji\ kotor * 1$ dan tidak mendapatkan bonus jabatan

Note: Position bonuses are paid on a monthly basis.

Once the net salary was determined, the total salary was calculated by adding the net salary to the daily motorcycle rental fee. Motorcycle rental fees are only paid to diamond, platinum, and gold level employees.

c. Entity Relationship Diagram (ERD)

After creating the mind map, the next step is to create an ERD. The method in which the steps of this process are completed within the framework is explained in detail and shows how to develop an entity relationship diagram from the information obtained from users (M. A. Chilton, 2006). The following is an ERD image for this research:

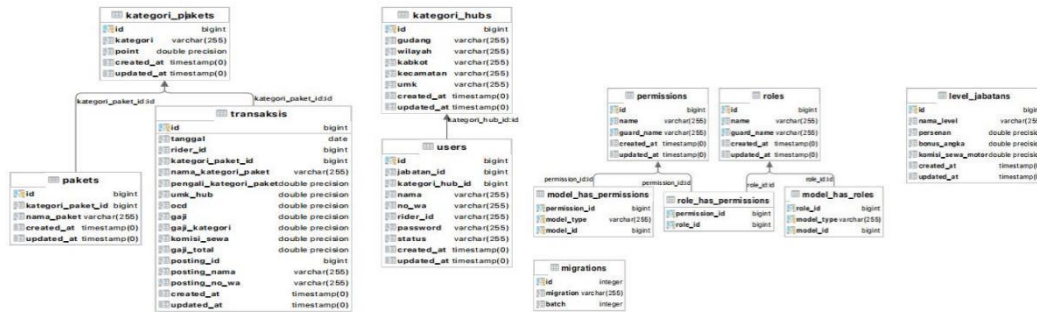


Figure 7. Entity Relationship Diagram (ERD)

2. Interface Design

In this design stage, the interface display for the information system created in this study was designed as follows

a. Login page

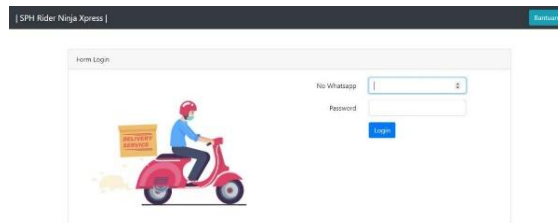


Figure 8. Login page

The main display of the information system in this study was the login form. On the login form, users enter their WhatsApp numbers and passwords. Users are divided into three categories: admin, staff, and rider, each with different access rights.

To log in, users enter their WhatsApp number and password to access the website. The login section is divided into three parts: admin, staff, and rider, each with different access rights.

b. Home page

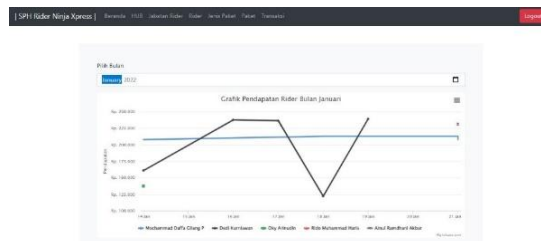


Figure 9. Home page

Figure 9 shows the home page, which displays a graph of the rider's monthly income that can be viewed based on the desired or selected month.

c. Hub master data page



Figure 10. Hub master data page

The Hub function is useful for determining warehouses, mini stations, districts or cities, sub-districts, and UMK (Upah Minimum Kabupaten/Kota). Only administrators can access hub master data.

d. Rider Position Master Data page

Jabatan	Poin Per Jam	Bonus	Sewa Motor	Tambah Data	
Perunggu	1 x Poin	0	0	Udhar	Tambah
Emas	1 x Poin	0	0	Udhar	Tambah
Silver	1.5 x Poin	10000	10000	Udhar	Tambah
Platinum	1.8 x Poin	10000	10000	Udhar	Tambah
Berlian	1.2 x Poin	10000	10000	Udhar	Tambah

Figure 11. Rider Position Master Data page

The figure above explains the rider job master, which includes job titles, point multipliers, monthly bonuses, and motorbike rental fees. This year, the job title scheme at Ninja Xpress consists of only five job titles, starting from the top level: Diamond, Platinum, Gold, Silver, and Bronze. The job title affects the rider's salary, with different job titles resulting in different point multipliers. The bonus here is a monthly bonus, with monthly bonus income based on the rider's job title.

e. Rider or User master data page

ID	NAMA / REFERENSI	JABATAN RIDER	NO. WHATSAPP	Tambah Data	
SUB-004	Adnan 011000000000	Perunggu New Rider	08967721257	Udhar	Reset Password
SUB-004	Muhammad Daffa Erlang P 011000000000	Perunggu New Rider	08550501092	Udhar	Reset Password
SUB-004	Taufik Nurhikmah 011000000000	Perunggu New Rider	08115623024	Udhar	Reset Password
SUB-004	Oby Alimulda 011000000000	Perunggu New Rider	08550710031	Udhar	Reset Password

Figure 12. Rider or User master data page

The figure above shows the master data of the riders and users. This master data included a hub display, name, rider position, and WhatsApp number used for login. There are also buttons similar to other master data, such as add data, edit, delete, and an additional button to reset the user's password.

f. Package Types master data page

Jenis Paket	Poin Paket	Tambah Data	
Small	1	Udhar	Tambah
Bulky	2.5	Udhar	Tambah

Figure 13. Package Types master data page

Figure 13 shows the master data display for the package types. The function of the package types is to calculate the points. In this study, there were two types of packages: small, worth 1 point, and bulky, worth 2.5 points.

g. Package master data page

Jenis Paket	Poin Paket	Tambah Data	
Small	1	Udhar	Tambah
Bulky	2.5	Udhar	Tambah

Figure 14. Package master data page

The master data package in the figure contains packages based on the name and type. In this study, there were four package names with two identical points and types. The S-M size falls under the small package type with a score of 1 point, whereas the L-XL size falls under the bulky type with a score of 2.5 points.

h. Transactions master data page

RIDER	KATEGORI PAKET	POINT	GAR	KOMISI SEWA MOTOR	GAR TOTAL			
NAMA	JABATAN	SMALL	BULKY	GAR	JABATAN			
Muhammad Daffa Sidiq P	Perunggu	90	10	95	Rp. 207.770	Rp. 207.770	Rp. 0	Rp. 207.770
Dodi Kusnawan	Bronze	62	0	62	Rp. 140.026	Rp. 140.026	Rp. 13.000	Rp. 153.026
Dip Anindita	Perak	90	0	90	Rp. 137.423	Rp. 137.423	Rp. 0	Rp. 137.423

Figure 15. Transactions master data page

Form Tambah Transaksi

Daftar Transaksi

Tempor Transaksi: Kategori: Rider:

Figure 16. Add, Change, Save Transaction Form

The transaction master data contain the rider's name, position, package category, points, salary, salary based on position, motorcycle rental commission, and total salary. When viewing transactions, you must enter a specified date. Access to the master data is restricted to administrators and staff. The add, edit, and save transaction forms are forms for adding transactions.

4. CONCLUSION

Based on the results of the research conducted, the information system that has been created is already able to address issues related to payroll and data inventory at Mini Station Ninja Xpress Sidoarjo. This can be demonstrated by the fact that the information system created can accommodate the payroll scheme for Mini Station Ninja Xpress Sidoarjo riders in detail, which can be used to resolve any discrepancies or inconsistencies in the wages received by riders.

RIDER	KATEGORI PAKET	POINT	GAR	KOMISI SEWA MOTOR	GAR TOTAL			
NAMA	JABATAN	SMALL	BULKY	GAR	JABATAN			
Aziz	Bronze	70	10	95	Rp. 212.770	Rp. 223.409	Rp. 13.000	Rp. 236.409

Figure 17. Calculation Results

As shown in Figure 17, based on the transaction data for February 6, 2022, the rider Aziz, who holds the position of brown rider, delivered 70 small packages and 10 bulky packages. Therefore, the points earned by Aziz were $70 + (2.5 \times 10) = 95$ points. The salary earned is Rp. 212,770. This salary does not include position-based payments. Aziz is a brown-level rider, so his salary is calculated as follows: $(\text{Salary} \times 1.05) + \text{motorcycle rental fee} (13,000) = \text{Rp. } 236,409$.

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