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Performance Allowance Module Designer for Work Units of State Ministries/Institutions

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ABSTRACT

Performance allowance is a right for every civil servant which is calculated based on employee performance achievements. Performance allowances are included in employee expenditure which ranks third largest in the State Revenue and Expenditure Budget after capital and goods expenditure. The types and procedures for paying performance allowances are very complex, such as master, follow-up, continuous, shortage, 13th month, and THR performance allowances with different calculation formulas according to the grading order, in addition to the number of work units as many as 9,104 for all State Ministries/Institutions with a total of 967,724 employees, the development of a reliable and adequate information system is needed. The Directorate General of Treasury already has a performance allowance module on the web salary application, but it still needs to be improved and refined so that the process of recording, calculating, testing, and disbursing the process is easy and safe. The application design is not only from the side of the work unit but also from the side of KPPN. The research will use the segregation of duties method to map the separation of functions in terms of making and testing performance allowances, while for application design, Famework for The Application of System Thinking (FAST) will be used, especially for the initial four stages, namely scope definition, problem analysis, requirement analysis, and logical design with various uses of diagrams such as business process diagrams, use case diagrams, Flowchart, Data Flow Diagram, Entity Relationship Diagram is to describe the needs, planning of activities, ease and direction in system development.

Introduction

A Civil Servant (PNS) is someone who works in government agencies, both central and regional, to carry out the main tasks of government functions. Civil servants have an obligation, namely to carry out public services, while their right is to get salaries and

performance allowances. The payment of salaries and performance allowances (tukin) for civil servants is carried out every month (Ngindana & Hermawan, 2019). Salaries and Performance Allowances are included in the category of employee spending (Setiawan & Muslim, 2021).

Employee expenditure ranks third largest after capital expenditure and goods expenditure in the State Revenue and Expenditure Budget (APBN). The Audited Central Government Financial Statements (LKPP) in 2022 show an increase in the realization of employee spending, which in 2021 amounted to 387,752 billion rupiahs (92%), then in 2022 it was 402,441 billion rupiahs (94%), then in 2023 it was 411,376 billion rupiahs (98%) (Tumanggor & Wibowo, 2021).

The payment of all state budget expenditures is carried out by the State Treasury Service Office (KPPN), which is a vertical unit of the Directorate General of Treasury of the Ministry of Finance. All work units (sicker) of state ministries/institutions submit bills to KPPN, then KPPN verifies bills and disburses funds to the satker account or employees. (Nina et al., 2023).

The payment of performance allowances is quite complicated, in terms of the number, of state ministries or institutions (K/L), there are 85 K/L with a Work Unit (sicker), as many as 9,104 stakes, and 31,230 sicker children, while the total employees are 967,724 central civil servants. Then in terms of type, there are master's jobs, follow-up, shortcomings, 13th month, and THR with different calculation formulas for each class of position (grading). Therefore, to overcome this complexity, the use of information technology is very necessary. According to Meier (2014), the application of information technology can overcome manual, time-consuming, and repetitive processes in various fields of work. Surveys have shown that the results of manual processes can be reduced by as much as fifty percent with electronic processing.

In the salary payment process, sicker and KPPN have used the full system, namely the Web-Based Salary Application, while the payment of performance allowances is still semi-manual where the sicker still makes a nominative list (calculation list) of performance allowances outside the system (Ms. Excel) then uploads it in the form of a CSV/txt extension file to the Web-Based Salary Application for validation. In addition, there has been no systematic calculation testing at the task force level by the Commitment Making Officer (PPK) and the KPPN level to strengthen security. So it can be said that the existing performance allowance module has not been fully integrated because there is still a calculation process outside the system. According to (Chowdhury & Salahuddin, 2017), functional systems that operate independently (silos) are obsolete because they cannot share data and support each other's functions between units as a whole, at present they have been replaced through systems between units on a large scale by integrating all processes in the organization.

Therefore, the researcher proposes to redesign the existing performance allowance module with full use of the system as well as salary payments. The methods used are (1) Segregation of Duties to map the separation of functions in terms of making and testing performance allowances, (2) Framework for The Application of System Thinking (FAST)

for system development design. According to Whitten and Bentley (2007), FAST is an agile framework for creating various types of projects and strategies that are best practices in the commercial world and are often used as a reference methodology.

(Assyarofi & Ifada, 2024) Explained that good internal control is not allowed to allow one employee to be given too many responsibilities to carry out business transactions and processing. An employee should not be allowed to commit and conceal fraud. The separation of duties is necessary to prevent conflicts of interest, mistakes, and abuse of authority so that checks and balances will appear in the organization. Segregation of duties consists of the separation of recording functions, authorization, and custody.

As for application development, it will use the Framework for The Application of System Thinking method. According to Whitten and Bentley (2007), the FAST method consists of eight stages, namely: (1) Scope Definition, (2) Problem Analysis, (3) Requirement Analysis, (4) Logical Design, (5) Decision Analysis, (6) Physical Design and Integration, (7) Construction and Testing, (8) Installation Delivery. However, this research only reaches the fourth stage.

In the development of the performance allowance module, several diagram models will also be used, namely use case diagrams, entity relationship diagrams, data flow diagrams, and business process diagrams.

Method

The method in the research to be used is qualitative. The approaches that will be carried out are:

1. study book

Secondary data research methods through literature research are in the form of reviewing various references from regulations related to employee spending, especially performance allowances and budget disbursements, publications, books, presentations, and journals on a national and international scale. The goal is to acquire and improve theoretical knowledge to become material for application system development.

2. Field Studies

The primary data research method is carried out through interviews with related parties. The goal is to be able to analyze problems, weaknesses, inputs, and opportunities for improvement and improvement of the system in the future.

Interviews will be conducted with two resource persons, namely first, the maker of regulations on the procedures for payment of performance allowances at state ministries and institutions to obtain information related to the basis for making regulations and the business process of payment of performance allowances. The two make a list of performance allowance payments to one of the task forces to obtain information related to the procedures for using the current system, the control system in the form of inputs, processes, and outputs, obstacles that still arise, and inputs for further development.
Documentation is recording the results of interviews and observations, problems that often arise, inputs from users, and comparing with applicable regulations.

Results and Discussion

Segregation of Duties

In the implementation of the performance allowance module, the current segregation of duties has not been fully implemented, namely (1) the Commitment Making Officer (PPK) conducts testing and refining the nominative list manually and is carried out outside the system, (2) KPPN does not have direct access to the performance allowance module, while KPPN has the task of monitoring and evaluating the payment of performance allowances. (Assyarofi & Ifada, 2024) Explained the concept of division of duties, namely:

1. Authorization, which is the authority to approve transactions, will be carried out by the PPK, and KPPN.
2. Recording, which is the authority to input data into the system, will be carried out by the Employee Expenditure Administration Management Officer (PPABP).
3. Custody is the authority to hold money that will be made by the Treasurer if the payment is made to the treasurer's account, or directly to the employee's account.

By the Minister of Finance Regulation No. 62 of 2023 concerning Budget Planning, Budget Implementation and Accounting and Financial Reporting Article 188, the PPK is required to test the materiality and validity of the proof of billing rights to the state, in this case, the nominative list of performance allowances and proof letters in the form of employee grading decrees and endorsements (Kartika, 2019).

Meanwhile, KPPN is obliged to test the SPM Performance Allowance submitted by the work unit, issue SP2D Performance Allowance, control the implementation of the budget, monitor the disbursement to eligible employees, and monitor and evaluate the payment of performance allowances. Therefore, to facilitate and accelerate work such as testing which includes thousands of employees carried out by PPK and KPPN, tools in the form of applications are needed so that they can conduct systematic testing and carry out monitoring.

FAST Method

The FAST method has eight stages, but in this study, only the first four stages will be described.

Scope Definition

At this stage, to answer the question of whether the project to redesign the performance allowance module is feasible to do? When viewed from the value of performance allowances, it is very feasible because the value of performance allowances compared to basic salaries is very large, so with a very large potential for disclosure risks compared to salaries, it is appropriate that security in state expenditure needs to be improved, validation and testing.

This can be seen from the use of PIECES Framework analysis. According to (Aditya & Jaya, 2022), PIECES is a framework used to measure the value of whether or not the variables applied are good or not, and whether the information system has provided good service quality. PIECES Framework (1) Performance: from the user side, there is still a manual process of making nominative lists with Ms. Excel and uploaded to

the payroll application to add to the process of working stages (2) Information and Data: the calculation of attendance deductions is still filled in manually, (3) Economy: manual creation of nominative lists still has the potential to cause calculation errors (errors) that cause payment errors (5) Control and Security: PPK needs to be provided with a data reconciliation menu (comparing data with the previous month) to be able to see changes that occur in employees, whether there are employees who go up/downgrading and compare with the change decree. Meanwhile, KPPN can do a double check before disbursement to employees, in addition to that as a tool for monitoring and evaluation. (6) Efficiency: in making tukin, it is still required to upload a nominative list, while the change decree data that shows the grading value already exists, this causes the process to be redundant and inefficient. (7) Service: The output in the form of a report in the performance allowance module is only in the form of a recapitulation of performance allowances. A detailed list of performance allowances per grading/group needs to be completed to improve services to users.

Problem Analysis

This stage is to answer the question of whether the benefits of solving this problem outweigh the cost of building the system. The redesign of the existing performance allowance module has great benefits where there is a process improvement in terms of input, process, and output to overcome the problems that occurred before, namely (1) full use of the system in making performance allowances and eliminating manual processes to make it more efficient, easy and produce correct calculations (2) systematic testing (data reconciliation) by PPK and KPPN The goal is that the calculation data generated more valid and mitigate the risk of errors. The activities carried out are as follows:

1. Understanding the main problem

Studying the running system and summarizing the main problems that have been created in the scope definition.

2. Analyze problems and opportunities

Existing problems will be analyzed using the cause-and-effect method.

3. Analyze business processes

Analysis of the existing performance allowance payment regulations compared to salary payment regulations which are very complete and both are employee spending.

Requirement Analysis

This stage is to answer the question of what are the expectations and needs of users of a system that is in the process of development. The proposed new business process will be illustrated using a Business Process Diagram (BPD).

BPD is a visual model that is usually expressed in the form of process modeling notation such as images, the purpose of which is to provide a standardized and more effective means of communication between process analysts that can be understood in general. Furthermore, it will detail functional (input, process, output) and non-functional (convenience, security, and control audit) needs using a flowchart.

According to (Chaudhuri, 2020), a flowchart is a diagram that describes logical and systematic steps to solve a specific problem. A flowchart will record how business processes are carried out and how documents flow through the organization.

Data Reconciliation

In the BPD above, there is a systematic testing process for performance allowances. The systematic testing that will be carried out at the task force level by the PPK and the KPPN level by KPPN officers in the payment of performance allowances is data reconciliation. Data reconciliation according to (Ellim & Harahap, n.d.) Is to compare two or more data elements, and then if differences are found, certain actions will be taken immediately.

For example, the work unit made a job in March, and then the data will be compared with the work in February, so if there are employees who experience changes such as grading, get additional work because of their achievements, experience a decrease in grading because they get teacher/lecturer certification allowances. Then the changed employee data will be visible. Furthermore, the PPK will check with supporting documents in the form of a decree to change the skin. Meanwhile, data reconciliation at KPPN will be the same as at PPK but no longer testing with physical documents, but based on whether the data of the decree exists or not.

Flowchart

The previous Business Process Diagram will be more detailed in the creation of a flowchart. Each activity will be described in its flowchart, for example for the flowchart, the following are the activities carried out by PPABP when recording SK data and processing performance allowances as well as sending tukin to PPK for further processing.

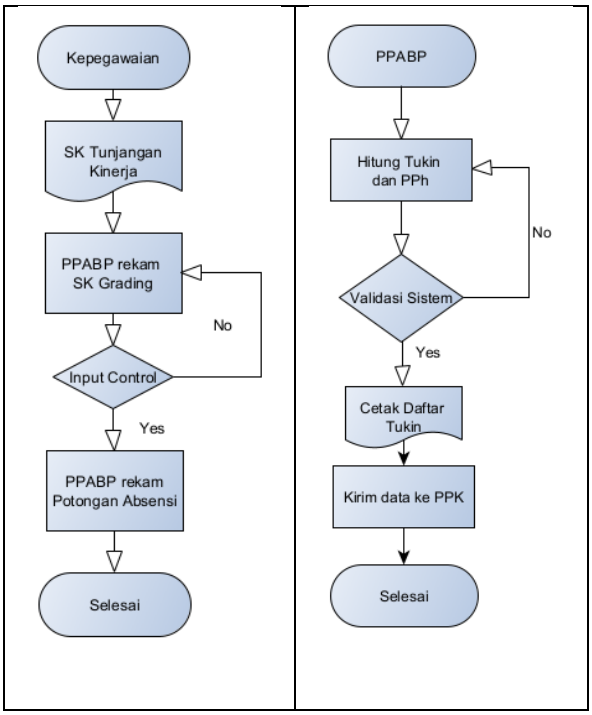


Figure 1 Flowchart of SK Recording and Tukin Calculation

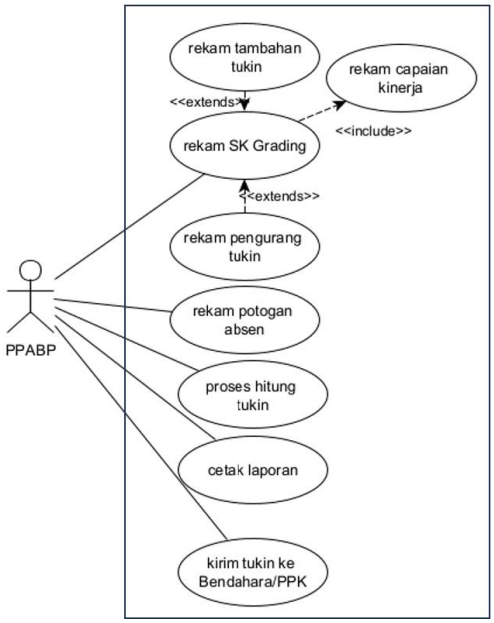
Requirement Analysis

At this stage, it is to change business requirements into models. The types of models that will be used are logical process models, namely use case diagrams, and data flow diagrams (DFD), while logical data models use entity relationship diagrams (ERD), and logical interface models in the form of application mockups (user interfaces).

Use Case Diagram

According to Nugroho (2009), a Use Case Diagram diagram is a drawing to map the interaction between actors and the system to be developed. The actors who interact with the system consist of Administrators, PPABP, Treasurers, PPK, PPSPM, and KPPN, while use cases are activities carried out. Each actor needs to be detailed for each of his activities.

As an example, here is an example use case diagram for PPABP.



Gambar 2 Use Case Diagram PPABP

Data Flow Diagram

According to Coronel (2007), a Data Flow Diagram is a graphical representation of the flow of data through an information system. In this case, it is the benefits module on the Payroll Application. The DFD depicted consists of a context diagram, a level 0 diagram, and a level 1 diagram. The context diagram is more of a recapitulation of incoming data flows and outputs in the form of reports generated and external entities from the performance allowance module, both by system administrators, PPABP, Treasurers, PPK, PSM, and KPPN.

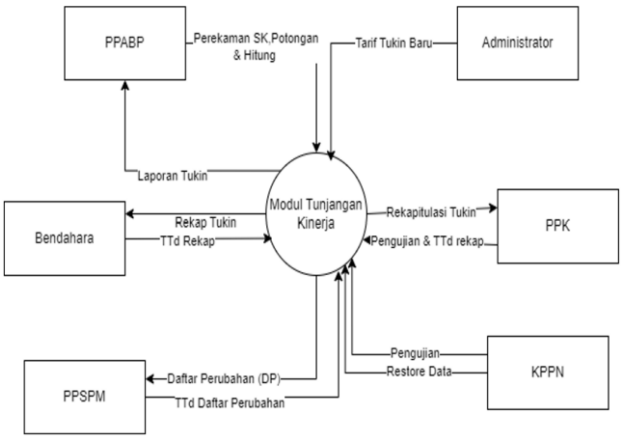


Figure 3 Diagram of the Context Diagram of the Tukin Module

Entity Relationship Diagram

(Ellim & Harahap, n.d.) Stated that an entity is an object or object in the real world, so for this performance allowance module, it can be identified as transactional data such as employee data, and calculation data. Attributes are a set of values owned by entities, in this case, attributes are columns and data types in a table. A relationship is an association between several entities, usually, this relationship will be used in the process of joining tables in a database. Here are some of the tables and their relationships in the tukin module.

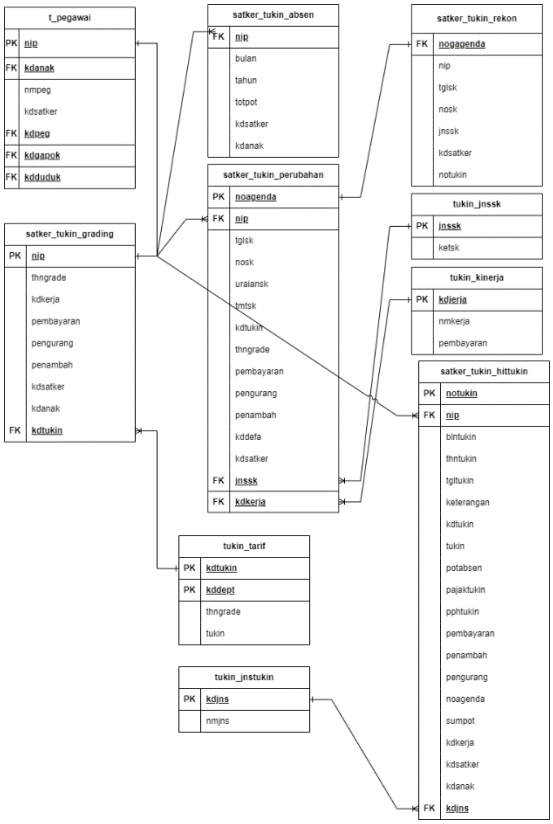


Figure 4 ERD Tukin Module

In addition, it is necessary to define a data dictionary to determine the type of data and the width of each column in the table in the database.

Model User Interface

The following will describe the matrix of relationships between the user interface and the functions in the application.

Table 1
Menu Matrix and Functions

It	User interface	Function
1.	Login	Enter the user and password of the application user to log in to the application.
2.	*Main dashboard* of the performance allowance module	Displays user photos, user levels, application menu lists, data statistics
3.	Setting> Setting Anak Satker	Displaying a list of the child task forces (sub-task force), the user can select a child task force to be processed.
4.	Transactions> Grading	Displays employee data that will be recorded as new grading decree data
5.	Transaction> Recording Snippets	Displaying data to record attendance deduction data
6.	Transaction> Tukin Calculation	Displays form to process monthly allowances, THR monthly allowances, 13, and shortage allowances.
7.	Report> Print Report	Displays detailed list printing forms and recapitulation of taking and signing
8.	Reconciliation> Satker	Displaying the test form (reconciliation) of the calculation taken systematically by the PPK
9.	Approval> Treasurer and PPSPM	Displaying the approval form by the Treasurer and

		sending the calculation to KPPN
10.	Reconciliation> KPPN	Displaying the test form of systematic calculation (reconciliation) by KPPN and restoring data
11.	Reference> Tukin Tariff	Displays a list of reference data for all ministries and agencies
12.	References> Ministries, Groups, and others	Displays a list of reference data for ministries, groups, basic salaries, and others. The process of updating data can be done.

Login

To log in, users are asked to enter their username and password.

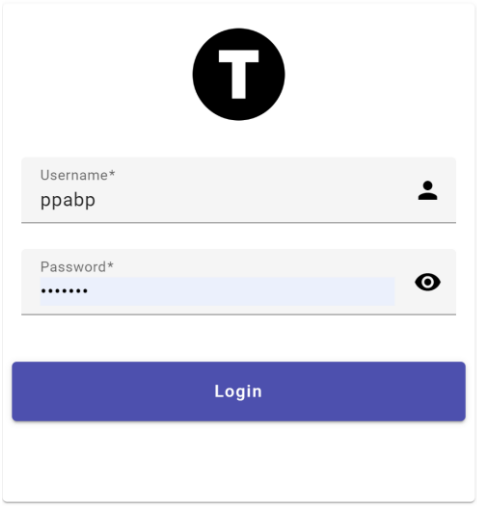


Figure 5 Application Login

Home

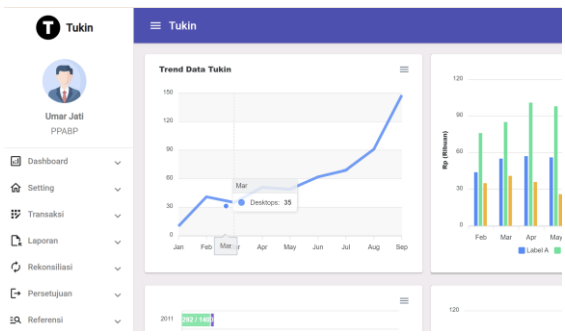


Figure 6 Application Login

In this menu, a list of menus will appear according to the authority of each user, and a dashboard display in the form of statistics for calculating the number of work units.

Setting Child Satker

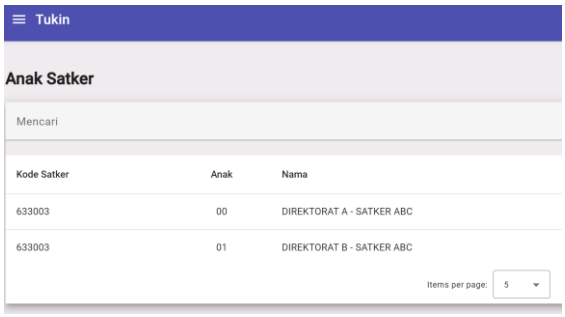


Figure 6 Choosing a Child

In this menu, the user will select the child of the task force to be worked on. The children of the task force are the division of employees according to their work location. For example, in the university task force, the task force children will be divided according to faculties such as the faculty of law, the faculty of economics, and others.

Transaction > Grading

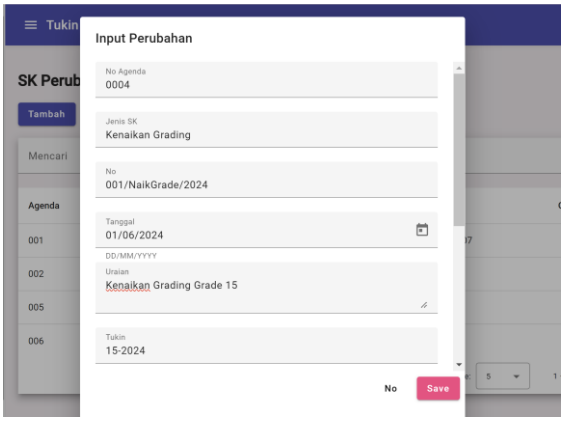


Figure 7 SK Recording

In this menu, PPABP will record a Decree (SK) of changes in employee grading such as number, date, description, TMT SK, new grade, performance achievements, elements of increase (outstanding employees), and subtraction (obtaining lecturer/teacher certification allowances) if any.

Transaction > Recording of Attendance Deduction

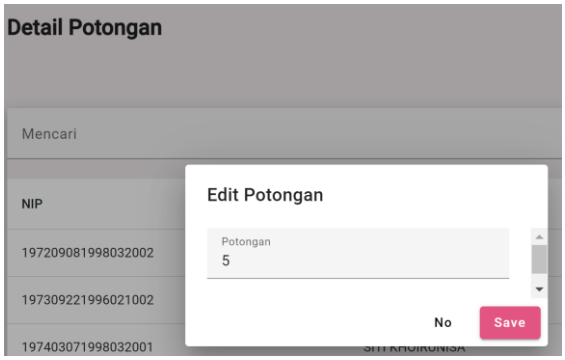


Figure 8 Filling in Absentee Potognan

In this menu, PPABP will record the employee's monthly attendance deduction if the employee is late, leaves early, does not enter without permission and others. The amount of deduction is by the internal regulations of each ministry. Filling in in the form of percentages.

Transaction > Tukin Calculation

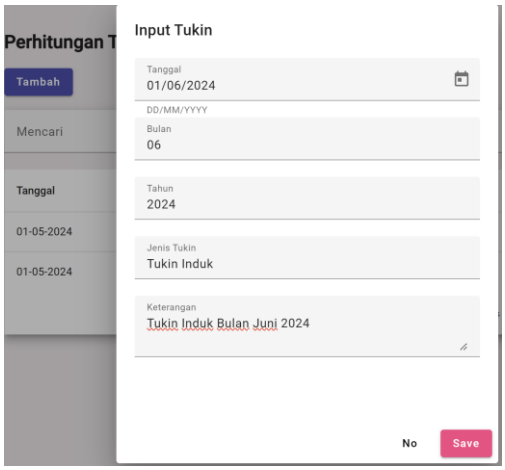


Figure 9 Filling in Absentee Potognan

In this menu, PPABP will record the month and year period, the type, the choice of the parent driver, 13 drivers, THR, and others. After being saved, PPABP clicks the button of the tukin calculation process, and then the data will be formed into calculation component data in the form of tukin value, absentee deduction, income tax calculation, and net value.

Report > Print Report

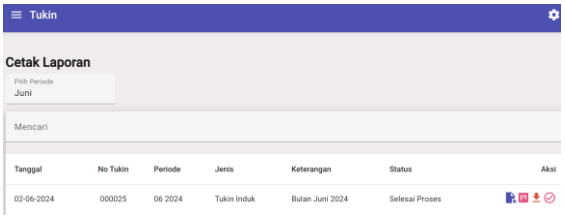


Figure 10 Printing of the Tukin List

In this menu, PPABP can print a report on the payment list in the form of a detailed list, recapitulate it, download it in Excel form, and send the data to the PPK for data reconciliation. Here is an example of the resulting print.

DAFTAR PERHITUNGAN TUNJANGAN KINERJA

Satker : (633003-00) DIREKTORAT A - SATKER ABC
Nomor : 000025
Keterangan : Bulan Juni 2024

No	Nama	Grade	Tukin	T.Pajak	Kotor	P.Absen	PPh	Potongan	Bersih
1	2	3	4	5	6	7	8	9	10
1.	SITI KHOIRUNISA 197403071998032001 Gol IV/a	15	24.100.000	421.750	24.521.750	0	421.750	421.750	24.100.000
2.	NURLELA 198905162010122003 Gol III/b	15	24.100.000	421.750	24.521.750	0	421.750	421.750	24.100.000
3.	BUDI SUHARSONO 198708222014021003 Gol III/c	08	3.176.700	111.108	3.287.808	0	111.108	111.108	3.176.700
TOTAL			51.376.700	954.608	52.331.308	0	954.608	954.608	51.376.700

Figure 11 Tukin Calculation Details

DEPARTEMEN PEKERJAAN UMUM
DIREKTORAT A - SATKER ABC

REKAPITULASI DAFTAR PEMBAYARAN TUNJANGAN KINERJA
PERIODE JUNI 2024

No	Grade	Penerima	Tarif	Tukin	T.Pajak	Kotor	P.Absen	PPh	Potongan	Bersih
1	2	3	4	5	6	7	8	9	10	11
1.	15	2	24.100.000	48.200.000	843.500	49.043.500	0	843.500	843.500	48.200.000
2.	08	1	6.349.000	3.176.700	111.108	3.287.808	0	111.108	111.108	3.176.700
TOTAL				51.376.700	954.608	52.331.308	0	954.608	954.608	51.376.700

Figure 12 Recapitulation of Tukin Calculation

Reconciliation > Satker

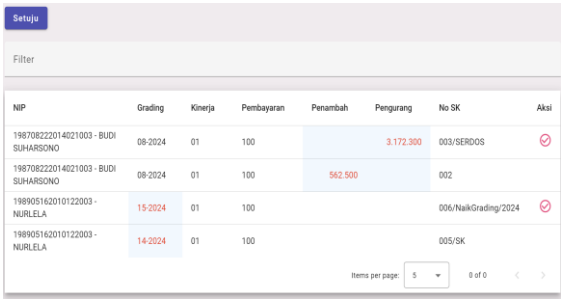


Figure 13 Tukin Testing with Reconciliation

In this menu, PPK will carry out a systematic testing process with a data reconciliation process, namely comparing the data submitted for example in June with the previous month, namely May, and checking data changes, for example, some employees change their grades, or there are additional tukin (good performance), and tukin reductions (getting teacher/lecturer certification allowances). The PPK then checks with the physical document of the employee change decree. If there is a discrepancy between the calculation data and the Decree, the PPK can reject and return it to the PPABP for correction, but if it is by it, it can be approved.

Approval > Treasurer and PPSPM

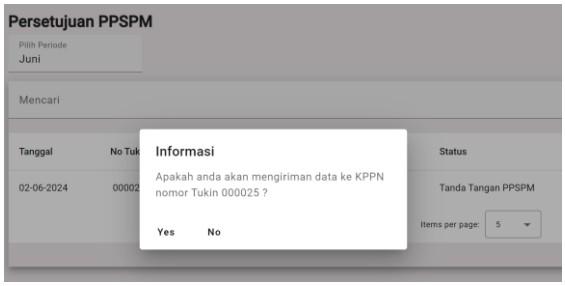


Figure 14 Approval and Submission to KPPN

In this menu, the Treasurer and PPSPM will approve (sign) then PPSPM will send tukin to KPPN in preparation for the disbursement of tukin at KPPN.

Reconciliation > KPPN

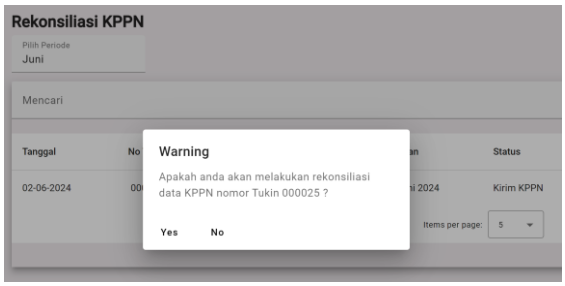


Figure 15 Approval and Submission to KPPN

After the data is entered at KPPN, KPPN will carry out a data reconciliation process. Data reconciliation will be the same as in the PPK but no longer testing with physical documents, but based on the SK data that has been recorded, whether the data exists or not, in addition to that it is coupled with validation for the prevention of double payments, and employees who are already non-active such as retired and deceased but resubmitted by the task force and others, if it occurs, the KPPN can take action of rejection. After that, the data of the task force will be restored to the KPPN database.

Tukin > References

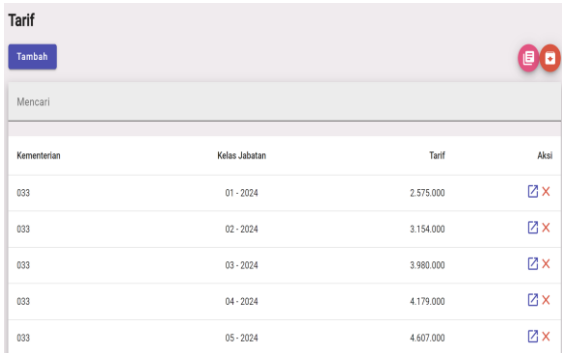


Figure 16 Tukin Reference

In this menu, those who can record and change tariffs for all ministries/institutions are system administrators, each task force and ministry is not allowed to change on their own, if there is a change in tariffs, send a letter to the Directorate General of Treasury.

Other > References

Figure 17 Ministry Reference

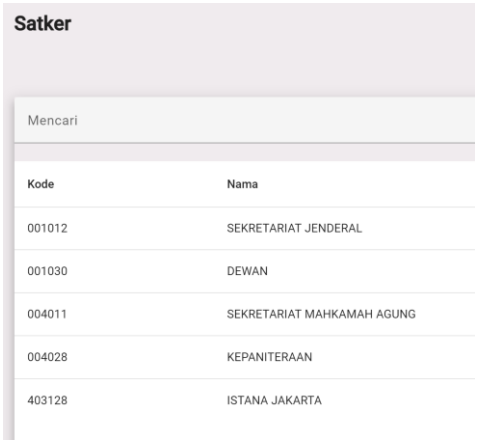


Figure 18 Satker Reference

Other references such as ministries, task forces, types of workers, income tax rates, and others are also the same, namely only administrators are allowed to make changes, task forces/ministries are not allowed to make changes themselves.

Conclusion

Performance allowance is one of the components of employee expenditure which is very large compared to the monthly salary for civil servants in all ministries/institutions. Meanwhile, salary payments have used the full system on the side of the task force and KPPN, but for performance allowances yet. Therefore, it is appropriate to develop a good performance allowance module not only from the side of work units but also from the side of KPPN needs to be carried out and improved in convenience and security.

The redesign of the development of the performance allowance module needs to include the concept of segregation of duties, namely the need for separation of duties for the recording role, namely the recording of SK data and the calculation of performance allowances by PPABP, authorization, which is the authority to approve transactions, will

be carried out by the PPK and KPPN and custody, which is the authority to hold money that will be carried out by the Treasurer.

Application development with the FAST method with four initial stages, namely scope definition, problem analysis, requirement analysis, and logical design with various uses of diagrams such as business process diagrams, use case diagrams, flowcharts, data flow diagrams, entity relationship diagrams is to define activities, see problems, opportunities, directions and achieve good system development goals with expected results, namely:

1. Improve the efficiency of using the system from the PPABP side by eliminating the manual process that still exists today, and fully using the application.
2. Improving the control side of work units when the PPK conducts systematic testing of the calculation of performance allowances through the data reconciliation process so that it makes it easier for the PPK when conducting an SK examination of changes in employees.
3. Improving the control side of KPPN before disbursing the budget while providing convenience for KPPN in monitoring and evaluating performance allowance payments.

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