



## Data Filter and Employment Contract Reminder

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### ABSTRACT

PT X is one that has a contract workforce where every employee accepted is given a 6-month work contract by the company. The employee contract system uses semi-computerized number processing software. Recap of employee contract data is done manually for the extension of the work contract and there is no reminder system for the period of the contract so that the HRD section experiences problems in renewing the employee contract. The design of a work contract information system with a qualitative descriptive approach and the development of a system prototype have been carried out to overcome these problems. Preliminary data collection was carried out through interviews and observations, object-oriented analysis (OOA), unified modeling language (UML) and PIECES as well as system testing with blackbox testing. This research produces an information system application that can be used to display filter data and website-based work contract reminders.

## 1. Introduction

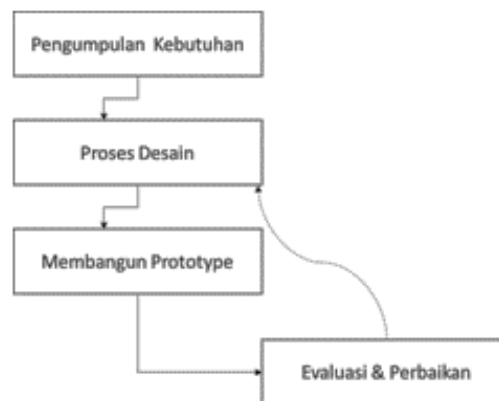
PT X is a company that has a contract workforce where every employee who is accepted is given a 6-month work contract by the company, if the workforce is no longer needed, the workforce will be terminated, and if the workforce is still needed, the work contract will be extended. The contract extension will be regulated by PT X's HRD division. Based on observations at PT X, the current employee work contract system is still semi-computerized using Microsoft Excel. With this system data input is done repeatedly so that there is a similarity in employee work contract data. The similarity of these data makes it difficult for HRD to find exact information related to employee work contract data, where HRD must re-check employee work contract data. So that this causes delays in the data collection of contract workers who have been dismissed or their work contracts have been extended. To overcome this problem, an employee employment contract management information system was created that is relevant to the conditions of PT X. The problem faced by PT X is that the data collection process for contract workers often occurs with duplicate data, HRD has difficulty getting information on work contract data, there is no notification automatic information for HRD when the employee's work contract has expired, and there are frequent delays in the data collection of contract workers who have been terminated or their work contracts have been extended. To overcome these problems, it is necessary to design a work contract information system with a descriptive qualitative approach and develop a prototype system.

## 2. Method

This study used a descriptive approach with the prototype method. The steps of the prototype method carried out are as follows:

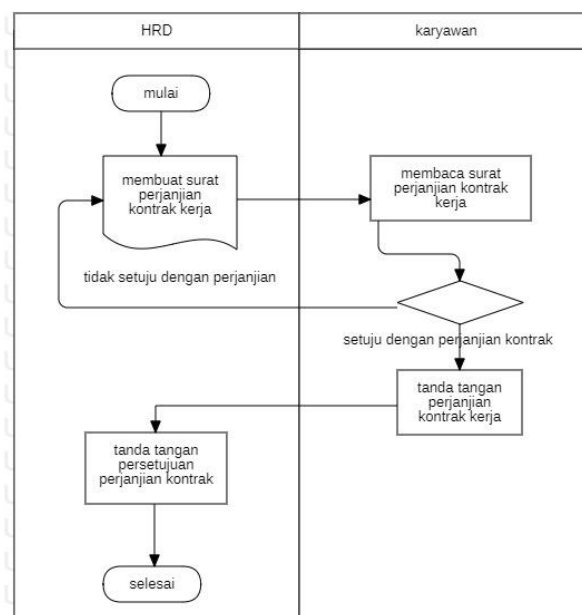
1. Identification of requirements in the form of a basic requirements framework for the system to be implemented and holding a large meeting with PT X to determine the overall objectives of the software.
2. The design process is fast by doing a design focus on the representation of aspects of the software from the user's point of view including input, process and output.
3. Building a prototype, in the form of a fast-paced design that leads to prototype development, the prototype is explored by the user and analyzed by the project and used to suit the needs of the software to be developed. The prototype is set to meet the needs of the user, and at that point the developer clearly and comprehensively understands what needs to be done.
4. Evaluation and improvement, after the four prototyping steps have been carried out, the next step is the manufacture or construction of the actual product.

The steps of the prototype method are presented in the following figure:



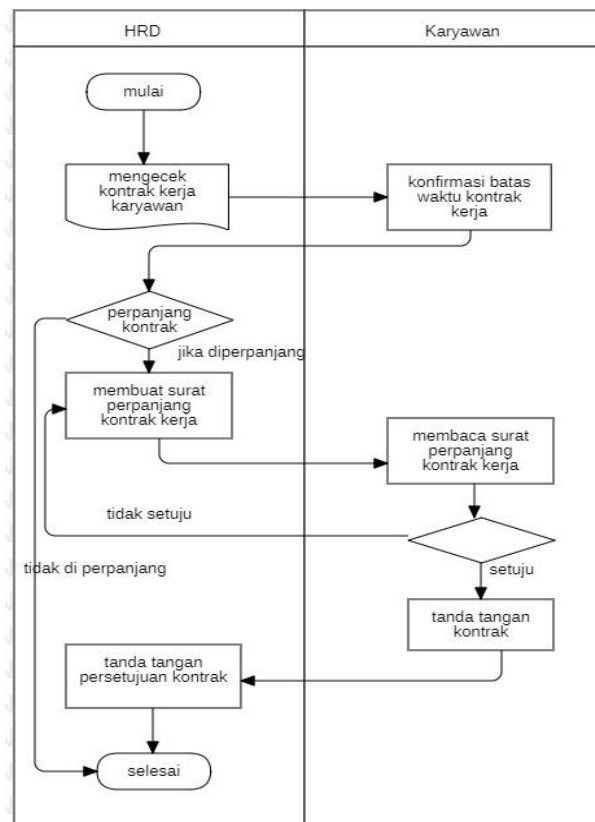
**Fig. 1** The prototype method

The semi-computerized system currently running at PT. X by requiring repeated data checks to obtain information related to work contracts. The first step of the flow of making a work contract which can be seen in the following figure:



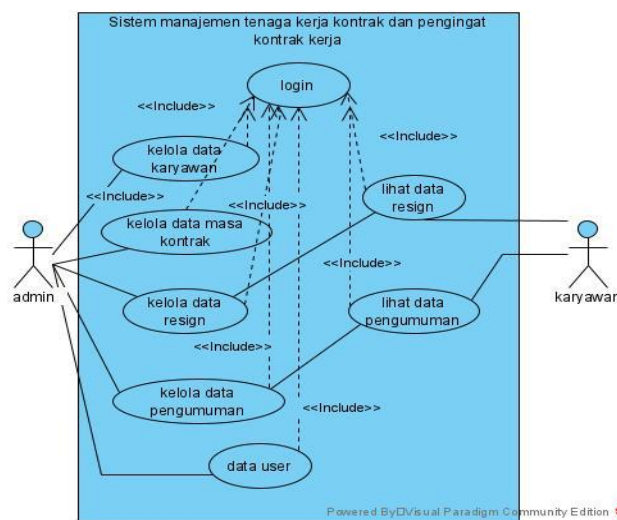
**Fig. 2** The flow of making a work contract agreement

The next step is to check the employee regarding the extension of the work contract, which can be seen in the following figure:



**Fig. 3** The flow of extending a work contract

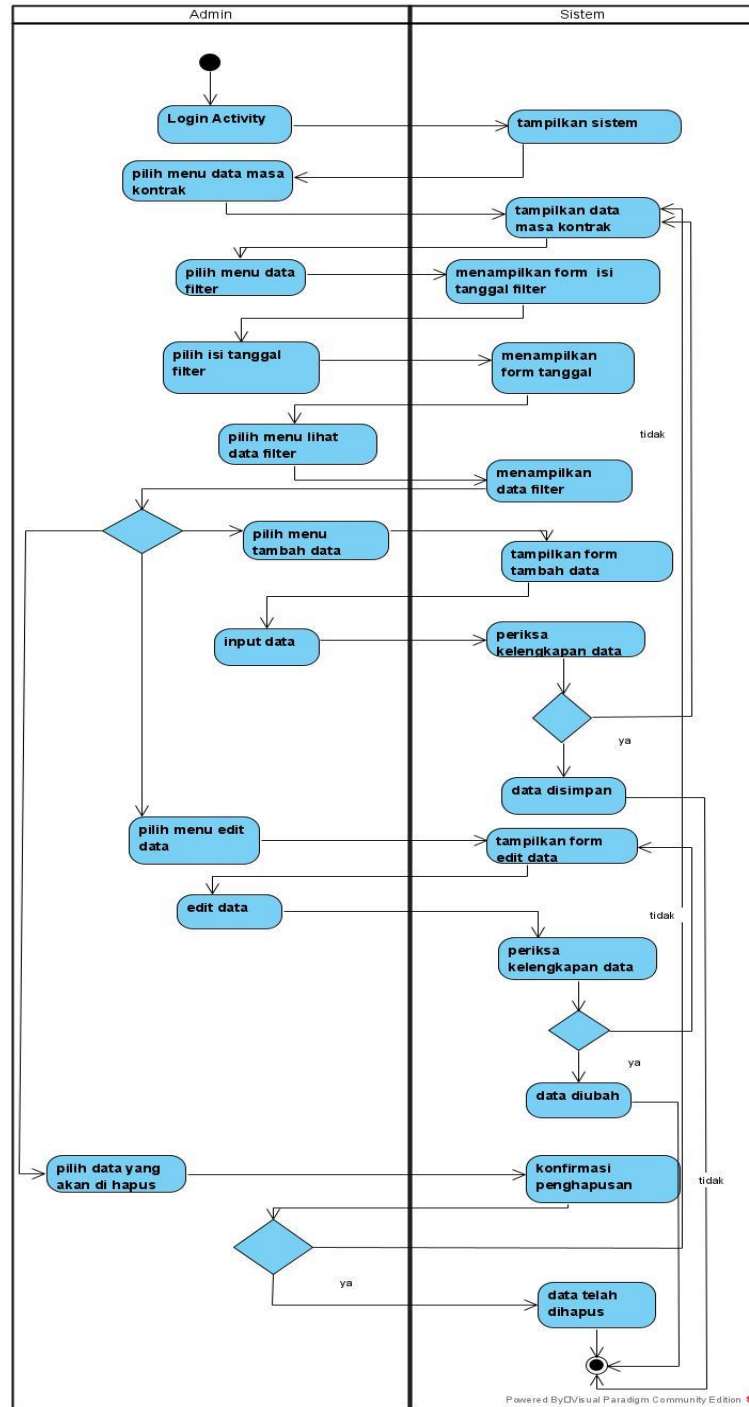
Researchers use the unified modeling language (UML) for the system foundation. This is because UML functions as a bridge in communicating several aspects of the system through a number of graphical elements that can be integrated into diagrams and blueprints. Use cases, activity diagrams, sequence diagrams and class diagrams can explain the flow of design and analysis of the system. Use case and activity diagrams can be seen in the following figure:



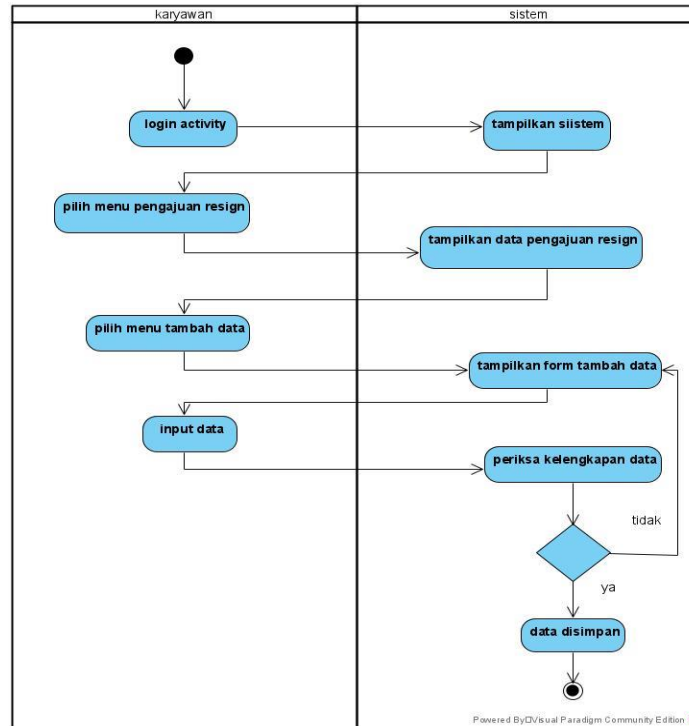
**Fig. 4** Use case diagrams



**Fig. 5** Activity diagram for managing employee data



**Fig. 6** Activity diagram for managing contract period data

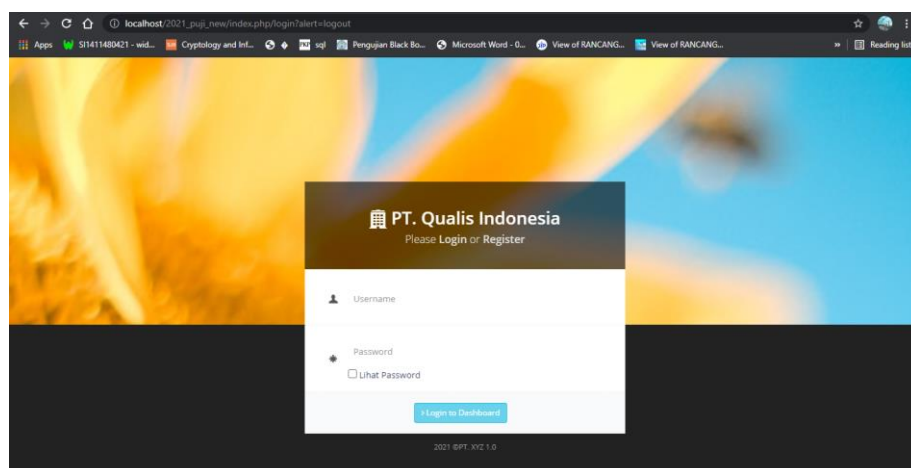


**Fig. 7** Activity diagram for managing resign submission data

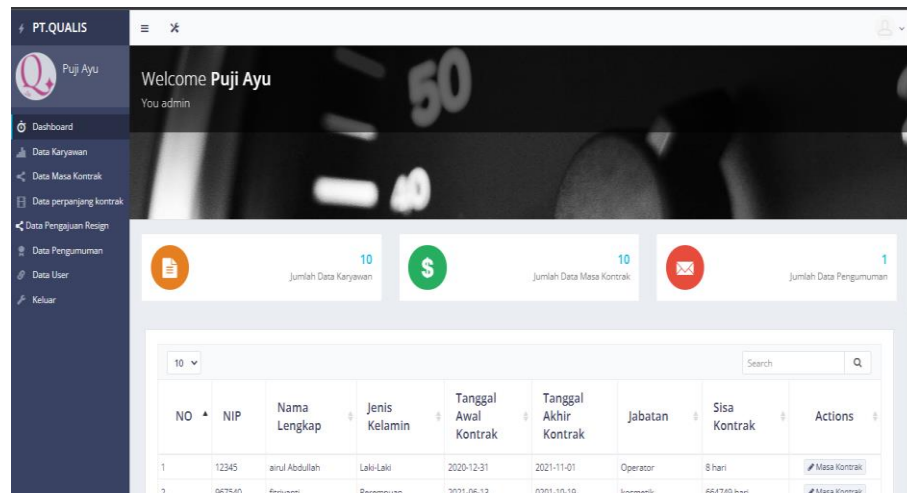
After the design phase is complete, it is followed by the implementation of the application program by presenting some descriptions of the system that has been built from logging in to submitting a resignation.

### 3. Results And Discussion

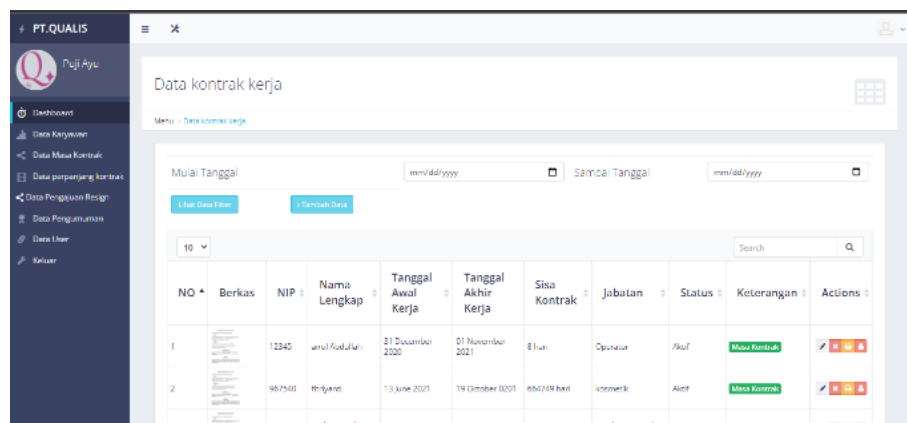
The web-based system application that has been developed is able to answer problems in the running system by utilizing several important features that are included in the system. Conceptual, logical and physical stages can support the application development process and this is in accordance with the database life cycle concept (SDLC). Here is a picture of the implementation:



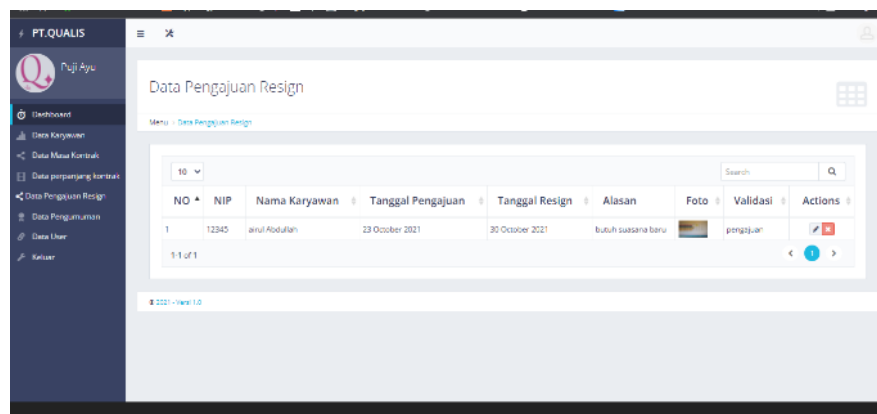
**Fig. 8** Display of the login page



**Fig. 9** Dashboard page display



**Fig. 10** Display of contract period data page



**Fig. 11** Display of the resignation submission page

#### 4. Conclusions

The design of a work contract information system with a descriptive qualitative approach and the development of a prototype system can overcome data accumulation problems, displaying the results of tracking contract periods and employee resignations through additional filter menu features. For further research this application can be improved by adding portal features and distributed systems.

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