Sistem Aplikasi Penghitung Lembur Kerja Karyawan Berbasis Web (Studi Kasus: PT XYZ)

TUGAS AKHIR

NAMA   **: REZA RAHMANIKA**
NIM   **: 41518110058**

PROGRAM STUDI TEKNIK INFORMATIKA
FAKULTAS ILMU KOMPUTER
UNIVERSITAS MERCU BUANA

2022

Sistem Aplikasi Penghitung Lembur Kerja Karyawan Berbasis Web (Studi Kasus: PT XYZ)

TUGAS AKHIR

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Oleh:

NAMA   : REZA RAHMANIKA
NIM   : 41518110058

PROGRAM STUDI TEKNIK INFORMATIKA
FAKULTAS ILMU KOMPUTER
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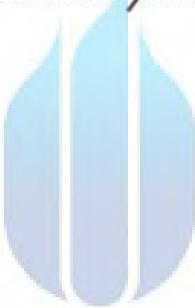
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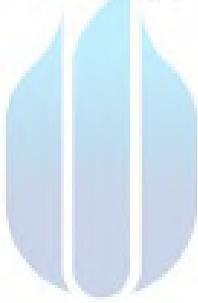
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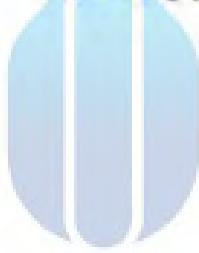
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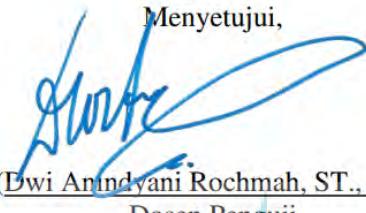
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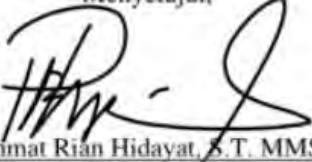
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(Emil R. Kaburuan, Ph.D.)
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Jakarta, 4 Agustus 2022
Reza Rahmanika

DAFTAR ISI

NASKAH JURNAL

Web-Based Employee Overtime Calculator Application System (Case Study: PT XYZ)

Reza Rahmanika[1], Rahmat Rian Hidayat [2]
[1,2]Mercu Buana University, Meruya, West Jakarta, Indonesia
[3]Informatics Engineering, FASILKOM, Jakarta
e-mail: [1]**41518110058@student.mercubuana.ac.id**, [2]rahmat.rian@mercubuana.ac.id

Abstract

A company has many plans to achieve the targets set by the company. For each plan to run well, employees are expected to work more productively in all aspects, both individually and within the company. That is inseparable from the importance of managing work schedules and hours. In addition, it does not hinder the addition of working hours or so-called overtime if needed.

SPKL (Overtime Work Order) is a document that lists the overtime hours of each employee in a company. At PT XYZ, the list of overtime work is still manual, using paper which is very ineffective and very difficult for large companies with hundreds or thousands of employees because they have to reprint when there is an error when inputting data. The author conducted this research to avoid errors during data collection over time. The type of research used is quantitative with a participatory observation method. The authors create an overtime dashboard in this research by applying a web-based sequential search method.

Keywords— Overtime, Sequential Search, Dashboard

1. INTRODUCTION

Overtime working time is working time that exceeds 7 (seven) hours a day and 40 (forty) hours 1 (one) week for 6 (one) hours. Six) working days in 1 (one) week or 8 (eight) hours a day, and 40 (forty) hours in 1 (one) week for 5 (five) working days in 1 (week) or working time on weekly rest days and or on official holidays set by the government [1]. At PT XYZ, of course, every employee has been asked to work overtime to meet the achievement targets that have been agreed upon by the company. The overtime calculation for employees must exist so that employees receive overtime pay. The problem occurs when the employees owned by the company are hundreds or even thousands because they have to make sure all employees who work overtime get the appropriate overtime pay. With the web created by the author, the calculation of overtime wages can help human resources or finance, and PT XYZ does not need to use paper anymore manually.

2. RESEARCH METHODS

The method used in this research is SDLC (Software Development Life Cycle). SDLC is the work systems analysts and programmers do in building information systems[2]. This method can reduce software crises or software development failures caused by software that is not achieved by the objectives to be achieved[3]. The waterfall model is a device development model most frequently used software. This development model is linear from the early stages of system development, namely planning stage to the final stage of system development the maintenance stage. The next step will not carried out before the previous step is completed

implemented and cannot go back or repeat to stage previously [4]. The stages of this research are illustrated in the following diagram:
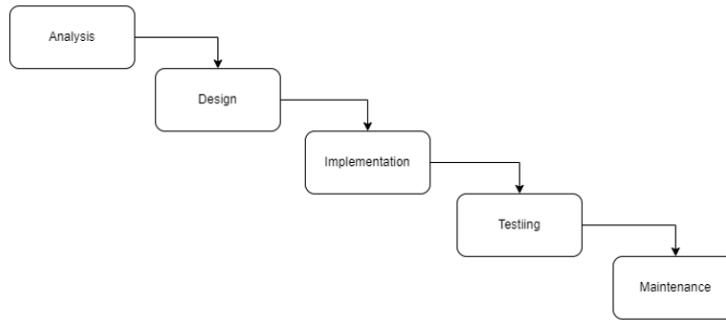

Figure 1 SDLC (Software Development Life Cycle)

2.1 Analysis

The analysis analyzes and defines problems and possible solutions for organizational systems and processes[5]. The overtime dashboard requires overtime data that is inputted by the team leader every time there is an overtime staff.

2. 2 Design

System Design includes the process of designing outputs, inputs, file structures, programs, procedures, hardware, and software needed to support the system[5].

- The system design uses Unified Modeling Language (UML) modeling through the draw.io website. The UML design includes Activity Diagrams and Use Case Diagrams.
- Computer Specifications, which consist of:
    - Laptop Core i5 Processor
    - 500GB SSD
    - 8GB RAM
- The software used, including:
    - Windows 11 Operating System
    - Atom
    - Xampp
    - phpMyAdmin

2. 3 Implementation

This step is to Carry out logical design specification activities into the actual actions of the information system to be built or developed[6]. The author is writing program code using PHP 7. The text editor used is Atom which is light when run and easy to use. In this dashboard, the author creates three users with different uses:

- Team leader to input over time
- Manager to approve overtime
- Admin for monitoring overtime.
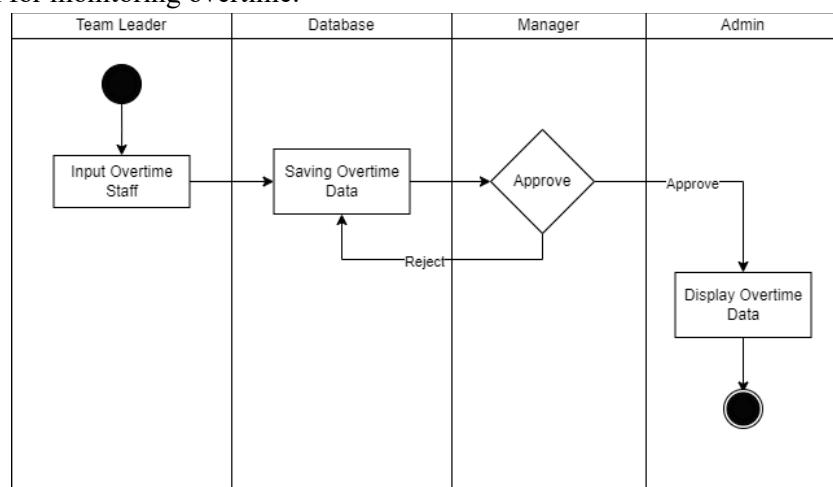
Figure 2 Activity Diagram

2. 4 Testing

System testing is essential to provide quality assurance and prove that its functions are operating correctly[7]. Overtime dashboard program testing aims to see whether the dashboard that has been made is running well and according to the designed needs. Moreover, this test can find errors in the system that can be repaired.

a. Login to the overtime dashboard using the team leader's NIK and the password "test".
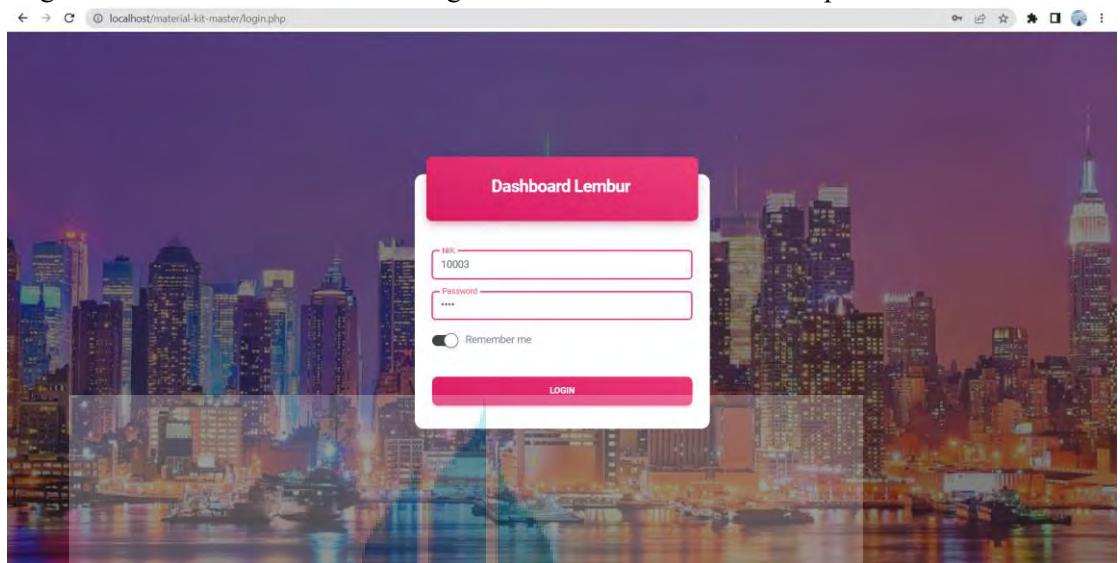
Figure 3 Login View (Team Leader)

After successfully logging in, a dashboard display will appear, as shown below.

Figure 4 Overtime Input

Each team leader can choose members who can be ordered to work overtime.

Figure 5 Team Members

Select overtime date.

Figure 6 Overtime Date

Select start-end hours, then fill in overtime activities. Then click submit button.

Figure 7 Example Content

b. Approval Overtime.

Login to the overtime dashboard using the manager's NIK and the password "test".
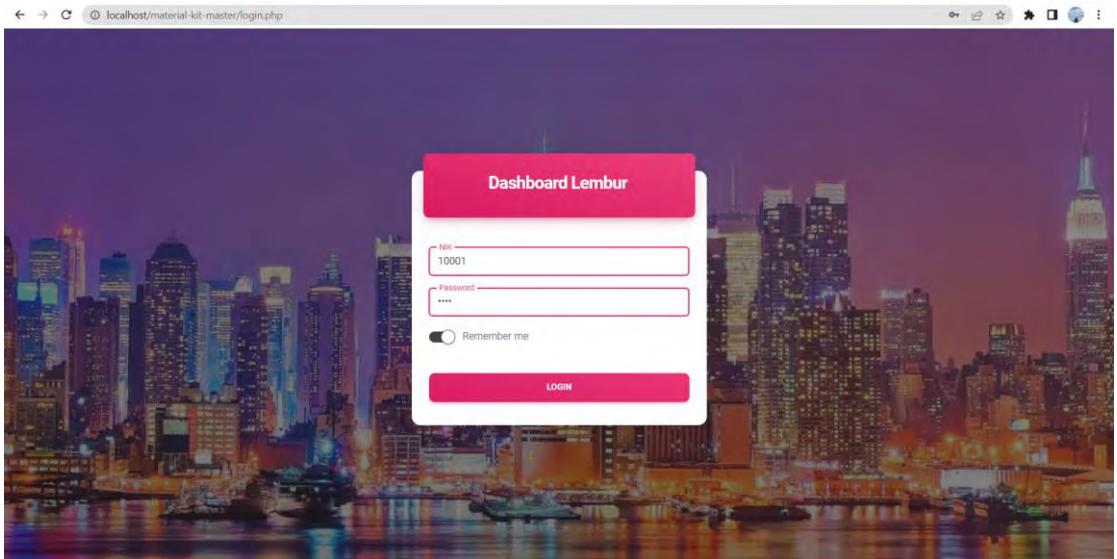
Figure 8 Login View (Manager)

In the user manager view, there are agree and disagree options. Click approve if overtime is approved, and click reject if employee overtime is not supported.

No	NIK	Nama	Tanggal Lembur	Jam Mulai	Jam Selesai	Kegiatan	Approve	Reject
11	12349	SIONO	2022-06-19	07:00:00	12:00:00	Pembuatan Dokumen Pertanggungan	✓	
12	12349	SIONO	2022-06-20	19:00:00	22:00:00	Report Payroll	✓	
13	12348	NGATUWIN	2022-06-18	18:00:00	21:00:00	Laporan Cash Opname	✓	
14	12348	NGATUWIN	2022-06-25	19:00:00	23:00:00	Pengecekan Stok Barang	✓	
15	12349	SIONO	2022-06-30	20:00:00	21:00:00	Development BOT Telegram		×
16	12347	BAKRI	2022-06-04	07:00:00	10:00:00	Development Dashboard	✓	×

Showing 11 to 16 of 16 entries   Previous 1 2 Next

Figure 9 Approval Overtime

c. Admin's view
   Login to the overtime dashboard using the admin's NIK and the password "test".
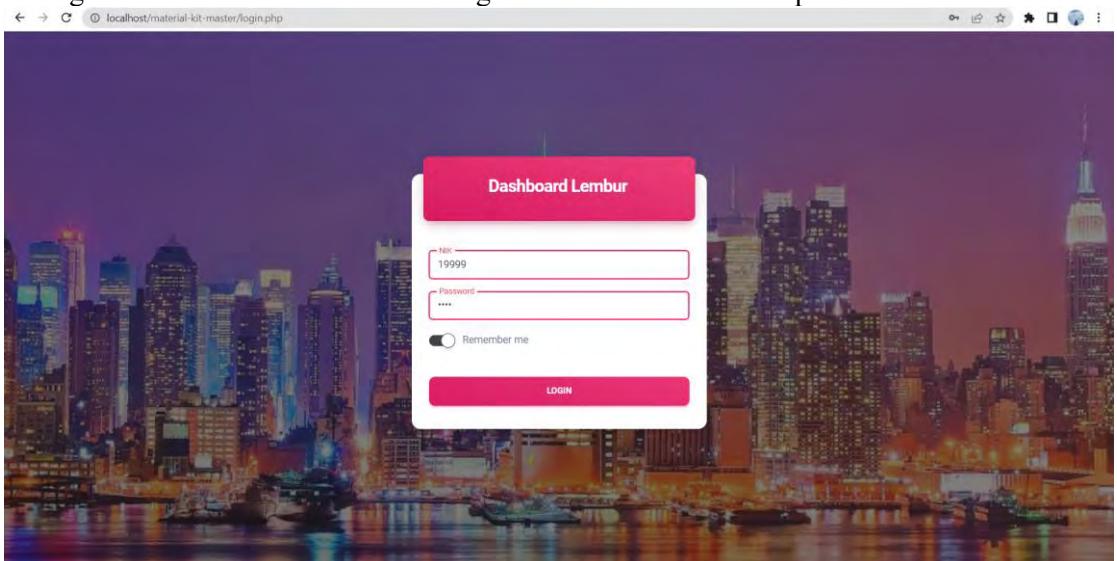
Figure 10 Login View (Admin)

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The overtime dashboard display on the admin user contains date filters, total overtime, and overtime wages that admins can use to make their work easier.

Figure 11 Overtime List

If the manager does not approve the overtime, the overtime will not appear in this table.

Figure 12 Overtime List

The following is the view of the overtime date filter that the author chose from June 1, 2022, to June 5, 2022.

Figure 13 Overtime Date Filter

2. 5 Maintenance

Maintenance to fix errors in software, improve software adaptation to its operating environment and add and modify system functions[8].

3. RESULTS AND DISCUSSION

Sequential Search is the process of comparing each array element one by one in a row starting from the first element until the element being searched for is found or until the last part of the array[9]. This algorithm can display the data needed for the admin user to display the overtime table. If the manager has approved the overtime, the approval column is worth 1 and will be displayed in the overtime table. Using this algorithm, the overtime table will avoid overtime data that has not been approved by the manager, which is worth 0, and overtime data that is not approved by the manager, which is worth 2.


```
$tgl_start = $_POST['start'];
$tgl_finish = $_POST['finish'];
$tambahan_query = " AND tanggal_lembur >= '".$tgl_start."' AND tanggal_lembur <= '".$tgl_finish."'";
$query_final = "SELECT * FROM ta.table_lembur WHERE 1 AND approval = '1'".$tambahan_query;
$data_lembur = mysqli_query($koneksi, $query_final);
while ($data = mysqli_fetch_array($data_lembur)) {
  $nomor++;
  echo '
  <tr>
    <td>'.$nomor.'</td>
    <td>'.$data['NIK'].'</td>
    <td>'.$data['Nama'].'</td>
    <td>'.$data['tanggal_lembur'].'</td>
    <td>'.$data['jam_mulai'].'</td>
    <td>'.$data['jam_selesai'].'</td>
    <td>'.$data['kegiatan'].'</td>
    <td>'.$data['total_lembur'].'</td>
    <td>'.$data['upah_lembur'].'</td>
  </tr>
';
```

Figure 14 Sequential search algorithm

Figure 15 Sequential search algorithm results

4. CONCLUSION

The conclusions from this research:
- Admin can make a monthly recap of overtime reported to Human Resources quickly and easily.
- Determination of the starting and ending hours entered by the team leader can regulate the overtime hours of its members so that the staff does not work overworked (excessively).
- Managers can also monitor their employees' overtime activities so that they do not work outside their responsibilities or job descriptions.
- The overtime pay on the admin user display can help the admin calculate employee overtime wages so that there are no miscalculations when payroll salaries are paid.

- Reduce paper usage.

5. SUGGESTION

A successful software system will experience a decline from time to time[10], so it must perform data recovery periodically because the stored data will increase over time. And you can add an excel download menu so that the web is more practical in its use.

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KERTAS KERJA

Ringkasan

Kertas kerja ini merupakan material kelengkapan artikel jurnal dengan judul "Web-Based Employee Overtime Calculator Application System (Case Study: PT XYZ)". Permasalahan terjadi ketika penulisan data lembur karyawan masih menggunakan kertas yang mana apabila terjadi kesalahan penulisan akan sangat sulit karena harus memperbaiki lalu mencetak kertas lagi. Hal ini tidak efektif kalau perusahaan memiliki ratusan bahkan ribuan karyawan. Dikemas dengan nama Dashboard Lembur sehingga memudahkan admin dalam merekap lemburan. Pada dashboard lembur terdapat fitur seperti filter tanggal lembur, total lembur, dan upah lembur agar tugas admin untuk memperhitungkan upah lembur dapat terbantu.