

# Web-based Consulting Company Employee Timesheet

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**Abstract**— Work timesheet is a form of work activity reporting that is usually implemented by a company to monitor the work of their employees. In this study, the researcher wanted to develop a Web-based Consulting Company Employee Timesheet which aims to facilitate the process of reporting and checking data in terms of work timesheets or reporting of work activities in a consulting company. The features developed are made in such a way that it is expected that the company's needs can be met according to the previous system of the consulting company. The method used for website application development is the *waterfall method* where the development stages occur sequentially. The method applied is through ERD ( Entity Relationship Diagram), Flowcharts, Use Case Diagrams, Activity Diagrams. After this web-based was created, the researchers conducted tests and interviews with admins, managers and employees of the consulting company, totaling 5 people. From the results of interviews with 5 respondents obtained a positive response to the development of a Web -based Timesheet for Consulting Company Employees.

**Keywords**— work timesheet, consulting firm, web-based.

## I. INTRODUCTION

The use of technology in today's times provides many benefits for every user. Technology used by humans to help complete work is a necessity in life. With the current technological developments, a technology called *web-based has been created* , where *web-based* which can help

human work is considered more effective and efficient in helping the process and completion of tasks with more accurate data results [1]. Doing work that is supported by adequate facilities can minimize errors and save workers time is an advantage for the workers, for example, in making work *timesheets* , some companies have policies whereby workers are required to report every task they are working on, where this *timesheet must be filled in*. regularly usually once a week, once a month or depending on company policy [2][10].

*timesheet* is useful for the Company's employees in terms of recording tasks that are being carried out, which consists of filling in the time to start work and the time spent doing tasks in the project, which will be reported later. *the timesheet* will be useful for calculating *salary* ( which is done by separate HR), besides that company HR and team managers can make it easier to control team activities in ongoing projects.

In this case the researcher reviewed *two* management applications used by two different companies to support the implementation of this project and as a point of view provided by the researcher. The two applications chosen by the researcher are applications that the researcher used before while still joining the company as an employee .

After reviewing the two applications, it can be concluded why the two companies do not use the Timesheet feature in the applications they use. That's because the two applications used do not meet the company's needs in terms of filling in work timesheets.

## II. RESULTS AND DISCUSSION

The development process for *the Company's Employee Web-Based Timesheet system* is the *Waterfall method* which will later be adapted to the company's needs using the PHP and *JavaScript* programming languages with the final stage being *testing*. [5]

### Database Relations Design (ERD)

ERD ( *Entity Relationship Diagram* ) is a structural diagram that is used to design a *database* . ERD is a set of ways to build data in projects into entities and define relationships within these entities. ERD has several types of relationships, namely *one to one relationship, one to many relationships, and many to many relationships*[6][7]. Figure 1 explain ERD of Web-based Timesheet.

Designing Database Table Structure of Web-based Timesheet was explained on figure 2.

### Flow chart

Users (employees) can only access the website if the employee already has an account registered in the database where only the admin has access to registration. After the

employee has the username and password provided by the admin, the next step is for the employee to log in. After a successful login, the employee will immediately be directed to the Employee Dashboard where on that page the employee can immediately fill in the timesheet.

After the timesheet data is filled in, the data will automatically be stored in the database and appear on the Employee, Admin, and Manager Dashboards. The next step, manager can check the timesheet data that has been updated, if it is appropriate then the manager can " *Approval* " the data and if not then the manager will confirm with the employee concerned and the status on the timesheet data will remain " *Pending* ". If the timesheet and *approval checking* have been completed, the approval status update will automatically be updated on the three Actor Dashboards. In this case the Admin can print data for reporting purposes, after all needs are completed, admins, managers and employees can logout accounts. Figure 3 explain Flowchart Sytem of Web-based Timesheet.

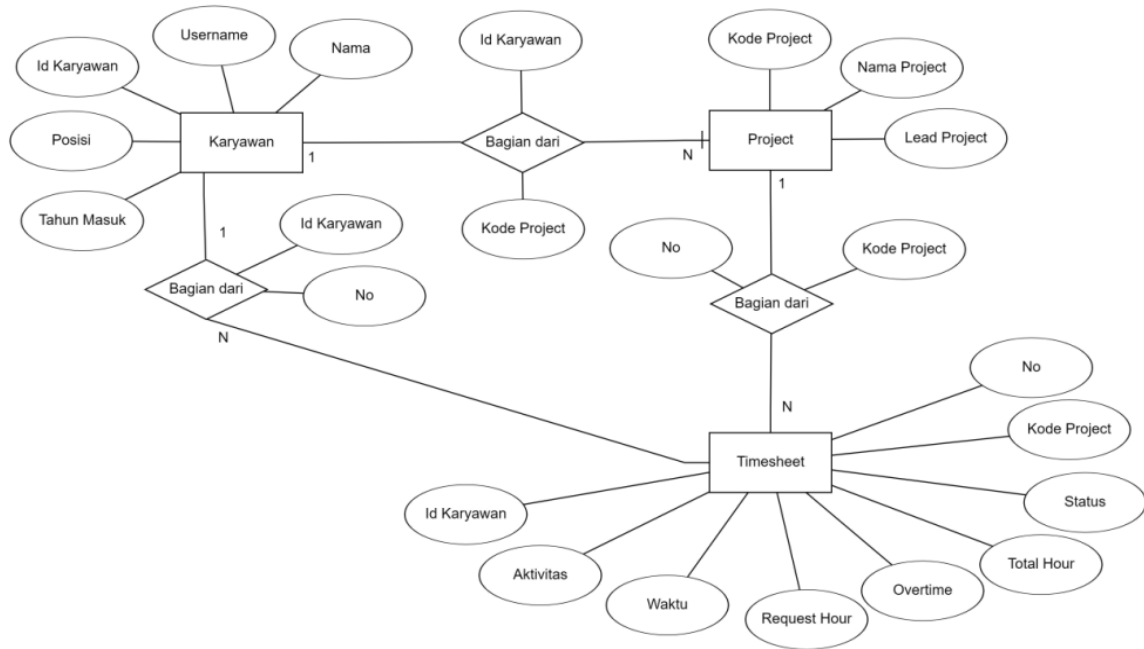


Figure 1 ERD Web-based Timesheet for Consulting Company Employees

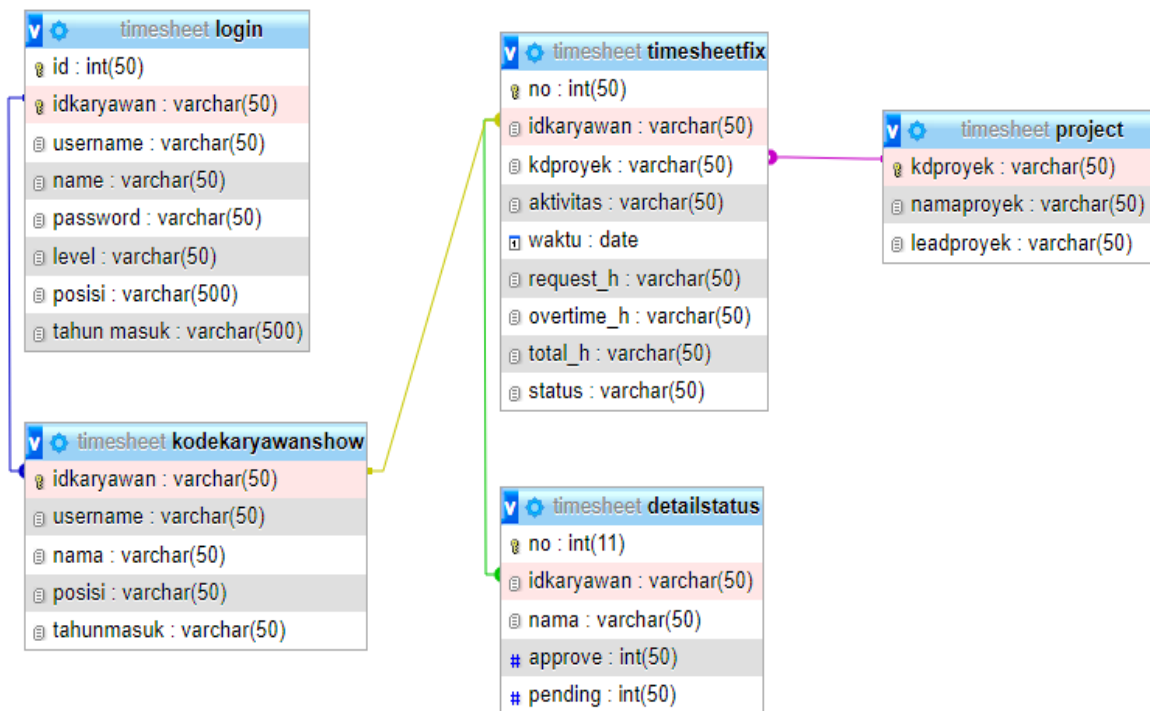


Figure 2 Database Table Structure of Web-based Timesheet

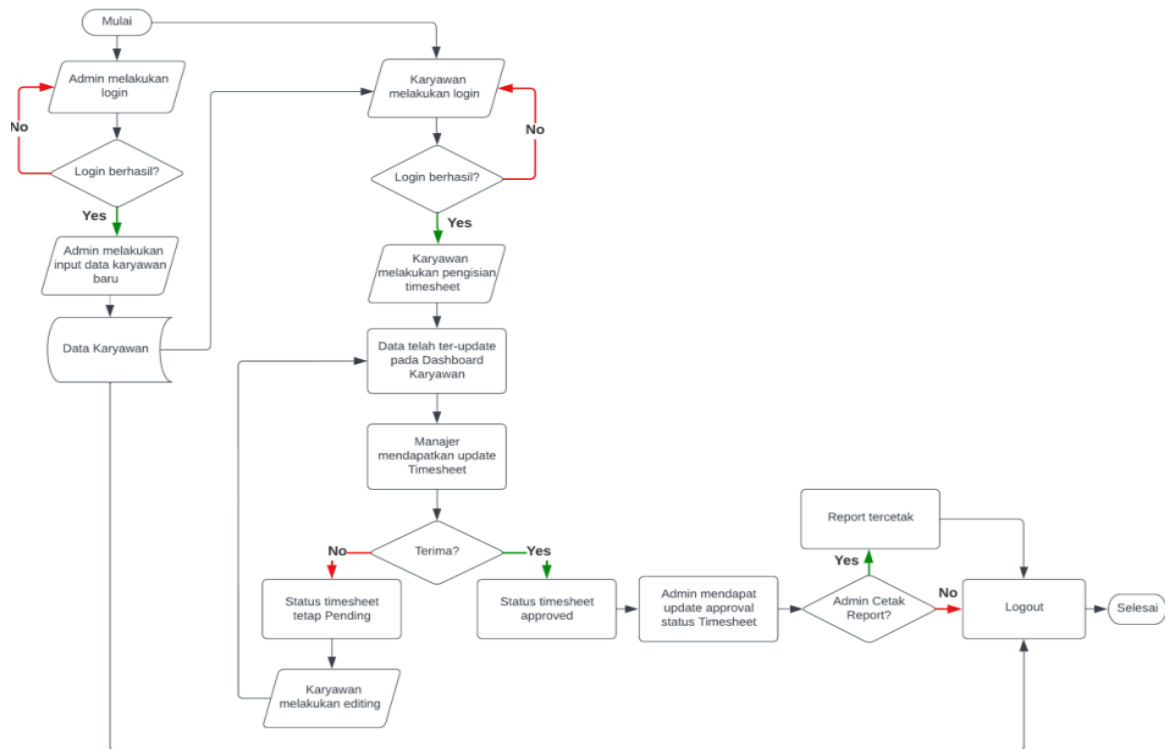


Figure 3 Flowchart Web-based Employee Timesheet Consulting Company

**Use Case Diagrams**

Use case diagram Web-based Consultant Employee Timesheet there are 3 actors, namely Admin. Managers ( *Project Leads* ), and Users (Employees) who have their respective *roles (access rights)* in every feature in the system. In the use case diagram, all three have the same access rights, namely the need to authenticate or log in first to enter web-based. For the user himself, there are activities, namely logging in, changing passwords, *inputting timesheets*, *updating timesheets*, *deleting timesheets* , and *logging out* .[4][8]

Managers have special access that only managers have, namely *Approval Access* , where managers can log in first. In addition, managers also have access, namely login, *logout* , changing *passwords* , and *reading* employee timesheets. Read the employee timesheet is useful for managers to see the progress of projects carried out by employees in their projects.

Furthermore, Admin is an actor who has a higher level of access. As with Users and

Managers, Admins also have to log in first to be able to enter the system. Activities that can be carried out by the admin are logging in, changing *passwords* , *reading* timesheets (searching or retrieving data), inputting project tables, inputting employee data, updating employee data, deleting employee data, printing timesheet reports, and logout. Figure 5 explain Use Case Diagram of Web-based Timesheet.

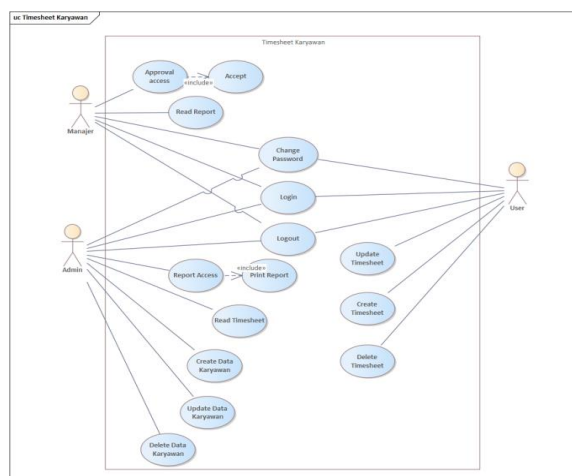


Figure 5. Use Case Diagram

## Website Display

### 1. Admin Dashboard

The Admin main view also has a Navbar on the left of the Dashboard which consists of the *Employee Data menu*, *Data Manager*, *Project List*, *Timesheet Tables*, and *Recap Data*. In its activities in the employee data table, the admin can add data, edit data, and delete data. Figure 6 explain Display of Admin Dashboard and figure 7 explain Display of Data Recap Page

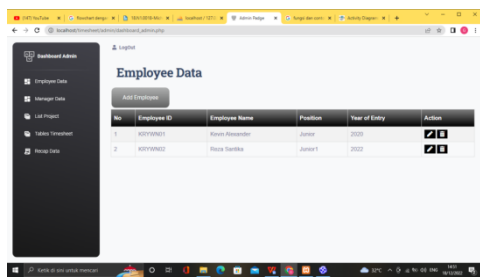


Figure 6 Display of the Admin Dashboard

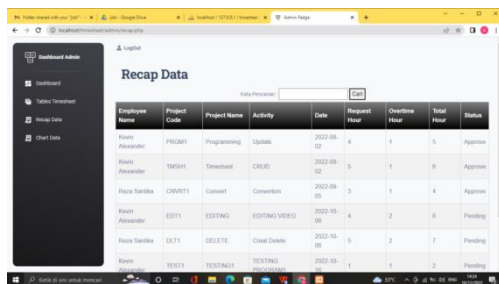


Figure 7 Display of Data Recap Page

When the admin enters the data recap page, the system will present the entire employee timesheet data table first. At the recap stage, the admin will search for the full name of a particular employee as needed then the system will display the Timesheet Table and Employee Status *Chart* with the aim of seeing the work progress of the employee. After the data appears, the admin can print data for the results of reporting. Figure 8 explain Display Recap Data Page after setting use search engine.

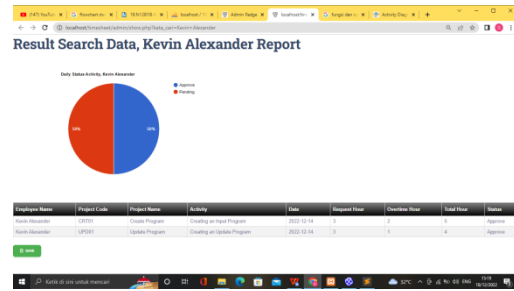


Figure 8 Display of Data Recap Page

### Dashboard Manager view

When the Manager can access the website, then the screen will scroll on the Manager Dashboard page with the Employee Timesheet Data display that enters the manager's project. On this page, the Manager can make an Approval Timesheet after previously checking the work of the employee concerned. Figure 9 explain about Display Dashboard Manager.

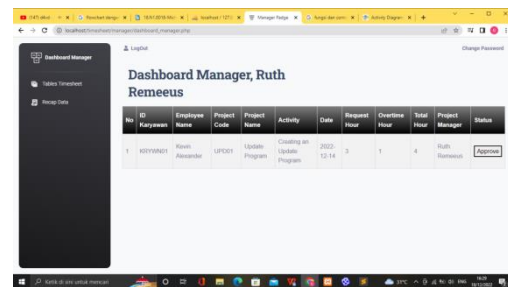


Figure 9 Display Dashboard Manager

### Employee Timesheet Form

The Form Timesheet page will appear when the employee clicks the *Add Data button* on the Employee Dashboard page. In the status column as shown below, the status will automatically be "Pending" and cannot be changed. Figure 10 explain Display of Employee Timesheet Form.

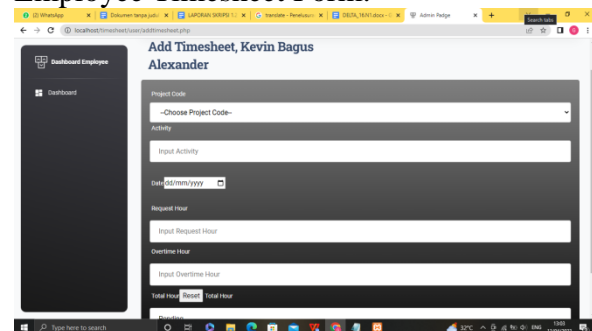


Figure 10. Display of the Employee Timesheet Form

In addition there is a *type reset feature*, *type reset* serves to restore the original state. *Type reset* on the employee timesheet form is applied to reset *the total hours* so that the hours previously inputted do not add up to *the total hours* after editing. After filling in the timesheet form, the latest timesheet data will automatically appear on the Employee dashboard and will also be updated on the Admin Timesheet Table with a “*Pending*” status for further approval by the Admin.

### III. INTERVIEWS RESULTS

From the results of the interviews in the table above, the researcher can conclude that all employees gave a positive response. Starting from Appearance, Feature Functions on the Website to employees hope that this Web-based Timesheet will be further developed. A website with a simple appearance makes respondents feel easy to operate. In addition, easy access is an important point in the assessment of the respondents. Several entries were also given by respondents, such as on the manager's page, a new updated timesheet can automatically be ranked at the top to make the manager's work easier.

### IV. CONCLUSION

Based on the results of research through tests and interviews that have been conducted, it can be concluded that:

1. Making a Web-based Timesheet for Consulting Company Employees can help provide effectiveness in filling out employee work activities. This is achieved because the filling of work activities by employees starting from the process to the report output is combined into one system with automatic output. In contrast to the previous system when filling in work activities in the form of a timesheet was recorded manually. In addition, the data is easier to access by employees and admins compared to the previous system, having to wait a week to get a google sheet link from the admin.
2. Making a Web-based Timesheet for Consulting Company Employees in

accordance with the company's needs. This can be achieved because the creation of a web-based timesheet was made according to the previous system by adding several automatic features that make it easier for employees and admins. For example, employees can directly select the project code and project name from the data that has been presented. Admins can automatically recap data according to the required employee names.

3. Overall, respondents confirmed that the Web-based Employee Timesheet for Consulting Firms can assist employees in filling in timesheets, and assist Admins and Managers in checking and recording timesheet reports.

### REFERENCES

1. M. Rafi, A. Nurmandi, and SA Afandi, "Analysis of the Usability of the Ministry of Religion's Website for the DIY Province and Riau Province," *J. Komun.*, vol. 12, no. 1, p. 92, 2020, doi: 10.24912/jk.v12i1.6960.
2. A. Jamalih, M. Cleopatra, A. Irawan, P. Studies, T. Informatics, and F. Engineering, "DATA REPORT QUALITY AND PERFORMANCE TIMESHEET APPLICATION DESIGN AT PT SIEMENS INDONESIA," vol. 02, no. 02, pp. 251–258, 2021.
3. IA Ridlo, "Guidelines for Making Flowcharts," *Academia.Edu*, p. 27, 2017, [Online]. Available: [academia.edu/34767055/Pedoman\\_Pembuatan\\_Flowchart](http://academia.edu/34767055/Pedoman_Pembuatan_Flowchart).
4. L. Setiyani, "System Design: Use Case Diagram Introduction," *Pros. Monday. Nas. inov. Technological Adoption. 2021*, no. september, pp. 246–260, 2021.
5. Aceng Abdul Wahid, "Waterfall Method Analysis for Information Systems Development," *J. Informal Sciences*.

- Manaj. STMIK* , no. November, pp. 1–5, 2020.
6. T. Hapnes and M. D. Fransisca, “Generator\_Melodi\_Berdasarkan\_Skala\_dan\_A,” *J. Inform.* , vol. 5, pp. 1–96, 200
  7. M. Larassati, A. Latukolan, A. Arwan, and M. T. Ananta, “Pengembangan Sistem Pemetaan Otomatis Entity Relationship Diagram Ke Dalam Database,” *urnal Pengemb. Teknol. Inf. dan Ilmu Komput.* , vol. 3, no. 4, p. 4059, 2019, [Online]. Available: <http://j-ptiik.ub.ac.id>.
  8. I. T. Kusnadi, A. Supiandi, W. Kusnadi, and R. Riniawati, “Pengembangan Sistem Inventori Perusahaan Menggunakan Metode Usecase Driven,” *J. Teknol. dan Inf.*, vol. 9, no. 1, pp. 24–36, 2019, doi: 10.34010/jati.v9i1.1341.
  9. S. Dharwiyanti and R. S. Wahono, “Pengantar Unified Modeling Language (UML),” *IlmuKomputer.com*, pp. 1–13, 2003, [Online]. Available: <http://www.unej.ac.id/pdf/yanti-uml.pdf>.
  10. R. E. Permata and N. Nurahman, “Human Resources Information System (Hris) Di Pt. Sarmiento Parakantja Timber Berbasis Web,” *J. Penelit. Dosen FIKOM ...*, vol. 10, no. 1, 2019, [Online]. Available: <http://jurnal.unda.ac.id/index.php/Jpdf/article/view/127>.