

Improving EKN Engineering’s Internal Task Management System

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Background

EKN Engineering, formerly N Consulting Engineers (NCE), supports and manages civil-engineering projects across Southern California. To do this, they have their own project management application Timesheets that meets their requirements with regards to regional scope, scale, variation, and amount of specificity needed in work hour details for each project, which had not been satisfied by other pre-existing frameworks.

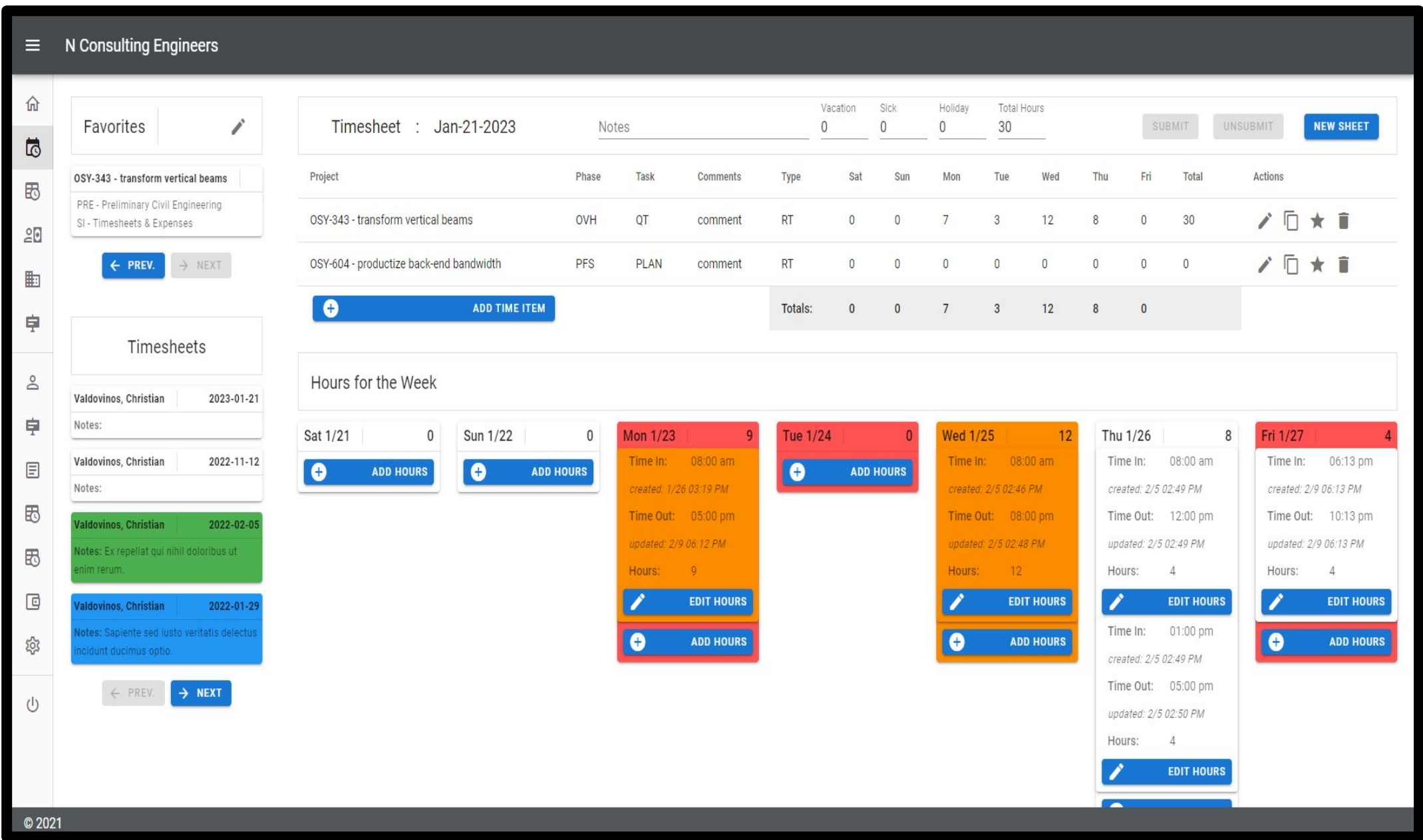


Figure 1: Prior version of Timesheets. Main tab shows both list view and detail view.

Motivation

Although Timesheets has proven to be a powerful tool for EKN, its usefulness is hindered by its lack of usability. This is supported by user surveys, in which Timesheets received a below-industry average **Net Promoter Score** of -65 [on a scale from -100 to +100]. Some of the common issues expressed were:

- Time inputting
- Visual clutter
- Lack of automation

Objective

As a Clinic team, our objective was to improve user experience for the Timesheets application by:

- Adding new functionality
- Redesigning the user interface

Timesheet List

Our work started with implementing the Timesheet List. This page allows users to easily browse through all their timesheets. We display more timesheets in a new, sleek design with filtering and sorting capabilities. It also shows important information at a glance, such as the status. From this list, you can open up individual timesheets to see the Timesheet Details.

Timesheet Details

Our next step was Timesheet Details. On this page, users input the specific times they have worked on projects throughout the day. The changes here were focused on cleaning up text on-screen and making it easier for users to input their hours.

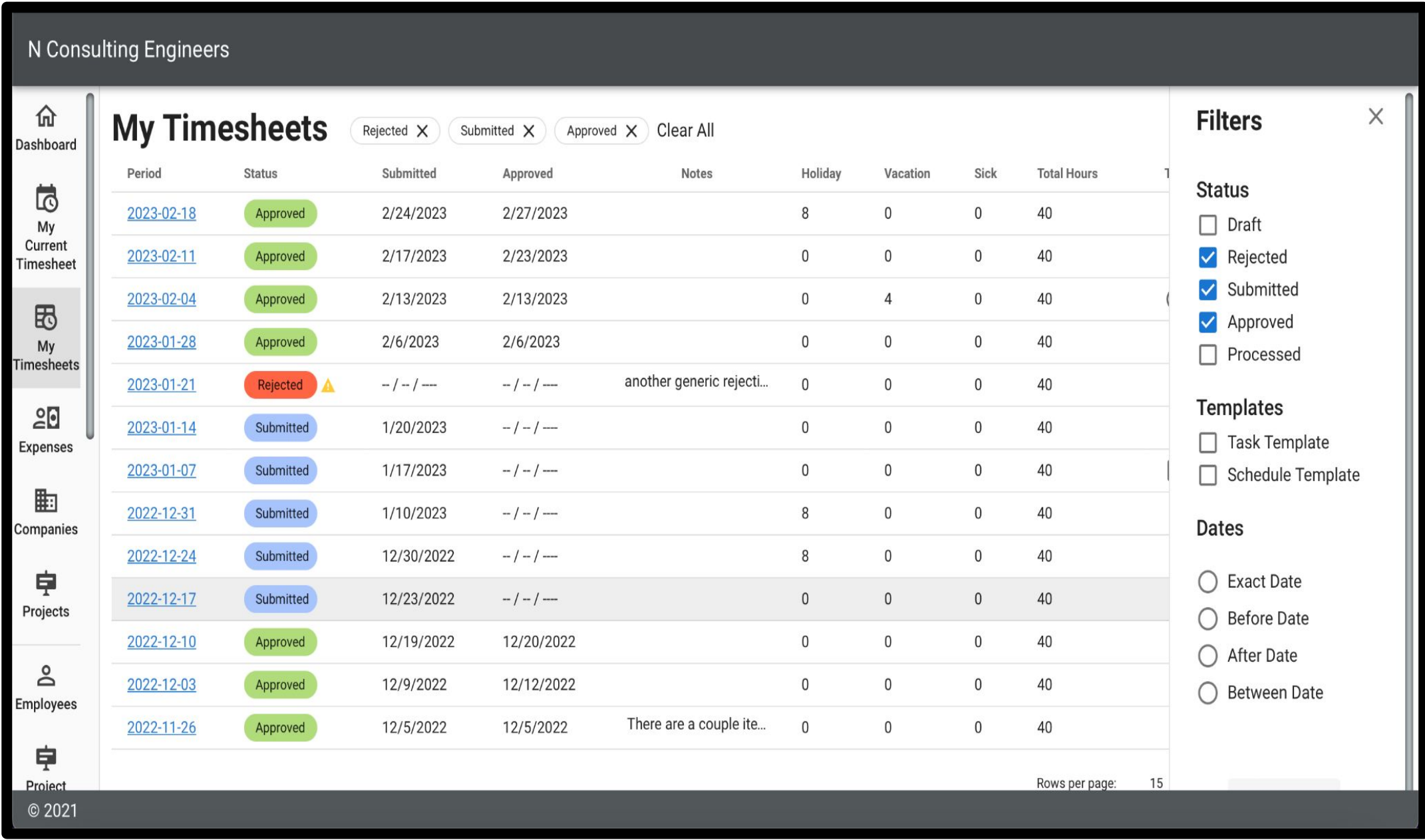


Figure 2: Timesheet list page with active filters and filter side panel open

Admin Version

Finally, we implemented both these pages for administrators.

Timesheet Details:

- Administrators need to review and Approve/Reject
- Accounting dept. needed a new feature: Processing

Timesheet List:

Filtering allows admins to easily find:

- All timesheets in a particular status or employee
- A specific timesheet that needs further review

Challenges

Some of the challenges we faced during the year included:

- Setting up the development environment
- Learning new programming languages
- Making sense of an existing codebase
- Estimating the time it takes to complete certain deliverables

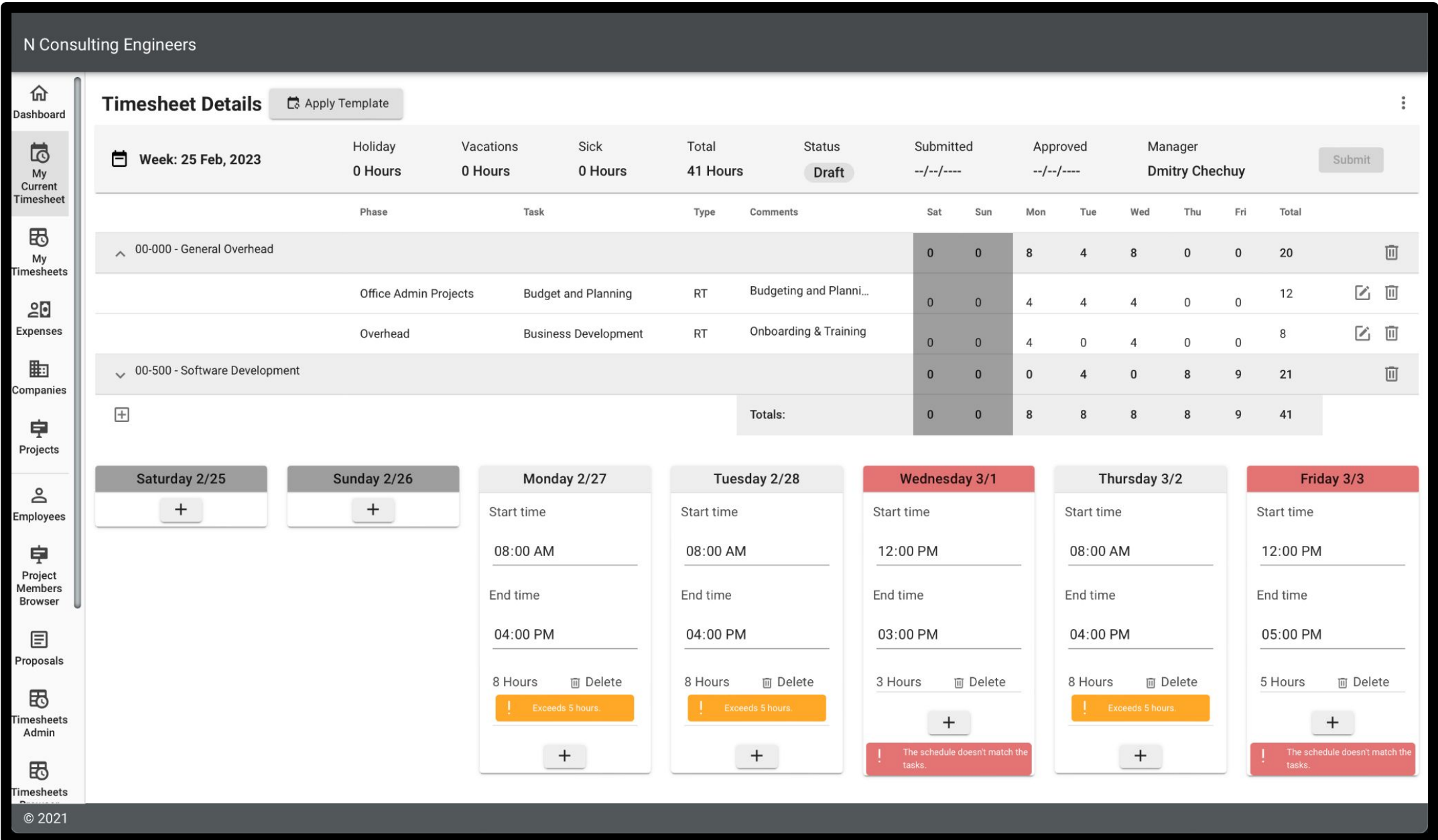


Figure 3: Timesheet Details Page where users input their daily hours

Results

EKN gained:

- Resolution of common user issues in Timesheets
- Outsider perspectives on UI design and choices

HMC Clinic team gained experience with:

- Working in a Scrum framework
- UI specifications and prototyping tools
- Conducting usability testing

Conclusion

The HMC Clinic team was able to make desired improvements based on the initial designs requested by EKN Engineering, as well as improvements that were proposed later in the academic year. We hope that our contributions to the Timesheets application improves EKN Engineering's user workflow and experience, so that its future consulting processes are more accelerated.

Acknowledgments

We would like to acknowledge the contributions and facilitation of our work from all our Liaisons listed below, and our advisor Mark Kampe.