

CASE STUDY

# **TNUVA INTERNAL SOFTWARE LOAD BALANCING FEATURE**

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BACKGROUND

# THE BIG-PICTURE PROJECT

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## THE CHALLENGE

Tnuva is the leading company of Israel's food industry. Their internal database hadn't been updated since the 90's. They were managing complex logistics manually through Excel documents, which was very laborious. Their interface was **cluttered, unsightly, and not intuitive to use.**

## THE SOLUTION

**Design an entire new internal software system housed in Salesforce** by leveraging Salesforce technology and designing custom components. I needed to learn what Tnuva's representatives were doing and **propose more efficient solutions for their work flows**, with **clean and modern UI.**

## MY ROLE

**I was the only UX/UI designer on the project.** The project manager and industrial engineers were responsible for gathering the requirements and handing them over to me to design a UX solution, get validation, design the UI, and work with developers to ensure smooth handoff.

BACKGROUND

# THE LOAD BALANCING FEATURE

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To illustrate my process, I'd like to zoom in on one particular solution I designed.

Tnuva has hundreds of representatives across Israel who call clients to take orders. Every day, they get a list of clients to call, and each representative's workload is meant to take about 8 hours.

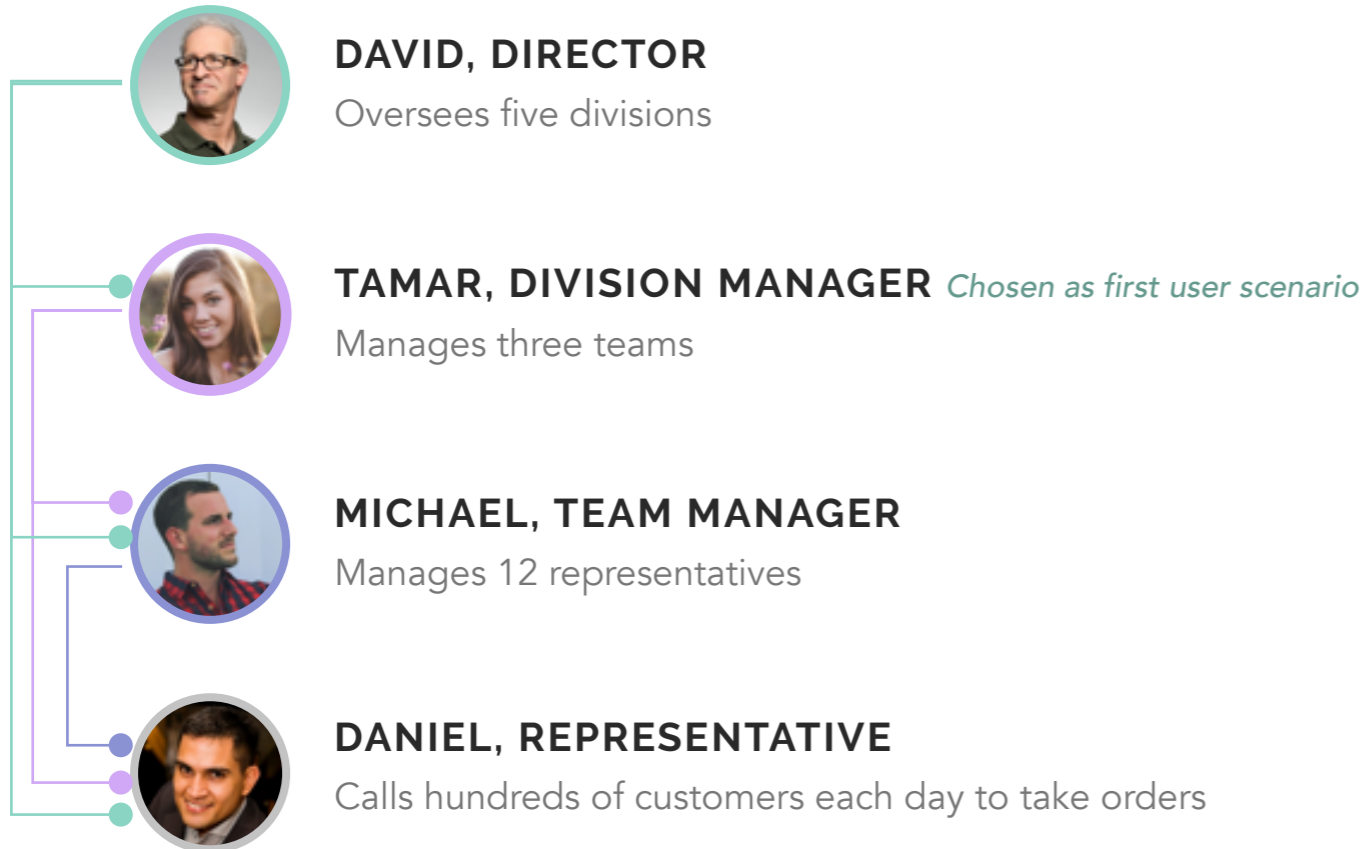
However, obviously, it's not perfectly predictable how long calls will take, and the workload can become too long for one rep while another one is set to finish early. **Tnuva managers have to realize when the workload is not balanced and reassign tasks in order to balance the load.**

Previously, the managers had done this work manually in Excel. While we offered a solution that would be completely automated, Tnuva wanted managers to retain control.

I had to design a solution that lent **all the help of automated software while still offering full control, down to the granular details of which call would go to which individual.**

# THE USERS

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- **Managers must be able to load-balance or report absence and reassign tasks at any level of hierarchy beneath them,** shown by color-coded diagram on left
- Users are Hebrew-speakers, so their eyes naturally travel from right to left. I needed to design an **entirely Hebrew, right-to-left oriented interface.**
- Managers want a more efficient system for load-balancing, but are **skeptical of automated solutions and want full, granular control**

# DEFINING THE SOLUTION

**Task Progress Today**

Team 1	Team 2	Team 3
17:40 200 remaining	16:02 150 remaining	20:00 200 remaining

est finish time est finish time est finish time

**AUTOSUGGESTED**  
Reassign 50 clients from Team 3 to Team 2 to balance the workload.

[Balance Load](#)  
Reassign due to absence

**Select Tasks to Reassign**

Team 3 **20:00 est finish time**: 20 remaining  
Goal to reduce: 500 minutes (50 min x 10 agents)

**Tasks**

**AUTOSUGGESTED**

- Segment A (est 100 min total) +
- Segment B (est 100 min total) +
- Segment C (est 100 min total) +
- Segment D (est 100 min total) +
- Segment E (est 100 min total) +
- Segment F (est 100 min total) +
- Segment G (est 205 min total) -

- Makolet Dairy, Food, Meat A 10 min
- Makolet Dairy B 5 min
- Makolet Dairy, Food, Meat A 10 min
- Makolet Dairy B 5 min

50 tasks selected Est total: 505 min

[Select agents to reassign to](#)

**Who do you want to reassign to?**

**AUTOSUGGESTION**  
Reassign 90% of task minutes to Team 2 and 10% to team 1 to achieve all teams finishing within ten minutes of each other.

All Dairy Meat Dry goods

- Jacqueline Asong Team B Dairy 30 min available
- Cammy Hedling Team B Dairy 30 min available
- Beth Murphy Team B Dairy 30 min available
- Zoe Miller Team B Dairy 30 min available
- Sophie Asveld Team B Dairy 30 min available
- Tsutsui Ichiha Team B Dairy 30 min available

[Assign tasks manually](#) [Auto-distribute](#)

**Who do you want to reassign to?**

50 tasks selected Est total: 505 min

- Team A (200 min available) +
- Team B (1000 min available) -

- Jacqueline Asong Team B Dairy 30 min available
- Cammy Hedling Team B Dairy 30 min available
- Beth Murphy Team B Dairy 30 min available
- Zoe Miller Team B Dairy 30 min available
- Jacqueline Asong Team B Dairy 30 min available
- Cammy Hedling Team B Dairy 30 min available
- Beth Murphy Team B Dairy 30 min available

[Assign tasks manually](#) [Auto-distribute](#)

**Manual Assignment**  
Drag and drop

**Tasks you chose to reassign (100)**

Client, Department, Segment

- Ko-ap Shop Dairy, Food, Meat A 10 min
- Rami Levy Dairy B 5 min
- Ko-ap Shop Dairy, Food, Meat A 10 min
- Yeinot Beitán Dairy B 5 min
- Rami Levy Dairy B 5 min
- AMPM Dairy B 5 min
- Ko-ap Shop Dairy, Food, Meat A 10 min
- Rami Levy Dairy B 5 min
- AMPM Dairy, Food, Meat A 10 min
- Shufersal Dairy B 5 min

Agent name 30m available

Reassigning 50 tasks Est total: 440 min Goal: 500 min

[Finalize Reassignment](#)

**Manual Assignment**

**Tasks you chose to reassign (100)**

Client, Department, Segment

לבחור נציגה

- Ko-ap Shop Dairy, Food, Meat A 10 min
- Rami Levy Dairy B 5 min
- Ko-ap Shop Dairy, Food, Meat A 10 min
- Yeinot Beitán Dairy B 5 min
- Rami Levy Dairy B 5 min
- AMPM Dairy B 5 min
- Ko-ap Shop Dairy, Food, Meat A 10 min
- Rami Levy Dairy B 5 min
- AMPM Dairy, Food, Meat A 10 min
- Shufersal Dairy B 5 min

לבחור נציגה

Reassigning 50 tasks Est total: 440 min Goal: 500 min

[Finalize Reassignment](#)

**Task Progress Today**

Your task load was successfully redistributed.

Team 1	Team 2	Team 3
17:40 200 remaining	18:00 150 remaining	18:00 200 remaining

est finish time est finish time est finish time

[Balance Load](#)

**Manual Assignment**

Team 2 **16:02 est finish time**: 50 remaining

Matan 17:40  
Oren 30 min available  
Keren 30 min available  
Tal 30 min available  
Matan 30 min available

Client, Department, Segment

- Mega Dairy, Food, Meat A 10 min
- Rami Levy Dairy, Food, Meat A 10 min
- Yeinot Beitán Dairy B 5 min
- Ko-ap Shop Dairy B 5 min
- AMPM Dairy B 5 min
- Mega Dairy, Food, Meat A 10 min
- Rami Levy Dairy, Food, Meat A 10 min
- Yeinot Beitán Dairy B 5 min
- Ko-ap Shop Dairy B 5 min
- AMPM Dairy B 5 min

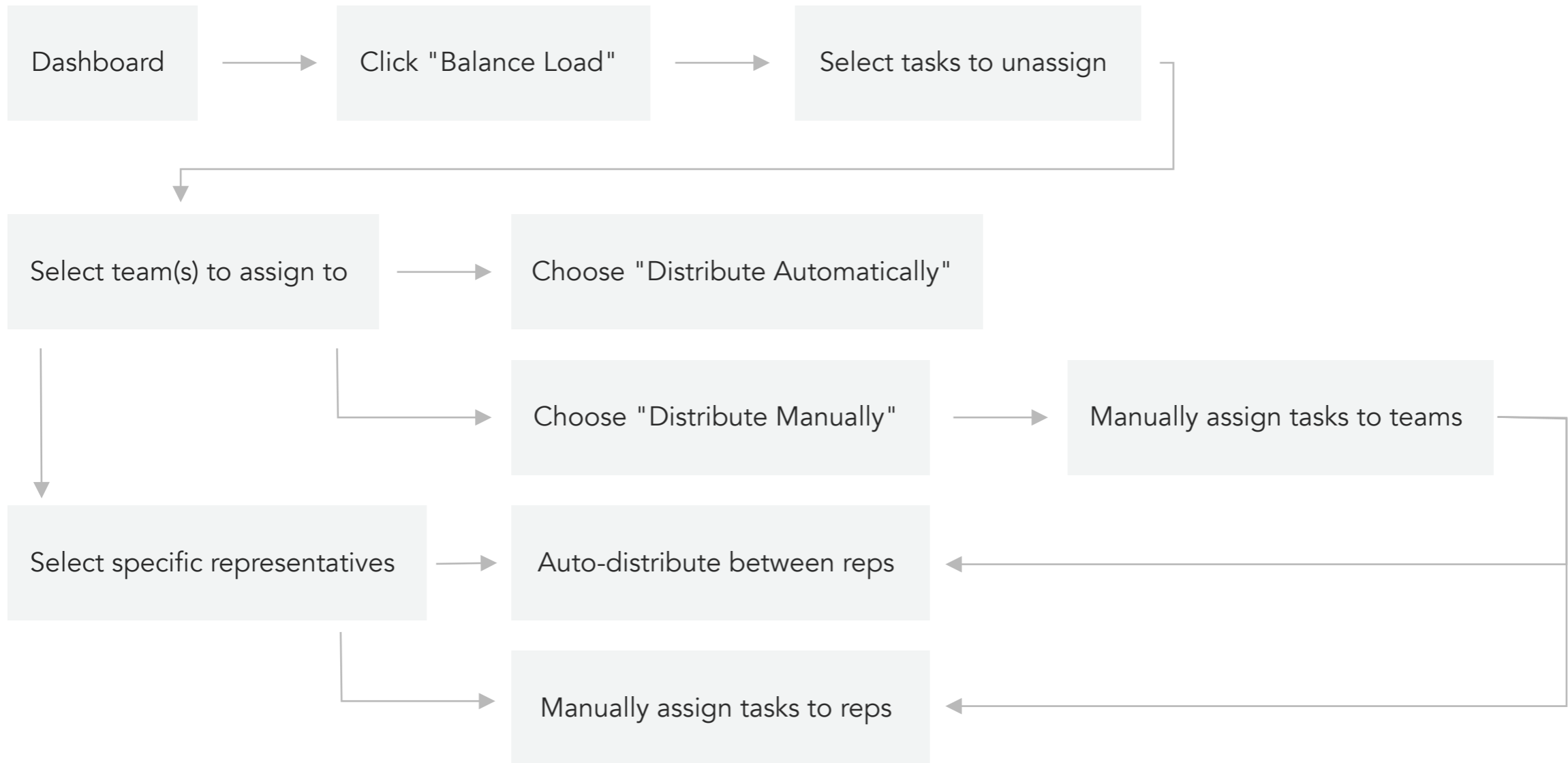
Assign 5 tasks to Matan (30 min)

Est total you have reassigned: 50 min Goal: 500 min

[Finish](#)

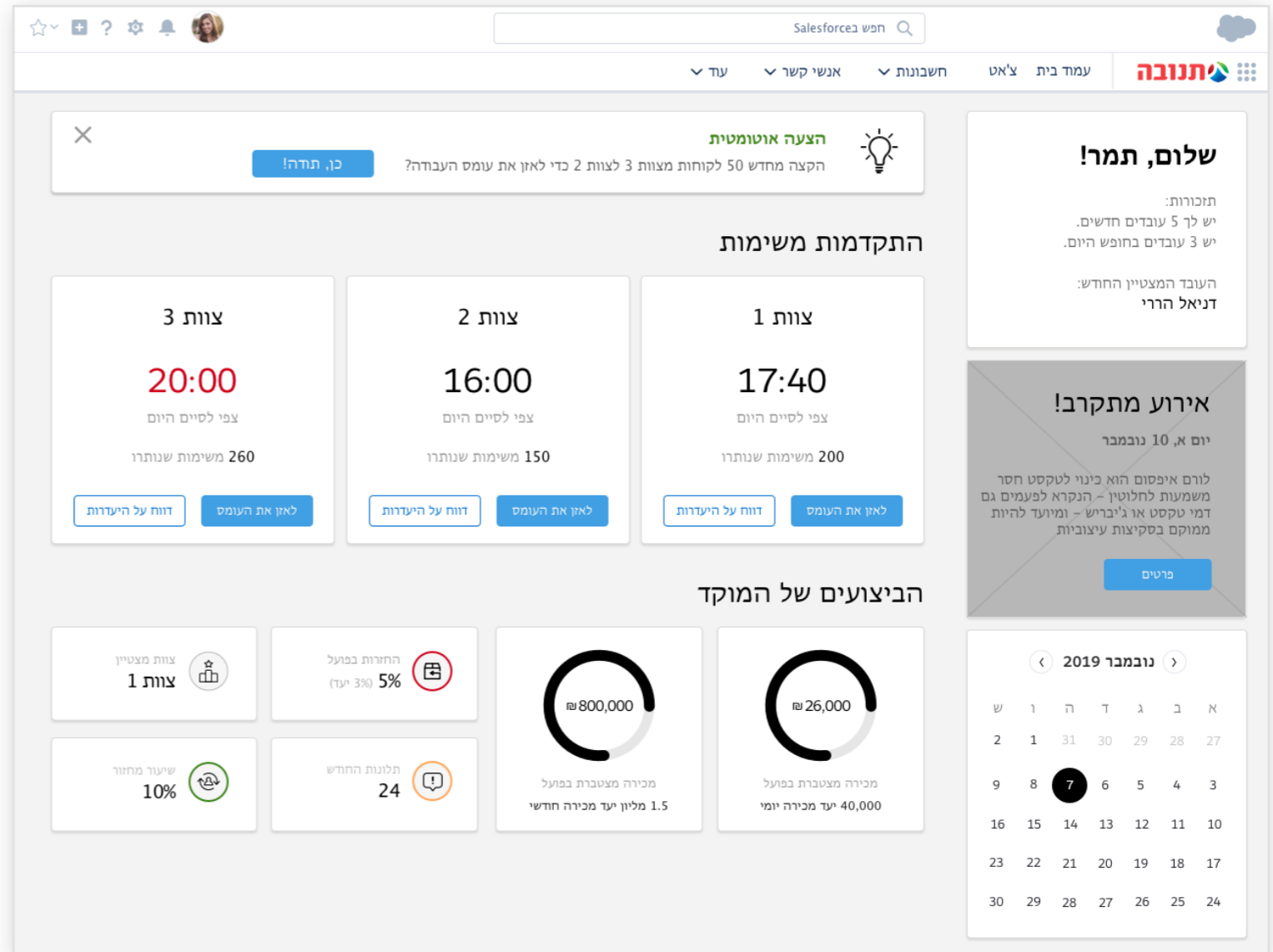
Brainstorming sketches for the use case of Tamar, the division manager

# USER FLOW



# MANAGER DASHBOARD

- Tamar can see the **predicted finish time** for each team
- **Automated suggestion** appears to redistribute the load automatically
- Clicks **“Balance the Load”** on the card of the overloaded team
- Also has the **option to report an absence** on any team



# TASK SELECTION BY CATEGORY

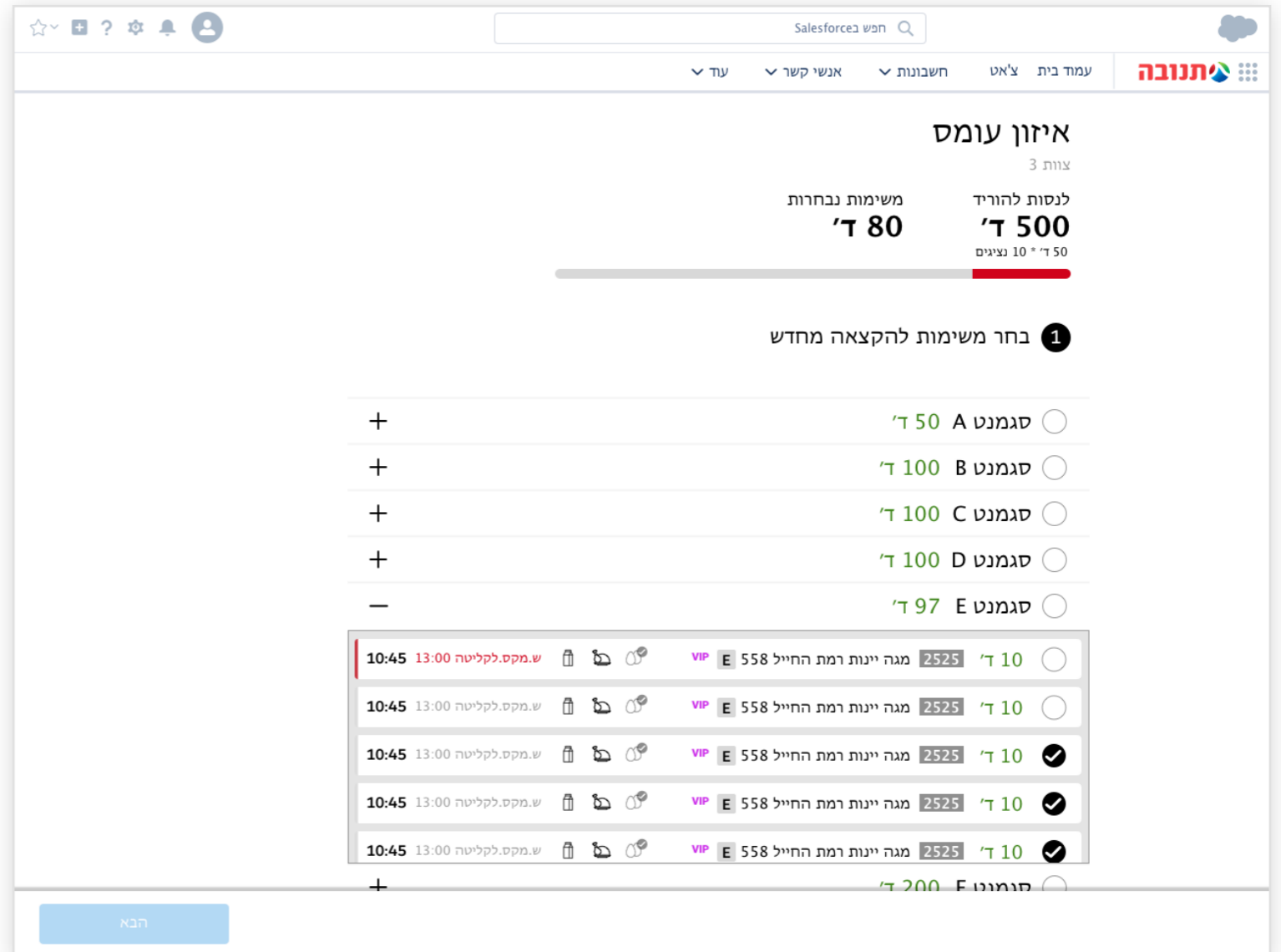
- Tamar **selects categories of tasks to offload from the overloaded team**
- Progress bar indicates how many minutes worth of tasks are selected compared to the 500 minutes that need to be reduced
- **Accordions** divide the hundreds of tasks into manageable chunks based on customer segmentation
- **Automated suggestion** pre-selects categories that equal about the right amount of work to offload

The wireframe shows a user interface for task selection. At the top, there is a navigation bar with a search bar containing 'Salesforce' and a user profile icon. Below the navigation bar, there are several menu items: 'עד', 'אנשי קשר', 'חשבונות', 'צ'אט', and 'עמוד בית'. The main content area is titled 'איזון עומס' (Load Balancing) and shows '3 צוות' (3 Teams). It displays two metrics: 'משימות נבחרות' (Selected Tasks) at '497 ד' and 'לנסות להוריד' (Try to Reduce) at '500 ד'. A green progress bar is shown below these metrics, indicating the current selection level. Below the progress bar, there is a section titled 'בחר משימות להקצאה מחדש' (Select tasks for re-assignment) with a notification icon '1'. Underneath, there is a list of task categories (A-G) with their durations and selection status (radio buttons or checkmarks). The categories are: A (50 ד), B (100 ד), C (100 ד), D (100 ד), E (97 ד), F (200 ד), and G (200 ד). Categories E, F, and G are pre-selected with checkmarks. At the bottom, there is a blue button labeled 'הבא' (Next).



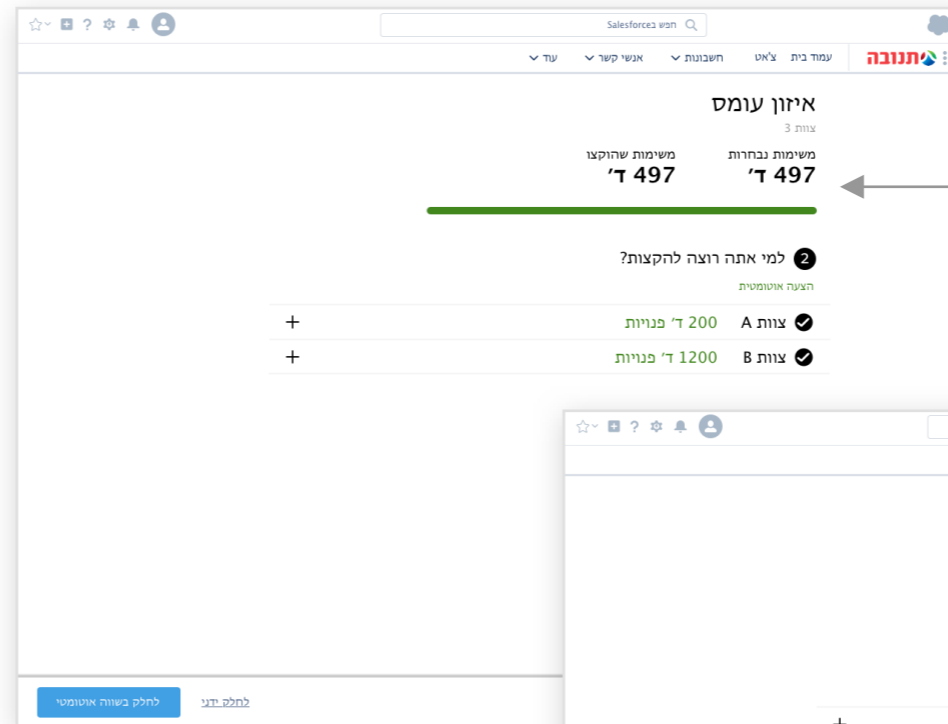
# INDIVIDUAL TASK SELECTION

- Tamar can **select specific tasks to offload from the overloaded team**
- Details are shown on each task that factor into managers' decisions on reassignment, based on our research
- When **too few tasks are selected compared to how overloaded the team is**, the progress bar is in red and the next button is disabled

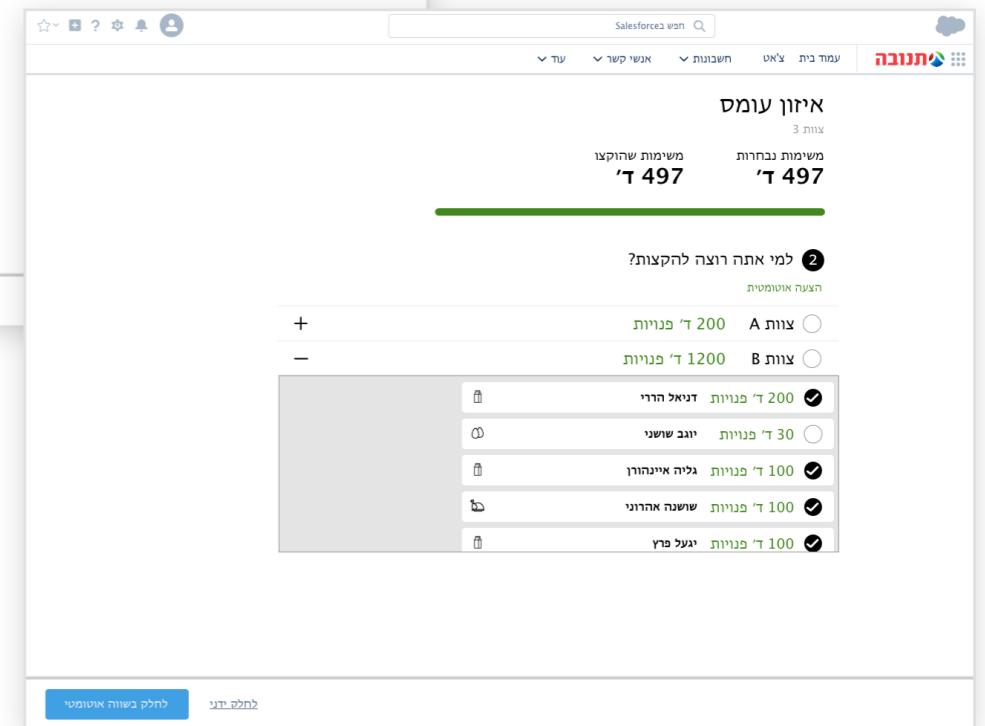


# SELECT ASSIGNEE(S)

- Tamar can **choose who will take the offloaded tasks**
- Green number shows how many minutes each team/rep has available that day
- Option to **automatically assign to teams** based on their capacity
- Tamar can open accordions to **select specific agents**
- Options to **automatically distribute tasks to selected assignees based on availability** or to **reassign manually**

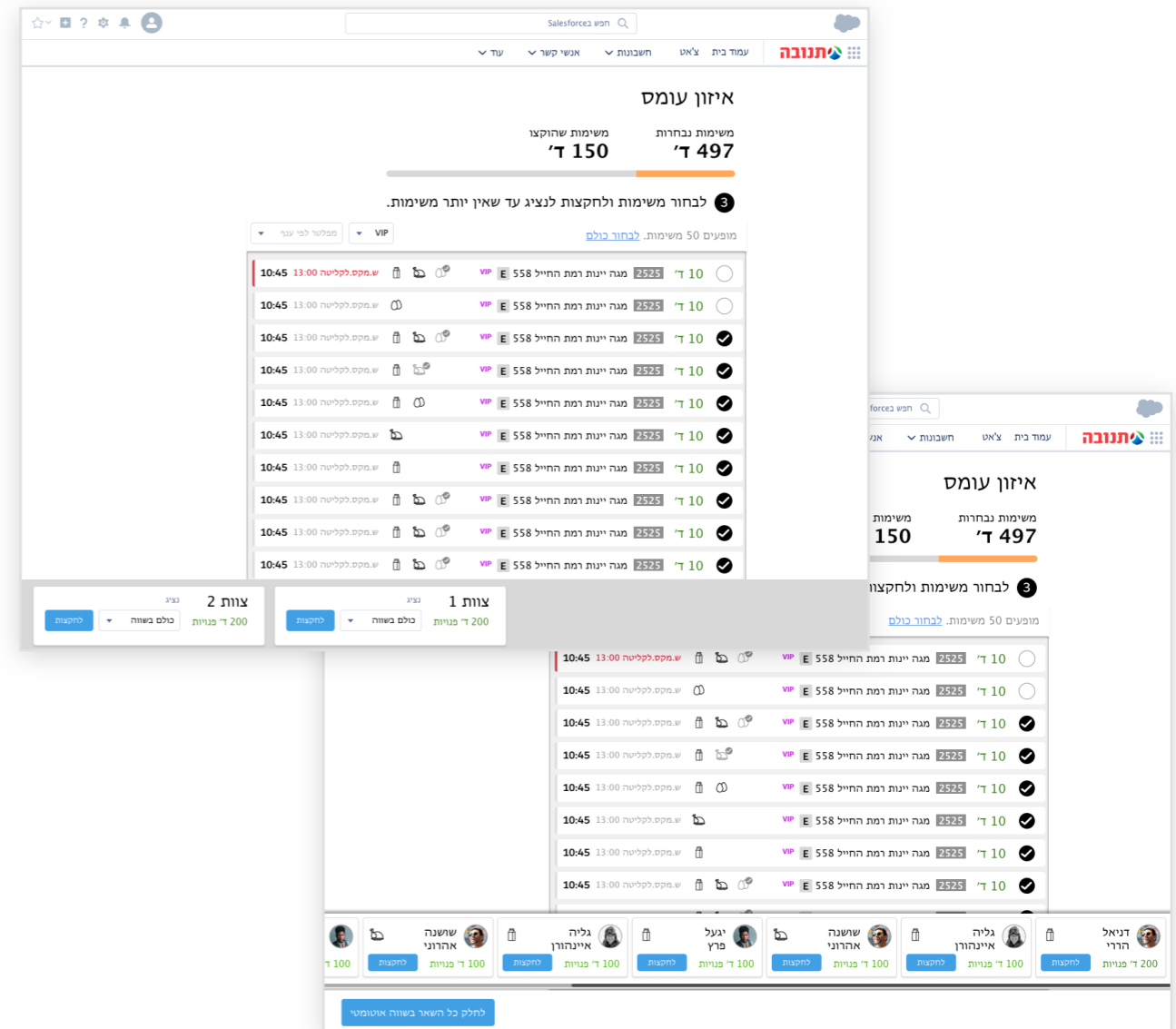


This graph shows Tamar the total of 497 minutes of workload she selected to reassign compared to the availability of employees that she's currently selected.



## MANUAL REASSIGNMENT

- See all tasks that have been designated for reassignment, **filter** the list, **multiselect**
- Option to assign selection to a team and **auto-distribute**
- Option to **manually select which representative to assign which task**
- After manually assigning some tasks to particular reps, **Tamar can still go back to reassign the rest of the tasks automatically**



# ADDITIONAL USE CASES

- **Team managers** skip the stage of the flow where you can choose to reassign by team
- **Director** sees one extra level of assignee options, beginning with divisions before teams
- **Reporting absence:** the absent rep's tasks for the day become unassigned, and the manager follows the same flow to reassign those tasks as they would if those were unassigned due to overloading

The screenshot shows a Salesforce interface for a team manager. At the top, there's a navigation bar with the Salesforce logo and various icons. Below that, the page title is "הקצאה מחדש עקב העדרות" (Reassignment due to absence). The main content area displays a list of team members with their names, photos, and availability status. The last member in the list is "לא מוקצה" (Unassigned) with a status of "50 משימות" (50 tasks). Below this, there's a list of tasks with columns for time, task name, and status. The "Unassigned" option is highlighted in the assignee selection menu.

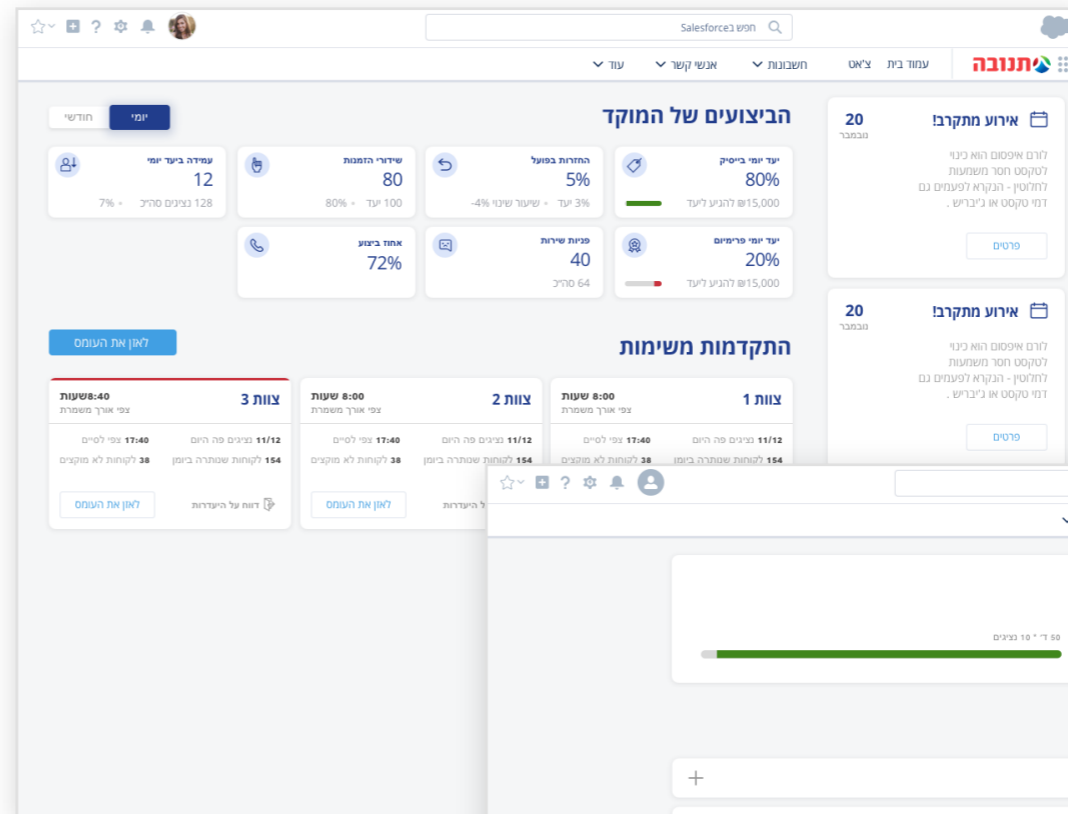
*Team manager view: reassign tasks that became unassigned due to absence*

# UI DESIGN

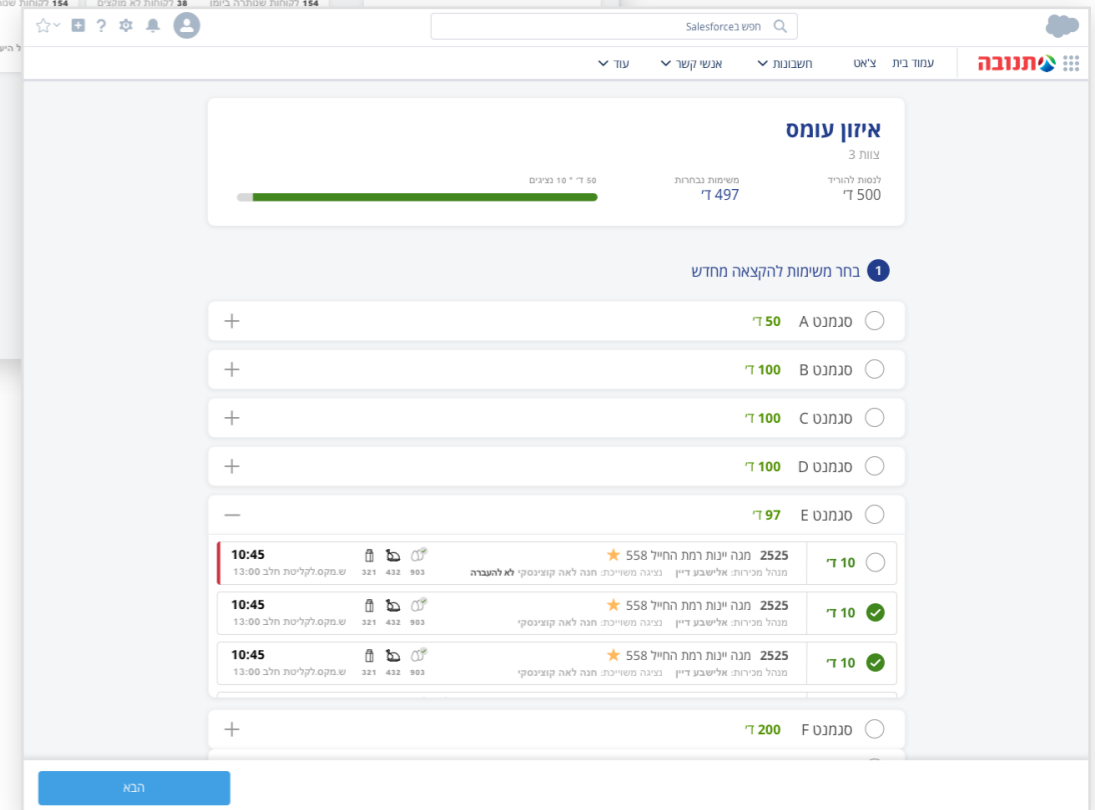
Tnuva loved my load rebalancing solution and validated it, so my next task was giving this highly technical interface a clean, approachable look.

I researched UI trends for B2B and SaaS type products online to get some inspiration. I went for components in white with rounded corners and gentle shadows, using a light grey background to give more structure to the screen, and I applied Tnuva's color palette and fonts to give it their branding.

As I worked on the UI, I continued to improve on the UX by thinking more specifically about how placement, hierarchy, and use of hover states could improve usability.



Division manager dashboard



Task selection accordions

# UI DESIGN

**ביצועים של המוקד**

- יעד יומי ביסיק: 80%
- החזרת בפועל: 5%
- פניות שירות: 40
- יעד יומי פרמיים: 20%

**התקדמות משימות**

שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה

Team manager dashboard

**איוון עומס**

3 צוות

משימות נברות: 500

משימות שהוקצו: 300

לבחור משימות ולהקצות לנציג עדי שאון יותר משימות.

מופעים 50 משימות. [לבחור כולם](#)

שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה
שם נציג	שעות	צפי לסיים	ממוצע לקוחות לשעה

Reassignment of specific tasks to specific representatives

# SUMMARY

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- **Tnuva was thrilled** to see a clean, modern, usable interface that would absolve most of the mental load managers were used to carrying
- **This feature was one of about fourteen equivalent work flows I designed** for Tnuva's internal software system
- **Current status:** Tnuva's new system is still in development. I currently liaise with developers to make sure the designs are implemented as intended.
- **Usability testing:** Unfortunately, my company doesn't typically do usability testing, as additional iterations of projects are generally out of scope. But as a designer who put my heart into this project, I'd love to observe users actually engaging with the product to identify pains and gains and make it the best tool it can be. **I'd especially like to dig deeper into why managers are hesitant to give up granular control over reassignment and understand their decision-making processes better, which might allow us to design more intelligent automated suggestions.**

