

Project: Staffing of Multiple Projects Across Different Locations

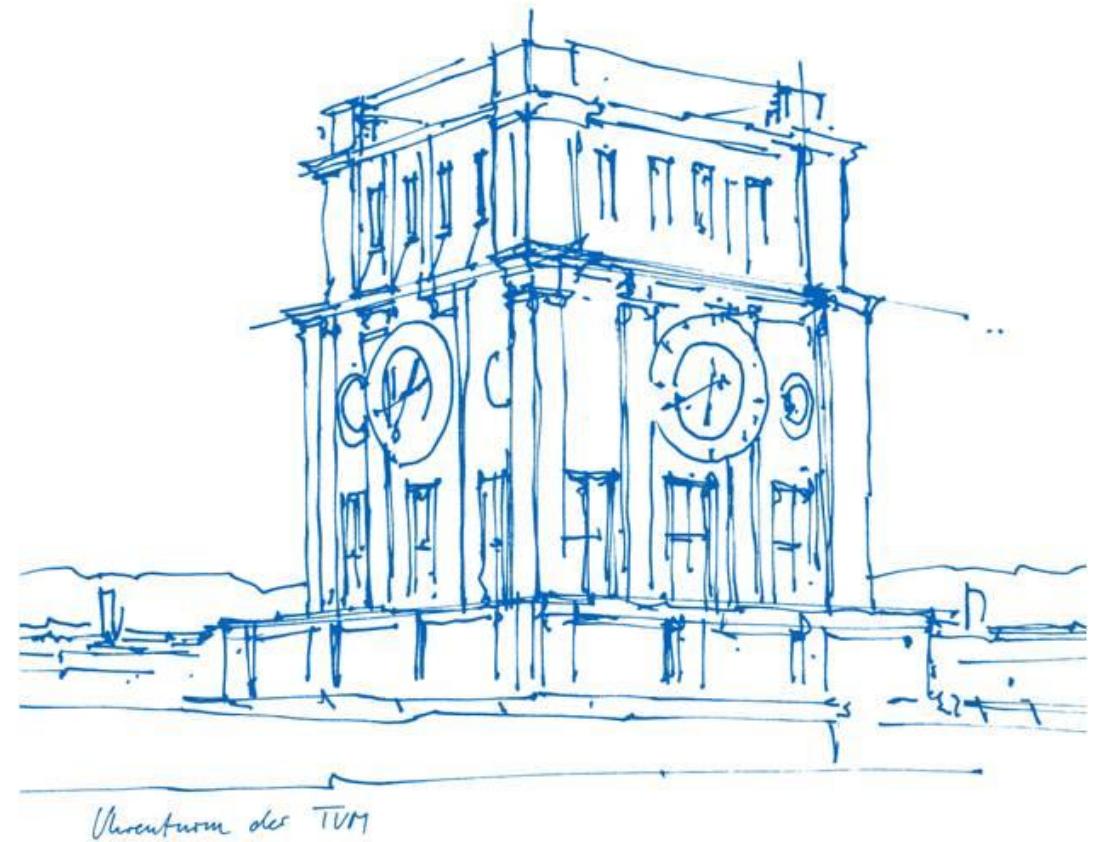
- Milestone Update

Practical Course

Digital Product Innovation and Development

itestra GmbH

Munich, 13th May 2024

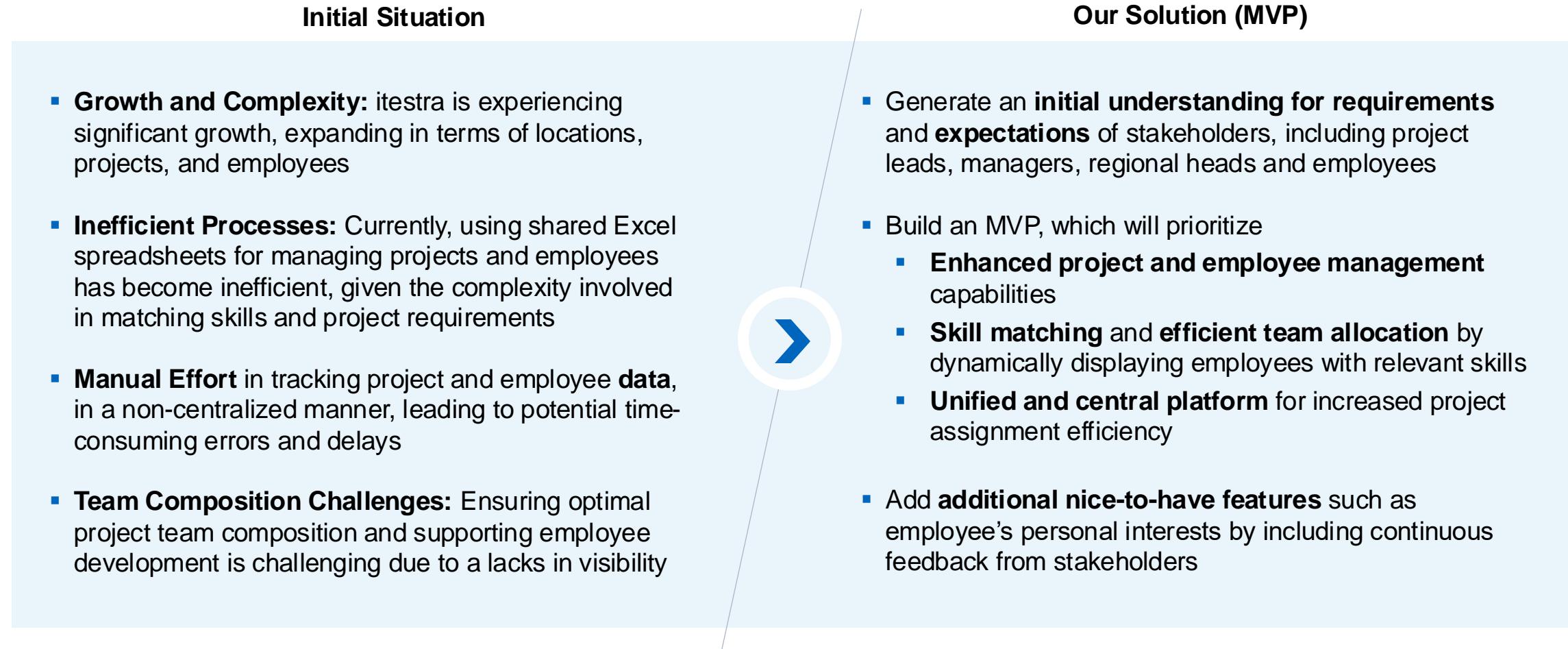


AGENDA

- 
- 01 Initial Situation & Our Solution
 - 02 Epics & User Stories
 - 03 Solution Architecture & Tech Stack
 - 04 User Interface & User Experience (UI/UX)
 - 05 Timeline

itestra aims to improve internal staffing processes by employing a software tool

Initial Situation & Our Solution



As part of their profile, employees can edit their skill sets and view assigned projects

Epics & User Stories: Employee Profile



User Story 1: Admin

“As an Admin, I want to create/delete/edit user accounts so that employees can access their profile.”

- Admin can **input user details** including email, working time, and working location
- The system **validates data** input
- A **user profile is managed** in the database



User Story 2: Employee

“As an Employee, I want to edit my skill set so that the current and updated skills are used for matching.”

- **Employee** can access own profile and **edit own skill set**
- Skill set is **updated** in the **database**
- Manual **Matching algorithm** considers **updated skill set**



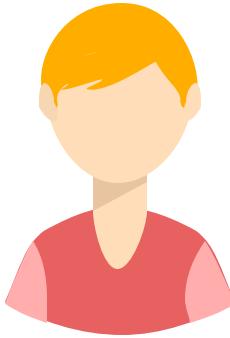
User Story 3: Admin/Employee

“As an Admin/Employee, I want to see current project assignments in the employee profiles to have an overview of the projects they work in.”

- **Assigned Projects** are **listed** in employee profile
- Additionally, Admin can **access employee profile** and see listed projects when making decisions

Project specifications may be changed in the according interface

Epics & User Stories: Project Management Interface



User Story 1: Regional Head

“As a Regional Head, I want to create projects by defining skill requirements and priorities to align project setup and strategic goals.”

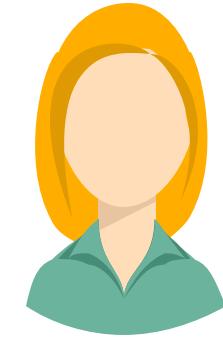
- Interface allows **input of project details** such as kickoff date, deadline, required skills, and priority
- The system validates input data and **saves the new project** in the database



User Story 2: Regional Head

“As a Regional Head/ Project Manager, I want to edit a project so that I am able to react to changes in required skill set/priority/....”

- Project manager/regional head can **edit project specifications**
- Project managers/ regional heads/ admins/ employees can **see changes**
- Changes are **updated in the database**



User Story 3: Admin

“As an Admin, I want to view all projects I am managing with their current staffing status to effectively oversee project progress.”

- Project dashboard **displays all managed projects with key details**
- The system updates real-time availability and staffing levels
- Filters allow **sorting** by deadline, priority, and staffing needs.

Project specifications may be changed in the according interface

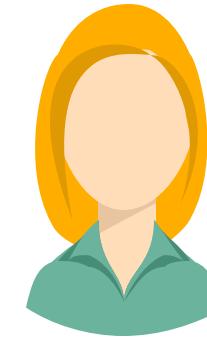
Epics & User Stories: Project Staffing / Team Allocation Interface



User Story 1: Admin

“As an Admin, I want to assign employees to a project so that I can staff projects optimal and efficiently”

- **Key details of the project** are visible
- **Employees** can be **assigned** to a project
- Employees are **visible** in the project
- Assignments are **consistent** with the lists visible in the employee profiles



User Story 2: Admin

“As an Admin, I want to see suitable employees for a project based on their availability and skills so that I can make decisions faster.”

- **Suggestions** are displayed when assigning employees to projects, based on the required skills and availability
- Suggested employees **can be assigned** to a project

The MERN stack facilitates the creation of web applications and will be employed for this project

Solution Architecture & Tech Stack: MERN stack



MongoDB – The Database

- A **NoSQL database** used for storing JSON-like documents, enabling **flexible, scalable data storage**
- Manages **data persistence** and retrieval and supports **fast queries** and data aggregation



Express.js – The Backend-Framework

- Express.js handles **web application routing** and middleware on the **Node.js runtime** environment
- Processes **requests**, returns **responses** and **connects** with MongoDB via Mongoose ODM



React.js – The Frontend-Framework

- A library for **building user interfaces**, enabling dynamic and **reactive single-page applications**
- Renders **UI**, handles **user interactions**, manages state and **integrates with backend APIs**

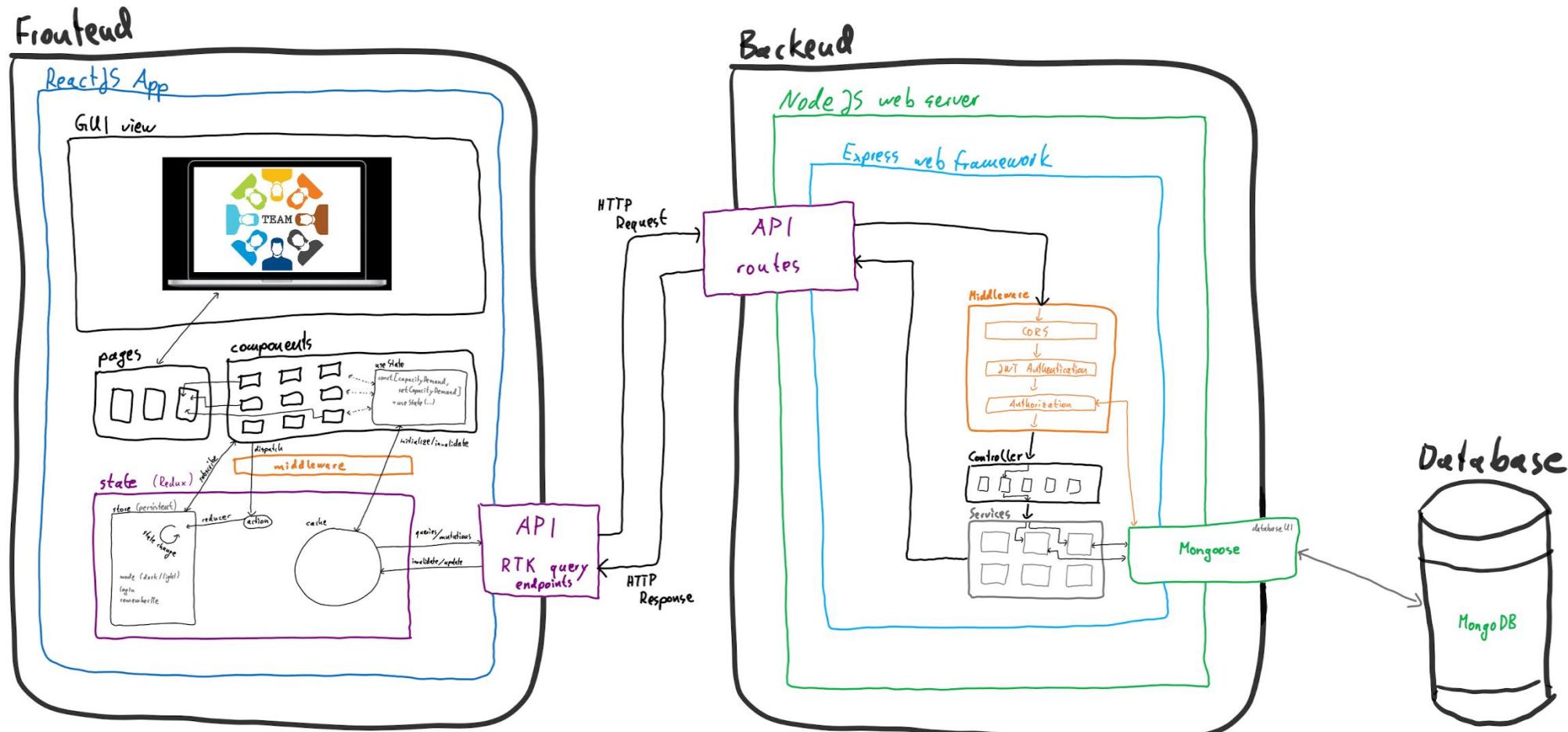


Node.js – API Communication & Data Flow

- Node.js facilitates **robust server-side functionality** and handling **API communication** with the frontend
- Ensures **seamless data flow** and API management and **enhances performance** and scalability

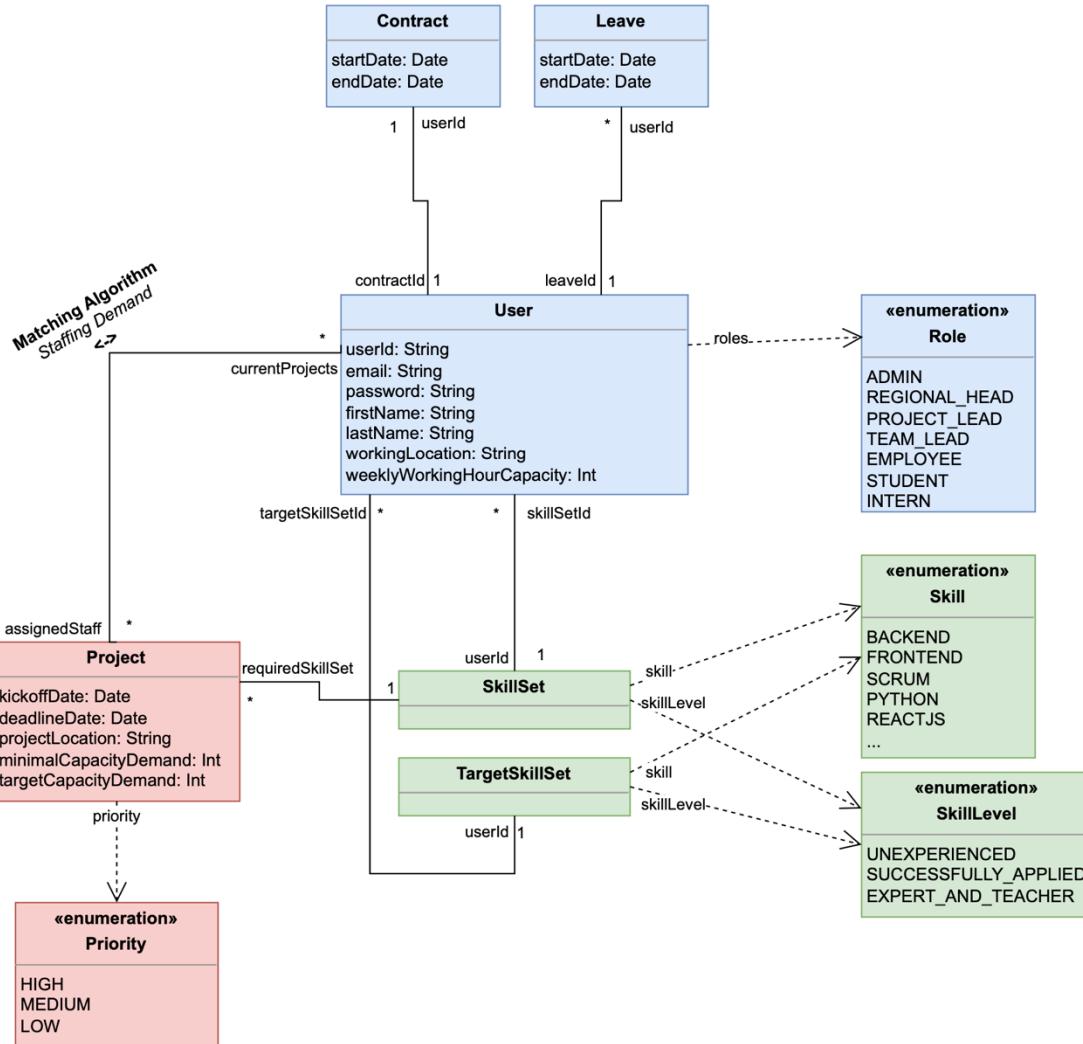
A Detailed Sketch of the Tech Stack and Solution Architecture Using the MERN Stack

Solution Architecture & Tech Stack: MERN stack



As part of our Stage 1 MVP, we will specify the necessary data in a structured way and map it to a functioning web app

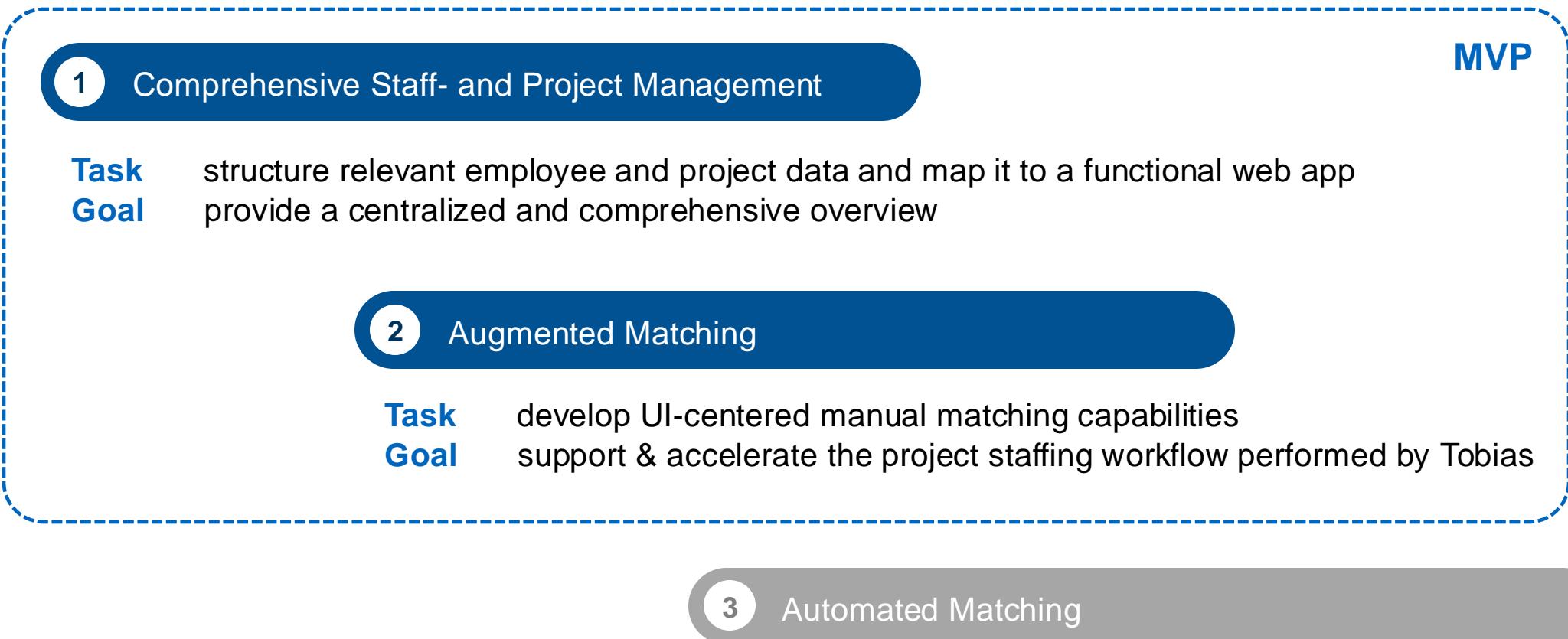
Solution Architecture & Tech Stack: UML Diagram for MVP



Strategically Phasing our MVP Development: Two Stages for Optimized Staffing Web-App and one Post-MVP Phase for advanced capabilities

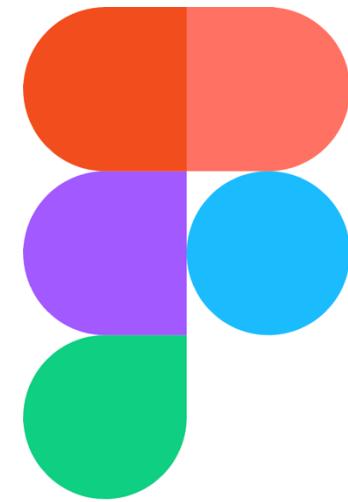


Solution Architecture & Tech Stack: MVP stages



Explore Our Interactive Prototype: Klick to experience the UI/UX DEMO of our MVP

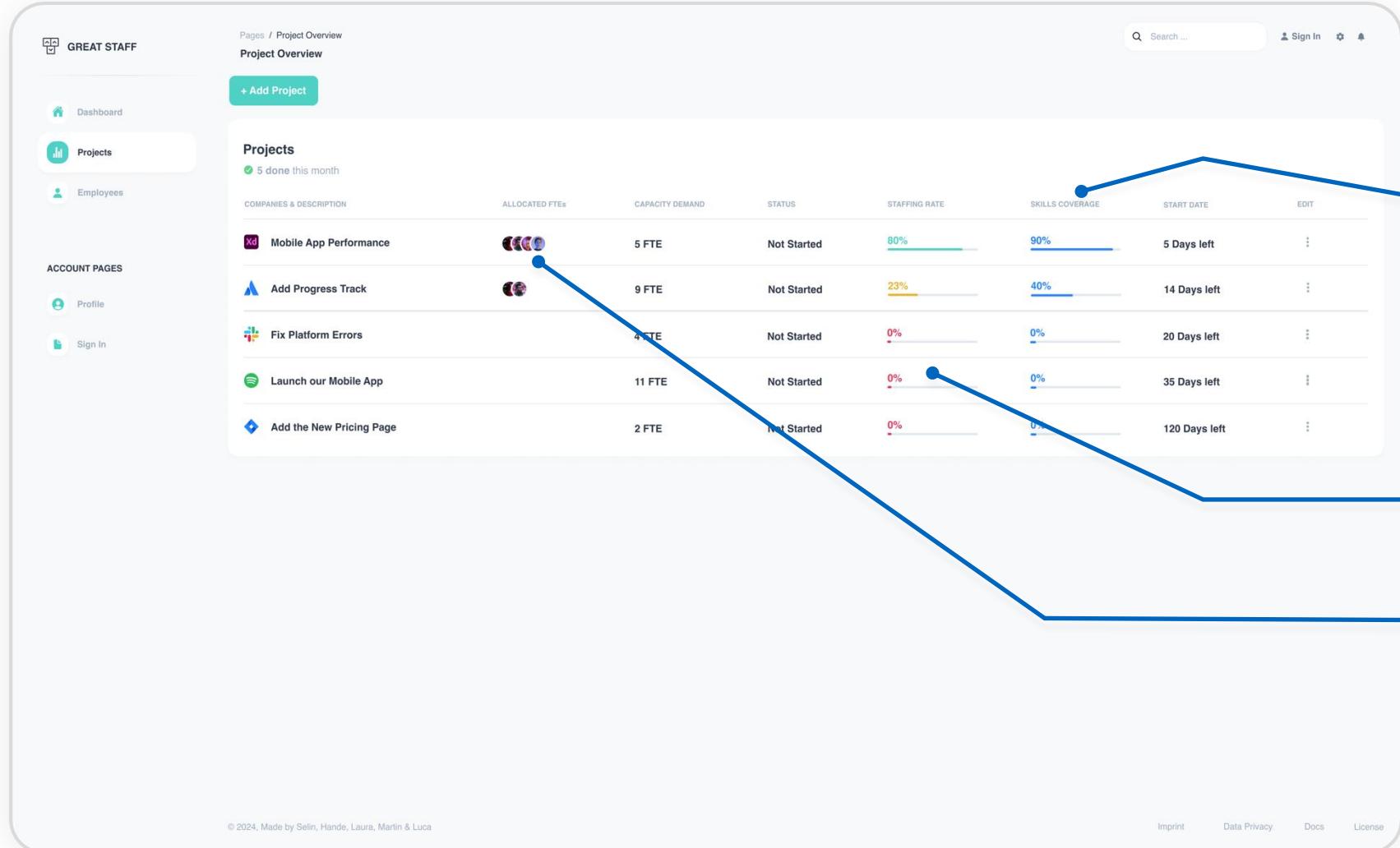
UI & UX Drafts: DEMO



[Link to Demo](#)

As part of the project overview, admins can see a current staffing overview

UI & UX Drafts: Project Staffing Overview



Enough skills on the project?

See current staffing rate

See allocated employees

As an employee, one can edit one's skill set and see allocated projects

UI & UX Drafts: Employee Profile

The image shows a screenshot of a web application interface for editing an employee profile. On the left, there is a sidebar with navigation items like 'Dashboard', 'Skills', 'Projects', 'Allocated Projects', 'Skills Matrix', and 'Project Rotation'. The main area is titled 'Edit Profile' for 'Esthera Jackson' (esthera@itesta.com). It includes sections for 'Add Skills' (with a search bar and a list of skills: React, Angular, TensorFlow, MongoDB, Java, CSS, PostgreSQL, Vue.js, Docker, Node.js), 'Select Working Location' (with a dropdown for 'City/Location' and a checkbox for 'Yes, i can work Remote'), 'Weekly Working Hour Availability' (with a input field showing 'Working Hours 40'), and 'Allocated Projects' (listing three projects: 'Mobile App Performance', 'Fix Platform Errors', and 'Launch our Mobile App', with the last one being 'Free / Unallocated'). A blue callout box points from the 'Add Skills' section to the text 'Add/Remove Skills'. Another callout box points from the 'Select Working Location' section to the text 'Set working location'. A third callout box points from the 'Working Hours' input field to the text 'Set working hours'. A fourth callout box points from the 'Allocated Projects' section to the text 'See allocated projects'. At the bottom is a 'Save & Close' button.

Add/Remove Skills

Select Working Location

Set working hours

See allocated projects

A holistic overview over available employees is given in the Employee Overview

UI & UX Drafts: Employee Overview

The screenshot shows a web-based Employee Overview dashboard. On the left, there's a sidebar with 'GREAT STAFF' branding and links for Dashboard, Projects, and Employees. The main area has a header 'Employee Overview' with a search bar and sign-in options. A prominent feature is a large blue line graph that spans across the page, with callout arrows pointing from specific data points to three callout boxes on the right.

Employees

PERSON	CURRENT UTILIZATION	# PROJECTS	SKILLS	STATUS	LOCATION	Actions
Esthera Jackson esthera@itestra.com	90%	3	React, MongoDB, NextJS, MySQL	Free	Munich	Edit
Alexa Liras alexa@itestra.com	20%	1	C++, Swift, PostgreSQL, Java	Free	Stuttgart	Edit
Laurent Michael laurent@itestra.com	100%	5	Tensorflow, Pytorch, Python	Free	Madrid & Remote	Edit
Freduardo Hill freduardo@itestra.com	70%	4	CSS, HTML, JavaScript, Vue.js	Free	Munich	Edit
Daniel Thomas daniel@itestra.com	100%	5	Tensorflow, Pytorch, Python	Free	Tallinn & Remote	Edit
Mark Wilson mark@itestra.com	100%	6	C++, Angular, React, MySQL	Free	Stockholm	Edit

© 2024, Made by Selin, Hande, Laura, Martin & Luca

Imprint Data Privacy Docs License

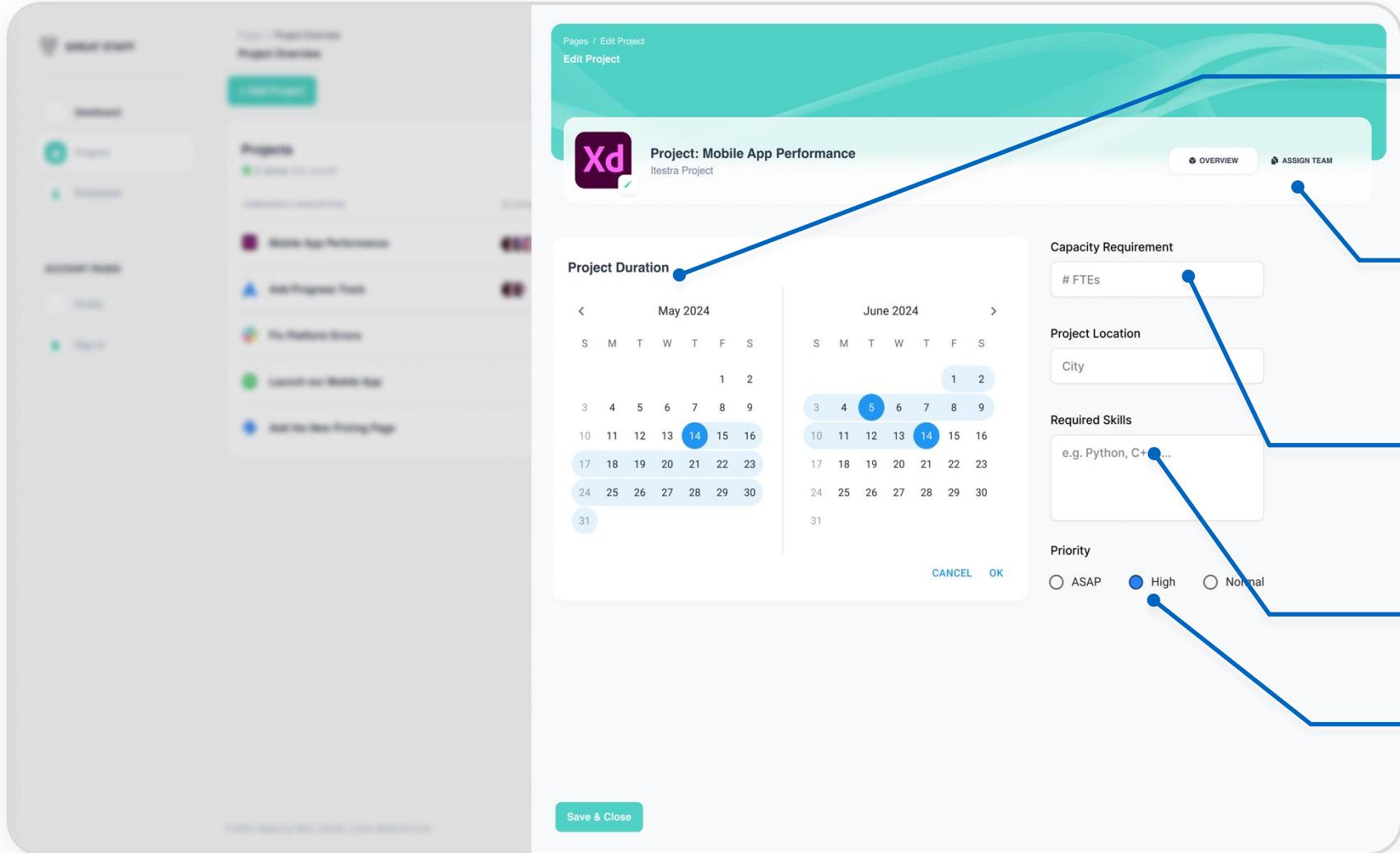
See current project allocation

See employee skills

See working location

Project specifications may be edited in an admin role

UI & UX Drafts: Project Management Interface



Edit Project Timeline

Team allocation
(part of next iteration)

Specify required number of employees

Specify required skills

Set priority

Outlook: The optimal situation for the next iteration

UI & UX Drafts: Team Matching Interface

Fullfilled & Missing Skills

Auto-assign via an matching algorithm (Post MVP)

See assigned employees and their relevant skills

Suitable employees with the required missing skills.

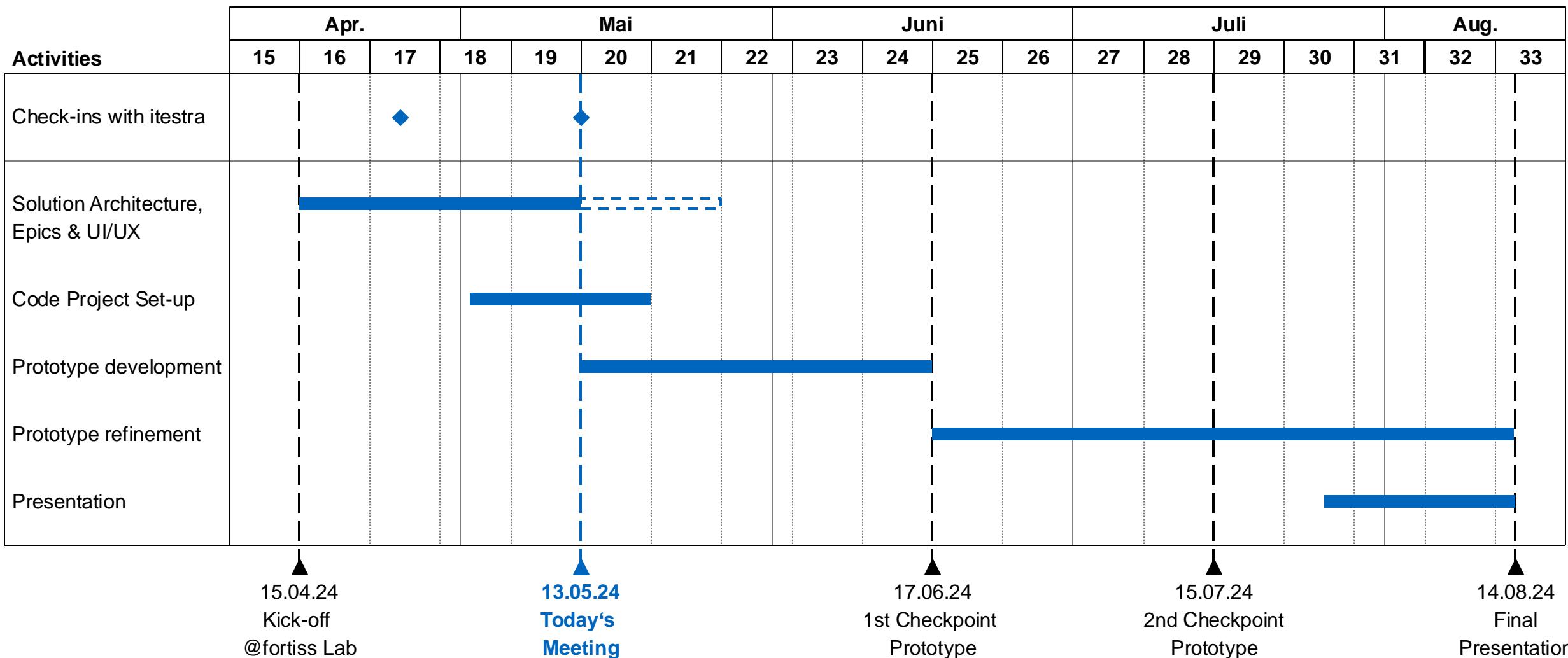
Project irrelevant skills are greyed out

The detailed UI draft shows the following components:

- Project Overview:** Staffing Rate (2/5 FTE) at 40%, Skill Coverage at 66%, and a list of required skills: React.js, CSS, MongoDB, HTML, REST API, Vue.js.
- Assigned Employees:** Esther Jackson (0.25 FTE), Peter Maffai (0.5 FTE). Both have assigned skills: React.js, MongoDB, Angular, MySQL, HTML, REST API, MongoDB.
- Suitable Employees:** Elon Musk (0.75 FTE), Max Mustermann (0.25 FTE), Paul Paulsen (0.3 FTE). They have relevant skills: TensorFlow, REST API, MongoDB, Docker, CSS, PyTorch, Vue.js, PostgreSQL, Java, HTML, REST API, CSS, Ruby.
- All other Employees:** Peter Drucker (0.75 FTE), Andrej Karpathy (0.75 FTE). They have skills: Java, REST API, HTML, Docker, PyTorch, Tensorflow, React.js, C++, Keras, scikit-learn.
- Buttons:** 'AUTO-ASSIGN' (orange), 'ADD +' (blue), and 'Save & Close' (green).

By following specific milestones, the project will successfully finish in August

Timeline & Next Steps





GREAT STAFF

Thank you.

We are looking forward to having a lively discussion with you.



Laura Leschke
M.Sc. Informatics

2nd semester



Hande Yilmaz
M.Sc. Informatics

4th semester



Luca Fober
M.Sc. Management
& Technology
4th semester



Martin Stierlen
M.Sc. Information
Systems
3rd semester



Selin Yildiz
M.Sc. Management
& Technology
3rd semester

Project Update: Augmented Matching based on Feedback Session

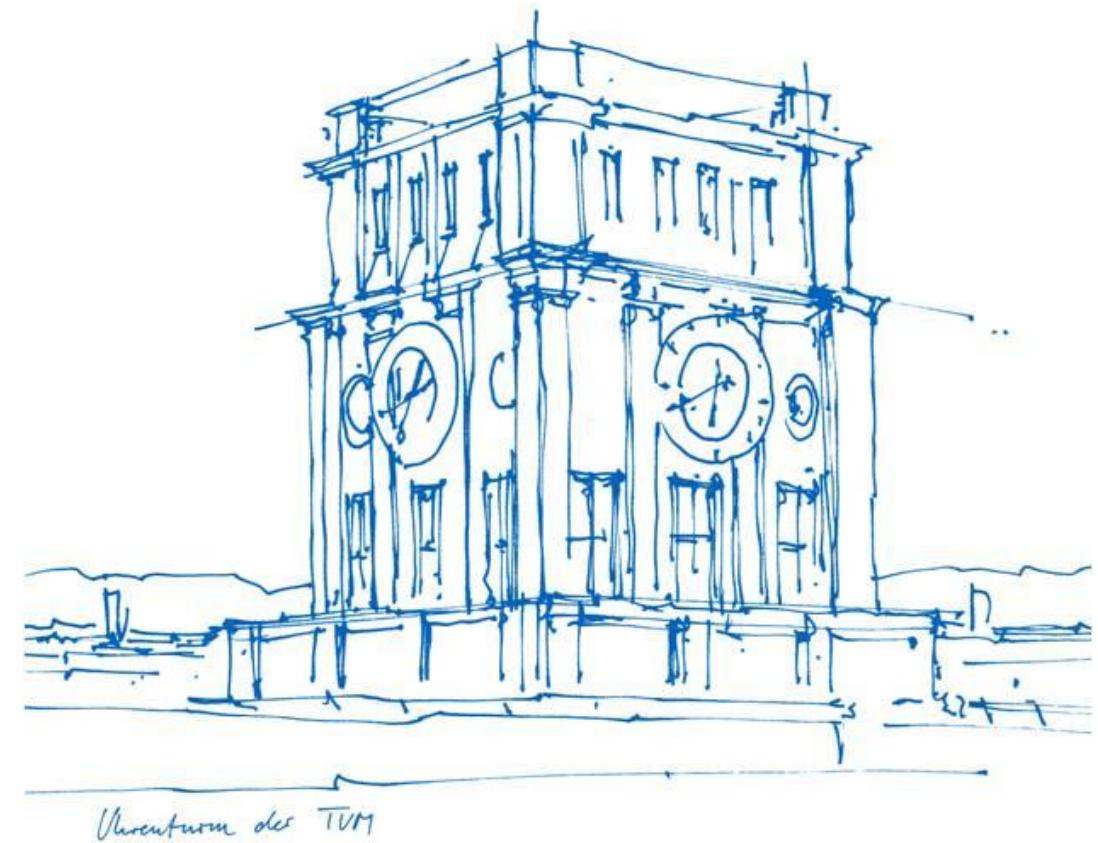
- UX/UI Update

Practical Course

Digital Product Innovation and Development

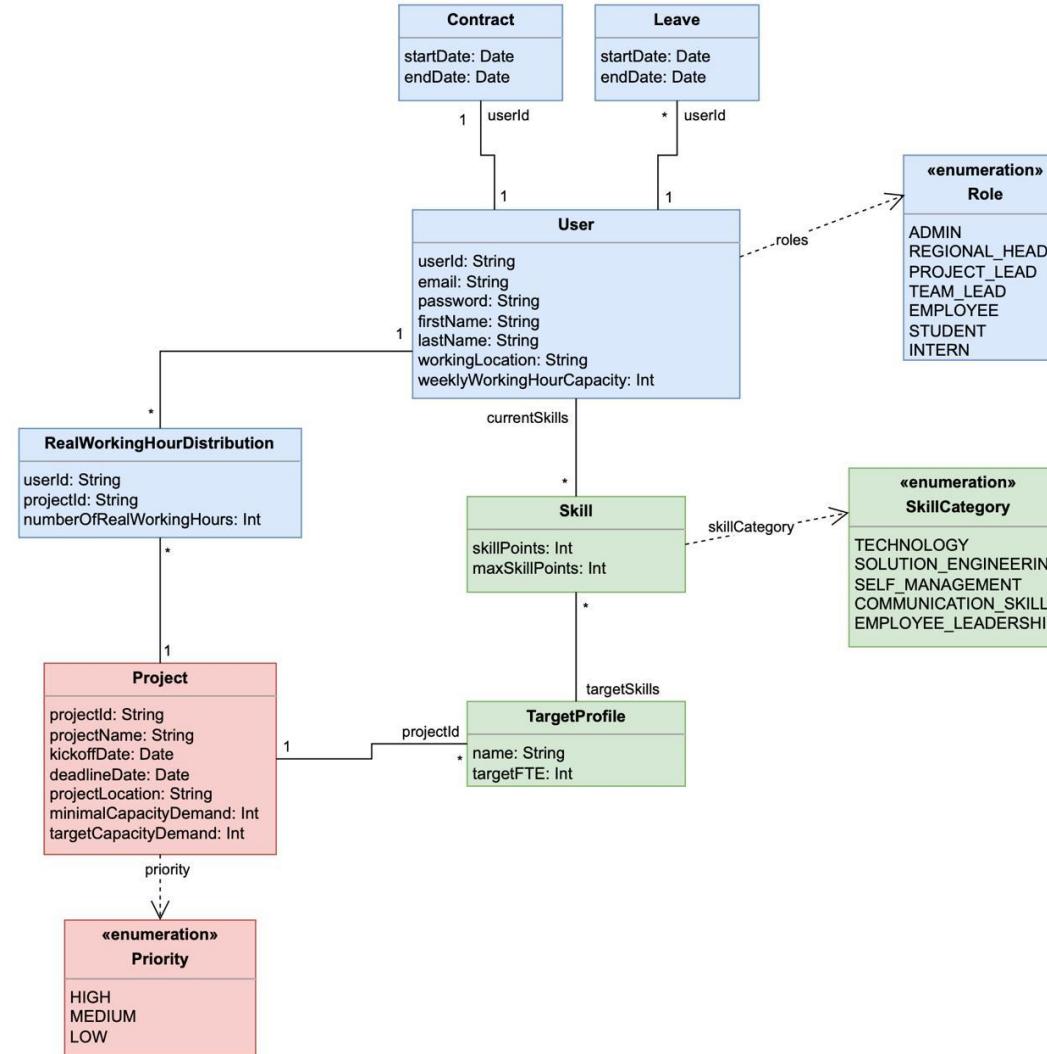
itestra GmbH

Munich, 15th May 2024



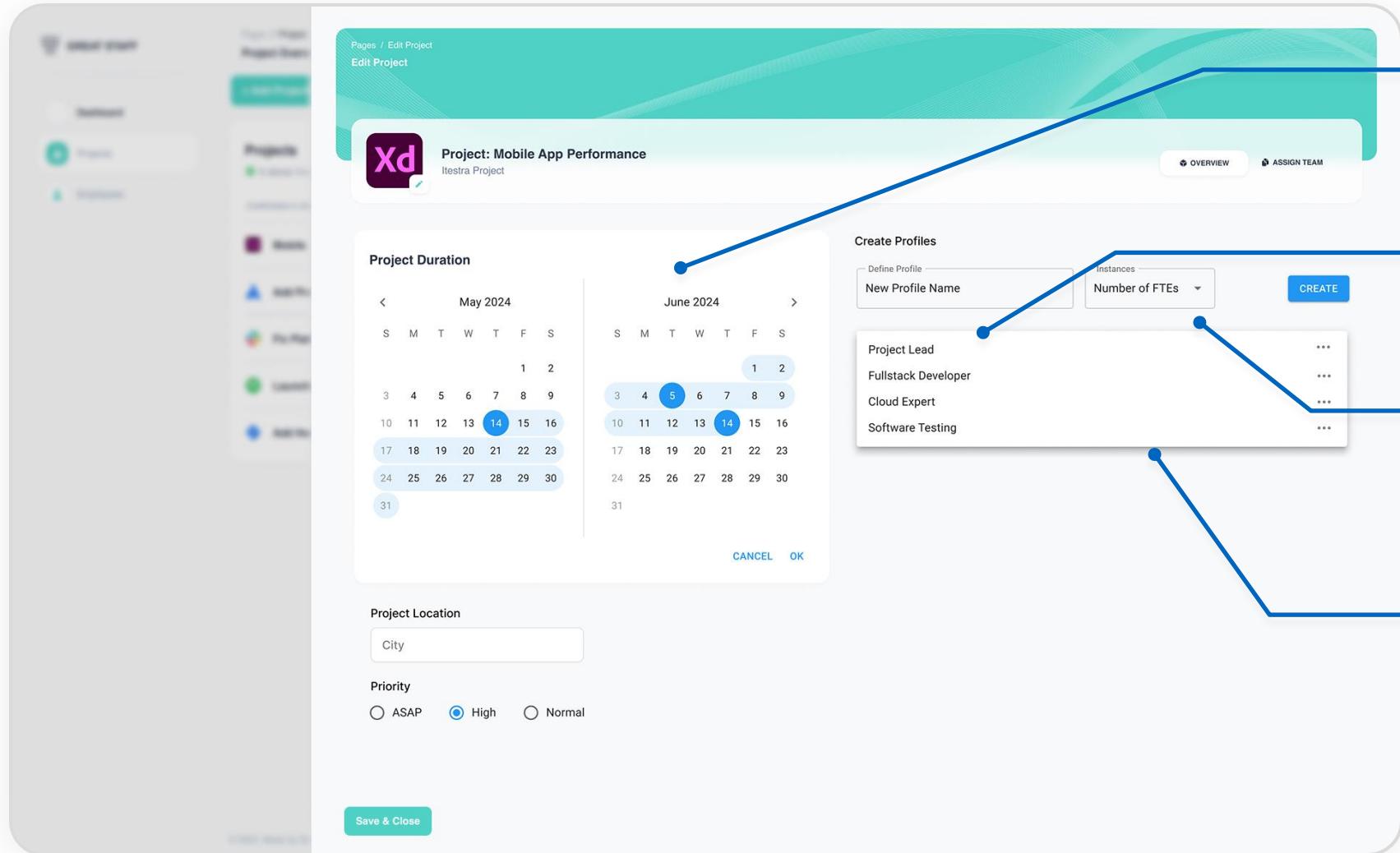
As part of our Stage 1 MVP, we will specify the necessary data in a structured way and map it to a functioning web app: Updated UML

Solution Architecture & Tech Stack: Updated UML Diagram for MVP



Project specifications & Profiles may be edited in an admin role

UI & UX Drafts: Project Management Interface



Edit project timeline

Create profiles with skill-category requirements

Specify number of FTEs per profile

See and edit profiles

Outlook: The optimal situation for the next iteration

UI & UX Drafts: Profiles & Staffing Interface

The screenshot shows a user interface for managing profiles and staffing. At the top, there's a navigation bar with 'Pages / Edit Project' and 'Edit Project'. Below it, a header says 'Project: Mobile App Performance' and 'Itestra Project'. The interface is divided into several sections:

- Staffed Profiles:** Shows four roles: PROJECT LEAD, FULLSTACK-DEVELOPER, CLOUD EXPERT, and SOFTWARE TESTING. Buttons for 'OVERVIEW' and 'ASSIGN TEAM' are available.
- Target Skillsets:** A grid of skill categories with target points: Technology (5/20), Solution Engineering (7/15), Self-Management (5/12), Communication Skills (10/13), and Employee Leadership (9/10).
- Assigned Employees (1/2):** Shows one employee, Esther Jackson, with 0.25 FTE assigned across the same five skill categories.
- Suitable Employees:** A list of five employees and their suitability levels:
 - Andrej Karpathy: 0.25 FTE, suitable in Technology, Solution Engineering, Self-Management, Communication Skills, and Employee Leadership.
 - Peter Drucker: 0.35 FTE, suitable in Technology, Solution Engineering, Self-Management, Communication Skills, and Employee Leadership.
 - Andrew Ng: 0.15 FTE, suitable in Technology, Solution Engineering, Self-Management, Communication Skills, and Employee Leadership.
 - Paul Paulsen: 0.25 FTE, suitable in Technology, Solution Engineering, Self-Management, Communication Skills, and Employee Leadership.
 - Elon Musk: 0.10 FTE, partially suitable in Technology, Solution Engineering, Self-Management, Communication Skills, and Employee Leadership.

Annotations on the right side explain various parts of the interface:

- Tab view for all profiles**: Points to the 'Staffed Profiles' section.
- Number of already assigned profiles**: Points to the 'Assigned Profiles' section.
- Specified skill categories**: Points to the 'Target Skillsets' section.
- Target points per category**: Points to the 'Employee Leadership' target point (9/10).
- See employee list and their suitability**: Points to the 'Suitable Employees' section.
- suitable**, **partially suitable**, **less suitable**: A legend at the bottom right defines the color coding for employee suitability.



GREAT STAFF

Thank you.

In Case of questions feel free to contact us.



Laura Leschke
M.Sc. Informatics

2nd semester



Hande Yilmaz
M.Sc. Informatics

4th semester



Luca Fober
M.Sc. Management
& Technology
4th semester



Martin Stierlen
M.Sc. Information
Systems
3rd semester



Selin Yildiz
M.Sc. Management
& Technology
3rd semester

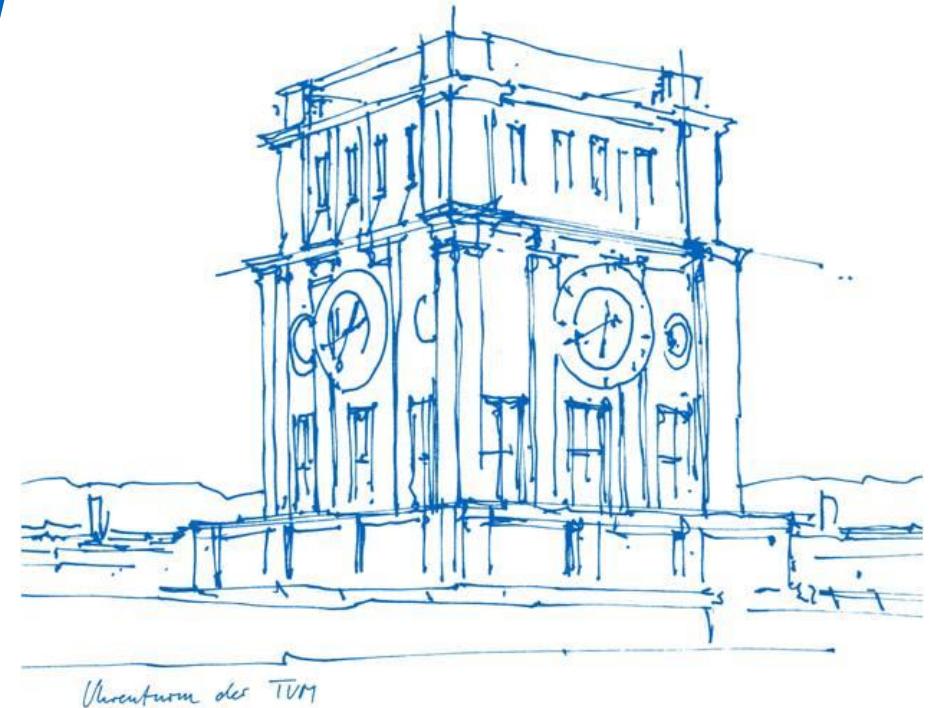
MILESTONE UPDATE

Staffing of Multiple Projects Across Different Locations

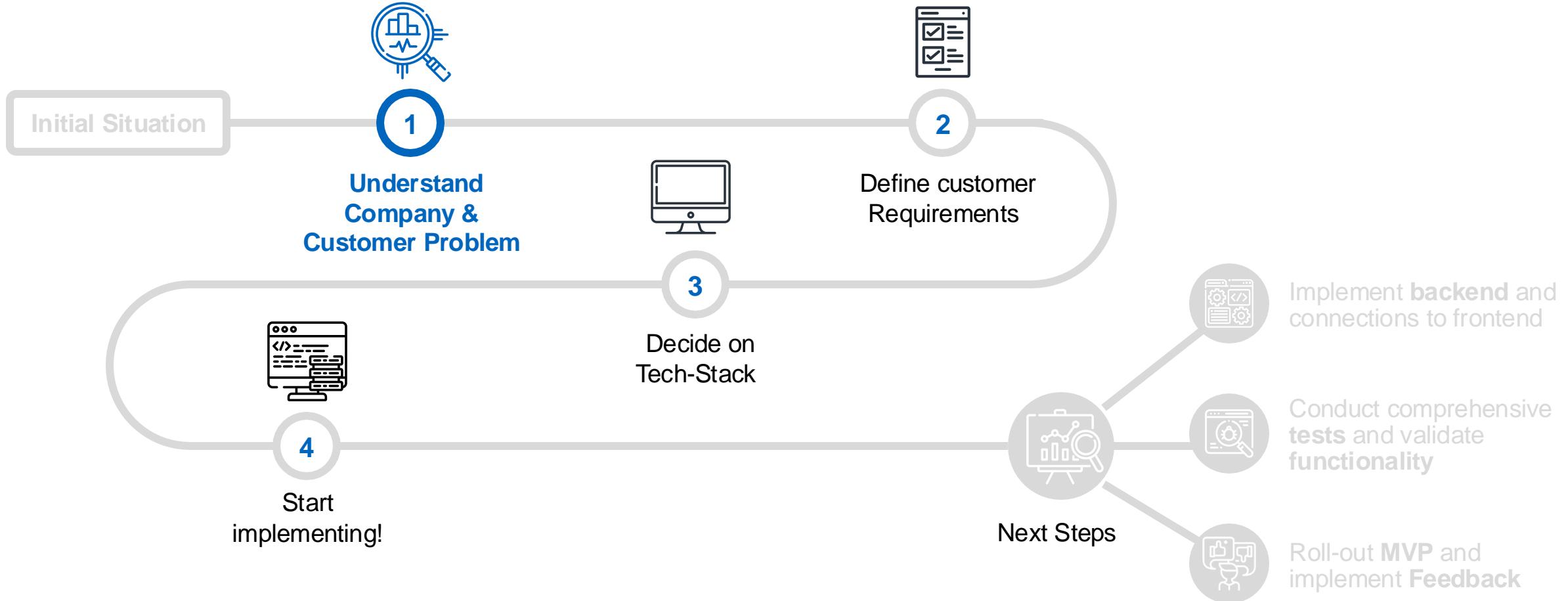
Practical Course
Digital Product Innovation and Development

Fortiss labs
Munich, 17th June 2024

Selin Yıldız, Laura Leschke, Hande Yılmaz, Martin Stierlen, Luca Fober



Roadmap



Itestras key challenge is efficiently managing project staffings across multiple locations while ensuring optimal employee allocation

Understand Company & Customer Problem



150 employees



13 locations



Fast Growing IT Company

itestra specializes in agile **software engineering**, delivering **custom software** systems for digital businesses

THE CUSTOMER`S PROBLEM

1

Inefficiency in Staffing Process

The staffing process is heavily reliant on Tobias and his team and is largely **manual**, creating **bottlenecks** and **delays**

2

Lack of Systematic Documentation

Staffing demands/priorities are not systematically documented, leading to a **lack of transparency** and consistency

3

Scalability Issues

The current staffing approach is **not scalable**, risking inefficiencies and dissatisfaction **as the company grows**

Our solution provides a scalable web-application that facilitates team staffing and employee allocation for software projects, tailored to the specific needs of itestra

Our Solution and Goal



GREAT STAFF

What our solution will address



Optimal Resource Utilization:

Ensuring the right employees with the right skills are allocated to the projects, maximizing efficiency and productivity



Employee Satisfaction and Development:

Considers personal development needs, leading to higher job satisfaction and retention



Supports Organizational Growth:

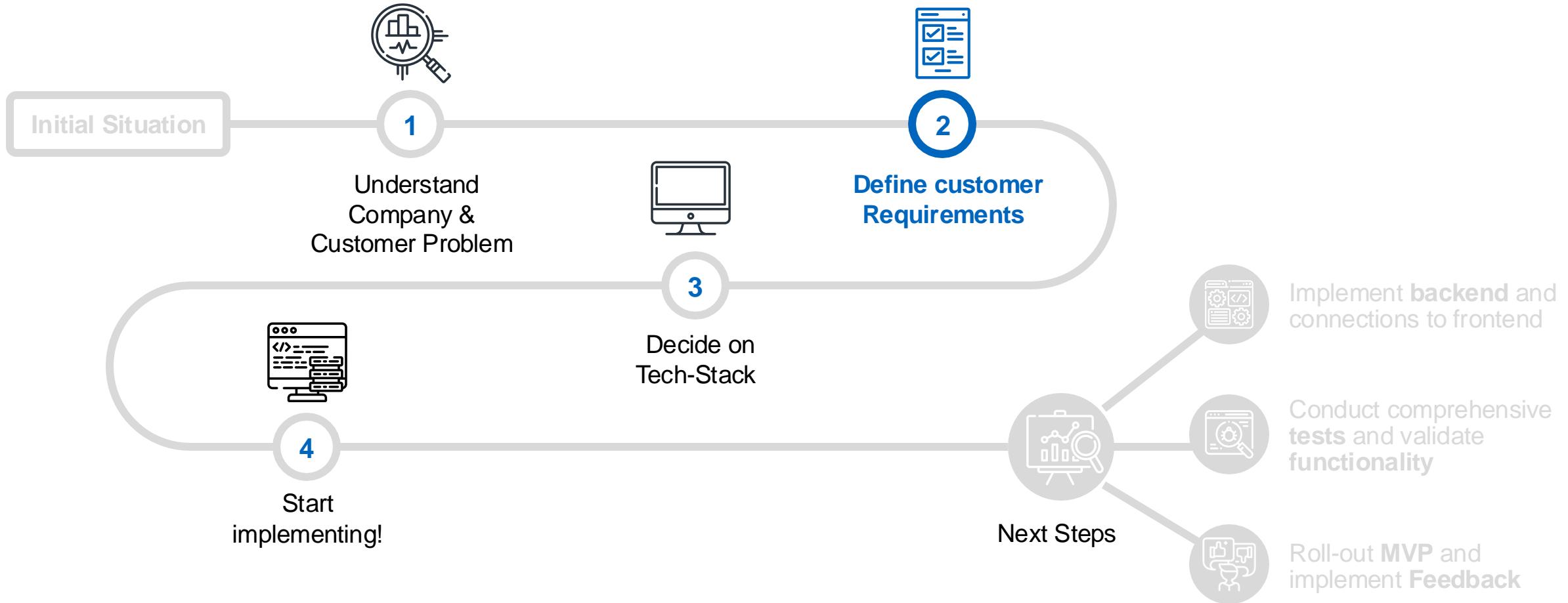
Enables scalable and efficient staffing processes, as the company grows

The Goal



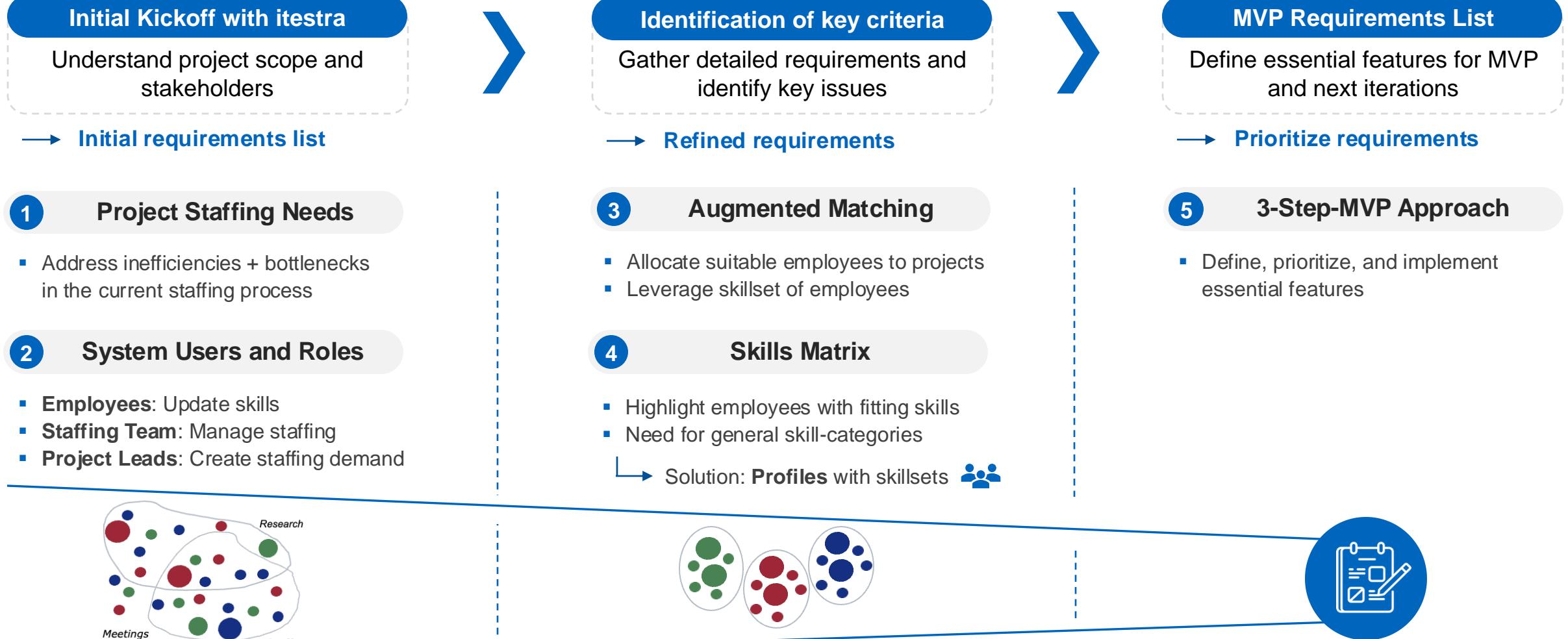
Create a powerful and **scalable** Web-Application that supports **Team Staffing** and **Employee Allocation** for software-projects at itestra

Roadmap



An initial challenge to be solved was requirements engineering: Whereas some criteria for staffing projects are must-haves, many requirements are nice-to-have add-ons

Define customer Requirements



Users need to efficiently assign the right employees to projects and quickly view suitable candidates based on their skills for informed decision-making

User Scenario



Tobias

"I want to assign the right employees to a project so that I can **staff projects optimally** and efficiently."

"I want to **see suitable employees for a project** based on their skills so that I can make decisions faster."

USER SCENARIO

WHAT VIEWS DO WE NEED?



Project Overview

Effective oversight over all projects and staffings



Project Management Interface

Ensuring accurate project data and edit capabilities



Team Matching Interface

Find suitable employees for projects through advanced matching



Employee Overview

See all employees, their skills and working-location



Employee Profiles

Edit profile, skills and other details



Authentication & Login

Ensuring only relevant access and modification rights

Strategically Phasing our 3-Step MVP Development: Two Stages for Optimized Staffing Web-App and one Post-MVP Phase for advanced capabilities

Define customer Requirements: Our Solution Approach

1 Comprehensive Staff- and Project Management

MVP

- Task** Structure relevant employee and project data and map it to a functional web app
Goal Provide a centralized and comprehensive overview

2 Augmented Matching

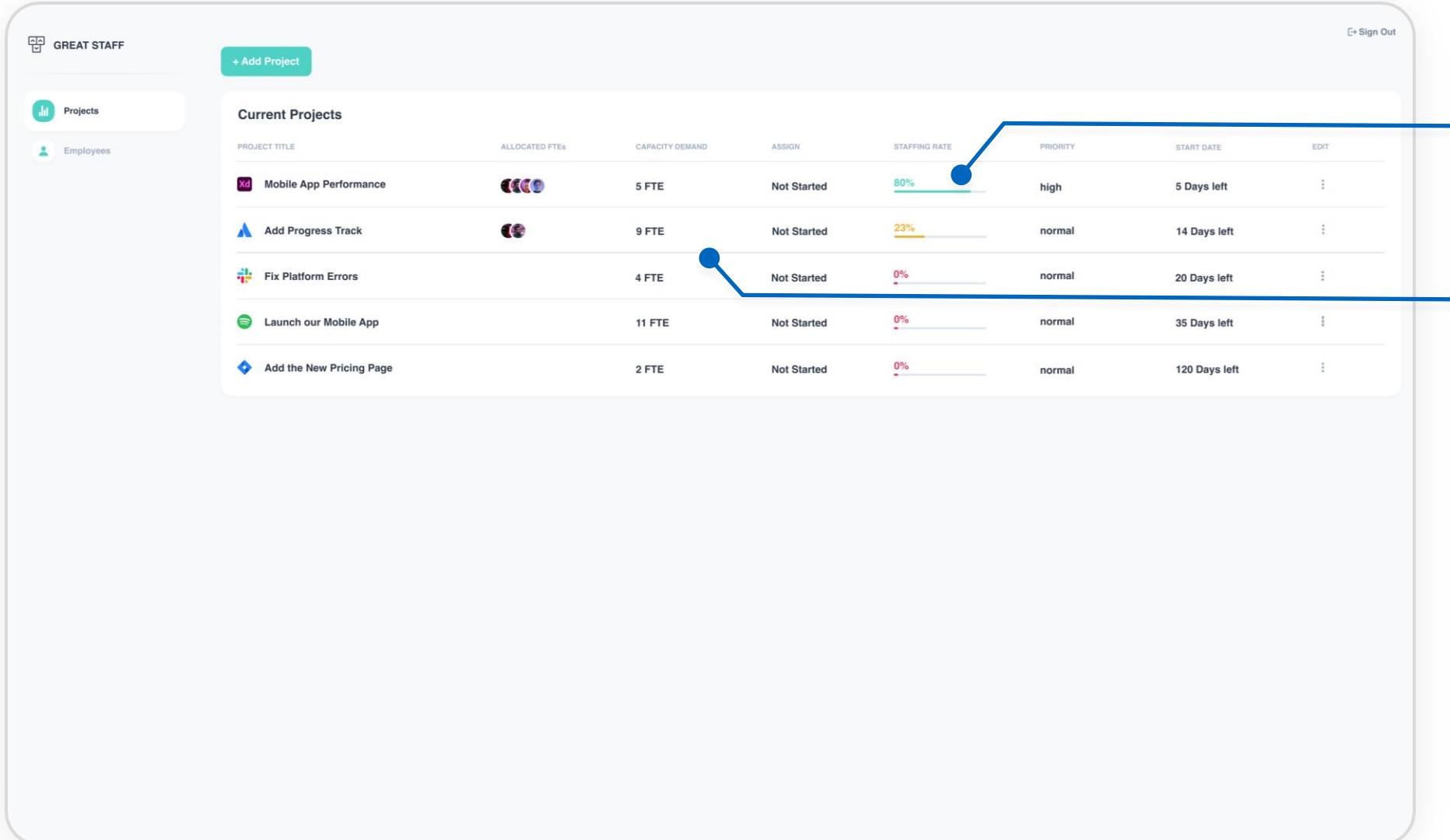
- Task** Develop UI-centered manual matching capabilities
Goal Support & accelerate the project staffing workflow performed by Tobias

3 Automated Matching

- Task** Implement automated *skill* matching
Goal Provide a one-click automated matching algorithm

The Project Overview Page

Insights into our Design Process

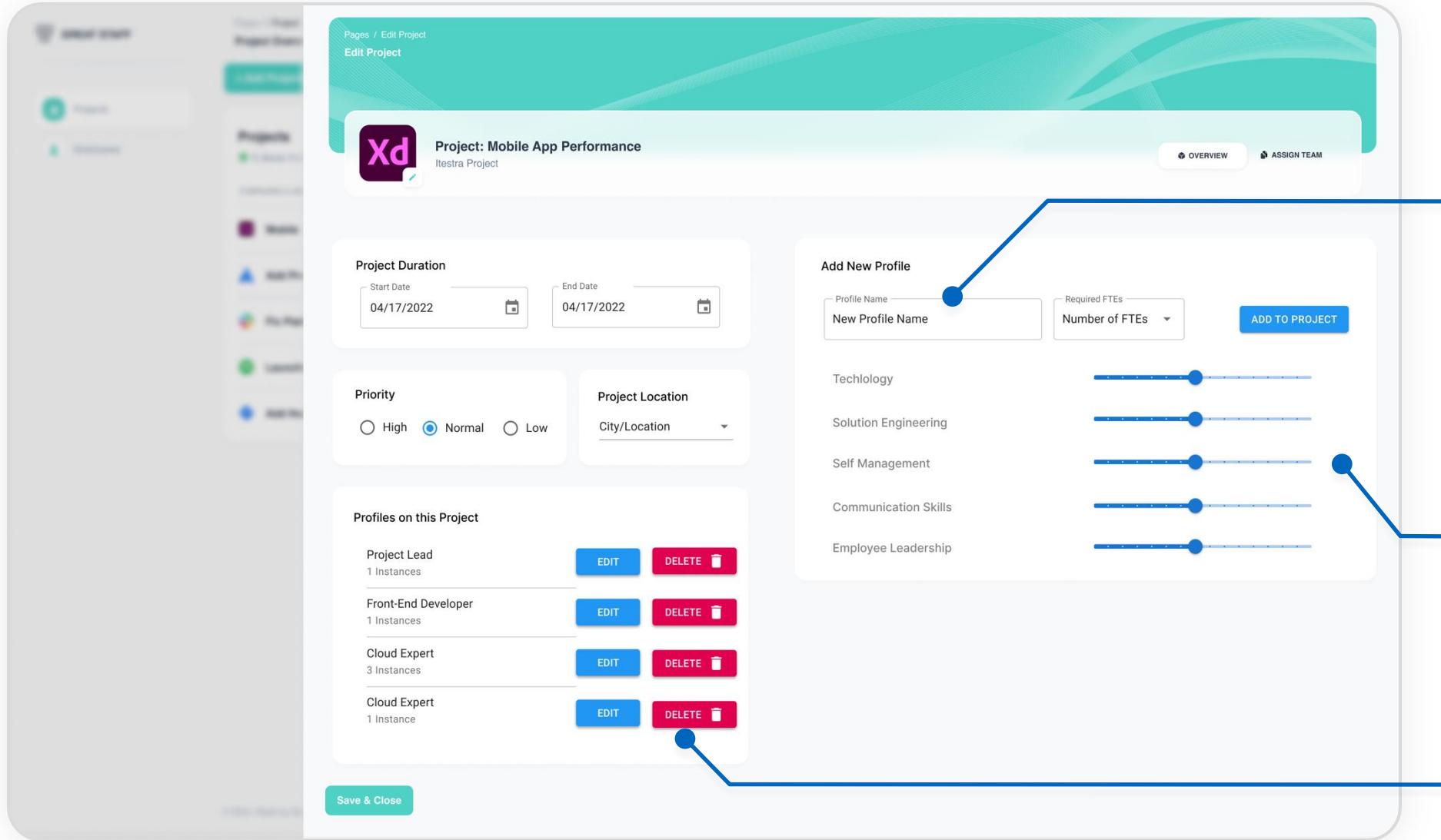


View staffing rate

**View the required
number of
employees**

The Edit Project Page

Insights into our Design Process



The screenshot shows the 'Edit Project' page for a project titled 'Mobile App Performance'. The page includes fields for 'Project Duration' (Start Date: 04/17/2022, End Date: 04/17/2022), 'Priority' (Normal selected), 'Project Location' (City/Location dropdown), and a section for 'Profiles on this Project' listing 'Project Lead', 'Front-End Developer', 'Cloud Expert', and another 'Cloud Expert'. On the right, there's a 'Add New Profile' form and a list of skill levels: Technology, Solution Engineering, Self Management, Communication Skills, and Employee Leadership, each with a slider for 'Required FTEs'.

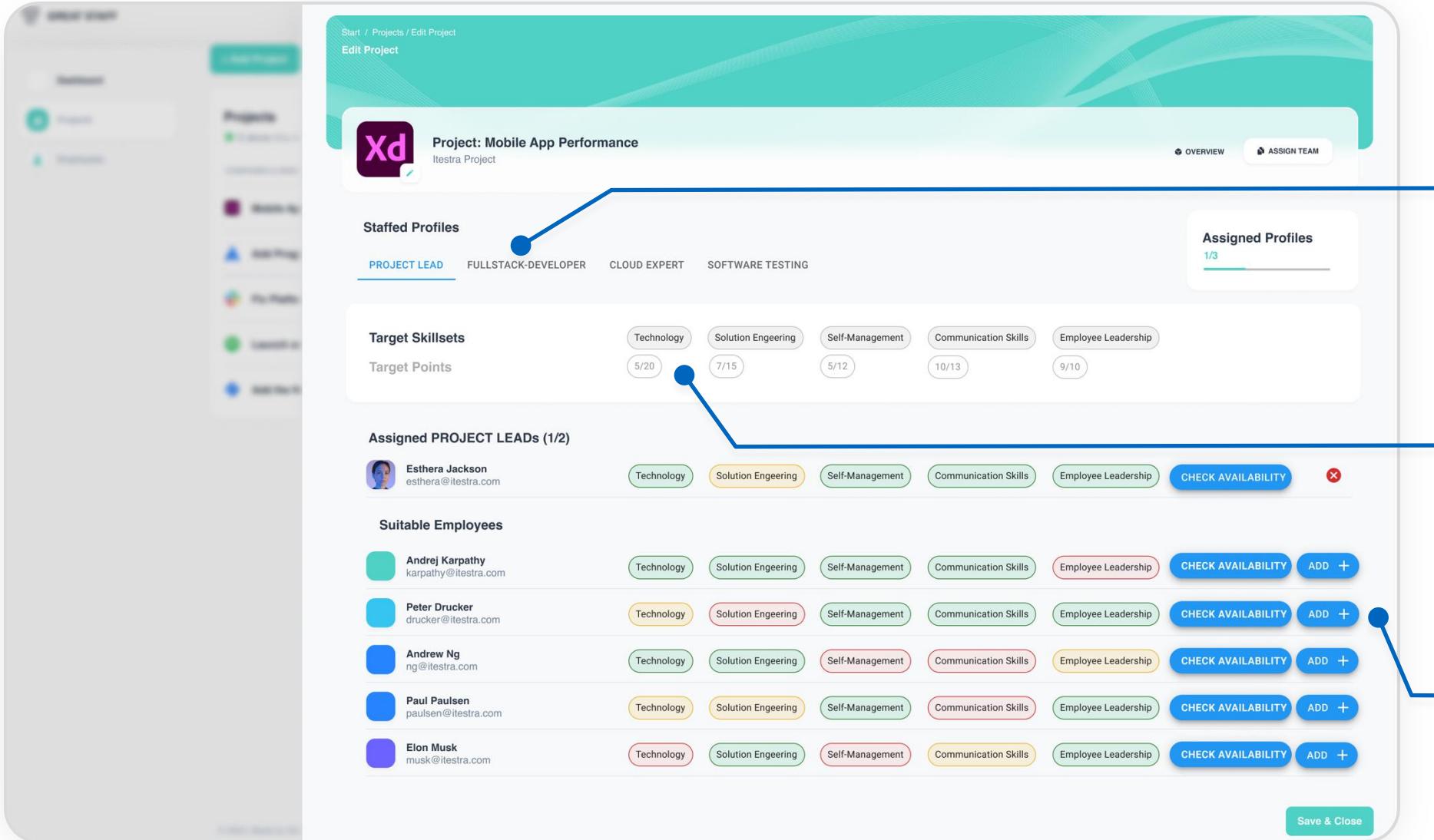
Create Profiles
(= staffing groups with same skills)

Edit Skill Level

Manage Profiles

The Assign Team Page

Insights into our Design Process



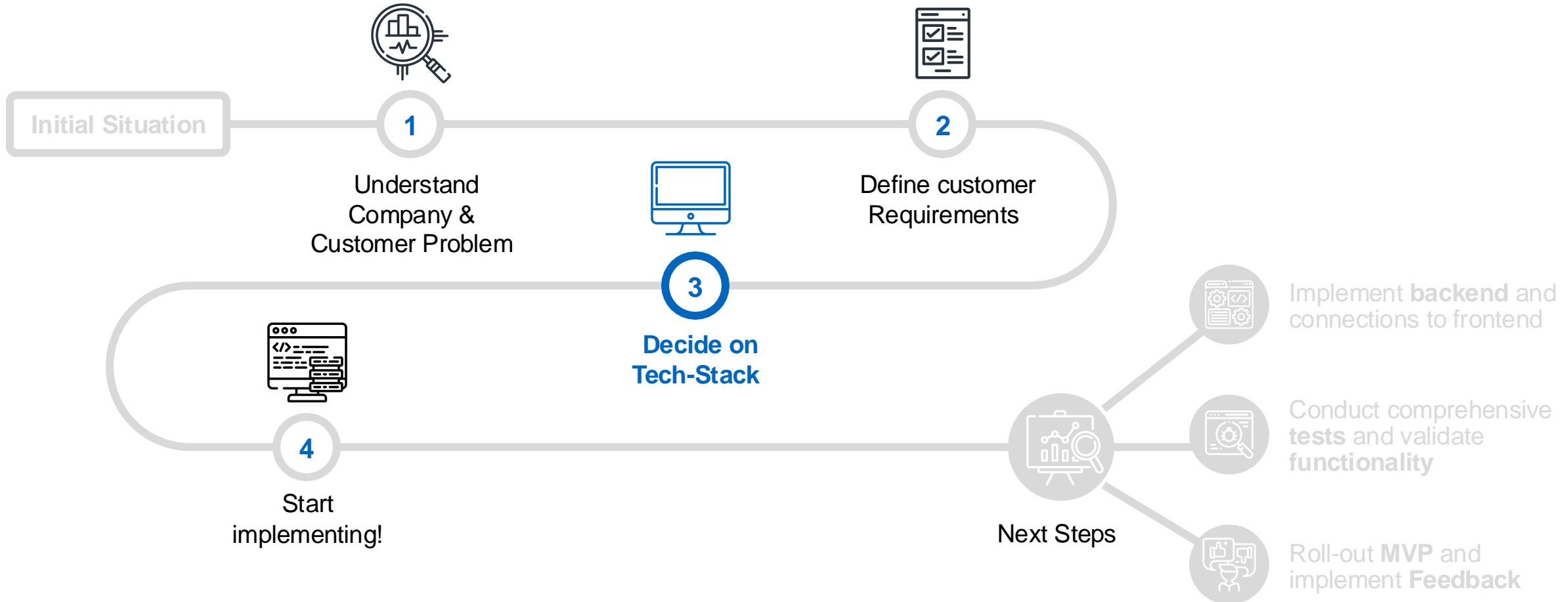
The screenshot shows the 'Edit Project' screen for 'Project: Mobile App Performance'. It includes sections for 'Staffed Profiles' (PROJECT LEAD, FULLSTACK-DEVELOPER, CLOUD EXPERT, SOFTWARE TESTING), 'Assigned Profiles' (1/3), 'Target Skillssets' (Technology 5/20, Solution Engineering 7/15, Self-Management 5/12, Communication Skills 10/13, Employee Leadership 9/10), 'Assigned PROJECT LEADS (1/2)' (Esthera Jackson), and a 'Suitable Employees' list (Andrej Karpathy, Peter Drucker, Andrew Ng, Paul Paulsen, Elon Musk) with their respective skill matrices and 'CHECK AVAILABILITY' and 'ADD +' buttons.

See required profiles

See required skill points per category and profile

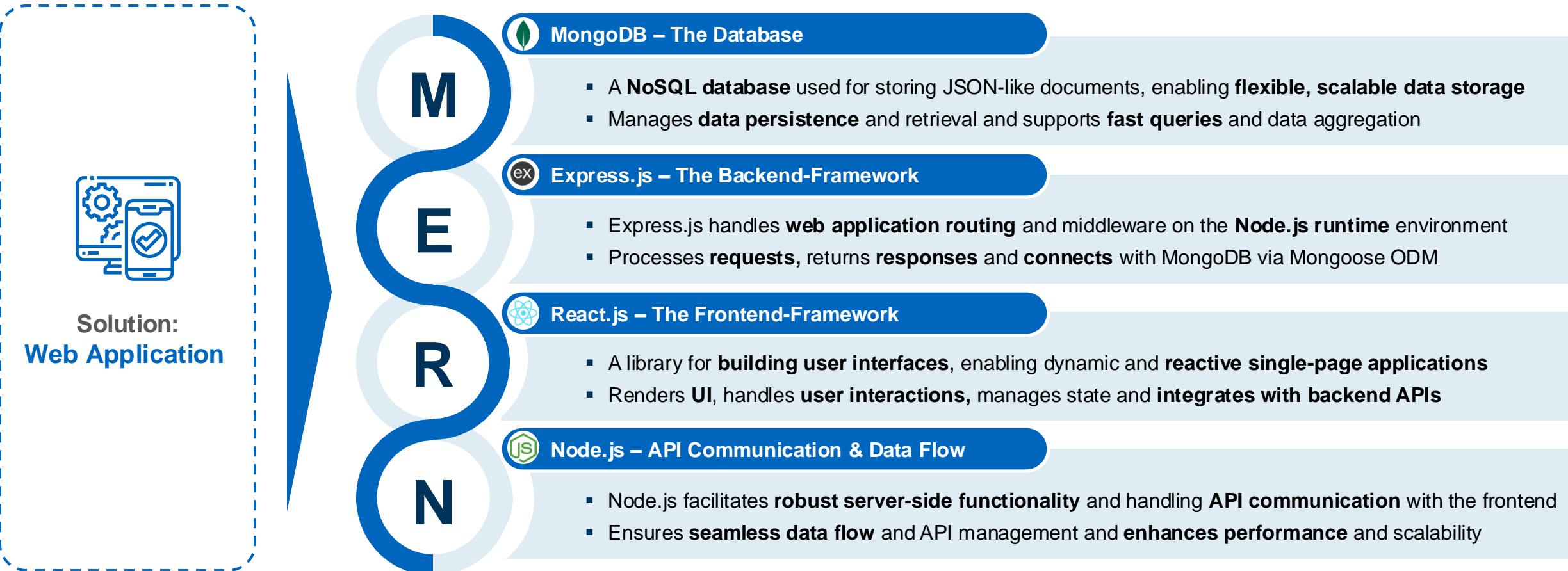
Add best-fit employees

Roadmap

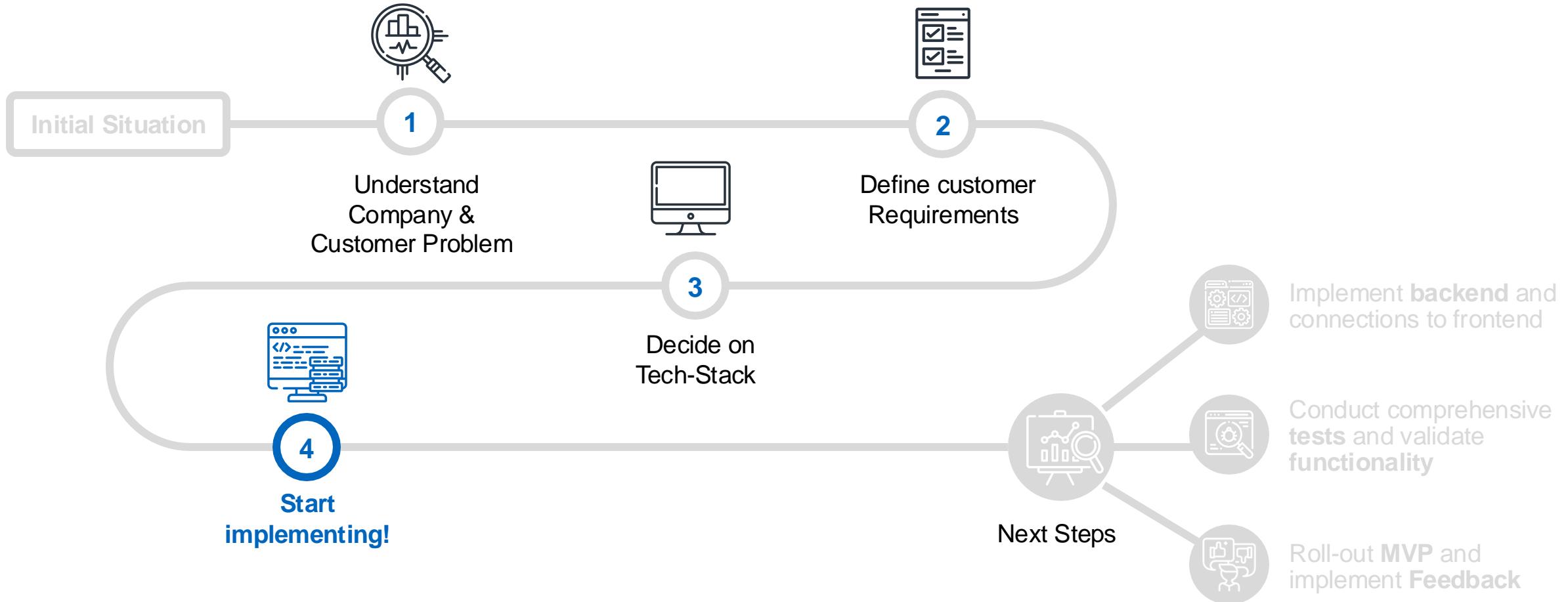


Our solution is based on a robust and scalable Web Application built with the MERN Tech-Stack

Decide on Tech-Stack: MERN Stack



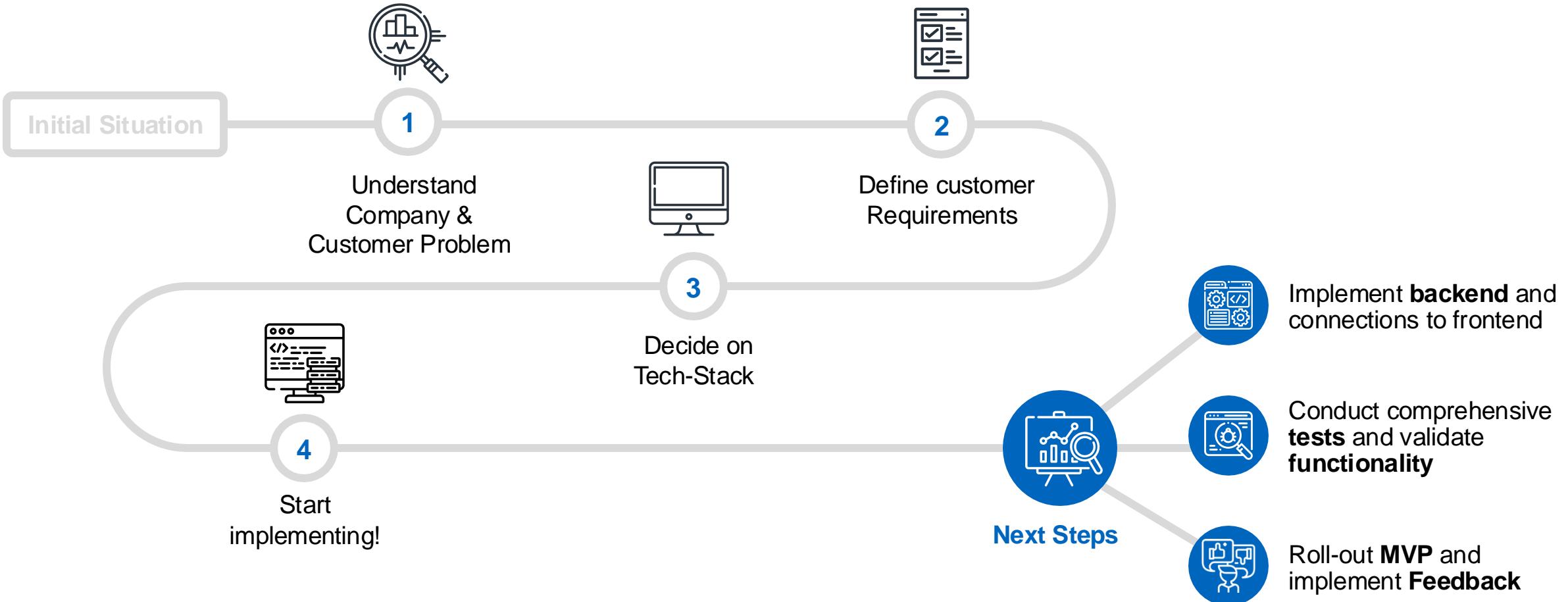
Roadmap



A white rectangular button with rounded corners, containing a dark blue circular icon with a white right-pointing arrow and the text "Live Demo" in a dark blue sans-serif font.

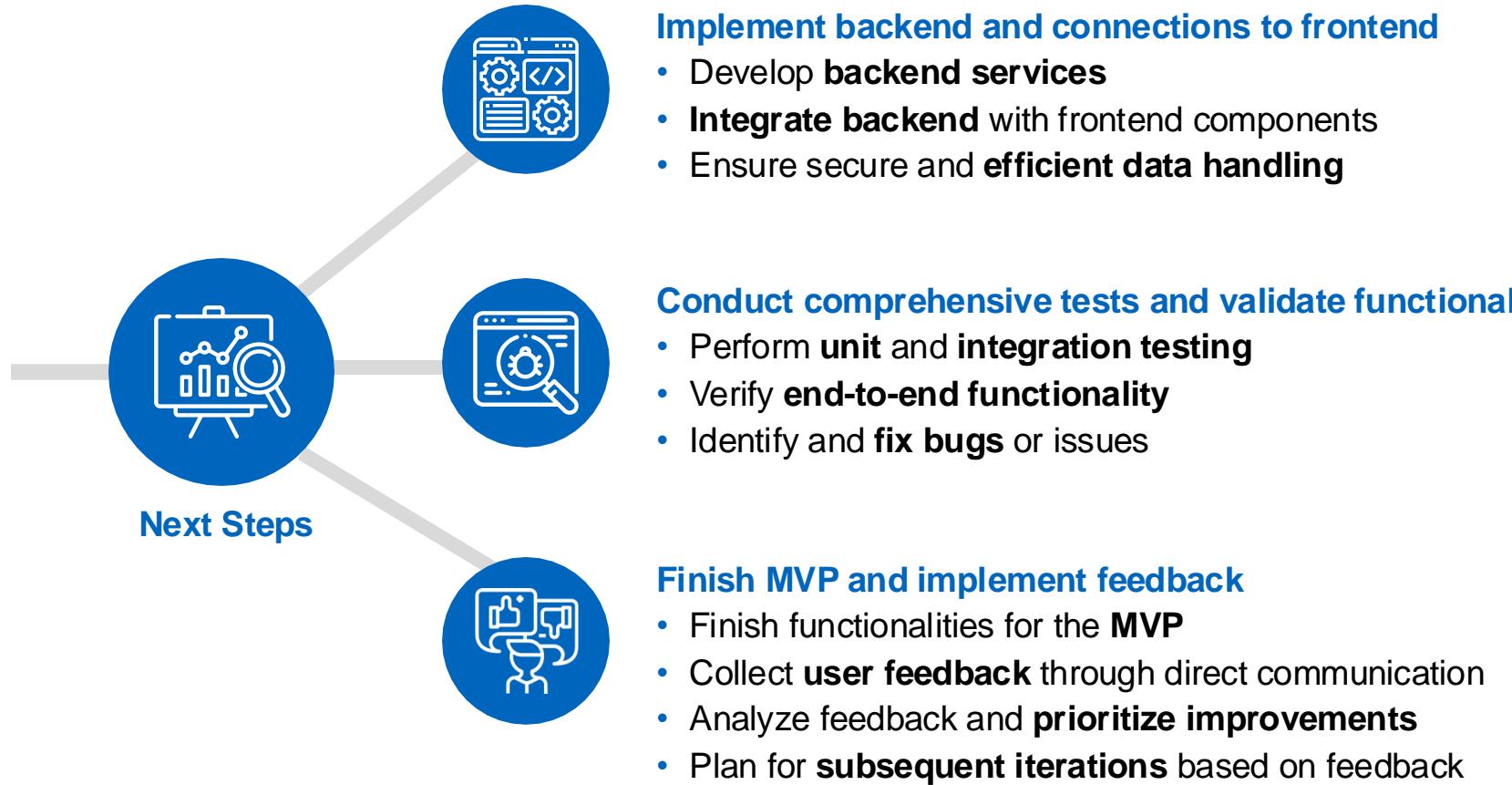
Live Demo

Roadmap



Connections between back- and frontend as well as comprehensive testing ensure successful project implementation

Roadmap & Next Steps





GREAT STAFF

Thank you!

We are looking forward to having a lively discussion with you.



Our Goal: Create a powerful and **scalable** Web-Application that supports
Team Staffing and **Employee Allocation** for software-projects at itestra



Selin Yildiz
M.Sc. Management
& Technology
3rd semester



Martin Stierlen
M.Sc. Information
Systems
3rd semester



Laura Leschke
M.Sc.
Informatics
2nd semester



Luca Fober
M.Sc. Management
& Technology
4th semester



Hande Yilmaz
M.Sc.
Informatics
4th semester



Noah Kaspereit
Software Engineer
itestra GmbH

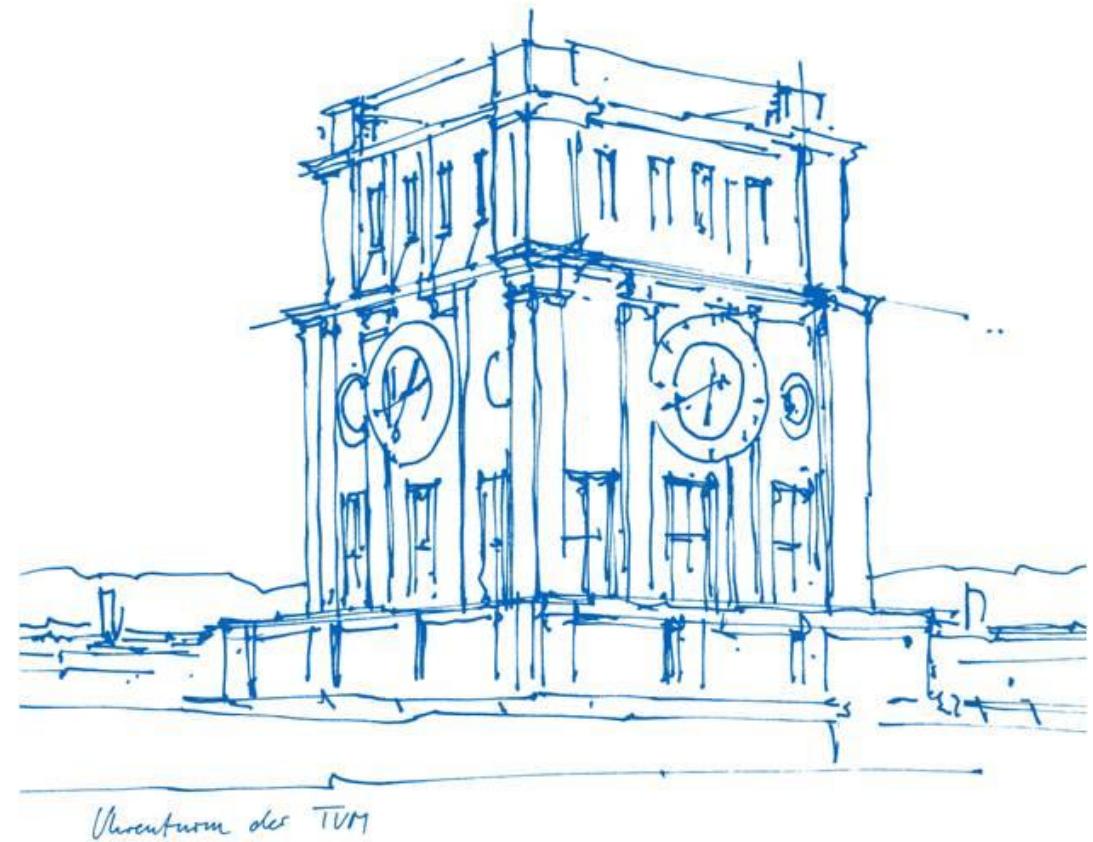
Project Update: Live App, Roadmap & Updates

Practical Course

Digital Product Innovation and Development

itestra GmbH

Munich, 17th July 2024



How the GreatStaff App developed since the last meeting?

Technical Updates

since 17. June 2024

✓ Finish Frontend & Backend Connection 🔒

✓ Secure authentication middleware incl. JWT-Token 🔒

✓ Containerized our app via Docker 🚢

✓ Deployed our App on AWS EC2 

✓ Conceptualised potential future features in Figma 

1 Project history employees

2 TargetEmployeeProfile

3 SkillCategory

✓ Sorting Algorithm ↑↓

Next steps for the next iteration of the GreatStaff App

Technical List

from now on

 Set-up automated tests

 Extend CI/CD pipeline to continuous delivery incl. GitHub Actions

 2 Implement project history from employee perspective (display past projects)

low effort

 3 Implement TargetEmployeeProfiles

medium effort

 show arrows on frontend if employee currently lacks a required skill for the projectDemandProfile but wishes to improve on that skill (↔ based on his TargetEmployeeProfiles)

 1 Improve skillCategories functionality (add new ones, update current ones, ...)

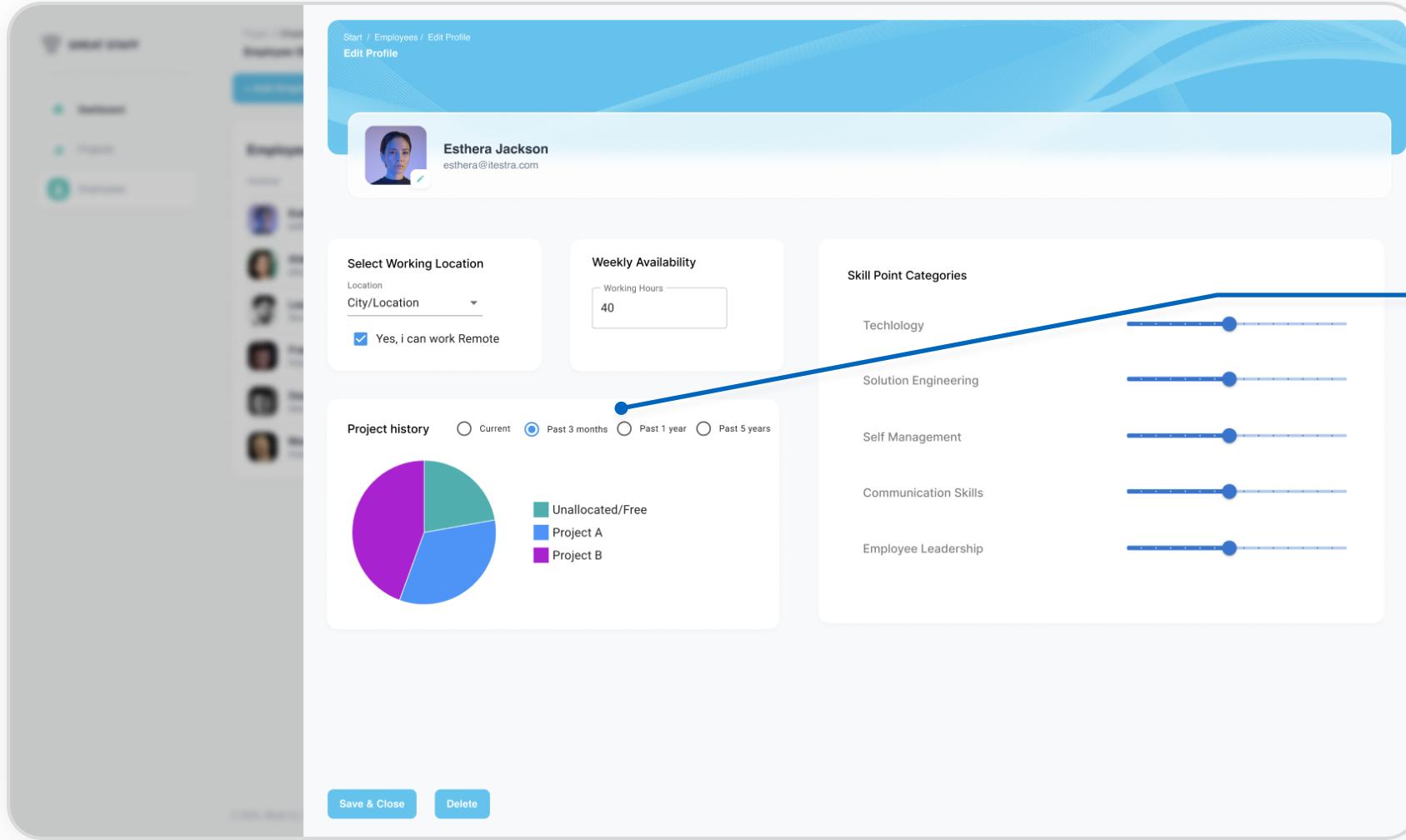
medium effort

 Switch to PostgreSQL database

medium effort

Figma drafts for the new ideas

UI & UX Drafts: Project history



*Project history from
employee
perspective*

Figma drafts for the new ideas

UI & UX Drafts: Project Page

The screenshot shows a Figma wireframe of a 'Project Page' titled 'Project: Mobile App Performance'. The page includes fields for 'Project Duration' (Start Date: 04/17/2022, End Date: 04/17/2022), 'Priority' (Normal selected), 'Project Location' (City/Location dropdown), and a section for 'Profiles on this Project' listing 'Project Lead' (1 instance), 'Front-End Developer' (1 instance), and two 'Cloud Expert' profiles (3 instances total). On the right, there's a 'Add New Profile' form with fields for 'Profile Name' (New Profile Name) and 'Required FTEs' (Number of FTEs dropdown). Below this is a 'Skill Categories' section with five items: Technology, Solution Engineering, Self Management, Communication Skills, and Employee Leadership, each with a progress bar. A blue arrow points from the 'Employee Leadership' category to the '+ Add Skill Category' button.

*Updated skill
category
functionality*

Figma drafts for the new ideas

UI & UX Drafts: Project Page

The Figma draft illustrates a project management interface. At the top, a header bar shows 'Start / Projects / Edit Project' and 'Edit Project'. Below it, a card for 'Project: Mobile App Performance' (an Itestra Project) includes tabs for 'OVERVIEW' and 'ASSIGN TEAM'. The 'Staffed Profiles' section lists 'PROJECT LEAD', 'FULLSTACK-DEVELOPER', 'CLOUD EXPERT', and 'SOFTWARE TESTING'. The 'Assigned Profiles' section shows a progress bar at 1/3. The 'Target Skillsets' section displays 'Technology' (5/20), 'Solution Engineering' (7/15), 'Self-Management' (5/12), 'Communication Skills' (10/13), and 'Employee Leadership' (9/10). The 'Assigned PROJECT LEADS (1/2)' section shows Esther Jackson with a 'CHECK AVAILABILITY' button. The 'Suitable Employees' section lists Andrej Karpathy, Peter Drucker, Andrew Ng, Paul Paulsen, and Elon Musk, each with a row of skill badges and 'CHECK AVAILABILITY' and 'ADD +' buttons. A blue arrow points from the 'Assigned Profiles' progress bar towards the 'Employee Leadership' badge under the 'Target Skillsets' section.

Scrollability
feature

Outlook: The optimal situation for the next iteration

UI & UX Drafts: Profiles & Staffing Interface

The screenshot shows a user interface draft for 'Edit Profile'. At the top, there's a navigation bar with 'Start / Employees / Edit Profile' and a sub-section 'Edit Profile'. Below this is a profile card for 'Esthera Jackson' with her email 'esthera@itestra.com'. To the left, a sidebar lists 'My Profile', 'Employees', and 'Departments'. The main content area includes:

- Select Working Location:** Includes a dropdown for 'Location' ('City/Location') and a checkbox 'Yes, I can work Remote'.
- Weekly Availability:** Shows 'Working Hours' as 40.
- Project history:** A pie chart showing allocation to 'Project A' (blue), 'Project B' (purple), and 'Unallocated/Free' (teal).
- Skill Point Categories:** A list of categories: Technology, Solution Engineering, Self Management, Communication Skills, and Employee Leadership. Each category has a horizontal slider with two dots and a green 'Target Level' marker.

A blue callout box on the right points to the 'Target Level' marker with the text 'Editable skill target level'.

Our Live App

Live Environment

<http://13.53.145.15/>



Thank you!

We are happy to answer your questions.



Laura Leschke
M.Sc. Informatics

2nd semester



Hande Yilmaz
M.Sc. Informatics

4th semester



Luca Fober
M.Sc. Management
& Technology
4th semester



Martin Stierlen
M.Sc. Information
Systems
3rd semester



Selin Yildiz
M.Sc. Management
& Technology
3rd semester



GREAT STAFF

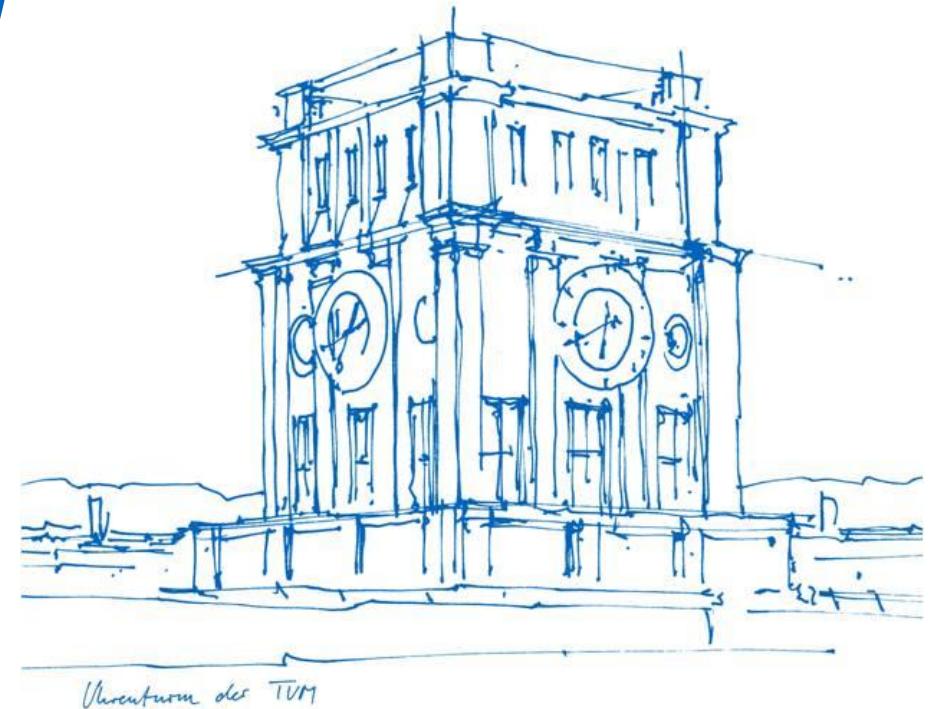
FINAL PRESENTATION

Staffing of Multiple Projects Across Different Locations

Practical Course
Digital Product Innovation and Development

Fortiss labs
Munich, 14th August 2024

Selin Yıldız, Laura Leschke, Hande Yılmaz, Martin Stierlen, Luca Fober



Recap and Reminder from the Last Presentation: Developing a Team Staffing App – Key Factors for excellent Team Management and Employee Allocation at itestra

Recap & Key Factors

RECAP



150 employees | 13 locations



Fast Growing IT Company



The Goal:

Create a HR Team Staffing & Employee Allocation App for the entire workforce of itestra

Recap and Reminder from the Last Presentation: Developing a Team Staffing App – Key Factors for excellent Team Management and Employee Allocation at itestra

Recap & Key Factors

RECAP



150 employees | 13 locations



Fast Growing IT Company



The Goal:

Create a HR Team Staffing & Employee Allocation App for the entire workforce of itestra

STAFFING APP – KEY FACTORS



Importance of Teamwork

Comprehensive Team Overview

Ability to Assign Great Teams



Keep the Human Aspect

Offers Freedom for Adjustments

Powerful Algorithm yet simple



Consider Personal Development

Support Employee Career Goals



GREAT STAFF



Demo:
Real-World Use Case

Team staffing is no longer a challenge – but of course, there are other team-related and personal challenges when designing such an app

Biggest challenges as a team

A

Managing the Big Picture vs. Focus on Specifics

Keeping the **overall objectives** when developing the app in mind while simultaneously managing **deep technical implementations** that required specific expertise.

B

Conceptualization

We focused on keeping the app simple yet powerful, which **challenged our thinking** when developing new features. A lot of thought goes into conceptualizing features, even if some are not visible in the final product.



Responsibilities

Assign **clear responsibilities and focus areas** of contribution to each team member (frontend, backend, testing, etc.)

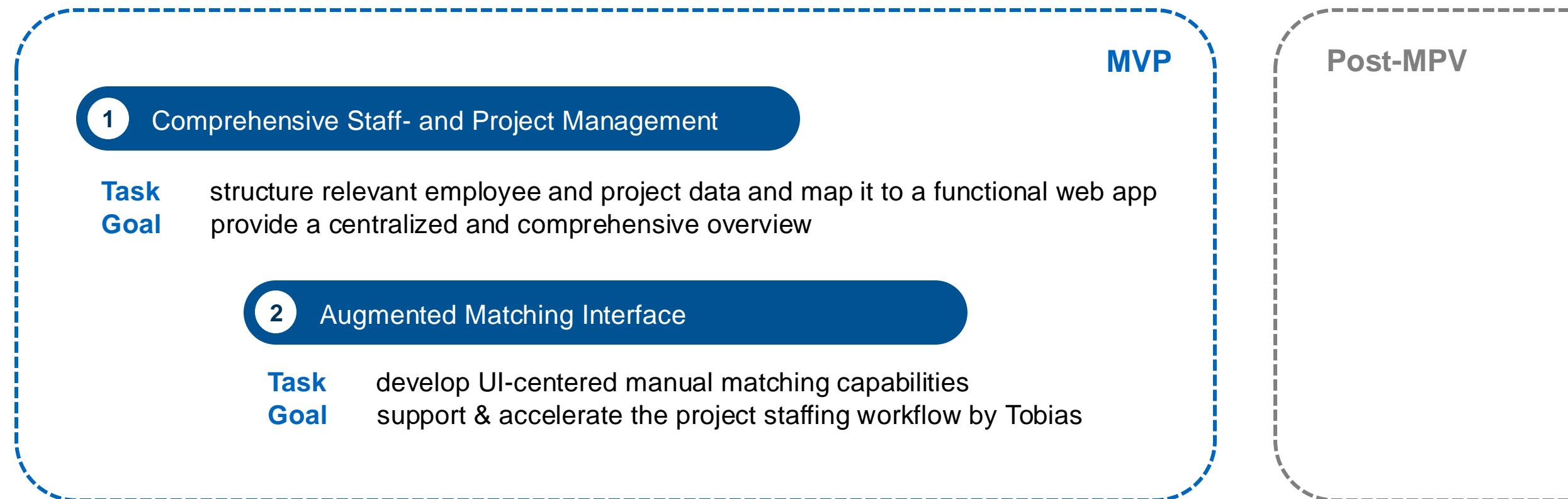


Conceptualizing and Prioritization Framework

Establish a robust prioritization framework that considered **technical feasibility, resource availability, and project impact**.

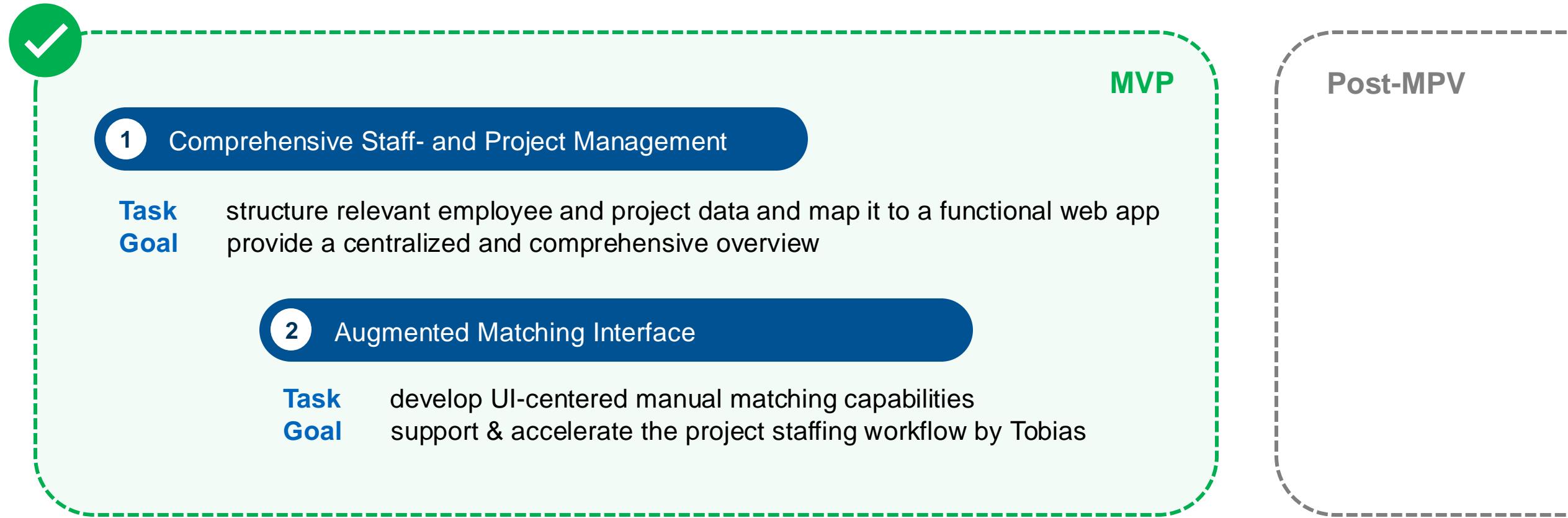
We have implemented all the given requirements and beyond to develop a comprehensive project and Staff Management App for itestra

Implemented Requirements



We have implemented all the given requirements and beyond to develop a comprehensive project and Staff Management App for itestra

Implemented Requirements



We have implemented all the given requirements and beyond to develop a comprehensive project and Staff Management App for itestra

Implemented Requirements

Post-MPV

3 Consider Personal Development Goals

Goal Employees can set Targetskills, considered in the Team Matching

4 Extandable Skill-Categories

Goal flexibility to extend and choose customized categories

5 Employee's Project History View

Goal Support team rotation by showing project histories

We have implemented all the given requirements and beyond to develop a comprehensive project and Staff Management App for itestra

Implemented Requirements



Post-MPV

3 Consider Personal Development Goals

Goal Employees can set Targetskills, considered in the Team Matching

4 Extandable Skill-Categories

Goal flexibility to extend and choose customized categories

5 Employee's Project History View

Goal Support team rotation by showing project histories

We have implemented all the given requirements and beyond to develop a comprehensive project and Staff Management App for itestra

Implemented Requirements



Post-MPV

3 Consider Personal Development Goals

Goal Employees can set Targetskills, considered in the Team Matching

4 Extandable Skill-Categories

Goal flexibility to extend and choose customized categories

5 Employee's Project History View

Goal Support team rotation by showing project histories

Future Work



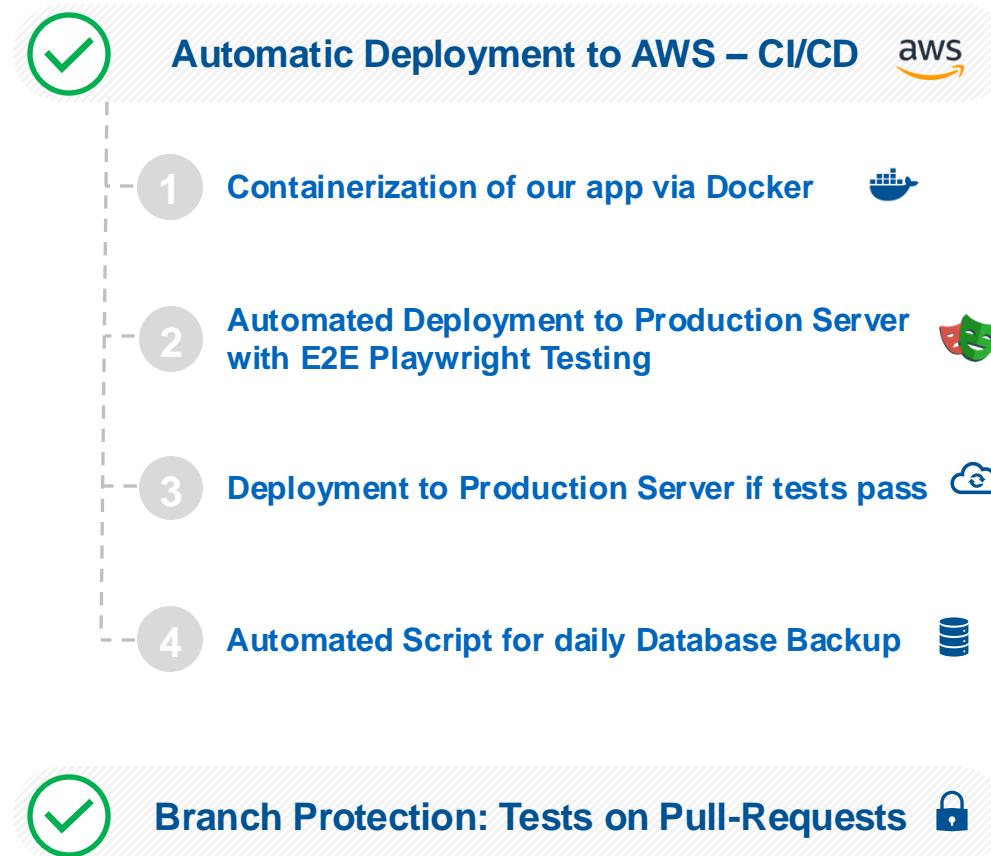
Database Migration from MongoDB to PostgresSQL



Customized Dashboards for every User Group

Beyond the code, we have implemented a CI/CD pipeline that ensures every push to our release branch triggers an automatic process all the way to the final app deployment

Beyond the Code



Beyond the code, we have implemented a CI/CD pipeline that ensures every push to our release branch triggers an automatic process all the way to the final app deployment

Beyond the Code

Automatic Deployment to AWS – CI/CD

- - 1 Containerization of our app via Docker 
- - 2 Automated Deployment to Production Server with E2E Playwright Testing 
- - 3 Deployment to Production Server if tests pass 
- - 4 Automated Script for daily Database Backup 

Branch Protection: Tests on Pull-Requests



More in our Code Wiki



GREAT STAFF

Thank you!

We are looking forward to having a lively discussion with you.



Our App: A powerful and scalable Web-Application that supports
Team Staffing and Employee Allocation for software-projects at itestra



Selin Yildiz
M.Sc. Management
& Technology
3rd semester



Martin Stierlen
M.Sc. Information
Systems
3rd semester



Laura Leschke
M.Sc.
Informatics
2nd semester



Luca Fober
M.Sc. Management
& Technology
4th semester



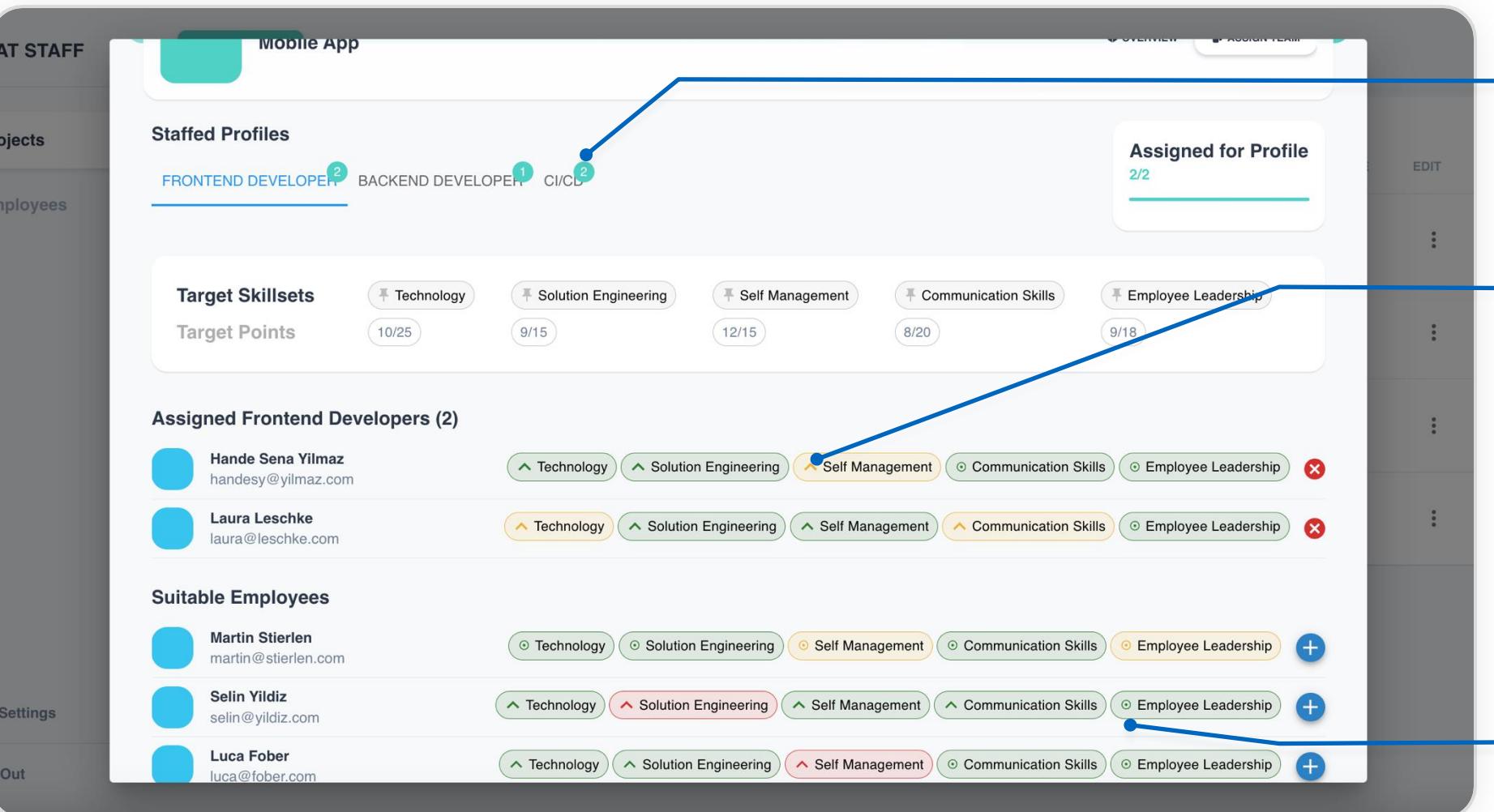
Hande Yilmaz
M.Sc.
Informatics
4th semester



Noah Kaspereit
Software Engineer
itestra GmbH

Backup: How does the Assign-Team Page works?

Demo Explained



Mobile App

Staffed Profiles

- FRONTEND DEVELOPER (2)
- BACKEND DEVELOPER (1)
- CI/CD (2)

Assigned for Profile
2/2

Target Skillsets

Technology	Solution Engineering	Self Management	Communication Skills	Employee Leadership
10/25	9/15	12/15	8/20	9/18

Assigned Frontend Developers (2)

- Hande Sena Yilmaz (handes@yilmaz.com) - Self Management (orange dot)
- Laura Leschke (laura@leschke.com) - Self Management (orange dot)

Suitable Employees

- Martin Stierlen (martin@stierlen.com) - Self Management (orange dot)
- Selin Yildiz (selin@yildiz.com) - Self Management (orange dot)
- Luca Fober (luca@fober.com) - Self Management (orange dot)

Roles that are not assigned yet, but required

Arrow up:
Employee wants to develop

an employee has the necessary skills but wants to develop personally

the employee lacks sufficient skills for the role but wants to develop in the assigned role

Dot:
Employee does not want to develop this skill

Backup: How does the Color Coding in the Team-Assessment works?

Demo Explained

1

Color Coding for Current Skills

-  **Green:** Employee's skill level is at least 100% of the demanded level
-  **Yellow:** Employee's skill level is between 60% and 99% of the demanded level
-  **Red:** Employee's skill level is below 60% of the demanded level

2

Arrows for Target Skills

Green Arrow Up:

The employee meets the skill requirement but wants to develop further in this area / develop in this role

/ **Yellow/Red Arrow Up:**

The employee currently lacks sufficient skills but wants to develop in this area / develop for this role

Circle with Dot:

Indicates the employee is satisfied with their current skill level in this category

Backup: How does the Augmented Matching Algorithm works?

Demo Explained



Scoring System

-  **Green bubble:** +2 points
-  **Yellow bubble:** +1 point
-  **Red bubble:** -1 point



Tiebreaker Rules

- First Tiebreaker:** Highest total skill points across all categories
- Second Tiebreaker:** Most "arrows up" (indicating desire for skill development)