



Project Proposal

helpmet.ca

Helpmet

Dashboard Report Equipment Alert |

General Weekly Overview

Injuries have been reduced by 28% compared to last week.

Injury Category Projection

Details

Injury Heat Map

TomTom

Epidemic Projection (Nov)

61% Epidemic related injury accounts for 61% of the injuries.

Injury Projection

High Severity
Medium Severity
Low Severity

Reports Status Projection

Ongoing
On Hold
Completed

Equipment Status Projection

Good
Out of Service
Needs Maintenance

Site Injury Report Table

Location Name	From Date	To Date	Site Manager	High Severity	Total	Injury Severity
Langara Gymnasium	11/12/2024	11/22/2024	TG	18	21	!
Langara Bookstore	11/21/2024	11/22/2024	MF	14	31	!
1A-301	11/18/2024	11/22/2024	CC	9	17	✓
Langara Ground	10/30/2024	11/22/2024	HN	12	17	✓



Overview

Helpmet - Injury tracker

Helpmet is an injury-tracking web platform designed to help companies monitor and prevent workplace injuries. It offers real-time injury reporting and data-driven analytics, empowering organizations to gain actionable insights for injury prevention and swiftly improve safety practices. Users can customize alerts to keep employees informed about safety concerns, and also streamline safety equipment checks to ensure compliance with safety standards conveniently and efficiently.

We as a team chose this project because we saw people losing lives due to workplace negligence at a construction site. We wanted to create an application that would not only report injuries but also predict injury hotspots increasing productivity and saving lives.

Project Main features

Injury Reporting

This feature enables employees to report details about the injury, including the type, severity, location and witness. It ensures accurate and timely capture of all relevant information, facilitating proper documentation and follow-up actions.

Technical Aspect: Database Integration: A relational database will store injury reports and details.

Access Control: Different users, including main user (employer) and employee, will have access levels tailored to their permissions, allowing them to view, create, or update injury reports as needed.

Data Analytics for Preventive

This feature analyzes injury data to identify patterns, trends, and high-risk areas within the organization. Through visualizations such as charts and graphs, users can easily understand these trends and make informed, data-driven decisions to enhance workplace safety.

Technical Aspect: Data Processing: The system will aggregate and analyze injury data to identify patterns and correlations.

Data Visualization: Dashboards and visualizations, such as bar charts, heat maps, and trend lines, will be provided to present insights.

Customizable Alert Settings

This feature allows users to configure notifications based on specific criteria related to injury incidents and safety conditions. Users can set up alerts for various scenarios, such as high-severity injuries or repeated incidents in certain areas, with options for daily, weekly, or monthly notifications.

Technical Aspect:

Notification: The system will use email to deliver alerts.

Safety equipment check

This feature allows employees like safety officers of the company, to record and monitor the status of safety equipment used within the workplace. It ensures that all safety equipment is regularly inspected, maintained, and functional. Users can log equipment checks, report any issues or malfunctions, and schedule follow-up inspections.

Technical Aspect:

Notifications: The system will generate notifications to remind users of upcoming inspections and alert them if the safety equipment fails an inspection or is found to be malfunctioning.

Data-Driven Feature

What is the data set you will be using?

The data set will consist of injury reports submitted by both employees and managers within the company. It will include key details such as injury type, severity, location, and the date of occurrence.

Can the data change via user interaction? Where is it from?

The data can be changed through user interaction. Employees will submit injury reports, record safety check results, and the main user (employer) can configure alert settings. This ensures that the data is continuously updated as new reports are filed and alert configurations are adjusted. All data originates from internal company submissions, primarily provided by employees and team managers..



Competitive Analysis

Competitive Analysis

	Helpmet	SiteDocs by gocanvas	SAFETYAMP	Vector Solutions
Injury Reporting	✓	✓	✓	✓
Customizable Alert Setting	✓	✗	✗	✗
Data Analytics	✓	✓	✓	✓
Safety Equipment Check	✓	✓	✗	✗

Begin researching competitors in your space, and how they differ and have similar features to your proposed project. Analyse and find out what they do well, what they don't do well, and how you will have a more ideal solution for the market.



1. SiteDocs

It includes features such as incident reporting and analytics, which provide comprehensive coverage of incident management. Workers are notified when an incident occurs, and it also supports auto-scheduled incident investigations. Additionally, it offers features like automatic reminders and safety equipment management. However, it lacks customization options for alerts, such as sending notifications to workers based on their job role or location. Having such reminders is important to prevent workers from overlooking safety measures.

<https://www.sitedocs.com/>



2. SafetyAmp

It includes features such as incident management, document management and analytics and training. Users can also take immediate, actionable steps with a clear list of action items, ensuring a proactive approach to workplace safety. The analytics feature provides both leading and lagging indicators, which supports a more comprehensive view of safety performance, enabling better decision-making and proactive safety measures. However, it lacks safety equipment check and alert features, which are important and would add convenience for daily operations.

<https://www.safetyamp.com/>



3. Vector EHS Management

It offers features such as incident recording, email alerts, and trend analysis. It has job safety analysis, which allows users to establish best practices for completing hazardous jobs and projects by identifying hazards associated with each step of a task and recording control measures to mitigate risks. This ensures that risks are systematically managed and helps promote safe work environments. However, it lacks functionality for regular safety equipment inspections and location-based alerts, which are crucial for maintaining safety in dynamic and high-risk environments.

[https://www.vectorsolutions.com/solutions/
vector-ehs-management-software/](https://www.vectorsolutions.com/solutions/vector-ehs-management-software/)



4. SafetyCulture

It provides a comprehensive platform for improving workplace safety and operational efficiency. It enables real-time reporting of incidents, near misses, and hazards while digitizing audits, inspections, and risk assessments. The platform emphasizes root cause analysis and corrective actions, fostering a proactive safety culture. With features like IoT integrations and sensor-based alerts, SafetyCulture helps prevent accidents before they occur. It is versatile across industries such as construction, manufacturing, and logistics, though it lacks some specific features like regular safety equipment inspections found in more specialized systems.

<https://www.safetyculture.com>



User Personas



User Personas

SARAH

Industrial Manufacturing Facility

Age/Identifying Gender
29/FemaleLocation
Richmond, BCOccupation
On-site ParamedicFamily Status
Single/No Kids

"The digital medical inventory checklist helps me start each shift with confidence, knowing that I have everything I need to handle emergencies without scrambling."

Goals

- Ensure quick response to injury alerts and assist in real-time.
- Have an updated medical equipment checklist at the start of every shift.

Bio

Sarah has worked as an on-site paramedic for the past five years in industrial environments where quick medical attention is crucial. Her priority is always to provide immediate care. Sarah thrives in high-pressure situations and is constantly improving her medical skills. She is known for her thoroughness and her ability to remain calm during emergencies. Outside work, Sarah volunteers as a first-aid trainer for local community groups.

Pains

- Difficulty accessing injury history and patterns to anticipate recurring medical needs.
- The manual process of keeping medical inventory updated and reporting injuries can be time-consuming.
- Communication delays between paramedic teams and safety officers slow down response times and lead to unpreparedness.

JAMES

Construction Site

Age/Identifying Gender
35/MaleLocation
Surrey, BCOccupation
Safety OfficerFamily Status
Married/One Kid

"Having a real-time injury reporting system makes my job so much easier. I can quickly log incidents and keep the team informed, reducing delays in safety measures."

Goals

- Quickly report injuries using a mobile-friendly app.
- Monitor high-risk zones and receive alerts in real-time.
- Access injury data and insights to suggest improvements and prevent further incidents

Bio

Jame has been a safety officer for over 10 years, working primarily in high-risk environments like construction and manufacturing. He is detail-oriented and passionate about creating a safe working environment for his team. Jame believes that technology can play a huge role in enhancing safety measures and is always looking for tools that can help him respond to incidents faster. Outside of work, he enjoys hiking and is an advocate for workplace safety training.

Pains

- Difficulty in tracking injury reports promptly.
- Manually monitoring high-risk areas leads to inefficiency and missed hazards.
- Lack of real-time data to take preventive action.



Jessica

Human resources



Age/Identifying Gender
47/Female



Location
Burnaby, Vancouver



Occupation
Damage Control



Family Status
Married/No Kids

"In construction, accidents happen, but how we handle them defines our commitment to safety and employee well-being."

Goals

- Minimize the impact to the workplace through efficient crisis management.
- Support injured employees with a smooth return-to-work process.
- Work closely with the safety team to implement corrective measures and reduce the likelihood of repeat incidents.

Bio

Jessica has over a decade of experience in human resources, with a strong focus on managing crises and resolving issues related to workplace injuries and accidents. She plays a critical role in handling damage control when incidents occur on construction sites, ensuring proper injury reporting, managing worker compensation claims, and coordinating with safety officers to prevent future accidents.

Pains

- Containing potential reputational harm to the company after a serious injury or safety violation.
- Ensuring full compliance with safety and labor regulations to avoid legal consequences..
- Difficulties in coordinating between medical providers, legal teams, and workers, especially in complex injury cases.

Jane Doe

14 years in construction company



Age/Identifying Gender
40/Female



Location
Surrey, BC



Occupation
HR



Family Status
Single/No Kids

"A safe workplace isn't just about compliance—it's about creating a culture where every employee feels valued and protected, knowing their well-being is a top priority."

Goals

- Ensure employee safety and compliance with workplace regulations.
- Use data analytics to identify potential risks and prevent future incidents.
- Simplify the injury reporting process to reduce delays and cut down on paperwork.

Bio

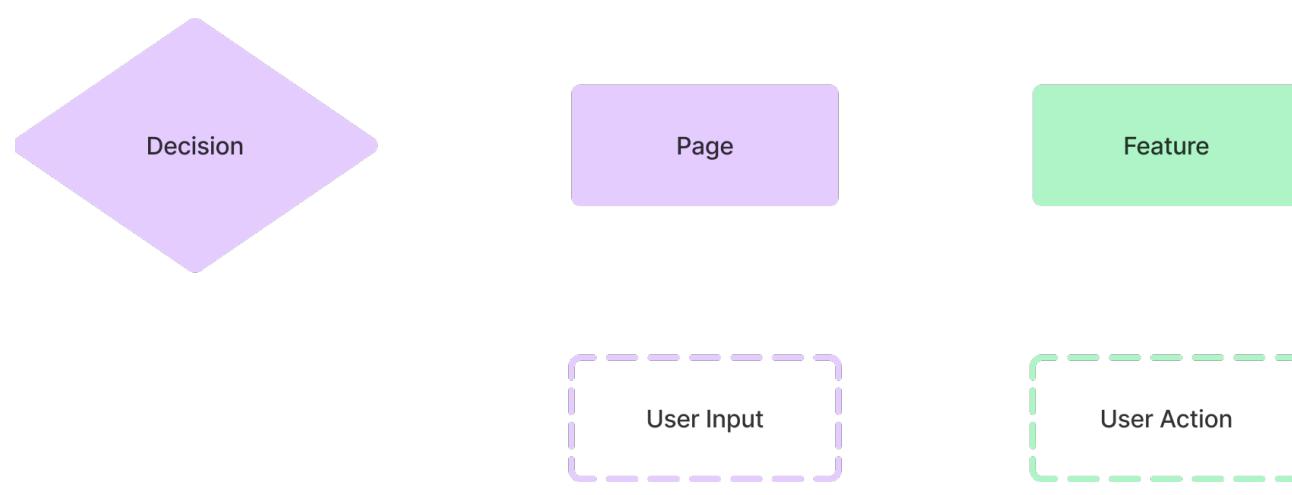
Jane Doe has over 14 years of experience in human resources, with a deep focus on employee relations and workplace safety. As the HR Director, she oversees compliance, injury reporting, and employee well-being. She works closely with department heads to ensure that safety protocols are followed and uses data-driven insights to reduce incidents and improve safety measures.

Pains

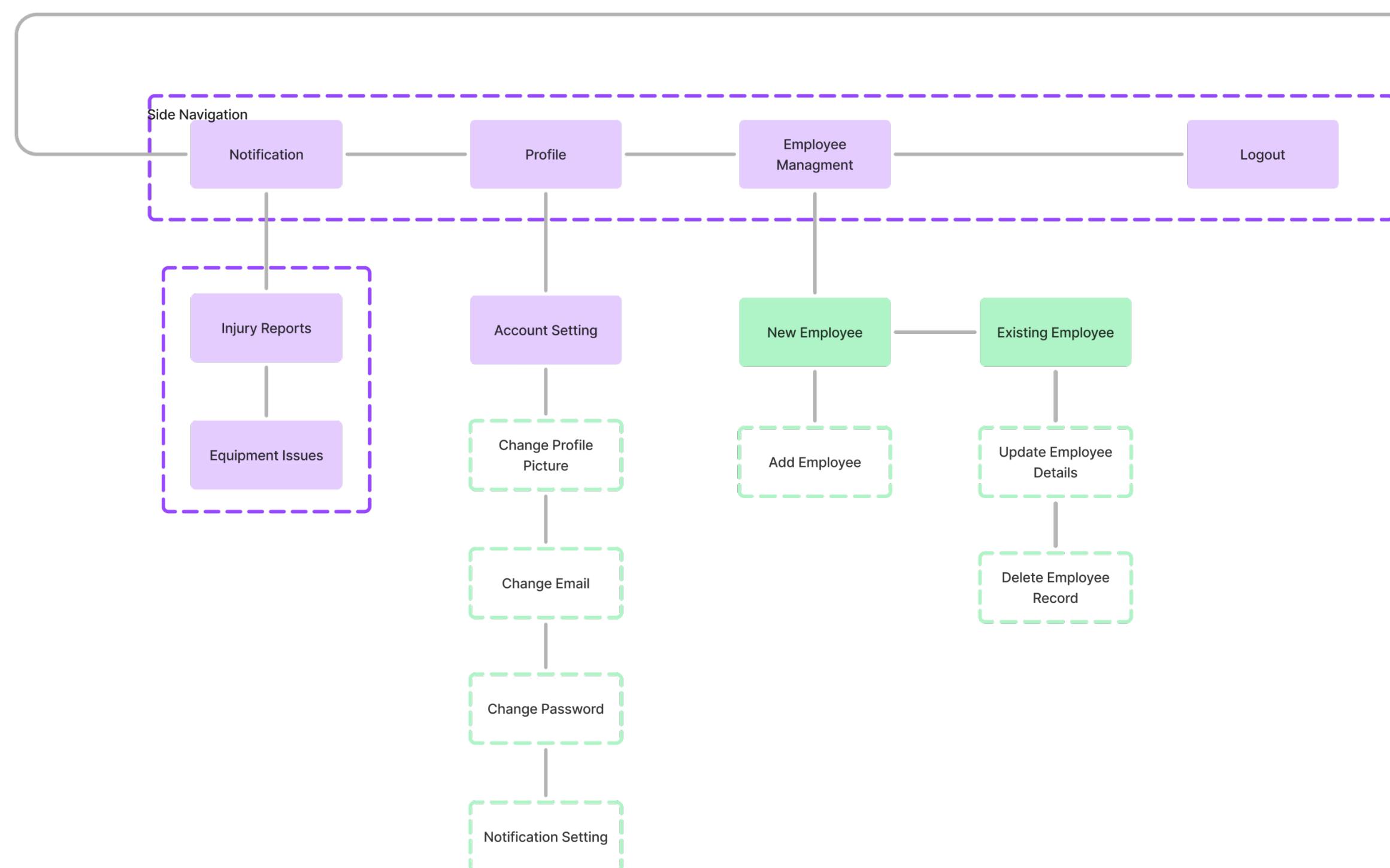
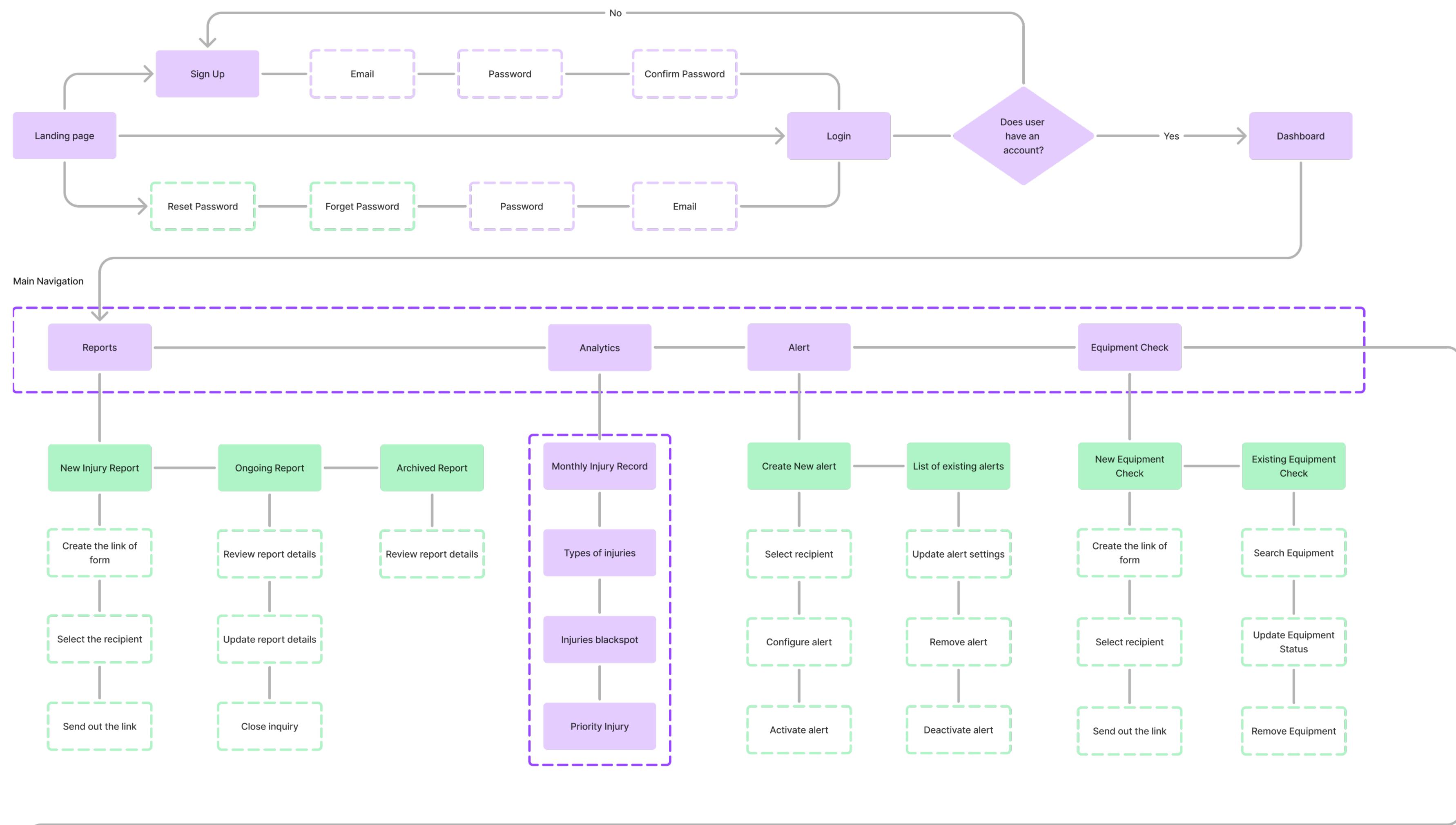
- Challenges in combining injury reports from different project locations, resulting in incomplete or delayed submissions.
- Struggles to spot patterns or find the main causes of injuries because data from different departments is disorganized.
- Difficulty getting real-time insights into safety incidents



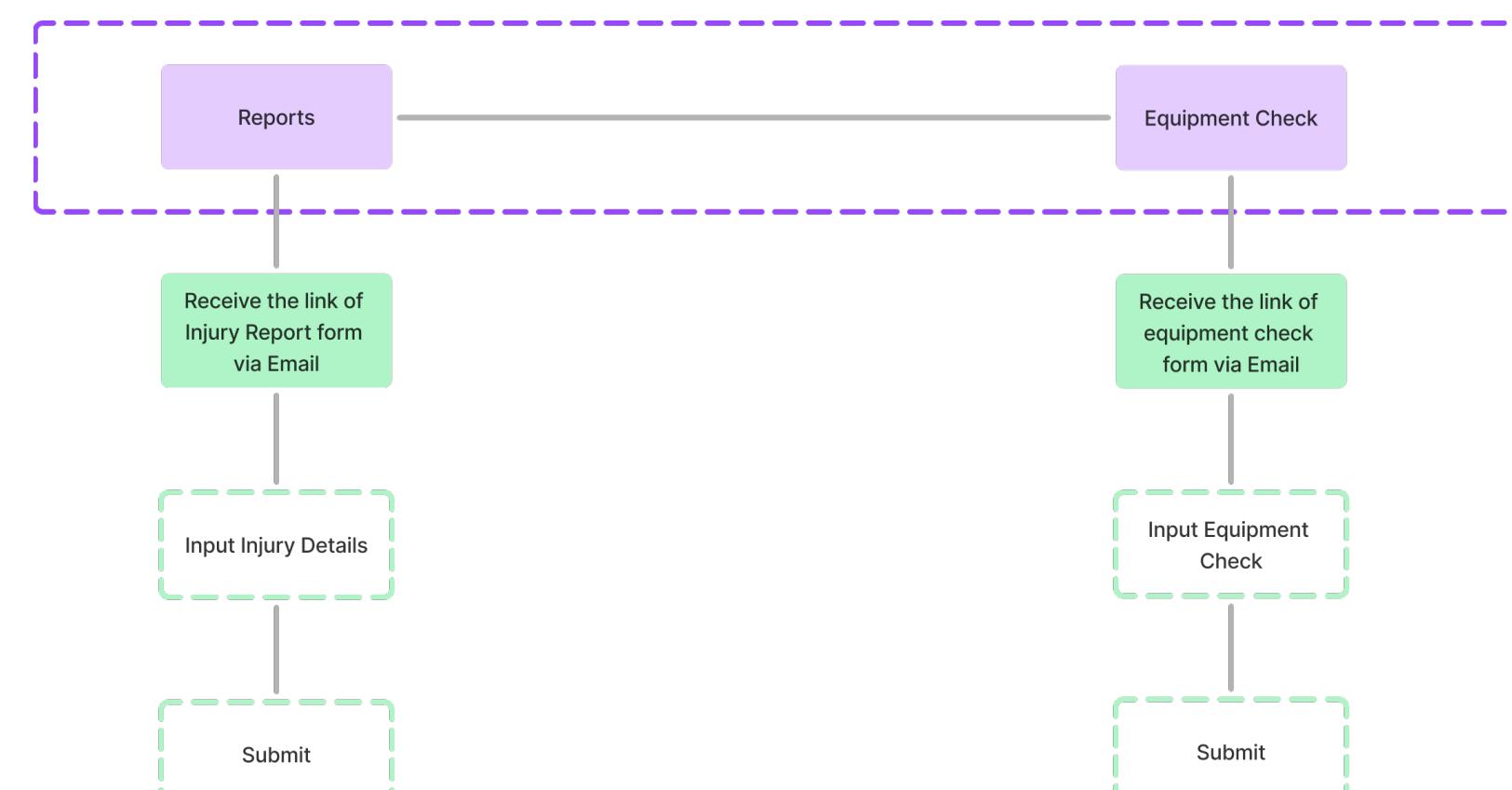
Userflow



Employer



Employee





Our Brand



Our Brand

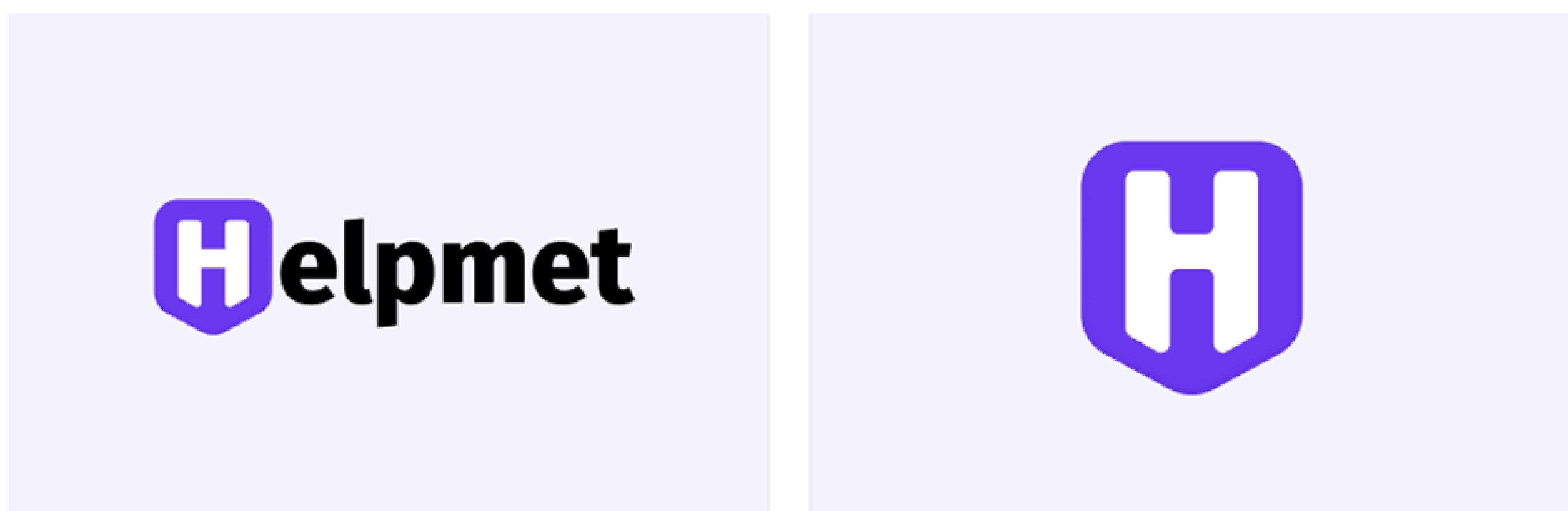
Our brand is focused on improving workplace safety with a smart injury reporting and management system. We help businesses not only track incidents but also prevent future incidents using data insights. Our platform provides real-time reporting, custom alerts and safety equipment monitoring, making it a complete solution for better safety.

Our 3 adjectives:

- **Proactive:** This suggests that the system takes action before issues arise, offering preventive measures such as alerts, predictive analytics, or real-time data that help avoid injuries or operational breakdowns.
- **Reliable:** Our platform ensures accurate, consistent injury tracking and reporting, giving businesses confidence that they can depend on the system for critical safety operations without interruptions or data loss.
- **Professional:** We offer a polished, well-designed solution that meets industry standards, allowing businesses to handle safety reporting in a manner that reflects high competence and responsibility.

Logo

The HelpMet logo shows a shield that symbolises the protection that we are providing to the employers and the employees. The logo consists of a symbol and a wordmark. The symbol can be used independently but the wordmark can not be used separately.

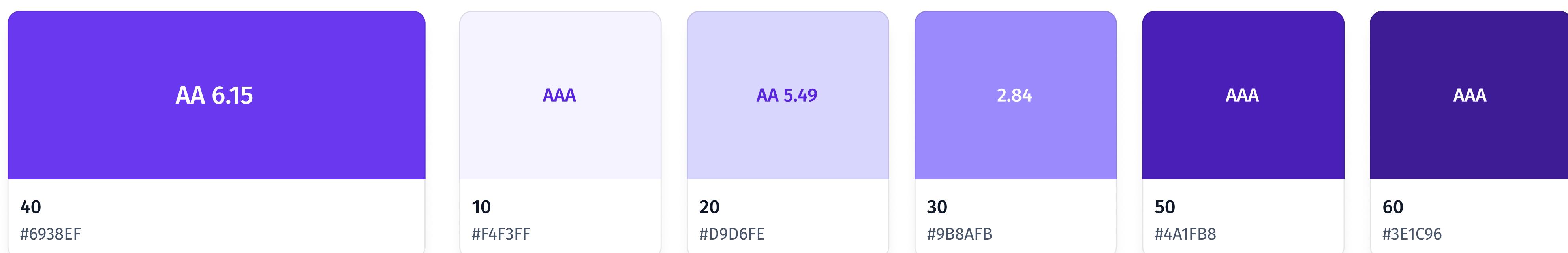




Color

Brand

This color is a balance between the traditional blue which gives professionalism and safety.



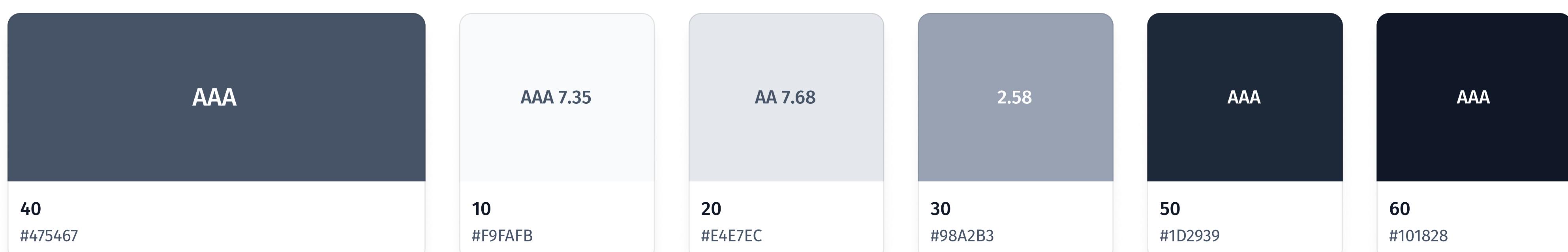
Secondary

Our secondary color shows our commitment to a safe and healthy workplace, reflecting on our approach to employee well-being.



Gray

Inspired by the industrial equipment, which can be used to convey a grounded feel and a sense of stability.





Typography

Fira Sans

Aa

ABCDEFGHIJKLMNPQRSTUVWXYZ

abcdefghijklmnopqrstuvwxyz

0123456789 !@#\$%^&*()

Fira Sans is chosen for Helpmet, because of its clean and legibility which enhances readability of critical safety data

Style: Sans-serif

Key Features:

- Modern and neutral design: Offers a professional and minimalist look that fits the Helpmet brand.
- Wide letter spacing: Improves readability, making it suitable for displaying dense information clearly.
- Multiple weights: Allows for flexibility, giving the design team the ability to create a strong visual hierarchy.



UI Kit

The screenshot displays the Helpmet UI application interface. At the top, there is a navigation bar with the brand logo, a search bar, and links for Dashboard, Injury Report, Analytics (which is underlined in purple), Alert, Equipment Check, a notification bell icon, and a user profile picture. Below the navigation bar, there are three rows of UI components: Buttons (Default, Solid, Filled), Labels (with placeholder values '11:00 AM' and 'Dec 12, 2000'), and Select dropdowns (with placeholder 'Select'). On the left, there are edit and delete icons. To the right, there is a 'General weekly overview' section featuring a bar chart showing injury counts by day (Mon-Sun) with a red warning icon for Thursday (20 injuries). A text overlay states '10% Your sales performance is 10% better compare to last month'. At the bottom, there is a table showing incident details (Incident, Severity, Status, Location, Date of injury, Report Date, Reported By, Members Involved) for two entries, each with edit and delete icons.

This section shows variations of the 'Button' component across four categories: Outlined, Solid, Filled, and Icon. Each category has three examples: Default, Hover, and Disabled. To the right, there is a dashed-line box containing a navigation bar with tabs for Dashboard, Report Injury, Alert, and Equipment Check. The 'Analytics' tab is currently active and underlined in purple.

This section shows variations of the 'Input' component. It includes 'Default' fields with labels ('Label Write') and 'Disabled' fields. It also includes 'Dropdown' fields with labels ('Label Select') and 'Without Label' fields. To the right, there is a dashed-line box containing a vertical stack of status indicators: 'Critical' (red), 'Success' (green), and 'Ready for review' (blue).



Mockup



The collage displays six different screens from the Helpmet software:

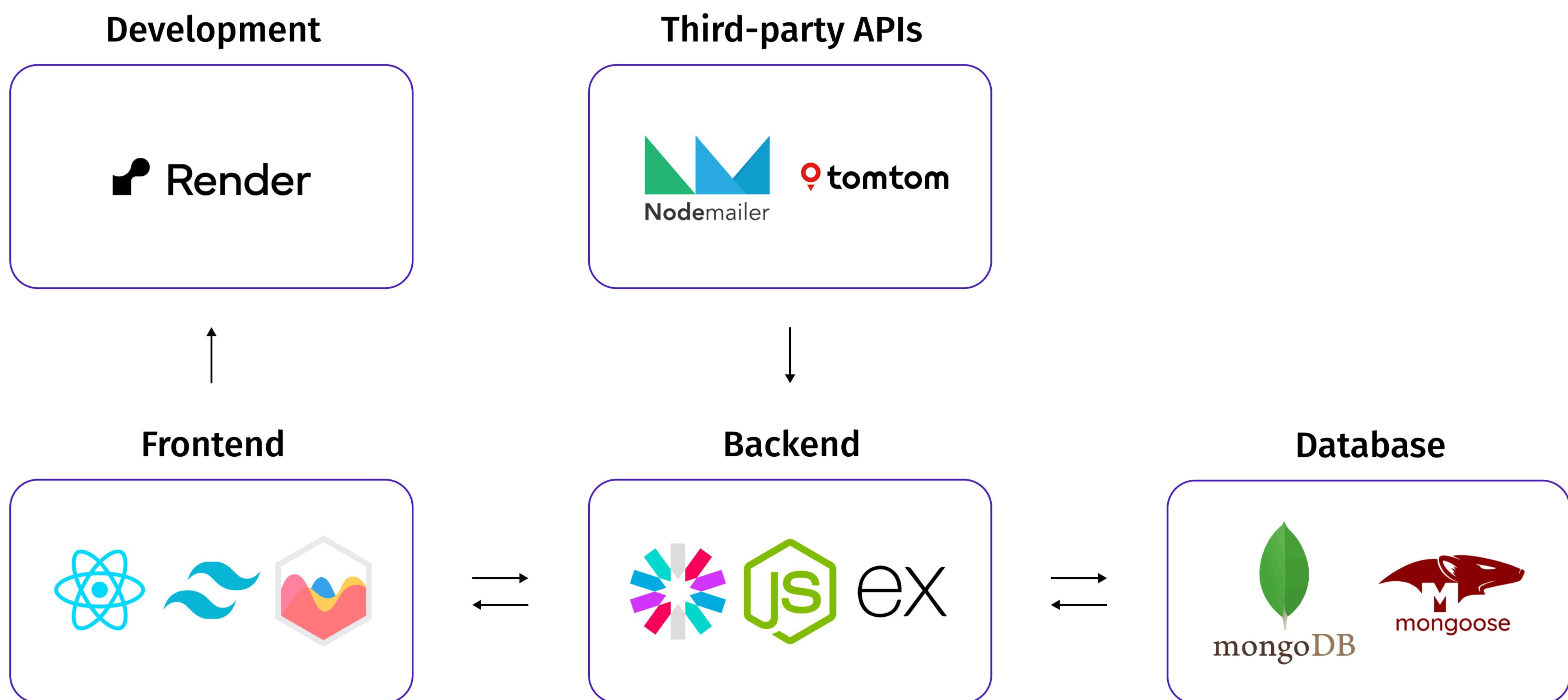
- Alerts:** Shows a list of alerts with columns for Alert ID, Alert Name, Send Date, and Recipients.
- Departments:** A table listing departments with columns for Department ID and Name.
- Dashboard:** A general weekly overview with a bar chart showing injury counts by day of the week.
- Injury Heat Map:** A map of a city area with red dots indicating injury locations.
- Equipment Status Projection:** A donut chart showing equipment status: Good, Out of Service, and Needs Maintenance.
- Report:** A detailed report table with columns for Report ID, Severity, Location, and Date of Injury.

The collage displays five different screens from the Helpmet software:

- Dashboard:** General weekly overview and injury category projection.
- Injury Heat Map:** Map showing injury locations.
- Site Injury Report Table:** A table showing site injury reports with columns for Location Name, From Date, To Date, Site Manager, High Severity, Total, and Injury Severity.
- Report:** A detailed report table with columns for Report ID, Severity, Location, and Date of Injury.
- Alerts:** A list of alerts with columns for Alert ID, Alert Name, Send Date, and Recipients.



Tech Stack



Frontend

React: A JavaScript library for building user interfaces, enabling dynamic and interactive web experiences.

Tailwind CSS : A utility-first CSS framework for rapid UI development.

chart.js : A charting library for React, enabling data visualization within the application.

Backend

Node.js : A JavaScript runtime environment for server-side development, providing scalability and performance.

Express.js: A web framework for Node.js, simplifying API development and routing.

Development

Render: Our chosen platform for deployment and hosting, providing streamlined workflows and infrastructure management.

Database

MongoDB: A NoSQL document database, offering flexibility and scalability for data storage.

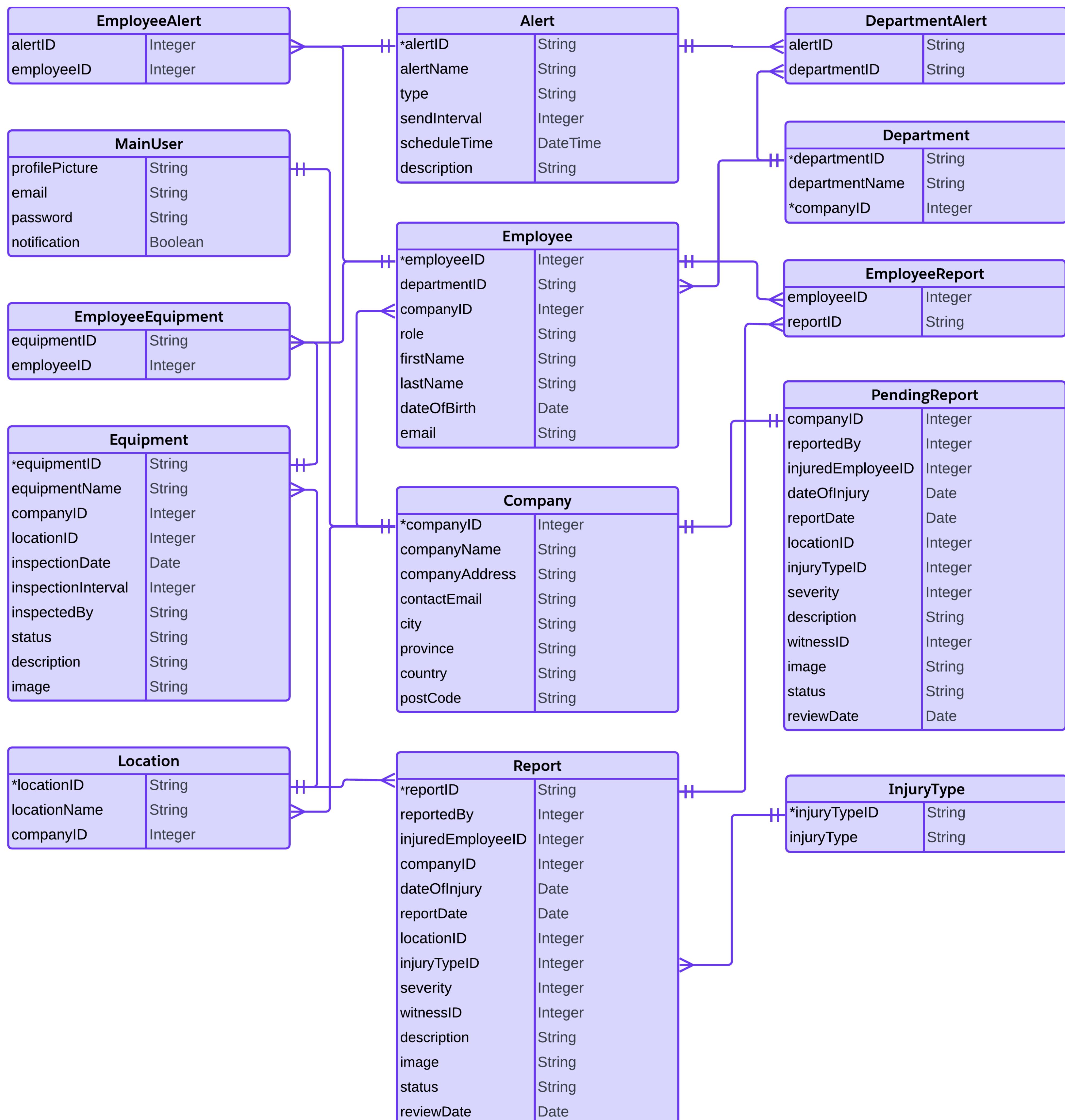
Mongoose: An Object Data Modeling (ODM) library for MongoDB and Node.js, providing schema validation and simplified querying.

Third-party APIs

TomTom: Provides location-based services, including maps, navigation, and traffic information.

Nodemailer: A module for sending emails from Node.js applications, enabling automated communication.

Data Model





Business Model

Business Model



Straightforward Pricing

- In the first year, the subscription costs \$100,000 per year, which includes onboarding, setup, and full access to all features.
- From year two onwards, the price drops to \$80,000 per year, reflecting lower onboarding needs while still offering full support and updates.



Free Trial

- We offer a 1-month free trial so businesses can explore Helpmet and see how it improves workplace safety before making any commitment.



Support Every Step of the Way

- We provide employee training to ensure your team knows how to use the platform effectively.
- Our team also offers data transfer support to help migrate your existing safety records into Helpmet smoothly and stress-free.



Design/Development Plan

Design/Development Plan

Sprint 1 (1 weeks) - Project Kickoff

- Define project goals, objectives, and scope.
- Create a detailed project plan.
- Set up development environments and tools.
- Estimate and allocate resources.
- Conduct initial research and requirements gathering.
- Hold a project kickoff meeting.

Sprint 2 (1 week) - Project wireframes, Information and System Architecture

- Create the user flow.
- Create user personas.
- Create the Information and System Architecture.
- Create the database design draft.

Sprint 3 (1 week) - Backend Foundation and Wireframes

- Set up the backend server using Node.js and Express.js.
- Initialize the MongoDB database (MongoDB Atlas).
- Implement user authentication.
- Create wireframes.

Sprint 4 (1 week) - User Authentication

- Enhance user authentication and authorization.
- Implement secure login and registration flows.
- Start designing and creating UI components based on wireframes.

Sprint 5 (1 week) - Web Frontend

- Design and create UI components based on wireframes.
- Start developing the web frontend using React.js.
- Integrate user authentication into the web front end.

Sprint 6 (2 week) - Features development

- Implementing main features such as injury reporting, alert setting and safety equipment check.

Sprint 7 (1 week) - Data Analytics

- Implement backend processes for data aggregation and trend analysis.
- Develop methods for displaying analytics data on the frontend

Sprint 8 (1 week) - Data visualization

- Implement UI components for displaying data.

Sprint 9 (2 week) - Testing and Quality Assurance

- Conduct comprehensive testing and bug fixing.
- Ensure cross-platform compatibility and responsiveness.
- Prepare for user acceptance testing.

Sprint 10 (1 week) - Deployment Preparation

- Prepare the application for production deployment.
- Conduct final pre-launch testing and optimization.



Team

Team

				
Roy Yeung Project Manager & Full Stack Developer  /roy-y	Xuehui Lan Full Stack Developer  /in/xuehui-lan	Hemant Kumar Full Stack Developer  /in/hemant-e	Promise Olajide Front-End Developer  /in/promise- olajide-dev	Mohit Duggar Full Stack Developer  /in/mohit-duggar
				
Ruban Kumar UX Engineer  /in/rooben-me	Gurleen Kaur UX/UI Designer  /in/gurleen- designer	Harshdeep Kaur Junior UX/UI Designer  /in/harshdeep- designer	Kisaja Wijesinghe Junior UI/UX Designer  /in/kisaja-riveen	

Roy Yeung - Project Manager and Full Stack Developer

Background in Media Studies. In Project 2 responsible for keeping track of the development process and facilitating effective communication within the team. Also, part of the developer team to build an application that provides the best possible user experience to its users.

Kisaja Wijesinghe - UI/UX designer

Background in internal digitization projects in construction and apparel industries. In Project 2 responsible for researching, diagnosing, and designing features according to the need. Also, part of the design team to design an application with the best UI and UX.

Xuehui Lan - Full Stack Developer

Background in Materials Science and Engineering. In Project 2 responsible for building both the back-end and front-end systems. Developing APIs and managing the database to ensure efficient data handling. Also creating responsive user interfaces with React to ensure smooth and intuitive user interaction.

Ruban Kumar Balasubramaniam - UX Engineer

With a background in UI Engineering, I am responsible for creating the UI kit and brand identity for Project 2. My role involves designing sleek and user-friendly components for the app, ensuring seamless interactions for users



Hemant Kumar- Full Stack Developer

With a background in Electronics and Communication Engineering and expertise in Google Cloud, I am responsible for creating robust and scalable applications. I am developing both front-end and back-end web applications integrating them with the cloud and generating responsive and interactive web applications.

Mohit Duggar - Full Stack Developer

With a background in Computer Science, I am responsible for building both front-end and back-end systems in Project 2. My role involves developing scalable web applications, integrating APIs, and ensuring efficient data flow between the server and client. Additionally, I work on creating responsive user interfaces to provide a seamless and engaging user experience.

Promise Olajide - Front-end Developer

With a background in Computer Science & Information Technology, I am responsible for building the front-end systems in Project 2. My role involves developing scalable web applications using HTML and CSS. Additionally, I work on creating responsiveness to the application.

Gurleen Kaur - UX/UI Designer

As a beginner UX/UI designer with a background in computer applications, I'm excited to contribute to project2 by focusing on creating user-centered designs that enhance the overall app experience. I will collaborate on research to understand user needs, pain points, and behaviour, ensuring designs align with real user expectations and designing low- and high-fidelity wireframes to visualize app layouts and interactions.

Harshdeep Kaur - Junior UX/UI Designer

I am a Junior UI/UX designer with a background in computer applications, having recently completed my graduation. I have a growing interest in designing, particularly in UI/UX. Although I do not have professional experience yet, I am focused on honing my skills in this area through my current project, where I am concentrating on creating effective and user-friendly designs.



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