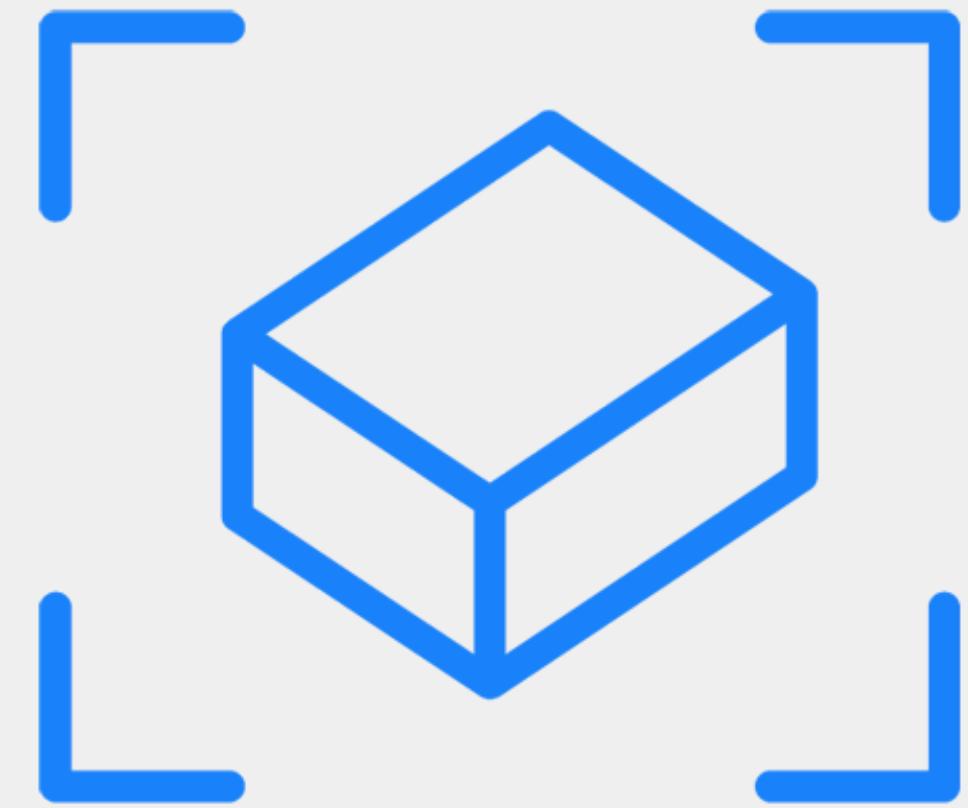


Project Presentation

Real-Time Safety Monitoring Website



2025.05.26.

MEERKAT

Our Team

Meet our Team Members

ALIBOEV

Team Leader
AI, Frontend

김태영

AI, Backend

전설민

Backend, DB

Table of Contents

01 Project Idea, Motivation

02 Requirement Analysis

03 Tools, System Design

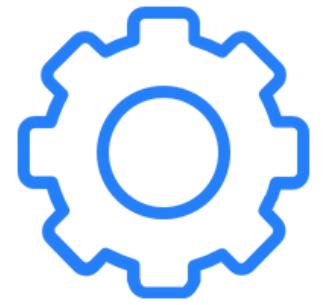
04 UI, Website Features

05 AI Integration (YOLO)

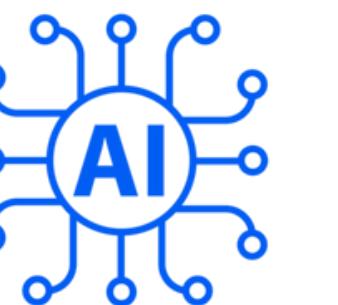
06 Progress, Future Plans

Why Safety Monitoring ?

We chose this project because safety is very important in many workplaces like factories and construction sites.



**Automation is
everywhere**



**Companies want
smart safety systems**



**PPE is important for
workers**



Our Solution

01

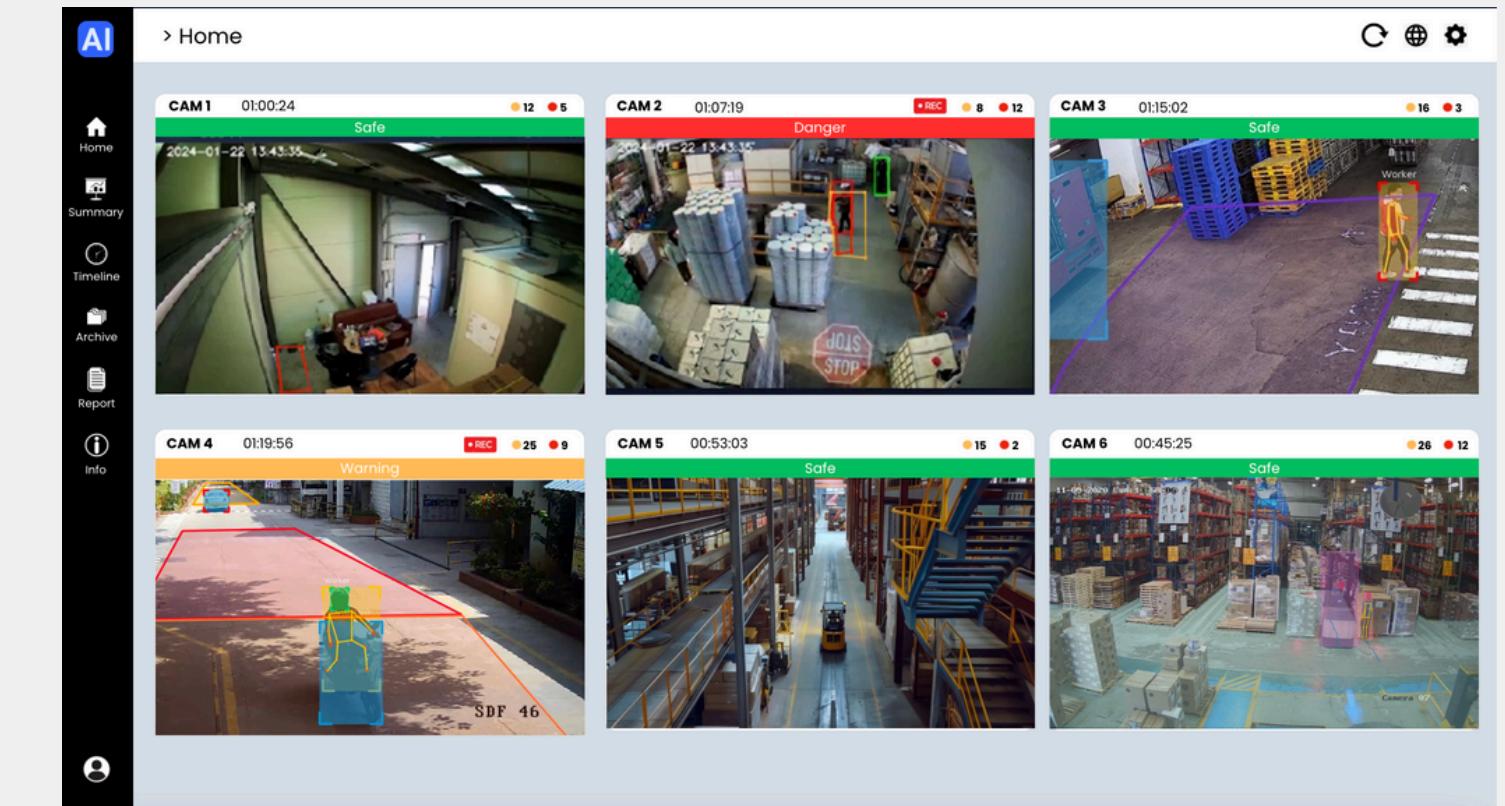
We created a website for safety monitoring

02

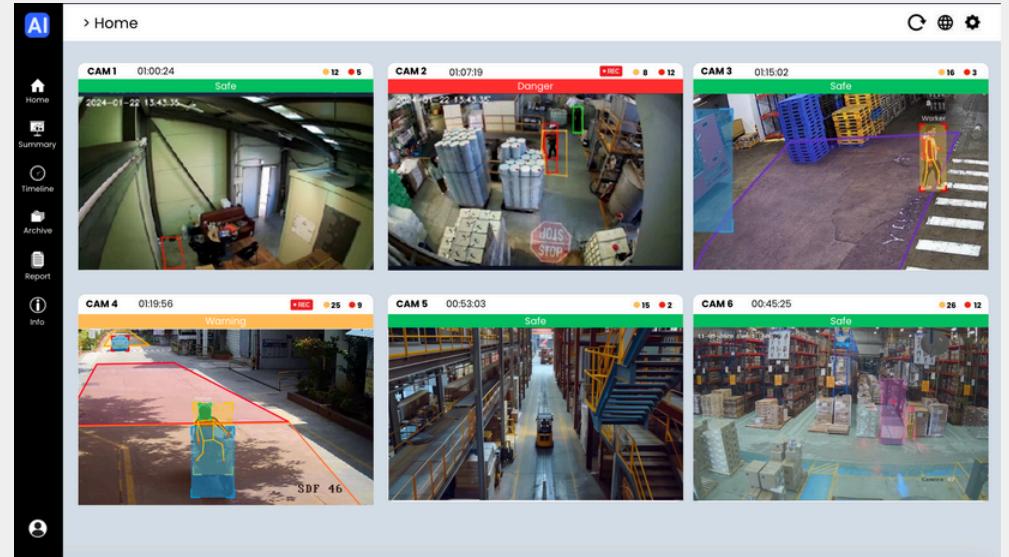
It works in real time

03

It is easy to use and web-based

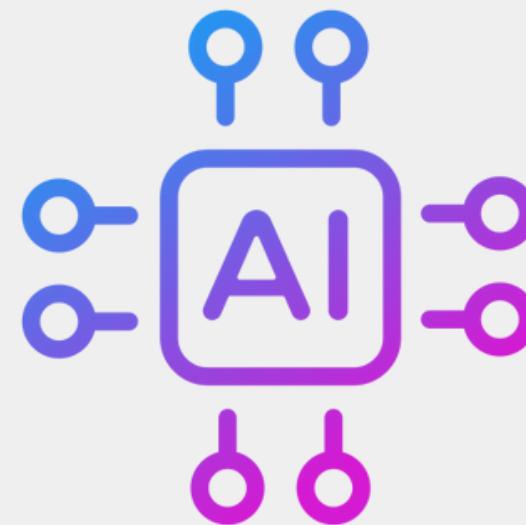


We Added AI !



Website was the task

+



=



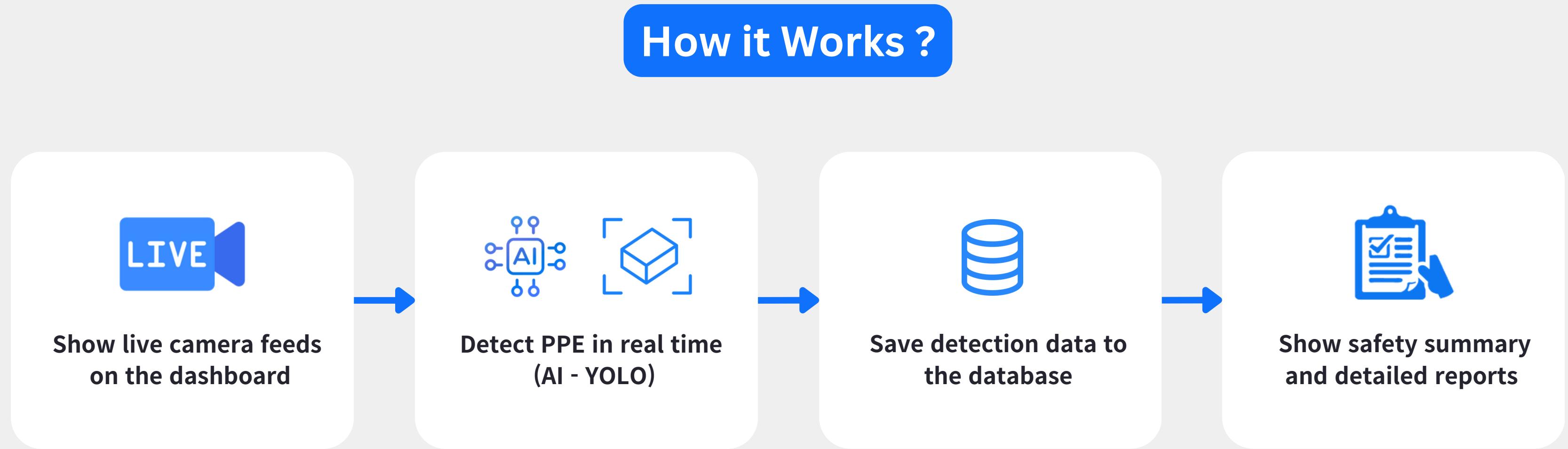
But we added AI (YOLO)
to make it smart

Now it can detect PPE
automatically.

Tools & Technologies

Design	Canva		
Frontend	 React  Bulma  Sass		
Backend	 FastAPI  MySQL		
AI	 YOLO		

Functional Requirements & System Architecture



Non-Functional Requirements

System Quality Goals



Fast response



Easy to use



Mobile-friendly

Website Overview

Pages of Our Website

01 Login

02 Home (Dashboard)

03 Camera Detail

04 Summary

05 Timeline

06 Report

07 Info

08 Settings

Let's see the UI details →

Login Page

AI Safety
Safety Monitoring System

[INFO ABOUT SYSTEM](#)

[LOGIN FORM](#)

Login Account

Email ID

Password

Keep me signed in

Support

Login

Dashboard Page (Home)

This image shows the Home page of a Factory Monitoring System. The interface includes a sidebar, a main monitoring area with six camera feeds, and various control and status elements.

Sidebar: Located on the left side, containing navigation links for AI, Home, Summary, Timeline, Archive, Report, and Info. A blue dashed box highlights the "Home" link.

Repository name: A blue dashed box highlights the text "Repository name" located above the camera feeds.

Record icon: A blue dashed box highlights the recording icon in the top right corner of the central header.

Reload Language Settings: A blue dashed box highlights the reload language settings icon in the top right corner of the central header.

Counts: A blue dashed box highlights the count indicators (e.g., 12, 8, 16) in the top right corner of each camera feed.

Status indicators: A blue dashed box highlights the status indicators (Safe, Danger, Warning) in the top right corner of each camera feed.

Runtime: A blue dashed box highlights the runtime information (e.g., 01:00:24, 01:07:19, 01:15:02) in the top left corner of each camera feed.

Factory Monitoring System: The title of the monitoring area.

AI: The title of the sidebar.

CAM 1: Camera 1 view showing workers on a production line. Status: Safe. Runtime: 01:00:24. Counts: 12 (Yellow), 5 (Red).

CAM 2: Camera 2 view showing a warehouse floor with yellow bins. Status: Danger. Runtime: 01:07:19. Counts: 8 (Yellow), 12 (Red). REC indicator is present.

CAM 3: Camera 3 view showing a worker in a warehouse aisle. Status: Safe. Runtime: 01:15:02. Counts: 16 (Yellow), 3 (Red).

CAM 4: Camera 4 view showing a warehouse floor with stacks of white boxes. Status: Warning. Runtime: 01:19:56. Counts: 25 (Yellow), 9 (Red). REC indicator is present.

CAM 5: Camera 5 view showing a warehouse interior with forklifts. Status: Safe. Runtime: 00:53:03. Counts: 15 (Yellow), 2 (Red). Inside Warehouse label is visible.

CAM 6: Camera 6 view showing a dock area with a forklift and a worker. Status: Safe. Runtime: 00:45:25. Counts: 26 (Yellow), 12 (Red). Inside Dock label is visible.

Camera Detail Page

The screenshot displays the Camera Detail Page for 'CAM 1'. The interface is organized into several sections:

- Left Sidebar (AI):** Includes links for Home, Summary, Timeline, Archive, Report, and Info.
- Top Bar:** Shows the camera name (> CAM 1), a 'Filter' button, a 'Photo & Video' section with camera and video icons, a '12 Alerts' badge, and a settings gear icon.
- Alerts Section:** Titled 'Camera Alerts', it lists events from Feb 10, 2025, to Feb 12, 2025, such as 'Fire' and 'Fall' incidents.
- Main Video Preview:** A large video player window shows a factory floor with industrial equipment and workers. Three workers are highlighted with bounding boxes and ID tags:
 - Worker ID : 2 Confidence : 83% (PPEs: Hard hat, Mask, Glasses, Reflective Vest)
 - Worker ID : 3 Confidence : 91% (PPEs: Hard hat, Mask, Glasses, Reflective Vest)
 - Worker ID : 1 Confidence : 89% (PPEs: Hard hat, Mask, Glasses, Reflective Vest)A timestamp at the bottom indicates 00:00 to -03:46. Navigation controls include a bookmark icon, play/pause, and previous/next buttons.
- Metrics Section:** Displays counts for 'HELMET' and 'VEST' across four categories: Fire (7), Fall (5), and two other categories represented by icons.
- Line Chart:** A chart showing trends for Helmet, Vest, and Fire over the days Monday through Sunday.
- Detections Section:** Lists detections for Worker ID: 03 (9) and Worker ID: 02 (3).

Annotations with dashed blue boxes highlight specific features:

- Detect events:** Points to the 'Report' link in the sidebar.
- Icon:** Points to the person icon in the sidebar.
- Recorded Video:** Points to the video preview area.
- Save:** Points to the bookmark icon in the video preview area.
- Filter:** Points to the 'Filter' button in the top bar.
- Photo & Video:** Points to the photo and video icons in the top bar.
- Count of alerts:** Points to the '12 Alerts' badge.
- Count of detect:** Points to the count of detections in the metrics section.
- Trend analysis:** Points to the line chart.
- Counts by workers:** Points to the detections section.

Timeline Page

The screenshot displays the Timeline Page interface, featuring a sidebar on the left and three main sections: Main Event, Archive, and Camera Tab.

Main Event: Shows a list of events from all cameras. A dropdown menu at the top allows filtering by camera. Individual events are listed with their camera name, timestamp, and a small icon representing the detected situation (e.g., helmet, vest). The event for "Cam 4" on Feb 12, 2025, 17:54 is highlighted.

Archive: Displays a grid of thumbnail images from different cameras. Each thumbnail includes a timestamp and a situation label. The first three thumbnails are labeled "Time: Feb 12, 2025, 18:25" and "Situation: Helmet Detect".

Buttons: Located at the top right of the page, these include a refresh icon, a globe icon, and a gear icon.

Camera Tab: A tab bar at the top of the Camera Tab section allows switching between six cameras: Cam 1 (selected), Cam 2, Cam 3, Cam 4, Cam 5, and Cam 6.

Events: A filter dropdown in the Camera Tab section is set to "Most recent".

Filter: A sidebar on the left contains two items: "Filter" and "Events by Camera".

Events by Camera: A list of events grouped by camera, showing the most recent event for each camera.

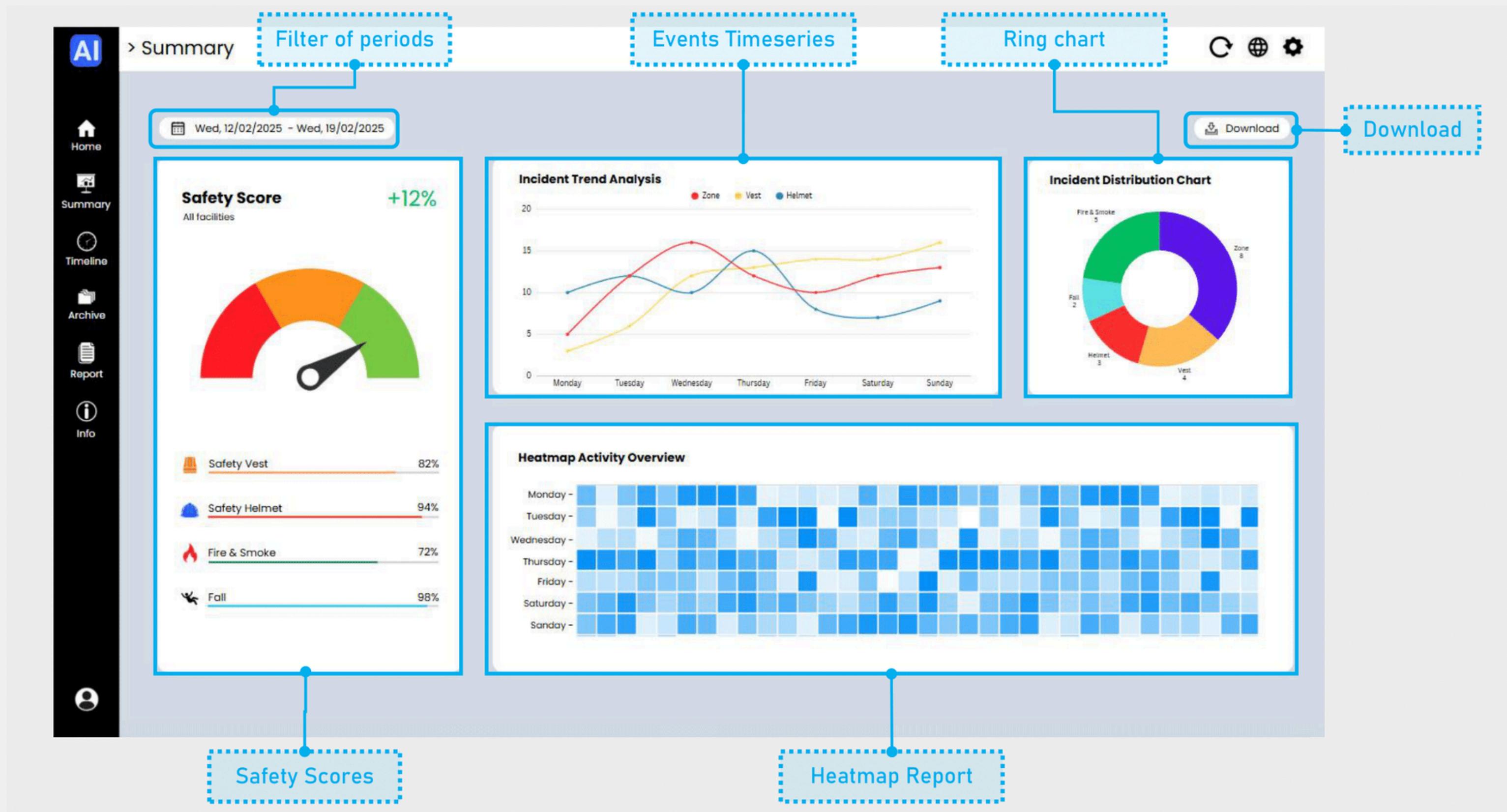
Summary: A summary section on the left sidebar provides a quick overview of the system's status.

Report: A report section on the left sidebar provides a detailed report of the system's performance.

Info: An info section on the left sidebar provides additional information about the system.

User Profile: A user profile icon is located at the bottom left of the sidebar.

Summary Page



Report Page

The screenshot shows a report page interface with the following highlighted components:

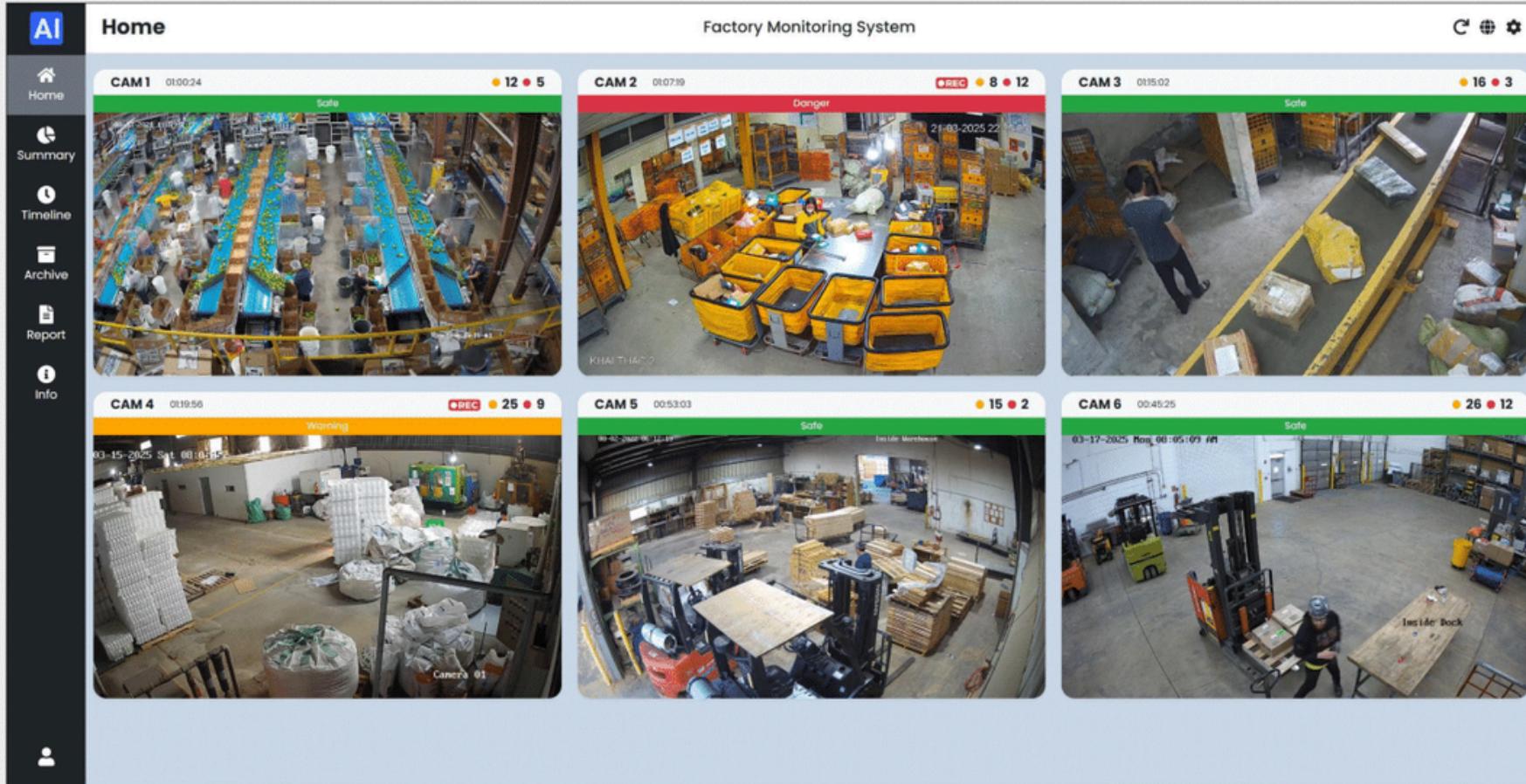
- Filter**: A button on the left sidebar.
- Worker Details**: A section in the sidebar under the Timeline tab.
- Search**: A search bar at the top of the main content area.
- More info**: A "More Info" button next to a row in the table.
- Alert Button**: An "ALERTED" button in the Notify Advisor column.
- Select All**: A "Select All" checkbox in the Select column.
- Select**: A "Select" checkbox in the Select column.
- Alert & Download Buttons**: Buttons for "Alert" and "Download" located at the bottom right of the table.

Search Results Table Data

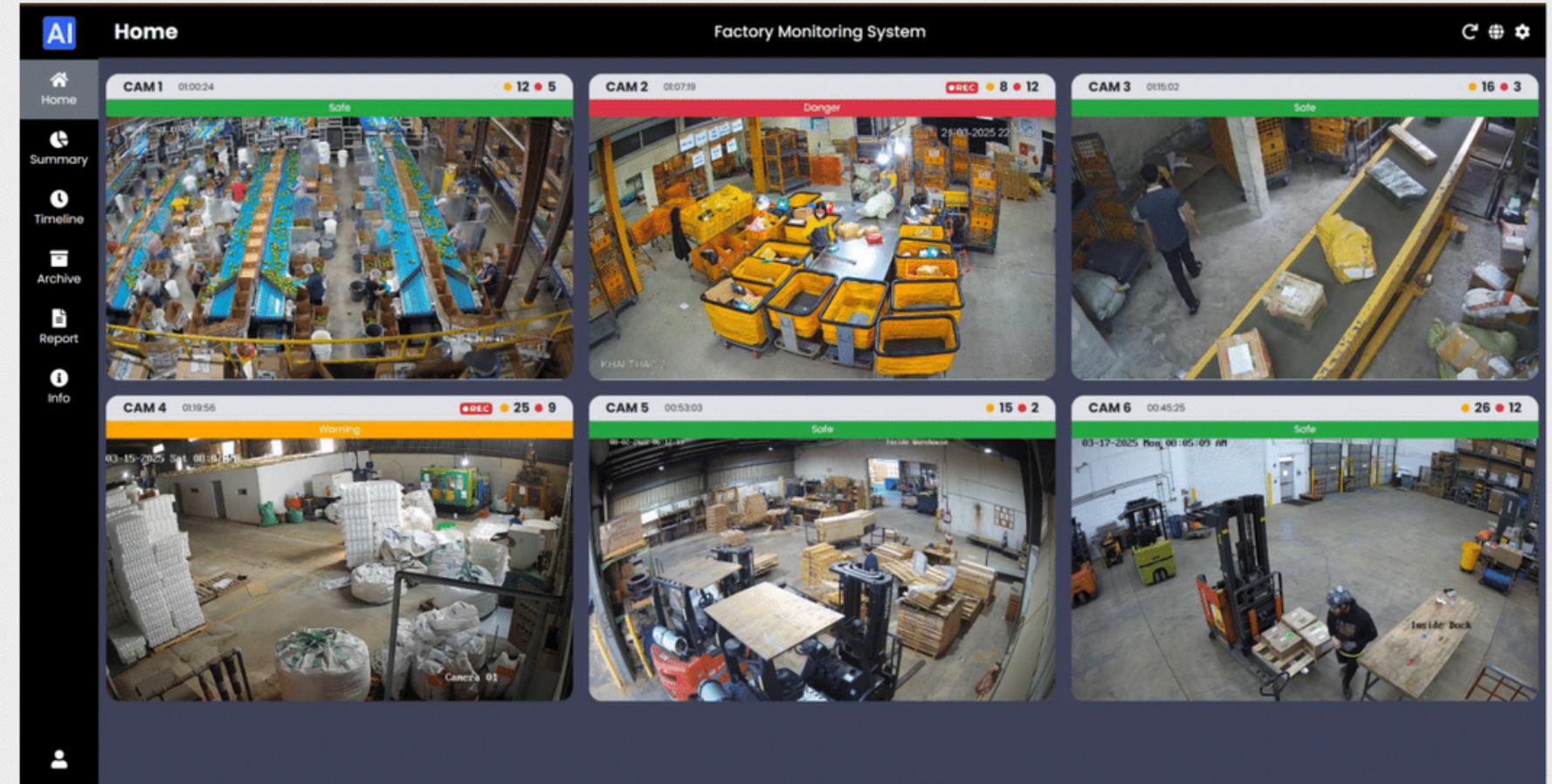
ID	Name	Date	Event	Notify Advisor	Select
2025041	Kim Su Min	2025.05.12 18:01	<button>More Info</button>	ALERTED	<input checked="" type="checkbox"/>
2025167	Lee Min Ho	2025.05.12 17:55	<button>More Info</button>	ALERT	<input type="checkbox"/>
2025793	Kang Dong Won	2025.05.12 15:48	<button>More Info</button>	ALERTED	<input checked="" type="checkbox"/>
2025041	Kim Su Min	2025.05.12 12:42	<button>More Info</button>	ALERT	<input type="checkbox"/>
2025041	Kim Su Min	2025.05.11 13:39	<button>More Info</button>	ALERTED	<input checked="" type="checkbox"/>
2025793	Kang Dong Won	2025.05.11 10:35	<button>More Info</button>	ALERT	<input type="checkbox"/>
2025167	Lee Min Ho	2025.05.11 08:32	<button>More Info</button>	ALERT	<input type="checkbox"/>
2025041	Kim Su Min	2025.05.10 13:26	<button>More Info</button>	ALERT	<input type="checkbox"/>
2025167	Lee Min Ho	2025.05.10 12:23	<button>More Info</button>	ALERTED	<input checked="" type="checkbox"/>
2025041	Kim Su Min	2025.05.10 10:55	<button>More Info</button>	ALERT	<input type="checkbox"/>
2025793	Kang Dong Won	2025.05.10 10:32	<button>More Info</button>	ALERT	<input type="checkbox"/>
2025041	Kim Su Min	2025.05.10 09:25	<button>More Info</button>	ALERT	<input type="checkbox"/>

Dark and Light Mode

Light Mode

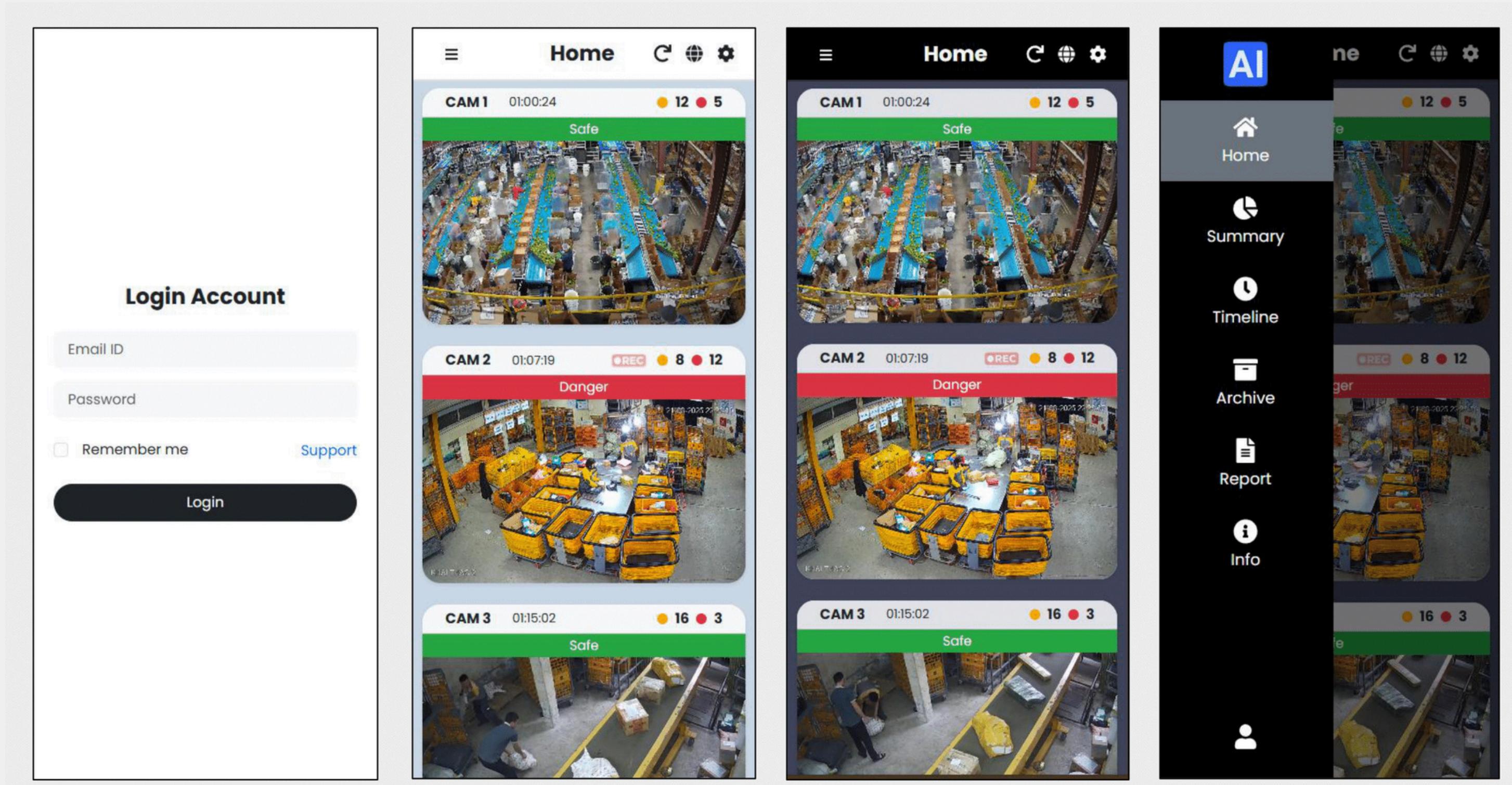


Dark Mode



Responsive Design

Mobile

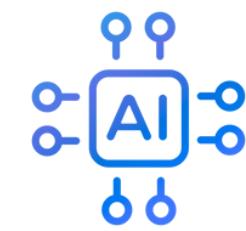


Our Progress

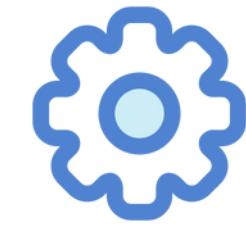
Task	30%	60%	Completed
UI Design			
Frontend			
Backend			
AI Dataset			
YOLO Training			
Full System Integration			

Future Plans

Our Future Plans:



Add More AI modules



Create settings page



Optimize system speed

Thank You

Q & A

MEERKAT