



IHMS

CIS 4951

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Capstone Project

INTELLIGENT HOME MONITORING SYSTEM



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The Problem



Energy usage is not transparent — homeowners lack visibility into real-time consumption patterns.



Utility bills lack detail — monthly statements don't show device-level breakdown.



Hard to diagnose inefficiencies — no tools to identify which appliances waste energy.



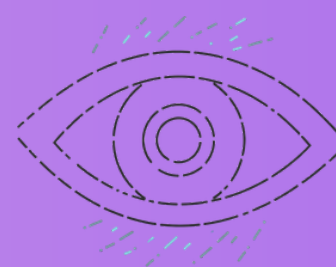


Why It Matters



Wasted Money

Inefficient energy use leads to unnecessarily high utility bills every month.



Lack of Awareness

Most homeowners have no visibility into which devices consume the most energy.



Environmental Impact

Excessive energy consumption contributes to carbon emissions and climate change.

Our Solution

IHMS approach to solving home energy monitoring challenges.



Real-time energy monitoring
for instant visibility into
consumption



Device-level insights to
identify which appliances use
the most power



Actionable data visualization
through intuitive charts





Key Features



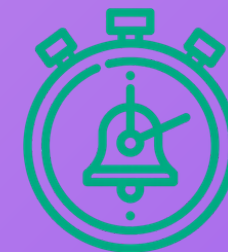
Live Device Tracking

Monitor all connected devices in real-time from one central view.



Usage Analytics

View detailed energy consumption by week, month, or year with clear visualizations.



Runtime & Alerts

Track device runtime and receive instant alerts for unusual high usage.

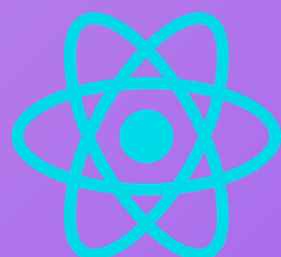


Clean Dashboard

Intuitive interface designed for easy navigation and quick insights.

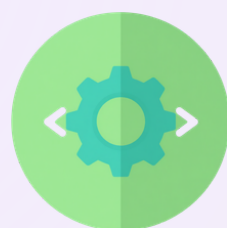


Technology Stack



React + TypeScript

Modern frontend framework for building responsive, type-safe interfaces.



Node.js + Express

Robust backend server handling API requests and data processing.



Render Deployment

Cloud platform for seamless hosting and continuous deployment.



Recharts Visualization

Powerful charting library for interactive energy data displays.

Business Perspective



Save Money

IHMS helps users reduce utility bills through real-time monitoring and actionable insights.



Scalable Solution

Designed to scale from individual homes to commercial buildings and businesses.



Sustainability Aligned

Supports clean tech trends and promotes environmentally conscious energy usage.



Impact & Future Vision



Energy Awareness

Encourages users to understand and monitor their energy consumption patterns.



Sustainable Behavior

Promotes eco-friendly habits through actionable insights and usage tracking.



AI & Smart Home

Future integration with AI insights and smart home automation systems.



Exit Strategy

Positioned for acquisition by major tech companies in the clean tech space.



Thank You

We appreciate your time and interest in IHMS
Let's build a smarter, more sustainable future together