ReRemote
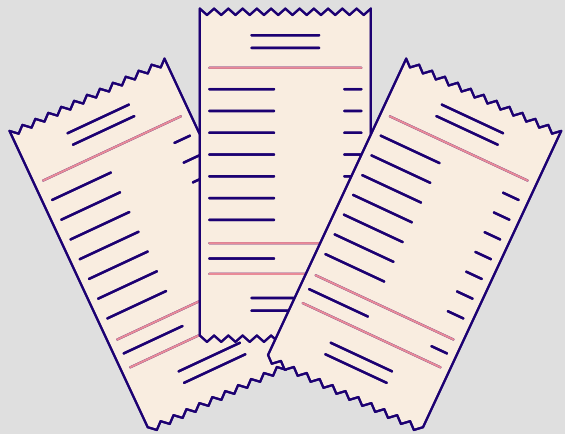
Repurposing old TV remotes with IoT
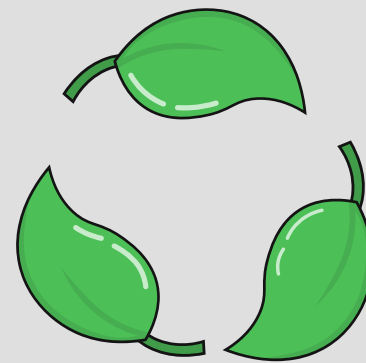
Team Packet Loss

23% of household electricity usage comes from <u>unattended and idle electronics.</u>

Increased Cost

Environmental Impact

Potential Fire Hazard

CHOSEN ITEM: TV REMOTES

Upcycled TV Remotes

It's second nature to toss out old remotes when they don't work. However, these remotes are treasure troves of usable parts, like IR Transmitters, Conductive Buttons, Battery holders and PCBs that are ready for another life.

OUR SOLUTION

Repurposing old, tossed out TV remotes into <u>low cost</u> and <u>energy efficient</u> room sensors with IoT, to switch off all appliances when there are no people in the room.
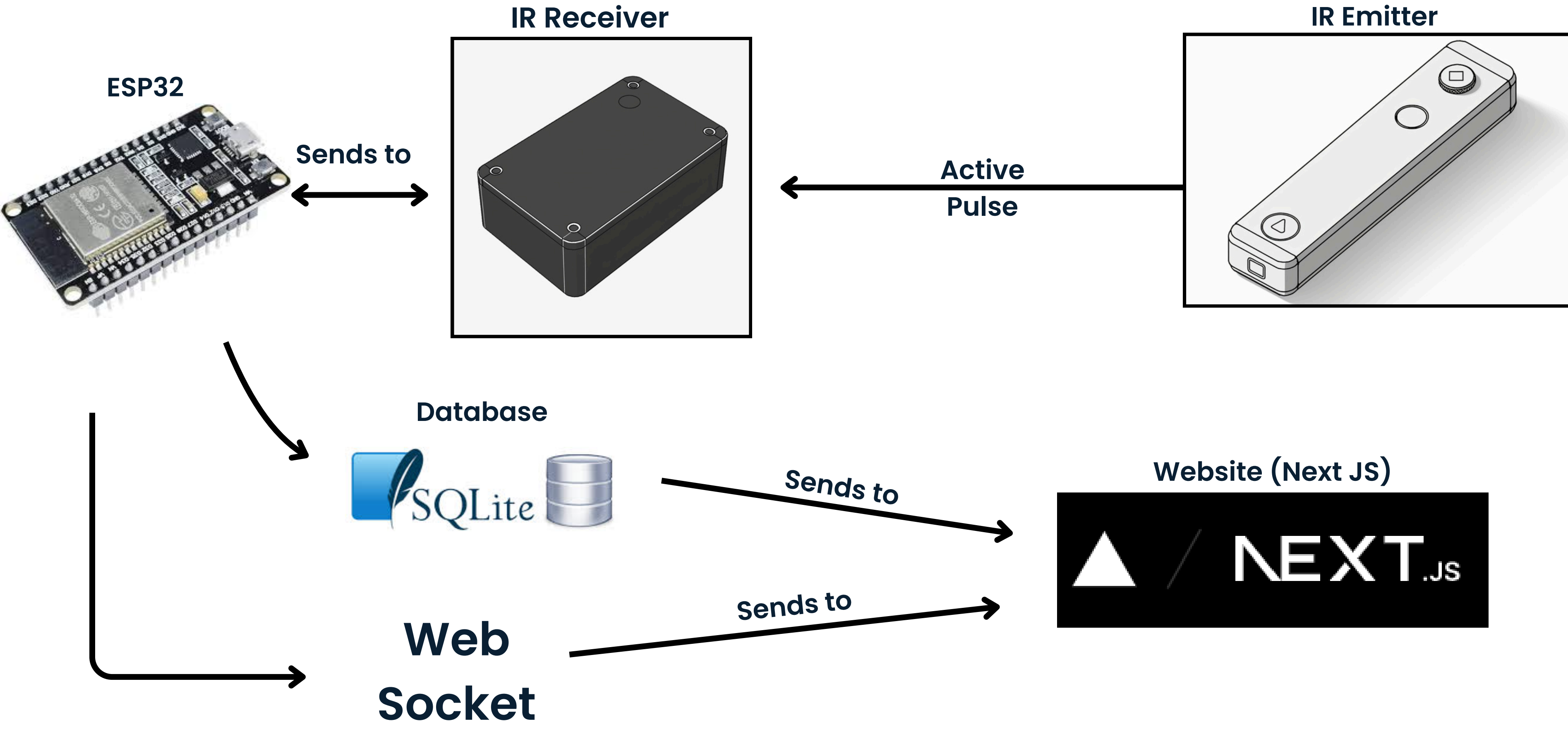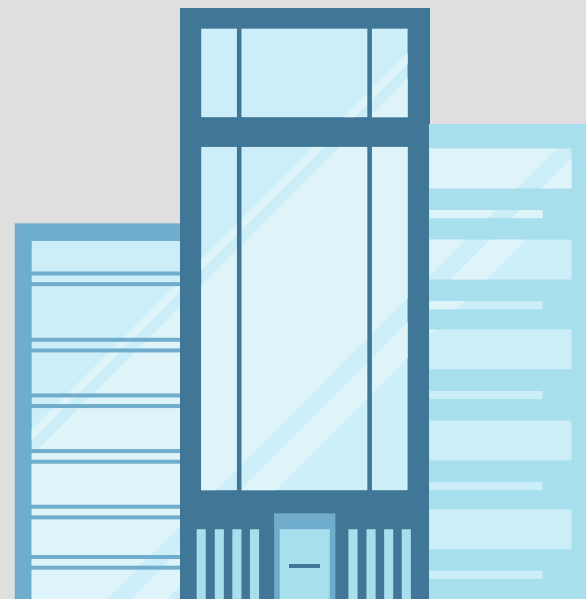
Cheap

Energy Saving

New life to E-Waste
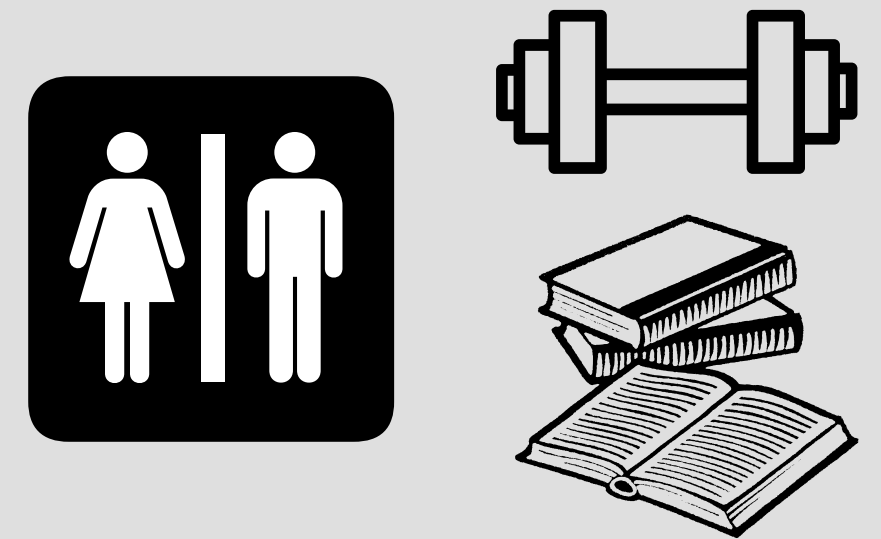
BREAKDOWN

IR Receiver

IR Emitter

ESP32

Sends to

Active Pulse

Database

Website (Next JS)

SQLite

Sends to

Sends to

Web Socket

Households

Office Spaces

Public Facilities

UNIT COST & PRODUCT ANALYSIS

ReRemote		Currently used Motion Sensors
$10/unit	Unit Cost	**$114/unit**
(On 24/7): 12 Wh/day	Energy Consumption	**(Standby 24/7): 72 Wh/day**
Low, as the beam is specific, unlikely to be affected by leaves or other anomalies	Tendency for Error	High, as the wide range sensor will pick up moving leaves or bugs.

MARKET ANALYSIS: HOUSING

TAM: 1.1 Million HDBs

TAM (30%): 330,000 HDBs

SOM(20%): 220,000 HDBs

Total Addressable Market:
Homeowners in Singapore

Serviceable Addressable Market:
Homeowners in Singapore who are interested in Smart Homes

Serviceable Obtainable Market:
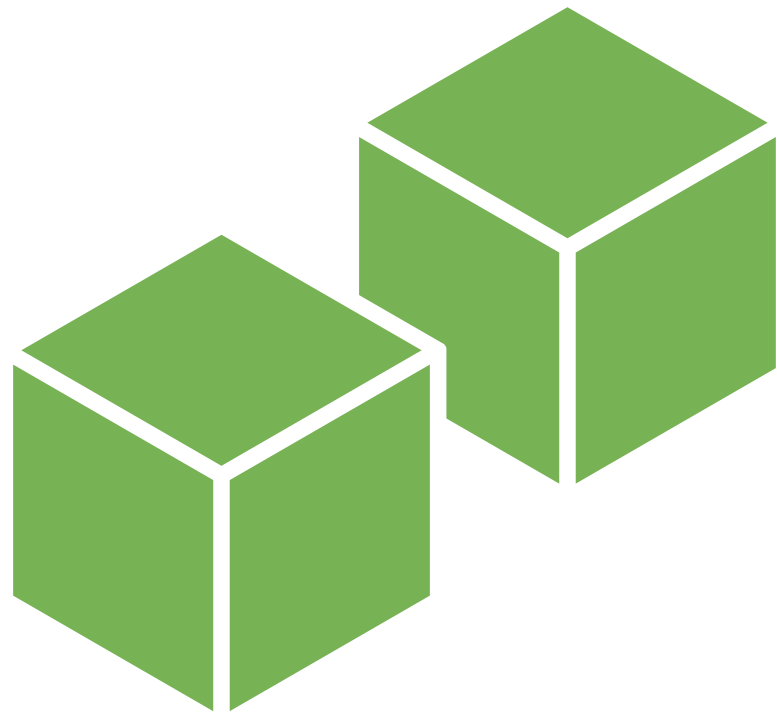Homeowners in Singapore who are interested in Sustainable Smart Homes

PROJECTED ENERGY AND CARBON SAVINGS

2- PRONGED APPROACH

	Housing	Office Facilities
Aim	Curb Idle energy usage in households	Minimise sensor energy usage vs current conventional sensors
Market size	220,000 HDB units in Singapore	Conservative estimate: 60,000 motion sensors across offices
Monthly Savings	(assuming that Idle usage is reduced by 70%, as few appliances cannot be switched off) 13.3 GWh/ **5,400 tons of CO2/** $3,063,990 SGD	108 MWh/ **additional 44 tons of CO2/** $24,872.40 SGD

REREMOTE'S VALUE PROPOSITION

Modularity

Ease of integration with existing IoT infrastructure makes maintenance and adoption easy

Data Analytics

Crowd data allows demand forecasting and more efficient resource allocation

Low Cost

Low cost lowers barrier of entry for consumers, and an affordable start to sustainable smart homes.

LIVE DEMO

(in the video pitch)

ReRemote

THANK YOU!

ReRemote