SENSOR SQUAD - SMART SENTINEL SYSTEM

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A MODULAR SMART HOME SYSTEM THAT ENHANCES SAFETY, COMFORT, AND EFFICIENCY

Top 3 Features:

- Real-Time Alerts: Detects fires, intrusions, or unusual changes and notifies users within seconds.
- Environmental Awareness: Continuously tracks temperature and humidity with high precision.
- Smart Automation: Automatically controls appliances and lighting using motion, sound, and ambient light.

Cool Tech Highlights

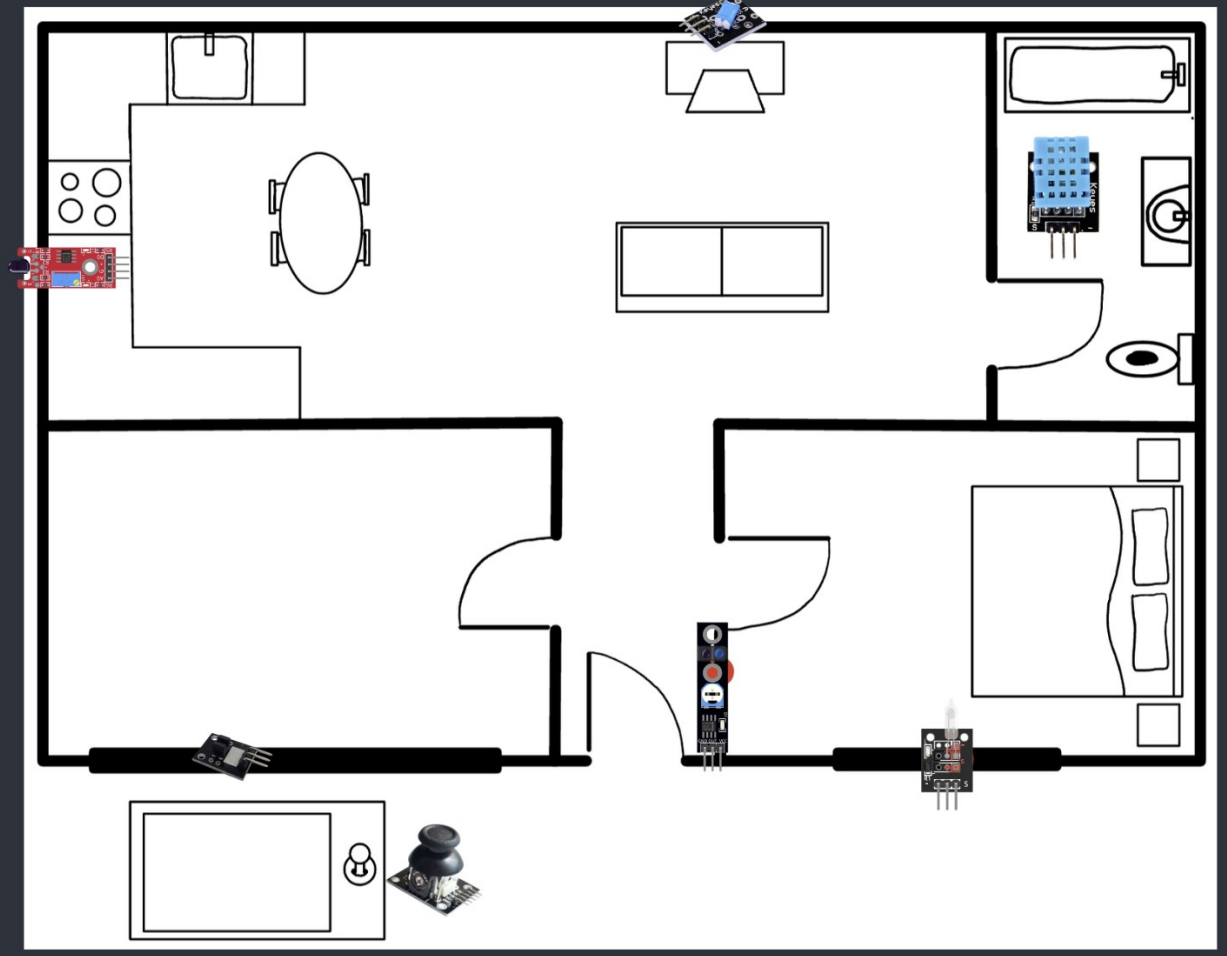
- Arduino Uno microcontroller
- KY sensors (Flame, Sound, Motion, Tilt, Temp/Humidity)
- LCD display and remote interface

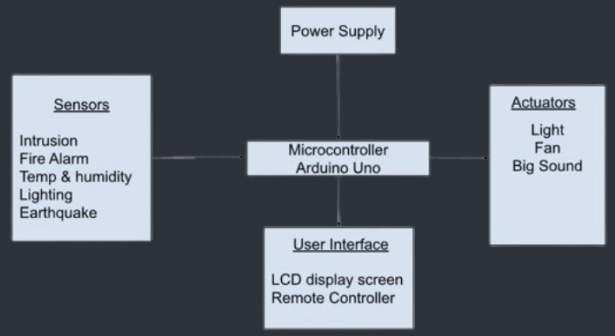
What We're Proud Of

- Fast and reliable flame and intrusion detection (< 2 sec)
- Modular, scalable design with clean subsystem integration
- LCD display constantly shows critical values like fire alert, intrusion etc.

Our Journey:

- Started with a vision for a scalable smart home system enhancing safety and comfort.
- Designed and validated subsystems for fire, intrusion, and environmental monitoring.
- Overcame challenges in sensor calibration, signal noise, and hardware integration.
- Integrated user-friendly features: LCD feedback and remote control
- Emphasized modularity, clean wiring, and iterative testing throughout development.
- Next: expand subsystems (garage, earthquake) and implement SPI-based UI.
- Gained real-world experience in embedded systems, teamwork, and product design.





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