THE LEGACY CIRCUIT STAR

Representing the i.c.Stars Ecosystem Through Hardware

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Meet The Team

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Project Manager

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Introduction

“Why did we build the Legacy Circuit Star?”

The legacy star was built to symbolize our journey through i.c. Stars and the growth we experienced along the way. My teammate and I created it using old computer components, turning discarded hardware into a meaningful representation of the program’s core pillars of technology, community, leadership and transformation. Each piece reflects how innovation can come from reimagining what is already in front of us. In the end, we built the legacy star to honor the creativity, resilience and leadership we developed throughout the program and to leave behind a tangible story of how far we’ve come.

Project Timeline

Foundation & Planning

Set the blueprint. Defined the purpose of the Legacy Star and identified which i.c. Stars pillars we wanted to represent.

Core Infrastructure Development & Integration

Built the physical foundation that supported the entire sculpture along with integrating the Raspberry Pi.
and motion sensor

Advanced Features

Motion sensor added that activates the star when someone approaches, making the display interactive. Integrated two QR codes; one linking to my build process and one explaining each computer part.

Testing & Refinement

Tested all components to ensure reliability, including the motion sensor, lighting, and QR codes. Identified and fixed issues to confirm everything worked smoothly.

Rollout

Launched the finished project, setting it up for viewing and making sure the motion sensor, lighting, and QR codes performed smoothly for the audience.

Build Process

Component Preparation

Collected and cleaned recycled computer parts, then finalized the physical layout of the sculpture.

Microcontroller Setup

Programmed the Raspberry Pi Pico 2 WH to control LED outputs, handle GPIO signals, and manage sensor input.

Circuit Wiring

Wired all LED Diodes, resistors, and jumper connections to the Pico’s GPIO pins, ensuring proper voltage and signal paths.

Sensor Integration

Connected and configured the PIR motion sensor to detect movement and trigger the LED sequence in real time.

Build Process

QR Code Implementation

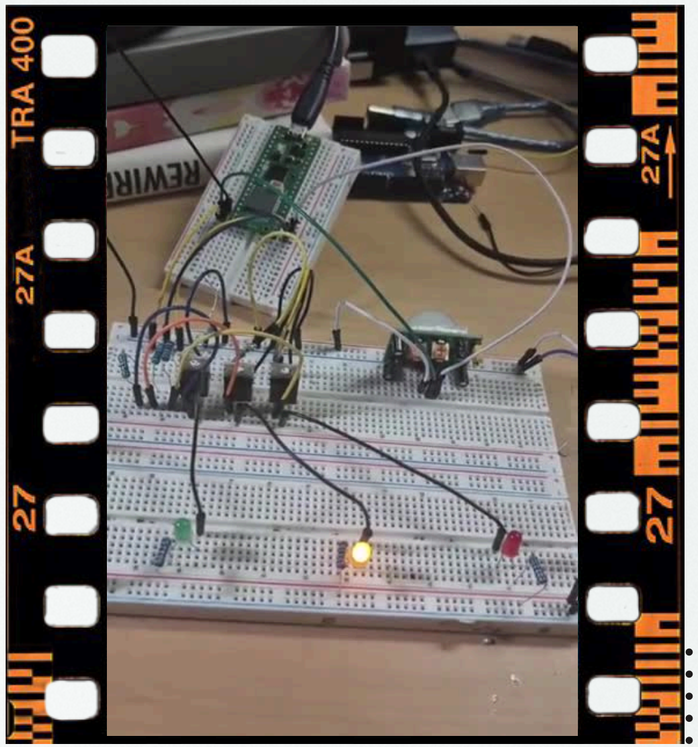
Generated and embedded a QR code linking viewers to additional project details and documentation.

Testing & Debugging

Ran electrical and logic tests, identified signal issues, adjusted code, and verified sensor responsiveness.

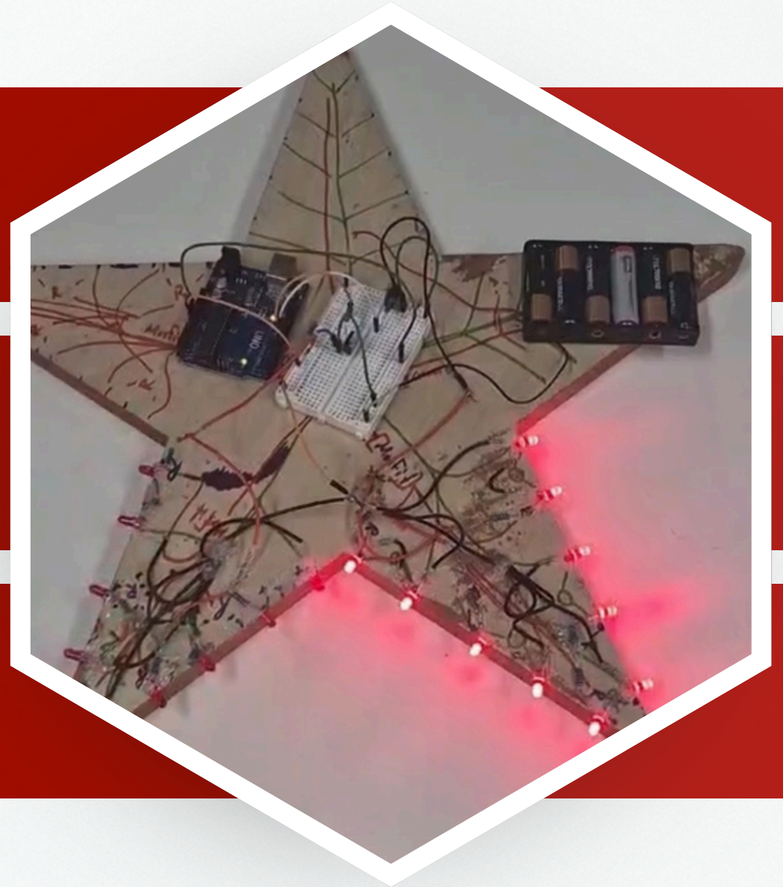
Final Assembly

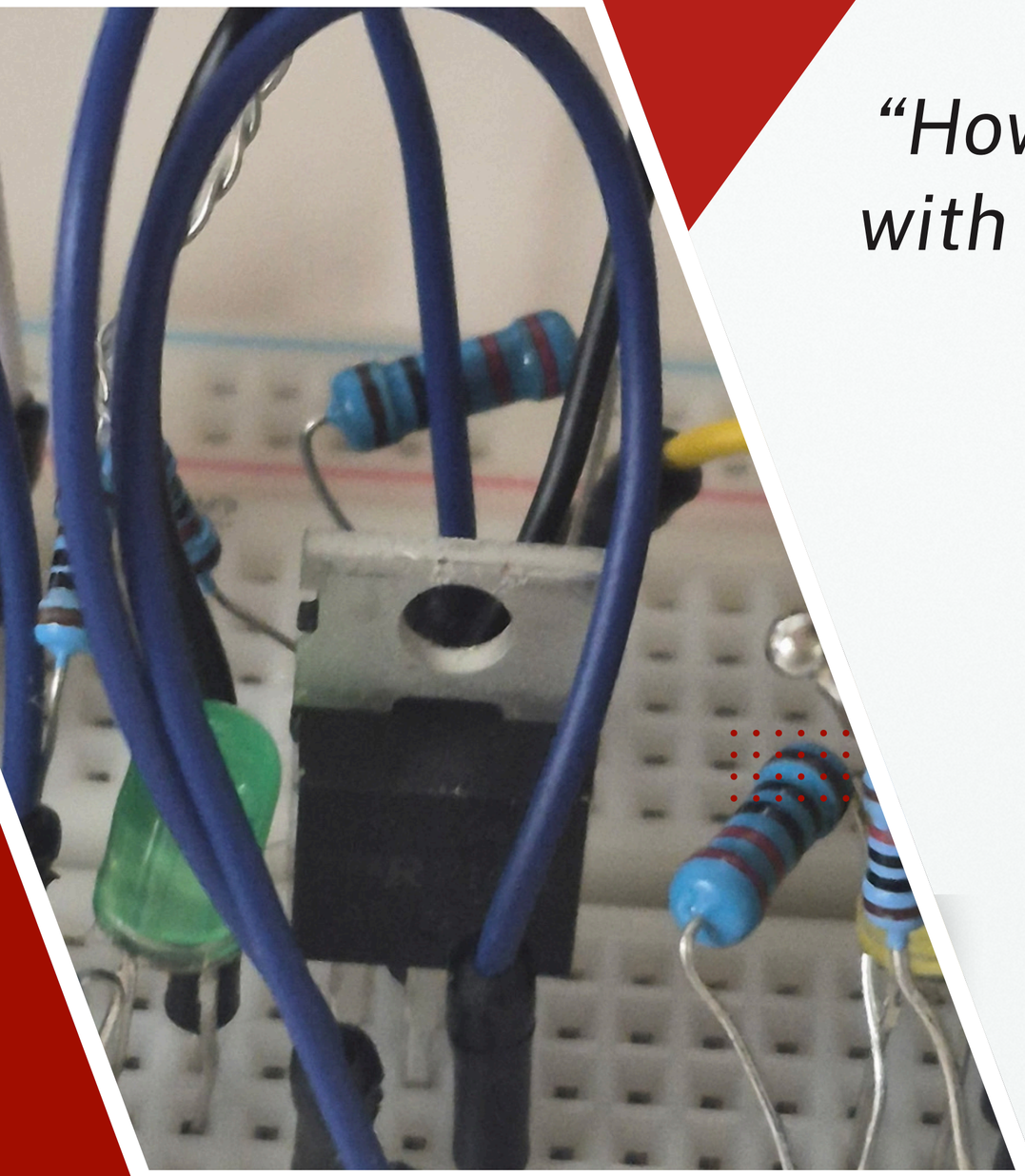
Mounted and secured all components to the base, ensuring stability, clean cable routing, and full functionality.



Risk Management

Risk	Mitigation
LED Diode or sensor malfunction during integration of motion sensors and QR codes	Prototype early and test each component separately to catch failures sooner
Timeline delays caused by debugging or unexpected technical issues	Build buffer time into the schedule to handle troubleshooting
User interaction issues, like QR codes not scanning or sensors misreading movement	Conduct user testing and adjust calibration to ensure smooth scanning and sensor accuracy





Symbolism

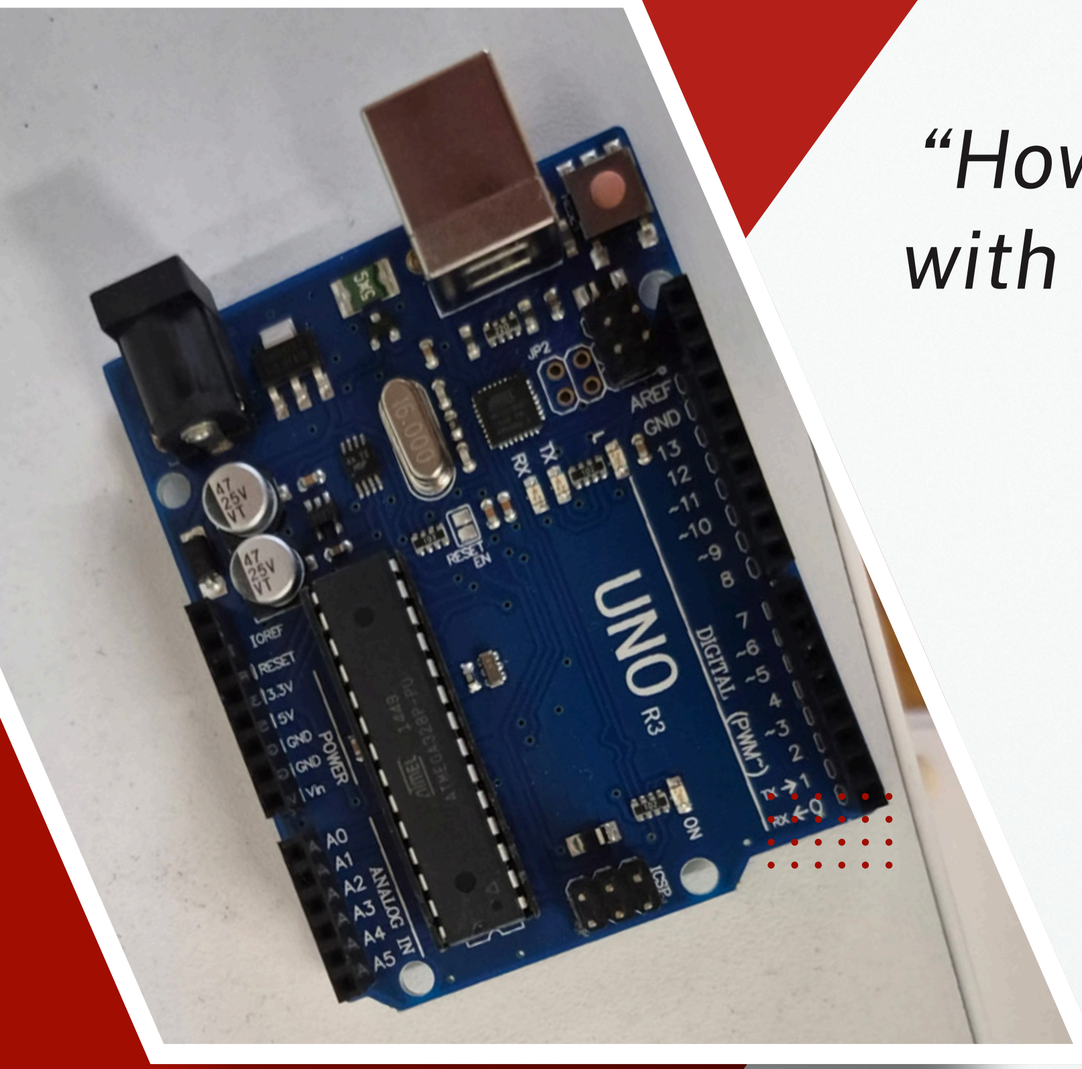
“How does the Legacy Circuit Star align with ic Stars?”

Motherboard = i.c. Stars Structure

- Foundation of the entire “system”
- Represents program culture, discipline, and community
- Connects interns, staff, alumni, mentors, and partners
- Holds everything together

RAM = The Interns

- Real-time learning + rapid processing
- Absorbing new skills every day
- Quick adaptation under pressure
- Symbolizes capacity, growth, and resilience



Symbolism

“How does the Legacy Circuit Star align with ic Stars?”

Cooling Fan = Partners & Employers

- Keeps the system balanced under pressure
- Provides stability and sustainable opportunity
- Mentorship, sponsorship, and industry insight
- Supports long-term professional success

THE LEGACY CIRCUIT STAR

- Unifies all components & roles
- Shows how every part of i.c. Stars matters
- Symbolizes transformation through connection

Symbolism

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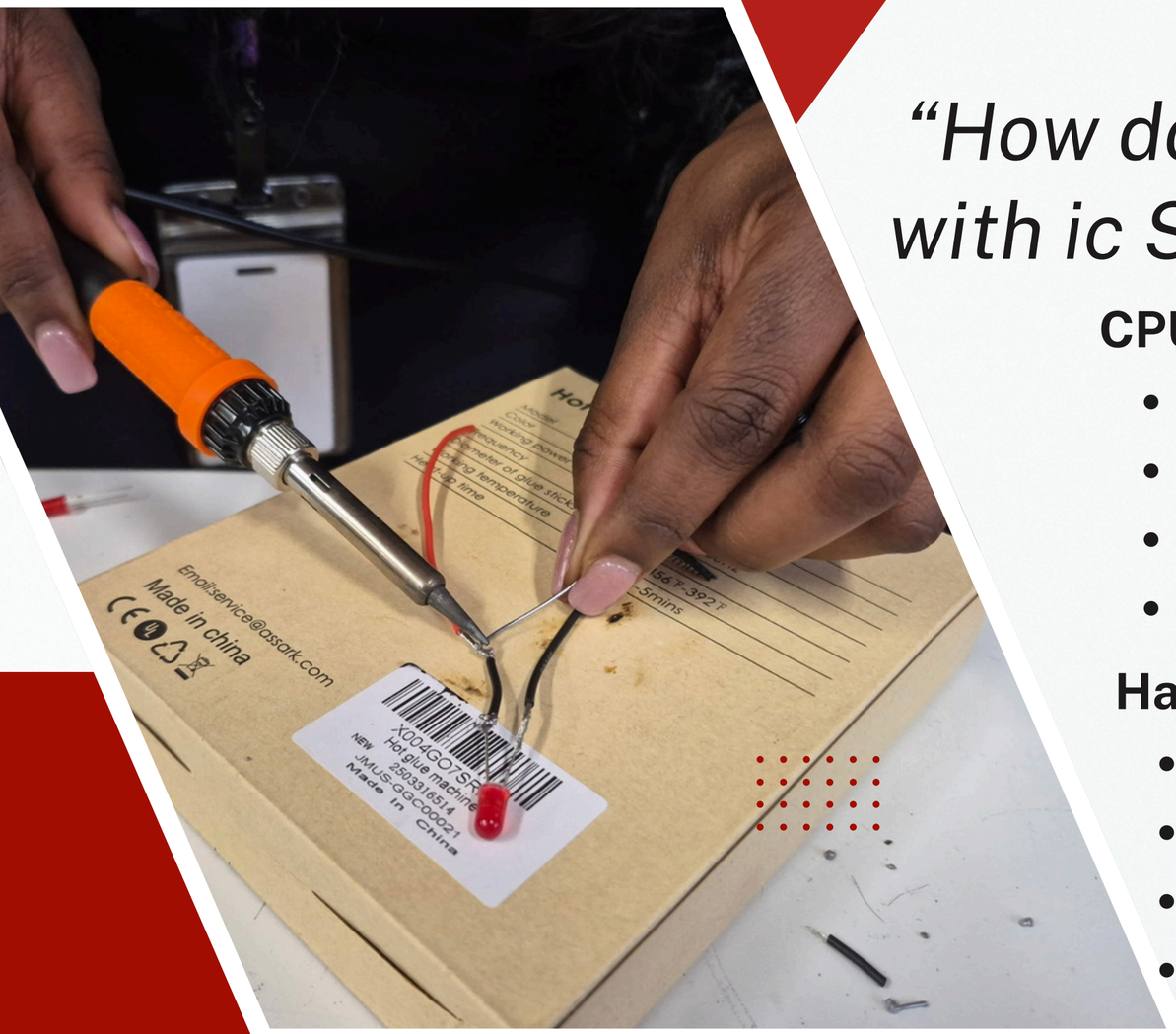

CPU = Staff & Leadership

- The “brain” of the system
- Guides direction, structure, and decision-making
- Shapes leadership development
- Challenges us to think and execute at a high level

Hard Drive = Alumni

- Long-term memory + stored knowledge
- Alumni stories = our blueprint
- Their journey informs ours
- Represents legacy, impact, and long-term growth

Conclusion & Q&A

This project embodies the ic Stars values of innovation, technical excellence, and real-world problem-solving. By designing, testing, and refining a hardware system with motion sensors and QR code integration, I demonstrated creativity, persistence, and collaboration, the same principles Ic Stars instills in its fellows. The project showcases not only technical skills but also the drive to build solutions that have impact, reflecting the mission and standards of IC Stars.

THANK YOU

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