

ARDUINO JOYSTICK

#CREATIVETECHNOLOGY #ARDUINO

THE BRIEF

This school project was all about stepping out of the digital screen and building something tactile from scratch. The goal was to engineer a fully functional custom gaming controller using Arduino, but I wanted the aesthetic to be far more expressive than a standard plastic arcade stick. I decided to lean into a high-energy “Japanese Samurai meets Tokyo Drift” vibe, blending traditional warrior motifs with the neon, gritty edge of modern street-racing culture.

THE PROCESS

Bringing this crossover concept to life meant combining hardware engineering with 3D product design. I began by designing a custom katana sword handle in Blender, which I then 3D printed to serve as the actual joystick. For the enclosure, I built a custom box topped with an acrylic plate, into which I laser-etched an intricate, thematic design. After mounting the 3D-printed katana and two arcade buttons, the real challenge was the hardware integration, wiring the components into an Arduino board and coding it to map correctly to a PC. In the end, the electronics worked flawlessly, turning the custom katana handle into an accurate, responsive game controller.

THE OUTCOME

The final piece was a complete success, successfully bridging the gap between digital modeling, physical manufacturing, and interactive engineering. Being able to actually plug the box into a computer and play games using a katana joystick was incredibly rewarding. The project taught me how to manage a multi-step production pipeline, from software design in Blender to laser cutting and coding, proving that hardware can be just as much a canvas for storytelling as video or design.

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