

## Introduction

A **16×2 LCD Counter** using **RISC-V (VSD Squadron Mini)** is a simple digital system designed to display an incrementing or decrementing count on a 16×2 character LCD. This project demonstrates how an open-source RISC-V processor like the **VSD Squadron Mini** can be used for embedded system applications, such as basic display control, counting, and real-time user interaction.

## Overview

The 16×2 LCD Counter using RISC-V (VSD Squadron Mini) is a simple embedded system project that utilizes the open-source RISC-V architecture to control a character LCD display. The VSD Squadron Mini, a compact RISC-V development board, serves as the processing unit, executing a program to increment, decrement, and reset a numerical count displayed on the 16×2 LCD. The LCD, which follows the HD44780 driver protocol, is interfaced via GPIO pins, allowing real-time updates based on user input or automatic counting logic. This project demonstrates the efficiency of RISC-V for embedded applications, showcasing how low-power, open-source processors can drive practical hardware implementations. The counter can be controlled using physical buttons or programmed logic, making it useful for a variety of applications, such as event counting, timers, or simple user interface displays. Through this implementation, developers can explore the capabilities of RISC-V microcontrollers in real-time embedded systems while working with standard display peripherals.