ESP32-CAM Project Documentation

Team Alpha
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Project Overview & Goals

Project Name

ESP32-CAM Interfacing and Application

Team Members

- John Doe - Hardware Integration
- Jane Smith - Software Development
- Project Lead - System Architecture

Key Objectives

- Successfully program the ESP32-CAM module.
- Implement basic image capture.
- Explore [Your Specific Objective Here, e.g., Web Streaming, Object Detection].

Logical Connections and Signals

Power Connections

- ESP32-CAM **VCC** ($+5V$ Input) $\longleftrightarrow$ ESP32-CAM-MB **5V** (Output)
- ESP32-CAM **3V3** ($+3.3V$ Output/Input) $\longleftrightarrow$ ESP32-CAM-MB **3V3** (Output)
- ESP32-CAM **GND** (Ground) $\longleftrightarrow$ ESP32-CAM-MB **GND** (Ground)
  (Two separate GND connections are typically made for stability)

Programming & Serial Communication (UART0)

Note: TX (Transmit) of one device connects to RX (Receive) of the other.

- ESP32-CAM **IO1** (U0TXD - Default UART0 Transmit) $\longrightarrow$ ESP32-CAM-MB **RXD** (Programmer Receive)
- ESP32-CAM **IO3** (U0RXD - Default UART0 Receive) $\longleftarrow$ ESP32-CAM-MB **TXD** (Programmer Transmit)

Alternatively, using explicitly labeled UART pins on some ESP32-CAM

ESP32-CAM to ESP32-CAM-MB Pinout Summary

Wire Color (from Diagram)	ESP32-CAM Pin	ESP32-CAM-MB Pin
Yellow	**3V3** (+3.3*V* Power)	**3V3** (+3.3*V* Power Out)
Purple	**IO1** (U0TXD / TX)	**RXD** (Programmer UART RX)
Dark Blue	**IO3** (U0RXD / RX)	**TXD** (Programmer UART TX)
Sky Blue	**GND** (Ground)	**GND** (Ground)
Teal	**VCC** (+5*V* Power In)	**5V** (+5*V* Power Out)
Salmon	**U0R** (GPIO3 / Alt. RX)	**TXD** (Programmer UART TX)