



MICROCONTROLLER BASED APPLICATIONS DEVELOPMENT
FACULTY OF INFORMATION TECHNOLOGY
UNIVERSITY OF MORATUWA

OMI THE TRUMPS

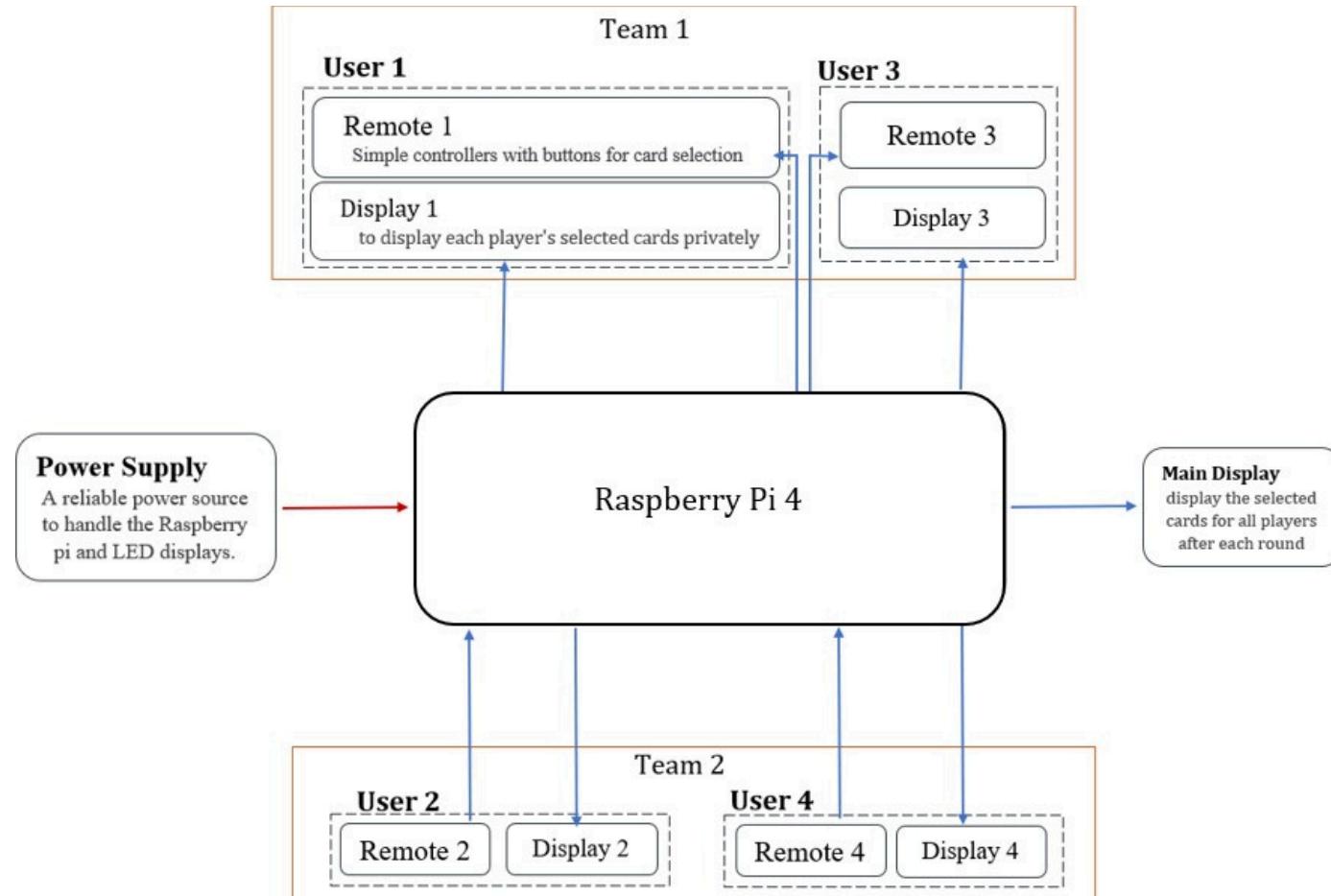
INTRODUCTION

The classic Omi experience by modernizing the traditional Omi card game by integrating digital systems to enhance gameplay speed, ensure player privacy, and prevent cheating, while preserving its tactical essence for a fair and seamless experience.

MAIN TECHNOLOGIES

- RGB LED matrix UI with double-buffered rendering
- TCP link: ESP32 server ↔ controller with simple text commands

BLOCK DIAGRAM



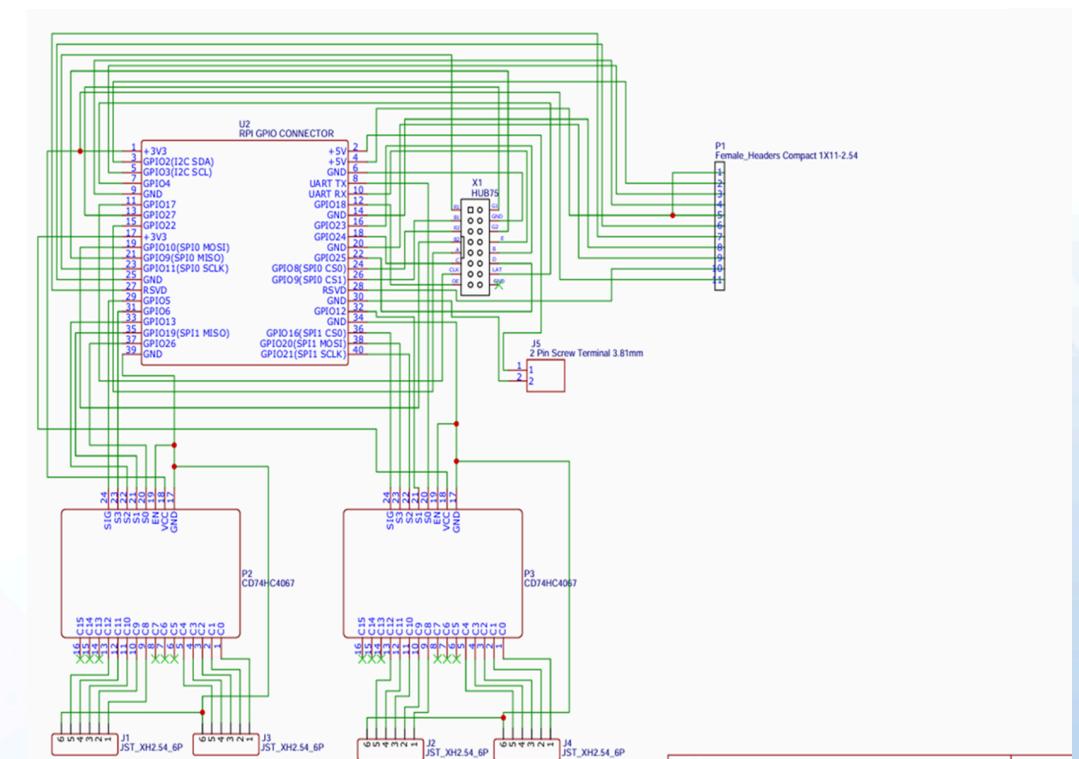
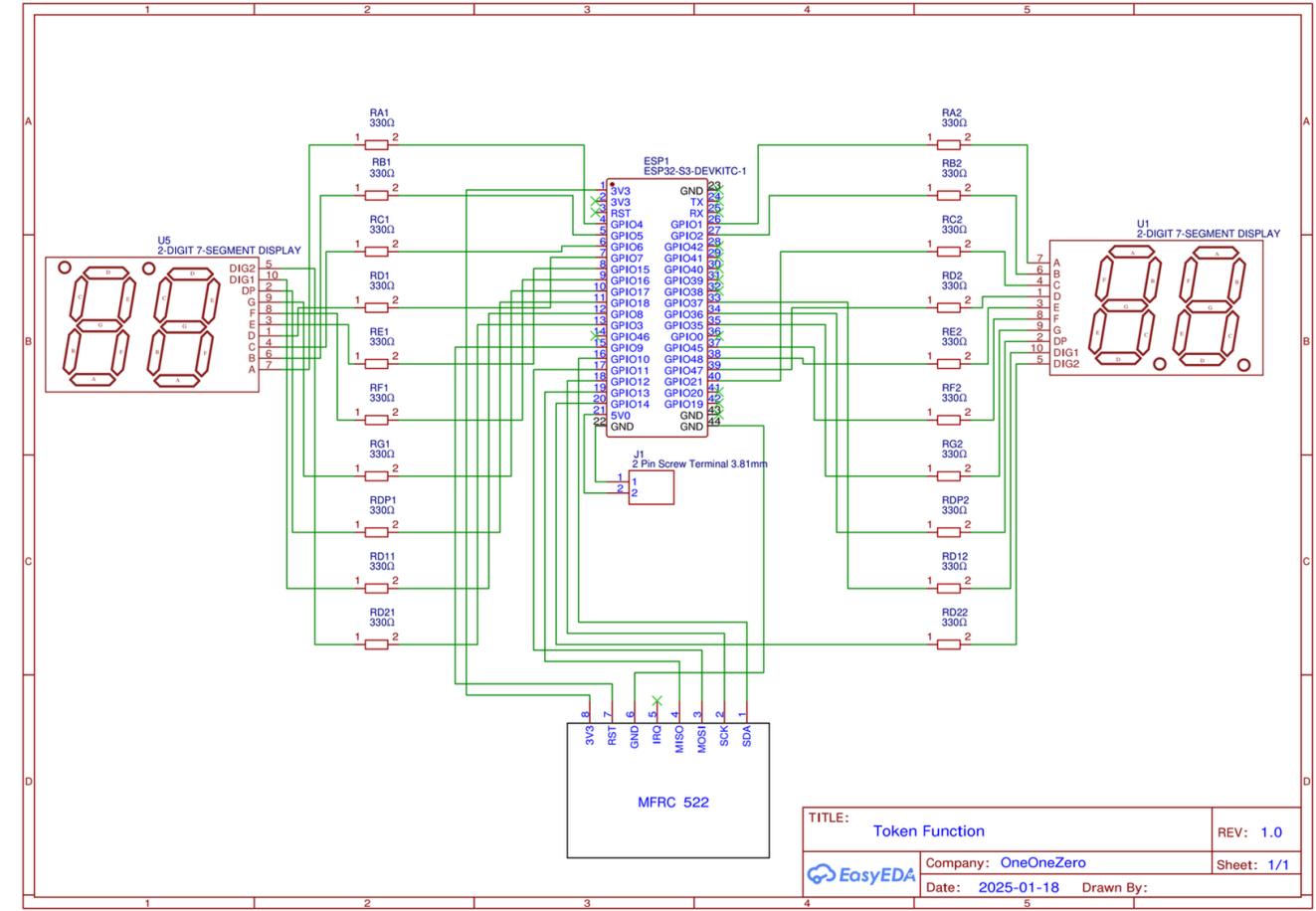
FINAL PRODUCT



MAIN COMPONENTS

- Raspberry Pi 4 Model B
- 64×64 RGB LED Matrix Panels
- ESP32-S3 Microcontroller
- RFID RC522 Module
- CD74HC4067 Multiplexers
- 2-digit Seven Segment Display

Circuit Diagrams



OneOneZero

Dhananjaya
234052X

Shehan
234223A

Dhanujaya
234235L

Hiruni
234118G

Dilshari
234056M

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