

# FEZUL Chess Computer



**Thanks to Max Dobres for his Excellent Guidance and Inspiration  
to complete this Project.**

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# FEZUL Chess Computer - Technical Data

- Chess Engine: Stockfish <https://stockfishchess.org/>
- Computer Language: Python 3 <https://www.python.org/>
- Python Chess Library: Python-Chess by Niklas Fiekas <https://python-chess.readthedocs.io/en/latest/>
- Chess Computer Architecture: by Max Dobres from <http://chess.fortherapy.co.uk/home/>
- Fezul Chess Computer Creator: Fernando Echavarria

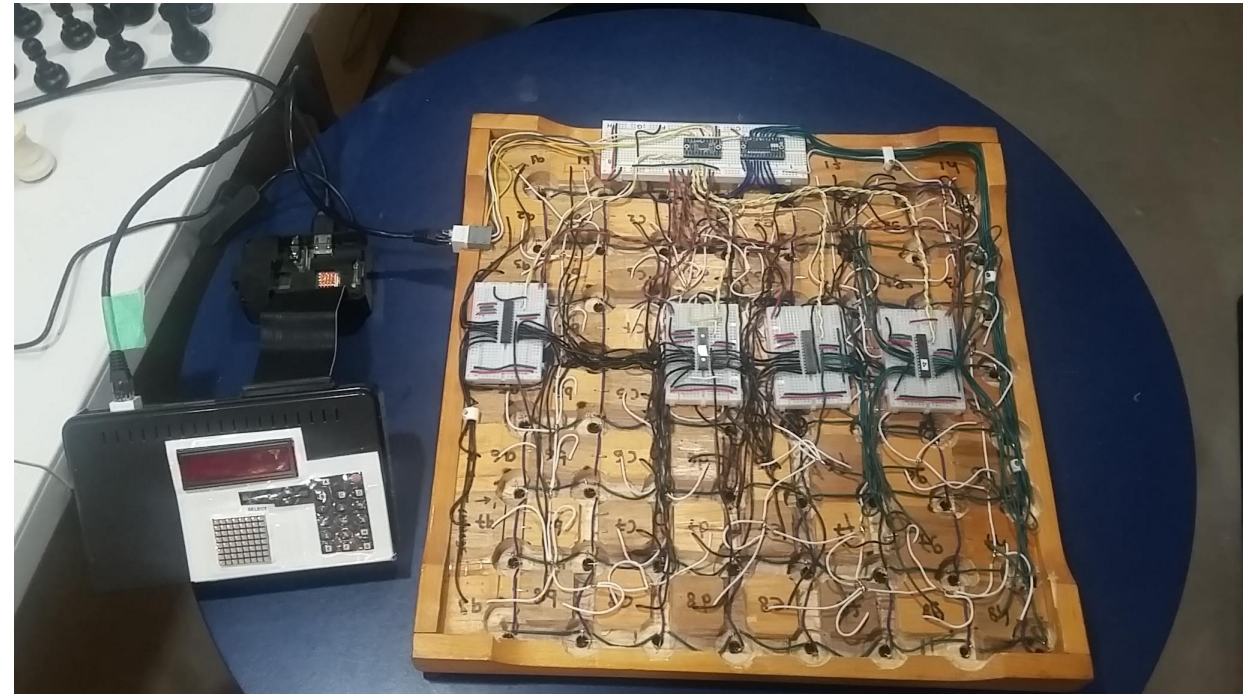
## Main Components

ITEM	QTY	REMARKS
Raspberry Pi 3 B+	1	
TCA9548A 1-to-8 I2C multiplexer	1	Adafruit
MCP23017 port expanders	5	
HT16K33 16x8 LED Matrix Driver	1	Adafruit
Reed Switches	64	
5mm LEDs 3V	64	
16x2 LCD + Keypad (Kit) 5V	1	Adafruit

# FEZUL Chess Computer

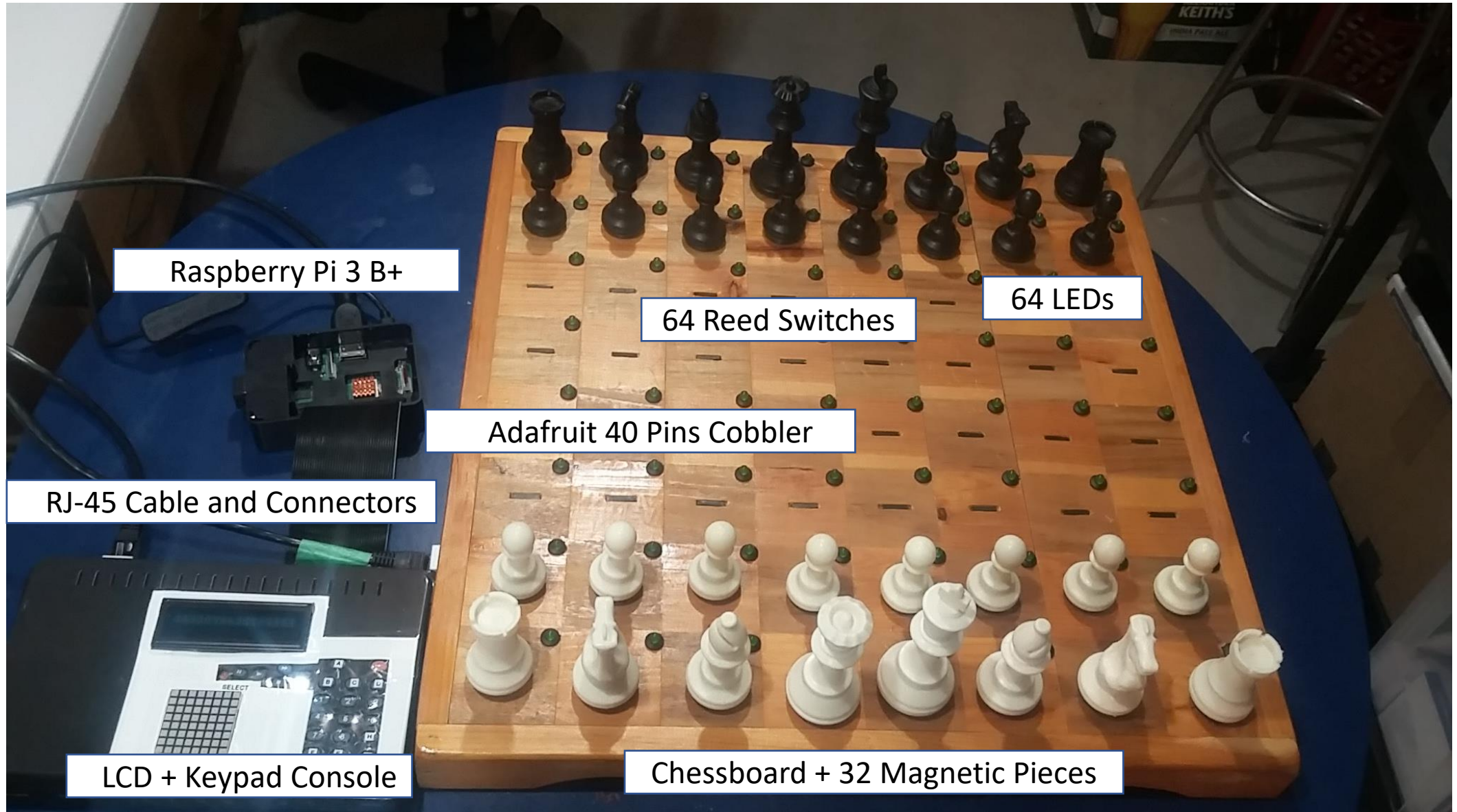


Front View



Back View

# Front View (Components)



Raspberry Pi 3 B+

64 Reed Switches

64 LEDs

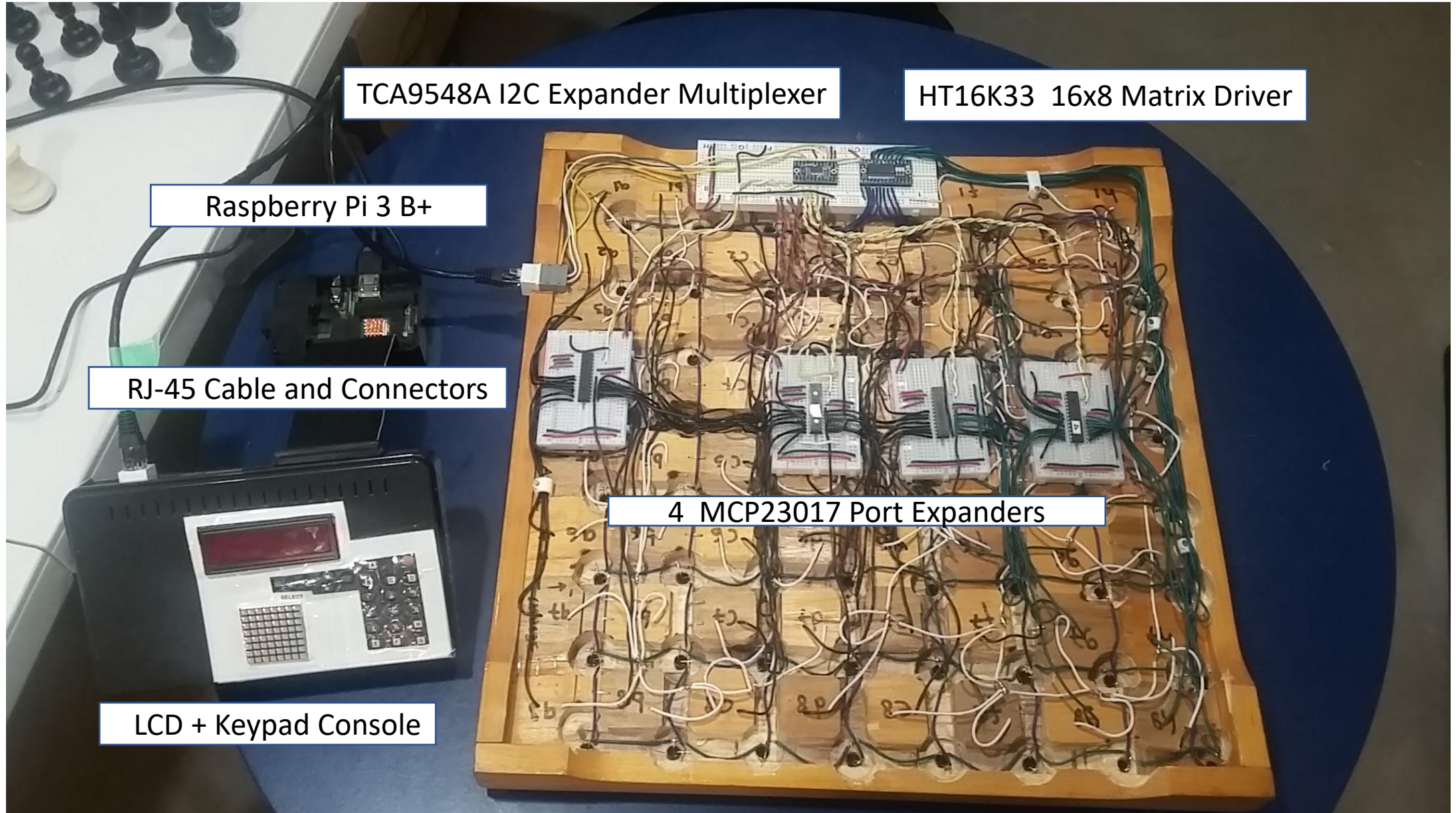
Adafruit 40 Pins Cobbler

RJ-45 Cable and Connectors

LCD + Keypad Console

Chessboard + 32 Magnetic Pieces

# Back View (Components)



TCA9548A I2C Expander Multiplexer

HT16K33 16x8 Matrix Driver

Raspberry Pi 3 B+

RJ-45 Cable and Connectors

4 MCP23017 Port Expanders

LCD + Keypad Console

# Building Fezul Chess Computer



Drilling Holes for LEDs



Installing LEDs and Reed Switches



Wiring Components



Testing the Interface