Input Downward Force →

Force Sensitive Resistors → Analog Voltage Signals → **2x MUX** → Condensed Analog Signals → **ESP 32 / Posture Pad** → Wireless/Bluetooth → **Companion App** → Display of Mapped Force Gradient

3.3 Volts

5V via USB

120V AC Wall Outlet/With 5V Adapter

Force Sensitive Resistors

Module	Force Sensitive Resistors
Input	FSR 402 Range: 0N - 20N FSR 406 Range: 0N - 20N Power: 3.3V
Output	A range of Force ranging from 0 - 20N
Funtionality	Will be used to gather downward force from user standing on it

MUX

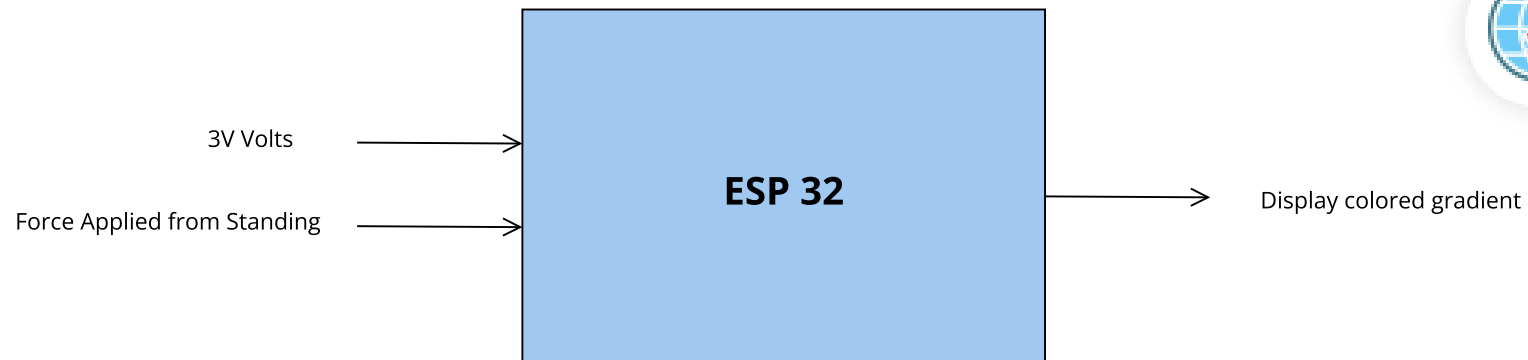| Module	Multiplexers
Input	16 data Input Power: 2V - 6V
Output	1 data Output
Funtionality	To be able to be able use all outputs given from using 18 FSRs.

ESP 32

Module	ESP 32
Input	Power 3.3V 11 I/O Pins
Output	11 I/O Pins
Funtionality	To gather data from FSRs and use the data for our output display.

Companion App

Module	Web Application
Input	USB Input from ESP 32
Output	Mapped gradient display of force
Funtionality	To display for user what their standing patterns are through a mapped gradient of their foot impressions.

Power Supply

Module	Power Supply
Input	120VAC through a 3.3V adapter
Output	3.3V
Funtionality	To be compatible to power our ESP32, MUX's and FSRs.

3V Volts →

Force Applied from Standing →

ESP 32

→ Display colored gradient

Inputs	- 3V from the Wall outlet - Data from standing on FSR.
Outputs	- Mapped display of color gradient to showing force application.
Functionality	- Input force is used to display on an output color gradient of a user's standing patterns and foot impressions.