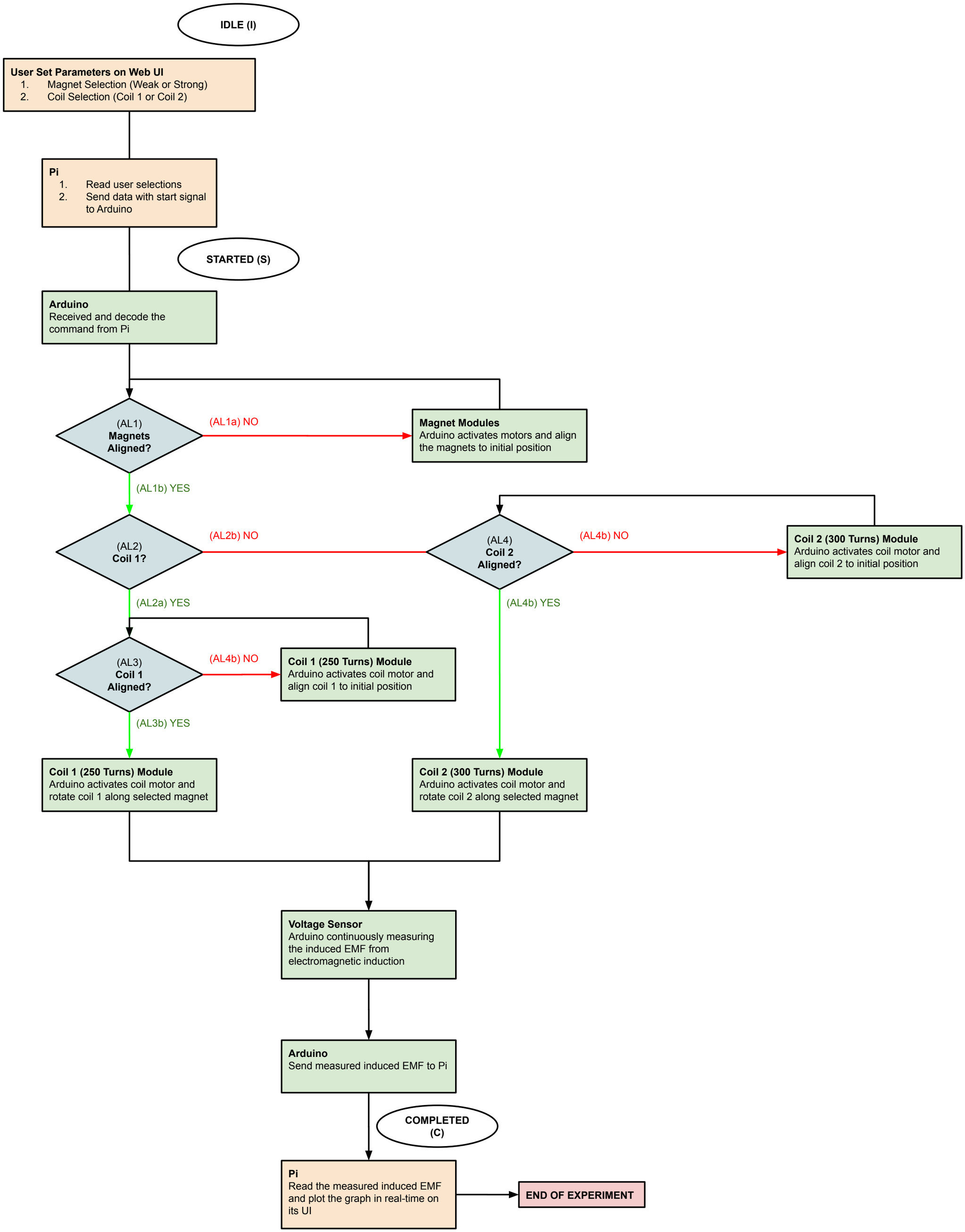
IDLE (I)
User Set Parameters on Web UI
1. Magnet Selection (Weak or Strong)
2. Coil Selection (Coil 1 or Coil 2)
Pi
1. Read user selections
2. Send data with start signal to Arduino
STARTED (S)
Arduino
Received and decode the command from Pi
(AL1) Magnets Aligned?
(AL1a) NO
Magnet Modules
Arduino activates motors and align the magnets to initial position
(AL1b) YES
(AL2) Coil 1?
(AL2b) NO
(AL4) Coil 2 Aligned?
(AL4b) NO
Coil 2 (300 Turns) Module
Arduino activates coil motor and align coil 2 to initial position
(AL2a) YES
(AL4b) YES
(AL3) Coil 1 Aligned?
(AL4b) NO
Coil 1 (250 Turns) Module
Arduino activates coil motor and align coil 1 to initial position
(AL3b) YES
Coil 1 (250 Turns) Module
Arduino activates coil motor and rotate coil 1 along selected magnet
Coil 2 (300 Turns) Module
Arduino activates coil motor and rotate coil 2 along selected magnet
Voltage Sensor
Arduino continuously measuring the induced EMF from electromagnetic induction
Arduino
Send measured induced EMF to Pi
COMPLETED (C)
Pi
Read the measured induced EMF and plot the graph in real-time on its UI
END OF EXPERIMENT