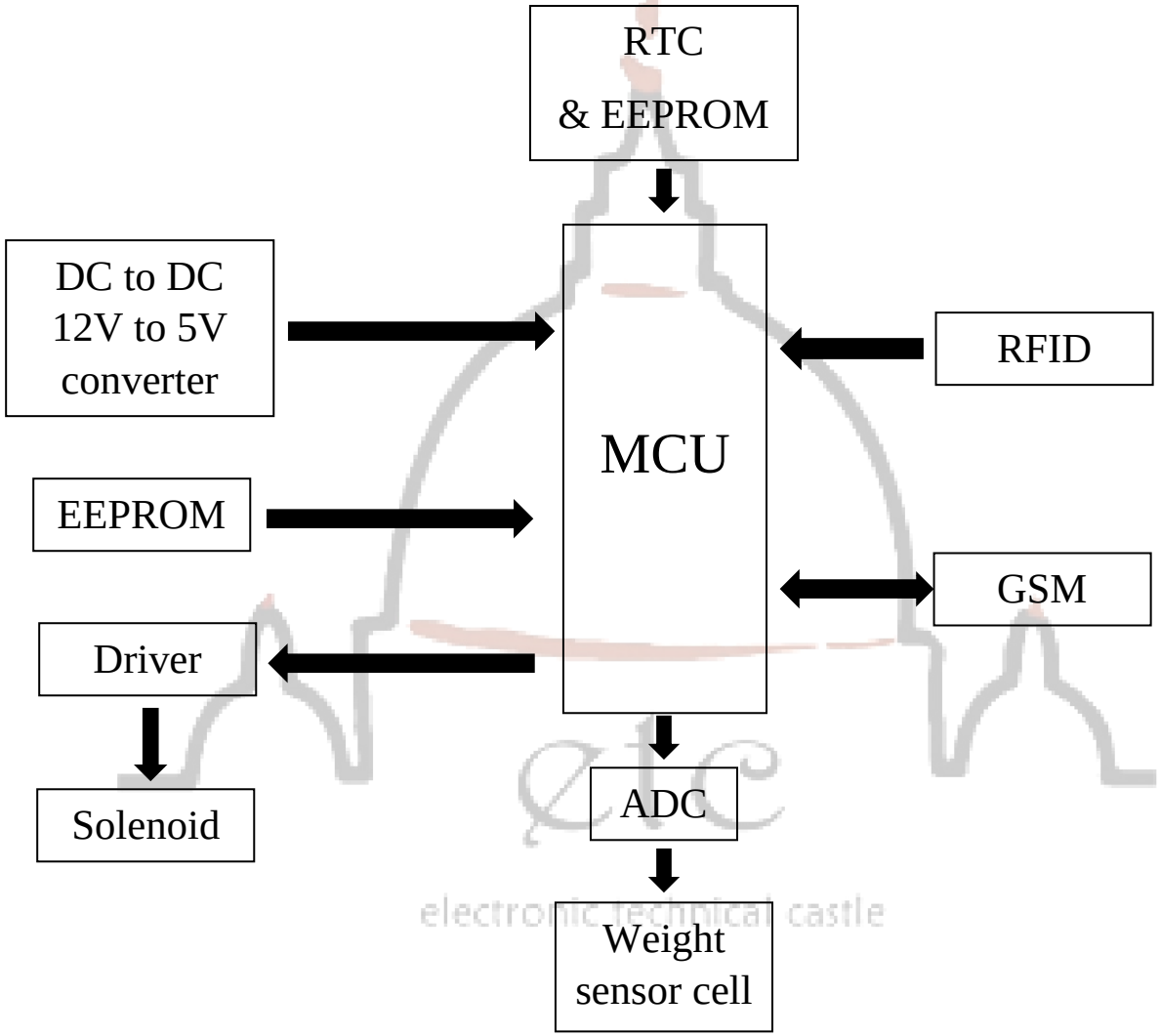
Current Block Diagram



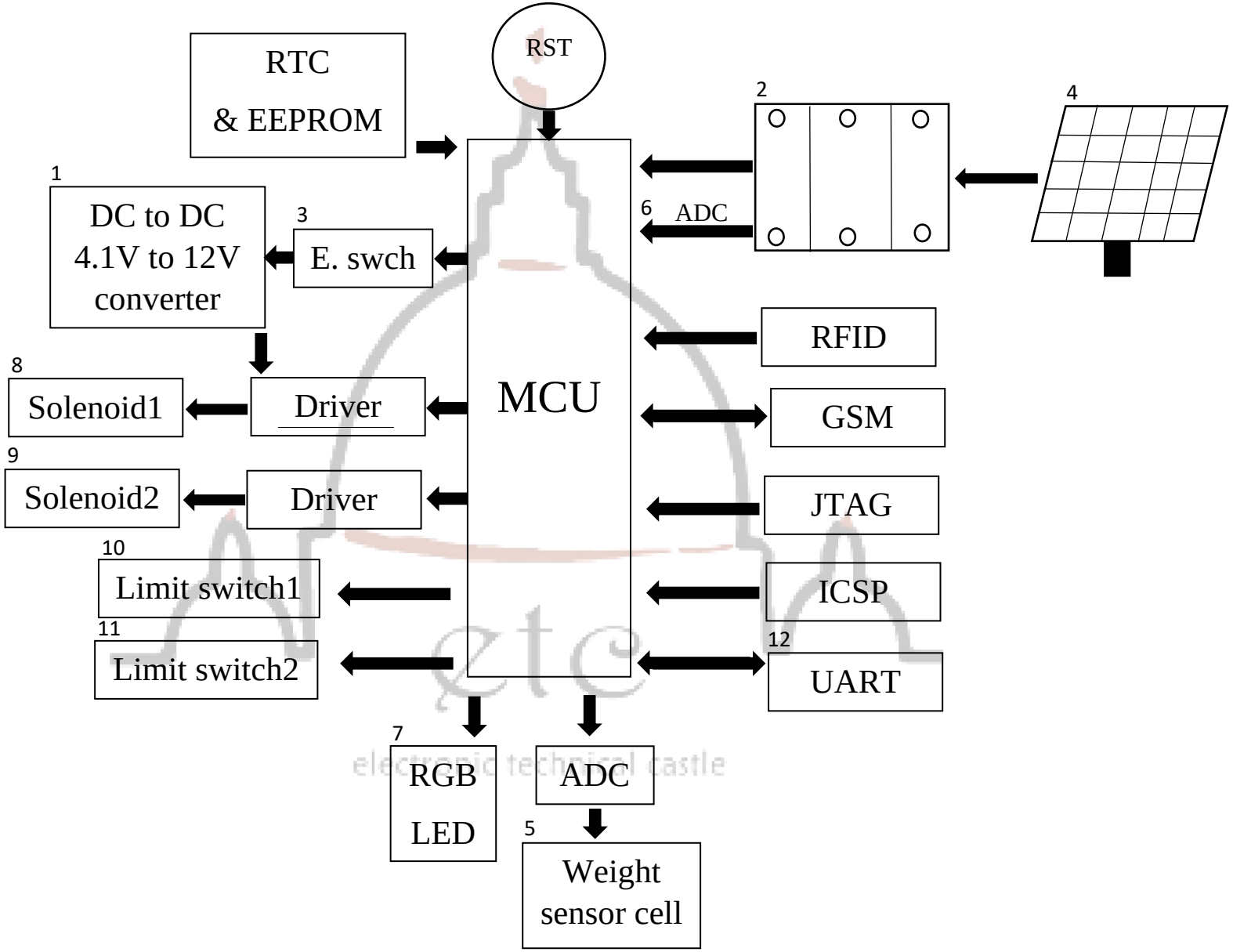
Requirements

- As per video:
  - Two doors lockers.
  - RFID reader.
- As per meeting with Dr. Omara:
  - GSM connectivity.
  - Weight sensor max 100Kg.
  - Throwing and collecting trash in a particular time.
- As per meeting with Eng. Alaa:
  - Limit switch for doors.
  - Classic and embedded control for operators' locker.

Reviewing on SCH and PCB

1. Hardware have only one door locker.
2. Hardware without limit switch.
3. RFID is separated form PCB (we have to reduce the no of wires in housing to be reliable solution easy to install and easy to maintain).
4. The used P.S isn't sufficient for current saturation.
5. We can't use the installed weight sensor cell for 100Kg.
6. Wrong components footprint in PCB.
7. There is no power management (system is using high power consumption).
8. GSM without Reset and Enable controllable pins.
9. RFID without Enable controllable pin.
10. Duplicated EEPROM otherwise internal one.
11. Reset of MCU isn't working.
12. Lose weight cell fixing.
13. System without debugging pin.

Suggested Block Diagram and component



1. As per Dr. Omara request all component from local market and we don’t have robust solenoid 3V in the local market.
2. Battery parallel setting for maximizing device lifetime.
3. Electronic switch used for DC-to-DC converter waking up.
4. Solar panel charger (suggested for phase 2).
5. Weight sensor cell has a safety margin for falling 5Kg package from 1.5m height and we have to coat weight sensor cell pd with foam material to reduce trash hitting.
6. Simple monitoring for discharging.
7. RGB led for status indication turning off after each indication.
8. Customer’s locker.
9. Operator’s locker.
10. Feedback for Customer’s door.
11. Feedback for Operator’s door.
12. Spare UART.
13. All components are ready to be operated by battery voltage except solenoid and RFID.