SMART CARD BASED AUTOMATIC BUS TICKETING SYSTEM FOR TRAVELLED DISTANCE

AIM:

Design and Development of Smart card based automatic bus ticketing system for travelled distance.

PURPOSE:

Replacing manual work with technology is always a great experience. It gives lot of convenience and works as fast as possible. Lot of advancements happens in all sectors. Travel industry is one of the large industries around the works. Buses are as normal like previous without any advancements. To solve this issue we want to implement automatic bus ticketing with auto fare debit and provide entry, exit doors auto operation. Also it shows number of seats availability on LCD. The proposed project title is smart card based automatic bus ticketing system for travelled distance.

DESCRIPTION:

RFID interfaced to Arduino through uart port. Two servo motors and two buttons connected to Arduino digital pins. L293d controls dc gear motor. L293d connected to Arduino digital pins.

WORKING:

Here two servo motor controls entry and exit doors. Assume DC gear motor as vehicle or bus. RFID reader is nothing but smart card. Driver can start and stop bus using start and stop buttons. When bus stop then two doors will open and passenger can enter into bus by swiping RFID card (smart card). Seats availability status resumes when each passenger enters into bus. When stop arrives, driver trigger stop button and bus will be stop then two doors will open. If passenger out of bus then he has to swipe RFID card, based on number of stops crossed amount will be debited from passenger card and balance will be showing on LCD display.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
RFID Module	:	EM-18
DC Gear Motor	:	10 R.P.M
H-Bridge	:	L293D
Servo Motors	:	SG90
Buttons	:	2 Pin Toggle
H-Bridge	:	L293D
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

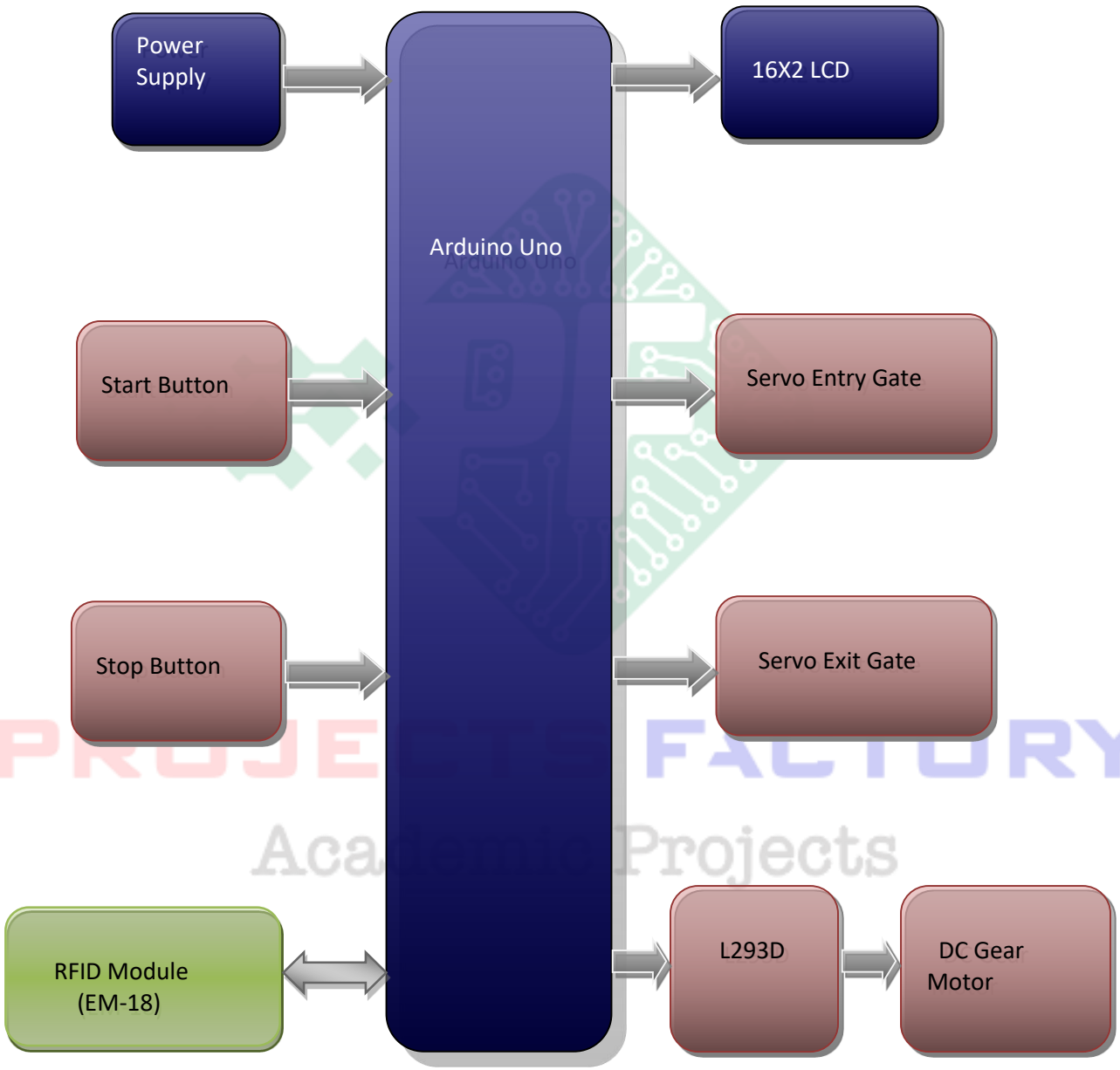
Arduino IDE

Proteus based circuit diagram

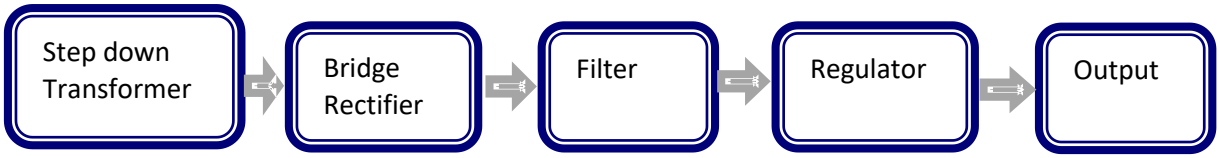
APPLICATIONS:

- RFID Bus ticketing
- Ticketing automation
- RFID ticket fare collection application

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERD:

- We have covered RFID module (EM-18) interfacing
- Servo motors and DC gear motor interface