

SMART BUS FARE TICKETING SYSTEM USING RFID AND GSM

AIM:

Design and Development of Smart bus fare ticketing system using RFID and GSM.

PURPOSE:

Electronic ticketing system is more advanced than traditional ticketing system. Traditional ticketing consumes lot of time and its effects on travel time. E-tickets solve this issue and time will be saved. Let's see how this will work. This system has microcontroller with RFID, GSM and servo motors to control entry and exit doors. Passenger's ticket fare will be deducted based on travelled time. Passenger's travelled time will be calculated based on number of stops crossed. The proposed project title is smart bus fare ticketing system using RFID and GSM.

DESCRIPTION:

RFID and GSM interfaced with Arduino UART ports. Two servo motors and buttons connected with Arduino digital pins. DC gear motor controlled by l293d which is connected to Arduino digital pins.

WORKING:

Driver controls bus with start and stop buttons. When bus stop doors will be open and passengers can enter into bus by swiping RFID card. Arduino shows number of seats availability on LCD by calculating number of passengers IN. When stop arrives driver will press stop button and bus will be stop and doors will be open. When passenger IN and OUT, Arduino sends SMS to register mobile number. SMS contains passenger details like balance, ticket fare. When all seats filled then entry door will not open even after vehicle stop. All this information will be displaying on 16x2 LCD display.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
RFID Module	:	EM-18
GSM Module	:	SIM800C
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:

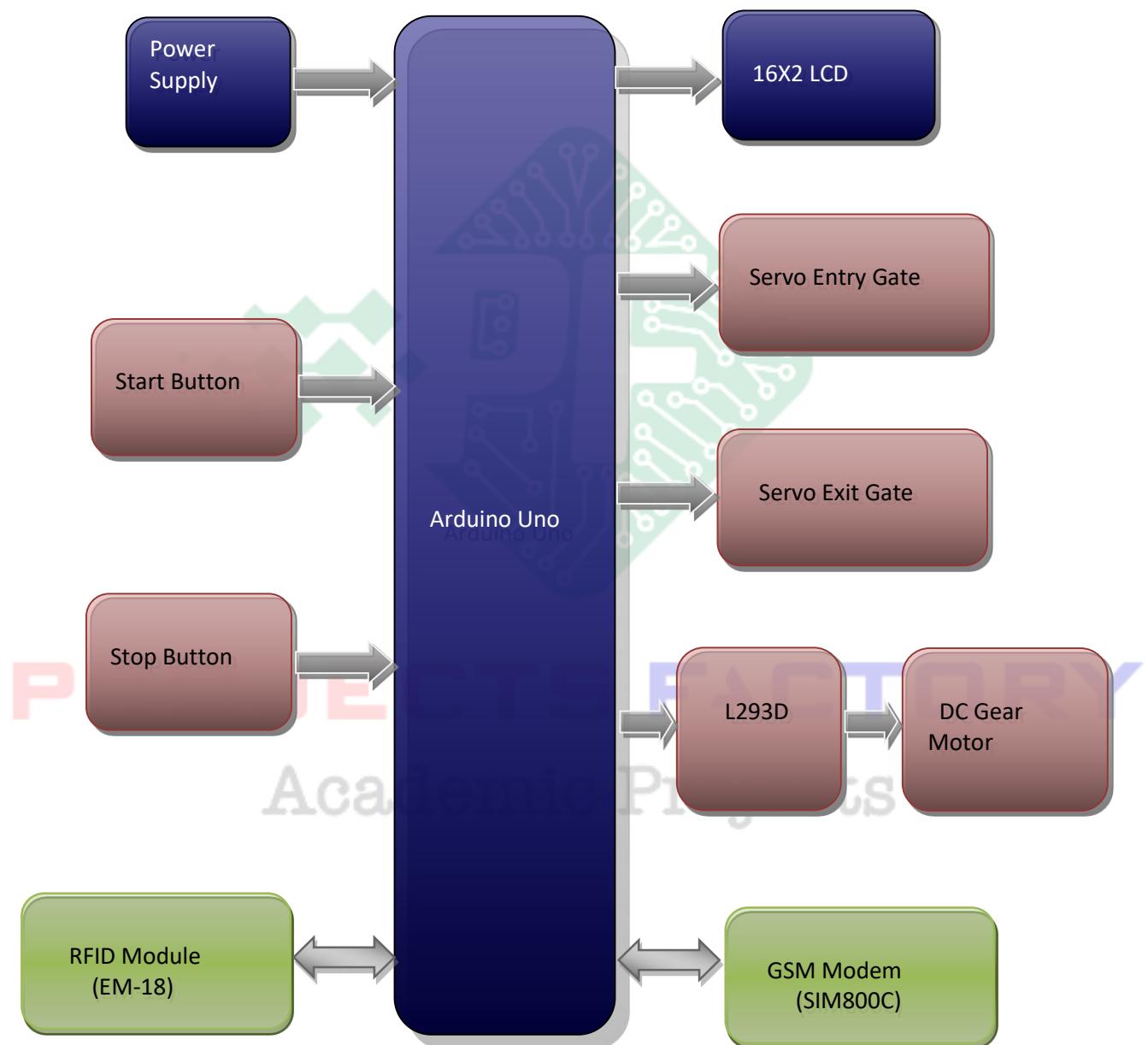
Arduino IDE

Proteus based circuit diagram

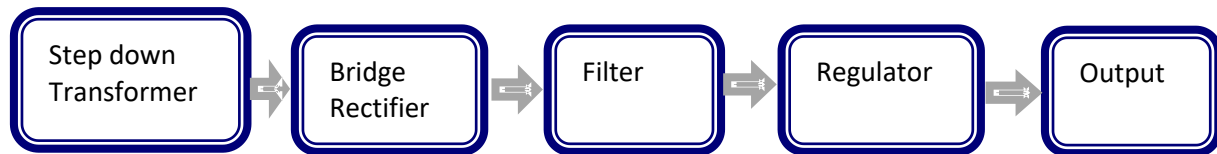
APPLICATIONS:

- Smart Bus Transit System with RFID
- Auto fare ticketing system
- RFID and GSM based ticketing system

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- We have covered RFID module (EM-18) and GSM module (SIM800C) interfacing
- Servo motors and DC gear motor interface

PROJECTS FACTORY
Academic Projects