The main objective of this project is to design a implementation of fastag service using Arduino. Here the vehicle will have an RFID tag mounted on it. The check post is able to read the tag and if the vehicles have sufficient balance to credit the fast tag amount, the amount will be credited automatically from the fastag wallet and the check post will be open after every successful credit. Else, the gate won’t open and the user needs to recharge his fastag wallet. To recharge the wallet, Bluetooth module is used here. The statuses are displayed on a lcd screen as well.

We build the project on Arduino - an open-source electronics platform based on easy-to-use hardware and software. Arduino board senses the environment by receiving inputs from many sensors, and affects its surroundings by controlling various actuators. The Arduino board is programmed by writing code in the Arduino programming language and by using the Arduino Integrated Development Environment. Unlike most other programmable circuit boards, the Arduino does not need a separate piece of hardware (called a programmer) in order to load new code onto the board - you can simply use a USB cable.

The main components used in this project are:

* **Arduino Uno Microcontroller board** based on the Microchip ATmega328P microcontroller is used in this project. This board also consists of other components such as crystal oscillator, serial communication, voltage regulator, etc. to support the microcontroller. Arduino Uno has 14 digital input/output pins (out of which 6 can be used as PWM outputs), 6 analog input pins, a USB connection, a Power barrel jack, an ICSP header and a reset button.
* **RFID** consists of two main components, a transponder/tag attached to an object to be identified, and a Transceiver also known as Reader. A Reader consists of a Radio Frequency module and an antenna which generates high frequency electromagnetic field. RFID is a method of data collection that involves automatically identifying objects through low-power radio waves.
* **Servo Motor** is low speed and high torque motor. It has four main components - a DC motor, a gearbox, a potentiometer and a control circuit. It is controlled by sending a series of pulses through the signal line.
* **HC-05 Bluetooth Module** is a Bluetooth serial port protocol designed for transparent wireless serial connection setup. Its communication is via serial communication which makes an easy way to interface with controller or pc.