**Existing system with Weakness**

**Nepal**

Nepali detection system comprises of manual on the spot detection by Traffic Police that are on duty on the road. There are about 1,084 of them on the road. Nepali Violation Detection System also is equipped with CCTV cameras on many intersections of the road which capture the violations in real time. A person sits behind those CCTV cameras, constantly monitoring for any violations. In the case of violation, he reports it to the nearest Traffic Police for the required law implementation and fining. In his reporting, the no. plate, time of the violation and kind of the violation is clearly mentioned through his walkie-talkie. Traffic Police on the road have a right to issue fine to those drivers that commit an offence in front of their eyes.

While in analyzation, the weakness that are driven out in the existing system are as follows:

1. Many of the violations go un-notice because catching each and every offence of 1000s of drivers on the road is close to impossible.
2. There is lack of manpower in the system, the available personnel are busy to manage the intersection than to actually catching the violating culprits.
3. The CCTV footages cannot be readily made available to those who plead that they have not committed any kinds of offence.
4. The CCTV footages are of low quality; the number plates cannot be easily identified by the human eyes.
5. Walkie-talkie technology is an outdated half-duplex communication and is slow, thus, culprit gets time for escape before a traffic police realizes the offence and charges him with the offence.
6. Drivers have developed an ignorance out of the existing system, and don’t follow the rules because of the incompetency of the system to charge on their offence.

Similarly, the strengths of the today’s system are:

This kind of system is widely used in the western countries. They use a lot of hardware equipment with skilled personnel to manage the system and it can be very useful to maintain the large volume of vehicles and controlling the crowds as well as managing the traffic. The system is also used for detecting the criminal activities and different people violating the traffic rules. Such kind of system are rarely used in the eastern countries like ours. Here most of the traffic are either controlled by the traffic lights or by the traffic officers in each junction. The use of such system is rarely used,so we are trying our best to implement this system which is best for real use.

Some of the weakness of the existing system are listed below:

* It is hard to get clear view photos of large number of vehicles passing through red light concurrently.
* Number plate must be visible with light else in the dark the picture might be unclear.
* People may use fake license plate which may be hard to track
* Devices use must be frequently checked to see if it is damaged by criminals or due to natural event.
* Another weakness might be the more and more number of Vehicles. the traffic police may not easily detect the violence in the crowd of so many vehicles.

**STRENGTH**

1. No criminal violating traffic rules goes unpunished.
2. Automated system reduces the manual work of traffic police.
3. All the information of the person violating traffic rules will be stored in database which can also be used for future acting.

**Detecting system**

Detection system is based on optical character recognition(OCR), image processing and pattern recognition. in the process of detecting, cameras show the entire violation scenario and camera captures the image of number plate of the violating vehicle. The system takes input from the traffic light and sensors and starts capturing red light violation as soon as traffic signals are violated. Detecting system is not used in Nepal because implementation is not easy and unmanaged road.

Detecting system provide the following system

1.take image of the number plates.

2.Speed violation detection.

3.Image of the vehicle.

4.Capture the image of lane.