Chapter 1 : Automatic Toll Gate System Using Advanced RFID and GSM Technology | Open Access Journ

The main objective of this project is to make Automatic Toll Tax System which reduces the manual assistance, deliver secure and time efficient solution for the busy roads. Automatic Toll Tax System maintains the data base of the vehicles.

They do not require manual collection and operation of toll barriers. The details about the vehicles and payment are stored in an RFID based system. This article explains the working of a simple toll plaza system interfaced with RFID. Each user holds a unique ID for his vehicle. When the user scans his tag while passing through the plaza, a certain amount is deducted from his account. A user may also recharge his account in case of insufficient balance. The relevant messages are also displayed on a 16x2 LCD. The free source code for the program is available in C. There is a coil inside the RFID tag and when it is influenced by a magnetic field, it sends a 12 byte identity code to RFID reader for further processing. The RFID tag is used as a unique identity for account of a particular user. When a vehicle drives through the toll plaza, its driver is prompted to scan his RFID tag. If the identity serial number of the tag, i. After this, the vehicle gets immediate access to drive through. This RFID based toll system also has some additional features. A new user can register him with the system. Also an old user can recharge his account balance. The amount for recharge can be entered in the system through a numeric keypad interfaced with AT89C In beginning, the user is prompted to scan his tag or ID. The serial code of the tag is identified by the reader module and is sent to AT89C51 for comparison with stored data. If the ID is matched by the microcontroller, the toll amount in this case Rs. The new record is then stored by the microcontroller to grant future access. In this case the user still gets the access through the system. The system also prompts the driver to recharge the account. If balance reaches below Rs. The user does not get access until he adds more balance to his account. The recharge amount is entered by using a keypad. When an RFID tag comes in this range, the reader detects it and sends a unique code of the tag serially. This serial code, consisting of 12 bytes, is received by the microcontroller. This code is the ID for the user and is stored as an array in the microcontroller. If the ID is matched with this code stored in array of microcontroller, the user is granted access though the toll plaza.

Chapter 2 : Toll road - Wikipedia

The aim of this project is to design a high tech toll tax system using microcontroller so that the vehicles need not to stand in a queue for a long time to pay the toll tax.

Electronic Road Pricing Gantry at North Bridge Road, Singapore The most revolutionary application of ETC is in the urban context of congested cities, allowing to charge tolls without vehicles having to slow down. This application made feasible to concession to the private sector the construction and operation of urban freeways, as well as the introduction or improvement of congestion pricing , [8] as a policy to restrict auto travel in downtown areas. The charge would be combined with other traffic reduction implementations, allowing money to be raised for public transit improvements and bike and pedestrian enhancements. This section does not cite any sources. Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. February Learn how and when to remove this template message Electronic toll collection systems rely on four major components: The four components are somewhat independent, and, in fact, some toll agencies have contracted out functions separately. In some cases, this division of functions has resulted in difficulties. This, together with installation problems in the automated vehicle identification system, led to many customers receiving erroneous violation notices, and a violation system whose net income, after expenses, was negative, as well as customer dissatisfaction. The majority of toll facilities record the passage of vehicles through a limited number of toll gates. At such facilities, the task is then to identify the vehicle in the gate area. Some early AVI systems used barcodes affixed to each vehicle, to be read optically at the toll booth. Optical systems proved to have poor reading reliability, especially when faced with inclement weather and dirty vehicles. RFID tags have proved to have excellent accuracy, and can be read at highway speeds. The major disadvantage is the cost of equipping each vehicle with a transponder, which can be a major start-up expense, if paid by the toll agency, or a strong customer deterrent, if paid by the customer. To avoid the need for transponders, some systems, notably the ETR Electronic Toll Route near Toronto , use automatic number plate recognition. Here, a system of cameras captures images of vehicles passing through tolled areas, and the image of the number plate is extracted and used to identify the vehicle. This allows customers to use the facility without any advance interaction with the toll agency. The disadvantage is that fully automatic recognition has a significant error rate, leading to billing errors and the cost of transaction processing which requires locating and corresponding with the customer can be significant. Systems that incorporate a manual review stage have much lower error rates, but require a continuing staffing expense. A few toll facilities cover a very wide area, making fixed toll gates impractical. The most notable of these is a truck tolling system in Germany. This system instead uses Global Positioning System location information to identify when a vehicle is located on a tolled Autobahn. Implementation of this system turned out to be far lengthier and more costly than expected. As smart phone use becomes more commonplace, some toll road management companies have turned to mobile phone apps to inexpensively automate and expedite paying tolls from the lanes. The app communicates in real time with the facility transaction processing system to identify and debit customer accounts or bill a major credit card. Automated vehicle classification[edit] Automated vehicle classification is closely related to automated vehicle identification AVI. Most toll facilities charge different rates for different types of vehicles, making it necessary to distinguish the vehicles passing through the toll facility. The simplest method is to store the vehicle class in the customer record, and use the AVI data to look up the vehicle class. This is low-cost, but limits user flexibility, in such cases as the automobile owner who occasionally tows a trailer. More complex systems use a variety of sensors. Inductive sensors embedded in the road surface can determine the gaps between vehicles, to provide basic information on the presence of a vehicle. Treadles permit counting the number of axles as a vehicle passes over them and, with offset-treadle installations, also detect dual-tire vehicles. Light-curtain laser profilers record the shape of the vehicle, which can help distinguish trucks and trailers. Transaction processing[edit] Transaction processing deals with maintaining customer accounts, posting toll transactions and customer payments to the accounts, and handling customer inquiries. The transaction processing component of some systems is referred

to as a "customer service center". In many respects, the transaction processing function resembles banking , and several toll agencies have contracted out transaction processing to a bank. Customer accounts may be postpaid, where toll transactions are periodically billed to the customer, or prepaid, where the customer funds a balance in the account which is then depleted as toll transactions occur. The prepaid system is more common, as the small amounts of most tolls makes pursuit of uncollected debts uneconomic. Most postpaid accounts deal with this issue by requiring a security deposit , effectively rendering the account a prepaid one. Violation enforcement[edit] A violation enforcement system VES is useful in reducing unpaid tolls, as an unmanned toll gate otherwise represents a tempting target for toll evasion. Several methods can be used to deter toll violators. Police patrols at toll gates can be highly effective. In addition, in most jurisdictions, the legal framework is already in place for punishing toll evasion as a traffic infraction. However, the expense of police patrols makes their use on a continuous basis impractical, such that the probability of being stopped is likely to be low enough as to be an insufficient deterrent[citation needed]. A physical barrier, such as a gate arm, ensures that all vehicles passing through the toll booth have paid a toll. Violators are identified immediately, as the barrier will not permit the violator to proceed. However, barriers also force authorized customers, which are the vast majority of vehicles passing through, to slow to a near-stop at the toll gate, negating much of the speed and capacity benefits of electronic tolling. Automatic number plate recognition , while rarely used as the primary vehicle identification method, is more commonly used in violation enforcement. This makes manual review, with its greater accuracy over fully automated methods, practical. However, many jurisdictions require legislative action to permit this type of enforcement, as the number plate identifies only the vehicle, not its operator, and many traffic enforcement regulations require identifying the operator in order to issue an infraction. An example of this is the vToll system on the Illinois Tollway, [31] which requires transponder users to enter their license plate information before using the system. If the transponder fails to read, the license plate number is matched to the transponder account, and the regular toll amount is deducted from the account rather than a violation being generated. Toll authorities are also resorting to using collection agencies and litigation for habitual toll violators with large unpaid debts, and some states can pursue criminal prosecution of repeat toll violators, where the violator could serve time in jail , if convicted. Many toll agencies also publicize a list of habitual toll violators through media outlets and newspapers. Some toll agencies offer amnesty periods, where toll violators can settle their outstanding debts without incurring penalties or being subject to litigation or prosecution. Privacy[edit] Electronic toll collection poses a threat to privacy because the systems record when specific motor vehicles pass toll stations. Using ecash and other modern cryptography methods, one could design systems that do not know where individuals are, but can still collect and enforce tolls.

Chapter 3 : Indian Tollways

Toll Tax Management System Project Codes and Scripts Downloads Free. Pre Business Management System is consists of complete Customer Relationship Management System, project tracking system, inventory control system and office automation system.

Now by using a microcontroller tax paying become very simple ,There is a alarm which blow as soon as it detect a vehicle ,a vehicle can be sensed through an IR sensor ,and the amount to be paid off is also display ,when driver paid off the tax it allow to move further. This system takes very small time, thus prevent the jam to occur. IR sensors are sensitive to car moving in the field of view. For car parking a region IR is send in that region from one end and it is received on the other end. The transmitter and receiver are connected to the main device. The main device has power supply, micro controller and a FND connected to it. Capacitor is the component used to pass the ac and block the dc. So the output of supply section is 5v regulated dc. A crystal oscillator of 12 MHz is connected at pin no. The crystal oscillator works on piezoelectric effect. The clock generated is used to determine the processing speed of the controller. Two capacitors are also connected one end with the oscillator while the other end is connected with the ground. This section is used to reset the controller connected at pin no. It has eight leds. The base resistance required for the transistor is also ohm. The message to be displayed on fnd is programmed through software. RELAY is an isolator and an electrical switch. The relay used is 12V-5A. Whenever high signal comes at the base of NPN transistor it is switched on and whenever low arrives it is switched off. Base resistance of 1k5 is connected at the base of the transistor. Whenever low is sensed at the pin of microcontroller transistor gets off and the output of the collector becomes high and the relay which is connected at the output of the collector becomes off. The reverse action of it takes place when high is sensed at the pin of microcontroller. A 2k2 resistance is used as pull up. If pull up is not used then the 12v of relay can damage the processor when the transistor BC is on. A pull down resistor of value 2k2 is also used.

Chapter 4 : Electronic toll collection - Wikipedia

Toll Tax Management System Project: Toll Tax Management System Project Descripion: Toll Tax Management System: Toll Tax Management System Toll Plaza Management system is a web based application that can Toll Plaza Management; preeti on Hostel Management System Visual Basic Project .

The concept proposed is of automatic toll tax payment system and the amount transaction information sends to the cell phone of the motorists through the GSM modem technology. It is an innovative technology for expressway network automatic toll collection solution. In this paper, the frame composing and working flow of the system is described and data information is also easily exchanged between the motorists and toll authorities, thereby enabling a more efficient toll collection by reducing traffic and eliminating possible human errors. Highways and roads are also not an exception. From the very past, the construction, extension, maintenance and operating costs of highways, roads, bridges and tunnels were collected directly or indirectly[1]. In the old indirect method[2], the expenses are compensated either by the tax payment for fuel or by budget allocation of the national income. The shortcoming of this method is that a number of taxpayers, who do not use any of the roads and carriageways, have to pay extra money. However, in the other system, called direct method, the tolls are taken directly from the drivers passing that road or street. The other three main reasons why tolling, or road pricing, is implemented are the The advances in the technologies related to wireless communication has led to the emergence of several engineering designs to aid the human requirements. Today on one side the importance for secured access is growing in several fields and on the other side with technology advancements the RFID cards and readers are becoming low cost. Both these aspects are the primary reasons for rapidly growing RFID based authentication system. Today, several wireless technologies are used for building wireless networks. Among them the 2. The wide usage of 2. Global system for mobile communication is that it is an international standard. If you travel in parts of the world, GSM is the only type of cellular service available. Implementing mobile communication based health monitoring via short message service SMS. Simple wireless control device to achieve the targets, or use the GSM network technology to achieve. Nevertheless, the functions of these devices are too simple to prevent the vehicle theft crimes from happening, furthermore, their burglarproof methods are not only character. There are millions of drivers passing through Toll Gate Stations every day. The conventional or the traditional way of collecting the toll from the vehicle owners or the drivers is to stop the car by the Toll Gate Stations and then pay the amount to the toll collector, standing or perhaps sitting! So in order to stop all these problems and inconvenience, we introduce an automated or a more convenient way of collecting the toll and traffic management. R had proposed the toll collection or tax collection is the one of the source for the Government and maintenance of Road. This paper of tax payment system will be an advantage for the government and this system will be monitoring the vehicles which are crossing the gates. This is the first system has been implemented then only accidents has been reduced. Bean Michal had proposed the system of tool collection established in England and Wales from about in responded to the need for better road way. The trusts were ultimate response for the maintenance and improvement of most of the main roads in England. F had proposed this system he used the technique of tax collecting system which is the earliest system for tax collecting and here advantage of this system is to collect the tax ordered by the processor and the demerits is of the higher time consumption. The authors present a high-rate lossless wireless sensing the platform Edwin. G had proposed this technique in street by road side commercial store and done by user but not for public. Then after it become good result and implemented in to highway roads. K had proposed his technique was implemented for reducing time to waiting in toll gate. And also it is very secured. I had proposed the technique implemented here is RFID Based Payment System to reduce the time consumption and easy access of the system, here the money transfer can be done by this method. S had proposed the processor implemented here ARM -7 Processor by the ARM-7 the processing of the details of the vehicle has been developed and the time taken is reduced to a great extent. C had proposed the technique used is of Smart Card Based Toll Gate Automated System which enables the user to access the system, toll booth in less time and a maximum of

human effort is needed. Data produced from wireless sensor network deployments lacked the measurement quality and data set richness associated with previous cable-based test programs, thereby limiting the perceived role of wireless sensors in advanced structural health monitoring. King Seong Leong had proposed the technique implemented is of Laser Technology by this technique the process time has been reduced to an higher extent. To construct an historic vibration database, periodic real-time transmissionof vibration measurements would be required, but only at a very low duty-cycle. Limiting the use of the radio transceiver, which accounts for the largest power consumption of the device, reduces the average current consumption to a level that is sustainable with a combination of AA batteries and a piezoelectric generator. The Capacitive Sensor used here to sense the vehicle size. IR sensor is used to detect the vehicle and the Gate models are used here to open and close while the vehicle is entering or exit in the Toll Tax unit. The RFID reader is used to read the tag of the vehicles. The Vehicle information is stored in the microcontroller based on the TAG number. Based on that number the Tax amount for that vehicle will automatically transfer to the toll gate system. And that cost information will be sent through GSM modem to a mobile phone of the owner. The status of the vehicle will be displayed in the LCD. The main objective behind this proposal is to create a suitable Automatic Toll Gate System to be implemented. This system uses IR technology, making it very vulnerable to failure. Other than that, users also have to bear the high cost of owning the two-piece tag required for this system. However, this proposed system requires major changes in the infrastructure of the existing toll roads. For that purpose, it has to first pass through the IR transmitter - receiver gate. Then we have here the RFID system. When further vehicle is going towards the Load cell plate it has to pass through the IR transmitter - receiver gate. The RFID data is stored on tags which respond to the reader by transforming the energy of radio frequency queries from the reader or transceiver , and sending back the information they enclose. A computer hosting a specific RFID application pilots the reader and processes the data it sends. The ability of RFID to read objects in motion and out of the line-of-sight is its major advantage. The tags can be read under harsh conditions of temperature, chemicals and high pressure. The use of RFID technology reduces operational costs by reducing the need for human operators in systems that collect information and revenue collection. In manufacturing, a tagged product or part can be traced and this gives better visibility and the bottlenecks in automated manufacturing processes can be easily identified. The technology can also be used in toll collection at toll gates and this enables the tracking of vehicles as well as the goods they carry, in real time. Location tests prove that RFID is the best technology for tracking items in motion. The technology enables remote storage and retrieval of data and this is why developments towards wireless identification point towards low-bandwidth systems like RFID. An antenna used to scan the cards and an transceiver with a decoder to interpret the data. Transponder - the RFID tag are available in which the data has been programmed with information. The scanning antenna puts out radio-frequency signals in a relatively short range. An RFID tag is a microchip combined with an antenna in a compact package; the packaging is structured to allow the RFID tag to be attached to an object to be tracked. RFID tags can be very small - the size of a large rice grain. Others may be the size of a small paperback book. Because one problem with load cell plate is that it is unable to weigh the moving object. The IR receiver has three pins i. In radio spectrum is a limited resource shared by all users, a method must be devised to divide up the bandwidth among as many users as possible. One or more carrier frequencies are assigned to each base station. Each of these carrier frequencies is then divided in time, using a TDMA scheme. One physical channel is one burst period per TDMA frame. The MXE is a node that provides integrated voice, fax, and data messaging. Specifically, the MXE handles short message service, cell broadcast, voice mail, fax mail, e-mail, and notification. A gateway is a node used to interconnect two networks. The gateway is often implemented in an MSC. The GIWU consists of both hardware and software that provides an interface to various networks for data communications. Through the GIWU, users can alternate between speech and data during the same call. The Circuit module of RFID Automatic tollgate system designed could automatically detect the identities of the vehicles and performed the billing in accordance to the identity of each vehicle as prerecorded in the database. The system could automatically open and close the gate as well as automatically emailing the owners of the vehicles. These were the major achievements met in the project, among other objectives also achieved, which include tracking of the vehicles

and remote database connection. However the proper demonstration of some of the objectives did not yield to the wanted extent due to lack of resources. The Vehicle information is stored in our microcontroller based on the TAG number. Based on that number the Tax amount for that vehicle will automatically transferred to the toll gate system. And that cost information will be send through GSM modem to mobile phone of the owner. CONCLUSION The automation of toll plaza can have the best solution over money loss at toll plaza by reducing the manpower required for collection of money and also to reduce the traffic indirectly resulting in reduction of time at the toll plaza. In this project, the technique such as Radio Frequency Identification is introduced. The IR Transreceiver is used for detecting the presence of the vehicle at different locations which will act as the gate pass to the toll plaza. By effectively utilizing these three techniques at different stages of this project is able to represent the automation in toll plaza which will reduce the complete processing time by few seconds, which is very important as well as it helps to reduce money leakage in a very cost effective manner. Figures at a glance.

Chapter 5 : DESIGN AND IMPLEMENTATION OF A TOLL TAX MANAGEMENT SYSTEM - Project Topics

Download Synopsis of the project Description of the project: Electronic toll collection system allows the vehicle drivers to pass the toll tax booths without stopping at the toll booths.

Video of the project RFID toll collection: Download Synopsis of the project Description of the project: Electronic toll collection system allows the vehicle drivers to pass the toll tax booths without stopping at the toll booths. The toll amount is deducted from the RFID card. This RFID card is rechargeable and account is stored on the records. Automatic toll collection system will have two benefits. First benefit is that movement of traffic will be much faster as user will not wait to give the money because, driver has to just show the RFID card in-front of the card reader. And then the RFID based automatic gate control system will open the gate to pass through. This is little bit similar to using credit cards. Block Diagram of the project: You will get a CD with this project: CD contains following things: Project Report in pdf format and in word format. It mainly consist of following blocks 1. We are going to use an Infrared receiver. It is used to detect that vehicle has passed away from the electronic toll collection plaza. IR rays from transmitters are reflected from the vehicle and are received by the receiver. This is the CPU central processing unit of our project. We are going to use a Microcontroller of family. The various functions of Microcontroller are like I. Sending this data to LCD so that the person operating this project should read various informative messages. Sensing the command given using keypad and receiving signal from the IR receiver. Sending the data to the motor or buzzer depending upon the RFID card number and balance inside the card. DC motor and Motor Driver: We are going to use a DC motor to open the gate. A motor driver IC is required to drive the motor. This is one of the most important part of the project. RFID based automatic gate can be used in octroi collection booths for faster access. Future Development for the project: We can send this data to a remote location using mobile or internet 2. Question and answers about this project: I am from Coimbatore and need a little more advanced version of it which includes a vehicle identification system, vehicle weight detection and much more. Can you provide this? If there is no amount in the card will the person be able to pass through the toll? And the second question is, in this project will the card you give already be recharged earlier? Or will you give a card when shown to the RFID reader, just open the toll? And the person or the car will not be allowed to pass through toll. When you turn on the project, at that time each card will have an initial balance of Rs. Also, we have provided a keypad to recharge the RFID card. You can press recharge key to go into recharge mode.. Do you have question or any feedback about this project? Please email us your questions or write comments below. Similar or Related Projects:

Chapter 6 : TOLL TAX MANAGEMENT SYSTEM PORTAL DOCUMENTATION

The Automated Toll Tax Collection System provides a better way to carry out operations of a toll booth very effectively and efficiently. The users do not have to spend a long time in.

A table of tolls in pre-decimal currency for the College Road, Dulwich , London SE21 tollgate Toll bar in Romania , Ancient times[edit] Toll roads have existed for at least the last 2, years, as tolls had to be paid by travellers using the Susa â€" Babylon highway under the regime of Ashurbanipal , who reigned in the 7th century BC. In India , before the 4th century BC, the Arthashastra notes the use of tolls. Germanic tribes charged tolls to travellers across mountain passes. Road toll historic A 14th-century example though not for a road is Castle Loevestein in the Netherlands , which was built at a strategic point where two rivers meet. River tolls were charged on boats sailing along the river. Many modern European roads were originally constructed as toll roads in order to recoup the costs of construction, maintenance and as a source of tax money that is paid primarily by someone other than the local residents. In 14th-century England, some of the most heavily used roads were repaired with money raised from tolls by pavage grants. Widespread toll roads sometimes restricted traffic so much, by their high tolls, that they interfered with trade and cheap transportation needed to alleviate local famines or shortages. The A5 road in Britain was built to provide a robust transport link between Britain and Ireland and had a toll house every few miles. It was followed by Greece , which made users pay for the network of motorways around and between its cities in Later in the s and s, France, Spain, and Portugal started to build motorways largely with the aid of concessions, allowing rapid development of this infrastructure without massive State debts. Since then, road tolls have been introduced in the majority of the EU Member States. With the establishment of the Interstate Highway System in the late s, toll road construction in the U. Many older toll roads were added to the Interstate System under a grandfather clause that allowed tolls to continue to be collected on toll roads that predated the system. Some of these such as the Connecticut Turnpike and the Richmondâ€"Petersburg Turnpike later removed their tolls when the initial bonds were paid off. Many states, however, have maintained the tolling of these roads as a consistent source of revenue. As the Interstate Highway System approached completion during the s, states began constructing toll roads again to provide new controlled-access highways which were not part of the original interstate system funding. In the United States, as states looked for ways to construct new freeways without federal funding again, to raise revenue for continued road maintenance, and to control congestion, new toll road construction saw significant increases during the first two decades of the 21st century. Spurred on by two innovations, the electronic toll collection system, and the advent of high occupancy and express lane tolls , many areas of the U. S saw large road building projects in major urban areas. Electronic toll collection, first introduced in the s, reduces operating costs by removing toll collectors from roads. Tolled express lanes, by which certain lanes of a freeway are designated "toll only", increases revenue by allowing a free-to-use highway collect revenue by allowing drivers to bypass traffic jams by paying a toll. Maryland Route and the Triangle Expressway in North Carolina were the first toll roads built without toll booths, with drivers charged via ETC or by optical license plate recognition and are billed by mail. United Kingdom turnpikes[edit] 19th-century toll booth in Brooklyn, New York Plaque commemorating the suppression of toll on a York bridge in Main article: Toll roads in Great Britain Turnpike trusts were established in England and Wales from about in response to the need for better roads than the few and poorly-maintained tracks then available. Turnpike trusts were set up by individual Acts of Parliament , with powers to collect road tolls to repay loans for building, improving, and maintaining the principal roads in Britain. The tolls were a source of revenue for road building and maintenance, paid for by road users and not from general taxation. The turnpike trusts were gradually abolished from the s. Most trusts improved existing roads, but some new roads, usually only short stretches, were also built. Built in the early 19th century, with many toll booths along its length, most of it is now the A5. In the modern day, one major toll road is the M6 Toll , relieving traffic congestion on the M6 in Birmingham. A few notable bridges and tunnels continue as toll roads including the Severn Bridge , the Dartford Crossing and Mersey Gateway bridge. Toll roads elsewhere[edit] Some cities in Canada had toll roads in the 19th century. Roads radiating

from Toronto required users to pay at toll gates along the street Yonge Street, Bloor Street, Davenport Road , Kingston Road [7] and disappeared after One of the first U. The road was closed in when it was taken over by the state of New York in lieu of back taxes. Road pricing Road tolls were levied traditionally for a specific access e. These concepts were widely used until the last century. However, the evolution in technology made it possible to implement road tolling policies based on different concepts. The different charging concepts are designed to suit different requirements regarding purpose of the charge, charging policy, the network to the charge, tariff class differentiation etc.: In a time-based charging regime, a road user has to pay for a given period of time in which they may use the associated infrastructure. For the practically identical access fees, the user pays for the access to a restricted zone for a period or several days. Motorway and other Infrastructure Tolling: The term tolling is used for charging a well-defined special and comparatively costly infrastructure, like a bridge, a tunnel, a mountain pass, a motorway concession, or the whole motorway network of a country. Classically a toll is due when a vehicle passes a tolling station, be it a manual barrier-controlled toll plaza or a free-flow multi-lane station. Distance or Area Charging: In a distance or area charging system concept, vehicles are charged per total distance driven in a defined area. Collection methods[edit] The examples and perspective in this section deal primarily with the United States and do not represent a worldwide view of the subject. You may improve this article , discuss the issue on the talk page , or create a new article , as appropriate.

Chapter 7 : AUTOMATIC TOLL TAX SYSTEM | Projects

case study of manual toll tax collection system, we came to the conclusion that if the system is made completely automatic, the time require for collection of tax will be reduced, there will not be need for any vehicle to stop.

Chapter 8 : Intelligent Toll Tax System Paper Presentation | Projects

American Journal of Engineering Research (AJER) w w w. a j e r. o r g Page IV. DRAWBACKS OF EXISTING SYSTEM The above mentioned method for collecting toll tax is time consuming method.

Chapter 9 : RFID Based Toll Tax Collection System for Highway

Drawbacks of Existing System Both the above mentioned method for collecting toll tax is time consuming method. VB. The other one is Smart Card system where the person needs to show the smart card to the system installed at the toll tax depot to open the barrier.