JOHANNESBURG METRO POLICE DEPARTMENT (JMPD) FINESONLINE.CO.ZA TRAFFIC FINE SYSTEM

By

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Dissertation submitted in partial fulfilment of

the requirements for the

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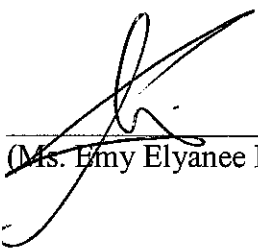Perak Darul Ridzuan

CERTIFICATION OF APPROVAL

Johannesburg Metro Police Department Finesonline.co.za Traffic Fine System

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A project dissertation submitted to the

Business Information Systems Programme

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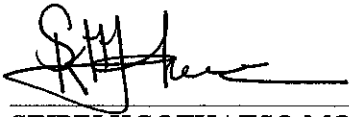(BUSINESS INFORMATION SYSTEMS)

Approved by,

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(Ms. Emy Elyanee Binti Mustafa)

UNIVERSITI TEKNOLOGI PETRONAS

TRONOH, PERAK

July 2007

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CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

SEIPEI KGOTHATSO MOKONE

ABSTRACT

The Johannesburg Metro Police Department (JMPD) Finesonline.co.za system aims to serve as part of a company called 2Big Mobile's Integrated Information System (I2MS), a five-part project, of which three phases have now been implemented by the Johannesburg Metro Police Department. The system seeks to offer Johannesburg motorists the chance to search for and view details of their fines, thus allowing motorists to verify their fines by viewing online pictures from speed and red light cameras as well as give them the opportunity to query and or contest the summons or warrant(s).

There are far too many people issued with traffic fines daily on South African roads throughout the country. There are also equally as many if not more motorists who are arrested on a daily basis because of unpaid fines; but are reluctant to pay because they do not have the time to stand in winding queues at traffic departments or local municipalities to do it.

At the moment, if a motorist wants to check traffic camera photos they have to visit the traffic department in person, sometimes more than once. That is very inconvenient and usually impossible for people who were a long way from home when they incurred the fine. There is only one main municipal court in the Johannesburg CBD that handles traffic fines as well as all the other by-laws contraventions, and hears many cases daily. This leads to reluctance of offenders to contest/query their fine which ultimately leads to more offenders neglecting their summonses/warrants; which in turn leads to more motorists being arrested at roadblocks.

Many researchers have found that E-commerce and usability issues are inextricably linked, since unusable E-commerce sites are often also unsuccessful. It has been discovered that usability plus security issues are the major setbacks to a lot of E-Commerce website in South Africa.

Through this project, the author aspires to discover ways to achieve this fourth phase of the JMPD project by developing a website that will facilitate a good and up to date database system which allows for good capturing of data, including images, a sound search capability; being able to retrieve the correct fine/warrant with its relevant and corresponding information for that specific user together with the images of the offense. Lastly, the system should,

provide a means to or act as an intermediary between the Johannesburg traffic department and the municipal court to facilitate simpler and specialized querying of fines and or warrants. While striving to achieve, this, the system should also be usable and secure meeting universal E-Commerce standards.

The system was developed in accordance with System Development Life Cycle (SDLC) ; comprising Analysis phase, Requirements Specification phase, Designing phase, Implementation and Testing, all following Royce's Final Model of the Waterfall Model with the output of each phase serving as the input in the subsequent phase, allowing jumping back and forth between phases to accommodate changing requirements.

The selection of tool for this system was done without compromise to ensure that all the objectives of the system would be met and the successful development of the JMPD Finesonline.co.za realised.

In conclusion, the JMPD Finesonline.co.za System will be a solution for the problems faced with the current manual system. It will therefore enhance service delivery on the part of the JMPD as well as the municipal courts by better serving South African citizens efficiently and conveniently.

ACKNOWLEDGEMENTS

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CHAPTER 1

INTRODUCTION

1.1 Background of study

Traffic policing is the responsibility of the Johannesburg Metro Police (JMPD), which was established in March 2001. The JMPD took over from the old Johannesburg traffic department. Whereas its predecessor only handled traffic violations, the JMPD is also responsible for policing crime and municipal by-laws. All uniformed Metro offices are empowered to issue traffic fines. JMPD officers undergo extra training in criminal law, community policing and police ethics.

The JMPD is in the process of fully automating the process of traffic policing administration. The department has already embarked on a five-phase project in partnership with a company called 2Big Mobile Applications.

The whole system called the Integrated Information Management System (I2MS) is aimed at dealing with the legal issues that have arisen regarding the arrests of motorists for outstanding fines without showing them a warrant as well eliminating the issues surrounding non-payment of traffic fines and the failure of offenders to appear in court, as well as the meandering queues at local traffic departments and local municipalities.

The first three phases have already been launched and are currently being fully implemented. The first phase provides the JMPD with the functionality to check for outstanding fines by entering a car's registration number on a mobile phone. Phase two monitors and tracks police vehicles. The third phase enables officers to re-issue summonses and warrants of arrest to offenders on the spot. Four JMPD-branded trailers, each containing a laptop, fax machine and a printer, are connected to an information database using GPRS. The trailers will be parked alongside roads and fines can be printed on the spot.

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The fourth phase, which is the basis for my research, is a web portal through which motorists can check if summonses and warrants are outstanding and also includes a mobile fine payment system and the launch of a portal for online fine payments.

And the fifth phase Aims to make phase 4 of the system available on mobile phones. These last two phases were launched and implemented recently; however, that does not alter my research.

1.2 Problem Identification

From January 2002 to December 2002, 16 630 people in Johannesburg were arrested for failing to pay their traffic fines. In the same period, the council generated a massive R644 million from traffic fines. This is too big a number.

At the moment there are five places where motorists can view photographs from their traffic offences in Johannesburg, between 7:30 and 15:00 weekdays. There is no other mechanism in place for motorists to view the traffic camera photos of their offense(s) other than visiting the traffic department in person; which sometimes requires more than one visit to the department. This inconvenience is one of the reasons there is over R1 billion in outstanding traffic fines owed to South Africa's local authorities and approximately 75 000 unresolved traffic fine court cases.

Lastly, the number of cases that are withdrawn in the municipal court is a challenge for the court. The municipal court, in the Johannesburg magistrates' courts, was launched last August with the aim of speeding up the prosecution of by-law and traffic violations. It deals with contraventions of the by-laws in the city, regulating activities such as street trading, noise control and vandalism; therefore too many cases are heard everyday at the municipal court.

The process of contesting a fine is currently inconvenient and tedious. This also leads to offenders' hesitance to contest/query their fines or even to appear in court at the date specified on the summons.

The cases are withdrawn for a number of reasons, including incomplete addresses, wrong court dates, no identity numbers, no offence locations, undelivered summonses, wrong admissions of guilt, late submissions and no peace officer signatures or written or oral representations to the prosecutor. Most of the people who were summonsed chose to pay admission of guilt fines to avoid the procedures involved in contesting/querying a traffic fine.

E-Commerce sites are often unsuccessful, South Africa being no exception, primarily because of usability related factors. The websites are poorly designed leading to their intended users being unable to use them. Although 85% of the total South African population, computer literacy is still low, it is in this light that it is deemed necessary to ensure that layout, navigation and overall usability of the website is carefully designed. Security also still remains a serious issue.

1.3 Significance of Project

The successful completion and implementation of this project will in the short run contribute immensely to the development of the I2MS, by enabling motorists to conveniently do, additionally, all of the following online:

- View fine details and photo as well as print the fine
- Query fines/summons directly to the JMPD
- Contest fine through JMPD to the court

This will have an enormous impact on the efficiency of local municipalities and ultimately, the country as whole. Even though this system is currently being designed for the city of Johannesburg, other municipalities will also follow suite and the country as whole stands only to benefit from this. This system will also be realizing a lot of people's visions. Below are some of the visions.

South African needs to see more of this convenience available to her motorists. In an interview, Mr. Mokgatle Maesela of 2Big Mobile said," in theory the average South African should be able to pay traffic fines, as well as rates, water and other local authority bills, at any of the same places you can buy electricity units," he says. "We would love to roll out that service if the councils see the benefits, especially in the light of universal access strategies."

Other future options, says Maesela, include allowing motorists to register queries and make representations, as well as view all fines they have outstanding and make bulk payments of fines.

The hassle of paying traffic fines and municipal fees is one of the reasons why South Africa has escalating problems of non-payment. If there are ways to make it easier for these payments to be made, they will, hopefully, remove one of the obstacles to local authorities becoming financially stable and self-sustaining and at the same time addressing the issue of already over crowed prison cells by reducing the number of arrests being made daily.

1.4 Objective and Scope of Study

The objective of this study is to:

- Enhance the fourth phase of the I2MS project in a way that allows for the current online traffic fine system to be all encompassing, allowing users to:
    - Search all outstanding fines associated with the user
    - View full details of their traffic fines including viewing offense photos
    - Query/Contest fines, summons or warrants through a paperless system
    - Print out a copy of the fine details
- Incorporate an online demonstration of how to use the system in a form of a short movie.

This new system can be put in place to curb the current problems and improve on the service delivery of the JMPD by providing a simple and convenient and web system, this system is an obvious necessity given the nature of problems that the local municipalities and the JMPD are facing daily. This system is also advancement in technology development, slowly but surely meeting world standards.

The problems have been identified and the needs have been isolated. The successful completion of this system will depend on:

- The development of a high-quality website
- The development of a good and reliable database which will capture and retrieve photos and relevant information.
- Last but not least, link this system with the courts in such a way that the system acts as an intermediary between the public and the JMPD, conveying queries/contests of fines made on the site to the court.
- Provide adequate help through an interactive video demonstration including visual and audio features to facilitate easier navigation for and familiarize novice users with E-Commerce/web based systems.

CHAPTER 2

LITERATURE REVIEW

The JMPD has about 1 500 officers who are divided into the helicopter unit, the motorcycle unit, the canine unit, the equestrian unit, the suburban unit and the freeway patrol unit. From January 2002 to December 2002, 16 630 people in Johannesburg were arrested for failing to pay their traffic fines. In the same period, the council generated a massive R644 million from traffic fines.

It is currently, generally recommended that fines are paid in cash, to "avoid inconvenience." Other forms of payment accepted by the court are money orders, postal orders or bank guaranteed cheques. Such payments must be made well before the payment due date to reach the payment office on time. Postal payments can also be made before the date of payment to: Metropolitan Police, Private Bag X24, 2000. A cheque must be made payable to the authority mentioned in part D of the ticket.

Motorists are warned against paying traffic fines through independent companies that claim to pay the traffic fine for a fee, via Internet or telephonic transactions, as this is "done at your own risk". If the company does not pay the fine and a warrant of arrest is issued, the motorist can land up in jail.

Motorists caught on camera while speeding are sent a notice of the alleged offence. They can choose either to pay that amount or wait until a summons is hand-delivered to their home address by a sheriff of the court. Those who want to see the photo of their alleged violation can do so at the JMPD headquarters at no cost.

Motorists who wish to dispute the charges must inform the prosecutor of the traffic court in writing, well in advance of the trial date. Those who have missed the deadline for paying the contempt of court fine, but still wish to pay their fine on or before the date of their court appearance, can do so at Room B41 at the Johannesburg Magistrate's Court.

The advent of e-government enables the delivery of public services in faster, more convenient and value-added ways. The move by the South African government to implement a comprehensive programme of online, real-time, service delivery, is based on a commitment to utilizing information and communication technologies to leap-frog development, and hence addresses service delivery inefficiencies as quickly as possible.

Mobile technologies provide the opportunity to both reach citizens who are currently under-serviced by government, and to provide greater convenience to all citizens who are already accustomed to using their mobile phones, PCs as primary means of communication. These are some of the sentiments shared by Mr. Muthanyi Robinson Ramaite, Director-General, Department of Public Service and Administration in June 2003 report.

Table 1: Transport modes used by all household members in the week

Province	Percentage of all people						
	Train	Bus	Metered taxi	Minibus taxi	Sedan taxi	Bakkie taxi	Car
Western Cape	7.6	4.6	1.2	19.6	0.8	1.2	29.9
Eastern Cape	0.7	3.3	0.5	15.9	1.2	4.9	8.6
Northern Cape	0.3	2.2	0.4	12.7	0.4	0.9	16.1
Free State	0.2	3.3	0.9	22.5	1.5	0.6	12.6
KwaZulu Natal	1.1	8.7	1.6	20.5	0.9	2.8	11.2
North West	1.1	6.7	1.0	22.7	0.4	0.7	11.9
Gauteng	5.7	3.7	1.6	31.8	0.7	1.1	25.0
Mpumalanga	0.2	8.1	1.0	19.7	1.0	1.1	11.8
Limpopo	0.1	5.6	0.6	17.7	0.3	0.7	7.7
RSA	**2.3**	**5.5**	**1.1**	**21.7**	**0.8**	**1.9**	**15.3**

Key Results of the National Household Travel Survey 2003

From the key results of The First South African National Household Travel Survey of 2003 conducted by the National Department of Transport, it is illustrated by provinces how many South Africans use road transport daily. The city of Johannesburg is found in the province of Gauteng.

Gauteng Province is the smallest province physically but has the second highest population. Johannesburg has a population of 3 225 812 according to the 2001 national census, a growth of 22.3% from 2 639 110 in the 1996 census. Johannesburg's population makes up 7.2% of the total population of South Africa, up from 6.5% in the 1996 census. Approximately 57.3 percent own, or have use of a motor car. As illustrated by Table 4 in Appendix B, Gauteng Province (GP) has the highest number of motorists; with minibus-taxis ranking in as the most commonly used mode of transport; disregard of the rules of the road is more rampant among minibus taxi drivers followed by those driving private cars.

A traffic ticket issued by an officer qualifies as a summons to appear in court. The ticket will stipulate the admission of guilt fine to be paid by the offender and the date of the court appearance, should the motorist want to contest the alleged offence. By law, a summons must be served at the offender's residential property. If they are not at home, the summons must be served on a person over the age of 16 who lives at or is employed on the premises.

Traffic tickets can be paid at one of five JMPD offices:

- At the Midrand Court;
- At the Marlboro Testing Station in Sandton;
- At Randburg;
- At the Roodepoort Court; and
- In the CBD at the JMPD headquarters on the corner of Village Main and Loveday streets.

The offices are open between 7.30am and 3pm every weekday.

As an attempt to discourage speeding on roads across, which will ultimately lead to a reduction in the number of fines issued in the Johannesburg metro area, new speeding fines were implemented from October 2006. See Appendix A for a breakdown of the fine scheme.

This speeding fine hike could indeed reduce the number of speeding occurrences on the road at the same time, this could only add to the existing problem, resulting in more money being owed to the municipalities as well as an increase to the backlog of court cases.

The JMPD is, however, determined to end the culture of non-payment of fines and disregard of the law. Many people appear to think that when they receive a fine, that is the last they will hear of it because of the backlog of court cases. They are prepared to put into place as many structures such as the offender notification contact centre (OCC), launched in October, that will end this non payment culture. The OCC is collecting about R1.4 million a month in outstanding traffic fines payments. Around 4 500 offenders are untraceable every month, but the JMPD says it is actively working to find them.

Director Chris Ngcobo, chief of police, said, regarding the matter, "As you are aware, the department has been under pressure with the issue of the enforcement of warrants. The inability of officers to produce them on the road has caused a big outcry"

A recent report by the JMPD had shown that there were about 750 000 cases of unresolved traffic cases, either because the motorists had not received their traffic fines or the summons had not been delivered, or because of poor regulation on the part of the traffic departments, motorists simply ignore them.

The five-phase I2MS project is only a small part of a whole; even though it is to be completed in the very near future, 2Big Mobile's goal is to create a fully operational Metro Police system by 2030 for the department and ensure the by-law enforcement systems meet global standards.

Both the 2Big Mobile and the JMPD were hoping to have the full system working by the end of 2006.

They did not quite meet their deadline target but Johannesburg city motorists can now avoid getting a nasty surprise at a metro police roving roadside checkpoint – because the web-based system, that displays all their outstanding summonses and warrants of arrest, is up-and-running.

Part of the web service, (the fourth phase) called Traffic Fines: Outstanding Summonses and Warrants, was launched on 11 October 2006 and can be reached from the City's separate e-services website http://eservices.joburg.org.za/joburg/eservices.

To use the services, users (which must be residents of the Johannesburg Metropolitan) must be logged in. Residents must use their username and a password to gain access to the services on the website. If they do not yet have a username, they can register as an online user, with their ID numbers. So far only users in possession of a valid South African Identity Number (ID Number) are eligible to use the services. Motorists will then be able to avoid the predicament of finding out that they have outstanding summonses or warrants of arrest against them when they are stopped by the Johannesburg Metropolitan Police Department at a roadside checkpoint.

However, motorists are not yet able to view their photos using this service. They still have to physically contact the JMPD or their local municipality for that.

Motorists can only use this site to check whether there are any outstanding JMPD traffic fines against their names, make payment of their fine(s), and they can also then decide to contest the case, and so avoid the inconvenience of being detained or being arrested for offences they may not be aware of.

Currently, to contest a fine, motorists can do so in writing to the municipal traffic department any time before a summons has been is issued. They (motorists) also need to attach a copy of their traffic fine along with their letter.

The traffic department will respond to the challenge in writing. If motorists are not satisfied with the outcome, they then have to wait for their summons and send their challenge, in writing, to the traffic department again. The traffic department will then present this letter to the Prosecutor on their behalf. The Prosecutor then decides whether to prosecute, in which instance the case will go in front of a magistrate, or to drop the case. If an agreement is not reached by the court date, the case will appear in court.

It takes about a week to process submissions as they go through various channels. First, a JMPD officer examines the circumstances surrounding the representation. The document then goes to the public prosecutor, who has the final say. The verdict is then fed into the department's system and a letter is posted to the motorist's residential address. But people who leave their representation too late could end up in jail. Motorists sometimes receive a summons to appear in court, but do not lodge a representation until the day before the trial date. They are under the impression that the fine will be scrapped or reduced, and they then miss the court date.

Anyone who fails to appear in court on the date stipulated in the summons is held to be in contempt of court and is liable to a mandatory R300 contempt of court of fine. A court may also impose a stiffer sentence not exceeding R1 500 or imprisonment for a period not exceeding three months. For such cases, a warrant of arrest is issued. If arrested, the culprit can either pay the fine in full plus the contempt of court fine, or remain in custody until they appear in court the next day.

To Log a Query or Problem using the launched web system; a user (once logged in) can: submit their traffic fine query together with general enquiries with regard to account queries, billing, meter readings, water, electricity, roads, metro bus, refuse, traffic fines etc online. There is no specialized mechanism for motorists to query or contest their

fines, which could take some time before the query is handled.

The only weakness of the current query system is that it allows users to log problems with regard to city services in general. All problems logged are entered into the system and assigned a unique reference number. This enables users to track the problem and follow up on the progress being made to resolve the problem.

In the fifth phase, which is also not fully implemented, has been launched. It is another way to check the traffic fines; motorists can SMS their ID number (Malaysian IC equivalent) to 36997 from any mobile phone network provider. Each SMS costs R5 (RM8).

"First time users will be sent a PIN code by the JMPD for future reference. They will have to resend the PIN code to verify their details. Additional charges will not apply for this function. The user will then be automatically registered in the database and the next time they want to check for traffic fines, they simply dial 36997 and the PIN code," says Edna Mamonyane, JMPD spokesperson. Mokgatle Maesela, 2Big Mobile Applications executive director, says the SMS solution offers motorists the convenience and time management for checking traffic fines.

In the past few years electronic commerce (E-commerce) and usability have become buzzwords in the online community. The initial concern was that World-Wide Web (Web) sites should be usable to enable users to easily access information on the Web. With the significant growth experienced in E-commerce, the focus has shifted from providing usable information sites to making E-commerce sites usable. International research has shown that usability is a critical factor for the success of E-commerce sites [Nielsen, Molich, Snyder and Farrell 2001]. Sites should be designed to support customers in completing online purchases effectively, efficiently and with satisfaction and confidence. E-commerce and usability have, therefore become inextricably linked.

In many cases, customers may be willing to browse a site and use it for information gathering purposes, but do not have sufficient trust in the site to actually complete an online purchase or payment on the site. Trust is more than a secure connection or the promise of a secure transaction. It encapsulates issues such as customer support and perceived trust – can the site deliver what it promises, when it promises and will there be after sales service and support, if needed? Trust is thus one of the major critical success factors for survival for virtual organisations on the Internet [Erasmus 2000]. Trust, however, has to be earned and businesses have to build up trusted relationships with customers over a number of years [Schneider 2002].

E-commerce and online shopping have mushroomed over the past few years. Even in South Africa (SA) there has been a tremendous growth in E-commerce, albeit not to the same proportions as in the United States of America (USA).

Many South African E-commerce sites have usability problems. Since these sites are not usable, they may lose income from potential sales as customers prefer using sites that make purchasing online easy, efficient and safe. Thus having a usable Web site is not a luxury, it is a prerequisite for survival. Helinski maintains that the quality of a Web site is relative to the usability of the site [Helinski 1997] and thus usability can play a major role in the success of E-commerce.

Furthermore, return visits to a site are directly linked to how easily a user can accomplish his task [O'Connor 2001]. According to Benbunan-Fich, usability also refers to the extent to which the user and the system manage to communicate clearly without any misunderstandings through the interface [Benbunan-Fich 2001]. Usability can be measured in terms of effectiveness, efficiency and satisfaction [Hix and Hartson 1993; ISO 9241-11 1998; Jordan 1998].

- Effectiveness can be measured by determining if the user or consumer can actually complete the task at hand, whether it is to find information or purchase a product.

- Efficiency, on the other hand, looks at the time and resources expended. One can thus, for example, measure the time it took to complete the task. It most cases, a system is efficient if it allows the user to complete the task in a reasonable amount of time.

- Satisfaction is the third leg of usability that needs to be measured. The most common way of measuring user satisfaction is by asking the user to complete a user satisfaction questionnaire once the task at hand is completed.

The work reported in this paper forms part of a bigger research project, which is concerned with the use of guidelines for developing and evaluating E-commerce sites in SA. The purpose of the umbrella project is to determine the relative importance of international E-commerce design guidelines for SA. An expected deliverable from this study is a comprehensive set of design guidelines that can be used by E-commerce developers in SA to assist them with building usable E-commerce sites. These design guidelines can also be used as a tool to evaluate the final site design.

There are numerous companies, some more reputable than others, offering similar services to motorist to pay their fines on their behalf. These are, for obvious reasons, less encouraged by the government. Although they offer some degree of convenience to motorists, most of them are still somewhat inconvenient in a sense that there is still some degree of paperwork required and the waiting period is still lengthy; A+ Registration Vehicle Service is an example of such a company which offers a range of services to motorists. Of particular interest for the purpose of this study are their traffic fine payment services:

Table 2: A+ Registration Similar Services

Service	Description of service	Process	Documents Required	Duration of process
Traffic Fine Payment	A+ registration will pay your traffic fine on your behalf, and present you with a receipt of payment. A **service fee is charged** for this service.		• Traffic fine – copy or original • Payment for the amount quoted on the traffic fine	Up to 3 working days
Traffic Fine Reduction	A+ Registration can reduce your accumulated traffic fines by 25%	We will obtain a print out of all your outstanding traffic fines - free of charge Motorists are required to pay 75% of the total amount of the fines	• Payment for 80% of the total traffic fines amount outstanding. • Copy of ID • A service fee for the printout of all the outstanding traffic fines.	3-4 working days.
Traffic Fine Inquiry	A+ Registration can obtain, on your behalf, a print out of your outstanding traffic fines.		Copy of your ID	Up to 3 working days

Source: http://www.apr.co.za/services.htm

There are, undoubtedly, more issues that exist concerning e-commerce. Fear of online credit card fraud and phishing prevent many users from buying online. Online credit card fraud is in actual fact much lower than users think ranging between 1.6percent– 1.8percent of all credit card transactions (CyberSource Corp, 2006). Security experts believe that the greatest threat is at the security level of the internet, therefore keeping a

website and its customer data safe should be of the highest priority. Numerous tools are available to protect the security over the internet. Some of them include:

- Encryption
- Secure Socket Layer (SSL)
- Secure Electronic Transaction (SET)

Reducing risks in e-commerce involves some complex processes, new technologies and policies and ongoing update of the market. The following dimensions of e-commerce security, if addressed properly make for a safe and secure e-commerce environment that will encourage and reassure users to use this mode of payment or purchases;

- Integrity
- Nonrepudation
- Authenticity
- Confidentiality
- Availability

Security is a vexing, costly and complicated business, but a single lapse can be expensive in lost funds, records and reputation. Businesses and developers should never wait for disaster to strike, but stay proactive, employing a security expert where necessary.

CHAPTER 3
METHODOLOGY

3.1 Methodology

The primary functions of a software process model are to determine the order of the stages involved in software development and evolution and to establish the transition criteria for progressing from one stage to the next. These include completion criteria for the current stage plus choice criteria and entrance criteria for the next stage.

The **Modified Waterfall model,** more specifically, **Royce's final model** was the chosen model for this specific project.

Royce's final model, his intended improvement upon his initial "waterfall model", illustrated that feedback could (should, and often would) lead from code testing to design (as testing of code uncovered flaws in the design) and from design back to requirements specification (as design problems may necessitate the removal of conflicting or otherwise unsatisfiable / undesignable requirements). Royce also advocated large quantities of documentation, doing the job "twice if possible" and involving the customer as much as possible—now the basis of participatory design and of User Centred Design.

This model is best suited for developing the JMPD's Finesonline.co.za system considering the very nature of the system itself and the elements that go into building such a user centered system.

This specific model was chosen because it is based on the traditional waterfall model; one proceeds from one phase to the next in a purely sequential manner. The output for one phase will be the input for the next. For example, one first completes "requirements specification" — they set in stone the requirements of the software. When the requirements are fully completed, the author can proceed to design. The software in question is designed and a "blueprint" is drawn for implementers (coders) to follow —

this design should be a plan for implementing the requirements given. When the design is fully completed, an implementation of that design is made by coders. Towards the later stages of this implementation phase, disparate software components produced by different teams are integrated. After the implementation and integration phases are complete, the software product is tested and debugged; any faults introduced in earlier phases are removed here. Then the software product is installed, and later maintained to introduce new functionality and remove bugs.

Thus the waterfall model maintains that one should move to a phase only when its preceding phase is completed and perfected. Phases of development in the waterfall model are thus discrete, and there is no jumping back and forth or overlap between them. That's where Royce's final model comes in because it allows for one to go back, re-look and or redo or refine a particular phase.
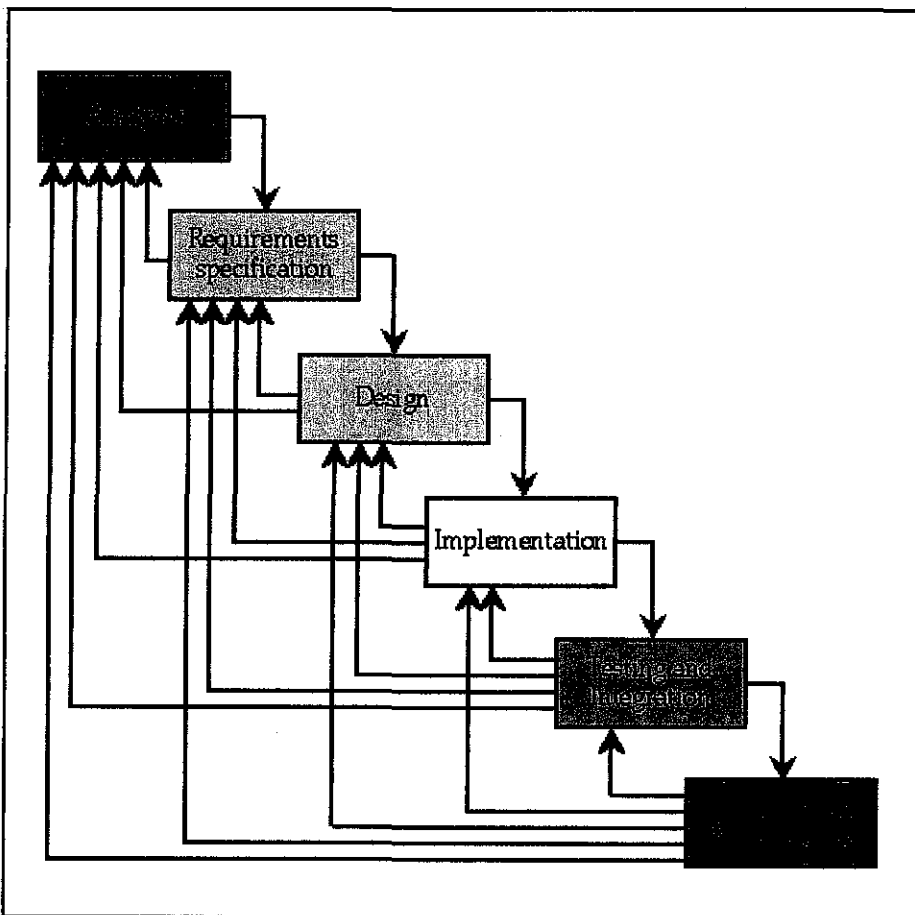

Figure1. Modified waterfall model (Royce's Final Model)

3.2 Procedure Identification

Analysis

The as-is system was studied intently over a period of time and any new developments to the system were also carefully tracked and noted so that a thorough understanding of the system could be achieved. This is a rudimentary stage in the SDLC because without a proper understanding of the as-is system, the to-be system might be compromised.

In analysing the as-is system, gathering as much information as possible on the I2MS system was of paramount of importance; identifying all the 5 phases and how they interlink, recognising the current system's shortcomings, strengths and any areas of improvement were all part of this process.

System Requirements Specifications

With output of the previous phase serving as input for this, the strengths, weaknesses and areas of improvement were identified. In summary, the to-be system required:

- To be developed centered solely on the end-user.
- At the very least, standard e-commerce development principles had to be taken into serious consideration. Since it has been discovered that usability can be measured in terms of effectiveness, efficiency and satisfaction, it is imperative that design and functionality of the interface be centered on these three principles.
    - o **Effectiveness** the to-be system needs to be developed in such a way that the user can actually complete the task at hand, which is to either view his/her fines and details thereof, query/contest or make payment for those fines. Effectiveness is also determined by whether it is easy for users to acquire information on the website.
    - o **Efficiency** of the system will be determined by, the time it takes the user to complete his task and the resources expended. In most cases, a

system is efficient if it allows the user to complete the task in a reasonable amount of time.

- o **Satisfaction** is the third and final leg of usability that needs to be considered. The most common way of measuring user satisfaction is by asking the user to complete a user satisfaction questionnaire once the task at hand is completed, although this is not in my scope, I will have a mock user satisfaction questionnaire.

- The system's payment method has to be one that is most suitable and tailored for the needs of South Africans.
- Enable the search for fine information by either the notice-number (recommended), OR the user's ID number.
- A stable database with image storing capabilities.
- To collect from users and convey to the municipal court the queries and contests of fines.
- To incorporate an interactive introductory learning tool for the benefit of novice users.

Design

- Design database.
- Design the interface : Using storyboards and HTML prototyping
  This is the phase in which the website was, first, designed and then populated and lastly, connected to the database.
- Design e-Tutorial after both the website and database are completed

Implementation

- Define classes and assign modules
- Development
- Coordinate activities
- Manage schedule

Testing

- Integration Testing

Through Interface Testing and Use-Case testing, make certain that each interface and all links between different parts of the system function accurately and test each use respectively.

- System Testing

The author conducted Requirements Testing by repeatedly running the system to assess whether the original requirements were met, ensuring at all times that any changes made during integration testing did not create new errors. The author also conducted Usability Tests to evaluate how convenient it is to use the system by getting some users with relative experience in interface design.

- Acceptance Testing

The author used this last test to get users of different levels of experience to use the system in an attempt to ensure that users do accept the system. The author also used this opportunity to get users to identify errors or useful areas of improvements in the system.

ANALYSIS

- Analyse as-is system
  - Study and understand Background
  - Identify Strengths and Weaknesses
- Identify other areas of improvement for to-be system

REQUIREMENTS SPECIFICATION

- Apply the best E-commerce development principles
- Provide good database which caters for reliable storage of images
- Enable search for fine's information
  - Using fines notice-number
  - Identity number
- Deploy functionality to convey queries and contests of fines to the JMPD and the court.

DESIGN

- Design the database
- HTML Prototype: Design the user interface (website)
- Design the e-Tutorial on how to use the system

IMPLEMENTATION

- Assign modules
- Programme/Develop
- Co ordinate activities
- Manage schedule

TESTING

- Integration Testing
- System Testing
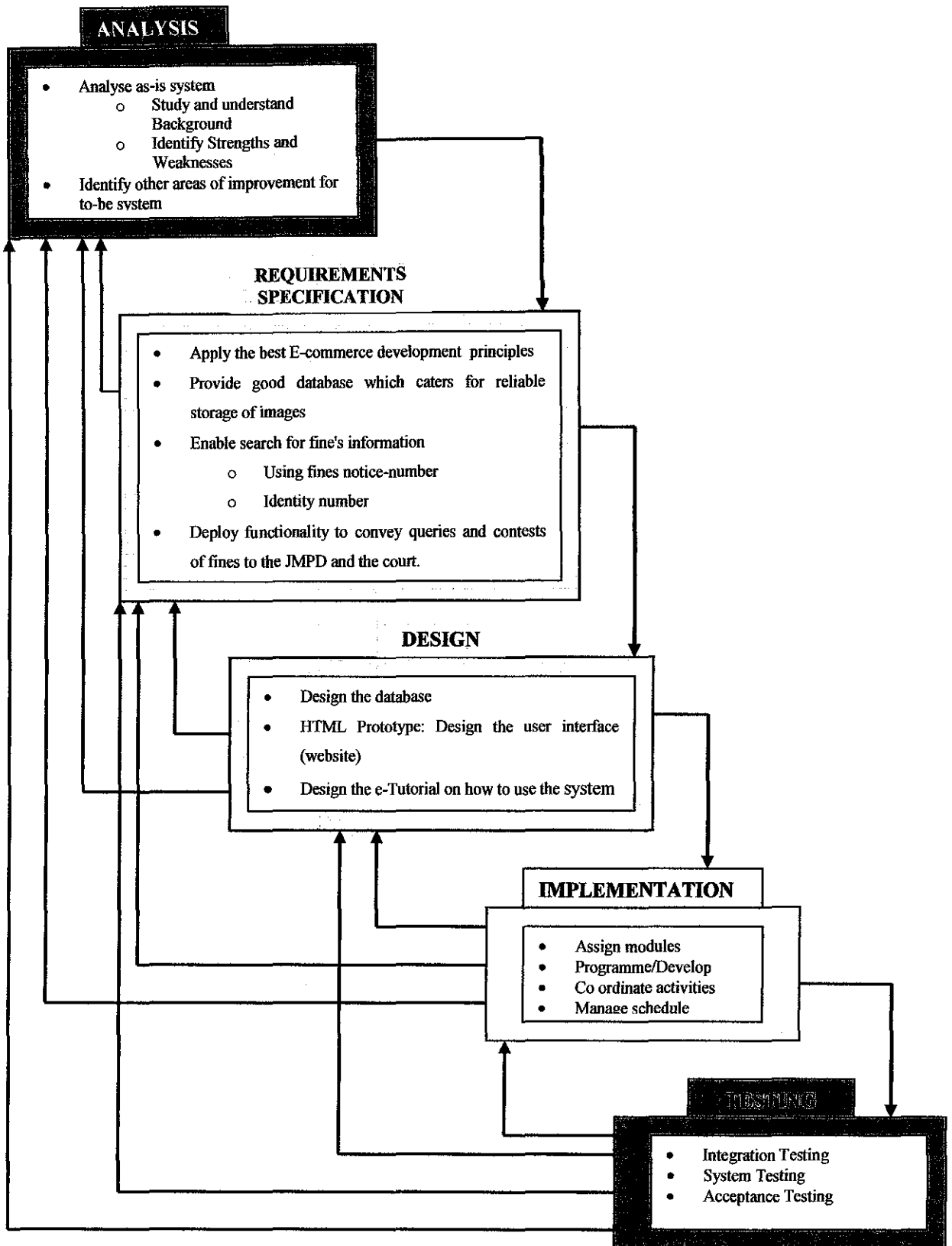- Acceptance Testing

Figure 2. Procedure Identification

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3.3 Tools

The development tools used for this project are as follows:

3.2.1. Database: phpMyAdmin

phpMyAdmin was chosen as a platform to design and maintain all the data included in the JMPD FinesOnline system running on Apache server. phpMyAdmin is **web based** - it runs on any server capable of handling PHP. Because of this all the online Database Administration is done using phpMyAdmin. The database management part will be handled by phpMyAdmin. Below are some features of phpMyAdmin:

- Browse, view and drop databases, tables, views, fields and indexes.
- Create copy, drop, rename and alter databases, tables, fields and indexes.
- Maintenance server, databases and tables, with proposals on server configuration.
- Execute, edit and bookmark any SQL-statement, even batch-queries.
- Create and read dumps of tables - in various formats like CSV, SQL, etc.
- Export data to various formats: CSV, SQL, XML, Excel and more.
- Administer multiple servers.
- Manage MySQL users and privileges.
- Check referential integrity in MyISAM tables.
- Using Query-by-example (QBE), create complex queries automatically connecting required tables.
- Search globally in a database or a subset of it.
- Support InnoDB tables and foreign keys.

3.2.2 Development Software: Macromedia Dreamweaver MX 2004

The interface of the JMPD Finesonline.co.za website was designed using Macromedia MX. This tool was chosen because it provides a powerful combination of visual layout tools, application development features and code editing support.

The pages were designed using this product and was then integrated with phpMyAdmin using the PHP script. Macromedia Dreamweaver provides integrated development environment to develop HTML, XHTML, XML, ASP, ASP.NET, JSP, PHP and Macromedia ColdFusion websites. For this particular project, the author used PHP, thus Macromedia Dreamweaver was the best choice available with the development environment chosen.

3.2.3 Interface Design and Image Manipulation: Adobe Photoshop

Photoshop is the ideal tool for making your very own website. Using Photoshop enhanced the overall image and smoothness of the author's website.

Photoshop will allow even the beginning webmaster the ability to create an entire web template from scratch. The author used Photoshop for the primary purpose of designing a web template and from then hence used Image Ready to cut up the template image and customize it for the Finesonline.co.za website. Photoshop also helps if the author has something more specific within the webpage(s) they want to alter, like the navigation or certain images for instance. With Photoshop the author was also able to optimize all the images she worked with in order to ensure that the website visitors are getting the fastest load times possible.

3.2.4 Design and Development of e-Tutorial: Macromedia Captivate & Flash

Through the use of Macromedia Captivate, the author was able to quickly create an interactive simulations and software demonstrations. Captivate is easy to use with no programming or multimedia skills required, providing engaging content with interactivity; audio and video. It also offers simple integration with other Macromedia products and e-learning applications, therefore incorporating this movie into the website through Dreamweaver was no difficult task

3.2.4.1 Audio: AT&T Natural Voices Text-to-Speech

Text-To-Speech, or TTS for short, is computer software that converts text into audible speech. This is a text-to-speech software engine of unparalleled quality and flexibility.

- Natural-sounding voice output to enhance any application, product, or service.
- Prompt generation for dynamic content.
- Multilingual and multiple voice font selection in one engine.
- Multiple standard APIs supported.

3.2.5 E-mail Server/Client: Microsoft Outlook Express 6.0

Microsoft Outlook Express was the author's choice for the email client, for sending and receiving the acknowledgment and notification email after users submit their queries or contest their fines online. It's easy to set up and use. It has the familiar Windows interface, and doesn't require downloading or purchasing another program. In short, Outlook Express is a free windows-based program that allows one to send and receive email. It's a component of Internet Explorer and comes pre-installed with any version of Windows. Outlook Express is a light version of Outlook, limited to sending and receiving email only. One of the benefits of Outlook Express; it allows you to store all your messages on your computer, thus completely eliminating the storage problem.

In order to successfully complete the creation of a mail tunnel, the author had to adjust the mail client to point to localhost. The author set up a profile in Outlook Express using the login details of localhost email account (the email address and password they normally use when logging in to the local server. The E-mail Server was subsequently, the author's local host information. The author then hard coded the functions to connect Outlook Express to the website to be able to retrieves email, downloading all messages to the author's computer.

CHAPTER 4

RESULTS AND DISCUSSION

The purpose of this project is to offer a solution to support efforts to improve the JMPD's service levels and do away with the culture of non payment of traffic fines. This project also aims to eliminate the inefficiencies of a paper-based (i.e. incomplete addresses, wrong court dates, no identity numbers, no offence locations, wrong or incomplete sections or by-laws, no charges or incomplete charges, wrong admissions of guilt, late submissions and no peace officer signatures or written or oral representations to the prosecutor), and relatively time-consuming system by introducing an online traffic offence record system for motorists to check and query outstanding traffic fines, summons and warrants, view their offence photos and pay their fines online through one online system, safely and conveniently. The new service is yet another module of a comprehensive system being designed for the department by 2Big Mobile. The benefits of automation occur through the paperless exchange of documents among all stakeholders, i.e. motorists, the traffic department and the municipal court.

Through this system, most but not all information will be transmitted and stored electronically. The most important role of this system is to be a communication medium between the above mentioned stakeholders, and that is the basis of the author's decision to design the system following the client/server architecture.

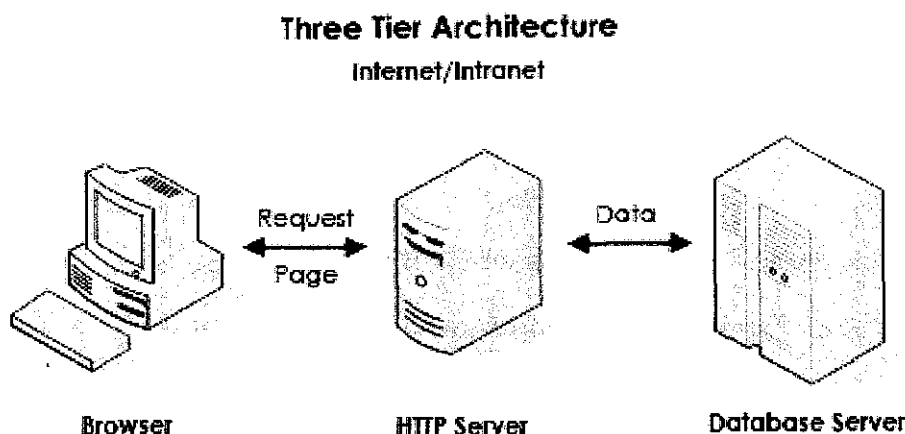Figure 3 below shows the system architecture of the JMPD FinesOnline.co.za Traffic
Fine System

Three Tier Architecture

Internet/Intranet

Browser   HTTP Server   Database Server

Figure 3.Three Tier Architecture

The system is stored in the server; the server is consequently connected to the database
that contains all related data relevant to the system. When the client (i.e. motorist, JMPD
officer or Municipal court staff) request information from their side, the server will parse
a query to the database and retrieve the details. It is possible to have all types of
component (forms, services and reports) stored and executed on the Client device.
Indeed, this is how the author built and tested system. With the right approach the 3-tier
architecture saves development manpower. Code each bit only once, with powerful
reusage capabilities. By using the client server/server architecture, maintenance of the
system and database will be significantly easier in comparison with the manual
procedure. Another advantage of using this architecture is that it is flexible and separates
the "logic" of the web site from the "content" or data of the site, therefore, should the
author later decide to change the look of or way the information is presented on the
website, they will only have to change the application while the content or data remains
the same in the database.

To address the security issue, the author suggests the use of Secure Layer Socket (SSL), a
protocol developed by Netscape for transmitting private documents via the Internet. SSL
encrypts data, like credit cards numbers (as well other personally identifiable

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information), which prevents the online criminals from stealing your information for malicious intent. SSL uses a cryptographic system that uses two keys to encrypt data – a public key known to everyone and a private or secret key known only to the recipient of the message. Both Netscape Navigator and Internet Explorer support SSL and many Web sites use the protocol to obtain confidential user information, such as credit card numbers. By convention, URLs that require an SSL connection start with https: instead of http: Another protocol for transmitting data securely over the World Wide Web is Secure HTTP (S-HTTP). Whereas SSL creates a secure connection between a client and a server, over which any amount of data can be sent securely, S-HTTP is designed to transmit individual messages securely. SSL and S-HTTP, therefore, can be seen as complementary rather than competing technologies. Both protocols have been approved by the Internet Engineering Task Force (IETF) as a standard. For this project, the author suggests obtaining security services from Thawte, a South African founded Certificate Authority, which provides free client certificates.

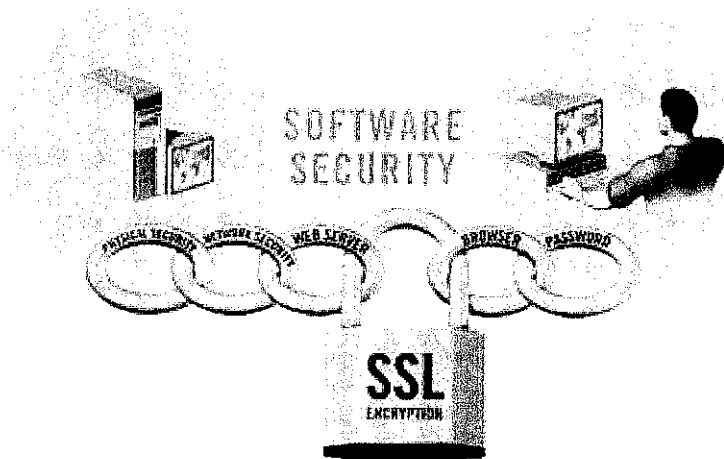Figure 4 illustrates an overview of how SSL works:

Figure 4: Secure Socket Layer Overview

Please Note: The system's users are not limited to the motorist; but for the scope of the project, the term *user* *refers* to motorists.

To process payment, the author suggests that the JMPD become a merchant, rather than use a payment gateway or credit card processing company. Sensitive information has to be protected through at least three transactions:

- Credit card details supplied by the customer, either to the merchant or payment gateway. Handled by the server's SSL and the merchant/server's digital certificates.
- Credit card details passed to the bank for processing. Handled by the complex security measures of the payment gateway.
- Payment and customer details supplied to the merchant, either directly or from the payment gateway/credit card processing company. Handled by SSL, server security, digital certificates (and payment gateway sometimes).

The author developed the system for the security of registered users by making use of a PHP session variable. The variable is used to store information about, or change settings for a user session. Session variables hold information about one single user, and are available to all pages in one application.

When users are working with an application, they open it, do some changes and then you close it. This is much like how a Session works. The computer knows who you are. It knows when you start the application and when you end. But on the internet there is one problem: the web server does not know who you are and what you do because the HTTP address doesn't maintain state.

A PHP session solves this problem by allowing you to store user information on the server for later use (i.e. username, passwords, etc). However, session information is temporary and will be deleted after the user has left the website. For more permanent storage, the author utilized the data in a database.

Sessions work by creating a unique id (UID) for each visitor and store variables based on this UID. The UID is either stored in a cookie or is propagated in the URL.

Figure 5 below demonstrates how a two-way cookie exchange happens
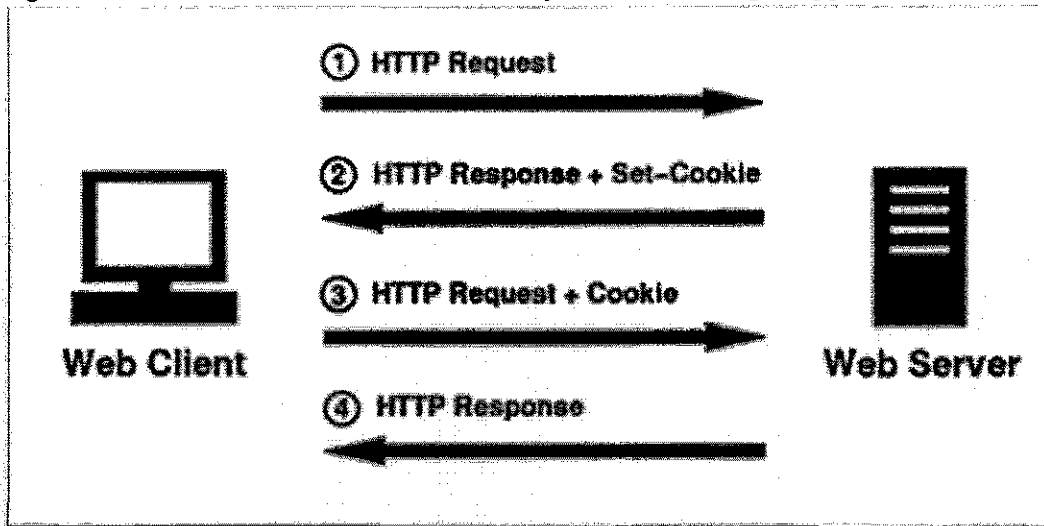

Figure 5. Two-way Cookie Exchange Mechanism

4.1 Use Case Diagram

Figure 6 below shows the use case diagram for the JMPD Finesonline.co.za System. The diagram was generated according to the tasks users perform.
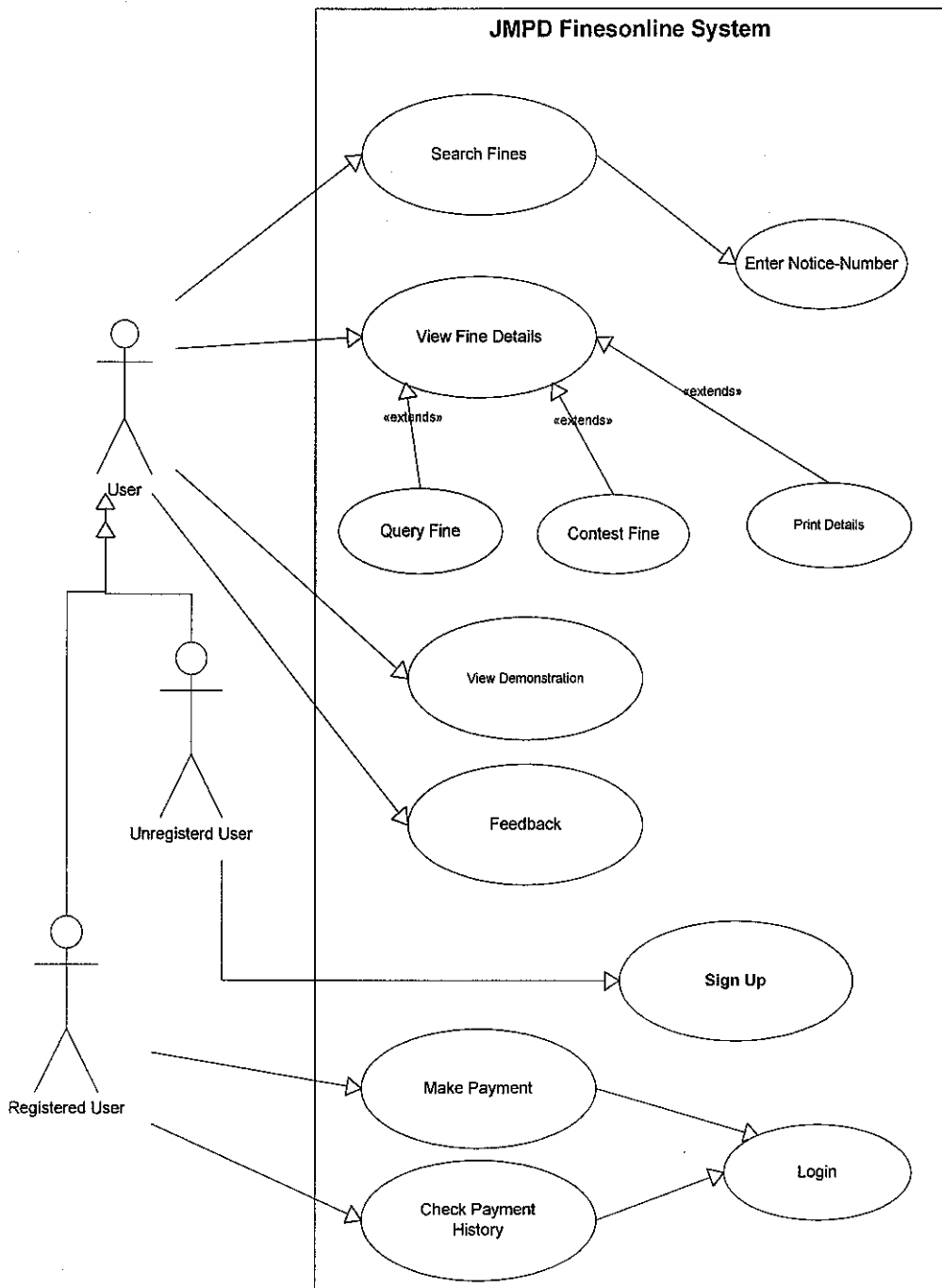

Figure 6. JMPD Finesonline.co.za System Use Case Diagram

Based on the Figure 5, users can access the system to perform their desired tasks. From the system, the users will be able to:

- Key in the notice-number found on the fine
- Search for all fines associated with the vehicle
- View details of the fine including the image
- Print the details of the fine
- Query the fine
- Contest the fine
- Sign Up
- Search Payment history
- Pay the fine
- View demonstration

4.2 System Input

Consistent with the research done prior to the implementation of this project, the author discovered that input from the user is needed for the system to function as expected. The fine details will be entered into the database at the backend by the administrator in the JMPD. For the scope of this project, the input is the notice number found on the fine issued by the JMPD to the user.

4.3 System Back-End (Database)

The database used for this system is MySQL using phpMyAdmin. The database is a fundamental component of the system based on the premise that it is where all the data involved in the system's transactions. One of the main objectives of this project is to provide a reliable and competent database for the storage of users details, fine information and images, which will all be entered into the system by the JMPD staff.

For the scope of this project, all information regarding users' fines was entered into the system on the system's back-end. The author suggests for further development. A more

user-friendly interface is designed for JMPD officials or system administrator, for this is the part of the system that they will be working with on a daily basis.

4.4 System Front-End

Crucial to the success of the system is the interface – the website. The aim is to make the interface as pleasing to the user's eye and as simple to use as possible, while minimizing the effort on the user's part to accomplish their tasks. Please refer to Appendix C for the homepage, the initial point of interaction with the user.

4.4.1 System Login

Users' access to the system by login into the system can accomplished from their personal computers. Not all users are required to login into the system. Only users, who have registered on the site, wish to pay their fines online or view their payment history need to login. The purpose of this feature is to ensure security of sensitive payment data. The system recognizes users by utilizing sessions. Refer to Appendix D to view the Login Page to the system.

4.4.2 Signup form

The purpose of this form is to allow unregistered users to sign up and create a new user account which will enable them to pay their fines online. The form is uncomplicated and allows for a speedy sign up process. Refer to Appendix I

4.4.3 Query Fine Form

The purpose of this form is to give users the platform to ask any questions regarding their fines, to provide the JMPD with any changes to their residential address or any other contact details to avoid any delays in the delivery of any correspondence between them and the JMPD or the municipal court. Refer to Appendix K

4.4.4 Contest Fine Forms

This form serves almost as a letter of appeal to the court to have the fine reduced or revoked, or else appeal to have representation in the trial of the fine. This part of the system deals with the legal aspect of things more than administrative purposes. Refer to Appendix L.

4.4.5 Feedback Questionnaire

The primary purpose of this questionnaire is to measure usability. Through the feedback from users, the JMPD and the system will be able to stay on par with their users' requirements and needs. Refer to Appendix N

4.5 Class Diagram

Figure 7 below shows the classes of the system, their interrelationships (including inheritance, aggregation, and association), and the operations and attributes of the classes.
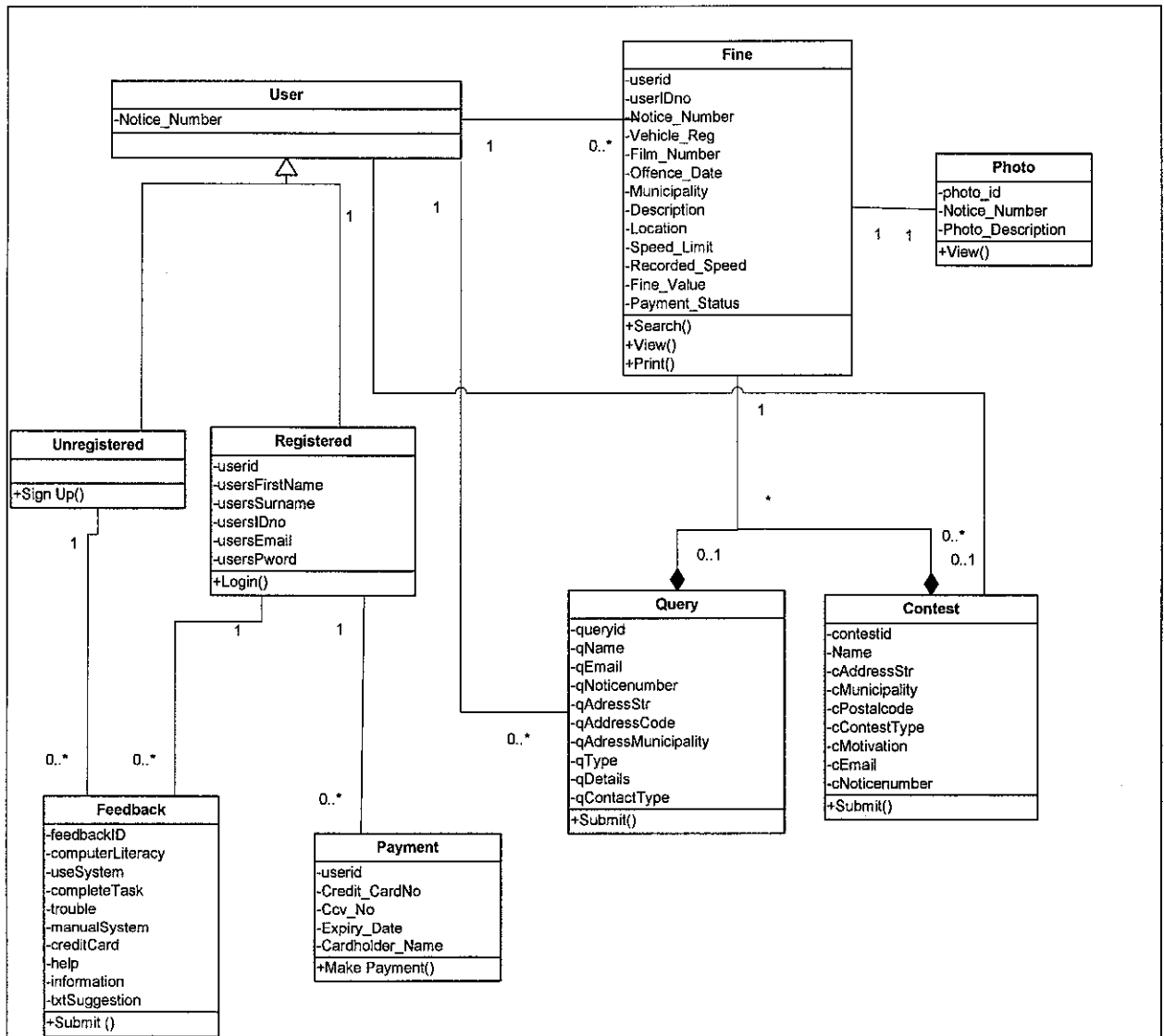

Figure 7. JMPD Finesonline.co.za Class Diagram

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CHAPTER 5
CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

JMPD Finesonline.co.za system was successfully completed and within the required time frame. The system meets all the project's outlined objectives and beyond. The author is particularly elated by the fact they were able to further enhance the system by adding the notification email sent to users upon submitting a query or contesting a fine online, as well as the added print function.

From the research and observation done prior to the implementation of this system, the author discovered that the process of motorists having to physically visit the department for details about their fines is both tedious and inconvenient, the manual process of querying and contesting fines is also complex and time consuming and users have to wait for a long period before they get a response from the department concerning their queries or contests. As a result, the conception of this system is mainly founded on these difficulties that motorists face by using the manual system.

Through this project, the JMPD Finesonline.co.za Traffic Fine System successfully addressed the problems faced by the current system and also provides the solution for better communication between users, the JMPD and the municipal court.

The greatest advantage of going paperless and electronic is saving money and time, while improving service on the hand and increasing customer satisfaction levels and providing new and enhanced services on the other because with the implementation of the JMPD Finesonline.co.za Traffic Fine System, the management and processes of fines will be more effective and efficient. Hopefully this system will serve as a benchmark for current systems who offer similar services.

5.2. Recommendations

There are undoubtedly opportunities for the system's expansion. As mentioned before, for the purpose of this project, the scope was limited to the user being the motorists only. This whole idea behind this system was conceived with three types of users; the motorist, the JMPD officers and the municipal court officials.

It is therefore palpable that 3 different interfaces will have to be designed to each user. In this project, the author sends an automatic notification email with a reference number to the user on behalf of the JMPD. There is still a degree of a manual process here because should the JMPD not respond within the said time frame, the user cannot track the progress of the query or contest online. To make this possible, developers can use applications such as Web Services - a software system designed to support interoperable Machine to Machine interaction over a network.

Web services are frequently just Web APIs that can be accessed over a network, such as the Internet, and executed on a remote system hosting the requested services, using open, XML-based standards and transport protocols to exchange data with clients, enable developers to create and deploy secure, reliable, transactional, interoperable Web services and clients.

The system does not currently display details of any warrants of arrests that have been issued on the motorist, motorist can only check if they have warrants or not. Currently, the user has to submit a query to view this.

Therefore, the author recommends a mechanism that will allow users to be able to track and see the progress of their queries and contests through the system. For example, registered users can enjoy the added benefit of being sent notification emails should there be any fines or warrants of arrests issued to them.

With the implementation of these recommendations, the author strongly believes that the system will truly be an all encompassing Traffic Fine System offering motorists, the JMPD and the Municipal courts the utmost convenience.

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APPENDICES

Appendix A: Traffic Fine Scheme

Table 3: Breakdown of Traffic Fine Scheme

60KM/H ZONE

SPEED	FINE	SPEED	FINE
71-74km/h	R250.00	75-79km/h	R500
80-84km/h	R750.00	85-89km/h	R1000.00
90-94km/h	R1500.00	95-99km/h	R2500.00
*100km/h and over, no fine payable. Have to appear in court			

70KM/H ZONE

SPEED	FINE	SPEED	FINE
81-84km/h	R250.00	85-89km/h	R500
90-94km/h	R750.00	95-99km/h	R1000.00
100-104km/h	R1500.00	105-109km/h	R2500.00
*110km/h and over, no fine payable. Have to appear in court			

80KM/H ZONE

SPEED	FINE	SPEED	FINE
91-94km/h	R250.00	95-99km/h	R500
100-104km/h	R750.00	105-109km/h	R1000.00
110-114km/h	R1500.00	115-119km/h	R2500.00
*120km/h and over, no fine payable. Have to appear in court			

100KM/H ZONE

SPEED	FINE	SPEED	FINE
111-114km/h	R250.00	115-119km/h	R500
120-124km/h	R750.00	125-129km/h	R1000.00
130-134km/h	R1500.00	135-139km/h	R2500.00
*140km/h and over, no fine payable. Have to appear in court			

120KM/H ZONE

SPEED	FINE	SPEED	FINE
131-134km/h	R250.00	135-139km/h	R500
140-144km/h	R750.00	145-149km/h	R1000.00
150-154km/h	R1500.00	155-159km/h	R2500.00
*160km/h and over, no fine payable. Have to appear in court			

Appendix B

Table 4 summarizes the types of the most common offences and the number of occurrences per type of offence. This summary was compiled by the Arrive Alive Campaign, a subsidiary of the National Department of Transport.

Table 4: Summary of Results of Traffic Offence Monitoring Survey

Offence	GA	KZ	WC	EC	FS	MP	NW	NP	NC	RSA
Speed: Urban: 60km/h LMV (% offenders)	26	44	53	54	40	71	70	35	56	44
Speed: Rural: 120 km/h LMV (% offenders)	22	27	39	24	23	48	9	20	16	27
Alcohol levels, urban, drivers (% offenders)	2.0	0.9	2.0	1.5	1.0	1.8	4.0	2.2	3.1	1.8
Alcohol levels, urban, pedestrian (% offenders)	18	7	9	7	5	5	11	3	12	11
Seat belts: Driver (road block survey)(% offenders - not wearing)	25	17	18	12	19	15	13	20	15	19
Seat belt: Front passenger (% offenders - not wearing)	56	48	51	43	40	48	51	49	48	50
Traffic signals (% of phases with offence)	53	30	29	24	44	48	27	54	14	40
Overtaking: Ave no. of offences / hour per barrier line survey point	10.5	9.0	4.2	5.1	3.0	27.3	4.8	2.4	0.9	8.4
Driver license (% offenders)(LMV)	9	8	8	6	9	7	6	4	8	8
Professional Driver Permit (% offenders)	13	19	11	22	15	6	9	6	6	13
Agreement: Number on license disc & plate	1	0	5	1	1	1	3	1	1	2
Tyres smooth or damaged: (% off)(TBT)	25	17	18	20	28	29	26	35	30	23
Lights: Front Bright (% offenders)	4	4	3	6	14	4	5	4	4	5
Lights: Front Dim (% offenders)	4	3	4	7	8	5	6	5	4	5
Lights: Front Flicker (% offenders)	4	4	3	6	11	3	4	3	3	4
Lights: Tail (% offenders)	6	8	7	9	6	7	13	8	11	7
Lights: Brake (% offenders)	6	9	8	11	9	7	10	8	11	8
Lights: Back Flick (% offenders)	3	4	3	5	4	4	3	4	3	4

Information kindly provided by the Arrive Alive National Fatal Accident Information Centre,National Department of Transport

APPENDIX C: Home Page

Figure 8: Screenshot: Home Page

View Demonstration button exists on every page of the system for users to view an online demonstration of how to perform the task on that particular page. This is an attempt to address usability issues.
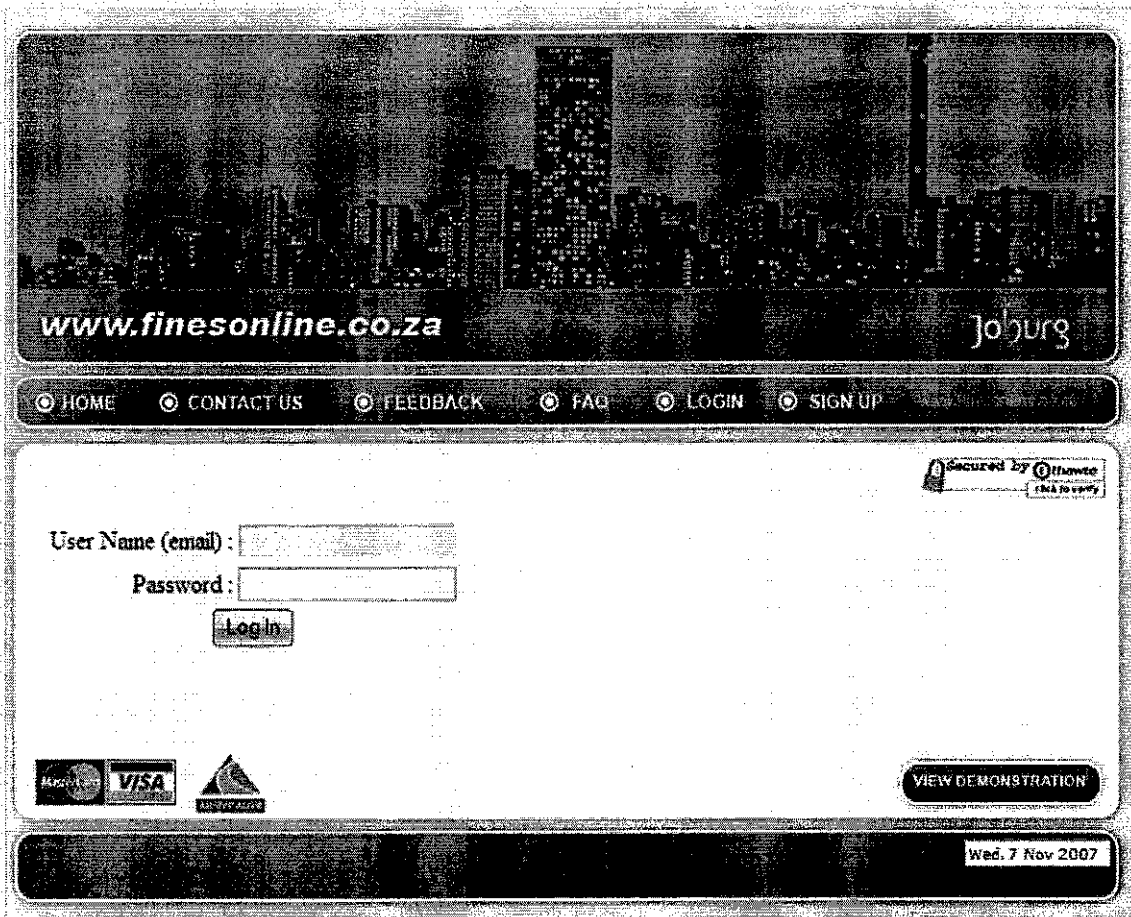
APPENDIX D: User Login

Figure 9. Screenshot: Login Page

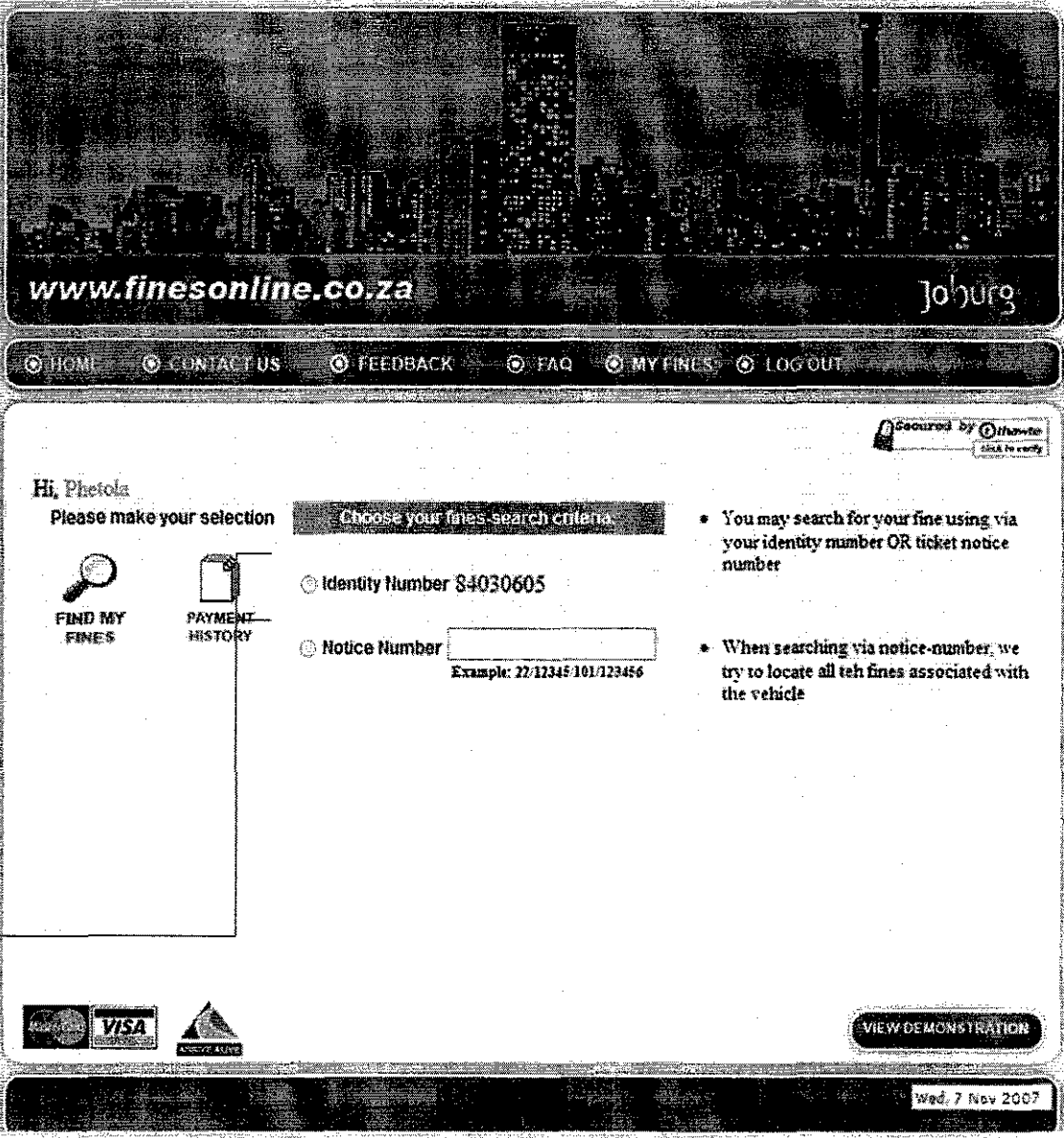# APPENDIX E: My Fines Page - Main page for registered users

Figure 10. Screenshot: My Fines Page

Two options for searching for fines and payment history:

- Using SA ID number or
- the fine's notice number

Appendix F: Fines-Search Results

Fines-Search Results

🔵 3 offense(s) were found with your search criteria

🔵 If you want to pay any of the fines below via credit card, check the box next to the fine(s) and click on the *'PAY THESE FINES'* button at the bottom

	Notice Number	Offence Date	Payment_Status	Amount	
view	E6/71215/100/023696	2007-01-02 08:09:55	Overdue - Summon Issued	500	☐
view	E6/61675/200/123685	2007-10-17 16:27:11	Can Accept Payment	250	☐
view	E6/71215/300/223111	2007-07-22 10:38:15	Case has been Finalised	0	

PAY THESE FINES

nes found in the search

VIEW DEMONSTRATION

Wed, 7 Nov 2007

Figure 11: Screenshot: Fines-Search Results

Check the box to pay the fine

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APPENDIX G: Display of Fine Details

Notice Number : E6/61675/200/123685
Registration Number : VLC940GP
Offence Date : 2007-10-17 16:27:11
Municipality : Ekhurleni
Description : Fourways Southbound
Speed Limit : 70 km/h
Recorded Speed : 81 km/h
Fine Value : 250

Figure 12. Screenshot: Fine Details Page

Users' Options:
- Go back to My Fines Page,
- Query or Contest the fine or
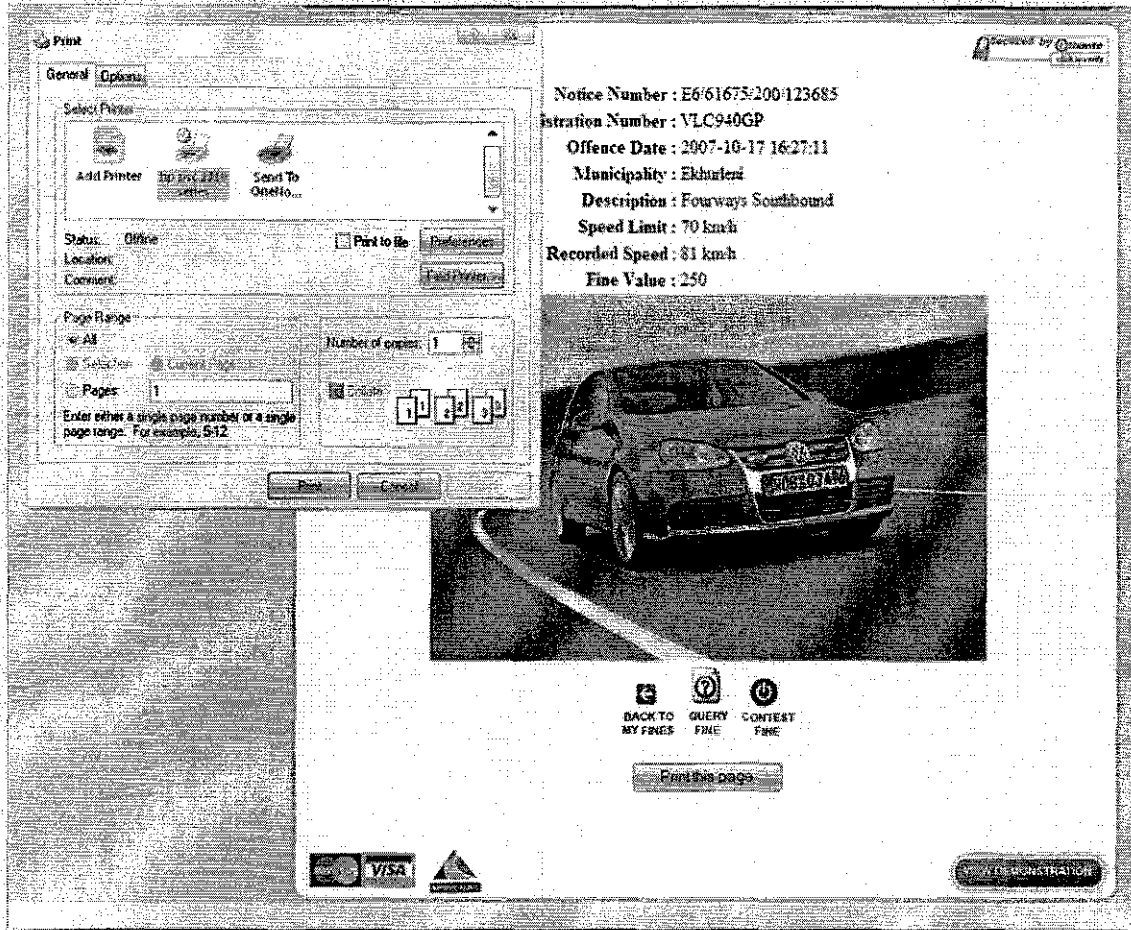- Simply print the fine's details

APPENDIX H: Print Fine

Figure 13. Screenshot: Print Fine Dialogue

APPENDIX I: Sign Up Form

Figure 14. Screenshot: Signup form
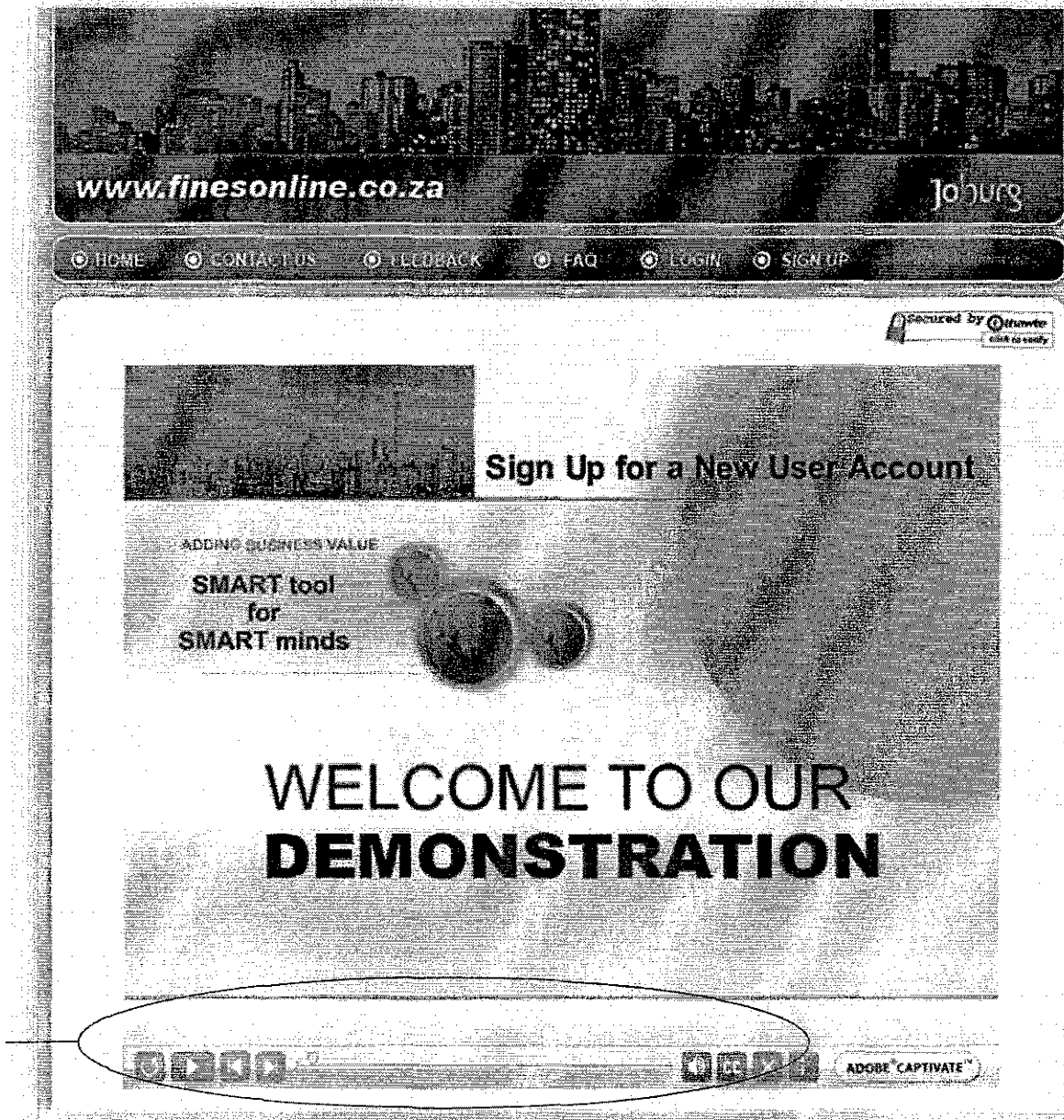
Appendix J: Sign Up Demo Welcome Page

Figure 15. Screenshot: Online Demonstration for Signing up

Player options to allow users to pause, re-play, rewind or fast-forward according to their preferences. This way, learning is unlimited and understanding guaranteed.

APPENDIX   K: Query Fine Form

Query Your Fine

Complete the form below for any queries you may have regarding your fine.

Here's how your query will be processed.

1. A JMPD officer will examine your query
2. The outcome of your query will be sent to you within 2 working days.

Name:

Email :

Notice Number:

Address

Street   City

State   Zip

What would you like to query?

☐ Incorrect information on the fine
☐ Oustanding summonses warrants
☐ Request for fine reduction

Other:

Enter your query here...

How should we contact you?

○ Email
○ Post

[Submit]

Please Note: If you have overdue fines you may be stopped when arriving or departing at any South African international airport.

If you are leaving South Africa within the next 48 hours it is important you phone 0800 PAYONLINE (0800 729 65 5463) and pay by credit card immediately.

Figure 16. Screenshot: Query Form

APPENDIX L: Contest Fine Form

Contest Your Fine

It takes about a week to process submissions as they go through various channels:

1. JMPD officer examines the circumstances surrounding the representation.
2. The document then goes to the public prosecutor, who has the final say.
3. The verdict is then fed into the department's system and a letter will be posted to your residential address.
4. *Once the verdict is given, you will either have the fine withdrawn or be accompanied by a court orderly either to pay the fine or be taken into custody.*

Name:

Email :

Notice Number:

Address
Street

Local municipality   Postal Code

On what basis are you contesting your fine?

○ Get fine reduced
○ Lodge Representation

To contest your fine, you will need to write a motivation letter detailing the cirmstances around which you wish to contest your fine.

Motivation:
Enter text here...

Submit

Figure 17. Screenshot: Contest Form

APPENDIX M: System-generated No-Reply Notification Email

Google [   ] [Search]

🔄 Compose   📧 Reply   ⬇ Next   ⬆ Previous   ▦ Msg List   ✗ Delete   ▌ Log Out

From: finesonline-noreply@finesonline.co.za
Subject: Query Notification Mail
Date: Thu, 08 Nov 2007 03:06:43 +0000

Good day, Shetola

Thank you for your Querying your Fine with Finesonline.co.za
Our team will process it and you will be notified of the outcome as soon as possible.
Your reference number is 08112007110642. Keep it for future reference.

Figure 18. Screenshot: Notification Email

System generated Reference number (using timestamp) for all queries and contests submitted via the system.

APPENDIX N: Feedback Questionnaire

Figure 19. Screenshot: Feedback Questionnaire