MONITORING SYSTEM FOR DETERMINING AND COMMUNICATING A COST OF INSURANCE

This application is a continuation-in-part application of U.S. Serial No. 09/135,034, filed August 17, 1998, now U.S. Patent No. 6,064,970 which is a continuation of U.S. Serial No. 08/592,958, filed January 29,1996, now U.S. Patent No. 5,797,134. A related application is U.S. Serial No. 09/364,803 filed July 30, 1999.

Field of the Invention

The present invention relates to data acquisition, processing and communicating systems, and particularly to a system for acquiring and handling relevant data for an insured unit of risk for purposes of providing a more accurate determination of cost of insurance for the unit of risk and for communicating or quoting the so determined cost to an owner of the unit of risk. Although the invention has its principal applicability to motor vehicles such as automobiles, the invention is equally applicable to other units of risk such as, without limitation, motorcycles, motor homes, trucks, tractors, vans, buses, boats and other water craft and aircraft. The invention especially relates to a system for monitoring and communicating units of risk operational characteristics and operator actions for implementing the operational characteristics, to obtain increased amounts of data relating to the safety or risk of use for a subject unit, for purposes of providing a more accurate determination of the cost of insurance corresponding to a real time usage of the risk unit, and for making such data and computed costs accessible to a customer or insured or others on hardcopy, over the Internet or by other electronic means for convenient communication. The invention relates to electronic commerce, particularly where insurance and related information is marketed, sold or communicated via the Internet or other interactive network.

Background of the Invention

Conventional methods for determining costs of motor vehicle insurance involve gathering relevant historical data from a personal interview with the applicant for the insurance and by referencing the applicant's public motor vehicle driving record that is maintained by a governmental agency, such as a Bureau of Motor Vehicles. Such data results in a classification of the applicant to a broad actuarial class for which insurance rates are

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assigned based upon the empirical experience of the insurer. Many factors are relevant to such classification in a particular actuarial class, such as age, sex, marital status, location of residence and driving record.

The current system of insurance creates groupings of vehicles and drivers (actuarial classes) based on the following types of classifications.

Vehicle:

Age;
manufacturer, model; and
value.

Driver:

Age;
sex;
marital status;
driving record (based on government reports),
violations (citations);
at fault accidents; and
place of residence.

Coverage:

Types of losses covered,
liability,
uninsured motorist,
comprehensive, and
collision;
liability limits; and
deductibles.

The classifications, such as age, are further broken into actuarial classes, such as 21 to 24, to develop a unique vehicle insurance cost based on the specific combination of actuarial classes for a particular risk. For example, the following information would produce a unique vehicle insurance cost.

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Vehicle:		
	Age	1997 (three years old)
	manufacturer, model	Ford, Explorer XLT
	value	$ 18,000.
Driver:		
	Age	38 years old
	sex	male
	marital status	single
	driving record (based on government reports)	
	violations	1 point (speeding)
	at fault accidents	3 points (one at fault accident)
	place of residence	33619 (zip code)
Coverage:		
	Types of losses covered	
	liability	yes
	uninsured motorist	no
	comprehensive	yes
	collision	yes
	liability limits	$100,000./$300,000./$50,000.
	deductibles	$500./$500.

A change to any of this information would result in a different premium being charged, if the change resulted in a different actuarial class for that variable. For instance, a change in the drivers' age from 38 to 39 may not result in a different actuarial class, because 38 and 39 year old people may be in the same actuarial class. However, a change in driver age from 38 to 45 may result in a different premium because of the change in actuarial class.

Current insurance rating systems also provide discounts and surcharges for some types of use of the vehicle, equipment on the vehicle and type of driver. Common surcharges and discounts include:

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Surcharges:

Business use.

Discounts:

Safety equipment on the vehicle

airbags, and

antilock brakes;

theft control devices

passive systems (e.g. "The Club"), and

alarm system; and

driver type

good student, and

safe driver (accident free).

group

senior drivers

fleet drivers

A principal problem with such conventional insurance determination systems is that much of the data gathered from the applicant in the interview is not verifiable, and even existing public records contain only minimal information, much of which has little relevance towards an assessment of the likelihood of a claim subsequently occurring. In other words, current rating systems are primarily based on past realized losses. None of the data obtained through conventional systems necessarily reliably predicts the manner or safety of future operation of the vehicle. Accordingly, the limited amount of accumulated relevant data and its minimal evidential value towards computation of a fair cost of insurance has generated a long-felt need for an improved system for more reliably and accurately accumulating data having a highly relevant evidential value towards predicting the actual manner of a vehicle's future operation.

Many types of vehicle operating data recording systems have heretofore been suggested for purposes of maintaining an accurate record of certain elements of vehicle operation. Some are suggested for identifying the cause for an accident, others are for more accurately assessing the efficiency of operation. Such systems disclose a variety of conventional techniques for recording vehicle operation data elements in a variety of data

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recording systems. In addition, it has also been suggested to provide a radio communication link for such information via systems such as a cellular telephone to provide immediate communication of certain types of data elements or to allow a more immediate response in cases such as theft, accident, break-down or emergency. It has even been suggested to detect and record seatbelt usage to assist in determination of the vehicle insurance costs (U.S. Patent No. 4,667,336).

The various forms and types of vehicle operating data acquisition and recordal systems that have heretofore been suggested and employed have met with varying degrees of success for their express limited purposes. All possess substantial defects such that they have only limited economical and practical value for a system intended to provide an enhanced acquisition, recordal and communication system of data which would be both comprehensive and reliable in predicting an accurate and adequate cost of insurance for the vehicle. Since the type of operating information acquired and recorded in prior art systems was generally never intended to be used for determining the cost of vehicle insurance, the data elements that were monitored and recorded therein were not directly related to predetermined safety standards or the determining of an actuarial class for the vehicle operator. For example, recording data characteristics relevant to the vehicle's operating efficiency may be completely unrelated to the safety of operation of the vehicle. Further, there is the problem of recording and subsequently compiling the relevant data for an accurate determination of an actuarial profile and an appropriate insurance cost therefor.

Current motor vehicle control and operating systems comprise electronic systems readily adaptable for modification to obtain the desired types of information relevant to determination of the cost of insurance. Vehicle tracking systems have been suggested which use communication links with satellite navigation systems for providing information describing a vehicle's location based upon navigation signals. When such positioning information is combined with roadmaps in an expert system, vehicle location is ascertainable. Mere vehicle location, though, will not provide data particularly relevant to safety of operation unless the data is combined with other relevant data in an expert system which is capable of assessing whether the roads being driven are high-risk or low-risk with regard to vehicle safety.

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