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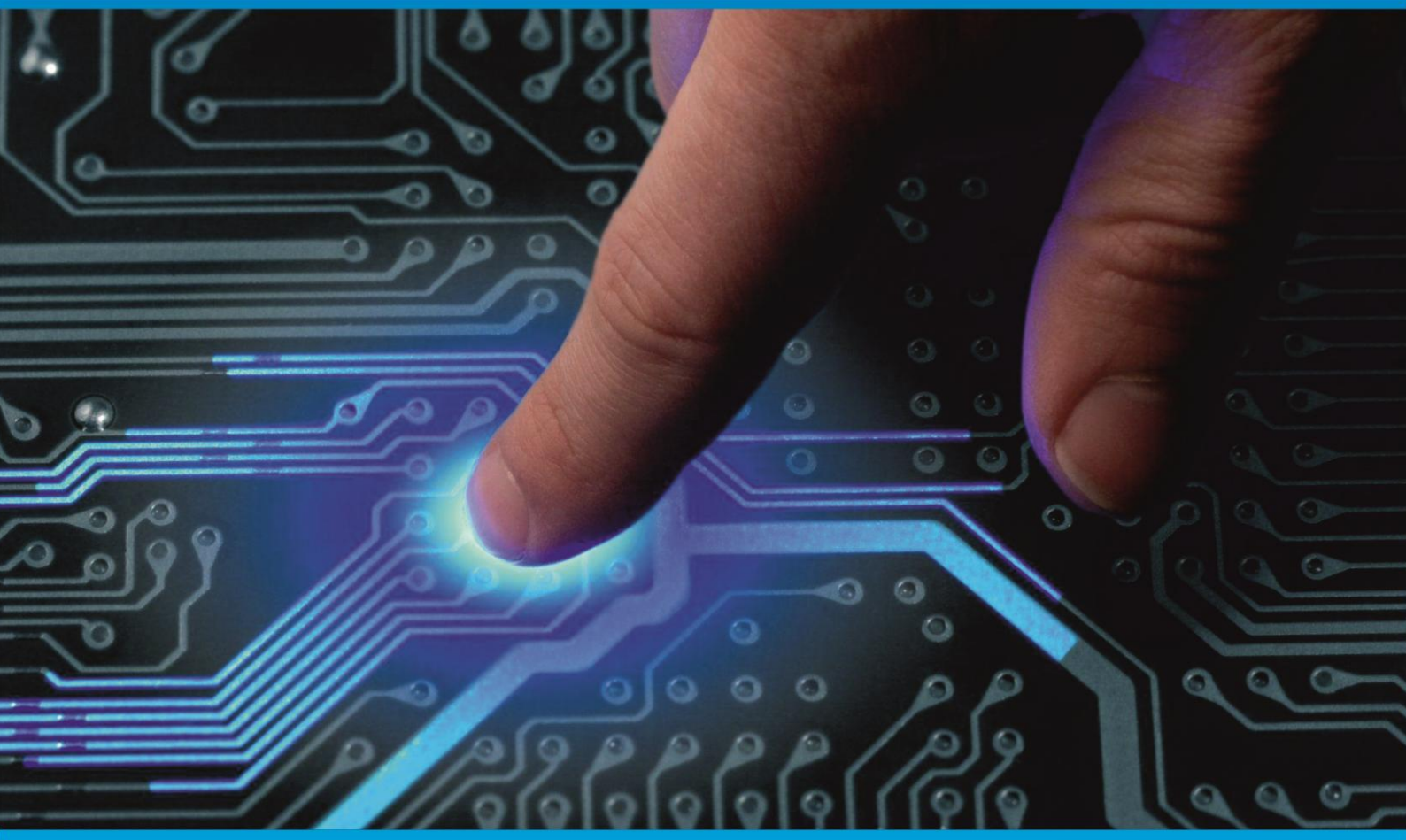

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An Android Application on Vehicle on Rent

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ABSTRACT: The rental car system is being built so that customers can book their vehicles from anywhere on the planet. This application collects information from customers by having them fill out forms. A customer who has registered for the app has the ability to book a car needs. The projected system is totally integrated on-line system. It automates manual procedure in an {efficient|a good} and efficient manner. This automated system assists clients and offers additional services in accordance with their requirements. It includes the type of vehicle they're looking to rent as well as the location. The aim of this approach is to create an internet platform for people to book their vehicles in accordance with their needs from anywhere in the state. Hire car companies obtain or lease a range of fleet cars, which they then rent to customers for a fee. Rental fleets can be arranged in a number of ways: they can be purchased outright (known as "danger cars" because the hire car company is betting on how much the vehicle can sell for until it is no longer in service), they can be chartered, or they can be leased or They'll be held under a bonded buy-back scheme arranged directly by a manufacturer or a manufacturer's money arm (these are known as'repurchase vehicles' since the manufacturer specifies the exact value of the original selling and repurchase at the end of a specified term)

KEYWORDS: General Packet Radio Service (GPRS) is an acronym for General Packet Radio Service. SMS stands for Short Message Service. GPS is for "Global Positioning System." CS stands for Customer Service Module. WP-Web Portal Module is a WordPress plugin that allows you to build a web portal. FM stands for Fleet Management Module. RA-Reports and Analytics Module is a module that allows you to generate reports and analyse data. SDK stands for System Development Kit. WORA stands for Write Once, Run Everywhere. DB stands for database.

I. LITERATURE SURVEY

1. **ARCHANA M** et. al proposed that The “ONLINE CAR RENTAL App” initiative is a digital system built for consumers so that they can book their vehicle from anywhere in the world.The new system has been fully computerised. A new framework includes features such as time efficiency for showing car information, user accounts, and any input the customer gives to the admin. A customer can conveniently conduct an inquiry in the system. It is the most popular programme for running an online car rental company. Thus when a new project is proposed, it normally goes through a feasibility study before it is approved for development Unfortunately, the development of the computer-based system is more likely to be played by a security of resources and difficulty delivery dates. Feasibility and risk analysis are related in many ways Mainly two key considerations are involved in the feasibility analysis.Technical feasibility Operational feasibility.

2. **Mr. Shah Mostafa Khaled** et. alRent: The system equipped to answer Customer's inquiries about the availability and rental fee of various "types" of cars for certain dates in the future. When the customer makes a decision about the "Type “of car and the Dates, the system should be able to "Reserve" or "Earmark “the requested type of car for requested dates. The customer should be given a "Confirmation Number”. Pick Up: The system process a Car Pick Up. Customer walks in and supplies either the confirmation number, or name. The system should pull up all the reservation information about this customer. The customer is then asked to supply a drivers ‘license. Return: The system process a return. The system should record the date, time and processed by Depending on these parameters, the system calculate the final rental amount.

3. **Dr.SHUBHANGI DC** et.al Transport facility is a matter of headache for those people who do not have any personal transport in their city on occasions like Wedding, Vacation, tour and many other situations they feel the necessity of a vehicle to sort out the problems. So if it is possible to design or develop a web based application for availing transport whenever and wherever possible, then it will be beneficial for both renter and transport provider. Digital technology has paved way for humans to make things much easier as compared to previous years as such for an example: buying books, groceries online at Amazon, ebay, etc. Similarly, The Car Rental System is the online facility to book cars online within few clicks. This system includes various cars, as per the customers bookings and comfort, once the cab is booked there is a certain limit time where the customers geographical location is mapped and the

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customer can view the location of the scheduled time arrival period of the booked cab on their mobile phones and this facility can be done via Mobile Internet service or Wi-Fi.

4. **Azila Awang Abu Bakar et.al**According to Germaine (2015), a booking system needs three key components: the search engine, the result, and the booking validation. The first step is to gather simple details so that the machine can suggest car choices for consumers to consider.This step of the quest must be short and simple, requiring little time commitment. The machine can then display the results that fit the search criteria. Finally, reassuring clients to secure bookings is the only chance to double-check anything before making a financial decision. Nishant, Rahul, and Kumar Kar (2015) validate the three components of a booking mechanism and recommend additional components to improve customer service, such as omni portal, social media-optimized, and real-time technology.

5. **Mohd Zafri Zulkipli** et. al Nowadays, there are many UTM students located in Skudai, Johor, bring their own car to campus (herein referred as Owner). Some of these students give services such as renting their cars or taking ride request from one place to another. It is good for UTM students because they have a lot of choice in choosing the service offered by fellow UTM students themselves. However, sometimes it consumes time to find the right service. For those who do not have cars but have a driving license, they most probably need a car for transportation. Students must make telephone calls or send messages to the driver to request for his/her service specifically. Sometimes this can pose problems such as the driver is not available at the requested time or the driver has discontinued his/her service. In view of such problems, a mobile-based car ride or rental system is suggested. With a mobile-based car ride or rental system, students have the power to make requests for rental or ride to all drivers available in UTM that register to this system. It is just as easy as just tapping their fingers on their smartphone.

6. **Serdar Muradov** et.al Mobile commerce (commonly referred to as "M-commerce") is concerned with the use, application and integration of wireless telecommunication technologies and wireless devices within the business systems domain. The area of M-commerce includes reference to the infrastructures and electronic technologies necessary for wireless data and information transfer, in all its multimedia forms (i.e. text, graphics, video and voice). It also incorporates the study ofthe various wireless technologies, and the portable mobile devices, used to send and receive data and information The use of wireless technologies extends the nature and scope of traditional electronic commerce by providing the additional aspects ofmobility and portability. Therefore, M-commerce is sometimes referred to as mobile E-commerce. M-commerce can be considered to be a flexible solution to many of the negative aspects of fixed-wired E-commerce. Wireless-based network infrastructures, and the portable mobile technologies that support such infrastructures, provide flexibility and mobility within the business systems domain. Despite this general understanding, defining M-commerce can still be a semantic exercise in its ownright. Within the context of this research paper, Mcommerce is referenced to mobile computing and pervasive computing systems, theory and practice. Therefore, M-commerce is succinctly defined as the interconnection of portable computing technologies, and the wireless telecommunications networking environments necessary to provide location independent connectivity within the business information systems domain.

7.**YASIR ADO HASSAN** et.al So many car rental management systems that have been developed, and all these car rental systems are aiming at offering reliable services which can be accessed by customers at any time regardless of the location. This chapter contains the literature review of the car rental management system to be developed. This chapter will also review the existing systems that are similar to the car rental management system. References are made to sources from the internet.

II. PROPOSED SYSTEM APPROACH

Projected system : The projected project keeps in mind undermines of this system as expressed earlier. It consists of a login portal for patrons, agencies and employees. Distance and position calculated by Google API and Google Maps. on-line invoice generation. Instant reservation confirmation or payment confirmation by mail or SMS, Reminders on timings of vehicles and pickups, Pickup and drop-off at locations, it'll additionally keep track of all vehicle reservation and come back. Reports are going to be generated bi- weekly. The operating within the organization are going to be tactically and arranged. knowledge|the info|the information} are going to be hold on properly in data stores, which can facilitate in retrieval of data similarly as its storage. during this system owner of the vehicle simply track vehicle location by mistreatment automaton app of the motive force. the extent of accuracy within the projected system are going to be higher. All operation would be done properly and it ensures that no matter info is coming back from the middle is correct. The system ought to be simple to control and will be specified it will be developed at intervals a brief amount of your time and slot in the restricted budget of the

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user. within the projected system utmost care would be that no info is continual anyplace, in storage or otherwise. this could assure economic use of cupboard space and consistency within the knowledge hold on. The responsibility of the projected system are going to be high because of the on top of expressed reasons. the rationale for the inflated responsibility of the system is that currently there would be correct storage of data.

Following are the entities in the car rental system

- People
- Customers
- Agents
- Car_details
- Car_bookings
- Extra_driver
- Bill_generate
- Payment

Entity Description

1. People:
The individuals table stores data concerning all individuals related to the travels system . during this entity individuals id is that the primary key. the opposite attributes square measure forename, last name, address, state, zip code, home, cell and email.
Attributes:

1. People_id
2. First_name
3. Last_name
4. Street_address
5. State
6. Zipcode
7. Phone_home
8. Phone_cell
9. Email

2. Customers:
The customers table consists of all the data of travelers mistreatment Rental service. The client id(CID) may be a primary key. individuals ID is reference key here that references to individuals table. the opposite attributes of this entity square measure identification kind and itinerary id that is that the foreign key references to Itineraries table. Moreover, it's one weak entity additional driver that consists of knowledge relating to the one who can drive the automobile besides this. The customer's driver identification number also will be hold on.

Attributes:

1. customer_id
2. People_id
3. identification_type
4. extra_driver
5. driving_license_no

3.Employees:
In the workers table, we've got all of the staff operating within the workplace, not together with on-field agents, automobile mechanics, etc. the staff listed may be accountants or registrars United Nations agency maintain all the bookings. Another attribute is hourly wages of workers in USD(hourly wages in USD) that stores the data of wages of workers on hourly basis. additionally notes the placement they work as a distant key.

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Attributes:
1. employee_id
2. People_id
3. location_ID

4. automobile details:
This entity keeps the records for all of the offered cars. it's automobile id as primary key. This entity additionally includes automobile name, Vin, capaciousness of automobile, production year. It additionally stores the value to rent the automobile.
Attributes:
1. car_id
2. car_make
3. car_name
4. make_year
5. car_color
6. car_seat_capacity
7. car_plate_no
8. VIN
9. Rental_price

5. automobile bookings:
This table keeps the records of the cars reserved by the travelers at the precise locations. The reserved automobile is other to the present table with its automobile id and itinerary id of the one who reserved the automobile.
Attributes:

1. car_id
2. location_id

6. additional Driver:
This is a weak entity derived from {the clients|the purchasers|the shoppers} table that has customer id as a distant key that references to the purchasers table. This entity keeps the record of the one who may drive the rented automobile with the client. driver's licence range also will store of that person.
Attributes:
1. first_name
2. last_name
3. gender
4. customer_id
5. Relationship
6. driving_license_no

7. Location:
Locations square measure either a lease distribution center that holds rental cars waiting to be rented, or AN workplace wherever agents work. this is often distinguished by attribute kind.
Attributes:
1. Location_ID
2. Street_address
3. State
4. Zipcode
5. Phone

8. Insurance:
Insurance table has Insurance kind as primary key that keeps record of insurance kind. This table has alternative entities like collision coverage that stores quantity of Collison, Body cowlage can cowl quantity of body harm of automobile and medical coverage can cover medical issue with client in accidents.

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1. insurance_type
2. medical_coverage

9. Bill:

Bill table holds the bill for the purchasers. This table has bill range as primary key. Rent per day and rented days square measure attributes for reckoning bill quantity that shows quantity client has to pay.

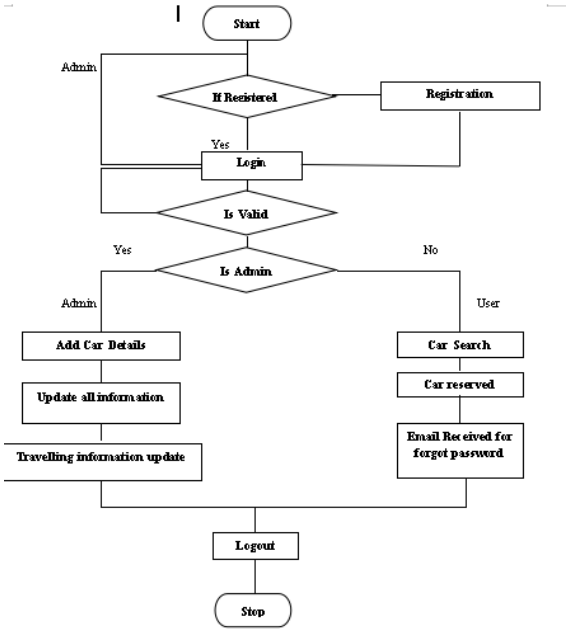
1. bill_no
2. insurance_type
3. rental_price
4. rented_days
5. bill_amount
6. billing_street_address
7. billing_state
8. billing_zipcode
9. tax

10. Payment:

Payment entity has payment id as primary key and bill range is foreign key to induce bill details from bill generate. and a few alternative attributes like card range, termination date, cvv square measure for the client United Nations agency desires to pay by mastercard. there's alternative attribute pay by money that is for client United Nations agency desires to pay by money.

1. payment_id
2. bill_no
3. card_num
4. expiry_date
5. cvv
6. paid_by_cash

Flow Chart Of Vehicle On Rent



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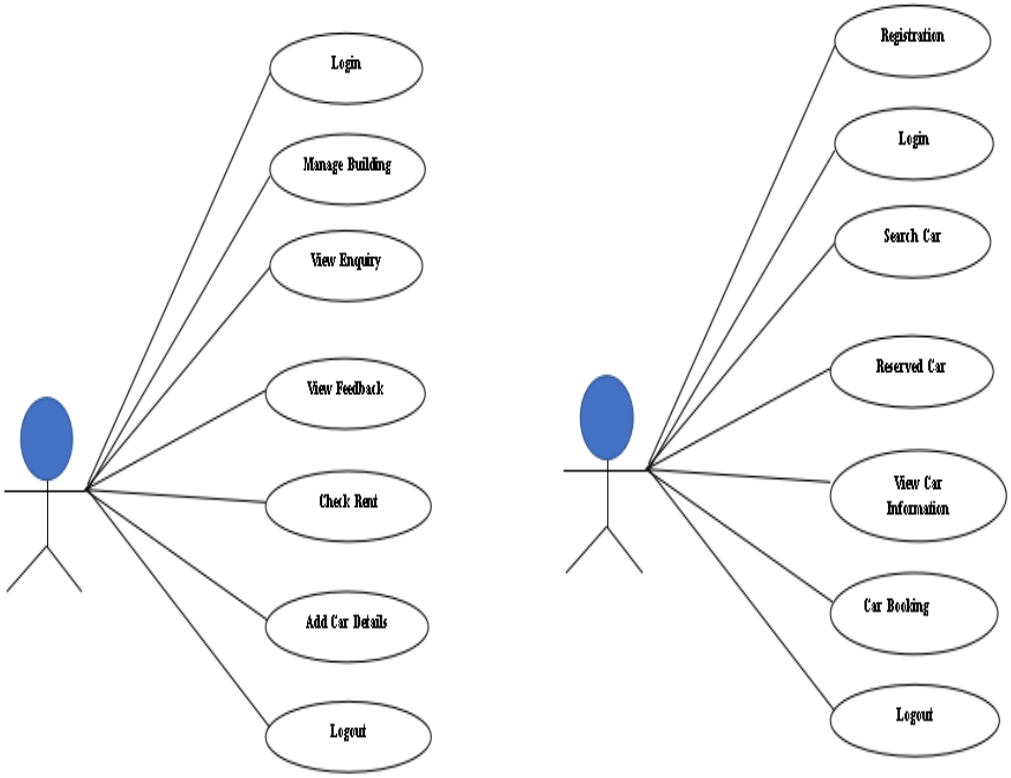
UML DAIGRAM

ADMIN **USER**



Languages Used Java: Java is a computer programming language that is concurrent, class-based, object-oriented, and specifically designed to have as few implementation dependencies as possible. It is designed to allow programme developers to "write once, run anywhere" (WORA), which means that code written for one device does not need to be recompiled for another. When objects are created, the author decides when they are created, and the Java runtime is in charge of restoring memory when they are no longer in operation. When there are no more references to an object, the garbage collector can immediately release the unreachable memory.

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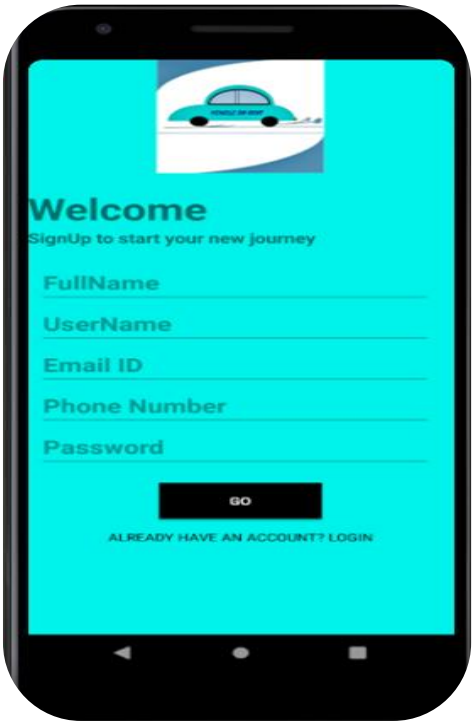
OUTPUT

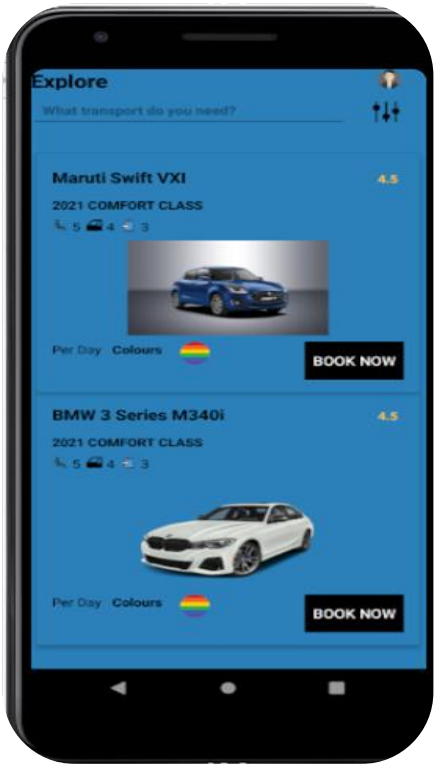
SPLASHSCREEN

LOGIN

SIGNUP



MAINSCREEN



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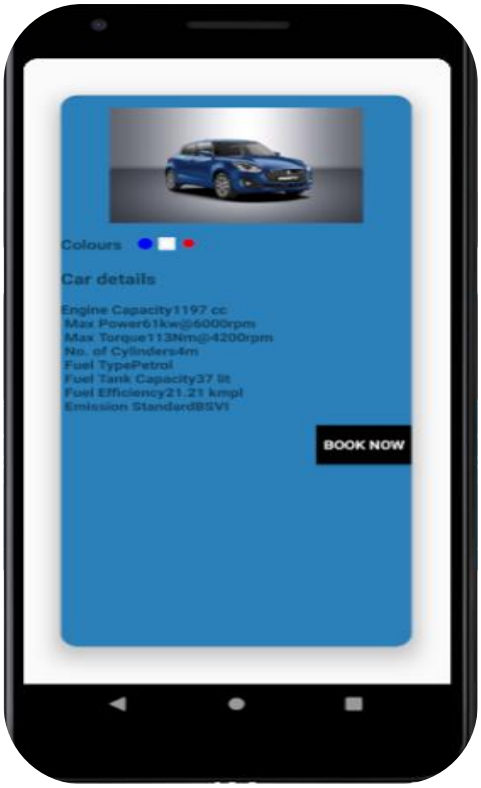
CARDETAILS **DRIVER OPTION**



III. CONCLUSION

On Hire (car Rental system) provides a simple way of collecting useful information to measure this service. Concentrating on customer satisfaction helps enterprise to achieve healthy growth in markets. Will also help the company to be successful in new business segments.

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