SRS

Car dealership and repairing

G5

System request

Project Sponsor: Business Owner of Car Dealership

Business Need: A car dealership wants to improve its processes, this project is to build a platform to help facilitate operations and simplify transactions to get the desired results. Business processes include matching customers with vehicles, tracking sales, inventory management, determining salesperson's commissions, and promotional offers.

Business Requirement:

1. Matching customers with vehicles online via the inventory search function On-site via salesperson searching the internal and external inventories.
2. To supervise the sale process and trace vehicle options, sales tax, discounts, and financing options.
3. Inventory management involving buying and selling.
4. Salesperson commission is performed every week and is based on sales percentage.
5. Promotional offers refer to the pricing of internal inventory and are performed weekly.

Business Value: We anticipate the new integrated platform to increase sales and provide the best customer satisfaction to all clients. In the long run, we expect to be the most trustable and dependable car dealership in the area.

Special issues: The project needs to be finished after 2 months .

Swot analysis

project manager : Business owner of car dealership

project name: Car dealership and repairing system

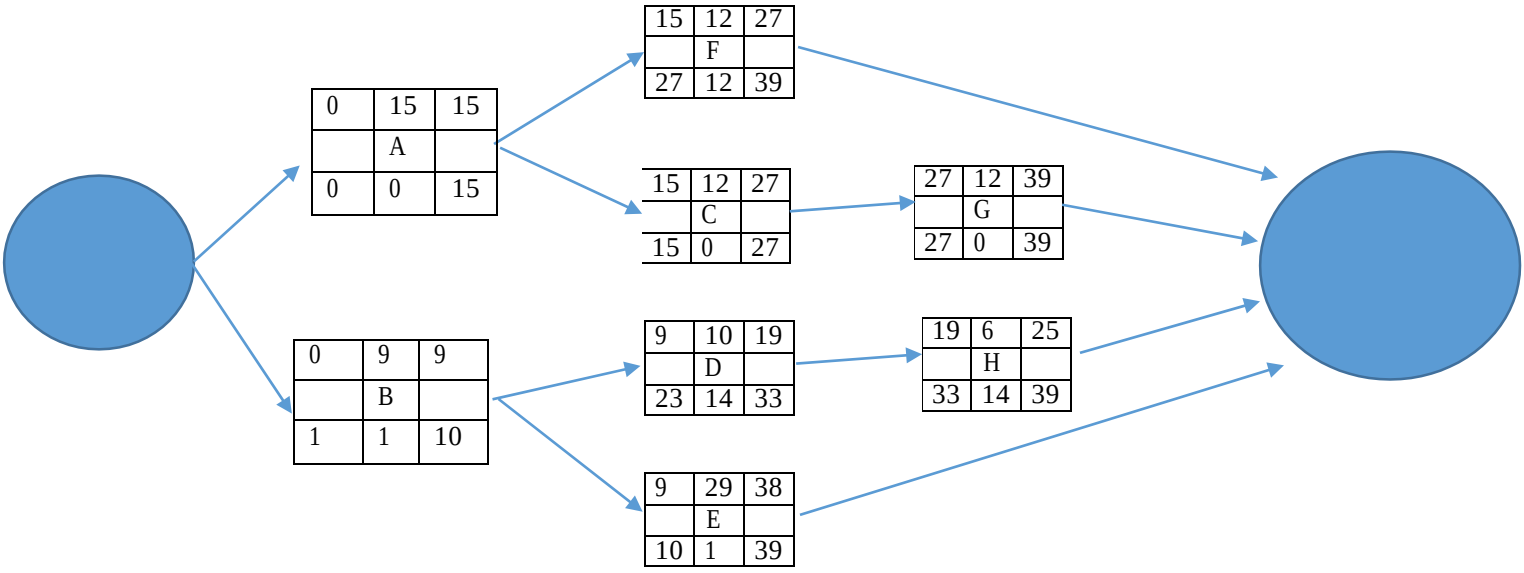
purpose: Increase sales and provide the best customer satisfaction to all clients.

Strength	Weakness
1. Providing a more comprehensive array of fixed operations services example : * Warranty Expires * Create Content That Drives Awareness (sales , services before and after selling) * Allow customers to schedule vehicle pickups and drop-offs * Diversity of payment methods 2. Selling higher-quality new and pre-owned vehicles 3. Offering a more extensive color selection 4. Establishing a better customer service department 5. Steeper price cuts (higher sales)	1. Outdated technology and shortage of models 2. low wages for workers 3. Poor financial incentives 4. lack of branches and distance from customers 5. Inexperienced service technicians

* Points (Customers earn points for purchases they can later use for free or discounted services.) * Refer a friend (Customers can refer a friend and receive a discount code) * Cash Back	
Opportunities	**Threats**
1. Strong service ratings from review publications 2. Positive online customer reviews 3. Receive the car immediately after paying	1. Better employee pay 2. Spread of competitors branches 3. More attractive loyalty programs 4. Make Rewards Attainable 5. Experienced service technicians 6. Higher financial incentives for worker

Project plan

Activity	Description	predecessors	Optimist time	Pessimistic Duration	Most likely Duration	Expected Duration
0	Start	-	0	0	0	0
A	Hire the staff	0	12	18	15	15
B	Select equipment	0	6	12	9	9
C	Buy equipment	A	9	15	12	12
D	Contract with car factories	B	6	18	9	10
E	Requirments survey	B	18	36	30	29
F	Develop the system	A	9	15	12	12
G	Implement the system	C	6	18	12	12
H	Train the staff to use the system	D	3	9	6	6



-Critical path: A,C,G

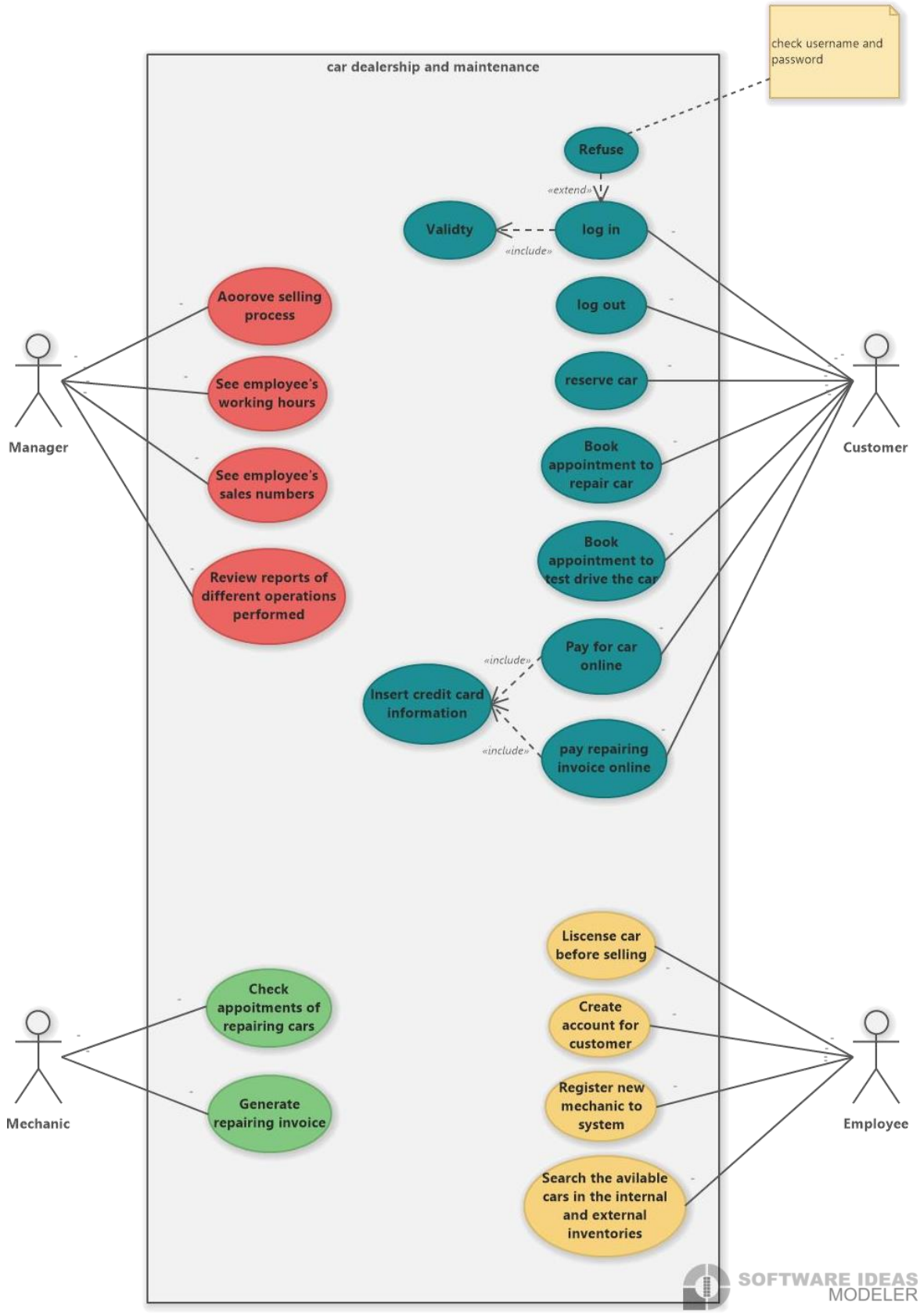
-Total time to complete project: 39 week

Requirements

user requirements	1- system must be capable of identifying human input and reacting to it. 2 -Data should be able to be stored and organized by the system. 3 -system must be capable of responding to user input. 4 -It should be possible for the system to communicate with other systems. 5 -Multiple users should be supported by the system
System requirements	1- site is free of problems when looking for a particular item 2- At day's end, the system closes all transactions. 3- Each car must have a file, and each user must have an account. 4- When there are multiple vehicles of the same type available, separate files must be created for each one. 5- The price set by the administration's rules must be paid by the customer.
Non-functional requirements	1 Use a web browser to access the system. 2 utilising a web browser to access the system 3 The precision with which the website responds to a user's inquiry 4 putting usability first when getting orders from the user 5 site is free of problems when looking for a particular item

Functional requirements	1-Each member can log in or out of the system,through the username and password,after verifying the validity of data,and in the event that any of them(name,password)is entered wrong,access to the system will be refused 2-The customer can reserve the car 3-The customer can book an appointment to repair the car 4-The customer can book an appointment to test drive the car before buying it 5-The customer can pay for a car online, after inserting credit card info. 6-The customer can pay invoice online, after inserting credit card info. 7-The employee can license the cars before selling them 8-The employee can create an account for the customer , after checking their data 9-The employee can register a new mechanic to system 10-The employee can search the available cars in internal and external inventories 11-The manager must approve selling process 12-The manager can see the employee's working hours 13-The manager can see the employee's sales numbers 14-The manager can review the reports of the different operations performed 15-The mechanic will be able to check the appointments of repairing cars 16-The mechanic will be able to generate repairing invoice, after repairing the car

Use case Diagram


car dealership and maintenance
check username and password
Refuse
«extend»
log in
Validty
«include»
log out
reserve car
Book appointment to repair car
Book appointment to test drive the car
Pay for car online
«include»
Insert credit card information
«include»
pay repairing invoice online
Aoorove selling process
See employee's working hours
See employee's sales numbers
Review reports of different operations performed
Manager
Customer
Liscense car before selling
Create account for customer
Register new mechanic to system
Search the avilable cars in the internal and external inventories
Check appoitments of repairing cars
Generate repairing invoice
Mechanic
Employee
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Use case Description

(The customer log-in to the system)

Element	Description
Use Case Name	Log-in
Use Case ID	UC-1
Priority	High
Actor(s)	Customer
Description	The customer log-in to the system.
Precondition(s)	The customer should land on the log-in page.
Post-condition(s)	The customer logged to the system.
Flow of events	1-The customer landed on the log-in page. 2-The system displays a login form. 3-The customer enters the valid username and password 4-The system authenticates the username and password. 5-The system display greets message. 6-Customer logged in to the system.
Alternative flows and exceptions	1. Customer entered invalid username and password at the second trial. 2. The system validates the username and password and wrong username and password are verified. System prompt user to enter username and password again. 3. The user enters username and password again. 4. The system validates username and password and wrong username and password are entered. A number of trials have exceeded 3 times. 5. System prompt user to log-in again after 15 minutes.

(Register a new mechanic)

Element	Description
Use Case Name	Register
Use Case ID	UC-09
Priority	High
Actor(s)	Employee
Description	Register mechanic to the system.
Precondition(s)	The form page is active to registration.
Post-condition(s)	The mechanic is registered with the system and profile data is stored with the system.
Flow of events	1. Employee select registration operation. 2. System display registration form and prompt to fill in profile data. 3. The employee fills up the form with profile data. 4. The system validates new mechanic information 5. The system reverts with registration station.
Alternative flows	1. New mechanic registration information is not valid. 2. The system displays registration failure page.
Exceptions	At any time, the operation may abandon.

(The employee can create an account for the customer)

Element	Description
Use Case Name	Create account
Use Case ID	UC-08
Priority	High
Actor(s)	Employee
Description	Create a new account for customer
Precondition(s)	The form page is active to registration.
Post-condition(s)	A new account is created for customer and profile data is stored with the system.
Flow of events	1. Employee select create new customer account operation. 2. System display registration form and prompt to fill in profile data. 3. The employee fills up the form with profile data. 4. The system validates new customer information 5. The system saves customer data
Alternative flows	1- New customer information is not valid. 2- The system displays account creation failure page.
Exceptions	At any time, the operation may abandon.

(The manager can review the reports)

Element	Description
Use Case Name	Review report
Use Case ID	UC-14
Priority	High
Actor(s)	Manager
Description	The manager can review the reports of the different operations performed
Precondition(s)	The reports are in reports section waiting to be opened by manger
Post-condition(s)	The reports are viewed by the manager and saved in archive
Flow of events	1- The manger clicks on "view reports" 2- The system recalls all the reports stored in reports section 3- The manager selects the reports of specific operation 4- The system views the reports to the manager 5- The manager selects . "Done reading" 6- The system transfer the report to the archive
Alternative flows and exceptions	At any time, the operation may abandon

(The customer can book an appointment to repair the car):

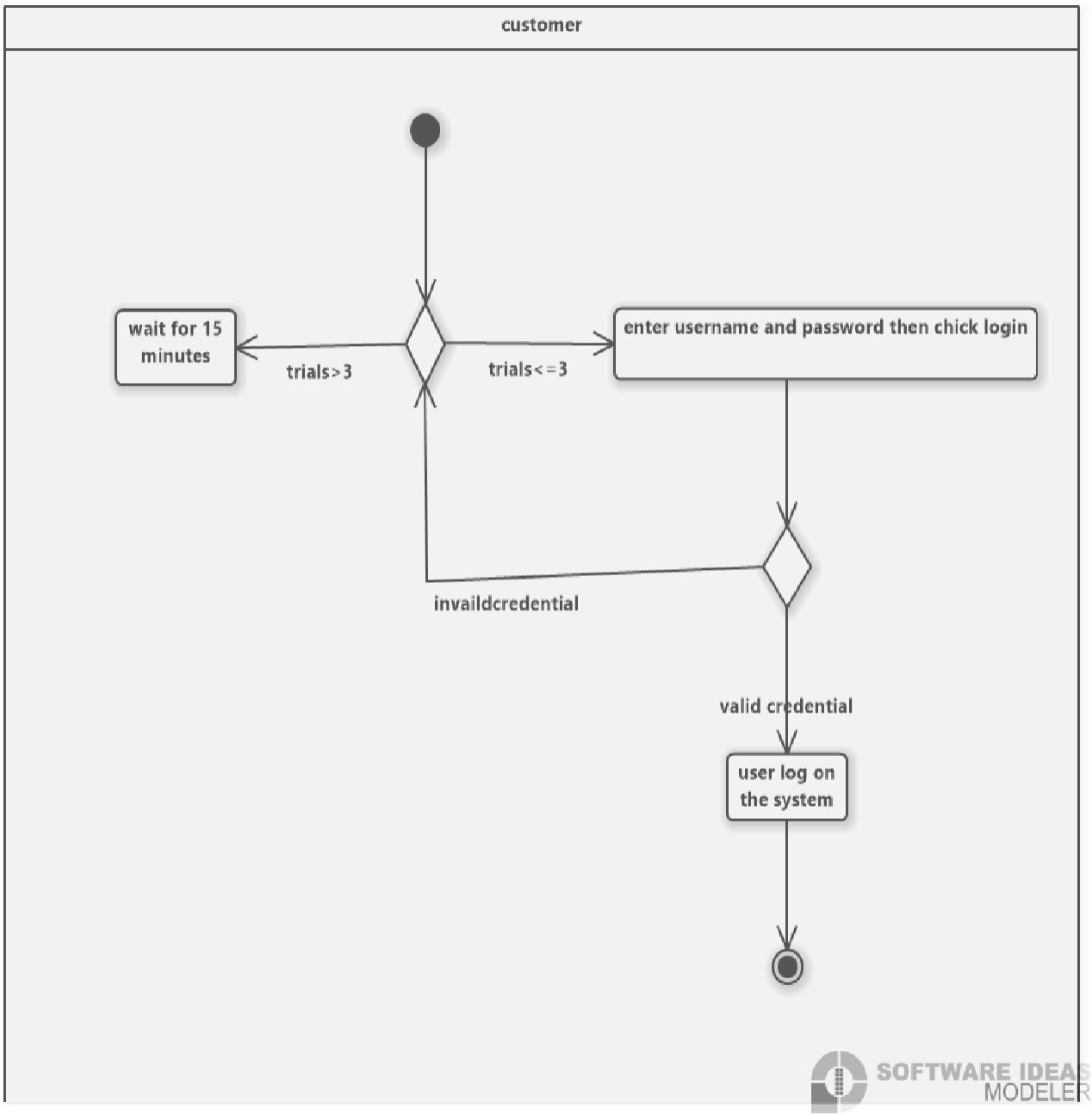
Element	Description
Use Case Name	Book repairing appointment
Use Case ID	UC-03
Priority	High
Actor(s)	Customer
Description	The customer can book an appointment to repair the car
Precondition(s)	The customer logged in and selects appointment
Post-condition(s)	Appointment booked
Flow of events	1- The customer logs in the system 2-The customer selects ” Book repairing appointments ” 3-The system recalls all available and free appointments 4-The customer selects the appointment that is suitable for him 5-The system reserves the selected appointment
Alternative flows and exceptions	1-The customer select two different appointments 2-The system displays error message

(generate repairing invoice):

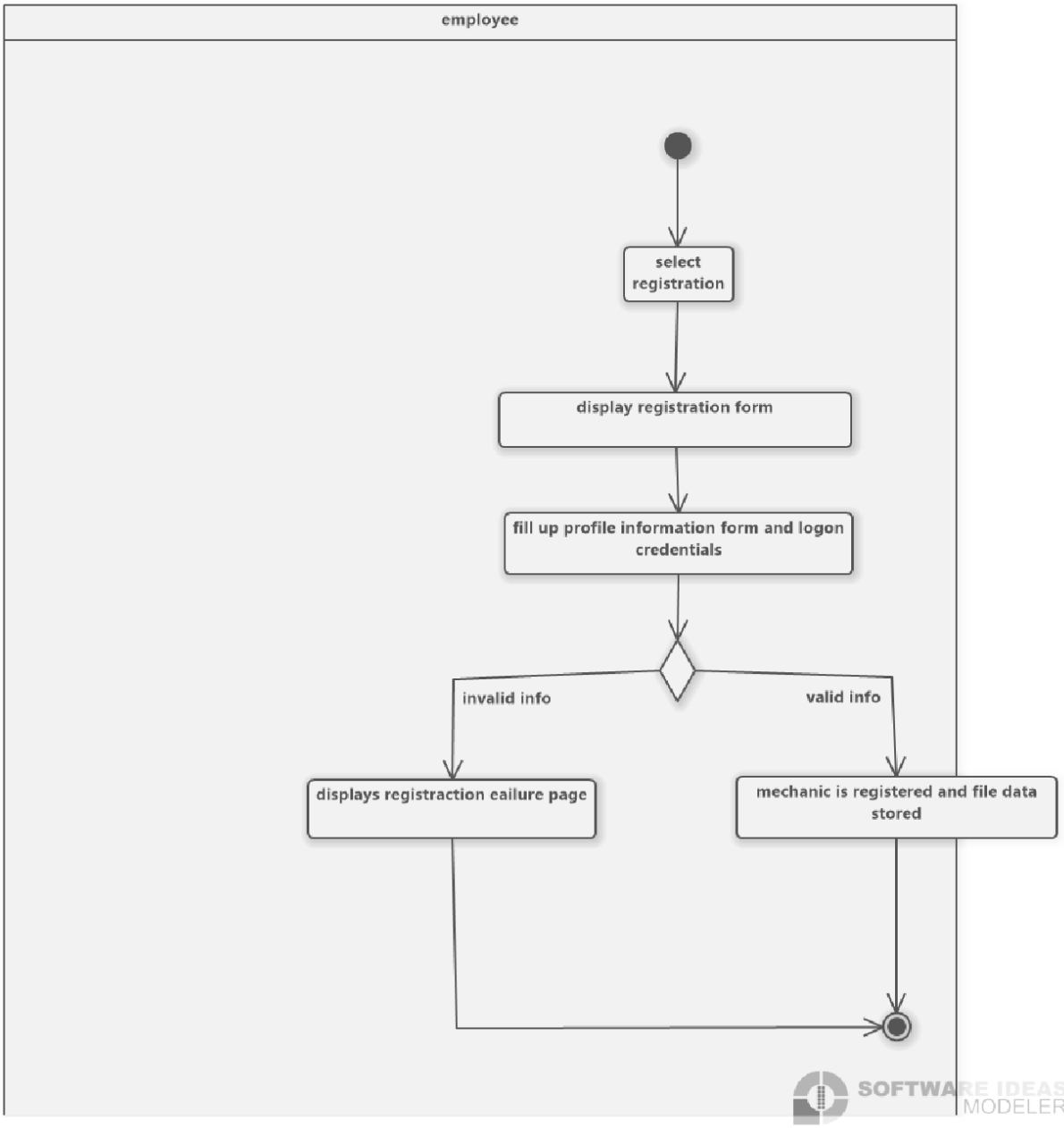
Element	Description
Use Case Name	generate repairing invoice
Use Case ID	UC-016
Priority	High
Actor(s)	Mechanic
Description	The mechanic will be able to generate repairing invoice
Precondition(s)	Services should be handled by a mechanic.
Post-condition(s)	Invoice generated.
Flow of events	1- The mechanic repairs the car 2-The mechanic selects " Done repairing the car" 3-The system displays invoice form 4-The mechanic fills the invoice form with the name of spare parts and its price 5-The mechanic selects "generate invoice" 6- The system generates invoice and send it to the customer
Alternative flows and exceptions	1-The mechanic fills the invoice form with invalid information 2-The system displays error message

Activity Diagrams

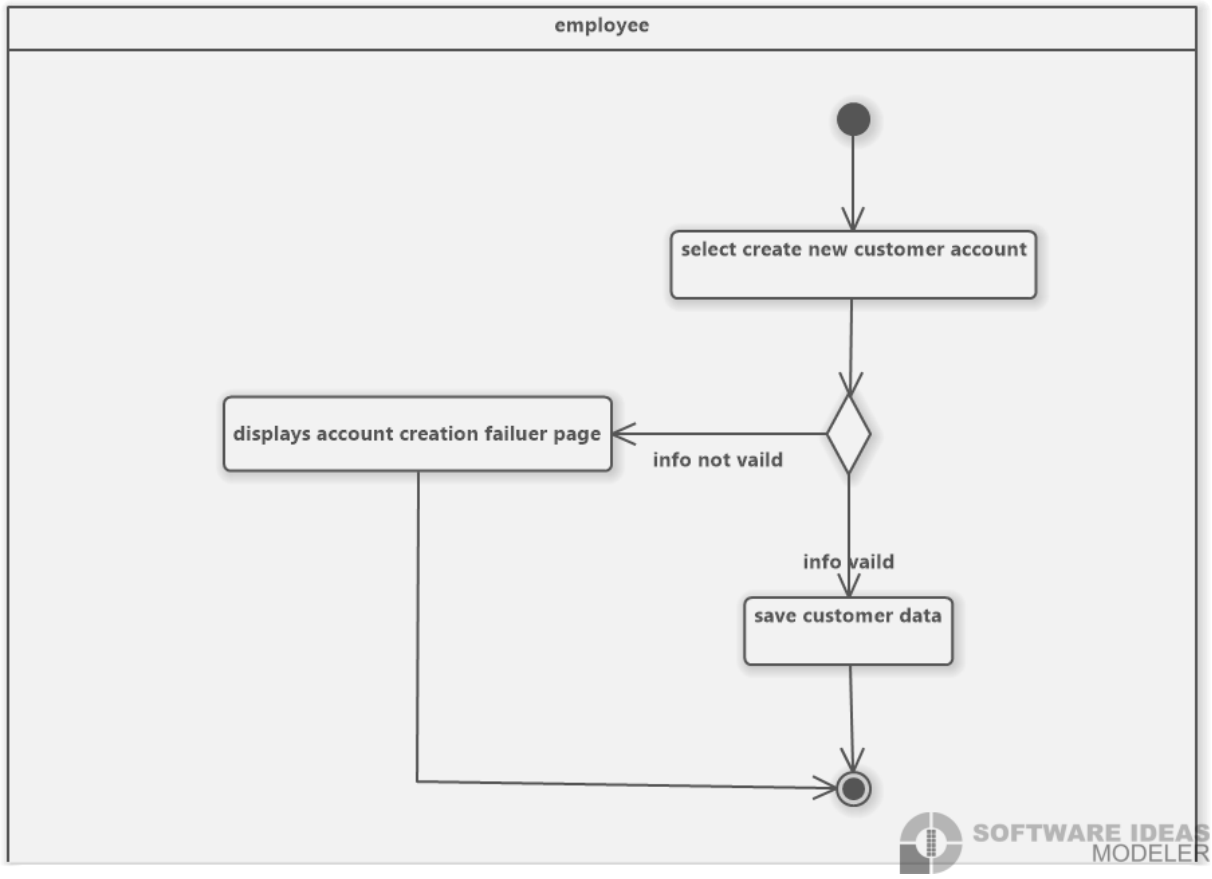
(The customer log-in to the system)



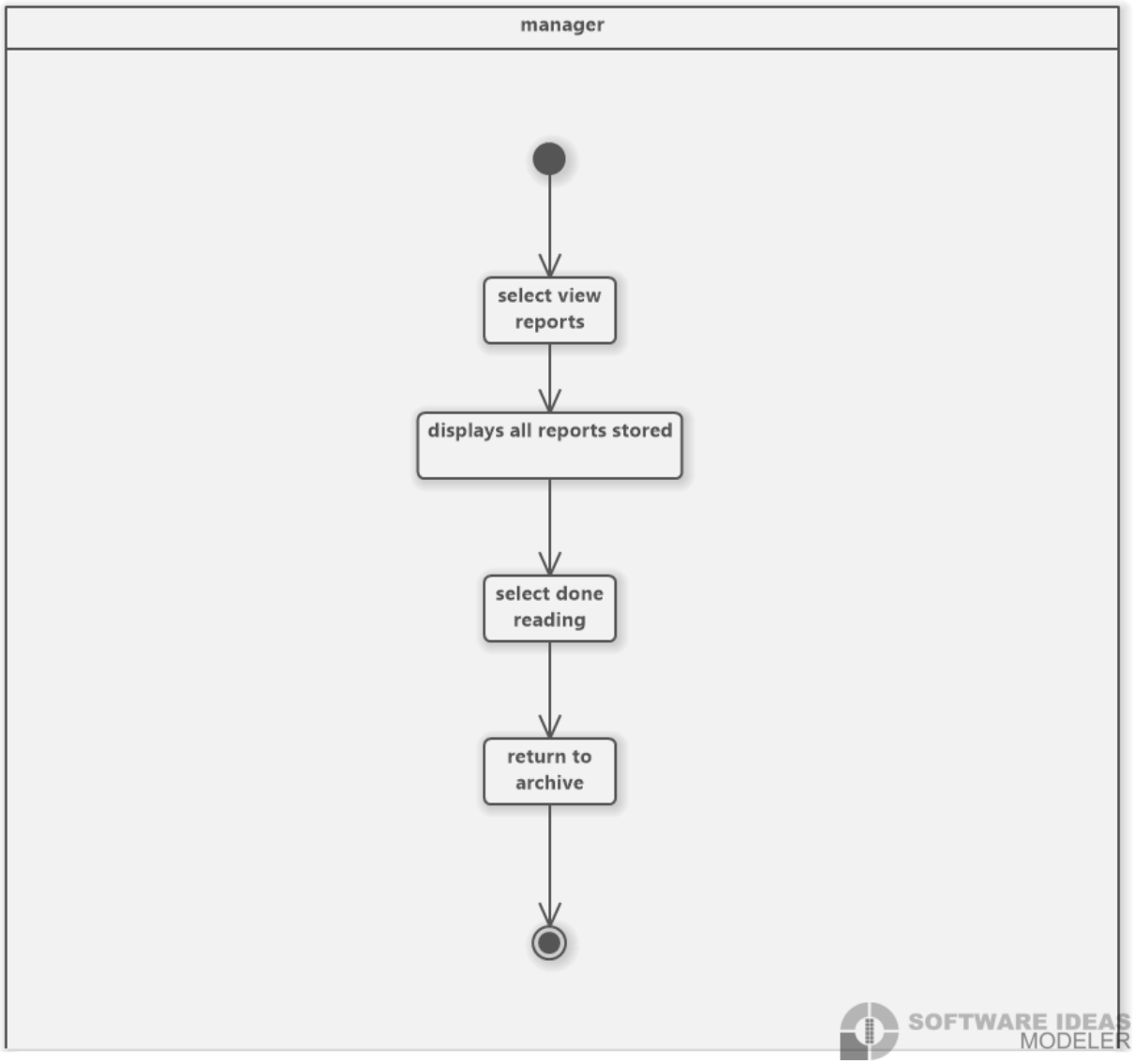
(Register a new mechanic)



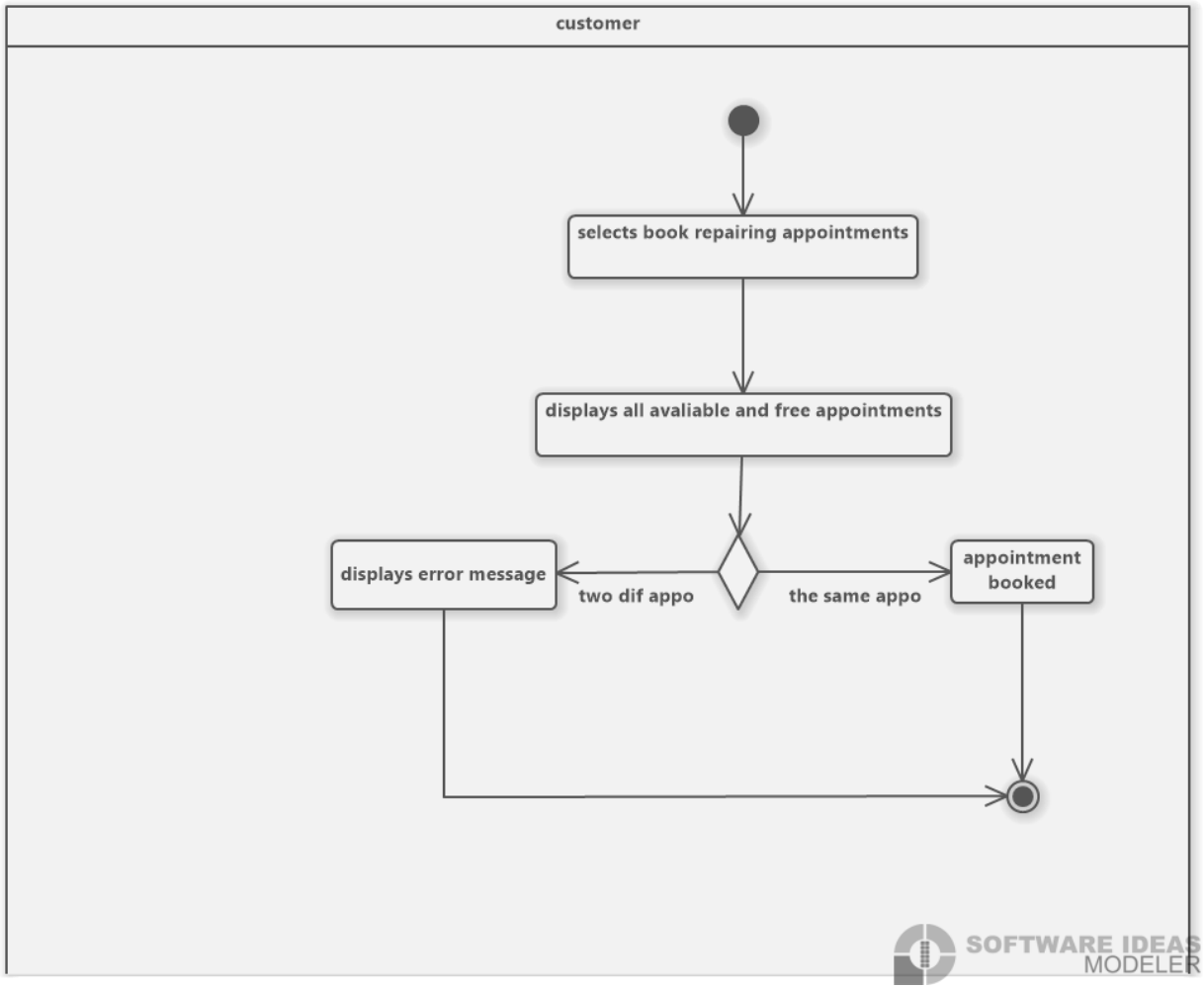
(The employee can create an account for the customer)



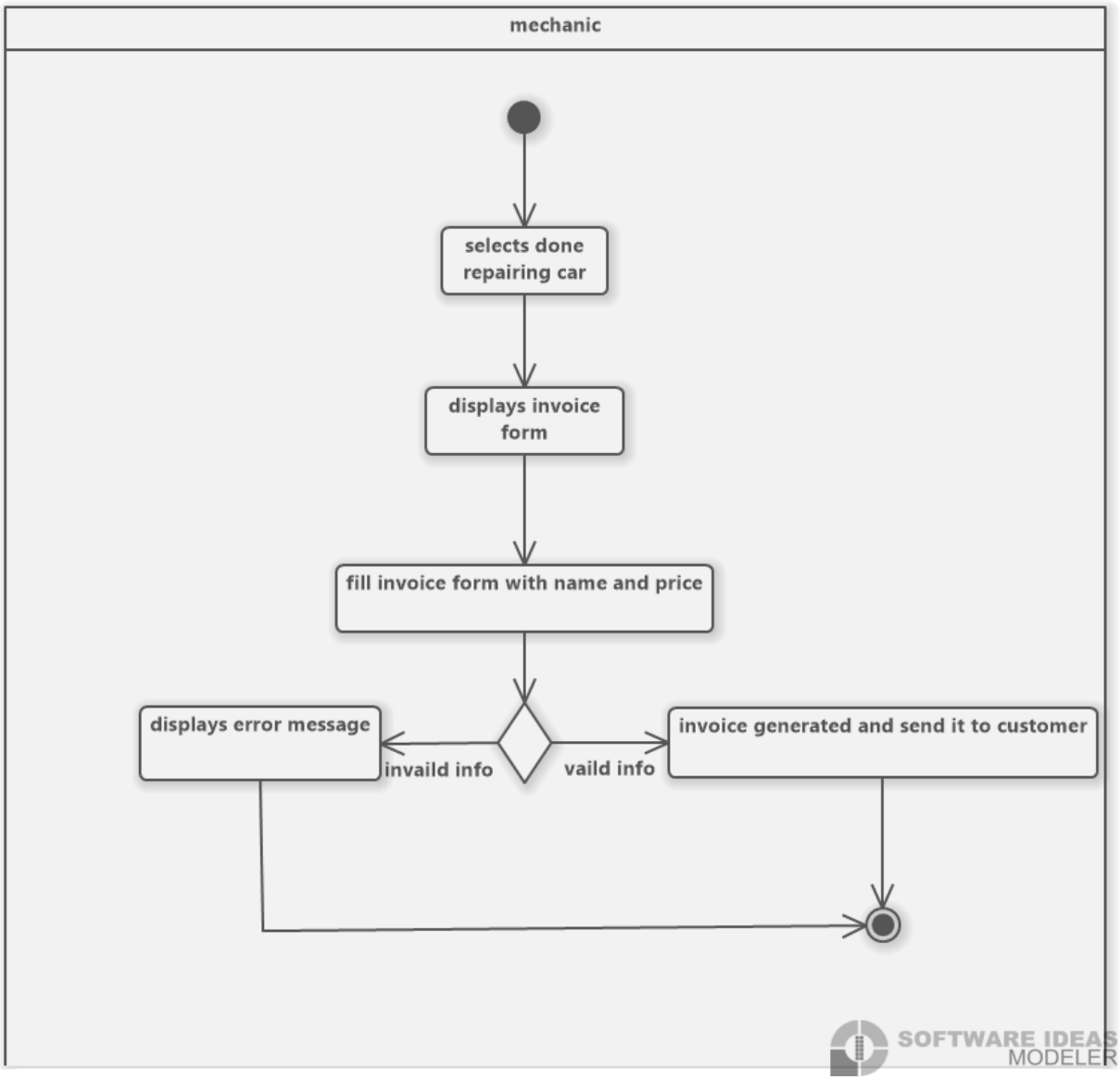
(The manager can review the reports)



(The customer can book an appointment to repair the car):

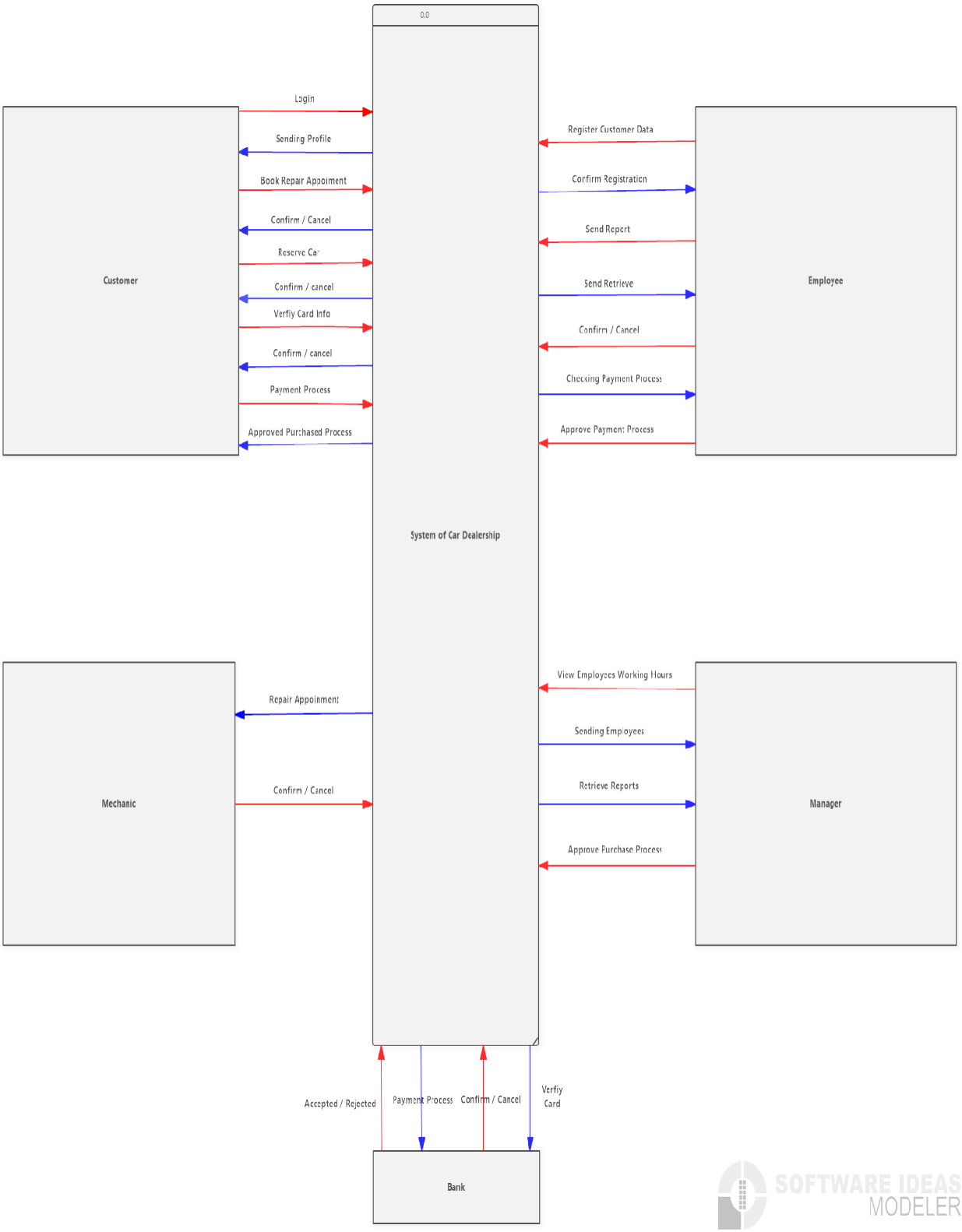


(generate repairing invoice):

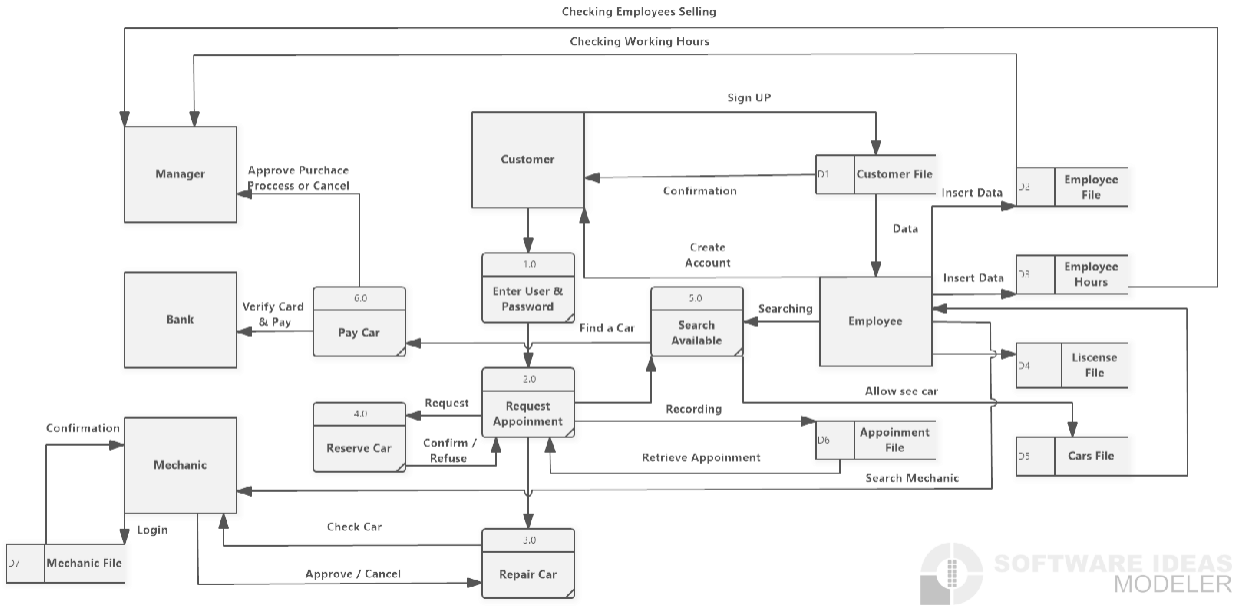


Data Flow Diagram

Context Diagram:



Level 0:


Checking Employees Selling
Checking Working Hours
Sign UP
Manager
Approve Purchace Proccess or Cancel
Customer
Confirmation
D1 Customer File
Insert Data
D2 Employee File
Data
Create Account
1.0 Enter User & Password
Insert Data
D3 Employee Hours
Bank
Verify Card & Pay
6.0 Pay Car
Find a Car
5.0 Search Available
Searching
Employee
D4 Liscense File
Allow see car
2.0 Request Appoinment
Request
4.0 Reserve Car
Confirm / Refuse
Recording
D6 Appoinment File
Retrieve Appoinment
D5 Cars File
Search Mechanic
Confirmation
Mechanic
Login
Check Car
3.0 Repair Car
D7 Mechanic File
Approve / Cancel
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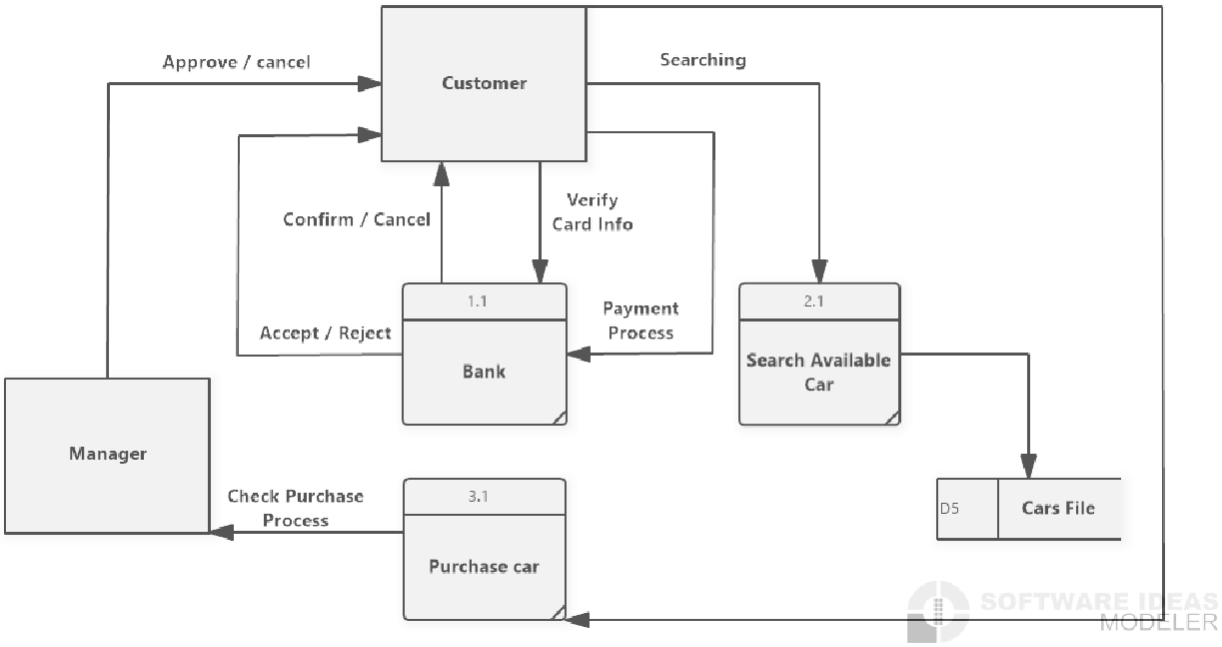
Level 1:


Approve / cancel
Customer
Searching
Confirm / Cancel
Verify
Card Info
1.1
Accept / Reject
Bank
Payment
Process
2.1
Search Available
Car
Manager
Check Purchase
Process
3.1
Purchase car
D5
Cars File
SOFTWARE IDEAS
MODELER

Data dictionary

Entity name : Customer

Description : The entity represents a customer who can buy a car

Alternate name : Visitor

Input data flows : Send Request Appointment (Search available cars , Repair , purchase)

Output data flows : Registration data , Login

Entity name : Employee

Description : Create accounts for customers , Check license , Search available cars

Alternate name : Worker

Input data flows : Register new mechanic

Output data flows : find car for customer , Mechanic to repair the cars

Entity name : Manager

Description : Approve Selling Process , see Employees working hours & number of selling , Review Reports

Alternate name : Supervisor

Input data flows : All data from employees

Output data flows : Confirm or cancel purchase process

Data store name : Customer file

Description : Contain the account data user name , password of customer

Alternate name : Customer account

Input data flows : user name , password

Output data flows : confirmation

Data store name : Cars file

Description : contain all the data of cars and the available one's

Alternate name : Available cars

Input data flows : ?????????

Output data flows : allow user and customers the cars

Process name : Repair car

Description : Customer can repair his own his car

Alternate name : maintenance center

Input data flows : Request appointment from customer

Output data flows : send the car to mechanic

Entity name : Mechanic

Description : fixing the cars sent from customers

Alternate name : maintenance technician

Input data flows : check car the needed to fix

Output data flows : Confirmation or cancel