

SOFTWARE **ENGINEERING**

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ABSTRACT

- ❑ Customers can buy new parts and also sell used auto parts.
- ❑ There is also a third-party manufacturer that supplies some auto parts that are not stocked in the store.
- ❑ Some auto parts fit to a number of vehicles and therefore are labelled as general parts.
- ❑ The auto parts are classified into various categories namely
 - Electrical parts
 - Interior parts
 - Accessories
- ❑ The vehicle parts are stored according to their make, model and year of production.
- ❑ Our project is designed to create such a search functionality that would meet all the requirements of parts buyers.

INTRODUCTION

- ❑ In this auto parts project, we provide features for buyers and sellers at one place.
- ❑ Dealers can add their part details.
- ❑ All required features are also previewed there.
- ❑ Buyer can search any of the car parts according to his/her required features.
- ❑ User can view dealer feedback and reputation as added by previous buyers.

PROBLEM ADDRESSED

- ❑ Recently demand of our product was declining and our company was going through financial crises.
- ❑ We received multiple complaints about our deteriorating quality of products

SOLUTION

- ❑ We took action and slightly increased the price of auto parts and in turn invested in the quality of our products

CONCLUSION

- ❑ And by doing so after some time our companies financial status came back on track

PROJECT OVERVIEW

- ❑ Our project includes dealing between seller and buyers.
- ❑ Our website has the facility to give a unique id for every user and details of every user.
- ❑ User can search availability of a deals related website using the id.
- ❑ The user can be entered using a username and password.
- ❑ It is accessible either by a seller or buyer. User can enter their requirements, that describes what the user want.
- ❑ The data can be retrieved easily. The interface is very user-friendly.
- ❑ The data are well protected for personal use and makes the data processing very fast

SCOPE OF THE PROJECT

- ❑ Our scope will mainly cover the function of customer order, price, parts summary and parts stock.
- ❑ Online transaction with bank and shipment with shipping company are available.
- ❑ When selling spare parts, it is important to give customers comprehensive information about the part and its applicability.
- ❑ It is important to have up-to-date car parts databases to offer spare parts for even the most “fresh” vehicles.

PRODUCT FEATURES:

The online store offers its customers different ways to navigate through the website:

- They can start their shopping journey from the search bar and type the name of the part they need.
- Users might select the year, make and model of their car at first and see what the website offers that match the vehicle.
- Managing the multiple price scheme is simple.
- Manage different type of payment mode while sales.
- Purchase, Sales Register track daily stock movement.
- Configurable product button in sales screen is easy.

ASSUMPTIONS:


Resource Assumptions

- An assumption made on projects for human resources is that individuals will work 40 hours per week on the day shift.
- That energy resources like electricity will be on during working hours.
- The materials to complete the project will be readily available to be utilized.

Scope Assumptions

- Scope doesn't change
- If it should; project will follow a change control approval process

Budget Assumptions

- the overall cost of day-to-day activity will not increase
 - personnel costs will not change
 - overall economical conditions will stay the same
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GOAL QUESTION METRIC

Goal:

I want the system to keep historical records logging of events and process executed in or by an application.

Question:

Q1) Do you want the system to have a separate login for viewing historical records or anyone can view it?

Q2) Can the user view his/her login history?

Q3) Do you want to set a build in yearly timer after which the history of the previous year would be deleted or backed up and then deleted?

Metric:

Define more specific security loggings to allow recreating a clear picture of security events

Goal:

Project should be within budget and completed within given deadline.

Questions

Q1) What's the deadline for delivering the project?

Q2) What exactly is the expected outcome?

Q3) How much money is available to achieve this outcome?

Metric:

If you decide to extend the scope and build 20 webpages instead of 10, you'll need more time and money to achieve that adjusted goal.

Deadline is of 4 months

Website should be user friendly.



SRS REQUIREMENTS

FUNCTIONAL REQUIREMENTS

REQUIREMENT	STAKEHOLDER	PRIORITY	TEST PLAN
Create accounts for security reasons.	Customer, Cashier and Manufacturer.	High	The system login should ask for a email and number for checking if the user registered is authorized.
Involves feature to sell and buy used and new auto parts.	Customer and Manufacturer	High	Regularly checking whether all the features are working the way they were supposed to.
Level of our software is to reach user satisfaction.	Software Developer	High	Read the comments very carefully, especially if they express a strong feeling. Use the information from user satisfaction test, usability test, reactions to prototypes, interviews recorded, and other comments to improve the product.
The dealer's details have been saved for future use.	System Admin	Med	Backing up data in two places and then deleting all data, then restoring to check if the data is saved.
Includes database of the system	System Admin, Cashier	High	By regularly making entries in database and then checking if the results are correct.

NON-FUNCTIONAL REQUIREMENTS

Requirement	Stakeholder	Priority	Test Plan
Website must be secure from unauthorized access	Software dev	High	Scanning done that involves identifying network and system weaknesses, and later provides solutions for reducing these risks.
System requires the user to identify himself /herself using their authorized registration number.	Software dev, user	High	Verify if the user can login without identifying themselves with their registration number.
System shall have a Login ID and Password.	Software dev	High	Enter the valid and invalid email address & click the Next button. Verify if the user will get the correct message.
Any modification (insert, delete, and update) for the Database shall be synchronized and done only by the administrator.	Admin	High	These functions simulate the client going to the sync server and performing the sync routine.
Administrators shall be able to view and modify all information.	Admin	Med	Check the authorization of the required user to perform only those levels of actions that are required by the application.

Requirement	Stakeholder	Priority	Test plan
It is acceptable for system performance to be poorer than normal for up to 3 business days following the failure and replacement of a piece of hardware.	Software dev, Admin	High	Validate if the system's performance comes back to normal after 3 days following the failure and replacement of a piece of hardware.
The System must support 100 or more than that people at a time.	Software dev	Med	Checks the application's ability to perform under anticipated user loads using web load testing.
The user-interface screen shall respond within 5 seconds.	Software dev	Med	Verify response time of the Application Under Load is within 5 seconds even when the network connectivity is slow
The system must have the feature of maintainability.	Software dev	Med	Tester should verify the system is properly distributed and algorithms are optimized.

BUSINESS REQUIREMENTS

Requirement	Stakeholder	Priority	Test Plan
We will ensure that we hire people that are qualified, honest, customer centric and are ready to work to help us build a prosperous business.	Owners, workforce, and customers	High	A number of written tests can be administered. A cognitive ability test can measure reasoning skills, math skills, and verbal skills. An aptitude test measures a person's ability to learn new skills, while an achievement test measures someone's current knowledge.
As a matter of fact, profit-sharing arrangement will be made available to all our senior management staff and it will be based on their performance for a period of ten years or more.	Owner, business partner	High	■

In view of that, we have decided to hire qualified and competent hands to occupy the following positions;

- ☐ Chief Executive Officer (Owner)
- ☐ Store Manager
- ☐ Human Resources and Admin Manager
- ☐ Merchandize Manager
- ☐ Sales and Marketing Manager
- ☐ Information Technologist
- ☐ Accountants / Cashiers
- ☐ Sales Agents / Customer Services Executive
- ☐ Cleaners
- ☐ Roles and Responsibilities

SWOT ANALYSIS

STRENGTHS

- We will be operating on both (physical store and online store).
- We would have varieties of payment options.
- We provide wide range of auto parts from different manufacturing brands.
- Our excellent customer service culture will definitely count as a strong strength.
- Our team of highly qualify staff members is also a plus for the business.

WEAKNESS

- A major weakness that may count against us is the fact that we are a new auto parts retail store.
- We don't have the financial capacity to compete with other auto parts retail store.
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OPPORTUNITIES

- We have been able to conduct thorough feasibility studies and market survey and we know what our potential clients will be looking for when they visit our auto parts store.
- We are well positioned to take on the opportunities that will come our way.

THREATS

- One of the major threats that we may face is economic downturn. It is a reality that economic downturn affects purchasing / spending power.
- Another threat that may likely confront us is the arrival of a new auto parts retail outlet in same location where ours is located.
- Unfavorable government policies may also pose a threat for businesses such as ours.
- Receiving complaints from clients about quality standards

USE CASE DIAGRAM

ACTORS:

System Admin: Manages the system, makes sure that the database is up-to-date. Responsible for restoring data incase of failure and also backing data.

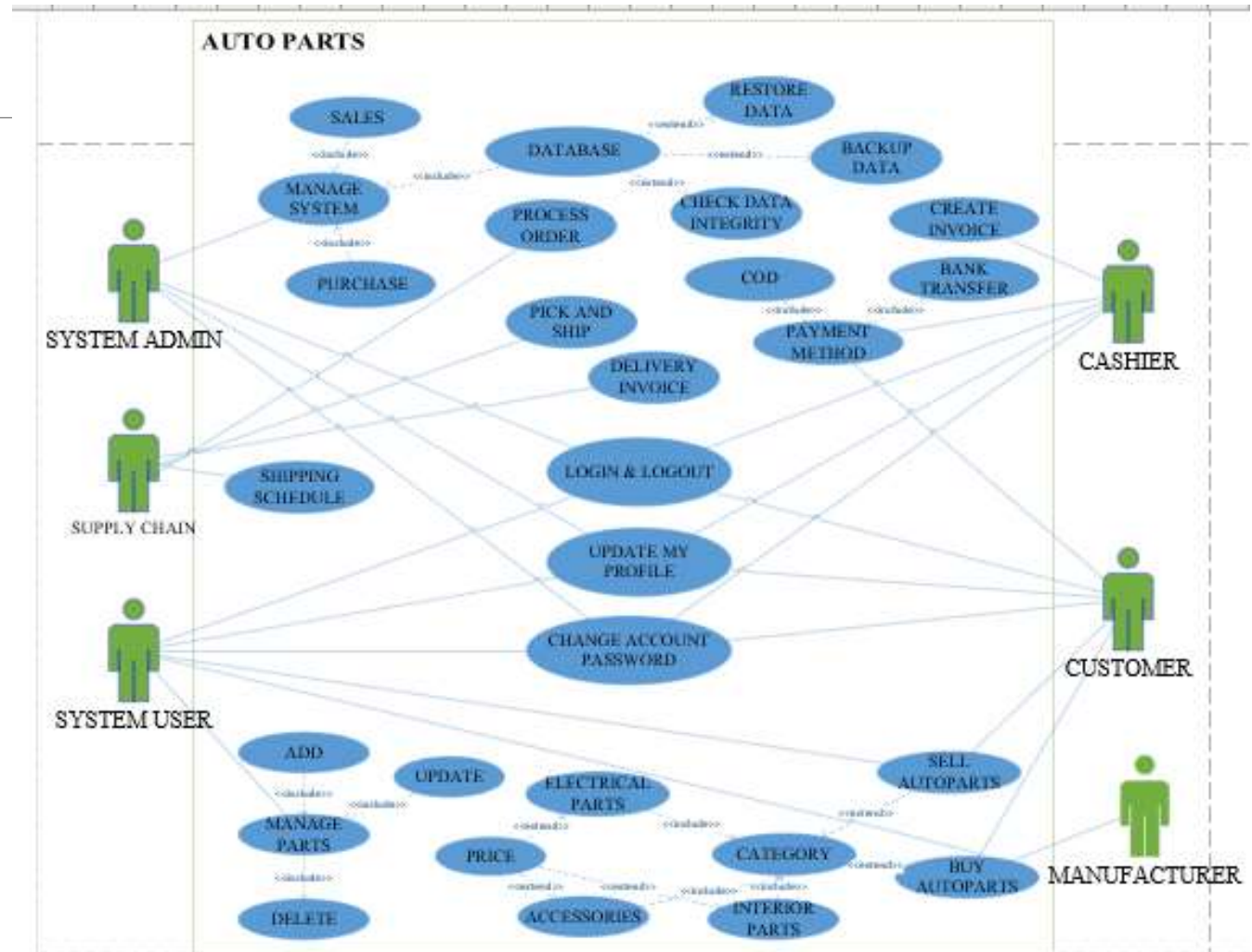
Supply Chain: In charge of shipping schedule and creating delivery invoice.

System User: After logging in to the account, can add, delete and update parts.

Cashier: Creates invoice depending on what payment method the customer selected.

Customer: Can create an account. Can sell or buy auto parts by logging into their account.

Manufacturer: System user buys auto parts in bulk quantity from auto part manufacturer.



CLASS DIAGRAM

CLASSES:

Warehouse: Checks whether a part is available and tells quantity of the part searched.

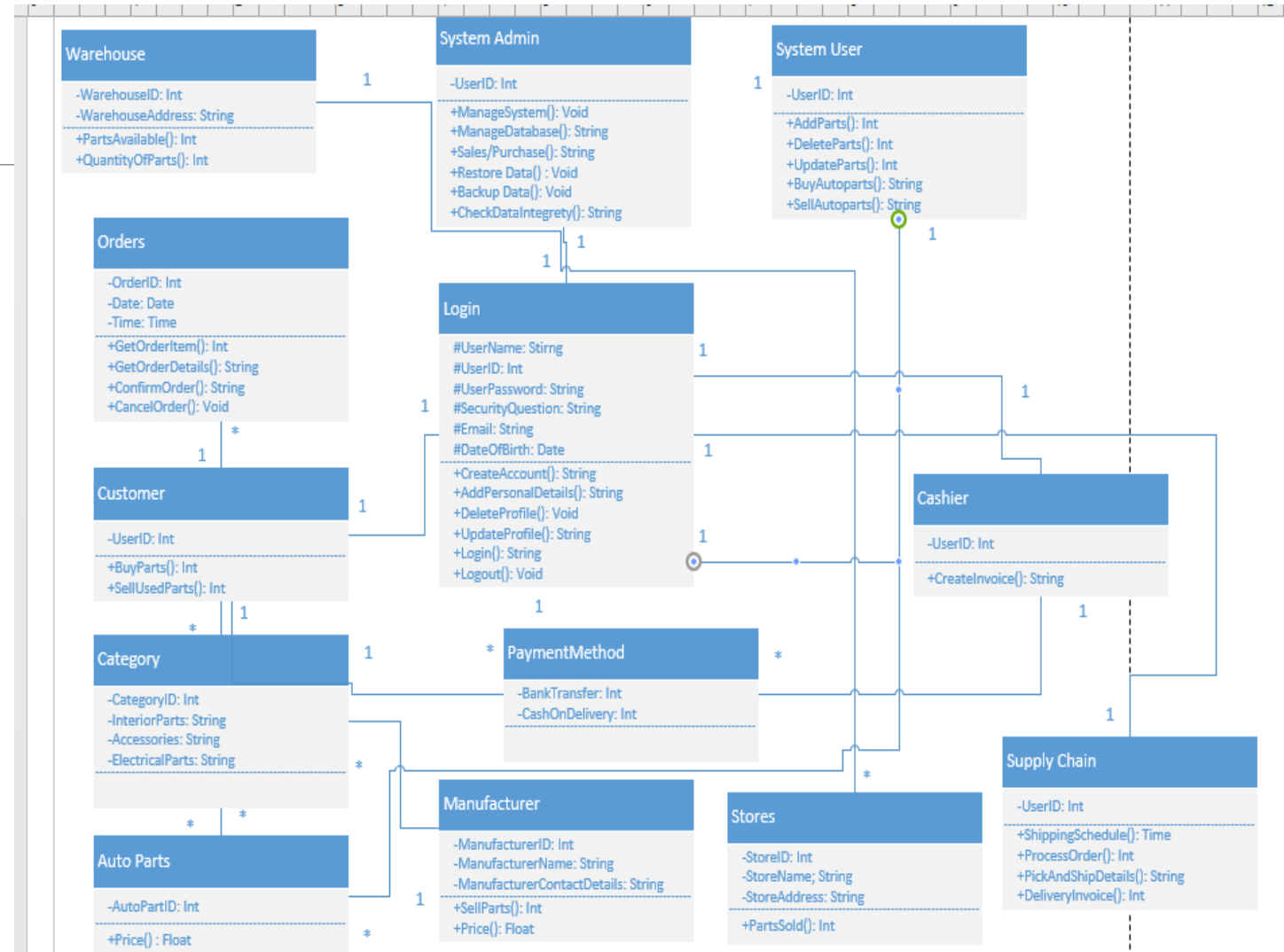
Orders: Tells whether an order is confirmed or cancelled and also give order details and the item ordered.

Customers: Used to buy or sell parts.

Auto Parts: Tells price of a certain auto part.

System Admin: Manage system, database and sales/purchase. Checks data integrity. Used when we have restore or backup data.

Login: User is able to create account, login/logout, add personal details, add or delete profile.



CLASSES:

System User:

Manages the crud operations of auto parts.

Cashier:

Creates invoice of orders ,deal with customer and manages payment method.

Supply Chain:

Manages the shipping system of orders and creates delivery invoice.

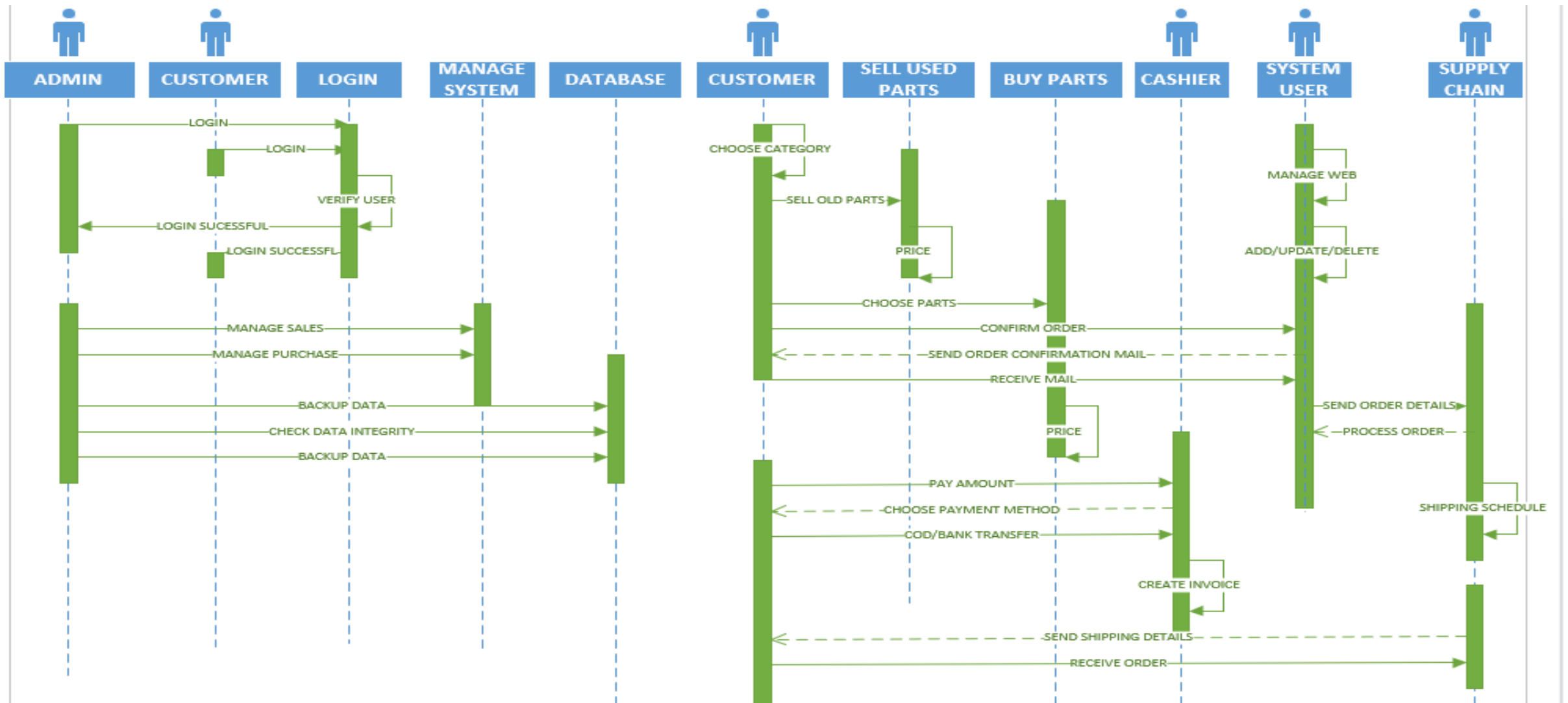
Manufacturer:

System user buy auto parts from manufacturer.

Stores:

Customer can select part they'd like to buy from the store

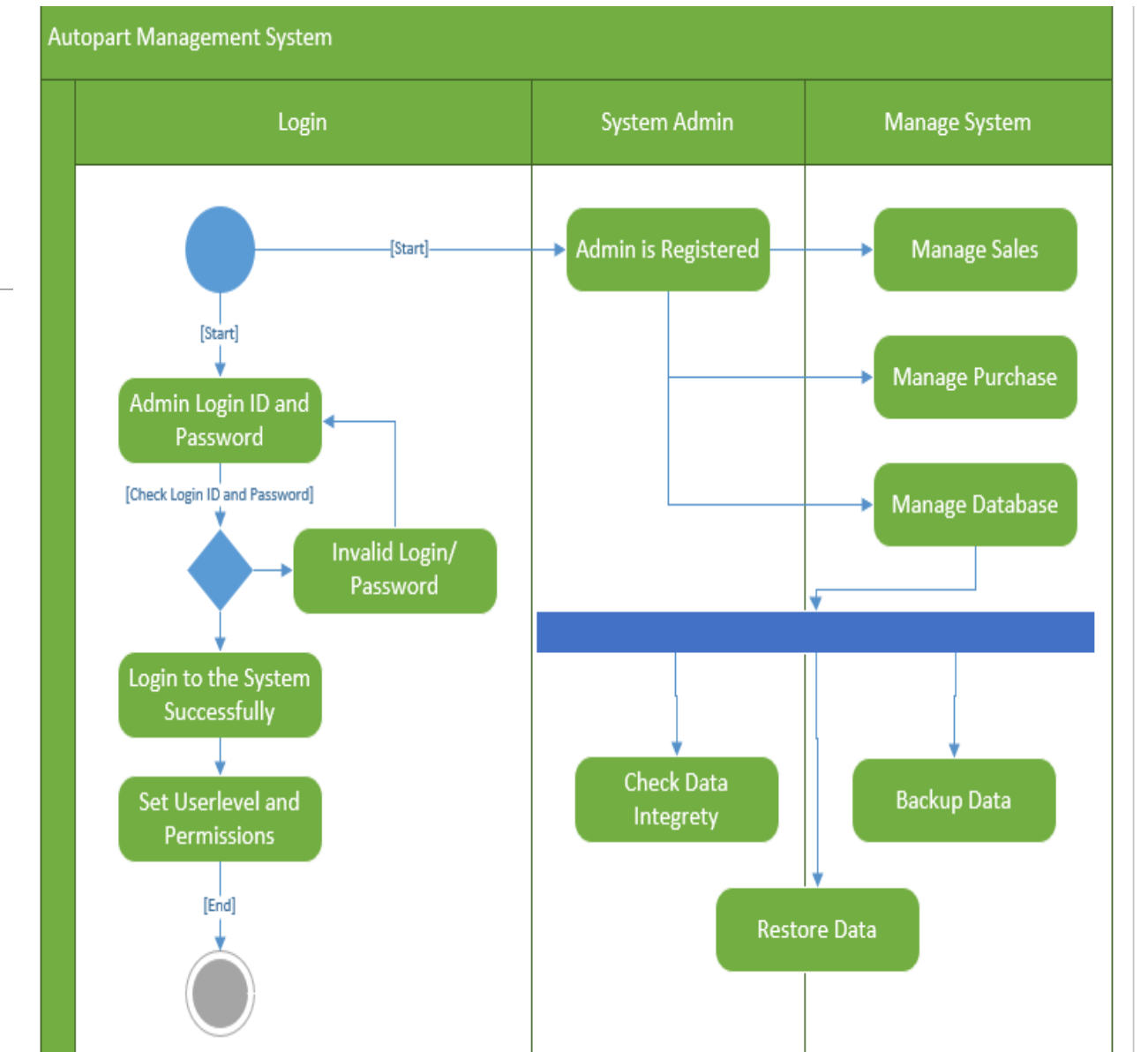
SEQUENCE DIAGRAM



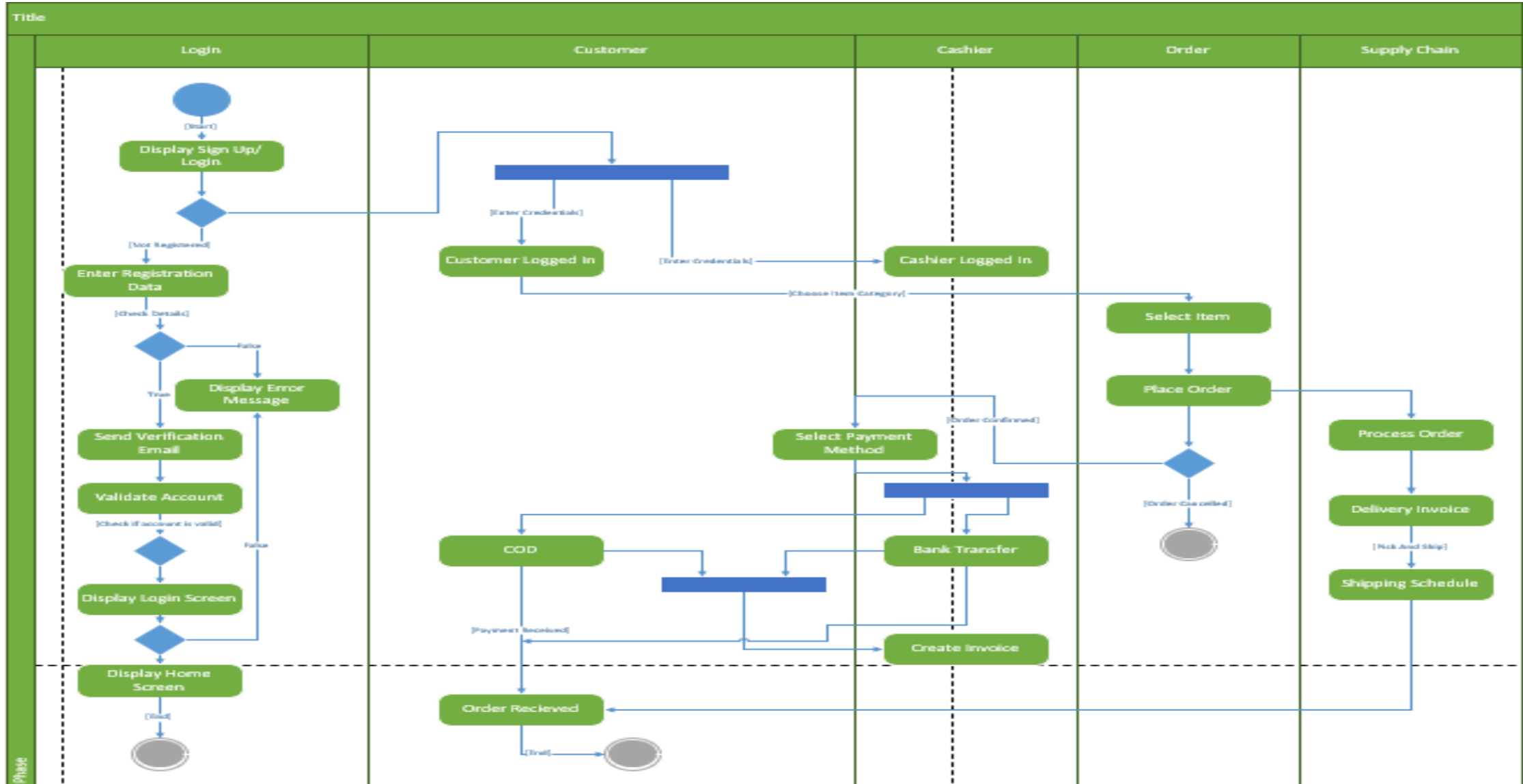
ACTIVITY DIAGRAM (1)

ACTIVITIES

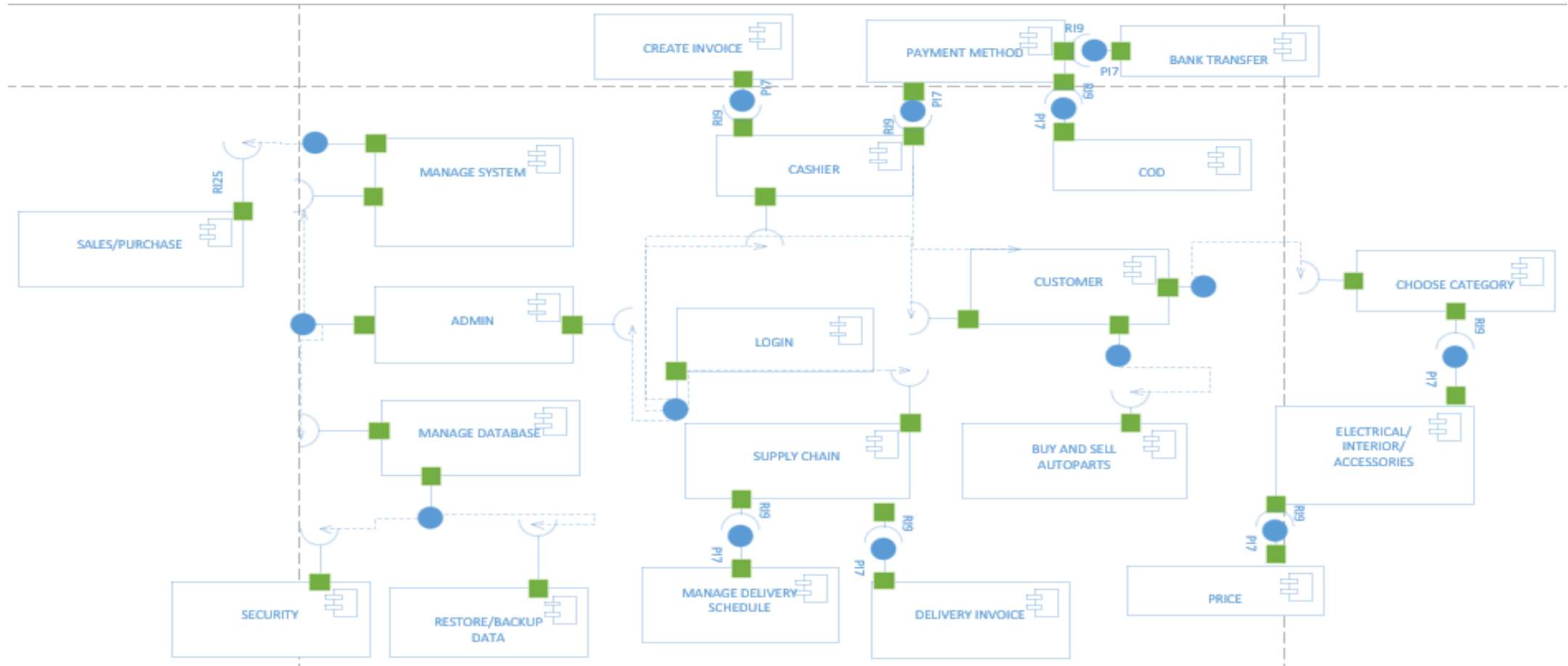
A registered User(system admin) can log in with an ID and Password. Incase of incorrect login info the user would have to again enter ID and password.



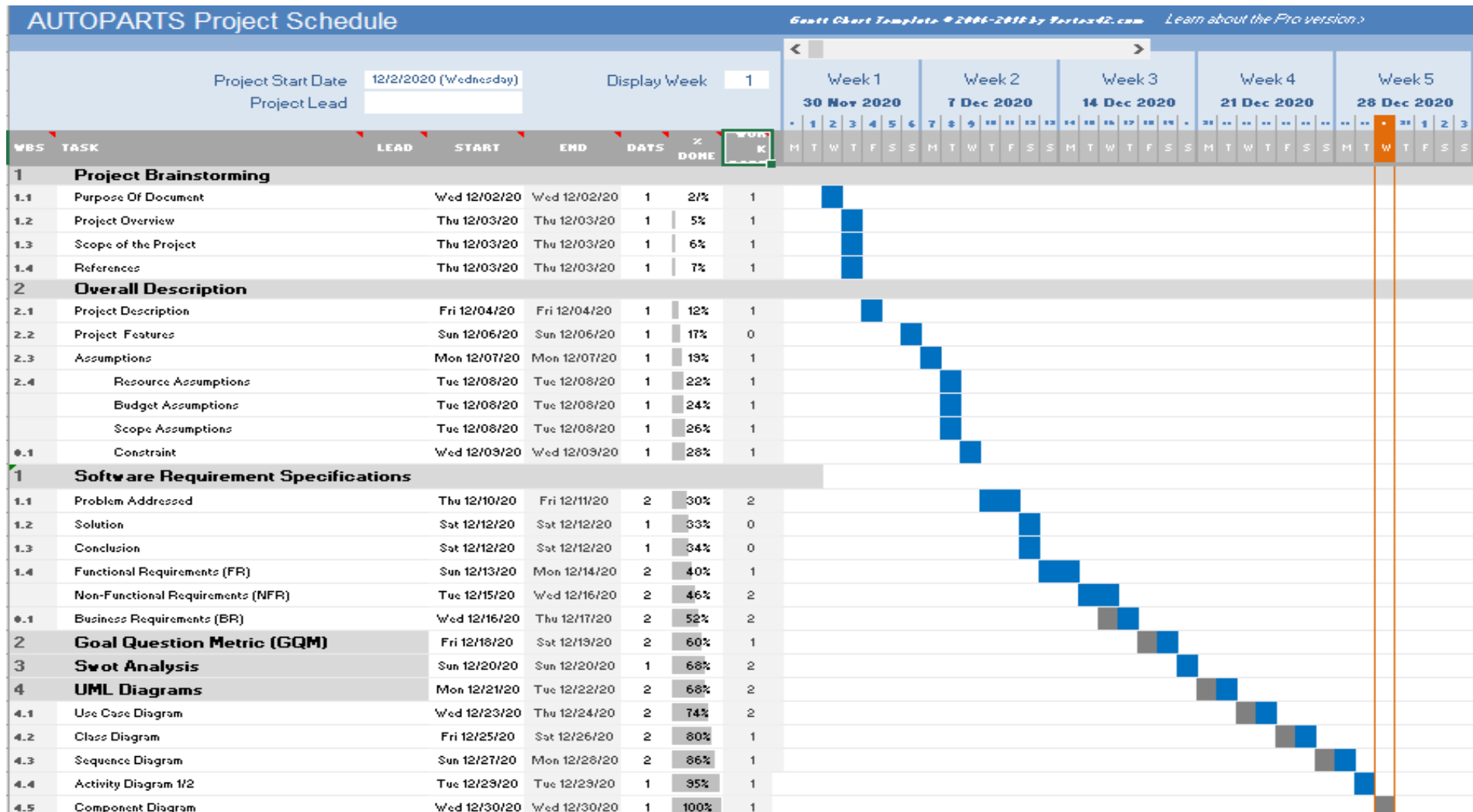
ACTIVITY DIAGRAM (2)



COMPONENT DIAGRAM



GANTT CHART



THANK YOU
