CAB BOOKING SYSTEM

PROJECT REPORT

Submitted by

KHUSHI TIWARI [Reg No:RA2111003011709]
VIBHU KAUSHIK [Reg No: RA2111003011711]

for the course 18CSS202J Object Oriented Design and Programming

Under the guidance of

Dr A.M.J Muthu Kumaran
(Assistant Professor, Department of Computing Technologies)

in partial fulfillment for the award of the degree

of

BACHELOR OF TECHNOLOGY

in

COMPUTER SCIENCE AND ENGINEERING

of

FACULTY OF ENGINEERING AND TECHNOLOGY

S.R.M. Nagar, Kattankulathur, Chengalpattu District

NOVEMBER 2022

Project Name:	**CAB BOOKING SYSTEM UML Diagrams**
Abstract:	The Online Cab Booking System is a web-based platform that enables your clients to book taxis and executive taxis from the convenience of their own home or workplace. The platform should have an administrative interface via which the taxi business can control the content as well as access all reservations and customer data.
UML Diagram:	Use Case Diagram, Class Diagram, Sequential Diagram, Collaboration Diagram, State chart Diagram, Activity Diagram, Component Diagram, Deployment Diagram, Object Diagram, Package Diagram
Users:	Citizens, Senior citizens, Children etc.
Tools Used:	Diagram tools that provide UML diagram symbols.

UML Project Report

Subject Name: OODP

Subject Code:18CSC202J

Semester/ Year: III/II (2022-2023)

Subject Handling Faculty: Dr A. M. J MUTHUKUMARAN

Submitted by: -

KHUSHI TIWARI[RA2111003011709]

VIBHU KAUSHIK[RA2111003011711]

Introduction

Cab Booking is a method that may be utilized for a price for a limited length of time. People who do not have access to their own personal automobile or do not own one at all can travel around by renting a car. Individuals who wish to hire or rent an automobile must first contact the desired vehicle's cab rental business. This may be done over the internet.

This individual must now provide certain information, such as the rental dates and automobile type. Following the completion of these data, the person renting the automobile must produce a valid identification card. The majority of enterprises in the sector earn based on the sort of automobiles they sell. Customers can use an online booking system to rent cabs. Customers may use this online system to find available taxis, register cabs, see profiles, and book cabs. Taxi booking is a typical kind of transportation that is offered by a number of different transportation firms in a particular city. The bulk of people rely on taxi services for their daily transportation needs. The company must be registered and fulfil all of the transportation department's requirements and security requirements.

The Online Cab Booking System is a web-based platform that allows your customers to order taxis and executive cabs from their own home or office

LITERATURE SURVEY

The present Online taxi Booking project approach needs a large lot of physical and mental labour whenever cabs are ordered manually over the phone. Many human errors, such as inputting the trip date, time, and location inaccurately, are manually registered in a register by an employee, increasing the chances of misregistration. There is no clear communication between drivers, passengers, and the office due to traffic and misunderstanding problems, leading in a denial of service. In the current system, there is no application that alters the state of taxi availability. Local consumers are also not notified when a vehicle comes to their neighborhood to do service.

METHODOLOGY

Consumers will be able to order a cab based on their requirements by logging on to the projected Online Cab Booking project website.

Customers may book taxis online, make changes to their arrangements, and cancel them at any time. Users will be notified of the driver's location and phone number, which will allow them to contact him. On a frequent basis, the customer is updated on their bookings, driver details, and booking status. The user can also make suggestions or ask questions in the feedback box.

ADVANATGES

• It increases the efficiency of the system in offering high-quality services to its customers.

• They may order taxis from the convenience of their own homes or companies, which is handy for them.

• It's incredibly secure since only logged-in users may book a cab, preventing attackers from viewing sensitive data.

• The user can rent a car by making an online reservation.

• Users will be able to obtain the services they require under the new system.

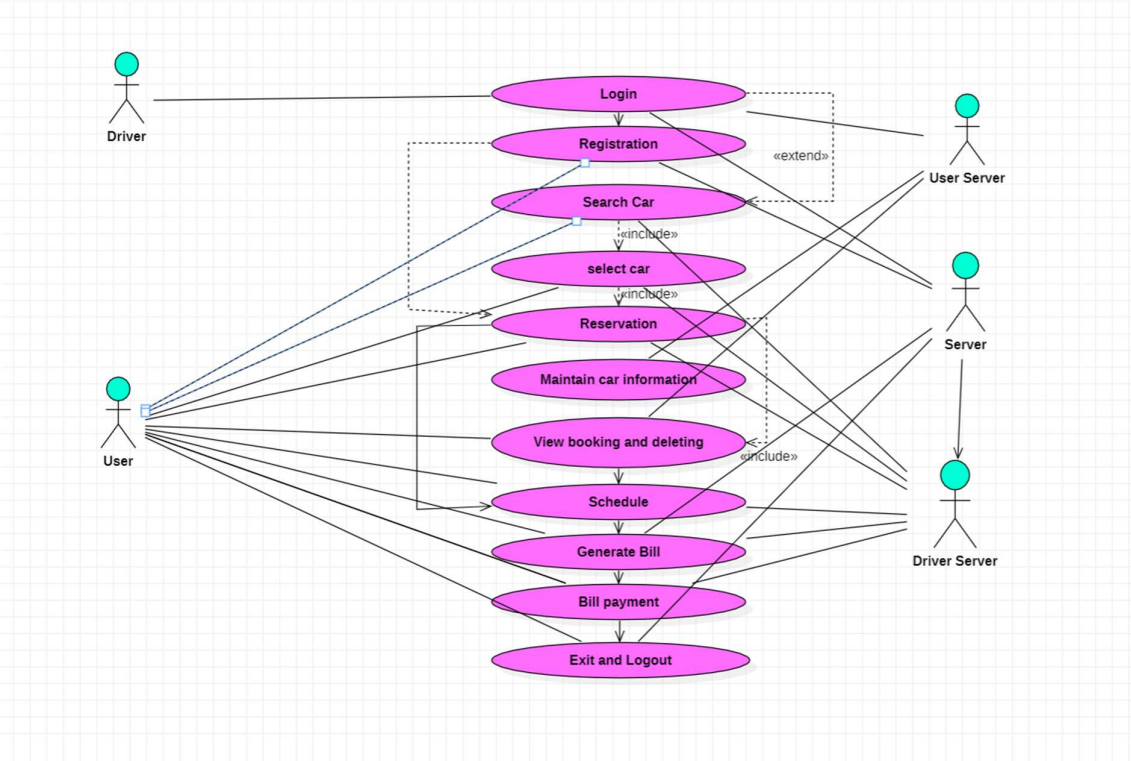
• The user may rent a car online and look up the driver's details.I

Importance of UML Diagrams for Cab Booking System

The **UML Diagrams for Cab Booking System** are based in Unified Modeling Language which is standard language for describing, visualizing, building, and documenting software system artifacts. These are also used in business modeling and non-software systems. It has been discovered that all UML diagrams serve an important role in Cab Booking System development.

Use Case Diagram

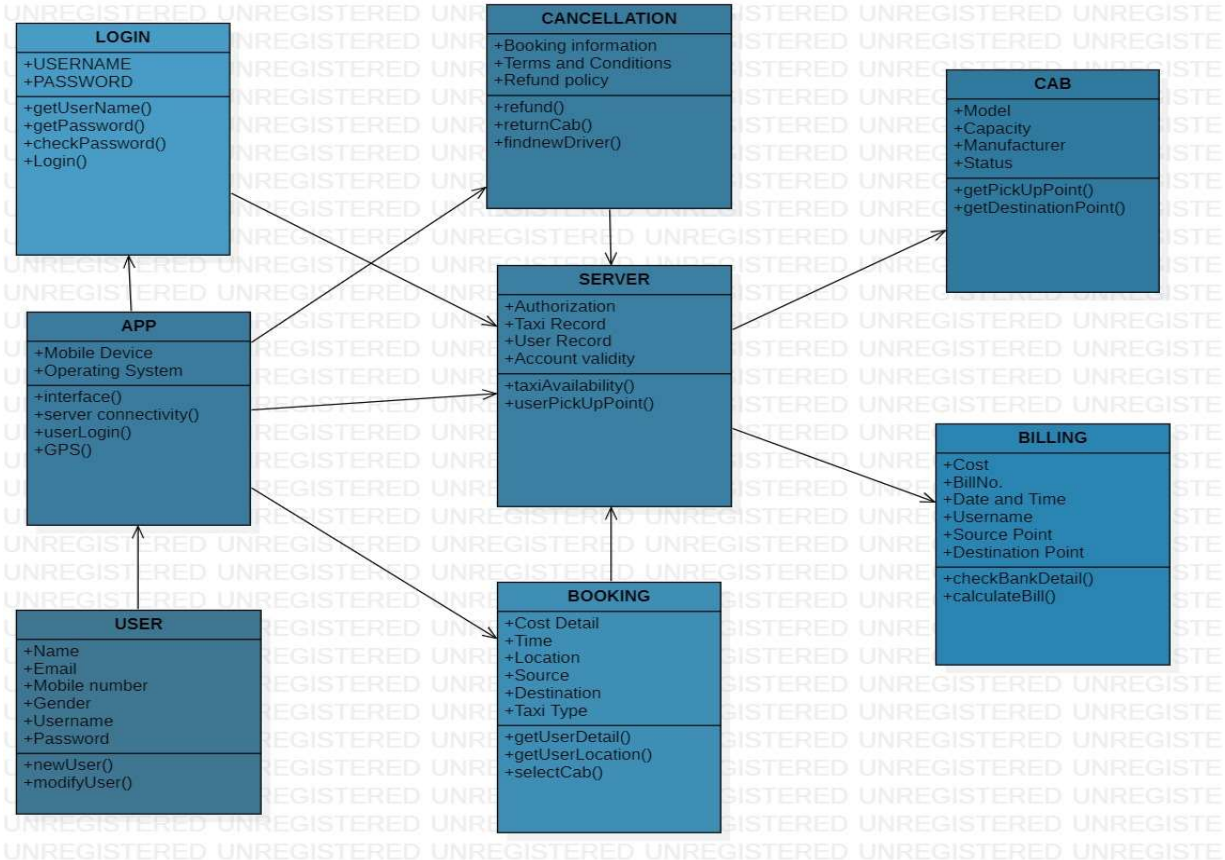
The use case diagram represents the main processes in Cab Booking system. Then they will be broken down into more specific use cases depending on the included processes of the main use case. Each of these use cases explains how the system handles the actions or scenarios requested by the user.



The UML Use Case Diagram is a design used as one of the Methodology on Cab booking System development. It represents the main functions or processes of the system as well as the specific processes included. They were also labelled properly to guide programmers and users about the structure of Cab Booking System.

Class Diagram

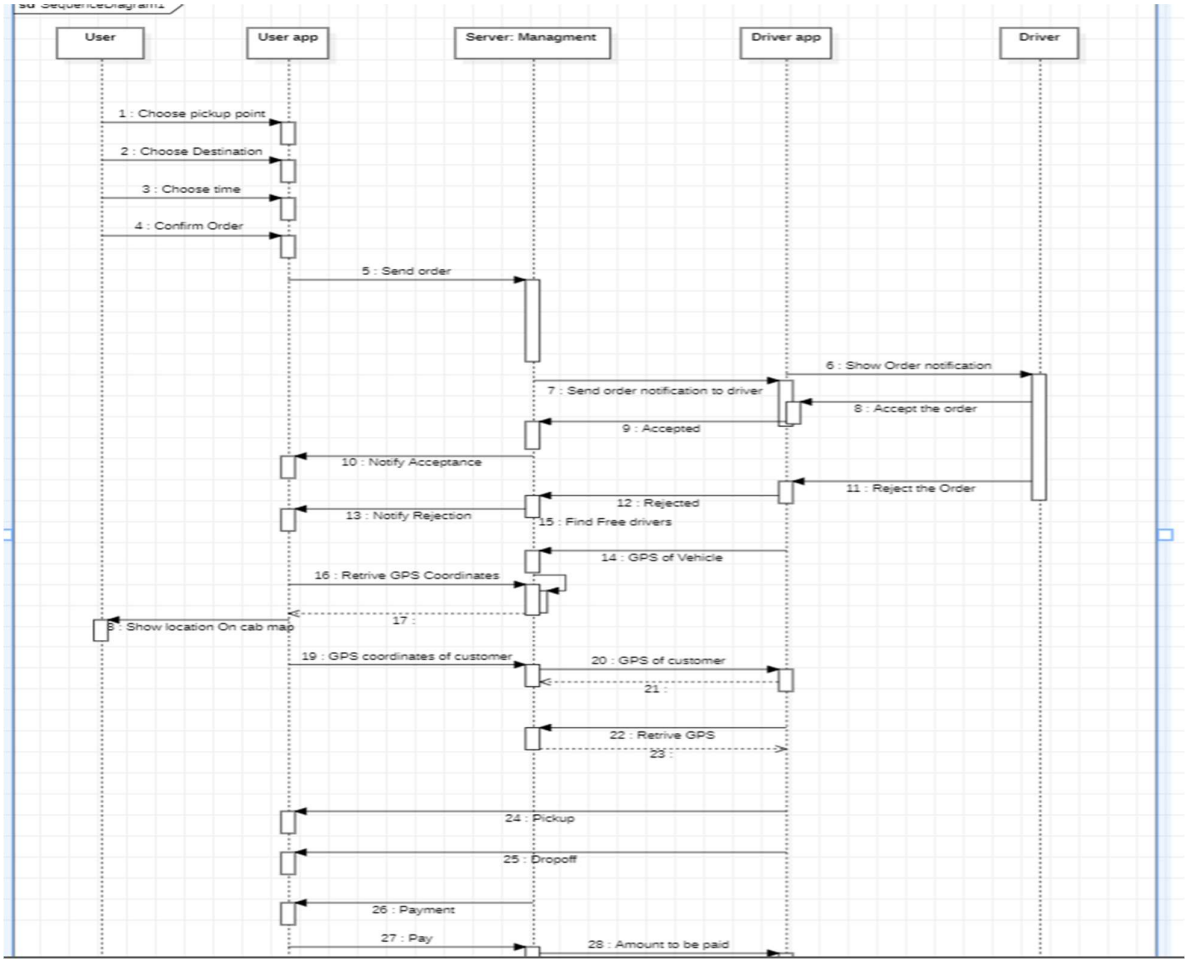
The Class diagram for Cab booking System shows the structures of information or data that will be handled in the system. These data or information will be represented by classes. Each of the classes will have their attributes in accord to the methods they will use.



So the classes that must be made in Cab Booking System. The mentioned classes were just general. If you want more complex or wider scope of your Cab Booking system, then you can add your desired classes.

Sequence Diagram

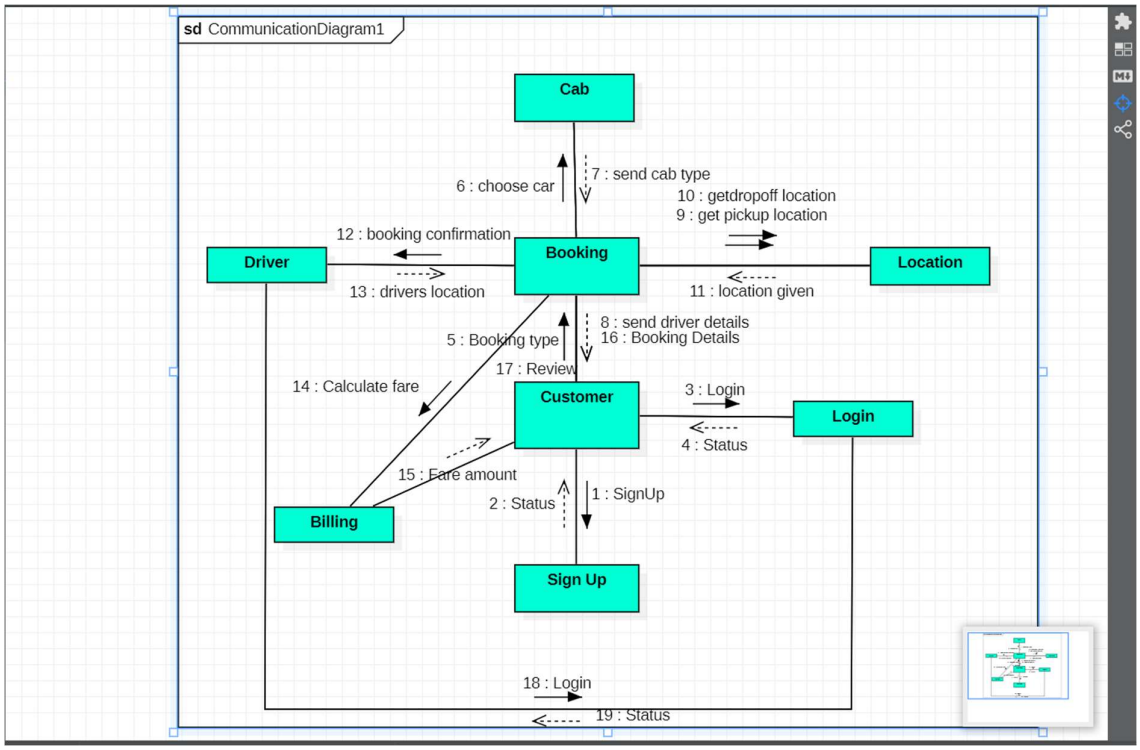
UML Sequence Diagrams are interaction diagrams that detail how operations are carried out. They capture the interaction between objects in the context of a collaboration. Sequence Diagrams are time focus and they show the order of the interaction visually by using the vertical axis of the diagram to represent time what messages are sent and when.



The designed sequence diagram illustrates the series of events that occurs in Music Management System. In this illustration, the actors are represented by a stick man and the transactions or classes are represented by objects. It will give you clear explanation about the behavior of a Music Management System in terms of processing the flow of instructions.

Collaboration Diagram

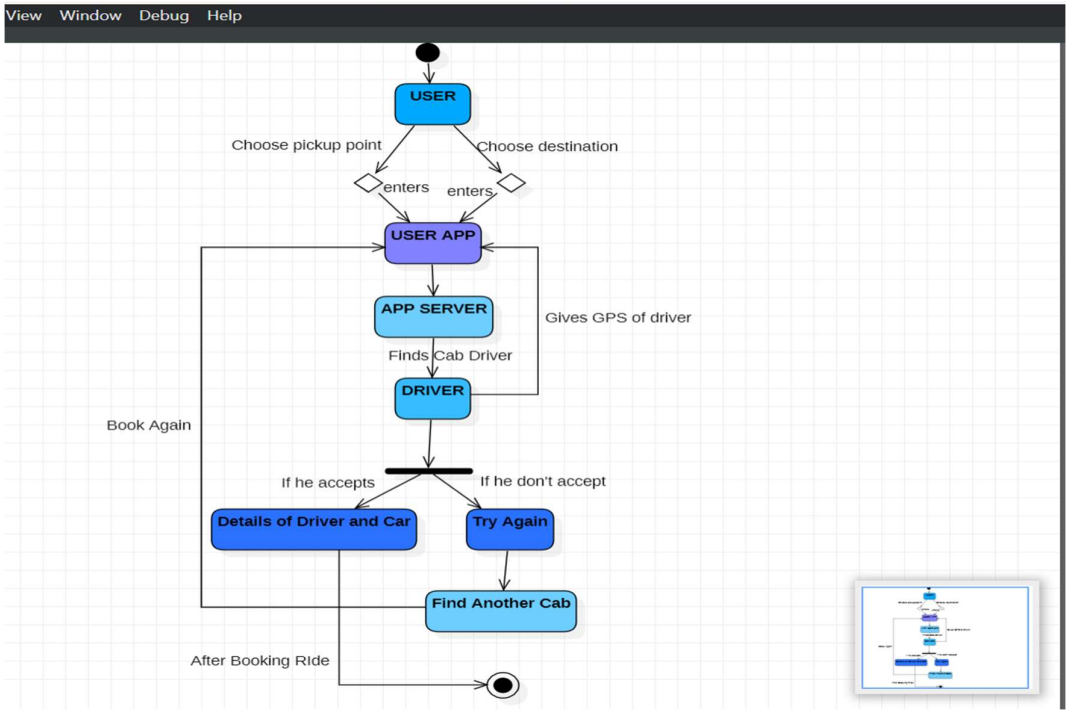
The collaboration diagram is used to show the relationship between the objects in a system.



Instead of showing the flow of messages, it depicts the architecture of the object residing in the system as it is based on object-oriented programming. An object consists of several features. Multiple objects present in the system are connected to each other. The collaboration diagram, which is also known as a communication diagram, is used to portray the object's architecture in the system.

Activity Diagram

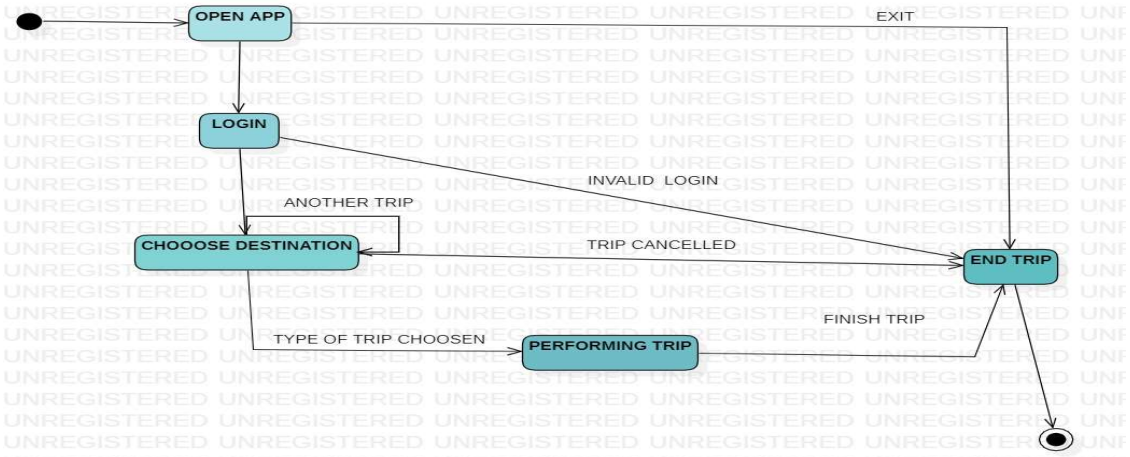
The UML activity Diagram is used to show the interaction of the user and the system. By creating it, you'll be able to see the flaws of the system and you may avoid it once you apply it to the project development. So it is important to have your diagrams designed first before jumping into its development.



This illustration shows the activities and scenarios done when the User and Drivers access the system. The actions and decisions included were all emphasized here.

State chart diagram

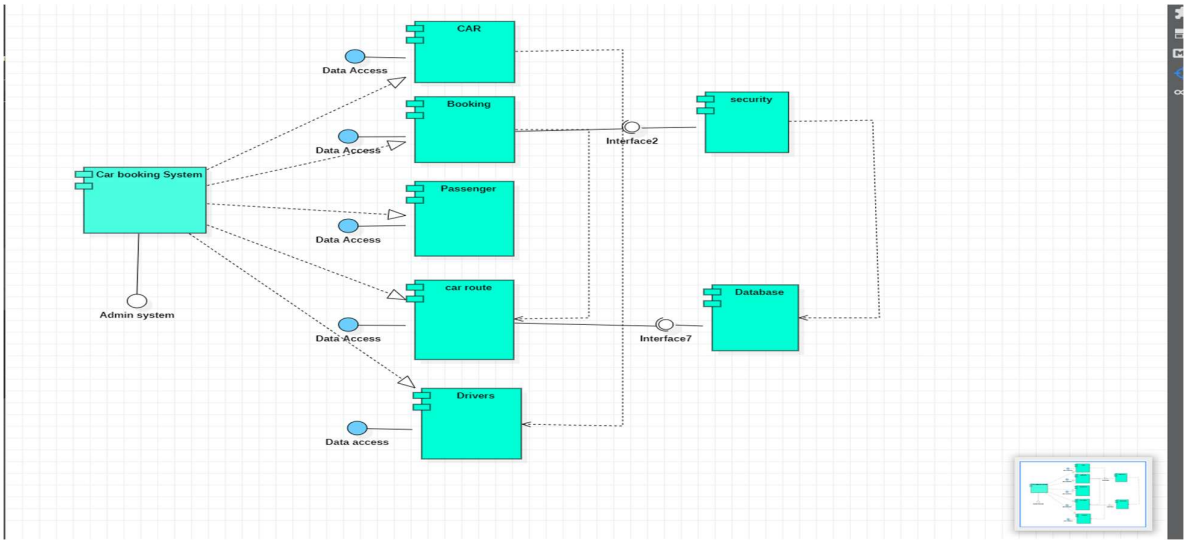
The state machine diagram is also called the State chart or State Transition diagram, which shows the order of states underwent by an object within the system. It captures the software system's behaviour. It models the behaviour of a class, a subsystem, a package, and a complete system.



It tends out to be an efficient way of modelling the interactions and collaborations in the external entities and the system. It models event-based systems to handle the state of an object. It also defines several distinct states of a component within the system. Each object/component has a specific state

Component Diagram

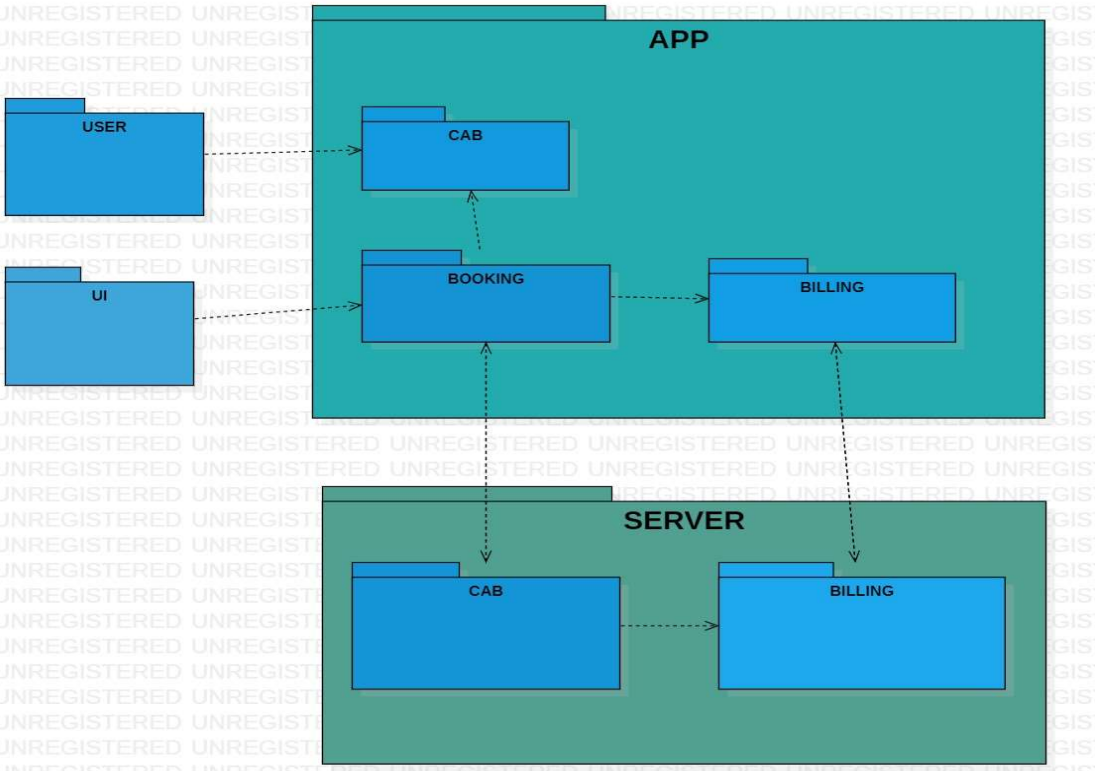
A component diagram is used to break down a large object-oriented system into the smaller components, so as to make them more manageable. It models the physical view of a system such as executables, files, libraries, etc. that resides within the node.



It visualizes the relationships as well as the organization between the components present in the system. It helps in forming an executable system. A component is a single unit of the system, which is replaceable and executable. The implementation details of a component are hidden, and it necessitates an interface to execute a function. It is like a black box whose behaviour is explained by the provided and required interfaces.

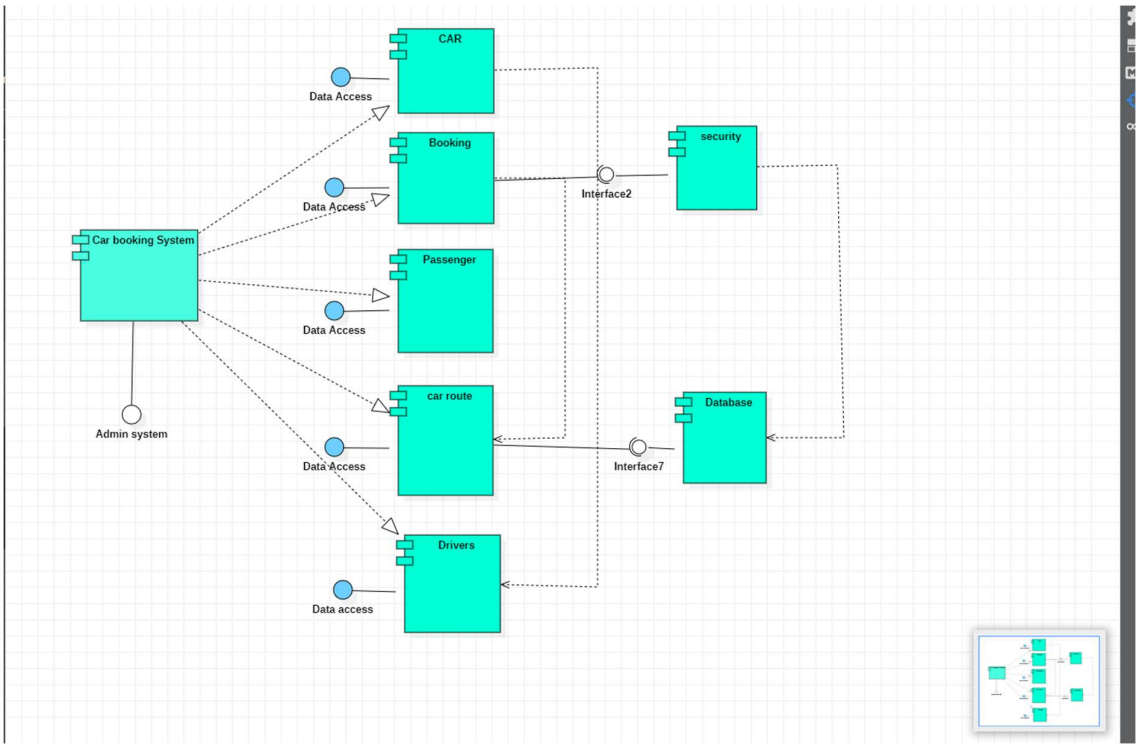
Package Diagram

Package diagrams are structural diagrams used to show the organization and arrangement of various model elements in the form of packages. A package is a grouping of related UML elements, such as diagrams, documents, classes, or even other packages. Each element is nested within the package, which is depicted as a file folder within the diagram, then arranged hierarchically within the diagram. Package diagrams are most commonly used to provide a visual organization of the layered architecture within any UML classifier, such as a software system.



Deployment Diagram

The deployment diagram visualizes the physical hardware on which the software will be deployed. It portrays the static deployment view of a system. It involves the nodes and their relationships.



It ascertains how software is deployed on the hardware. It maps the software architecture created in design to the physical system architecture, where the software will be executed as a node. Since it involves many nodes, the relationship is shown by utilizing communication paths.

Result: -

Thus, the UML modelling for the project “Cab Booking System” is modelled successfully.

REFERENCES: -

- **https://www.jetir.org/papers/JETIRFE06047.pdf**
- **https://www.javatpoint.com/uml**
- **https://docs.staruml.io/working-with-uml-diagrams/sequence-diagram**
- **https://www.smartdraw.com/uml-diagram/**
- **https://nap.nationalacademies.org/read/24628/chapter/4**