



INNOVATION & LEADERSHIP
www.isquareit.edu.in

Hope Foundation's
International Institute of Information Technology

P-14, Rajiv Gandhi Infotech Park, Phase I, Hinjawadi, Pune – 411057

Guest Lecture on “Industry-Oriented Aspect of Data Structures Through Case Study”

Academic Year: 2021-22

Name of Event: Guest Lecture

Topic: “Industry-Oriented Aspect of Data Structures Through Case Study”

Name of the Speaker: Mr. Vishal Khatal

Date & Time of the Event: Saturday, 20 November 2021 11:00am – 1:00pm

Targeted Audience: SE IT and E&TC Students

Venue: Google Meet

Coordinator: Prof. Manjusha Amritkar, Dr. Varsha Degaonkar

Number of Participants: 86

Activity Description in Nutshell:

A Guest Lecture was organized for the Students of Second Year IT and E&TC Branch on the topic of “Industry-Oriented Aspect of Data Structures Through Case Study”. Mr Vishal Khatal is a Sr. Software Engineer with Zscaler (Ex- Microsoft) was the speaker for the session.

The Presentation started with Introduction to Data Structures where he explained the use of sorting algorithm on lexicographically arranged data. Then he has taken one case study of Parking Lot. “**Case Study Parling Lot:** Design a parking lot where a certain number of cars can be parked for a certain amount of time. The parking lot can have multiple floors where each floor carries multiple slots. Each slot can have single vehicle parked in it. We can incorporate an ticketing system in the design so customers can park their cars without any human intervention”.

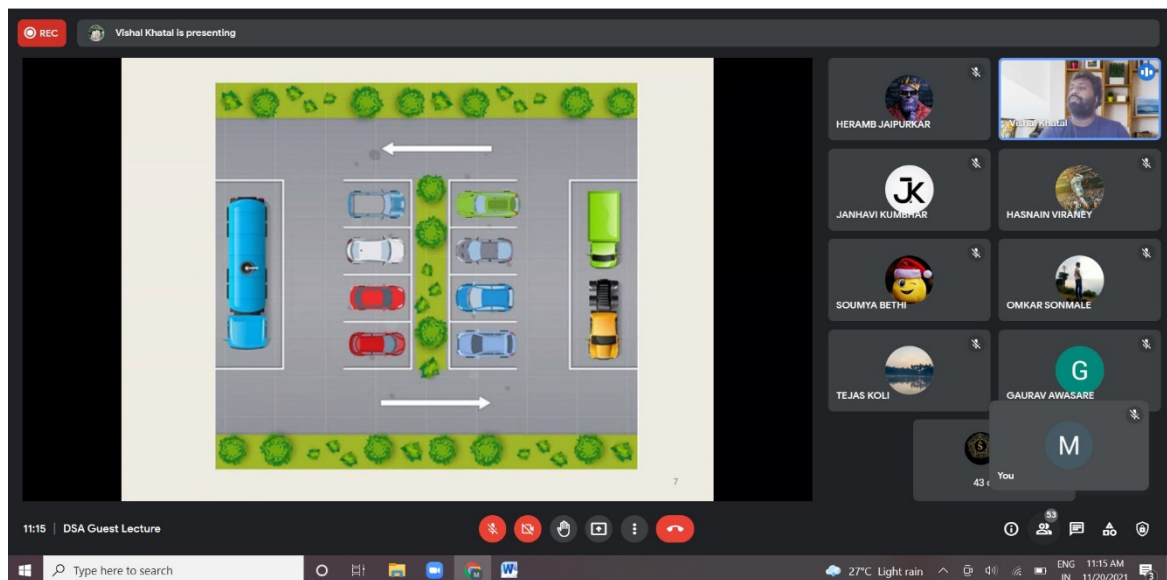
Speaker explained students that for actual development of this problem, we need to check the requirements. That is, we need to break down this problem in small tasks. He also explained about the identification of entities in this case study and various classes required for this case study. Students were informed about inheritance in class hierarchy.

The next part of the presentation was on choosing the right data structure and how STACK data structure can help in solving this problem. He also explains in detail the slot allocation for various vehicles.

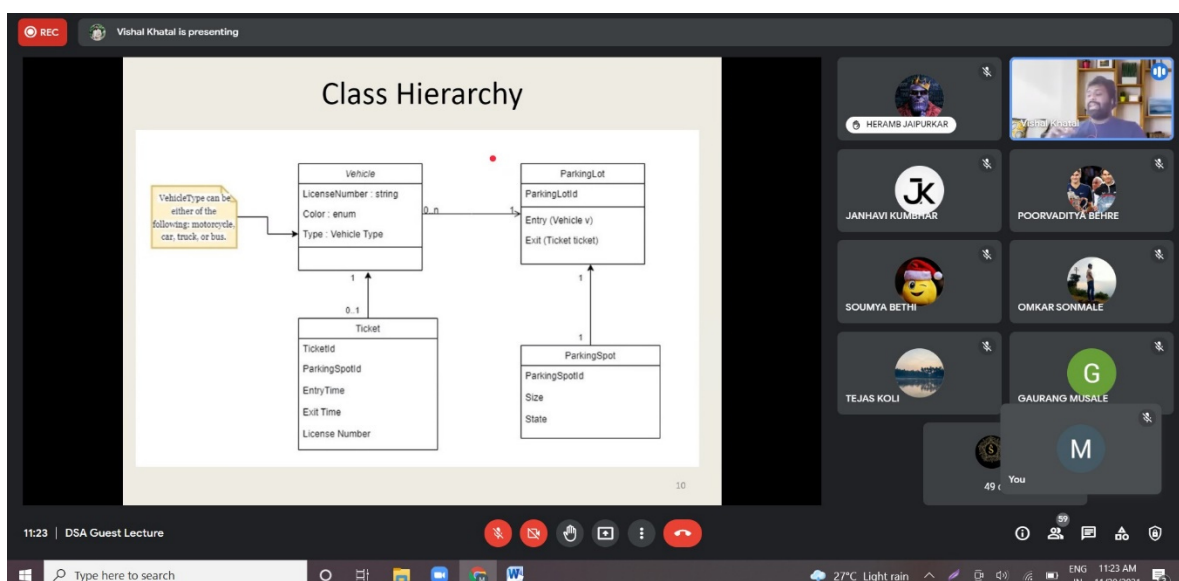
Furthermore, the students were informed about the problem of identification for finding the actual position of the vehicle in minimum time in parking lot. Fastest data structure for lookup is Hashmap. He briefed the Hashmap algorithm with time complexity required. Spot allocation service is also explained which is the part of vehicle entry system design. Further he explained for the multiple entrances and exits how minimum heap tree data structure will help.

The Guest Lecture was informative to the students. They understood the industry-oriented aspect of Data Structures through Parking Lot Case Study in-depth as well as importance of choosing the right data structure.

Event Photos:



Case Study Parling Lot



Parling Lot- Class Hierarchy