# Literature Review

## Secondary Research

**A project Report on Online Vehicle Rental System of JUST CABS by Amartya Ghosh and Mohammad Asad**

([GHOSH, A., & ASAD, M., 2014](#h))

It is an online reservation system of JUSTCABS PVT LTD that helps customers to online reserve cabs and vehicles declining manual system of reserving vehicles. This project helps ongoing traditional manual vehicle reservation company go online. The website has been planned to design using Drupal 7. For better design, JavaScript/CSS would be preferred. Likewise, PHP script would be used towards server side for the website.

The mentioned project focused mainly on cabs. For single people, Cabs would be costly. That is why it is better to focus on giving bike on rent as well for single people. Drupal 7 was planned to be used for designing the website. Drupal, itself, is an open-source software. It may be vulnerable to security terms. It also has high system requirement and limited frameworks. ([Drudesk, 2015](#g)) It is not good idea to use Drupal for front-end development since there are plenty of better options like WordPress, Reactjs, etc.

**Rental Car Online System by Mohd Khalid Bin Mohd Sapuan**

([MOHD SAPUAN, M., 2012](#i))

It is a web-based system that allows to rent automobiles for short period of time within an hour or day. It is mainly designed focusing on students who are facing problems to travel to their college as they are having difficulties in finding rental car in University Malaysia Pahang. Furthermore, for those who owns rental cars are also having problem in advertising their rental cars as it is costly.  As manual works are going on while renting cars in UML, it has become a great problem in maintaining the records of rental activities. Hence, the system helps in maintaining the records and focus on database. MySQL and SQL Server are used in the system as database management software.

In context of Malaysia, university students were facing problems in hiring rental cars and recording the rental activities. Thus, the projected system pointed on students. But, in context of Nepal, not only students but entire public are facing issues in hiring vehicles. So, the system should be designed and developed in such a way that, entire public would be beneficial. Likewise, NoSQL is better as there would be huge number of data generated from the system. It would become easy to handle such data in NoSQL as it stores data in the form of documents or JSON rather than table. ([Smallcombe, M., 2020](#j))

**Design and Implementation of Car Rental System by Melisa Santos**

([Santos, M., 2021](#k))

It is a web-based system designed especially for a company that rents out car to public. The system is believed to manage the business transaction of rental cars and helps in saving the cost of advertisement of rental cars. The system has used Iterative model as development methodology.

Rental system, itself, is not a big project as it can be completed by individual. It is not good idea to implement Iterative model in small projects as it requires more resources and budget. It might not be fruitful for small projects. Highly skilled manpower is required to properly implement the development methodology. For small project, traditional waterfall model would fit in. It would be clearly understandable and would compromise on less manpower, low cost and less resources. ([Guru99, 2021](#l))

## Primary Research

Overcoming the research gaps found from mentioned research papers, proposed solution have been applied in this thesis. Both bikes and cars can be rented from this system. It is costly for a single/ two people to rent a whole car. Unlike in Online Vehicle Rental System of JUST CABS, bikes are also made available for rent. Similarly, Reactjs have been preferred for frontend development replacing Drupal.

In context of Nepal, every public do not own private vehicle. Also, public vehicles are usually fully-occupied even more than its capacity. Contrasting Rental Car Online System, this projected system is designed in such a way that entire public can be facilitated rather than focusing on specific group. Likewise, NoSQL MongoDB has been used for database management replacing SQL. For the projected system, traditional waterfall model is used as developmental methodology.