IoT Case Study

Purpose: This assignment is to show you understanding of various IoT technologies for a specific use case. As discussed during the class, there is no one fit all technology for the IoT. Different IoT applications use different IoT technologies based on its specific requirements. In this assignment, you will pick up one of the well known deployment of an IoT application anywhere in the world and critically analyze their design choices.

Assignment Requirements: You are required to study an application or use case (eg., smart city, smart parking, weather monitoring, infrastructure health monitoring, health monitoring, etc.) where IoT made or expected to make a significant impact to society. In this study, you are required to analyze various design choices one has to make in the development of the specific IoT use case and critically comment on it. You need to prepare a case study report.

Report Format: Please adhere to the following instructions while preparing the case study report.
- The report should be about 3-4 pages in length including the references (not including the title page) in single spacing and font size of 12 points.
- The title page of the report should contain the title of the study, name, roll number.
- You need to submit the report in pdf format and the file name should be your roll number (i.e., cs18mtech11092.pdf).
- Please include all the referenced articles in the bibliography of the report. You are free to refer to any online materials but you need to write your report on your own words. Do not copy and paste content from online resources. All the referenced articles including the web pages should be cited in the bibliography section.

Report Outline: The report should discuss the following aspects of the selected IoT use case or application as precisely as possible in the case study report.
- **Introduction** - Introduction and brief background of the case study.
- **Motivation** - Shortly describe the importance of the selected use case and the motivation of the case study.
- **System Design** - Discuss the architecture of IoT solution which should include but not limited to the following;
  - Briefly discuss the system architecture of the solution with a representative figure.
  - Highlight the details of the used IoT technologies and protocols.
  - Mention the rationale behind their design choices for the selected use case.
  - Critically comment why other technologies/protocols are not suitable or not effective in this use case.
- **Impact** - Briefly discuss the impact of the IoT technologies (device/ protocols/ applications/ tools/ platforms) on the selected use case. Why do you think the selected technologies really helped in realizing the selected use case.
- **Conclusion** - Conclude the case study with a quick summary.