**EDGE COMPUTING**

**1) Introduction/ Understanding the Problem statement:**

                          The solution to the problem statement is that cloud computing is the on-demand availability of computer resources, especially data storage and computing power, without direct active management by the user. Here the data stored in the cloud servers to access and time is taken to complete these processes is slow. In the case of this problem statement, edge computing is better than cloud computing as they only processing the data near the edge of the network, where the data is being generated, instead of in a centralized data-processing warehouse. To make the Kirana’s retail store to make digitalized, we are doing a website by using machine learning to help Kirana’s billing systems.

**2) Details of technology Used:**

            The proposed solutions have many new technologies and frameworks to provide the user with the user-quick experience.

**1) Machine Learning:**

                        It is used to extract data from the trained datasets by capturing the image using Machine Learning Algorithms.

**2) Front end (Web portal):**

                         The run-time frameworks are used to provide the user with a processed web page. The Node JS (java script) is helping to build the network application. The UI design helps the user to use it quickly.

**3) Back end (Server):**

                             These can be Edge devices that produce data. These could be a sensor, industrial machines or other devices that produce or collects the data. The edge computing runs less number of processes in the clouds and moves those to the local places, such as the retail shop's computer, like an edge server.

**3) Required Software /Hardware:**

1. A browser such as chrome, edge helps to navigate the web portal.
2. There is no need for an Internet connection.
3. An Operating System connects the local edge server to the computer.

**4) Achieved cost saving:**

**5) Architecture:**

**6) Solution Brief Description:**

                       The solution could solve a man's work and time consumption. It mainly classifies into two phases. In the first phase, we have used the web portal to train the data using machine learning algorithms. This information in those trained dataset is collected by entering the value of the data in it. The web portal connects to the local server or an edge server. Another phase, the user shows their products to buy in the camera, which helps to calculate the purchased items by machine learning algorithms. The front end user interface is made using HTML5, CSS3, and Java Script to create a responsive web application.

**7) Scope of Automation:**

                        There is a huge scope that the user can themselves bill their products just by showing the image in the application. The billing system in the shops will be easy and user quick access.

**8) Conclusion:**

                    It is safe to conclude that the task like provisioning of resources such as server, networking and hardware components which also requires workers to take care of these billing systems. There is a need to monitor and manage all those resources. All of the above tasks slow down the process of developing applications. These problems can be overcome by edge computing platforms which can be used to create a scalable, reliable, and secure and environment with automation at every step. This helps shops to focus on creating and managing the applications rather than the provisioning and managing resources.