**Motivation:**

1. Optimized parking – Users find the best spot available, saving time, resources and effort. The parking lot fills up efficiently and space can be utilized properly by commercial and corporate entities.

2. Reduced traffic – Traffic flow increases as fewer cars are required to drive around in search of an open parking space.

3. Reduced pollution – Searching for parking burns around one million barrels of oil a day. An optimal parking solution will significantly decrease driving time, thus lowering the amount of daily vehicle emissions and ultimately reducing the global environmental footprint.

4. Enhanced User Experience – A smart parking solution will integrate the entire user experience into a unified action. Driver’s payment, spot identification, location search and time notifications all seamlessly become part of the destination arrival process.

5. Increased Safety – Parking lot employees and security guards contain real-time lot data that can help prevent parking violations and suspicious activity. License plate recognition cameras can gather pertinent footage. Also, decreased spot-searching traffic on the streets can reduce accidents caused by the distraction of searching for parking.

**Problem Statement:**

With the increasing number of vehicles and the decreasing efficiency of modern busy parking lots, major problems which we people are facing is:

1. Valuable time wasted from inconvenient and inefficient parking lots.

2. More fuel consumed while driving around parking lots, leading to CO2 emissions.

3. Potential accidents caused by abundance of moving vehicles in disorganized parking lots.

Therefore, there is a need to develop an affordable system which solve the problem and obtain the information about the parking lot on real time.