INTRODUCTION

The purpose of this chapter is to give introduction about the present study. In this chapter we can mention the topic of study and approach which can be used to study the topic. The central topic of research is Radio Frequency Identifier (RFID). RFID can be studied with cloud computing perspective. These two areas are understudied and application based on RFID and cloud computing is developed here.

Wireless Network: It is a type of computer network where cables are not used to connect the computer systems. In wireless network, transmission of data among the systems take place with the help of radio waves. With the help of this transmission system we can avoid costly process of introducing cables into a building or as a connection between various equipment locations. In wireless network, transmission system is implemented at physical layer with the help of radio waves. RFID stands for Radio Frequency Identification. RFID uses a wireless radio frequency system to read and write data.

Automatic Identification: Radio Frequency Identification (RFID)
RFID technologies are grouped under the Automatic Identification (Auto-ID) technologies. Smart cards and Barcodes are other Auto-ID technologies. RFID has advantages over Barcodes. The advantages are as follows:

- Line of sight not required
- Durability
- Range
- Data volume
- Multiple read – Speed
- Read/Write – Update

Barcode reader makes use of light to read the number from barcode. RFID reader makes use of radio waves to read data thus RFID does not need line of sight to read the data. In RFID the data which has to be read is stored inside the tag. When the tag comes in contact with RFID reader, data inside the tag is read by reader. There is no need of any person to keep the reader in front of the tag. Tag can be attached to any item. As the item is passed by the reader it will be read automatically, thus giving a potentially large saving in labour costs or substantial increase in throughput of scanned items. Another feature of RFID is the ability to read many tags together at
once. It is not necessary to present each tag to the reader separately (as is required for barcodes), instead all tags within the range of the reader can be read almost simultaneously as they pass the reader. Again, there is a huge savings potential in not having to manually present the reader to each item to be identified. Furthermore, data can also be written to the tag, a feature not possible with barcodes. This latter feature has tremendous implications for IT systems and the potential benefits of RFID. The main components of RFID are 1) Tag 2) Reader 3) Antenna 4) Host Computer 5) Middleware software. Tag can be attached to any item. Tag consists of integrated antenna and electronic circuit. Reader also consists of antenna with the help of this antenna reader emits radio waves. The tag which comes in contact with radio waves gets activated and with the help of the antenna present in tag data from tag is transferred to the reader. Middleware software is present inside the reader. It converts this data into useful information and send it to the host computer where tag information is stored. There are three types of tags
1) Active tag
2) Passive tag
3) Semi passive tag

As stated above tags consist of a microchip and transponder. “Data related to object to which tag is attached is always stored in microchip and it can be transmitted to reader with the help of transponder. Tag data usually includes a unique identifier code and sometimes additional information, depending on the application and the amount of memory on a tag. Tags are either passive or active. Passive tags are smaller -- about the size of a grain of rice, and getting smaller. They are activated when they enter the range of a reader’s signal. The reader’s antenna sends power to the transponder, activating the data stream. (Semi-passive tags have a battery that runs the circuitry of the chip, but does not power transmission of data to the reader.) Passive tags are much smaller in size and memory than active tags, and cheaper to manufacture. Passive tags are most suitable for supply chain applications that require billions of tags with small amounts of memory. Active tags are larger than passive tags, about the size of a small coin, and cost depends on volume. They contain their own power source, thereby constantly transmitting their signal up to several hundred feet, compared to a passive tag’s read range of a few inches to a couple of meters. Active tags are therefore more appropriate for items that are high in value and/or are tracked from a distance, like rail cars and shipping containers. Active tags can also be rewritten or reprogrammed by readers, whereas most passive tags are read-only. Sensors can also
be integrated with an RFID tag for more dynamic information. Tags can be printed on paper or plastic and attached to an object, or they can be embedded under the skin of animals and humans."

Amusement park consists of number of attraction zones. Each attraction zone consists of ticket counter. When visitor enters inside amusement park he has to go to ticket counter to get a ticket. At the entry gate of attraction zone a person is there to check the tickets. Human interaction at the entry gate and ticket counter leads to long queues. Ticket is in the form of paper. Lot of paper is required to make tickets every day. We can avoid long queues and wastage of paper with the help of the proposed system. The traditional method which is used in Indian Amusement Park is extremely time consuming and Labor Intensive. The implementation of RFID technology quickened the entire process of entry of individual inside attraction zone