**Section – 2**

***2.1*** **Background**

**Scope of the Project:**

The aim and objective are to develop RFID based billing system for supermarkets in order to make billing process convenient and easy. Implementing an Automatic shopping cart using RFID technology that will be saving time of customers and improving purchasing. In this RFID card is utilized by the RFID reader in the shopping cart when the customer wants to add product the cost of the product will be shown and the total amount of bill will display on the LCD, when the customer wants to remove the product from the Cart, you need to take product out from the Cart, the amount of that product by scanning it again and gets deducted from total amount. After customer finished shopping, the customer will press send button on the hardware device and the bill will be generated in the database which could be taken by providing the Cart ID trolley number. The main purpose of this system is to make it effectively adaptable for helping the customers, time will be saved at the billing counters avoiding the long waiting queues.

**Literature Review:**

**(1) Smart Shopping System Using RFID:**

International Engineering Research Journal (IERJ) Volume 2 Issue 3 Page 1418-1421, 2016,

ISSN 2395-1621.

**(2) SMART SHOPPING TROLLEY USING Smart Phone and Arduino:**

Reference: Bedi HS, Goyal N, Kumar S, Gupta A (2017) Smart Trolley using Smart Phone and

Arduino. J Electr Electron Syst 6: 223. doi: 10.4172/23320796.1000223.

**(3) RFID Based Smart Trolley for Automatic Billing System:**

International Research Journal of Engineering and Technology (IRJET)e-ISSN: 2395-0056

Volume: 04 Issue: 07 | July -2017, www.irjet.net, p-ISSN: 2395-0072.

**(4) Design and Implementation of a Smart Shopping Cart by RFID Technology:**

Smart shopping trolley application creates an automated central billing system in malls. By

using the ZigBee.

**(5) LIFI BASED AUTOMATED SMART TROLLEY USING RFID:**

International Journal of Scientific & Engineering Research, Volume 7, Issue 3, March-2016,1026 ISSN 2229-5518

**PROJECT DESCRIPTION:**

Our idea is of making an Automatic Smart Cart. Assigning RFID tags to the products and

RFID reader with an LCD and Arduino in the purchasing cart. The customer can see the cost of each product which are added into cart and Total amount. The quantity about the item will be printed in bill, if customers change his mind then he has to scan the product again to remove the product and the bill will be updated, the total bill amount will be displayed on LCD in the Cart. The customer sends the data by clicking on the send button in hardware with associated trolley Cart ID number from which the customer will get the printed bill. This will save time and people at billing counter will be reduced, this will save money and time. The smart cart will to make shopping more easy for the customers with improvising comfort for customer.

**Hardware Specification:**

**Arduino Kit:**

This is an Arduino Pro Mini ATmega328 5V 16M Compatible Board. A microcontroller board

based on the ATmega168 used as Arduino in hardware.

**RFID Reader:**

A radio frequency identification **reader** (**RFID reader**) is a device used to readinformation from an RFID tags associated with object, which is used to read tags no# on objects. RFID reader is like transceiver and receiver with the use of radio frequency signals.