**WORK PLAN:**

Following work plan or methodology has to be followed to avoid drawbacks in existing system.

1) In the proposed system one cash counter at the main entrance of Amusement park will be setup.

2) Unique tag identifier will be stored in RF tag. This tag will be attached to wristband which is made of plastic. In this way number of wristbands where RF tags are attached will be kept ready. All unique tag identifiers are stored in host computer database.

3) Visitor enters inside Amusement park, he will go to cash counter and selects the number of attraction zones he wants to visit and make payment at counter. Immediately after that he will be provided with wristband where passive RF tag is attached. As soon as visitor gets wristband the amount he paid is stored in the database in front his identifier. In this way user’s account will be maintained.

4) The reader is the most fundamental part of the RFID system. It reads data from the tag and transmits it to middleware for further processing. In Amusement park the reader will be mounted at entry gate of each attraction zone.

5) When visitor enters inside entry gate, reader mounted on gate reads the data (unique tag identifier) from tag and checks the tag is valid or barred and if it is valid it sends the information to the middleware.

6) The middleware is an interface required to manage the flow of data from the reader and to transmit it efficiently to the backend database management system. The middleware monitors the number of tags present in the system and extracts relevant information from the reader.

7) Relevant charges of that attraction will be deducted from the user’s account and visitor will be allowed to enter inside the attraction zone.

8) After visiting all the attractions for what visitor has paid, the tag will be barred automatically.

9) To avoid tag collisions in the proposed system, we will make use of anti collision protocol called as Query Tree Protocol. There are mainly two anti-collision protocols, ALOHA based and Query Tree Protocol. ALOHA based protocol has tag starvation drawback.

10) To support scalable RFID system, we will make use of cloud computing along with RFID system. The proposed system consists of two main parts the front end and back end. The front end consists of RFID tags, readers and computers with user interfaces and applications to access
cloud computing architecture. Back end consists of infrastructure (computers, data storage system), applications, services and servers.

11) In the proposed system, the application graphical user interface (GUI) is designed using ASP.NET and MS-SQL is used as the database provider. The circuit consists of 16×2 LCD display panel, which is the output device of the system. It displays the user’s information when the stored tag is read by the reader. The serial interface allows connectivity to a local database for data storage and retrieval.

**Testing and Validation:**

The evaluation or testing of RFID system can be executed as benchmark test, laboratory test and field test. Benchmark tests are used to discover the advantages and disadvantages of the proposed system. The laboratory tests are performed to check the degree of recognizing selected tags and readers in the lab. Field tests are performed for the proposed system in an actual site after lab test. It is helped to discover issues that occur when RFID is applied to the existing system in the actual environment. Test cases are developed for 1) Reader orientation sensitivity 2) Reading distance 3) Interference from mobile devices.

The following types of testing will be done

1) Unit Testing: This testing will be done on individual module. This is done to test the module which is implemented is producing the required output.

2) Integration Testing: There is interaction between RFID hardware setup with software. Integration testing is done to test hardware and software together can give the desired output.

3) System Testing: System testing is the testing to ensure that by putting the software in different environments (e.g., Operating Systems) it still works. System testing is done with full system implementation and environment. It falls under the class of black box testing.

4) Performance Testing: Performance testing is the testing to assess the speed and effectiveness of the RFID system.

5) Usability Testing: Usability testing is performed to the perspective of the client, to evaluate how the GUI is user-friendly? How easily can the client learn? After learning how to use, how proficiently can the client perform? How pleasing is it to use its design?