

# BLUETOOTH BEACON

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## ABSTRACT

In today's world the demand of smart products is at its peak, and when it comes about making things smarter through Artificial intelligence what directly comes to mind is Internet of things (Iot). It can be defined as internetworking of physical devices with one another in an combined system with sensors that enables network connectivity for connecting and controlling (Iot) objects remotely across existing network. Iot in today's is creating uncommon opportunities for rapid development and integration of the I world into digital-based systems, and result in enhanced accuracy, efficienct use of technology and further economic benefit. Advertisement is the most important part of a Business and advertising using Internet of Things (IoT) surprisingly takes it to another level.

## 1. INTRODUCTION

Bluetooth beacon System is the approach that has purpose of advertising the products the local kiosks when the customer passes by the shops which directly decreasing the workload of the Shopkeepers, Here shopkeepers have no need to promote their shops by printing banners and paying the additional money to that people who promotes their shop in return of moneys, basically this app is one time investment for the shopkeepers and yes off course free for the customers because they are already paying the products. Currently the project basically has two User ends: first they app for the customers where they get the information and the advertisement of the particular shop basically those from where the customer passes by and the second for the admin where we can update any information if needed because currently we have not any facility for the shopkeepers for updating, for that they need to interact with admin for particular this area we working on that.

## 2. PROBLEM STATEMENT

The existing system for shop advertisement doesn't concentrate on every aspect every skill. So, to ease the procedure we are developing a platform which will help the customer and shopkeeper to bring together to a common interface. Simply the Shop-owner needs to install our Bluetooth beacon within their shops and power on the device and what customer must do is just turn on the Bluetooth and open the app serial monitor to view the advertisement of the shop. Which will eventually help is saving time for both customer and shopkeeper.

## 3. SYSTEM DESIGN.

### Components of Bluetooth beacon:

1: **Arduino:** Arduino is a platform which is mainly an open source which is used for making electronic projects these days. Consisting of circuit board which is programmable and with the help of a software, IDE (Integrated Development Environment) a common platform that runs on your computer where you can write the code according the function which you want to make and can upload the same code on physical machine board.

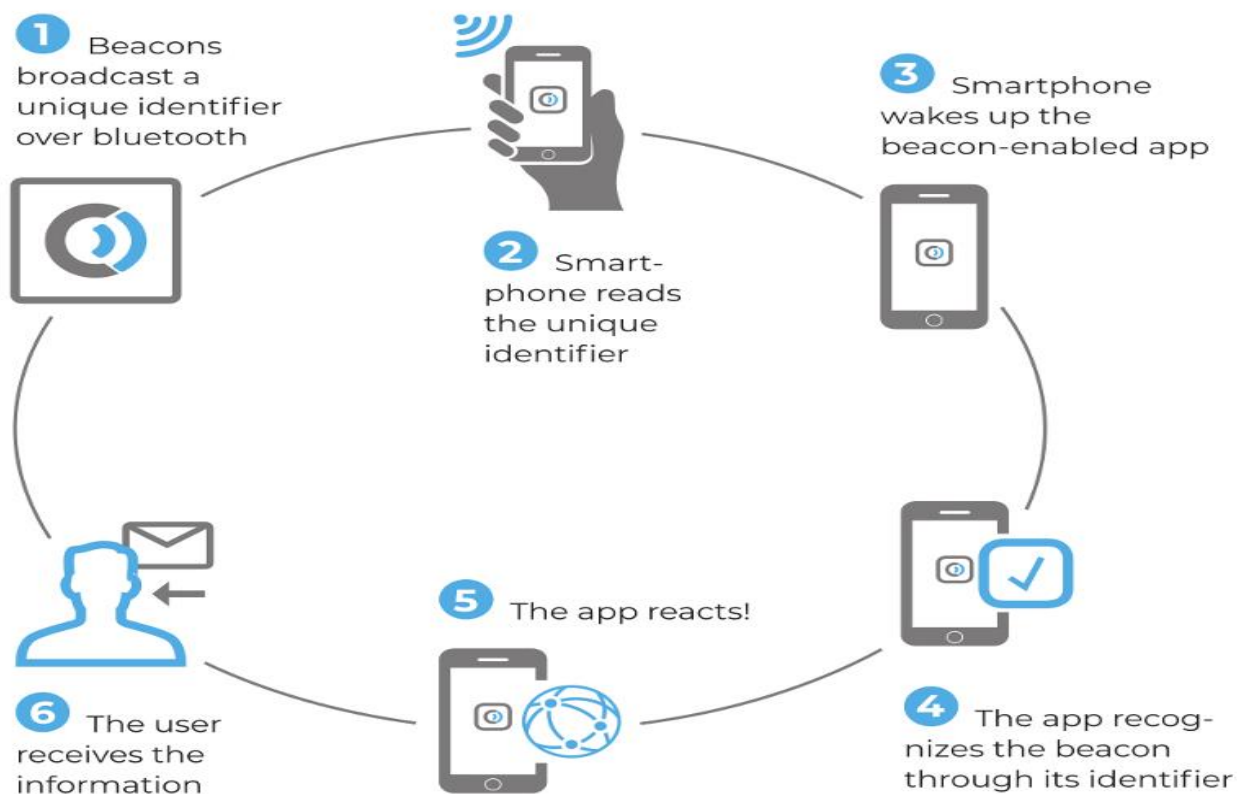


2: **Bluetooth transmitter:** Bluetooth transmitter is the second and main component which gives the device its name as this transmitter relates to Arduino board and the require information that is to be sent to the receiver is done through the Bluetooth.



3: **Application Software:** The last and the final component or we can say the most important part is the Application software that helps in displaying the data or information of shopkeeper on the Smartphones. Using this application will allow you to connect with beacons on your very own smartphone.

#### 4. WORKFLOW DIAGRAM:



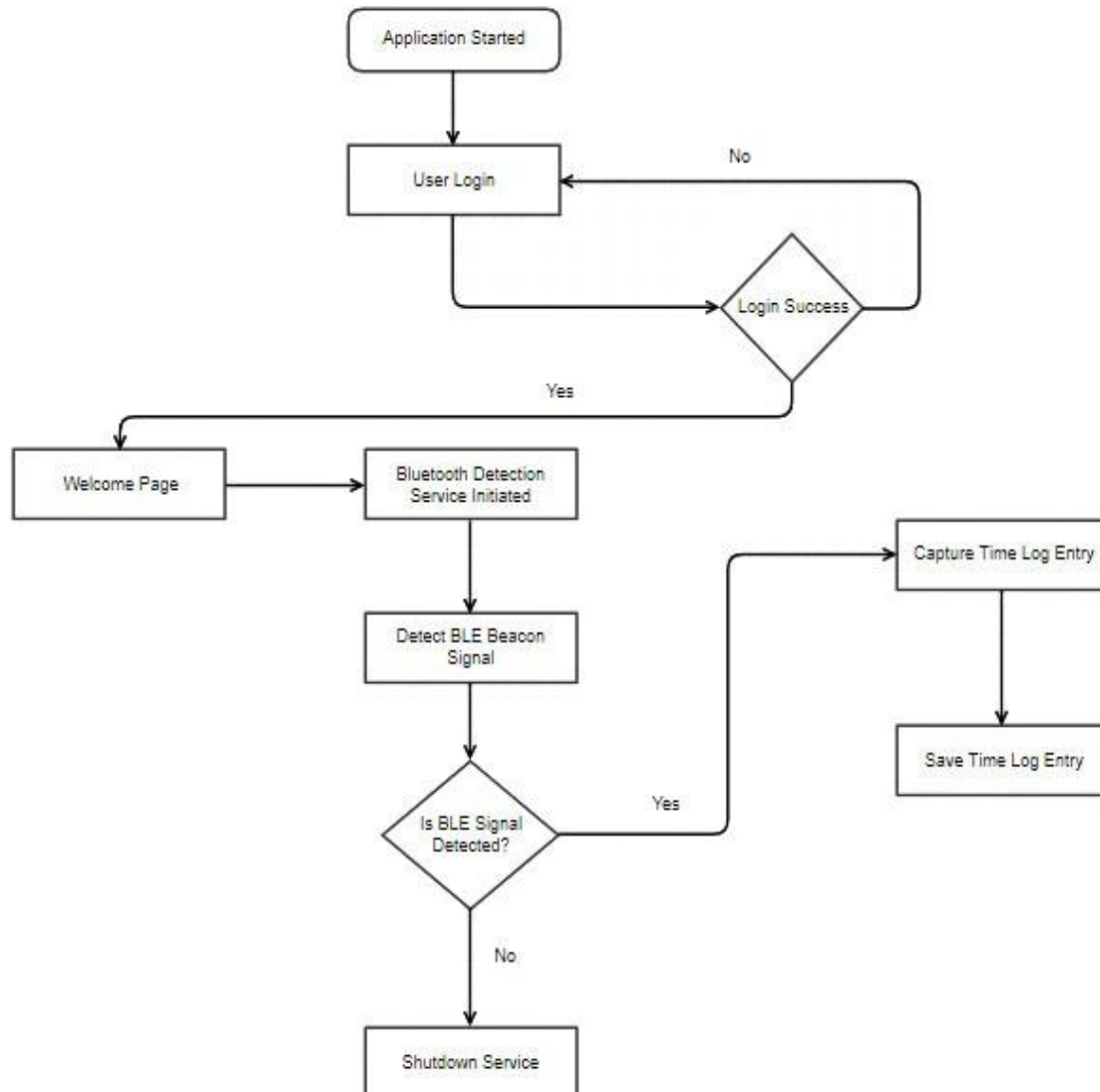
**Figure 1. Workflow Diagram**

#### 4.1.WORKING:

The Working of Bluetooth beacon is as follow:

- When a customer approaches the kiosk or the shop which has Bluetooth beacon installed, the very first thing he needs to do is to switch on the application on their respective smartphones.
- After opening the application, the next task is to select the shop to which the customer wants to connect and want to look further about the shop menu. The customer just has to simply tap on whatever shop he's interested in to move further.
- Third steps bring the kiosk owner into play as when the customer connects with the respected shop the already store information or Advertisement is displayed on customer screen.

## 5. FLOW CHART



**Figure 2. Flow chart**

Explanation:

The following represents the system flow chart when a user initiates the process of Bluetooth beacon through his/her Smartphones. The whole scenario is represented by this flow chart how the system initiates by catching Bluetooth signals carrying information from the beacon to the user.

## 6. CURRENT STATUS AND FUTURE SCOPE

As for now this project is in fully working condition although there are many modifications which are there to explore but for now the project is ready to use for Advertisement purpose at a very minimum cost and creative as well as an efficient way for smart advertisement. We are using Arduino that usually costs very low and beacons that we are using is low energy consuming, thus making it more efficient and low cost.

We are targeting to achieve proximity marketing in areas where people wish to move with the generation at a considerate and reasonable cost that would allow to balance the things that middle-class shop owners' fears.

### Future Scope:

1. In future this will be more functional as for now this is only for viewing advertisement, but in future we are planning to add more features like to place order through app only.
2. We are also trying to increase the vicinity of Bluetooth, as for now the range is 30m trying to increase this in future.
3. Adding user friendly interface for both customer as well as the shopkeeper to use the product with ease and comfort
4. Authority will be made easy for shopkeepers so that they can change required things according to varying situations.
5. Further we are thinking of using this concept at places at like smart attendance system, at hospitals and many more possible places are yet to be explored.

### 7. REFERENCES

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