# ProductionDB Table Documentaion

## location

This table will contain the predetermined locations of all the devices that have been deployed for use in this project. Each device is assigned an Id. Their floor number, room number, and nearest wall are also recorded, along with the type of room they are in. A foreign key used is this table is the Id of the Building in which they are deployed. This field is the primary key field in the Building table.

\* It should be noted that this table contains only the locations of Bluetooth devices.

## building

This table will contain information on the buildings in which our Bluetooth devices are deployed. This includes the name, acronym, and address of the building. There are also fields in this table contain information on the roads that are adjacent to the building. There is a foreign key in this table that displays the Id of the institution that the building is a part of. This field is the primary key in the Institution table.

## institution

This table will contain information on the institutions that our Bluetooth devices are located in. This includes the name and acronym of the institution.

## gateway

This table will contain information on the Photon and Red Bear Bluetooth devices. This includes their major-minor locations, as well as their location Id from the Location table.

\* The gateways are differentiated using their major and minor values. Though the API will work without an extra level of distinction, it would be wise to add a type field in order to tell one gateway from the other. Also, there is a trigger on this table which sends inserted devices to the test\_devices table. Devices that are sent from this table will be given a new major value of “photon” or “redbear” based on their inputted numerical major value in this table.

## gateway\_voltage

This table will receive voltage data from the gateways that corresponds to battery levels. There is also a timestamp produced for each update query. This table will contain a foreign key that displays the Gateway Id from the gateway table.

## gateway\_config

This table will contain information on the gateways that are available to us. This information includes the deployment status, time of last update, version information, charged status, physical status, Bluetooth status, and sleep time. This table will contain a foreign key that displays the Gateway Id from the gateway table.

## gateway\_log

This table will act as a log of information on the gateways that are being used in this project. There will be a description field that will contain notes pertaining to a certain gateway. It will also contain a Type field that differentiates whether a device is a Photon or a Red Bear. There is also a timestamp produced for each update query. This table will contain a foreign key that displays the Gateway Id from the gateway table.

## gateway\_beacon

This table will contain the Ids of all of the Red Bears that have been deployed and as well as the beacons that each Red Bear is responsible for.

\* It should be noted that the beacons in this table are made up exclusively of AXA Beacons.

## location\_atmosphere

This table will contain ambient information about the Bluetooth devices and their locations. This includes temperature and humidity. There is also a timestamp produced for each update query. This table will contain a foreign key that displays the Location Id of the device from the location table.

## beacon

This table will contain information on the Bluetooth beacon devices. This includes their major-minor locations, as well as their location Id from the Location table.

\* It should be noted that the beacons in this table are made up exclusively of AXA Beacons. Also, there is a trigger on this table which sends inserted devices to the test\_devices table.

## beacon\_rssi

This table will receive RSSI data from the Bluetooth beacons. RSSI or “received signal strength indicator” is a number that elucidates the power of radio signal. There is also a timestamp produced for each update query. This table will contain a foreign key that displays the Gateway Id from the gateway table.

# The following tables are designated for use during algorithm testing.

## test\_experiment

This table will be used to store data on each experiment. An experiment is a particular configuration of devices in a given building. It consists of a set of Gateways and Beacons that are deployed in a certain building. A barrage of tests are then run in this building, after which there are different sets of data generated and put into this table.

\* It should be noted that the data that is generated during these tests will be used to determine the validity and accuracy of the algorithms created for this system.

\* Each experiment will consist of several test runs.

## test\_run

Each test run consists of a student standing in different test locations and calling several test events at each test location. The test run identifier will be placed in this table.

\* Each test run will consist of several test events.

## test\_event

This table will contain information on test events that are called by students when testing at a particular location. The test event identifier is then put into this table.

\* Each test event will consist of several pieces of test data.

## test\_data

The data that is collected from each test event is then put into this table.

## test\_tester\_location

This table will consist of a set of various pre-determined locations in which a student/tester can stand throughout each of the test buildings.

\* It should be noted that the locations defined in this table are meant to inform the tester of valid locations that may be used for testing.

## test\_location\_used

This table will consist of the locations that were used to deploy the Bluetooth devices utilized in these experiments.

## test\_devices

This table will consist of the devices that are located in the beacon and gateway tables. Triggers have been added to the beacon and gateway tables so that when there is device information inserted into them, this data is then sent to this table. Devices that are sent from the gateway table will be given a new major value of “photon” or “redbear” based on their inputted numerical major value in the gateway table.