## CLAIMS

What is claimed is:

1. A guest engagement system comprising:

a plurality of guest devices provided to users of the guest engagement system, each guest device including a wireless communication antenna and operative to emit a periodic beacon signal broadcasting a unique identifier of the guest device using Bluetooth low energy (BLE) communications;

a sensor network comprising a plurality of sensors each mounted at a different known location and operative to detect the periodic beacon signals including the unique identifiers emitted using BLE communications by guest devices of the plurality of guest devices that are proximate to the sensor;

a communication network connecting each of the plurality of sensors of the sensor network;

one or more crew devices associated with crew members of the guest engagement system, each of the crew devices including an antenna device operative to emit signals and to receive the periodic beacon signals broadcasted by the guest devices of the plurality of guest devices that are proximate to the crew device; and

a central server communicatively connected to each of the plurality of sensors of the sensor network and to each of the crew devices via the communication network, and storing a log, wherein the log associates each unique identifier of a guest device detected using BLE communications by a sensor of the sensor network with the known location of the sensor and a timestamp, stores each unique identifier of the guest device detected using communications by one of the crew devices, or a combination thereof,

wherein the antenna device includes:

a first wireless communication antenna configured to operate using a first communication standard with a first peak directivity in a selected direction; and

a second wireless communication antenna being positioned proximal to an end region of the first wireless communication antenna along the selected direction and configured to operate using a second communication standard that is different from the first communication standard, the second wireless communication antenna further operating collectively with the first wireless communication antenna using the first communication standard with a second peak directivity that is in the selected direction and greater than the first peak directivity.

2. The guest engagement system of claim 1, wherein the first and second communication standards include a Bluetooth Low Energy (BLE) communication standard and a near-field communication (NFC) communication standard, respectively.

3. The guest engagement system of claim 1, wherein the first wireless communication antenna includes a Yagi antenna including one or more directors arranged in a row extending along the selected direction, the second wireless communication antenna being configured to be one director of the one or more directors.

4. The guest engagement system of claim 1, wherein the antenna device further includes first and second printed circuit boards (PCBs) with the first and second wireless communication antenna disposed thereon, respectively, the first and second PCBs being arranged perpendicularly.

5. The guest engagement system of claim 4, wherein the second PCB is attached to the first PCB at an end region of the first PCB.

6. The guest engagement system of claim 5, wherein the first and second PCBs are arranged to respectively form two segments of an L shape.

7. The guest engagement system of claim 6, wherein the first and second PCBs are arranged to respectively form long and short segments of the two segments of the L shape.

8. The guest engagement system of claim 7, wherein the second wireless communication antenna include a coil wound over a rectangular area defined on the second PCB, the area having a width and a height perpendicular to the width, the width being measured parallel to a plane defined by the first wireless communication antenna.

9. The guest engagement system of claim 1, further comprising an accessory portable with at least one crew device of the crew devices, the accessory including a casing attached to the antenna device and configured to at least partially enclose the crew device, the antenna device being located on the accessory.

10. The guest engagement system of claim 9, wherein the antenna device is slidably attached to the casing.

11. The guest engagement system of claim 10, wherein the first wireless communication antenna is parallel to a plane defined by the casing, and the antenna device is configured to move between deployment and retreat positions, wherein:

in the retreat position, the first wireless communication antenna stacks with the casing; and

in the deployment position, at least a part of the first wireless communication antenna does not stack with the casing.

12. The guest engagement system of claim 11, wherein the accessory further includes:

a communication interface for connecting with the crew device; and

a PCB assembly in connection with the antenna device.

13. The guest engagement system of claim 12, wherein the accessory further includes an NFC reader at least partially assembled on the PCB assembly.

14. The guest engagement system of claim 12, wherein the accessory further includes a battery electrically connected to the PCB assembly.

15. A guest engagement system comprising:

a plurality of guest devices provided to users of the guest engagement system, each guest device having a unique identifier and including first and second wireless communication antennas respectively configured for Bluetooth low energy (BLE) and near field communication (NFC) communications;

a sensor network comprising a plurality of sensors each mounted at a different location, wherein at least one sensor of the plurality of sensors is operative to detect guest devices that are proximate thereto and receive unique identifiers therefrom based on BLE communication with the guest devices and at least another sensor of the plurality of sensors is operative to detect guest devices that are proximate thereto and receive unique identifiers therefrom based on NFC communication with the guest devices;

a communication network connecting each of the plurality of sensors of the sensor network;

one or more crew devices associated with crew members of the guest engagement system, each of the crew devices including an antenna device operative to emit signals and to receive periodic beacon signals broadcasted by the guest devices of the plurality of guest devices that are proximate to the crew device; and

a central server communicatively connected to each of the plurality of sensors of the sensor network and to each of the crew devices via the communication network, and storing a log, wherein the log associates each unique identifier of a guest device received using BLE or NFC communications by a sensor of the sensor network with the known location of the sensor and a timestamp, stores each unique identifier of the guest device, detected using communications by one of the crew devices, or a combination thereof,

wherein the antenna device includes:

a first wireless communication antenna configured to operate using a first communication standard with a first peak directivity in a selected direction; and

a second wireless communication antenna being positioned proximal to an end region of the first wireless communication antenna along the selected direction and configured to operate using a second communication standard that is different from the first communication standard, the second wireless communication antenna further operating collectively with the first wireless communication antenna using the first communication standard with a second peak directivity that is in the selected direction and greater than the first peak directivity.

16. The guest engagement system of claim 15, wherein the first and second communication standards include a Bluetooth Low Energy (BLE) communication standard and a near-field communication (NFC) communication standard, respectively.

17. The guest engagement system of claim 15, wherein the first wireless communication antenna includes a Yagi antenna including one or more directors arranged in a row extending along the selected direction, the second wireless communication antenna being configured to be one director of the one or more directors.

18. The guest engagement system of claim 15, wherein the antenna device further includes first and second printed circuit boards (PCBs) with the first and second wireless communication antenna disposed thereon, respectively, the first and second PCBs being arranged perpendicularly.

19. A guest engagement system comprising:

a plurality of guest devices provided to users of the guest engagement system, each guest device including a wireless communication antenna and operative to emit a periodic beacon signal broadcasting a unique identifier of the guest device using Bluetooth low energy (BLE) communications;

a sensor network comprising a plurality of sensors each mounted at a different known location and operative to detect the periodic beacon signals including the unique identifiers emitted using BLE communications by guest devices of the plurality of guest devices that are proximate to the sensor;

a communication network connecting each of the plurality of sensors of the sensor network;

one or more crew devices associated with crew members of the guest engagement system, each of the crew devices including an antenna device operative to emit signals and to receive the periodic beacon signals broadcasted by the guest devices of the plurality of guest devices that are proximate to the crew device; and

a central server communicatively connected to each of the plurality of sensors of the sensor network and to each of the crew devices via the communication network, and storing a log, wherein the log associates each unique identifier of a guest device detected using BLE communications by a sensor of the sensor network with the known location of the sensor and a timestamp, stores each unique identifier of the guest device detected using communications by one of the crew devices, or a combination thereof; and an accessory portable with at least one crew device of the crew devices, the accessory including a casing attached to the antenna device and configured to at least partially enclose the crew device, the antenna device being located on the accessory,

wherein the antenna device is slidably attach to the casing.

20. The guest engagement system of claim 19, wherein the accessory further includes:

a communication interface for connecting with the crew device; and

a PCB assembly in connection with the antenna device.