CLAIMS

What is claimed is:

1. A method comprising:

providing a device to a user, wherein the device includes a processor and a time-of-flight radar, wherein the processor is coupled to the time-of-flight radar, wherein the time-of-flight radar is configured to operate in a K-band, ~~; and~~

wherein the processor is programmed to allow the user to geofence or define an area of interest; and instructing the user to:

position the device within a defined area having an object positioned~~living~~ therein, and

activate the time-of-flight radar to operate in the K-band within the defined area such that the time-of-flight radar operating in the K-band within the defined area tracks the object positioned~~living~~ in the defined area, generates a set of data based on tracking the object positioned~~living~~ in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing an event within the defined area based on the set of data, ignores the set of data for outside the area of interest, and takes an action responsive to the event determined to be occurring within the defined area, wherein ~~.~~

(i) the processor is programmed to allow the user to geofence or define the area of interest based on the defined area having an interior perimeter and the user being instructed to walk around the interior perimeter and notify the time-of-flight radar as to when the time-of-flight radar should take a measurement of a position of the user, or

(ii) the processor is programmed to allow the user to geofence or define the area of interest based on the user being instructed to provide or draw a map of the defined area on a computing device and place the time-of-flight radar in the map for the processor of the device to access.

2. The method of claim 1, wherein the processor is programmed to allow the user to geofence or define the area of interest based on the defined area having an interior perimeter and the user being instructed to walk around the interior perimeter and notify

the time-of-flight radar as to when the time-of-flight radar should take a measurement of a position of the user.

~~2. The method of claim 1, wherein the device includes a housing hosting the processor and the time-of-flight radar.~~

3. The method of claim 2, wherein the user being instructed to walk around the interior perimeter and notify the time-of-flight radar through a computing unit having a button where the computing unit communicates with the device based on the button being pressed.

4. The method of claim 1, wherein the processor is programmed to allow the user to geofence or define the area of interest based on the defined area having a room geometry or an identification and the user being instructed to record the room geometry or the identification via a mobile application running on a mobile phone or a tablet computer communicating with the device.~~time-of-flight radar operating in the K-band within the defined area is operating inclusively between about 23 GHz and about 25 GHz within the defined area.~~

5~~4~~. The method of claim 1, wherein the ~~object is a first object, wherein the~~ processor is programmed to allow~~track a second object positioned within~~ the user to geofence or define the~~defined~~ area of interest based on the processor being put into a geo-fencing mode where~~set of data and distinguish~~ the processor assumes the user is only moving~~first object living~~ in the area~~defined area from the second object positioned within the defined area based on the set~~ of interest that is desired to be recorded and the user being instructed to move freely through the defined area to be tracked by~~data before determining whether~~ the time-of-flight radar for~~first object is experiencing~~ the processor to record an extreme edge or corner of this movement such that~~event involving~~ the user notifies~~first object within~~ the device that the user is done geofencing or defining the~~defined~~ area ~~based on the set~~ of interest~~data~~.

6. The method of claim 1, wherein the processor is programmed to allow the user to geofence or define the area of interest based on the user being instructed to walk around the defined area carrying a mobile device running a mobile app instructing the user how the user should walk around the defined area based on the mobile device communicating with the device.

7.~~—~~

~~5. The method of claim 4, wherein the second object is a person or a pet.~~

~~6.~~ The method of claim 1, wherein the processor is programmed to allow the user to geofence or define the area of interest based on the user being instructed to walk inside or outside the area of interest.~~:~~

~~access a set of voxels formed based on the set of data;~~

~~discard, remove, delete, or ignore a first subset of voxels from the set of voxels based on the first subset of voxels not representing the object living in the defined area such that a second subset of voxels from the set of voxels is identified; and~~

~~take the action responsive to the event determined to be occurring within the defined area based on the second subset of voxels.~~

~~7. The method of claim 1, wherein the device includes a set of microphones, wherein the processor is coupled to the set of microphones, and further comprising:~~

~~instructing the user to activate the set of microphones such that the set of microphones receives a set of acoustic inputs generated from the object living within the defined area and sends the set of acoustic inputs to the processor such that the processor isolates the set of acoustic inputs, localizes where the set of acoustic inputs originated from within the defined area based on the set of acoustic inputs being isolated, confirms or validates the set of data based on localizing where the set of acoustic inputs originated from within the defined area, and takes the action responsive to the event determined to be occurring within the defined area based on the set of data being confirmed or validated.~~

8. The method of claim 1, wherein the processor~~device~~ is programmed to allow the user to geofence or define the area of interest based on the user being instructed to carry a reflective object while walking around the defined area.

9. The method of claim 1~~first device~~, wherein the processor is programmed to allow the user to geofence or define the area of interest based on the defined area having a floor and a ceiling and the user being instructed to input a height value for how high the time-of-flight radar is positioned above the floor and below the ceiling.

10. The method of claim 1, wherein the processor is programmed to allow the user to geofence or define the area of interest based on the defined area having a floor and a ceiling and the processor assuming a default height value for how high the time-of-flight radar is positioned above the floor and below the ceiling.

11. The method of claim 1, wherein the processor is programmed to allow the user to geofence or define the area of interest based on the user being instructed to provide or draw a map of the defined area on a computing device and place the time-of-flight radar in the map for the processor of the device to access.

12. The method of claim 1~~first processor~~, wherein the processor is programmed to allow the user to geofence or define the area of interest based on the user moving within the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.~~time-of-flight radar is a first time-of-flight radar, wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, and further comprising:~~

~~providing a second device to the user, wherein the second device includes a second processor and a second time-of-flight radar, wherein the second processor is coupled to the second time-of-flight radar; and~~

~~instructing the user to:~~

~~position the second device within the defined area having the object living therein, and~~

activate the second time-of-flight radar to operate within the defined area without interfering with the first time-of-flight radar operating in the K-band such that the second time-of-flight radar operating within the defined area tracks the object living in the defined area when the first time-of-flight radar operating in the K-band within the defined area is occluded from tracking the object living within the defined area, generates a second set of data based on tracking the object living in the defined area when the first time-of-flight radar operating in the K-band within the defined area is occluded from tracking the object living within the defined area, and sends the second set of data to the second processor when the first time-of-flight radar operating in the K-band within the defined area is occluded from tracking the object living within the defined area such that the second processor determines whether the object is experiencing a second event within the defined area based on the second set of data and takes a second action responsive to the second event determined to be occurring within the defined area.

9. The method of claim 8, wherein the second time-of-flight radar operates in the K-band without interfering with the first time-of-flight radar operating in the K-band.

10. The method of claim 9, wherein the second time-of-flight radar operating in the K-band within the defined area is operating between about 23 GHz and about 25 GHz within the defined area without interfering with the first time-of-flight radar operating in the K-band.

11. The method of claim 8, wherein the second device includes a housing hosting the second processor and the second time-of-flight radar.

12. The method of claim 8, wherein the first event and the second event is a same event.

13. The method of claim 1, wherein the processor is programmed to allow the user to geofence or define the area of interest based on the user moving outside8, wherein the first action and the second action is a same action.

14. The method of claim 8, further comprising:

instructing the user to position the first device and the second device opposite each other within the defined area.

15. The method of claim 1, wherein the device includes a communication unit, wherein the processor is coupled to the communication unit, wherein the device is a first device, wherein the action includes instructing the communication unit to send a message to a second device remote from the defined area, wherein the message contains a content relating to the object or the event.

16. The method of claim 1, further comprising:

instructing the user to define the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

1417. The method of claim 1, wherein the processor is programmed to allow16, further comprising:

instructing the user to geofence or define the defined area of interest based on the user moving within the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

18. The method of claim 16, further comprising:

instructing the user to define the defined area based on the user moving outside the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

19. The method of claim 16, further comprising:

instructing the user to define the defined area while hosting a reflector trackable by the time-of-flight radar before the processor takes the action responsive to the event determined to be occurring within the defined area.

1520. The method of claim 116, wherein the processor is programmed to allowdefined area includes a floor and a ceiling spaced apart from each other by a height, and further comprising:

instructing the user to geofence or define the area of interestdefined area based on the processor accessing a value corresponding to the height before the processor takes the action responsive to the event determined to be occurring within the defined area.

21. The method of claim 16, further comprising:

instructing the user to define the defined area based on the processor accessing a map of the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

1622. The method of claim 1, wherein the processor is programmed to allow the user to geofence or define the area of interest based on21, further comprising:

instructing the user may be instructed to create athe map of the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

1723. The method of claim 1, wherein the device includes a camera, wherein the processor ignoresis coupled to the camera, and further comprising:

instructing the user to activate the camera such that the camera receives an imagery generated from the object living within the defined area and sends the imagery to the processor such that the processor confirms or validates the set of data for outside the area of interestand takes the action responsive to the event determined to be occurring within the defined area based on a per beam position basis where the set of data being confirmed or validated.

24. The method of claim 23, wherein the camera includes a dual-band filter configured to allow the camera to observe in a visible-spectrum (RGB) and in a near-infrared light.

25. The method of claim 1, wherein the processor forms a three-dimensional map of the defined area based on the set of data such that the three-dimensional map has a zeroed region based on the time-of-flight radar scans itsoperating in the K-band and scanning from within the defined area outside of the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

26. The method of claim 25, wherein the defined area contains a first volume and a second volume, wherein the processor is programmed to access a threshold associated with the first volume and request the time-of-flight radar operating in the K-band to adjust based on the zeroed region satisfying the threshold such that the time-of-flight radar operating in the K-band does not track the first volume to expedite tracking the second volume before the processor takes the action responsive to the event determined to be occurring within the defined area.

27. The method of claim 1, wherein the processor accesses a scan map of the defined area formed based on the set of data and having a set of voxels, accesses a no-scan map of the defined area for the time-of-flight radar, compares the scan map against the no-scan map, identifies a subset of voxels from the set of voxels, and zeroes the subset of voxels before the processor takes the action responsive to the event determined to be occurring within the defined area.

28. The method of claim 1, wherein the set of data is a first set of data, wherein the action is a first action, wherein the time-of-flight radar operating in the K-band within the defined area tracks the object outside of the defined area, generates a second set of data based on tracking the object outside of the defined area, and sends the second set of data to the processor such that the processor determines whether the object is outside of the defined area and takes a second action responsive to the object being determined to be outside of the defined area.

29. The method of claim 28, wherein the action is discarding, removing, deleting, or ignoring the second set of data.

30. The method of claim 1, wherein the action is a first action, wherein the processor accesses a movement threshold before the processor takes the action responsive to the event determined to be occurring within the defined area, accesses a geofence created by the user before the processor takes the action responsive to the event determined to be occurring within the defined area, and takes a second action involving the geofence based the movement threshold being satisfied before the processor takes the first action responsive to the event determined to be occurring within the defined area.

31. The method of claim 30, wherein the second action includes modifying the geofence.

32. The method of claim 31, wherein modifying the geofence includes resetting the geofence to a default state.

33. The method of claim 30, wherein the second action includes initiating a user guide to re-geofence.

34. The method of claim 30, wherein the second action includes determining how the time-of-flight radar has moved within the defined area before the processor takes the first action responsive to the event determined to be occurring within the defined area and modifying the geofence based on how the time-of-flight radar has moved within the defined area before the processor takes the first action responsive to the event determined to be occurring within the defined area.

35. The method of claim 1, wherein the processor accesses a geofence before the processor takes the action responsive to the event determined to be occurring within the defined area and modifies the geofence before the processor takes the action responsive to the event determined to be occurring within the defined area and responsive to the processor accessing a user input indicating the geofence be modified.

36. The method of claim 1, wherein the event is related to an activity of daily living of the object within the defined area.

37. The method of claim 1, wherein the event is related to a fall of the object within the defined area.

38. The method of claim 1, wherein the event is related to the object remaining still for a preset period of time within the defined area.

39. The method of claim 1, wherein the event is related to the object being absent from the defined area for a preset period of time.

40. The method of claim 1, wherein the event is related to the object not being tracked within the defined area for a preset period of time while the object is within the defined area.

41. The method of claim 1, further comprising:

instructing the user to assign an identifier to a subarea within the defined area such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the subarea.

42. The method of claim 41, further comprising:

instructing the user to assign the identifier to the subarea via operating a computing unit in communication with the device such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the subarea.

43. The method of claim 41, wherein the device includes a microphone, wherein the processor is coupled to the microphone, and further comprising:

instructing the user to assign the identifier to the subarea via outputting a sound corresponding to the identifier such that the microphone captures the sound as an acoustic input and sends the acoustic input to the processor such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the subarea.

44. The method of claim 1, wherein the processor identifies a subarea within the defined area based on the set of data, infers an area type for the subarea, classifies the subarea based on the area type, and assigns an identifier to the subarea based on the area type such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the area type and takes the action responsive to the event determined to be occurring within the subarea based on the identifier.

45. The method of claim 1, further comprising:

instructing the user to assign an identifier to the defined area such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the defined area.

46. The method of claim 45, further comprising:

instructing the user to assign the identifier to the defined area via operating a computing unit in communication with the device such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the defined area.

47. The method of claim 45, wherein the device includes a microphone, wherein the processor is coupled to the microphone, and further comprising:

instructing the user to assign the identifier to the defined area via outputting a sound corresponding to the identifier such that the microphone captures the sound as an

acoustic input and sends the acoustic input to the processor such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the defined area.

48. The method of claim 1, wherein the defined area has a corner, and further comprising:

instructing the user to position the device within the corner or within a preset distance from the corner within the defined area having the object living therein.

49. The method of claim 1, wherein the processor is programmed to generate a recommendation on where to position or re-position the device or the time-of-flight radar based on the data.

50. The method of claim 49, wherein the recommendation optimizes for a minimum average spacing between the object and the time-of-flight radar within the defined area.

51. The method of claim 49, wherein the recommendation optimizes for a minimum number of occlusions or obstacles between the object and the time-of-flight radar within the defined area.

52. The method of claim 1, wherein the device is a first device, wherein the processor is a first processor, wherein the time-of-flight radar is a first time-of-flight radar, wherein the first time-of-flight radar has a first field of view in a lawnmower pattern., wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, and further comprising:

18 providing a second device to the user, wherein the second device includes a second processor and a second time-of-flight radar, wherein the second processor is coupled to the second time-of-flight radar, wherein the second time-of-flight radar has a second field of view; and

instructing the user to:

position the second device within the defined area having the object living therein such that the first field of view does not overlap with the second field of view, and

activate the second time-of-flight radar to operate within the defined area without interfering with the first time-of-flight radar operating in the K-band such that the second time-of-flight radar operating within the defined area tracks the object living in the defined area within the second field of view, generates a second set of data based on tracking the object living in the defined area within the second field of view, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing a second event in the defined area within the second field of view based on the second set of data and takes a second action responsive to the second event determined to be occurring in the defined area within the second field of view.

53. The method of claim 1, wherein the event is a medical event.

54. The method of claim 53, wherein the medical event is a diagnosis estimate or a diagnosis forecast.

55. The method of claim 1, wherein the device is a television unit.

56. The method of claim 1, wherein the device is a soundbar.

57. The method of claim 1, wherein the device is a speaker.

58. The method of claim 1, wherein the device is a bookend.

59. The method of claim 1, wherein the device is a flowerpot.

60. The method of claim 1, wherein the device is a planter pot.

61. The method of claim 1, wherein the device is a vase.

62. The method of claim 1, wherein the device is a furniture item.

63. The method of claim 1, wherein the device is a house appliance.

64. The method of claim 1, wherein the time-of-flight radar operating in the K-band has a field of view of about 120 degrees horizontal and about 90 degrees vertical.

65. The method of claim 1, wherein the time-of-flight radar includes a set of phased arrays each comprising a set of patch antennas enabling the time-of-flight radar operating in the K-band to track the object living within the defined area.

66. The method of claim 1, wherein the device is a first device, wherein the processor is a first processor, wherein the time-of-flight radar has a first field of view, wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, and further comprising:

providing a second device to the user, wherein the second device includes a second processor and a sensor, wherein the second processor is coupled to the sensor, wherein the sensor has a second field of view; and

instructing the user to:

position the second device within the defined area having the object living therein, and

activate the sensor to operate within the defined area without interfering with the time-of-flight radar operating in the K-band such that the sensor operating within the defined area senses the object living in the defined area within the second field of view, generates a second set of data based on sensing the object living in the defined area within the second field of view, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing a second event in the defined area within the second field of view based on the second set of data and takes a second action responsive to the second event determined to be occurring in the defined area within the second field of view.

67. The method of claim 66, further comprising:

instructing the user to position the second device within the defined area having the object living therein such that the first field of view does not overlap with the second field of view.

68. The method of claim 66, wherein the second device includes a housing hosting the second processor and the sensor.

69. The method of claim 1, wherein the device is a first device, wherein the processor is a first processor, wherein the time-of-flight radar has a first field of view, wherein the set of data is a first set of data, and further comprising:

providing a second device to the user, wherein the second device includes a second processor and a sensor, wherein the second processor is coupled to the sensor, wherein the sensor has a second field of view; and

instructing the user to:

position the second device within the defined area having the object living therein, and

activate the sensor to operate within the defined area without interfering with the time-of-flight radar operating in the K-band such that the sensor operating within the defined area senses the object living in the defined area within the second field of view, generates a second set of data based on sensing the object living in the defined area within the second field of view, and sends the second set of data to the second processor such that the second processor communicates with the first processor thereby enabling the first processor to confirm or validate the first set of data based on the second set of data and determine whether the object is experiencing the event in the defined area based on the second set of data confirming or validating the first set of data and take the action responsive to the event determined to be occurring in the defined area.

70. The method of claim 69, further comprising:

instructing the user to position the second device within the defined area having the object living therein such that the first field of view does not overlap with the second field of view.

71. The method of claim 69, wherein the second device includes a housing hosting the second processor and the sensor.

72. The method of claim 69, wherein the second processor is configured to directly communicate with the first processor.

73. The method of claim 69, wherein the second processor is configured to indirectly communicate with the first processor.

74. The method of claim 1, wherein the device is a fixture.

75. The method of claim 1, wherein the processor is programmed to access a set of attributes for the object before taking the action responsive to the event determined to be occurring within the defined area and create a profile for the object based on the set of attributes such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the profile.

76. The method of claim 75, wherein the profile is a baseline based on which the processor determines whether the object is experiencing the event within the defined area based on the set of data.

77. The method of claim 1, wherein the device includes a microphone, wherein the processor is coupled to the microphone, and further comprising:

instructing the user to cause the object to output a vocal sound such that the microphone captures an acoustic input based on the vocal sound and sends the acoustic input to the processor such that the processor forms a voice profile for the object and

determines whether the object is experiencing the event within the defined area based on the set of data and the voice profile.

78. The method of claim 1, wherein the device includes a clicker in communication with the processor or a mobile application in communication with the processor, and further comprising:

instructing the user to define the defined area based on (a) moving the clicker within the defined area and activating the clicker within the defined area or (b) interacting with the mobile application positioned within the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

79. The method of claim 1, wherein the device includes a clicker in communication with the processor or a mobile application in communication with the processor, and further comprising:

instructing the user to define the defined area based on (a) moving the clicker outside of the defined area and activating the clicker outside of the defined area or (b) interacting with the mobile application positioned outside of the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

80. The method of claim 1, wherein the device includes a beacon with a transmitter configured to transmit a signal, wherein the device includes a receiver configured to receive the signal, wherein the processor is coupled to the receiver, and further comprising:

instructing the user to position the beacon such that the time-of-flight radar and the beacon are spaced apart from each other, the transmitter can send the signal, and the receiver can receive the signal and send the signal to the processor such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the signal, and takes the action responsive to the event determined to be occurring within the defined area.

81. The method of claim 1, wherein the time-of-flight radar includes a transmitter and a receiver, wherein the processor is coupled to the transmitter and the receiver, wherein the device includes a first housing and a second housing, wherein the first housing hosts the transmitter, wherein the second housing hosts the receiver, wherein the first housing and the second housing are spaced apart from each other.

82. The method of claim 81, further comprising:

instructing the user to position the first housing and the second housing spaced apart from each other before the processor takes the action responsive to the event determined to be occurring within the defined area based on a field strength of the transmitter within the defined area, a received floorplan of the defined area, a guideline generic or specific to the defined area, a wizard generic or specific to the defined area, a computed floorplan generic or specific to the defined area, a map generic or specific to the defined area, or an observed location of the object within the defined area.

83. The method of claim 82, wherein the first housing and the second housing oppose each other.

84. The method of claim 1, wherein the processor is a first processor, wherein the time-of-flight radar is a first time-of-flight radar, wherein the first time-of-flight radar includes a first transmitter and a first receiver, wherein the device includes a first housing, a second housing, a second processor, and a second time-of-flight radar, wherein the second processor is coupled to the second time-of-flight radar, wherein the first time-of-flight radar does not interfere with the second time-of-flight radar, wherein the second time-of-flight radar includes a second transmitter and a second receiver, wherein the first housing hosts the first processor and the first time-of-flight radar, wherein the second housing hosts the second processor and the second time-of-flight radar, wherein the first housing and the second housing are spaced apart from each other, wherein the first transmitter is configured to transmit a first signal receivable by the first receiver and the second receiver, wherein the second transmitter is configured to transmit a second signal receivable by the first receiver and the second receiver.

85. The method of claim 84, further comprising:

instructing the user to position the first housing and the second housing spaced apart from each other based on a field strength of the first transmitter or the second transmitter within the defined area, a received floorplan of the defined area, a guideline generic or specific to the defined area, a wizard generic or specific to the defined area, a computed floorplan generic or specific to the defined area, a map generic or specific to the defined area, or an observed location of the object within the defined area.

86. The method of claim 84, wherein the first housing and the second housing oppose each other.

87. The method of claim 84, wherein the first processor and the second processor are in communication with each other.

88. The method of claim 84, wherein the first time-of-flight radar has a first field of view, wherein the second time-of-flight radar has a second field of view, wherein the first field of view overlaps with the second field of view.

89. The method of claim 84, wherein the first time-of-flight radar has a first field of view, wherein the second time-of-flight radar has a second field of view, wherein the first field of view does not overlap with the second field of view.

90. The method of claim 1, wherein the processor is a hardware accelerator.

91. The method of claim 90, wherein the hardware accelerator is a neural network accelerator or a machine learning accelerator.

92. The method of claim 1, wherein the time-of-flight radar is configured to operate in a Ku-band or a Ka-band, and further comprising:

instructing the user to activate the time-of-flight radar such that the time-of-flight radar operating in the Ku-band or the Ka-band within the defined area tracks the object living in the defined area, generates the set of data based on tracking in the Ku-band or the Ka-band the object living in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and takes the action responsive to the event determined to be occurring within the defined area.

93. The method of claim 92, further comprising:

instructing the user to activate the time-of-flight radar such that the time-of-flight radar operating in the Ku-band and the Ka-band within the defined area tracks the object living in the defined area, generates the set of data based on tracking in the Ku-band and the Ka-band the object living in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing an event within the defined area based on the set of data and takes the action responsive to the event determined to be occurring within the defined area.

94. The method of claim 92, wherein the processor switches the time-of-flight radar between the K-band and the Ku-band or the Ka-band based on a parameter satisfying or not satisfying a threshold.

95. The method of claim 94, wherein the processor switches the time-of-flight radar between the K-band, the Ku-band, and the Ka-band based on the parameter satisfying or not satisfying the threshold.

96. The method of claim 92, wherein the device includes a housing hosting the processor and the time-of-flight radar.

97. The method of claim 92, wherein the time-of-flight radar is configured to operate in the K-band and the Ku-band or the Ka-band in parallel without interfering with each other.

98. The method of claim 1, wherein the processor is a first processor, wherein the time-of-flight radar is a first time-of-flight radar, wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, wherein the device includes a first housing, a second housing, a second processor, and a second time-of-flight radar, wherein the second processor is coupled to the second time-of-flight radar, wherein the second time-of-flight radar is configured to operate in a Ku-band or a Ka-band, wherein the first housing hosts the first processor and the first time-of-flight radar, wherein the second housing hosts the second processor and the second time-of-flight radar, and further comprising:

instructing the user to:

position the first housing and the second housing spaced apart from each other within the defined area having the object living therein; and

activate the second time-of-flight radar to operate in the Ku-band or the Ka-band within the defined area such that the second time-of-flight radar operating in the Ku-band or the Ka-band within the defined area tracks the object living in the defined area, generates a second set of data based on tracking the object living in the defined area, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing a second event within the defined area based on the second set of data and takes a second action responsive to the second event determined to be occurring within the defined area.

99. The method of claim 98, wherein the first event and the second event is a same event.

100. The method of claim 98, wherein the first event and the second event is not a same event.

101. The method of claim 98, wherein the first action and the second action is a same action.

102. The method of claim 98, wherein the first action and the second action is not a same action.

103. The method of claim 98, wherein the second processor switches the second time-of-flight radar to operate between the Ku-band or the Ka-band based on a parameter satisfying or not satisfying a threshold.

104. The method of claim 98, further comprising:

instructing the user to activate the second time-of-flight radar to operate in the Ku-band and the Ka-band within the defined area such that the second time-of-flight radar operating in the Ku-band and the Ka-band within the defined area tracks the object living in the defined area, generates the second set of data based on tracking the object living in the defined area, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing the second event within the defined area based on the second set of data and takes the second action responsive to the second event determined to be occurring within the defined area.

105. The method of claim 104, wherein the second time-of-flight radar is configured to operate in the Ku-band and the Ka-band in parallel without interfering with each other and the first time-of-flight radar operating in the K-band.

106. The method of claim 1, wherein the object is a first object, wherein the defined area contains a second object, wherein the event is custom to the first object based on distinguishing the first object from the second object based on the set of data.

107. The method of claim 1, wherein the time-of-flight radar is actively cooled.

108. The method of claim 1, wherein the time-of-flight radar is passively cooled.

109. The method of claim 1, wherein the user is the object.

110. The method of claim 1, wherein the user is not the object.

~~111. The method of claim 1, wherein~~ (a) wherein the processor forms a three-dimensional skeletal model simulating the object based on the set of data, determines whether the object is experiencing the event within the defined area based on the three-dimensional skeletal model satisfying or not satisfying a threshold, and takes the action responsive to the event determined to be occurring within the defined area based on the three-dimensional skeletal model satisfying or not satisfying the threshold, or (b) wherein the processor forms a three-dimensional area model simulating the defined area based on the set of data and a three-dimensional skeletal model simulating the object within the three-dimensional area model based on the set of data, determines whether the object is experiencing the event within the defined area based on the three-dimensional skeletal model within the three-dimensional area model satisfying or not satisfying a threshold, and takes the action responsive to the event determined to be occurring within the defined area based on the three-dimensional skeletal model within the three-dimensional area model satisfying or not satisfying the threshold.

19~~112~~. The method of claim 18~~111~~, wherein the processor determines whether the object is experiencing the event within the defined area based on the three-dimensional skeletal model satisfying or not satisfying the threshold based on a set of virtual movements of the three-dimensional skeletal model, identifying a set of atomic movements of the three-dimensional skeletal model corresponding to the set of virtual movements, and correlating the set of atomic movements to the event.

20. The~~113. A~~ method ~~comprising:~~

~~receiving, by a processor, a set~~ of claim 1~~data from a time-of-flight radar operating in a K-band within a defined area having an object living therein~~, wherein the processor is programmed to reset~~time-of-flight radar generating~~ the area~~set~~ of interest~~data~~ based on the time-of-flight radar being moved after being positioned~~operating in the K-band~~ within the defined area having~~and tracking~~ the object positioned therein.~~living in the defined area;~~

21determining, by the processor, whether the object is experiencing an event within the defined area based on the set of data; and

taking, by the processor, an action responsive to the event determined to be occurring within the defined area.

114. The method of claim 1113, wherein the defined area includes a stud frame having a drywall/siding configuration or a drywall/drywall configuration.processor and the time-of-flight radar are hosted by a housing.

22115. The method of claim 1113, wherein the processortime-of-flight radar operating in the K-band within the defined area is programmed to adjust the area of interest due to a change in environment.

operating inclusively between about 23 GHz and about 25 GHz within the defined area.

116. The method of claim 1, wherein the user is the object.

24. The method of claim 1, wherein the user is not the object.

25. The method of claim 24, wherein the object is a pet.

26. The method of claim 1, wherein the object is a first object113, wherein the processor is programmed to track a secondanother object positioned within the defined area based on the set of data and distinguish the first object positionedliving in the defined area from the secondanother object positioned within the defined area based on the set of data before determining whether the first object is experiencing the event involving the first object within the defined area based on the set of data.

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117. The method of claim 26116, wherein the secondanother object is a person or a pet.

28118. The method of claim 113, wherein the processor is programmed to:

access a set of voxels formed based on the set of data;

discard, remove, delete, or ignore a first subset of voxels from the set of voxels based on the first subset of voxels not representing the object living in the defined area such that a second subset of voxels from the set of voxels is identified; and

take the action responsive to the event determined to be occurring within the defined area based on the second subset of voxels.

119. The method of claim 113, wherein the processor is coupled to a set of microphones and programmed to activate the set of microphones such that the set of microphones receives a set of acoustic inputs generated from the object living within the defined area and sends the set of acoustic inputs to the processor such that the processor isolates the set of acoustic inputs, localizes where the set of acoustic inputs originated from within the defined area based on the set of acoustic inputs being isolated, confirms or validates the set of data based on localizing where the set of acoustic inputs originated from within the defined area, and takes the action responsive to the event determined to be occurring within the defined area based on the set of data being confirmed or validated.

120. The method of claim 113, wherein the processor is a first processor, wherein the time-of-flight radar is a first time-of-flight radar, wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, and further comprising:

communicating, by the first processor, with the first time-of-flight radar while a second processor and a second time-of-flight radar are positioned within the defined area having the object living therein, wherein the second processor is coupled to the second time-of-flight radar, wherein the second time-of-flight radar operates within the defined area without interfering with the first time-of-flight radar operating in the K-band such that the second time-of-flight radar operating within the defined area tracks the object living in the defined area when the first time-of-flight radar operating in the K-band within the defined area is occluded from tracking the object living within the defined area, generates a second set of data based on tracking the object living in the defined area when the first

time-of-flight radar operating in the K-band within the defined area is occluded from tracking the object living within the defined area, and sends the second set of data to the second processor when the first time-of-flight radar operating in the K-band within the defined area is occluded from tracking the object living within the defined area such that the second processor determines whether the object is experiencing a second event within the defined area based on the second set of data and takes a second action responsive to the second event determined to be occurring within the defined area.

121. The method of claim 120, wherein the second time-of-flight radar operates in the K-band without interfering with the first time-of-flight radar operating in the K-band.

122. The method of claim 121, wherein the second time-of-flight radar operating in the K-band within the defined area is operating between about 23 GHz and about 25 GHz within the defined area without interfering with the first time-of-flight radar operating in the K-band.

123. The method of claim 120, wherein the second processor and the second time-of-flight radar are hosted by a housing.

124. The method of claim 120, wherein the first event and the second event is a same event.

125. The method of claim 120, wherein the first action and the second action is a same action.

126. The method of claim 120, wherein the first time-of-flight radar and the second time-of-flight radar are positioned opposite each other within the defined area.

127. The method of claim 113, wherein the processor is coupled to a communication unit, wherein the processor is programmed to instruct the communication unit to send a

message to a device remote from the defined area, wherein the message contains a content relating to the object or the event.

128. The method of claim 113, wherein the processor is programmed to receive a user input from a user input device, wherein the user input defining the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

129. The method of claim 128, wherein the user input is based on the user input device moving within the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

130. The method of claim 128, wherein the user input is based on the user input device moving outside the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

131. The method of claim 128, wherein the user input device is a reflector trackable by the time-of-flight radar before the processor takes the action responsive to the event determined to be occurring within the defined area.

132. The method of claim 128, wherein the defined area includes a floor and a ceiling spaced apart from each other by a height, wherein the user input enables the processor to access a value corresponding to the height before the processor takes the action responsive to the event determined to be occurring within the defined area.

133. The method of claim 128, wherein the user input enables the processor to access a map of the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

134. The method of claim 133, wherein the user input enables the processor to create the map of the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

135. The method of claim 113, wherein the processor is coupled to a camera and programmed to activate the camera such that the camera receives an imagery generated from the object living within the defined area and sends the imagery to the processor such that the processor confirms or validates the set of data and takes the action responsive to the event determined to be occurring within the defined area based on the set of data being confirmed or validated.

136. The method of claim 135, wherein the camera includes a dual-band filter configured to allow the camera to observe in a visible-spectrum (RGB) and in a near-infrared light.

137. The method of claim 113, wherein the processor forms a three-dimensional map of the defined area based on the set of data such that the three-dimensional map has a zeroed region based on the time-of-flight radar operating in the K-band and scanning from within the defined area outside of the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

138. The method of claim 137, wherein the defined area contains a first volume and a second volume, wherein the processor is programmed to access a threshold associated with the first volume and request the time-of-flight radar operating in the K-band to adjust based on the zeroed region satisfying the threshold such that the time-of-flight radar operating in the K-band does not track the first volume to expedite tracking the second volume before the processor takes the action responsive to the event determined to be occurring within the defined area.

139. The method of claim 113, wherein the processor accesses a scan map of the defined area formed based on the set of data and having a set of voxels, accesses a no-scan map of the defined area for the time-of-flight radar, compares the scan map against the

no-scan map, identifies a subset of voxels from the set of voxels, and zeroes the subset of voxels before the processor takes the action responsive to the event determined to be occurring within the defined area.

140. The method of claim 113, wherein the set of data is a first set of data, wherein the action is a first action, wherein the time-of-flight radar operating in the K-band within the defined area tracks the object outside of the defined area, generates a second set of data based on tracking the object outside of the defined area, and sends the second set of data to the processor such that the processor determines whether the object is outside of the defined area and takes a second action responsive to the object being determined to be outside of the defined area.

141. The method of claim 140, wherein the action is discarding, removing, deleting, or ignoring the second set of data.

142. The method of claim 113, wherein the action is a first action, wherein the processor accesses a movement threshold before the processor takes the action responsive to the event determined to be occurring within the defined area, accesses a geofence created before the processor takes the action responsive to the event determined to be occurring within the defined area, and takes a second action involving the geofence based the movement threshold being satisfied before the processor takes the first action responsive to the event determined to be occurring within the defined area.

143. The method of claim 142, wherein the second action includes modifying the geofence.

144. The method of claim 142, wherein modifying the geofence includes resetting the geofence to a default state.

145. The method of claim 142, wherein the second action includes initiating a user guide to re-geofence.

146. The method of claim 142, wherein the second action includes determining how the time-of-flight radar has moved within the defined area before the processor takes the first action responsive to the event determined to be occurring within the defined area and modifying the geofence based on how the time-of-flight radar has moved within the defined area before the processor takes the first action responsive to the event determined to be occurring within the defined area.

147. The method of claim 113, wherein the processor accesses a geofence before the processor takes the action responsive to the event determined to be occurring within the defined area and modifies the geofence before the processor takes the action responsive to the event determined to be occurring within the defined area and responsive to the processor accessing a user input indicating the geofence be modified.

148. The method of claim 113, wherein the event is related to an activity of daily living of the object within the defined area.

149. The method of claim 113, wherein the event is related to a fall of the object within the defined area.

150. The method of claim 113, wherein the event is related to the object remaining still for a preset period of time within the defined area.

151. The method of claim 113, wherein the event is related to the object being absent from the defined area for a preset period of time.

152. The method of claim 113, wherein the event is related to the object not being tracked within the defined area for a preset period of time while the object is within the defined area.

153. The method of claim 113, wherein the processor is programmed to assign an identifier to a subarea within the defined area such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the subarea.

154. The method of claim 153, wherein the processor is programmed to assign the identifier to the subarea via communicating with a computing unit such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the subarea.

155. The method of claim 153, wherein the processor is coupled to a microphone and programmed to assign the identifier to the subarea via outputting a sound corresponding to the identifier such that the microphone captures the sound as an acoustic input and sends the acoustic input to the processor such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the subarea.

156. The method of claim 113, wherein the processor identifies a subarea within the defined area based on the set of data, infers an area type for the subarea, classifies the subarea based on the area type, and assigns an identifier to the subarea based on the area type such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the area type and takes the action responsive to the event determined to be occurring within the subarea based on the identifier.

157. The method of claim 113, wherein the processor is programmed to assign an identifier to the defined area such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the identifier

and takes the action responsive to the event determined to be occurring within the defined area.

158. The method of claim 157, wherein the processor is programmed to assign the identifier to the defined area via communicating with a computing unit such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the defined area.

159. The method of claim 157, wherein the processor is coupled to a microphone and programmed to assign the identifier to the defined area via outputting a sound corresponding to the identifier such that the microphone captures the sound as an acoustic input and sends the acoustic input to the processor such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the defined area.

160. The method of claim 113, wherein the defined area has a corner, wherein the time-of-flight radar is positioned at the corner or within a preset distance from the corner within the defined area having the object living therein.

161. The method of claim 113, wherein the processor is programmed to generate a recommendation on where to position or re-position the time-of-flight radar based on the data.

162. The method of claim 161, wherein the recommendation optimizes for a minimum average spacing between the object and the time-of-flight radar within the defined area.

163. The method of claim 161, wherein the recommendation optimizes for a minimum number of occlusions or obstacles between the object and the time-of-flight radar within the defined area.

164. The method of claim 113, wherein the processor is a first processor, wherein the time-of-flight radar is a first time-of-flight radar, wherein the first time-of-flight radar has a first field of view, wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, and further comprising:

communicating, by the first processor, with the first time-of-flight radar while a second processor and a second time-of-flight radar are positioned within the defined area having the object living therein, wherein the second processor is coupled to the second time-of-flight radar, wherein the second time-of-flight radar has a second field of view, wherein the first field of view does not overlap with the second field of view, wherein the second time-of-flight radar operates within the defined area without interfering with the first time-of-flight radar operating in the K-band such that the second time-of-flight radar operating within the defined area tracks the object living in the defined area within the second field of view, generates a second set of data based on tracking the object living in the defined area within the second field of view, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing a second event in the defined area within the second field of view based on the second set of data and takes a second action responsive to the second event determined to be occurring in the defined area within the second field of view.

165. The method of claim 113, wherein the event is a medical event.

166. The method of claim 165, wherein the medical event is a diagnosis estimate or a diagnosis forecast.

167. The method of claim 113, wherein the processor is hosted by a television unit.

168. The method of claim 113, wherein the processor is hosted by a soundbar.

169. The method of claim 113, wherein the processor is hosted by a speaker.

170. The method of claim 113, wherein the processor is hosted by a bookend.

171. The method of claim 113, wherein the processor is hosted by a flowerpot.

172. The method of claim 113, wherein the processor is hosted by a planter pot.

173. The method of claim 113, wherein (a) wherein the processor forms a three-dimensional skeletal model simulating the object based on the set of data, determines whether the object is experiencing the event within the defined area based on the three-dimensional skeletal model satisfying or not satisfying a threshold, and takes the action responsive to the event determined to be occurring within the defined area based on the three-dimensional skeletal model satisfying or not satisfying the threshold, or (b) wherein the processor forms a three-dimensional area model simulating the defined area based on the set of data and a three-dimensional skeletal model simulating the object within the three-dimensional area model based on the set of data, determines whether the object is experiencing the event within the defined area based on the three-dimensional skeletal model within the three-dimensional area model satisfying or not satisfying a threshold, and takes the action responsive to the event determined to be occurring within the defined area based on the three-dimensional skeletal model within the three-dimensional area model satisfying or not satisfying the threshold.

174. The method of claim 173, wherein the processor determines whether the object is experiencing the event within the defined area based on the three-dimensional skeletal model satisfying or not satisfying the threshold based on a set of virtual movements of the three-dimensional skeletal model, identifying a set of atomic movements of the three-dimensional skeletal model corresponding to the set of virtual movements, and correlating the set of atomic movements to the event.

175. The method of claim 113, wherein the processor is hosted by a furniture item.

176. The method of claim 113, wherein the processor is hosted by a house appliance.

177. The method of claim 113, wherein the time-of-flight radar operating in the K-band has a field of view of about 120 degrees horizontal and about 90 degrees vertical.

178. The method of claim 113, wherein the time-of-flight radar includes a set of phased arrays each comprising a set of patch antennas enabling the time-of-flight radar operating in the K-band to track the object living within the defined area.

179. The method of claim 1, wherein the processor is a first processor, wherein the time-of-flight radar has a first field of view, wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, and further comprising:

communicating, by the first processor, with the time-of-flight radar while a second processor and a sensor are positioned within the defined area having the object living therein, wherein the second processor is coupled to the sensor, wherein the sensor has a second field of view, wherein the sensor operating within the defined area without interfering with the time-of-flight radar operating in the K-band such that the sensor operating within the defined area senses the object living in the defined area within the second field of view, generates a second set of data based on sensing the object living in the defined area within the second field of view, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing a second event in the defined area within the second field of view based on the second set of data and takes a second action responsive to the second event determined to be occurring in the defined area within the second field of view.

180. The method of claim 179, wherein the first field of view does not overlap with the second field of view.

181. The method of claim 179, wherein the second processor and the sensor are hosted by a housing.

182. The method of claim 113, wherein the processor is a first processor, wherein the time-of-flight radar has a first field of view, wherein the set of data is a first set of data, and further comprising:

communicating, by the first processor, with the time-of-flight radar while a second processor and a sensor are positioned within the defined area having the object living therein, wherein the second processor is coupled to the sensor, wherein the sensor has a second field of view, wherein the sensor operating within the defined area without interfering with the time-of-flight radar operating in the K-band such that the sensor operating within the defined area senses the object living in the defined area within the second field of view, generates a second set of data based on sensing the object living in the defined area within the second field of view, and sends the second set of data to the second processor such that the second processor communicates with the first processor thereby enabling the first processor to confirm or validate the first set of data based on the second set of data and determine whether the object is experiencing the event in the defined area based on the second set of data confirming or validating the first set of data and take the action responsive to the event determined to be occurring in the defined area.

183. The method of claim 182, wherein the first field of view does not overlap with the second field of view.

184. The method of claim 182, wherein the second processor and the sensor are hosted by a housing.

185. The method of claim 182, wherein the second processor is configured to directly communicate with the first processor.

186. The method of claim 182, wherein the second processor is configured to indirectly communicate with the first processor.

187. The method of claim 113, wherein the processor and the time-of-flight radar are included in a fixture.

188. The method of claim 113, wherein the processor is programmed to access a set of attributes for the object before taking the action responsive to the event determined to be occurring within the defined area and create an profile for the object based on the set of attributes such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the profile.

189. The method of claim 188, wherein the profile is a baseline based on which the processor determines whether the object is experiencing the event within the defined area based on the set of data.

190. The method of claim 113, wherein the processor is coupled to a microphone and programmed to cause the object to output a vocal sound such that the microphone captures an acoustic input based on the vocal sound and sends the acoustic input to the processor such that the processor forms a voice profile for the object and determines whether the object is experiencing the event within the defined area based on the set of data and the voice profile.

191. The method of claim 113, wherein the processor is in communication with a clicker or a mobile application, wherein the processor is programmed to define the defined area based on (a) the clicker being moved within the defined area and activated within the defined area or (b) interacting with the mobile application positioned within the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

192. The method of claim 113, wherein the processor is in communication with a clicker or a mobile application, wherein the processor is programmed to define the defined area based on (a) the clicker moving outside of the defined area and activated outside of the defined area or (b) interacting with the mobile application positioned outside of the defined

area before the processor takes the action responsive to the event determined to be occurring within the defined area.

193. The method of claim 113, wherein the processor is communication with a receiver configured to receive a signal from a transmitter of a beacon spaced apart from the time-of-flight radar, wherein the processor is programmed such that the receiver sends the signal to the processor and the processor determines whether the object is experiencing the event within the defined area based on the set of data and the signal, and takes the action responsive to the event determined to be occurring within the defined area.

194. The method of claim 113, wherein the time-of-flight radar includes a transmitter and a receiver, wherein the processor is coupled to the transmitter and the receiver, wherein the transmitter is hosted by a first housing, wherein the receiver is hosted by a second housing, wherein the first housing and the second housing are spaced apart from each other.

195. The method of claim 194, wherein the first housing and the second housing are spaced apart from each other before the processor takes the action responsive to the event determined to be occurring within the defined area based on a field strength of the transmitter within the defined area, a received floorplan of the defined area, a guideline generic or specific to the defined area, a wizard generic or specific to the defined area, a computed floorplan generic or specific to the defined area, a map generic or specific to the defined area, or an observed location of the object within the defined area.

196. The method of claim 195, wherein the first housing and the second housing oppose each other.

197. The method of claim 1, wherein the processor is a first processor, wherein the time-of-flight radar is a first time-of-flight radar, wherein the first time-of-flight radar includes a first transmitter and a first receiver, wherein the first processor and the first time-of-flight radar are hosted by a first housing, and further comprising:

communicating, by the first processor, with the first time-of-flight radar while a second processor and a second time-of-flight radar are positioned within the defined area having the object living therein, wherein the second processor is coupled to the second time-of-flight radar, wherein the first time-of-flight radar does not interfere with the second time-of-flight radar, wherein the second time-of-flight radar includes a second transmitter and a second receiver, wherein the second processor and the second time-of-flight radar are hosted by a second housing, wherein the first housing and the second housing are spaced apart from each other, wherein the first transmitter is configured to transmit a first signal receivable by the first receiver and the second receiver, wherein the second transmitter is configured to transmit a second signal receivable by the first receiver and the second receiver.

198. The method of claim 197, wherein the first housing and the second housing are spaced apart from each other based on a field strength of the first transmitter or the second transmitter within the defined area, a received floorplan of the defined area, a guideline generic or specific to the defined area, a wizard generic or specific to the defined area, a computed floorplan generic or specific to the defined area, a map generic or specific to the defined area, or an observed location of the object within the defined area.

199. The method of claim 197, wherein the first housing and the second housing oppose each other.

200. The method of claim 197, wherein the first processor and the second processor are in communication with each other.

201. The method of claim 197, wherein the first time-of-flight radar has a first field of view, wherein the second time-of-flight radar has a second field of view, wherein the first field of view overlaps with the second field of view.

202. The method of claim 197, wherein the first time-of-flight radar has a first field of view, wherein the second time-of-flight radar has a second field of view, wherein the first field of view does not overlap with the second field of view.

203. The method of claim 113, wherein the processor is a hardware accelerator.

204. The method of claim 203, wherein the hardware accelerator is a neural network accelerator or a machine learning accelerator.

205. The method of claim 113, wherein the time-of-flight radar is configured to operate in a Ku-band or a Ka-band, wherein the time-of-flight radar operating in the Ku-band or the Ka-band within the defined area tracks the object living in the defined area, generates the set of data based on tracking in the Ku-band or the Ka-band the object living in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and takes the action responsive to the event determined to be occurring within the defined area.

206. The method of claim 205, wherein the time-of-flight radar operating in the Ku-band and the Ka-band within the defined area tracks the object living in the defined area, generates the set of data based on tracking in the Ku-band and the Ka-band the object living in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing an event within the defined area based on the set of data and takes the action responsive to the event determined to be occurring within the defined area.

207. The method of claim 205, wherein the processor switches the time-of-flight radar between the K-band and the Ku-band or the Ka-band based on a parameter satisfying or not satisfying a threshold.

208. The method of claim 207, wherein the processor switches the time-of-flight radar between the K-band, the Ku-band, and the Ka-band based on the parameter satisfying or not satisfying the threshold.

209. The method of claim 205, wherein the processor and the time-of-flight radar are hosted by a housing.

210. The method of claim 205, wherein the time-of-flight radar is configured to operate in the K-band and the Ku-band or the Ka-band in parallel without interfering with each other.

211. The method of claim 113, wherein the processor is a first processor, wherein the time-of-flight radar is a first time-of-flight radar, wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, wherein the first processor and the first time-of-flight radar is hosted by a first housing positioned within the defined area having the object living therein, and further comprising:

communicating, by the first processor, with the first time-of-flight radar while a second processor and a second time-of-flight radar are positioned within the defined area having the object living therein, wherein the second processor is coupled to the second time-of-flight radar, wherein the second processor and the second time-of-flight radar are hosted by a second housing positioned within the defined area having the object living therein, wherein the second time-of-flight radar is configured to operate in a Ku-band or a Ka-band, wherein the first housing is spaced apart from the second housing, wherein the second time-of-flight radar operating in the Ku-band or the Ka-band within the defined area tracks the object living in the defined area, generates a second set of data based on tracking the object living in the defined area, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing a second event within the defined area based on the second set of data and takes a second action responsive to the second event determined to be occurring within the defined area.

212. The method of claim 211, wherein the first event and the second event is a same event.

213. The method of claim 211, wherein the first event and the second event is not a same event.

214. The method of claim 211, wherein the first action and the second action is a same action.

215. The method of claim 211, wherein the first action and the second action is not a same action.

216. The method of claim 211, wherein the second processor switches the second time-of-flight radar to operate between the Ku-band or the Ka-band based on a parameter satisfying or not satisfying a threshold.

217. The method of claim 211, wherein the second time-of-flight radar operating in the Ku-band and the Ka-band within the defined area tracks the object living in the defined area, generates the second set of data based on tracking the object living in the defined area, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing the second event within the defined area based on the second set of data and takes the second action responsive to the second event determined to be occurring within the defined area.

218. The method of claim 217, wherein the second time-of-flight radar is configured to operate in the Ku-band and the Ka-band in parallel without interfering with each other and the first time-of-flight radar operating in the K-band.

219. The method of claim 113, wherein the object is a first object, wherein the defined area contains a second object, wherein the event is custom to the first object based on distinguishing the first object from the second object based on the set of data.

220. The method of claim 113, wherein the time-of-flight radar is actively cooled.

221. The method of claim 113, wherein the time-of-flight radar is passively cooled.

222. The method of claim 113, wherein the action is initiating a cellular communication or a Wi-Fi communication relating to the event.

223. The method of claim 113, wherein the processor is hosted by a vase.

224. A system comprising:

a device including a processor and a time-of-flight radar, wherein the processor is coupled to the time-of-flight radar, wherein the time-of-flight radar is configured to operate in a K-band, wherein the device is configured to be positioned within a defined area having an object living therein such that the time-of-flight radar operating in the K-band within the defined area tracks the object living in the defined area, generates a set of data based on tracking the object living in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing an event within the defined area based on the set of data and takes an action responsive to the event determined to be occurring within the defined area.

wherein the processor is programmed to allow a user to geofence or define an area

225. The system of interest,

claim 224, wherein the device is configured to be positioned within a defined area having an object positioned therein such that includes a housing hosting the processor and the time-of-flight radar operating in the K-band within the defined area tracks the object positioned in the defined area, generates a set of data based on tracking the object positioned in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing an event within the defined area based on the set of data, ignores the set of data for outside the area of interest, and takes an action responsive to the event determined to be occurring within the defined area,.

226. The system of claim 224, wherein the processor is programmed to reset the area of interest based on the time-of-flight radar being moved after being positioned within the defined area having the object positioned therein.

29. A method comprising:

geofencing or defining, by a processor, an area of interest within a defined area; receiving, by the processor, a set of data from a radar operating in athe K-band within the defined area having an object positioned therein,

wherein the radar generating the set of data based on the radar is operating in the K-band within the defined areainclusively between about 23 GHz and tracking the object inabout 25 GHz within the defined area;.

ignoring, by the processor, the set of data for outside the area of interest; determining, by the processor, whether an action should be taken based on the set of data; and taking, by the processor, the action based on the set of data

227. The system of claim 224, wherein the object is a first object, wherein the processor is programmed to track a second object positioned within the defined area based on the set of data and distinguish the first object positionedliving in the defined area from the second object positioned within the defined area based on the set of data before determining whether the first object is experiencing the event involving the first object within the defined area based on the set of data.

30. A system comprising:

a device including a processor and a radar, wherein the processor is coupled to the radar, wherein the radar is configured to operate in a K-band,

wherein the processor is programmed to allow a user to geofence or define an area of interest,

wherein the device is configured to be positioned within a defined area having an object positioned therein such that the —

228. The system of claim 227, wherein the second object is a person or a pet.

229. The system of claim 224, wherein the processor is programmed to:

access a set of voxels formed based on the set of data;

discard, remove, delete, or ignore a first subset of voxels from the set of voxels based on the first subset of voxels not representing the object living in the defined area such that a second subset of voxels from the set of voxels is identified; and

take the action responsive to the event determined to be occurring within the defined area based on the second subset of voxels.

230. The system of claim 224, wherein the device includes a set of microphones, wherein the processor is coupled to the set of microphones and activates the set of microphones such that the set of microphones receives a set of acoustic inputs generated from the object living within the defined area and sends the set of acoustic inputs to the processor such that the processor isolates the set of acoustic inputs, localizes where the set of acoustic inputs originated from within the defined area based on the set of acoustic inputs being isolated, confirms or validates the set of data based on localizing where the set of acoustic inputs originated from within the defined area, and takes the action responsive to the event determined to be occurring within the defined area based on the set of data being confirmed or validated.

231. The system of claim 224, wherein the device is a first device, wherein the processor is a first processor, wherein the time-of-flight radar is a first time-of-flight radar, wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, and further comprising:

a second device including a second processor and a second time-of-flight radar, wherein the second processor is coupled to the second time-of-flight radar, wherein the device is configured to be positioned within the defined area having the object living therein such that the second time-of-flight radar operates within the defined area without interfering with the first time-of-flight radar operating in the K-band and tracks the object living in the defined area when the first time-of-flight radar operating in the K-band within the defined area is occluded from tracking the object living within the defined area, generates a second set of data based on tracking the object living in the defined area when the first time-of-flight radar operating in the K-band within the defined area is

occluded from tracking the object living within the defined area, and sends the second set of data to the second processor when the first time-of-flight radar operating in the K-band within the defined area is occluded from tracking the object living within the defined area such that the second processor determines whether the object is experiencing a second event within the defined area based on the second set of data and takes a second action responsive to the second event determined to be occurring within the defined area.

232. The system of claim 231, wherein the second time-of-flight radar operates in the K-band without interfering with the first time-of-flight radar operating in the K-band.

233. The system of claim 232, wherein the second time-of-flight radar operating in the K-band within the defined area is operating between about 23 GHz and about 25 GHz within the defined area without interfering with the first time-of-flight radar operating in the K-band.

234. The system of claim 231, wherein the second device includes a housing hosting the second processor and the second time-of-flight radar.

235. The system of claim 231, wherein the first event and the second event is a same event.

236. The system of claim 231, wherein the first action and the second action is a same action.

237. The system of claim 231, wherein the first device and the second device are positioned opposite each other within the defined area.

238. The system of claim 224, wherein the device includes a communication unit, wherein the processor is coupled to the communication unit, wherein the device is a first device, wherein the action includes instructing the communication unit to send a message to a

second device remote from the defined area, wherein the message contains a content relating to the object or the event.

239. The system of claim 224, wherein the processor is programmed to define the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

240. The system of claim 239, wherein the processor is programmed to define the defined area based on a user input from a user input device moving within the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

241. The system of claim 239, wherein the processor is programmed to define the defined area based on a user input from a user input device moving outside the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

242. The system of claim 239, wherein the processor is programmed to define the defined area based on a user hosting a reflector trackable by the time-of-flight radar before the processor takes the action responsive to the event determined to be occurring within the defined area.

243. The system of claim 239, wherein the defined area includes a floor and a ceiling spaced apart from each other by a height, wherein the processor is programmed to define the defined area based on the processor accessing a value corresponding to the height before the processor takes the action responsive to the event determined to be occurring within the defined area.

244. The system of claim 239, wherein the processor is programmed to define the defined area based on the processor accessing a map of the defined area before the processor

takes the action responsive to the event determined to be occurring within the defined area.

245. The system of claim 244, wherein the processor creates the map of the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

246. The system of claim 224, wherein the device includes a camera, wherein the processor is coupled to the camera and programmed to activate the camera such that the camera receives an imagery generated from the object living within the defined area and sends the imagery to the processor such that the processor confirms or validates the set of data and takes the action responsive to the event determined to be occurring within the defined area based on the set of data being confirmed or validated.

247. The system of claim 246, wherein the camera includes a dual-band filter configured to allow the camera to observe in a visible-spectrum (RGB) and in a near-infrared light.

248. The system of claim 224, wherein the processor forms a three-dimensional map of the defined area based on the set of data such that the three-dimensional map has a zeroed region based on the time-of-flight radar operating in the K-band and scanning from within the defined area outside of the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

249. The system of claim 248, wherein the defined area contains a first volume and a second volume, wherein the processor is programmed to access a threshold associated with the first volume and request the time-of-flight radar operating in the K-band to adjust based on the zeroed region satisfying the threshold such that the time-of-flight radar operating in the K-band does not track the first volume to expedite tracking the second volume before the processor takes the action responsive to the event determined to be occurring within the defined area.

250. The system of claim 224, wherein the processor accesses a scan map of the defined area formed based on the set of data and having a set of voxels, accesses a no-scan map of the defined area for the time-of-flight radar, compares the scan map against the no-scan map, identifies a subset of voxels from the set of voxels, and zeroes the subset of voxels before the processor takes the action responsive to the event determined to be occurring within the defined area.

251. The system of claim 224, wherein the set of data is a first set of data, wherein the action is a first action, wherein the time-of-flight radar operating in the K-band within the defined area tracks the object in outside of the defined area, generates a second set of data based on tracking the object in outside of the defined area, and sends the second set of data to the processor such that the processor determines whether the object is outside of the defined area and takes a second action responsive to the object being determined to be outside of the defined area.

252. The system of claim 251, wherein the action is discarding, removing, deleting, or ignoring the second set of data.

253. The system of claim 224, wherein the action is a first action, wherein the processor accesses a movement threshold before the processor takes the action responsive to the event determined to be occurring within the defined area, accesses a geofence before the processor takes the action responsive to the event determined to be occurring within the defined area, and takes a second action involving the geofence based the movement threshold being satisfied before the processor takes the first action responsive to the event determined to be occurring within the defined area.

254. The system of claim 253, wherein the second action includes modifying the geofence.

255. The system of claim 254, wherein modifying the geofence includes resetting the geofence to a default state.

256. The system of claim 253, wherein the second action includes initiating a user guide to re-geofence.

257. The system of claim 253, wherein the second action includes determining how the time-of-flight radar has moved within the defined area before the processor takes the first action responsive to the event determined to be occurring within the defined area and modifying the geofence based on how the time-of-flight radar has moved within the defined area before the processor takes the first action responsive to the event determined to be occurring within the defined area.

258. The system of claim 224, wherein the processor accesses a geofence before the processor takes the action responsive to the event determined to be occurring within the defined area and modifies the geofence before the processor takes the action responsive to the event determined to be occurring within the defined area and responsive to the processor accessing a user input indicating the geofence be modified.

259. The system of claim 224, wherein the event is related to an activity of daily living of the object within the defined area.

260. The system of claim 224, wherein the event is related to a fall of the object within the defined area.

261. The system of claim 224, wherein the event is related to the object remaining still for a preset period of time within the defined area.

262. The system of claim 224, wherein the event is related to the object being absent from the defined area for a preset period of time.

263. The system of claim 224, wherein the event is related to the object not being tracked within the defined area for a preset period of time while the object is within the defined area.

264. The system of claim 224, wherein the processor is programmed to assign an identifier to a subarea within the defined area such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the subarea.

265. The system of claim 264, wherein the processor is programmed to assign the identifier to the subarea via communicating with a computing unit such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the subarea.

266. The system of claim 264, wherein the device includes a microphone, wherein the processor is coupled to the microphone and programmed to assign the identifier to the subarea based on the microphone capturing a sound corresponding to the identifier as an acoustic input and sends the acoustic input to the processor such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the subarea.

267. The system of claim 224, wherein the processor identifies a subarea within the defined area based on the set of data, infers an area type for the subarea, classifies the subarea based on the area type, and assigns an identifier to the subarea based on the area type such that the processor determines whether the object is experiencing the event within the subarea based on the set of data and the area type and takes the action responsive to the event determined to be occurring within the subarea based on the identifier.

268. The system of claim 224, wherein the processor is programmed to assign an identifier to the defined area such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the defined area.

269. The system of claim 268, wherein the processor is programmed to assign the identifier to the defined area via communicating with a computing unit such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the defined area.

270. The system of claim 268, wherein the device includes a microphone, wherein the processor is coupled to the microphone and programmed to assign the identifier to the defined area based on the microphone capturing a sound corresponding to the identifier as an acoustic input and sends the acoustic input to the processor such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the identifier and takes the action responsive to the event determined to be occurring within the defined area.

271. The system of claim 224, wherein the defined area has a corner, wherein the device or the time-of-flight radar is positioned within at the corner or within a preset distance from the corner within defined area having the object living therein when the device is positioned within defined area having the object living therein.

272. The system of claim 224, wherein the processor is programmed to generate a recommendation on where to position or re-position the device or the time-of-flight radar based on the data.

273. The system of claim 272 , wherein the recommendation optimizes for a minimum average spacing between the object and the time-of-flight radar within the defined area.

274. The system of claim 272, wherein the recommendation optimizes for a minimum number of occlusions or obstacles between the object and the time-of-flight radar within the defined area.

275. The system of claim 224, wherein the device is a first device, wherein the processor is a first processor, wherein the time-of-flight radar is a first time-of-flight radar, wherein the first time-of-flight radar has a first field of view, wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, and further comprising:

a second device including a second processor and a second time-of-flight radar, wherein the second processor is coupled to the second time-of-flight radar, wherein the second time-of-flight radar has a second field of view, wherein the second device is configured to be positioned within the defined area having the object living therein such that the first field of view does not overlap with the second field of view and the second time-of-flight radar operates within the defined area without interfering with the first time-of-flight radar operating in the K-band such that the second time-of-flight radar tracks the object living in the defined area within the second field of view, generates a second set of data based on tracking the object living in the defined area within the second field of view, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing a second event in the defined area within the second field of view based on the second set of data and takes a second action responsive to the second event determined to be occurring in the defined area within the second field of view.

276. The system of claim 224, wherein the event is a medical event.

277. The system of claim 276, wherein the medical event is a diagnosis estimate or a diagnosis forecast.

278. The system of claim 224, wherein the device is a television unit.

279. The system of claim 224, wherein the device is a soundbar.

280. The system of claim 224, wherein the device is a speaker.

281. The system of claim 224, wherein the device is a bookend.

282. The system of claim 224, wherein the device is a flowerpot.

283. The system of claim 224, wherein the device is a planter pot.

284. The system of claim 224, wherein the device is a vase.

285. The system of claim 224, wherein the device is a furniture item.

286. The system of claim 224, wherein the device is a house appliance.

287. The system of claim 224, wherein the time-of-flight radar operating in the K-band has a field of view of about 120 degrees horizontal and about 90 degrees vertical.

288. The system of claim 224, wherein the time-of-flight radar includes a set of phased arrays each comprising a set of patch antennas enabling the time-of-flight radar operating in the K-band to track the object living within the defined area.

289. The system of claim 224, wherein the device is a first device, wherein the processor is a first processor, wherein the time-of-flight radar has a first field of view, wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, and further comprising:

a second device including a second processor and a sensor, wherein the second processor is coupled to the sensor, wherein the sensor has a second field of view, wherein the second device is configured to be positioned within the defined area having the object living therein such that the sensor operates within the defined area without interfering with the time-of-flight radar operating in the K-band and senses the object living in the defined area within the second field of view, generates a second set of data based on sensing the object living in the defined area within the second field of view, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing a second event in the defined area within the second field of view based on the second set of data and takes a second action responsive to the second event determined to be occurring in the defined area within the second field of view.

290. The system of claim 289, wherein the first device is configured to be positioned within the defined area having the object living therein such that the first field of view does not overlap with the second field of view.

291. The system of claim 289, wherein the second device includes a housing hosting the second processor and the sensor.

292. The system of claim 224, wherein the device is a first device, wherein the processor is a first processor, wherein the time-of-flight radar has a first field of view, wherein the set of data is a first set of data, and further comprising:

a second device including a second processor and a sensor, wherein the second processor is coupled to the sensor, wherein the sensor has a second field of view, wherein the second device is configured to be positioned within the defined area having the object living therein such that the sensor operates within the defined area without interfering with the time-of-flight radar operating in the K-band and senses the object living in the defined area within the second field of view, generates a second set of data based on sensing the object living in the defined area within the second field of view, and sends the second set of data to the second processor such that the second processor communicates with the first processor thereby enabling the first processor to confirm or validate the first set

of data based on the second set of data and determine whether the object is experiencing the event in the defined area based on the second set of data confirming or validating the first set of data and take the action responsive to the event determined to be occurring in the defined area.

293. The system of claim 292, wherein the first device is configured to be positioned within the defined area having the object living therein such that the first field of view does not overlap with the second field of view.

294. The system of claim 292, wherein the second device includes a housing hosting the second processor and the sensor.

295. The system of claim 292, wherein the second processor is configured to directly communicate with the first processor.

296. The system of claim 292, wherein the second processor is configured to indirectly communicate with the first processor.

297. The system of claim 224, wherein the device is a fixture.

298. The system of claim 224, wherein the processor is programmed to access a set of attributes for the object before taking the action responsive to the event determined to be occurring within the defined area and create a profile for the object based on the set of attributes such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the profile.

299. The system of claim 298, wherein the profile is a baseline based on which the processor determines whether the object is experiencing the event within the defined area based on the set of data.

300. The system of claim 224, wherein the device includes a microphone, wherein the processor is coupled to the microphone and programmed to cause the microphone to capture an acoustic input based on a voice sound of the object and sends the acoustic input to the processor such that the processor forms a voice profile for the object and determines whether the object is experiencing the event within the defined area based on the set of data and the voice profile.

301. The system of claim 224, wherein the device includes a clicker in communication with the processor or a mobile application in communication with the processor, wherein the processor is programmed to define the defined area based on (a) the clicker moving within the defined area and being activated within the defined area or (b) interacting with the mobile application positioned within the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

302. The system of claim 224, wherein the device includes a clicker in communication with the processor or a mobile application in communication with the processor, wherein the processor is programmed to define the defined area based on (a) the clicker moving outside of the defined area and being activated outside of the defined area or (b) interacting with the mobile application positioned outside of the defined area before the processor takes the action responsive to the event determined to be occurring within the defined area.

303. The system of claim 224, wherein the device includes a beacon with a transmitter configured to transmit a signal, wherein the device includes a receiver configured to receive the signal, wherein the processor is coupled to the receiver and programmed such that the transmitter can send the signal and the receiver can receive the signal and send the signal to the processor such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and the signal, and takes the action responsive to the event determined to be occurring within the defined area when the time-of-flight radar and the beacon are spaced apart from each other.

304. The system of claim 224, wherein the time-of-flight radar includes a transmitter and a receiver, wherein the processor is coupled to the transmitter and the receiver, wherein the device includes a first housing and a second housing, wherein the first housing hosts the transmitter, wherein the second housing hosts the receiver, wherein the first housing and the second housing are configured to be spaced apart from each other.

305. The system of claim 304, wherein the first housing and the second housing are configured to be spaced apart from each other before the processor takes the action responsive to the event determined to be occurring within the defined area based on a field strength of the transmitter within the defined area, a received floorplan of the defined area, a guideline generic or specific to the defined area, a wizard generic or specific to the defined area, a computed floorplan generic or specific to the defined area, a map generic or specific to the defined area, or an observed location of the object within the defined area.

306. The system of claim 305, wherein the first housing and the second housing are configured to oppose each other.

307. The system of claim 224, wherein the processor is a first processor, wherein the time-of-flight radar is a first time-of-flight radar, wherein the first time-of-flight radar includes a first transmitter and a first receiver, wherein the device includes a first housing, a second housing, a second processor, and a second time-of-flight radar, wherein the second processor is coupled to the second time-of-flight radar, wherein the first time-of-flight radar does not interfere with the second time-of-flight radar, wherein the second time-of-flight radar includes a second transmitter and a second receiver, wherein the first housing hosts the first processor and the first time-of-flight radar, wherein the second housing hosts the second processor and the second time-of-flight radar, wherein the first housing and the second housing are configured to be spaced apart from each other such that the first transmitter can transmit a first signal receivable by the first receiver and the second receiver and the second transmitter can transmit a second signal receivable by the first receiver and the second receiver.

308. The system of claim 307, wherein the first housing and the second housing are configured to be spaced apart from each other based on a field strength of the first transmitter or the second transmitter within the defined area, a received floorplan of the defined area, a guideline generic or specific to the defined area, a wizard generic or specific to the defined area, a computed floorplan generic or specific to the defined area, a map generic or specific to the defined area, or an observed location of the object within the defined area.

309. The system of claim 307, wherein the first housing and the second housing are configured to oppose each other.

310. The system of claim 307, wherein the first processor and the second processor are configured to be in communication with each other.

311. The system of claim 307, wherein the first time-of-flight radar has a first field of view, wherein the second time-of-flight radar has a second field of view, wherein the first field of view is configured to overlap with the second field of view.

312. The system of claim 307, wherein the first time-of-flight radar has a first field of view, wherein the second time-of-flight radar has a second field of view, wherein the first field of view is configured to not overlap with the second field of view.

313. The system of claim 224, wherein the processor is a hardware accelerator.

314. The system of claim 313, wherein the hardware accelerator is a neural network accelerator or a machine learning accelerator.

315. The system of claim 224, wherein the time-of-flight radar is configured to operate in a Ku-band or a Ka-band within the defined area such that the time-of-flight radar operating in the Ku-band or the Ka-band tracks the object living in the defined area, generates the

set of data based on tracking in the Ku-band or the Ka-band the object living in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing an event within the defined area based on the set of data and takes the action responsive to the event determined to be occurring within the defined area.

316. The system of claim 315, wherein the time-of-flight radar is configured to operate in the Ku-band and the Ka-band within the defined area tracks the object living in the defined area, generates the set of data based on tracking in the Ku-band and the Ka-band the object living in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing the event within the defined area based on the set of data and takes the action responsive to the event determined to be occurring within the defined area.

317. The system of claim 315, wherein the processor switches the time-of-flight radar between the K-band and the Ku-band or the Ka-band based on a parameter satisfying or not satisfying a threshold.

318. The system of claim 317, wherein the processor switches the time-of-flight radar between the K-band, the Ku-band, and the Ka-band based on the parameter satisfying or not satisfying the threshold.

319. The system of claim 315, wherein the device includes a housing hosting the processor and the time-of-flight radar.

320. The system of claim 315, wherein the time-of-flight radar is configured to operate in the K-band and the Ku-band or the Ka-band in parallel without interfering with each other.

321. The system of claim 224, wherein the processor is a first processor, wherein the time-of-flight radar is a first time-of-flight radar, wherein the set of data is a first set of data, wherein the event is a first event, wherein the action is a first action, wherein the device

includes a first housing, a second housing, a second processor, and a second time-of-flight radar, wherein the second processor is coupled to the second time-of-flight radar, wherein the second time-of-flight radar is configured to operate in a Ku-band or a Ka-band, wherein the first housing hosts the first processor and the first time-of-flight radar, wherein the second housing hosts the second processor and the second time-of-flight radar, wherein the first housing and the second housing are configured to be spaced apart from each other within the defined area having the object living therein such that the second time-of-flight radar operating in the Ku-band or the Ka-band within the defined area tracks the object living in the defined area, generates a second set of data based on tracking the object living in the defined area, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing a second event within the defined area based on the second set of data and takes a second action responsive to the second event determined to be occurring within the defined area.

322. The system of claim 321, wherein the first event and the second event is a same event.

323. The system of claim 321, wherein the first event and the second event is not a same event.

324. The system of claim 321, wherein the first action and the second action is a same action.

325. The system of claim 321, wherein the first action and the second action is not a same action.

326. The system of claim 321, wherein the second processor is programmed to switch the second time-of-flight radar to operate between the Ku-band or the Ka-band based on a parameter satisfying or not satisfying a threshold.

327. The system of claim 321, wherein the second time-of-flight radar is configured to operate in the Ku-band and the Ka-band within the defined area tracks the object living in the defined area, generates the second set of data based on tracking the object living in the defined area, and sends the second set of data to the second processor such that the second processor determines whether the object is experiencing the second event within the defined area based on the second set of data and takes the second action responsive to the second event determined to be occurring within the defined area.

328. The system of claim 327, wherein the second time-of-flight radar is configured to operate in the Ku-band and the Ka-band in parallel without interfering with each other and the first time-of-flight radar operating in the K-band.

329. The system of claim 224, wherein the object is a first object, wherein the defined area contains a second object, wherein the event is custom to the first object based on distinguishing the first object from the second object based on the set of data.

330. The system of claim 224, wherein the time-of-flight radar is actively cooled.

331. The system of claim 224, wherein the time-of-flight radar is passively cooled.

332. The system of claim 224, wherein (a) wherein the processor forms a three-dimensional skeletal model simulating the object based on the set of data, determines whether the object is experiencing the event within the defined area based on the three-dimensional skeletal model satisfying or not satisfying a threshold, and takes the action responsive to the event determined to be occurring within the defined area based on the three-dimensional skeletal model satisfying or not satisfying the threshold, or (b) wherein the processor forms a three-dimensional area model simulating the defined area based on the set of data and a three-dimensional skeletal model simulating the object within the three-dimensional area model based on the set of data, determines whether the object is experiencing the event within the defined area based on the three-dimensional skeletal model within the three-dimensional area model satisfying or not satisfying a threshold,

and takes the action responsive to the event determined to be occurring within the defined area based on the three-dimensional skeletal model within the three-dimensional area model satisfying or not satisfying the threshold.

333. The system of claim 332, wherein the processor determines whether the object is experiencing the event within the defined area based on the three-dimensional skeletal model satisfying or not satisfying the threshold based on a set of virtual movements of the three-dimensional skeletal model, identifying a set of atomic movements of the three-dimensional skeletal model corresponding to the set of virtual movements, and correlating the set of atomic movements to the event.

334. A system comprising:

a device including a processor and a time-of-flight radar, wherein the processor is coupled to the time-of-flight radar, wherein the time-of-flight radar is configured to operate in a K-band, a Ku-band, or a Ka-band, wherein the device is configured to be positioned within a defined area having an object living therein such that the time-of-flight radar operating in the K-band, the K-band, or the Ku-band within the defined area tracks the object living in the defined area, generates a set of data based on tracking the object living in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing an event within the defined area based on the set of data and takes an action responsive to the event determined to be occurring within the defined area.

335. The system of claim 334, wherein the time-of-flight radar is configured to operate in at least two of the K-band, the Ku-band, or the Ka-band, wherein the device is configured to be positioned within a defined area having an object living therein such that the time-of-flight radar operating in at least two of the K-band, the Ku-band, or the Ka-band within the defined area tracks the object living in the defined area, generates a set of data based on tracking the object living in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing an event within

the defined area based on the set of data and takes an action responsive to the event determined to be occurring within the defined area.

336. The system of claim 334, wherein the time-of-flight radar is configured to operate in the K-band, the Ku-band, and the Ka-band, wherein the device is configured to be positioned within a defined area having an object living therein such that the time-of-flight radar operating in the K-band, the Ku-band, and the Ka-band within the defined area tracks the object living in the defined area, generates a set of data based on tracking the object living in the defined area, and sends the set of data to the processor such that the processor determines whether the object is experiencing an event within the defined area based on the set of data and takes an action responsive to the event determined to be occurring within the defined area.

337. The system of claim 334, wherein the processor is programmed to switch the time-of-flight radar between at least two of the K-band, the Ku-band, or the Ka-band based on a parameter satisfying or not satisfying a threshold.

338. The system of claim 337, wherein the processor is programmed to switch the time-of-flight radar between the K-band, the Ku-band, and the Ka-band based on the parameter satisfying or not satisfying the threshold.

339. A method comprising:

providing a device to a user, wherein the device includes a processor and a radar, wherein the processor is coupled to the radar; and

instructing the user to:

position the device within a defined area having an object therein, and

activate the radar to operate within the defined area such that the radar operating within the defined area tracks the object in the defined area, generates a set of data based on tracking the object in the defined area, and sends the set of data to the processor such that the processor determines whether an action should be taken based on the set of data and takes the action based on the set of data.

340. A method comprising:

receiving, by a processor, a set of data from a radar operating within a defined area having an object therein, wherein the radar generating the set of data based on the radar operating within the defined area and tracking the object in the defined area;

determining, by the processor, whether an action should be taken based on the set of data; and

taking, by the processor, the action based on the set of data.

341. A system comprising:

a device including a processor and a radar, wherein the processor is coupled to the radar, wherein the device is configured to be positioned within a defined area having an object therein such that the radar within the defined area tracks the object in the defined area, generates a set of data based on tracking the object in the defined area, and sends the set of data to the processor such that the processor determines whether an action should be taken based on the set of data and takes the action based on the set of data.

342. A method comprising:

positioning a device within a defined area having an object therein, wherein the device includes a processor and a radar, wherein the processor is coupled to the radar; and

activating the radar to operate within the defined area such that the radar operating within the defined area tracks the object in the defined area, generates a set of data based on tracking the object in the defined area, and sends the set of data to the processor such that the processor determines whether an action should be taken based on the set of data and takes the action based on the set of data.

343. A device comprising:

a vehicle including a processor, a radar, and an area, wherein the processor is coupled to the radar, wherein the area is configured to contain a driver or a passenger,

~~wherein the processor is programmed to activate the radar to track the driver or the passenger within the area, generate a set of data based on tracking the driver or the passenger in the area, and send~~ the set of data to the processor such that the processor determines whether an action should be taken based on the set of data, ignores the set of data for outside the area of interest, and takes the action based on the set of data wherein the user is the object.~~.~~