case of a heavy object that is engaged with the mounting apparatus, the user need not pull the object off the mounting apparatus by applying an opposite force that is equal to the total (e.g., large) force that is used to keep the object engaged with the mounting apparatus. Rather, the user can apply a force that is sufficient to overcome the magnetic force between the object and one of the magnetic planes (e.g., less than the total engagement force of all the planes), such that the object is disengaged gradually (e.g., releasing from each plane separately).

In addition to the staged engagement and disengagement that is possible by way of embodiments of the invention described below, the mounting apparatus may be configured to provide other functions that facilitate a mounting and/or dismounting operation and/or functions that facilitate or enhance use of the mounted object. For example, in some embodiments, the mounting apparatus may be configured to allow the object to self-align with the mounting apparatus. The mounting apparatus may further be configured to structurally support objects of various weights and configurations (e.g., sizes and shapes), provide data and electrical connections with the object, and engage the object in different ways. Some embodiments may allow manipulation of an engaged object (e.g., various movements of the object) either by the user or by the apparatus acting on the object in a controlled manner. Further embodiments may provide an effective locking mechanism for the object. Other configurations may manage the functionality of an object by partially disengaging and re-engaging the object. Still other embodiments may ready the apparatus for engagement, change the appearance of the apparatus, and/or change the way the apparatus may be engaged. And in other configurations, the apparatus may remain unobtrusive or inconspicuous until it is meant to be used.

Accordingly, as will become apparent in light of the description below and with reference to the figures, the method disclosed herein may be embodied in multiple ways. A self-contained (e.g., standalone) apparatus may be constructed and configured to be affixed to a portable or fixed body (e.g., a mounting surface), some embodiments hereinafter described being examples of such. Additionally, the method may be applied to an existing body (e.g., a wall, a television, a frame for artwork), or a portion of an existing body, such that the body is modified to achieve the desired functionality of the invention (e.g., to incorporate embodiments of the invention), wherein existing components or features of the body are used as components or features of embodiments of the invention, so that such embodiments are partially or fully embedded within the body. Described another way, components that may be necessary for an embodiment of the

invention and that are absent in the body may be added to the body, and components or features of the body already suitable for carrying out the needed roles of the prescribed components of the embodiment may be used as-is or may be altered as necessary; all components together being configured to achieve an apparatus comprised of both existing components and added components and residing at least partially within the body. The latter practice may be particularly beneficial, as modifying an existing body may often be less expensive and/or less invasive than embedding a self-contained apparatus, and an integrated embodiment may be more aesthetically appealing than would a self-contained apparatus affixed to the body. One example is that of a wall being modified, wherein the method is applied to a portion of the wall so that an object may be mounted to the wall, and wherein most of the components configured to create the embodiment of the invention are hidden within the wall so that the impact on the visual aesthetic of the wall is minimal as compared to affixing a self-contained apparatus to the wall. Moreover, in addition to the practices cited above, a system is provided, wherein an apparatus and an object interface (or two apparatuses) may be created for the bodies (by either construction or modification, as explained above) that are configured to agree with one another during the mounting process.

The method provided for mounting an object to a mounting surface comprises supporting a first mounting magnet in a first plane; supporting a second mounting magnet in a second plane; allowing at least one of the mounting magnets to move independently of the other mounting magnet along a line of engagement that intersects the first and second planes; limiting movement of the at least one of the mounting magnets that is movable between a respective outer limit position and a respective base limit position; configuring the mounting magnets to cooperate to engage the object to be mounted to produce a total engagement force; and configuring the respective outer limit position of the at least one of the mounting magnets that is movable such that a disengaging force that is less than the total engagement force and that is applied to a mounted object overcomes the total engagement force in stages by successively overcoming the respective engagement forces associated with the first and second mounting magnets to disengage the object.

At least one of the first or second planes may be defined by a curved surface. Also, one of the mounting magnets may have a fixed position. For example, the first mounting magnet may have a fixed position, and the second mounting magnet may be movable.

mounting magnet 40, thus limiting movement of the second mounting magnet 40 along the line of engagement Le and effectively redefining the base limit position BL of the second mounting magnet 40 and, correspondingly, limiting the total engagement force (e.g., relative to the total engagement force inherent to the configuration of the mounting apparatus 10 prior to the adjustment of the controlling force) between the object 99 and the mounting apparatus 10.

In addition to the functions that may be served by the controlling component(s) of the invention as described above, in some embodiments similar to the embodiment of Fig. 1, additional controlling components 60 (Group 1) may be supported by the inner perimeter of the extension 98 of the engagement member 14 that may be configured to cooperate with the first mounting magnet 30 of the intermediate surface 12 (or may be configured to cooperate with additional controlling components 60 (Group 2) supported by the guide surface 96 of the intermediate surface 12) such that a friction force between the engagement member 14 and the guide surface 96 of the intermediate surface 12 may be limited (e.g., reduced) or eliminated as the engagement member 14 moves between the retracted state and the extended state. The cooperation referenced above may result by means of Group 1 and the mounting magnet 30 (or Group 1 and Group 2) being configured to have substantially opposite magnetic forces that repel one another and effectively serve to create a repelling force between the extension 98 of the engagement member 14 and the guide surface 96 of the intermediate surface 12.

Furthermore, the controlling component may be configured such that the controlling force is removable. Removing the controlling force may involve adjustment of the controlling force, such that the strength of the controlling force is decreased until the controlling force is removed altogether. In other embodiments, the controlling force may be removed by physically removing, re-positioning, or blocking the controlling component. This may be accomplished by use of a movable rod, strip, plate, etc. on which the controlling component is attached and that may be inserted into and removed from the apparatus, or a similar result may be accomplished by making the apparatus accessible to a blocking component (e.g., a magnetic shielding component) that may be inserted to block or otherwise hinder the controlling force.

Additionally, the controlling component may be configured such that the engagement member automatically retracts after the object is disengaged from the apparatus. Referring again to Fig. 1, the controlling component 60 may be configured to bias the engagement member 14 toward the retracted state by applying a controlling

surface 226 being drawn into the mounting apparatus 210 by way of the opening 294 of the intermediate surface 212, the engagement member 214 (referring now to Fig. 7B) may be drawn into a cavity 275 of the central object surface 226 for the P1, P3 stage of engagement to occur.

The staged disengagement process may occur in a variety of ways as well, depending on the configuration of the mounting apparatus 210. In Fig. 7A, a disengaging force applied to the mounted object that is less than the total engagement force may disengage the secondary object surface 224 from the intermediate surface 212 for a first stage of disengagement. Prior to, and during, the first stage of disengagement, the engagement member 214 may move away from the base surface 280 and may be still engaged with the central object surface 226 of the object interface. Therefore, having completed the first stage of disengagement, a continued disengaging force may continue to move the engagement member 214 until the engagement member 214 reaches its outer limit position OL. At the outer limit position, the central object surface 226 and the engagement member 214 may disengage for a second stage of disengagement. Thus, a user that may apply a disengaging force to an object mounted to the mounting apparatus 210 may need only to apply a disengaging force of sufficient strength to overcome the first stage of disengagement. Each subsequent stage of disengagement may require more or less force to overcome than did the first stage of disengagement, but each successive stage of release may be less than the total engagement force, such that the object is able to be disengaged more gradually, with the total engagement force split amongst multiple tiers of release, for an experience that may be easier and more enjoyable for a user.

Disengagement of the system 210 shown in Fig. 7B may follow substantially the same order. In both of the systems described in the figures 7A-7B, the point at which the stages of release occur depends on the location of the outer limit position OL of the engagement member 214. The first stage of disengagement may occur within the mounting apparatus 210 between the central object surface 226 and the engagement member 214 if, in Fig. 7A, the outer limit position of the engagement member 214 (and, correspondingly, the second mounting magnet 240) is configured to be between the base surface 280 and the intermediate surface 212.

As depicted in Figs. 7A-7C and as described above, the relative depths of the object interface 220 and the mounting apparatus 210 may produce substantial surface area contact between the components of the system such that the system may be well suited to bearing the weights of mounted objects. Indeed, a substantial benefit of the

and an object interface may produce an interface controlling force via the configured magnets. Therefore, an object interface may be able to eject itself by applying an interface controlling force to the apparatus. Additionally, the object interface may apply an interface controlling force to partially disengage the object so that the object may be adjusted. The depth of adjustment may be a depth from the intermediate surface, and the depth of adjustment may be less than the apparatus engagement depth such that the object is only partially disengaged from the apparatus when it is capable of being adjusted. To facilitate such functionality, any of the central object surface or the plurality of secondary object surfaces may be configured with at least one electromagnet, at least one correlated magnet, or at least one programmable magnet. In addition, the engagement member and/or the intermediate surface may be configured with at least one electromagnet, at least one correlated magnet, or at least one programmable magnet.

Although Figs. 7A-7C depict an object interface having two planes of engagement, the object interface may be configured to have 3, 4, 5 or more planes of engagement to accommodate additional tiers of engagement/disengagement provided by the mounting apparatus.

For purposes of explanation, certain external components of the embodiments of the mounting apparatus 10, 210 described above and illustrated in Figs. 7A-7C are not shown to allow other described components to be shown. As such, the mounting apparatus 10, 210 may be embodied in various ways. For example, one or more of the engagement member, intermediate surface, magnets, etc. may be disposed and/or movable within a housing. The housing itself may be configured in various ways to accommodate attachment of the mounting apparatus to various types and configurations of mounting surfaces.

Although the embodiments described above involve the use of two tiers of magnets (e.g., two planes P1, P2), the same principles may be applied to create a mounting apparatus 10 having 3, 4, 5 or more stages of engagement and/or disengagement. Indeed, the greater the number of planes that are provided for magnetic engagement, the smaller the required incremental engagement and/or disengagement force that is needed as the total engagement force may be distributed among a greater number of planes. In addition, the engagement/disengagement force required for each plane may be distributed substantially equally (e.g., by dividing the total engagement force required to support the intended object by the total number of planes), or may be distributed unevenly, such as, for example, in an embodiment in which the initial

along a line of engagement Le that intersects the first plane. As shown, the second plane may be defined by a curved surface. The system 300 may further include an object interface 320 configured to be attached to an object (not shown) to be mounted and to the mounting apparatus 310, and the object interface may comprise a central object surface 322 that may define a third plane. The central object surface 322 may be configured to respond to magnetism and may be configured to agree with the engagement member 314. The engagement member 314 may be configured to move between an outer limit position OL and a base limit position BL. Additionally, the engagement member 314 may comprise an extension 398 and a face 388 joined to the extension 398 and may support a second mounting magnet 340 in the second plane. In the embodiment shown in Fig. 11 A, the face 388 of the engagement member 314 may be the curved surface of the second mounting magnet 340. The extension 398 may provide a stop feature 350 by means of an outward protrusion of the extension 398 that has a greater diameter than the opening 394 of the intermediate surface. A portion of the extension 398 may be slideably received by the guide surface 396 of the intermediate surface 312 such that the stop feature 350 may limit the engagement member 314 in a direction away from the intermediate surface 312 along the line of engagement Le by contacting an inner surface 386 of the intermediate surface 312 and, thus, may define the outer limit position OL of the engagement member 314. When the engagement member 314 is in the outer limit position, the distance between the first and second planes may define an apparatus engagement depth da.

The intermediate surface 312 may support the first mounting magnet 330 in the first plane, and the first mounting magnet 330 may limit the engagement member 314 in a direction away from the central object surface 322 by contact with the second mounting magnet 340 of the engagement member 314 and, thus, may define the base limit position of the engagement member 314.

As mentioned above, the central object surface 322 may be configured to agree with the engagement member 314 by way of a surface opening 304 and a contact surface 302 of the surface opening 304 that may be configured (e.g., shaped) to flushly engage the face 388 of the engagement member 314 and, correspondingly, the second mounting magnet 340. The diameter of the surface opening 304 may be less than the diameter of the face 388 of the engagement member 314 (and, correspondingly, may be less than the diameter of the second mounting magnet 340). The diameter of the surface opening 304

engaged with the mounting apparatus 610, and the second mounting magnet 640 may be a permanent ring magnet to facilitate a connection between the apparatus connectors 605 and the charging device. Furthermore, the interface connectors 606 and the apparatus connectors 605 may be configured such that the connection is maintained in the event the charger support 601 slides or moves with respect to the face 688 of the engagement member 614, such as in response to a jarring force such as an unintentional hit or swipe.

Turning now to Fig. 13, a system 400 is shown for mounting an object interface 420 to a mounting apparatus 410. The system 400 may include a mounting apparatus 410 which may comprise an intermediate surface 412 configured to respond to magnetism and an engagement member 414 configured to respond to magnetism. The intermediate surface 412 may define a first plane, and the engagement member 414 may define a second plane. Additionally, the engagement member 414 may be movable along a line of engagement L_e that intersects the first plane and may support a second mounting magnet 440 in the second plane. The intermediate surface may support a first mounting magnet 430 in the first plane, and the first mounting magnet 430 may be comprised of six magnets 30. The system 400 may also include an object interface 420 that may be configured to be attached to an object to be mounted (not shown) and to the mounting apparatus 410. The object interface 420 may comprise a central object surface 426 that may be configured to respond to magnetism and may define a third plane. And the object interface 420 may also comprise a secondary object surface 424 that may be spaced from the central object surface 426 and may define a fourth plane. The secondary object surface 424 may support a respective third mounting magnet 431 (which may be one of a plurality of third mounting magnets in a plurality of third planes in this embodiment), and the third mounting magnet 431 may be comprised of two magnets 431 supported in a respective third plane. The central object surface 426 may support a respective third mounting magnet 441, which may be comprised of one magnet 441, in a respective third plane.

At least one of the engagement member 414 or the intermediate surface 412 may be movable between an outer limit position OL and a base limit position BL. An apparatus engagement depth d_a may be defined by a distance between the first and second planes when the at least one of the engagement member 414 or the intermediate surface 412 that is movable is in the respective outer limit position.

intermediate surface by the inner face 459 of the engagement member. Magnets 431 may be configured to be moderately attracted to the magnets 430, and the magnet 441 may be configured to be strongly attracted to the magnet 440.

The object interface 420 may be brought into proximity with the mounting apparatus 410 by a user such that an attraction force between the magnet 441 of the central object surface 426 and the magnet 440 of the engagement member 414 moves the engagement member 414 against the repelling force of the magnets 430 of the intermediate surface and toward the object interface. The magnet 440 may engage the magnet 441 for a first stage of engagement. The depth between the first and second planes when the engagement member 414 is extended and engaged may be substantially equivalent to the depth between the lead face 429 of the central object surface 426 and the facade 485 of the intermediate surface such that the secondary object surface 424 of the object interface 420 may be pressed substantially flush against the facade 485 of the intermediate surface 412 as a result of the first engagement force. The hanger 477 may thus be positioned over the extension 498 of the engagement member 414. The magnets 430 of the intermediate surface may be physically lower than magnets 431 (e.g., not aligned) in the engagement position for the magnets 441, 440. The user may let go of the hanger 477 to allow it to engage the extension 498 of the engagement member. The weight of the object may lower the object and object interface such that the magnets 431 are aligned with the magnets 430, and a second stage of engagement may be produced for a total engagement force between the object interface 420 and the mounting apparatus 410. However, the lowering of the object may disengage the magnets 440, 441 and engagement of the magnets 430, 431 may strengthen the repelling force applied to the controlling components 460 which may repel the engagement member 414 such that the engagement member 414 retracts in response to the repelling force issued by the magnets 430, 431. Thus, the inner face 459 of the engagement member may contact the hanger 477 of the secondary object surface 424, effectively holding the hanger 477 against the facade 485 of the intermediate surface. The user may apply a disengaging force by lifting the object which may slide the frontage 427 of the secondary object surface against the facade 485 of the intermediate surface 412 and disengage the magnets 430, 431. The lifting force may be less than the total engagement force between the magnets 430, 431 if the magnets 430, 431 were to have been pulled in a direction along the line of engagement Le. Disengaging the magnets 430, 431 may cause the repelling force applied to the controlling components 60 to be reduced. Proximity of the magnet 441 upon the lifting of the object may cause the

engagement member 414 to extend and release the hanger 477. Thus, the object may be disengaged from the mounting surface.

For example, in some embodiments, the second mounting magnet may be moveable, and a plurality of second mounting magnets may be supported in a plurality of respective second planes. In this regard, turning to Fig. 14, in some embodiments, the engagement member 14 may comprise a plurality of engagement members, such as four engagement members 14a, 14b, 14c, 14d in the depicted embodiment. At least one of the engagement members 14a, 14b, 14c, 14d may be configured to respond to magnetism (e.g., one or more may support a respective second mounting magnet 40a, 40b, 40c, 40d), and each engagement member may be configured to move independently along a respective line of engagement with respect to other engagement members. Thus, each engagement member 14a, 14b, 14c, 14d may be configured to move between a respective base limit position BL and a respective outer limit position OL independent of the other engagement members.

Moreover, the second mounting magnets may be configured such that the respective base limit position BL of each second mounting magnet is in substantially the same plane. With respect to the embodiment of Fig. 14, for example, a base surface 80 may be provided that includes stop features 55a, 55b, 55c, 55d corresponding to a particular engagement member 14a, 14b, 14c, 14d. Each stop feature 55a, 55b, 55c, 55d may have a height (e.g., length of extension away from the base surface 80) corresponding to the depth of its corresponding engagement member 14a, 14b, 14c, 14d. For example, the deepest engagement member 14d in the embodiment of Fig. 14 may be configured to correspond to the stop feature 55d with the smallest height, whereas the shallowest engagement member 14a may be configured to correspond to the stop feature 55a with the greatest height. By configuring the stop feature heights and the corresponding engagement member depths to add up to the same dimension across all of the engagement members, the respective base limit position BL of each of the second mounting magnets may lie in substantially the same plane (e.g., the assembled outer face of the plurality of engagement members may be substantially flush).

Each engagement member component 14a, 14b, 14c, 14d may comprise an extension 98a, 98b, 98c, 98d and a face 88a, 88b, 88c, 88d joined to the extension, and each extension may be configured to limit movement of the object to a direction along a single axis in response to a disruptive or disengaging force applied to the object, as

As illustrated in Fig. 18, at least one of the engagement member 14 or the intermediate surface 12 may be configured to be moved between an extended state and a retracted state. In the retracted state, the at least one of the engagement member or the intermediate surface that is moveable may be biased away from the object to be mounted (e.g., may be biased toward the base limit position BL). In the extended state, the at least one of the engagement member or the intermediate surface that is movable may be biased toward the object to be mounted (e.g., may be biased toward the outer limit position OL). In this way, proximity of the object (e.g., the object interface 20) to the engagement member 14 may produce an attraction force between the object and the engagement member that causes engagement of the object with the engagement member. Likewise, proximity of the object (e.g., the object interface 20) to the intermediate surface 12 may produce an attraction force between the object and the intermediate surface that causes engagement of the object with the intermediate surface, such that the mounting apparatus 10 may be configured to engage the object to be mounted in stages via the respective attraction forces.

In the depicted embodiment of Fig. 18, for example, the object interface 20 may include a first object magnet 31 and a second object magnet 41 (or, as in the illustrated example, the second object magnet may be comprised of a plurality of magnets).
The first object magnet 31 and the second object magnet 41 may be configured (e.g., positioned and sized) to attract or be attracted to a corresponding one of the first or second mounting magnets 30, 40 of the mounting apparatus 10. In the depicted embodiment, the first object magnet 31 is configured to respond to and interact with the first mounting magnet 30, and the second object magnets 41 are configured to respond to and interact with the magnets comprising the second mounting magnet 40.
Although in Fig. 18 the first and second object magnets 31, 41 are positioned in substantially the same plane (e.g., are arranged on a central object surface 22), in some embodiments, the object interface 20 may comprise a central object surface configured to respond to magnetism and a secondary object surface spaced from the central object surface and configured to respond to magnetism. In such embodiments, the central object surface may define a third plane, and the secondary object surface may define a fourth plane, as described previously.

As noted above, the structures and components depicted in the figures have been simplified for clarity and ease of explanation. As such, one or more of the components, such as housings, fasteners, stands, swivels, etc., although described above, may not be shown in the figures. Those of ordinary skill in the art will understand and appreciate that the method, systems, and apparatuses provided herein may also describe means for

CLAIMS

1. A method of mounting an object to a mounting surface, comprising:

supporting a first mounting magnet in a first plane;

supporting a second mounting magnet in a second plane;

arranging the first mounting magnet and the second mounting magnet in a tiered configuration;

allowing at least one of the mounting magnets to move independently of the other mounting magnet along a line of engagement that intersects the first and second planes;

limiting movement of the at least one of the mounting magnets that is movable between a respective outer limit position and a respective base limit position;

configuring the mounting magnets to cooperate to engage an object via respective engagement forces associated with the first and second mounting magnets to produce a total engagement force for mounting the object to the mounting surface; and

configuring the respective outer limit position of the at least one of the mounting magnets that is movable such that a disengaging force that is less than the total engagement force and that is applied to the mounted object, overcomes the total engagement force in stages by successively overcoming the respective engagement forces associated with the first and second mounting magnets to disengage the object; and

configuring a supporting structure associated with at least one of the mounting magnets to provide at least one of a data and an electrical connection with the object when the object is mounted.

2. The method of Claim 1, further comprising configuring the supporting structure associated with at least one of the mounting magnets to receive a portion of the object, wherein receiving the portion of the object comprises structurally supporting the object.

3. The method of Claim 1, further comprising supporting a plurality of second mounting magnets in a plurality of respective second planes, wherein each second mounting magnet is configured to be movable.

4. The method of Claim 3, further comprising arranging the second mounting magnets in a telescoping configuration.

5. The method of Claim 1, further comprising supporting a third mounting magnet in a third plane, wherein the third mounting magnet is configured to be attached to the object to be mounted to adapt the object to agree with at least one of the first and second mounting magnets.

6. The method of Claim 1, further comprising arranging the first mounting magnet and the second mounting magnet in a nested configuration.

7. The method of Claim 1, further comprising selecting the mounting magnets so that each of the first mounting magnet and the second mounting magnet is configured to produce a magnetic field.

8. The method of Claim 1, further comprising supporting at least one of the first mounting magnet and the second mounting magnet in a telescoping configuration.

9. The method of Claim 1, wherein at least one of the first mounting magnet and the second mounting magnet comprises a plurality of magnets.

10. The method of Claim 1, further comprising configuring the respective limit positions of the at least one of the mounting magnets that is movable such that the at least one of the mounting magnets that is movable is movable to a position in which the first and second planes substantially coincide.

11. The method of Claim 1, further comprising supporting a plurality of third mounting magnets in a plurality of respective third planes, wherein the plurality of third mounting magnets is configured to be attached to the object to be mounted to adapt the object to agree with at least one of the first and second mounting magnets.

12. The method of Claim 11, further comprising selecting the third mounting magnets so that at least one third mounting magnet is configured to produce a magnetic field.

13. The method of Claim 5, further comprising selecting the third mounting magnet so that it is configured to produce a magnetic field.

14. The method of Claim 1, further comprising configuring the mounting magnets to include at least one electromagnet so that the total engagement force is adjustable.

15. The method of Claim 1, further comprising configuring the mounting magnets to allow rotational movement of the object when the object is mounted to the mounting surface.

16. The method of Claim 1, further comprising configuring the mounting magnets to provide an effective locking mechanism for the object.

17. The method of Claim 1, wherein the mounting surface comprises a substantially male configuration when the at least one of the mounting magnets that is movable is in the outer limit position.

18. The method of Claim 1, further comprising applying a controlling force to the at least one of the mounting magnets that is movable to control at least the movement or a function of the at least one of the mounting magnets that is movable.

19. The method of Claim 1, further comprising configuring the supporting structures associated with the first and second mounting magnets to be substantially flush with one another when the object is not engaged with the first and second mounting magnets.

20. The method of Claim 1, wherein the mounting surface comprises a substantially female configuration when the at least one of the mounting magnets that is movable is in the base limit position.

21. A method of mounting an object to a mounting surface, comprising:

supporting a first mounting magnet in a first plane;

supporting a second mounting magnet in a second plane;

arranging the first mounting magnet and the second mounting magnet in a tiered configuration;

allowing at least one of the mounting magnets to move independently of the other mounting magnet along a line of engagement that intersects the first and second planes;

limiting movement of the at least one of the mounting magnets that is movable between a respective outer limit position and a respective base limit position;

configuring the mounting magnets to cooperate to engage an object via respective engagement forces associated with the first and second mounting magnets to produce a total engagement force for mounting the object to the mounting surface; and

configuring the respective outer limit position of the at least one of the mounting magnets that is movable such that a disengaging force that is less than the total engagement force and that is applied to the mounted object, overcomes the total engagement force in stages by successively overcoming the respective engagement forces associated with the first and second mounting magnets to disengage the object;

configuring a supporting structure associated with the at least one of the mounting magnets that is movable to support at least one connection interface; and

wherein the at least one connection interface comprises at least one of an electrical connector and a wireless charging device.

22. The method of Claim 21, further comprising configuring the supporting structure associated with at least one of the mounting magnets to receive a portion of the object, wherein receiving the portion of the object comprises structurally supporting the object.

23. The method of Claim 21, further comprising supporting a plurality of second mounting magnets in a plurality of respective second planes, wherein each second mounting magnet is configured to be movable.

24. The method of Claim 23, further comprising arranging the second mounting magnets in a telescoping configuration.

25. The method of Claim 21, further comprising supporting a third mounting magnet in a third plane, wherein the third mounting magnet is configured to be attached to the object to be mounted to adapt the object to agree with at least one of the first and second mounting magnets.

26. The method of Claim 21 further comprising arranging the first mounting magnet and the second mounting magnet in a nested configuration.

27. The method of Claim 21, further comprising selecting the mounting magnets so that each of the first mounting magnet and the second mounting magnet is configured to produce a magnetic field.

28. The method of Claim 21, further comprising supporting at least one of the first mounting magnet and the second mounting magnet in a telescoping configuration.

29. The method of Claim 21, wherein at least one of the first mounting magnet and the

second mounting magnet comprises a plurality of magnets.

30. The method of Claim 21, further comprising configuring the respective limit positions of the at least one of the mounting magnets that is movable such that the at least one of the mounting magnets that is movable is movable to a position in which the first and second planes substantially coincide.

31. The method of Claim 21, further comprising supporting a plurality of third mounting magnets in a plurality of respective third planes, wherein the plurality of third mounting magnets is configured to be attached to the object to be mounted to adapt the object to agree with at least one of the first and second mounting magnets.

32. The method of Claim 31, further comprising selecting the third mounting magnets so that at least one third mounting magnet is configured to produce a magnetic field.

33. The method of Claim 25, further comprising selecting the third mounting magnet so that it is configured to produce a magnetic field.

34. The method of Claim 21, further comprising configuring the supporting structure associated with at least one of the mounting magnets to provide at least one of a data and an electrical connection with the object when the object is mounted.

35. The method of Claim 21, further comprising configuring the mounting magnets to include at least one electromagnet so that the total engagement force is adjustable.

36. The method of Claim 21, further comprising configuring the mounting magnets to allow rotational movement of the object when the object is mounted to the mounting surface.

37. The method of Claim 21, further comprising configuring the mounting magnets to provide an effective locking mechanism for the object.

38. The method of Claim 21, wherein the mounting surface comprises a substantially male configuration when the at least one of the mounting magnets that is movable is in the outer limit position.

39. The method of Claim 21, further comprising applying a controlling force to the at least one of the mounting magnets that is movable to control at least the movement or a function of the at least one of the mounting magnets that is movable.

40. The method of Claim 21, further comprising configuring supporting structures associated with the first and second mounting magnets to be substantially flush with one another when the object is not engaged with the first and second mounting magnets.

41. The method of Claim 21, wherein the mounting surface comprises a substantially female configuration when the at least one of the mounting magnets that is movable is in the base limit position.