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(71) Applicant (for all designated States except US):
SEARETE LLC [US/US]; 1756 114th Ave SE #110,
Bellevue, WA 98004 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **FERREN, Bran**
[US/US]; 1326 Benedict Canyon Dr., Beverly Hills,
California 90210 (US). **JUNG, Edward K. Y.** [US/US];
13420 NE 36th Street, Bellevue, Washington 98005-1403
(US). **TEGREENE, Clarence T.** [US/US]; 10629 NE
17th Street, Bellevue, Washington 98004-2834 (US).

(74) Agent: **COOK, Dale R.**; Searete LLC, 1756-114th Av-
enue SE, #110, Bellevue, Washington 98004 (US).

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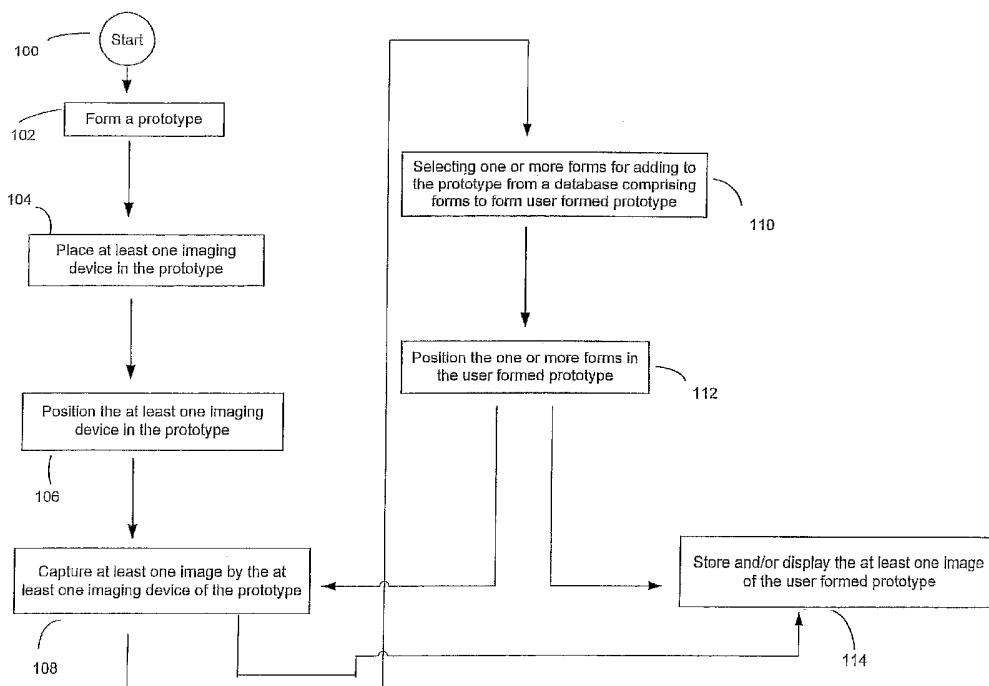
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(54) Title: A SYSTEM FOR MAKING CUSTOM PROTOTYPES



(57) Abstract: A system for making custom prototypes including devices for making the prototype, logic, software, firmware, hardware, circuitry or other components and responsive to user input.

A SYSTEM FOR MAKING CUSTOM PROTOTYPES

TECHNICAL FIELD

The present application relates, in general, to making or customizing prototypes.

SUMMARY

In one aspect, a system includes but is not limited to: a device fabricator responsive to input data to make a prototype; one or more image capture devices alignable to said device fabricator; a database including data representing one or more forms in communication with said device fabricator; and a positioning device coupled to said one or more image capture devices and responsive to user commands to move said one or more image capture devices to capture user selected views of said prototype.. In addition to the foregoing, other system aspects are described in the claims, drawings, and text forming a part of the present application.

In one aspect, a method includes but is not limited to: providing a device operable for forming an arrangement of one or more parts; providing one or more image capture device for providing at least one representation of said arrangement of one or more parts; providing a positioning system operative to align one or more image capture devices to said arrangement of one or more parts; providing a user access to said at least one representation; and providing said user access to a database comprising forms for placing in proximity to said arrangement of parts. In addition to the foregoing, other method aspects are described in the claims, drawings, and text forming a part of the present application.

In another aspect, a method includes but is not limited to: making an arrangement of one or more pieces; positioning one or more objects operable for providing at least one representation of said arrangement of one or more pieces; capturing said at least one representations of said arrangement of one or more pieces; and placing one or more forms from a database comprising forms in proximity to said arrangement of one or more

pieces. In addition to the foregoing, other method aspects are described in the claims, drawings, and text forming a part of the present application.

In another aspect, a system includes but is not limited to: a pattern forming tool generating an archetype; a device for capturing at least one representation of said archetype said device communicable with said pattern forming tool; a user interface in connection with said pattern forming tool and with said device for capturing at least one representation of said archetype and displaying said view of said archetype; a storage medium operably linked to said user interface available for arranging an object from said storage medium in proximity to said archetype; and a software, a logic, or a processing unit in communication with said user interface operable for influencing said pattern comprising a plurality of members and said device for capturing at least one representation.

In one or more various aspects, related systems include but are not limited to circuitry and/or programming for effecting the herein-referenced method aspects; the circuitry and/or programming can be virtually any combination of hardware, software, and/or firmware configured to effect the herein-referenced method aspects depending upon the design choices of the system designer.

In addition to the foregoing, various other method and or system aspects are set forth and described in the text (e.g., claims and/or detailed description) and/or drawings of the present application.

The foregoing is a summary and thus contains, by necessity; simplifications, generalizations and omissions of detail; consequently, those skilled in the art will appreciate that the summary is illustrative only and is NOT intended to be in any way limiting. Other aspects, inventive features, and advantages of the devices and/or processes described herein, as defined solely by the claims, will become apparent in the non-limiting detailed description set forth herein.

BRIEF DESCRIPTION OF THE FIGURES

Figure 1 depicts a logic flow chart of a process for making custom prototypes and/or operating a system for making custom prototypes.

Figure 2 is a plan view of one aspect of the system for making the custom prototypes 200.

Figure 3 is a plan view of another aspect of the system for making custom prototypes 200.

Figure 4 is a plan view of another aspect of the system making custom prototypes 200.

Figure 5 is a plan view of another aspect of the system for making custom prototypes 200.

Figure 6 is a plan view of another aspect of the system for making custom prototypes 200.

The use of the same symbols in different drawings typically indicates similar or identical items.

DETAILED DESCRIPTION

The present application uses formal outline headings for clarity of presentation. However, it is to be understood that the outline headings are for presentation purposes, and that different types of subject matter may be discussed throughout the application (e.g., device(s)/structure(s) may be described under the process(es)/operations heading(s) and/or process(es)/operations may be discussed under structure(s)/process(es) headings). Hence, the use of the formal outline headings is not intended to be in any way limiting.

1. A System for making Custom Prototype(s) and/or Process(es) .

With reference now to Figure 1, shown is a logic flow chart illustrative of various exemplary methods of making a custom prototype(s) and/or designing process(es). Accordingly, the present application first describes an exemplary method of Figure 1; thereafter, the present application illustrates certain exemplary structures. Those having skill in the art will appreciate that the specific devices and processes described herein are intended as merely illustrative of their more general counterparts.

A. Operation(s) and/or Process(es)

With reference to the figures, and with reference now to Figure 1 and with reference to Figure 2, shown is a logic flowchart for operating a system for making custom prototypes 200. The logic flowchart provides an overall or “a big picture”. Those having skill in the art will appreciate that the style of presentation utilized herein (e.g., beginning with a presentation of a flowchart presenting an overall view and thereafter providing the structure and/or devices generally allows for a rapid and efficient understanding of the various process instances).

Continuing to refer to Figure 1, method step 100 depicts the start of the process. Method step 102 depicts the forming/making of a prototype. In one implementation, the prototype is a virtual prototype. In another implementation, the prototype is a non virtual prototype. In yet another implementation, the prototype is a combination of virtual and non-virtual components.

Continuing to refer to Figure 1, method step 104 depicts placing of at least one imaging device in the prototype. The imaging device includes, and is not limited to, for example, an image capture device, such as, an optical capture device, a digital camera, or a video camera. The one or more imaging devices may be connected to the system for

making custom prototypes 200 either individually, as a group, or in smaller sub-groups. In both implementations, the imaging devices can be independently operable or maneuvered.

Continuing to refer to Figure 1, method step 106 depicts positioning or aligning the at least one imaging device in proximity to the prototype. In one implementation, this method step may be invoked to obtain a perspective view of the prototype. In another implementation, this method step may be invoked to locate or zoom in, for example, to discover a feature, a detail, or an item in proximity to the prototype. In another aspect positioning or aligning may allow the at least one imaging device to view information about surrounding features or objects, in addition to the prototype.

Continuing to refer to Figure 1, method step 108 depicts capturing at least one image of the prototype by the at least one imaging device. In one implementation, the captured image may be stored for future manipulation. In another implementation, the captured image may be used to locate or provide a reference. Note that the use of the captured image refers generally to the prototype, but, is not necessarily limited to the prototype alone.

Continuing to refer to Figure 1, method step 110 depicts the selection of one or more forms from a database comprising forms and adding the selected forms in proximity to the prototype making a user formed prototype. In one implementation, upon receiving the captured image, a user selects one or more forms from the database comprising forms for placement in proximity to the prototype. In another implementation, the user may select one or more forms from the database comprising forms to be placed in proximity to the prototype before method step 106. In this implementation, subsequent to the placement of one or more forms in proximity to the prototype the user may position or align the at least one imaging device.

Continuing to refer to Figure 1, in one implementation, method step 110 includes a substep of making at least one of a user specified form by customizing the one or more

forms or creating a new form according to user specifications. Customizing of the one or more forms, includes, and is not limited to, for example, creating new forms, changing the shape, dimension, color, texture, size or another feature of the one or more forms. In one example, the user may change the dimensions of a form, for example, a furniture item, to fit within the prototype, for example, where the prototype is of a house with a plurality of chambers. The forms include, and are not limited to, for example, items of furniture, art, decorations, books, apparel, foliage, or items specific to the prototype. For example, where the prototype is of a restaurant, the forms, include, and are not limited to, items present in a kitchen, items present in a bar, lights and other lighting accessories, or indoor ornaments, such as, restaurant logos and signs, an indoor fountain or other items.

Continuing to refer to Figure 1, method step 112 includes positioning the one or more forms from the database comprising forms or the user specified form in proximity to the prototype. The positioning includes, and is not limited to, for example, aligning, moving, replacing, resizing the form to fit a criterion, or reshaping the form to fit a criterion.

Continuing to refer to Figure 1, upon placing or positioning a user specified form or one or more forms from a database in proximity to the prototype, a user may capture an image with the imaging device as depicted in method step 108. The image of the formed prototype may be stored or displayed as depicted in method step 114. In one implementation the image captured may be stored for future manipulation. In another implementation the user may select additional forms from the database comprising forms, create new forms, reposition, resize, or reshape the forms. In another implementation the user may manipulate the prototype, for example, by specifying new dimensions, shape, color, or texture. It will be appreciated by those having skill in the art that the method for making custom prototypes includes, for example, and is not limited to, incorporating a plurality of characteristics consistent with manipulating, creating, changing, operating, moving, influencing, generating, or obtaining the forms and/or the prototype. It will also be appreciated by those skilled in the art that the changes to the characteristics of the forms or the prototype may be applied universally, individually, or in subsets by the user.

In one implementation, changes within the subset may be applied by, for example, directing changes within a specified area or radius, directing changes to forms with a specified feature, or the like.

Described herein is an exemplary method for making custom prototypes. The user may choose to deviate from the logic flowchart of Figure 1, for example, by skipping a method step or a substep, changing the order of the step or the substep, by adding a step or a substep, or by performing a step or substep simultaneously. It will be appreciated by those skilled in the art that a number of such permutations is likely and within the scope of the invention.

B. Structure(s) and or Device(s)

With reference now to Figure 2, depicted is an aspect of the system for making custom prototypes 200 showing a user interface 201 in communication with a device for making a virtual prototype 214 and a device for making a non-virtual prototype 216. It will be appreciated by those skilled in the art that the type of device for making a non virtual prototype 216 is not critical to the invention and includes, for example, at least one device that forms a non-virtual prototype 206 comprising non-virtual components with a physical body of, such as, for example, ceramic, glass, polymer, plastic, wood, paper, laminate, metal, or composite. Similarly the device for making a virtual prototype 216 may comprise a computer and associated devices for generating or projecting a virtual prototype, a 3-D or 2-D projector, or a holographic projector. In one aspect the associated devices may include a holographic projector including a laser, hologram and related optics.

In one aspect the non-virtual prototype 206 is formed in part manually by the user. User input to make the prototype 206 is provided at the user interface 201, which communicates with the device for making the virtual prototype 214 and the device for making a non-virtual prototype 216, by communication lines 202 and 210, respectively, and the devices 214, 216 in turn communicate with the prototype 206 by communication

lines 208 and 220, respectively. A communication line 224 provides a link between the device for making the virtual prototype 214 and the device for making a non-virtual prototype 216. Additionally, the user interface 201 maintains communication with the prototype 206 by a communication line 204. The communication lines 202, 210, 209, 220, 224, and 204 may be established physically or remotely, for example, wirelessly or non-wirelessly.

Continuing to refer to Figure 2, in one aspect of the invention, user input is provided primarily at the user interface 201. In another approach of the invention, user input is provided at the user interface 201, the device for making a virtual prototype 214, and the device for making a non-virtual prototype 216. In yet another approach of the invention, user input is provided at the user interface 201, the device for making a virtual prototype 214, the device for making a non-virtual prototype 216, and at the prototype 206. In yet another approach of the invention, user input is provided at the user interface 201, and at the prototype 206. In this aspect, user input provided at the prototype 206 includes, and is not limited to, for example, moving or aligning one or more image capture devices 212, adjusting or positioning the one or more forms or the prototype 206.

Continuing to refer to Figure 2, the one or more image capture devices 212 allows/promotes visualization of the prototype 206 and includes, but is not limited to, for example, an analog camera, a digital camera, an analog video camera, or a digital video camera. Operation of the one or more image capture devices 212 may be either remotely or manually. Manual operation of the image capture devices 212 includes, for example, user manipulation or manipulation by an individual responsive to user instructions whereas remote operation includes, for example, manipulation of the one or more image capture devices 212, wirelessly or non-wirelessly. Additionally, the image capture devices 212 may be manipulated at the user interface 201, or at other locations, such as, for example, at the device for making a virtual prototype 214, the device for making a non-virtual prototype 216 or at the prototype 206.

Continuing to refer to Figure 2, the prototype 206 may include both virtual and non-virtual components. In one aspect of the invention, the prototype 206 includes a structure, or a structure at least partially enclosing at least one space, for example, a building construction, an interior of a room, a vehicle, a product body, or an animal body. In another aspect of the invention, the prototype 206 includes a plurality of parts, for example, a city, a landscape, an area, or a product body.

With reference now to Figure 3, depicted is an aspect of the system for making custom prototypes 200 showing the user interface 201 in communication with the device for making the virtual prototype 214. In this aspect of the invention, the prototype 206 is of a vehicle which includes virtual components. For example, the prototype 206 is not necessarily limited to a single object. For example, the prototype 206 may also include the surrounding environment of the prototype 206, for example, a structure which houses the vehicle, or the like. Examples of the prototype 206 includes, but are not limited to, for example, a structure, an object, or a chamber. In this aspect of the invention, the one or more forms included in the database comprising forms are also of a virtual type. Examples of the one or more forms includes, and is not limited to, for example, a selection of plants, trees, furniture, household items, office items, items specific to the prototype 206, or items not specific to the prototype 206. In one approach the one or more forms are tagged for indexing, locating, moving, selecting, or positioning. In another approach, manipulation, positioning, or changing the one or more forms creates a differently tagged form.

With reference now to Figure 4, depicted is an aspect of the system for making custom prototypes 200 showing the user interface 201 in communication with the device for making the non-virtual prototype 216. Examples of the prototype 206 include, but are not limited to, a structure, an object, or a chamber. In this aspect, the one or more forms included in the database comprising forms are also of a non-virtual type. Examples of the one or more forms includes, and is not limited to, for example, a selection of plants, trees, furniture, household items, office items, items specific to the prototype 206, or items not specific to the prototype 206. In one approach the one or more forms are tagged for the

one or more forms are tagged for indexing, locating, moving, selecting, or positioning. Examples of the tag includes, but are not limited to, RFID tags, optically readable indicia or other interrogatable or viewable tags. The tags may uniquely identify the one or more forms, or may identify classes, types, or characteristics of the one or more forms. In another approach, manipulation, positioning, or changing the one or more forms produces a different tag or a modified tag, such as, for example, a different or modified RFID tag.

Forms may be manipulated by varying mechanisms. For example, a motor or an actuator may be coupled to one or more forms to permit their manipulation. Additionally, a magnetic piece may be coupled to or embedded in the one or more forms and a magnetic manipulator used to manipulate the one or more forms. The system for making the custom prototype 200 permits the manipulation, positioning, or changing the one or more forms, or the prototype 206 wirelessly, for example, by an antenna, or non-wirelessly.

Referring now to Figure 5, depicted is an aspect of the system for making custom prototypes 200 showing the user interface 201 in communication with the device for making the non-virtual prototype 216. The prototype 206 depicts a chamber wherein the choice of objects 240 are dependant on the specific prototype. For example, where the prototype 206 depicts an event venue, the choice of objects 240 includes, and is not limited to, for example, seats, lights, tables, art work, staging, decorations, or the like. In this example, the image capture devices 212 are mounted as an array and camouflaged as part of the lighting system.

With reference now to Figure 6, depicted is an aspect of the system for making custom prototypes 200 showing the user interface 201 in communication with the device for making the virtual prototype 214. The prototype 206 depicts a chamber wherein the choice of objects 240 are dependant on the specific prototype. For example, where the prototype 206 depicts an event venue, the choice of objects 240 includes, and is not limited to, for example, seats, lights, tables, art work, staging, decorations or the like.

It will be appreciated by those skilled in the art that the system for making custom prototypes 200 may include all the components, hardware, software, firmware, circuitry, and logic for performing the steps and substeps disclosed herein. For example, the system for making custom prototypes 200, includes a work station with the user interface 201. In this example, the work station includes a processor, coupled to a memory, and a storage medium of suitable size. A software program providing instructions may be stored in the memory to control the devices in communication or to store the information obtained. Additionally, the work station or the user interface 201 may be coupled to additional components for system integrated digital data gathering, processing, storage, compression and transmission. Data may be compressed and stored in the storage medium or transferred to a computer readable or recordable format. Examples of such computer readable or recordable format includes, and is not limited to, floppy disks, hard disk drives, CD ROMs, digital tape, computer memory digital or analog communication links using TDM or IP based communication links (e.g., packet links).

C. Variation(s), and/or Implementation(s)

Those having skill in the art will recognize that the present application teaches modifications of the system, devices, structures, and/or processes within the spirit of the teaching herein. For example, the system for making custom prototypes 200 need not be limited to a static prototype. In one example, the prototype 206 includes a dynamic prototype or a real-time prototype wherein the prototype 206 changes responsive to predefined user or environmental cues or rules. For example, the user may specify a rule or a condition, which may be tracked, for example, by a sensor. In such an example, the prototype 206 provides a model, wherein one or more responses are tracked within the prototype when the rule or condition is met. It will be appreciated by those skilled in the art that the components, circuitry, software, hardware, firmware, or logic for making such a prototype 206 is within the spirit of the invention. Example of such a dynamic prototype, includes, for example, forming a prototype of a plurality of structures scattered in an area. The area may be subject to an environmental condition or event, such as, for

example, flooding, or earthquakes. In such an example, the release of the environmental condition may be tracked by sensors, an alerting system may notify the user of the event, and subsequent to the occurrence of the event the user may respond by strengthening or changing the structures and studying the response of the prototype 206. Other modifications of the subject matter herein will be appreciated by one of skill in the art in light of the teachings herein.

It will be appreciated by those skilled in the art that the present application teaches a system and a method for making the custom prototype 206 is not limited to a new or user formed prototype. The custom prototype 206 may include, for example, and is not be limited to a commercial prototypes, generic prototypes, or patented prototypes. The custom prototype 206 may be made by commercial or patented techniques or methods known in the art. Examples of such prototypes, techniques, or methods are disclosed and incorporated herein by reference; US patent numbers 6623687, 5684713, 5109589, and 4929402, and US patent application numbers US 20020186216A1, and 20030218607A1. Other modifications of the subject matter herein will be appreciated by one of skill in the art in light of the teachings herein.

It will also be appreciated by those skilled in the art that the visualization of the custom prototype 206 can be in real-time continuous mode or in a real-time freeze capture mode. Furthermore, in one exemplary aspect of the invention, the user may choose to operate the image capture device 212 manually. For example, the user may choose to hold, position, reposition, or direct the image capture device 212. Other modifications of the subject matter herein will be appreciated by one of skill in the art in light of the teachings herein.

The foregoing described aspects depict different components contained within, or connected with, different other components. It is to be understood that such depicted architectures are merely exemplary, and that in fact many other architectures can be implemented which achieve the same functionality. In a conceptual sense, any arrangement of components to achieve the same functionality is effectively "associated"

such that the desired functionality is achieved. Hence, any two components herein combined to achieve a particular functionality can be seen as "associated with" each other such that the desired functionality is achieved, irrespective of architectures or intermedial components. Likewise, any two components so associated can also be viewed as being "operably connected", or "operably coupled", to each other to achieve the desired functionality.

While particular aspects of the present subject matter described herein have been shown and described, it will be obvious to those skilled in the art that, based upon the teachings herein, changes and modifications may be made without departing from this subject matter described herein and its broader aspects and, therefore, the appended claims are to encompass within their scope all such changes and modifications as are within the true spirit and scope of this subject matter described herein. Furthermore, it is to be understood that the invention is defined solely by the appended claims. It will be understood by those within the art that, in general, terms used herein, and especially in the appended claims (e.g., bodies of the appended claims) are generally intended as "open" terms (e.g., the term "including" should be interpreted as "including but not limited to," the term "having" should be interpreted as "having at least," the term "includes" should be interpreted as "includes but is not limited to," etc.). It will be further understood by those within the art that if a specific number of an introduced claim recitation is intended, such an intent will be explicitly recited in the claim, and in the absence of such recitation no such intent is present. For example, as an aid to understanding, the following appended claims may contain usage of the introductory phrases "at least one" and "one or more" to introduce claim recitations. However, the use of such phrases should not be construed to imply that the introduction of a claim recitation by the indefinite articles "a" or "an" limits any particular claim containing such introduced claim recitation to inventions containing only one such recitation, even when the same claim includes the introductory phrases "one or more" or "at least one" and indefinite articles such as "a" or "an" (e.g., "a" and/or "an" should typically be interpreted to mean "at least one" or "one or more"); the same holds true for the use of definite articles used to introduce claim recitations. In addition, even if a specific number of an

introduced claim recitation *is* explicitly recited, those skilled in the art will recognize that such recitation should typically be interpreted to mean *at least* the recited number (e.g., the bare recitation of "two recitations," without other modifiers, typically means *at least* two recitations, or *two or more* recitations), etc.

CLAIMS

1. A system, comprising:
 - a device fabricator responsive to input data to make a prototype;
 - one or more image capture devices alignable to said device fabricator;
 - a database including data representing one or more forms in communication with said device fabricator; and
 - a positioning device coupled to said one or more image capture devices and responsive to user commands to move said one or more image capture devices to capture user selected views of said prototype.
2. The system of Claim 1, wherein said device fabricator for making said prototype further comprises:
 - a virtual prototype maker.
3. The system of Claim 2, wherein said virtual prototype maker comprises:
 - a computer simulator, a 3D projector, or a holographic projector.
4. The system of Claim 1, wherein said device fabricator comprises:
 - a non-virtual prototype maker.
5. The system of Claim 4, wherein said prototype comprises:

a physical body of glass, polymer, plastic, wood, paper, laminate, metal, or composite.

6. The system of Claim 1, wherein said prototype further comprises:

a structure.

7. The system of Claim 6, wherein said structure further comprises:

a structure at least partially enclosing at least one space.

8. The system of Claim 7, wherein said structure at least partially encloses enclosing at least one space comprises:

a building construction, an interior of a room, a vehicle, or a product body.

9. The system of Claim 1, wherein said prototype further comprises:

a plurality of parts surrounding at least one cavity.

10. The system of Claim 9, wherein said plurality of parts surrounding at least one cavity comprises:

a building construction, an interior of a room, a vehicle, or a product body.

11. The system of Claim 1, wherein said making a prototype further comprises:

a plurality of parts.

12. The system of Claim 11, wherein said making a prototype comprises:

a city, a landscape, an area, or a product body.

13. The system of Claim 1, wherein said making a prototype further comprises:

at least one user provided specification for influencing said prototype.

14. The system of Claim 13, wherein said at least one user provided specification for influencing said prototype further comprises:

at least one parameter of size, shape, texture, color, or type of material.

15. The system of Claim 1, wherein said database a database including data representing one or more forms further comprises:

at least one user provided specification for influencing, said one or more forms.

16. The system of Claim 15, wherein said at least one user provided specification for influencing, said one or more forms comprises:

at least one parameter of size, shape, texture, color, or type of material.

17. The system of Claim 1, wherein said system further comprises:

software operable to configure said system for selecting, moving, or placing said one or more forms from said database comprising one or more forms to a location in proximity to said prototype or to a new location in proximity to said prototype.

18. The system of Claim 1, wherein said database comprising one or more forms further comprises:

a magnetic piece coupled to said one or more forms or to a subset of said forms and a magnetic manipulator coupled to said magnetic piece to locate, select, or move said forms or said subset of said forms.

19. The system of Claim 1, wherein said database including data representing one or more forms further comprises:

a tag coupled to said forms operable for indexing, detecting, locating, selecting, or moving said one or more forms.

20. The system of Claim 19, wherein said tag comprises:

an RFID tag.

21. The system of Claim 1, wherein said database including data representing one or more forms further comprises:

a selection of plants, trees, furniture, art, household items, office items, or animals.

22. The system of Claim 1, wherein said one or more image capture devices further comprises:

a motor or an actuator coupled to said one or more image capture devices cooperative with said processor and operable for moving said image capture devices.

23. The system of Claim 1, wherein said one or more image capture devices comprises:

an analog camera, a digital camera, an analog video camera, or a digital video camera.

24. The system of Claim 1, wherein said system further comprises:

a wireless communication interface operably-coupled with said one or more image capture devices and said processor.

25. The system of Claim 24, wherein said wireless communication interface comprises:

an antenna.

26. The system of Claim 1, wherein said system further comprises:

a user interface to display a plurality of parameters for manipulating said system.

27. The system of Claim 1, wherein said plurality of parameters for manipulating said system further comprises:

a parameter of size, shape, texture, color, or type of material.

28. The system of Claim 1, wherein said plurality of parameters for manipulating said system comprises:

one or more instructions stored in a memory in communication with a processor for transferring user selected views of said prototype to a computer readable medium.

29. The system of Claim 1, wherein said system further comprises:

a storage medium to store a prototype formed by said user.

30. A method for forming a prototyping system, comprising:

providing a device operable for forming an arrangement of one or more parts;

providing one or more image capture device for providing at least one representation of said arrangement of one or more parts;

providing a positioning system operative to align one or more image capture devices to said arrangement of one or more parts;

providing a user access to said at least one representation; and

providing said user access to a database comprising forms for placing in proximity to said arrangement of parts.

31. The method of Claim 30, wherein said providing a device operable for forming an arrangement of one or more parts further comprises:

forming a virtual arrangement of one or more parts.

32. The method of Claim 31, wherein said forming a virtual arrangement of one or more parts comprises:

coupling a computer simulator, a 3D projector, or a holographic projector.

33. The method of Claim 30, wherein said providing a device operable for forming an arrangement of one or more parts further comprises:

forming a non-virtual arrangement of one or more parts.

34. The method of Claim 33, wherein said forming a non-virtual arrangement of one or more parts comprises:

including a physical body of glass, polymer, plastic, wood, paper, laminate, metal, or composite.

35. The method of Claim 30, wherein said providing a user access to said device operable for forming an arrangement of one or more parts further comprises:

forming said arrangement of one or more parts according to said user specifications.

36. The method of Claim 30, wherein said providing a user access to said device operable for forming an arrangement of one or more parts further comprises:

forming a structure.

37. The method of Claim 30, wherein said providing a user access to said device operable for forming an arrangement of one or more parts further comprises:

forming a structure enclosing at least one space or a plurality of parts surrounding at least one cavity.

38. The method of Claim 37, wherein said providing a user access to said device operable for forming an arrangement of one or more parts comprises:

a building construction, an interior of a room, a vehicle, or a product body.

39. The method of Claim 30, wherein said providing a user access to said device operable for forming an arrangement of one or more parts further comprises:

sizing or resizing said arrangement of one or more parts.

40. The method of Claim 30, wherein said one or more objects operable for capturing at least one representation of said arrangement of one or more parts further comprises:

configuring said one or more objects operable for capturing at least one representation of said arrangement of one or more parts for manipulation by said user.

41. The method of Claim 30, wherein said one or more objects operable for providing at least one representation of said arrangement of one or more parts comprises:

coupling an analog camera, a digital camera, an analog video camera, or a digital video camera.

42. The method of Claim 30, wherein said providing a user access to a database comprising forms for placing in proximity to said arrangement of parts further comprises:

sizing, shaping, coloring, or texturing said forms according to said user provided specification.

43. The method of Claim 30, wherein said providing a user access to a database comprising forms comprises:

including a selection of plants, trees, furniture, art, household items, office items, or animals in said database comprising forms.

44. The method of Claim 30, wherein said providing a user access to a database comprising forms for placing in proximity to said arrangement of parts further comprises:

including a magnetic part coupled to said one or more forms or to a subset of said forms and a magnetic manipulator coupled to said one or more forms or to a subset of said forms operable for locating, selecting, or moving said forms.

45. The method of Claim 30, wherein said providing said user access to a database comprising forms for placing in proximity to said arrangement of parts further comprises:

coupling a tag to said forms operable for indexing, detecting, locating, selecting, or moving said forms.

46. The method of Claim 30, wherein said coupling a tag to said forms operable for indexing, detecting, locating, selecting, or moving said forms comprises:

coupling a RFID tag to said forms.

47. The method of Claim 30, wherein said placing one or more objects operable for capturing at least one representation of said arrangement of one or more parts further comprises:

coupling a motor or an actuator to said one or more objects operable for capturing at least one representation of said arrangement of one or more parts for moving said one or more objects and obtaining a new representation.

48. The method of Claim 30, wherein said providing a device operable for forming an arrangement of one or more parts further comprises:

coupling a memory in communication with a processor for storing said forming an arrangement of one or more parts.

49. The method of Claim 48, wherein said coupling a memory in communication with a processor operable for storing said forming an arrangement of one or more parts further comprises:

storing one or more instructions in said memory for transferring information to a computer readable medium.

50. The method of Claim 49, wherein said providing a device operable for forming an arrangement of one or more parts comprises:

including a logic or a processor operably coupled to said memory.

51. The method of Claim 30, wherein said method for forming a prototyping system further comprises:

coupling a wireless communication interface to said one or more objects operable for capturing at least one representation of said arrangement of one or more parts.

52. The method of Claim 51, wherein said method for forming a prototyping system comprises:

including an antenna coupled to said wireless communication interface.

53. A method for prototyping, comprising:

making an arrangement of one or more pieces;

positioning one or more objects operable for providing at least one representation of said arrangement of one or more pieces;

capturing said at least one representations of said arrangement of one or more pieces; and

placing one or more forms from a database comprising forms in proximity to said arrangement of one or more pieces.

54. The method of Claim 53, wherein said making an arrangement of one or more pieces further comprises:

moving, sizing, resizing, shaping, coloring, or texturing said making an arrangement of one or more pieces.

55. The method of Claim 53, wherein said making an arrangement of one or more pieces further comprises:

selecting a virtual image of said making an arrangement of one or more pieces.

56. The method of Claim 53, wherein said making an arrangement of one or more pieces further comprises:

selecting a non-virtual image of said making an arrangement of one or more pieces.

57. The method of Claim 56, wherein said selecting said non-virtual image of said making an arrangement of one or more pieces comprises:
- selecting a non-virtual image of glass, polymer, plastic, wood, paper, laminate, metal, or composite.
58. The method of Claim 53, wherein said making an arrangement of one or more pieces further comprises:
- storing said making an arrangement of one or more pieces.
59. The method of Claim 53, wherein said positioning one or more objects operable for providing at least one representation of said arrangement of one or more pieces further comprises:
- moving, or guiding said one or more objects operable for providing at least one representation of said arrangement of one or more pieces.
60. The method of Claim 53, wherein said placing one or more forms from a database comprising forms in proximity to said arrangement of one or more pieces further comprises:
- detecting, locating, selecting, or moving said forms from said database comprising forms.
61. The method of Claim 53, wherein said placing one or more forms from said database comprising forms in proximity to said arrangement of one or more pieces further comprises:

employing a magnet and a magnetic manipulator coupled to said forms for detecting, locating, selecting, or moving said forms from said database comprising forms.

62. The method of Claim 53, wherein said placing one or more forms from said database comprising forms in proximity to said arrangement of one or more pieces further comprises:

sizing, resizing, shaping, or moving said forms from said database comprising forms.

63. A system, comprising:

a pattern forming tool generating an archetype;

a device for capturing at least one representation of said archetype said device communicable with said pattern forming tool;

a user interface in connection with said pattern forming tool and with said device for capturing at least one representation of said archetype and displaying said view of said archetype;

a storage medium operably linked to said user interface available for arranging an object from said storage medium in proximity to said archetype; and

a software, a logic, or a processing unit in communication with said user interface operable for influencing said pattern comprising a plurality of members and said device for capturing at least one representation.

64. The system according to Claim 63, wherein said pattern forming tool further comprises a virtual or a non-virtual archetype generator.

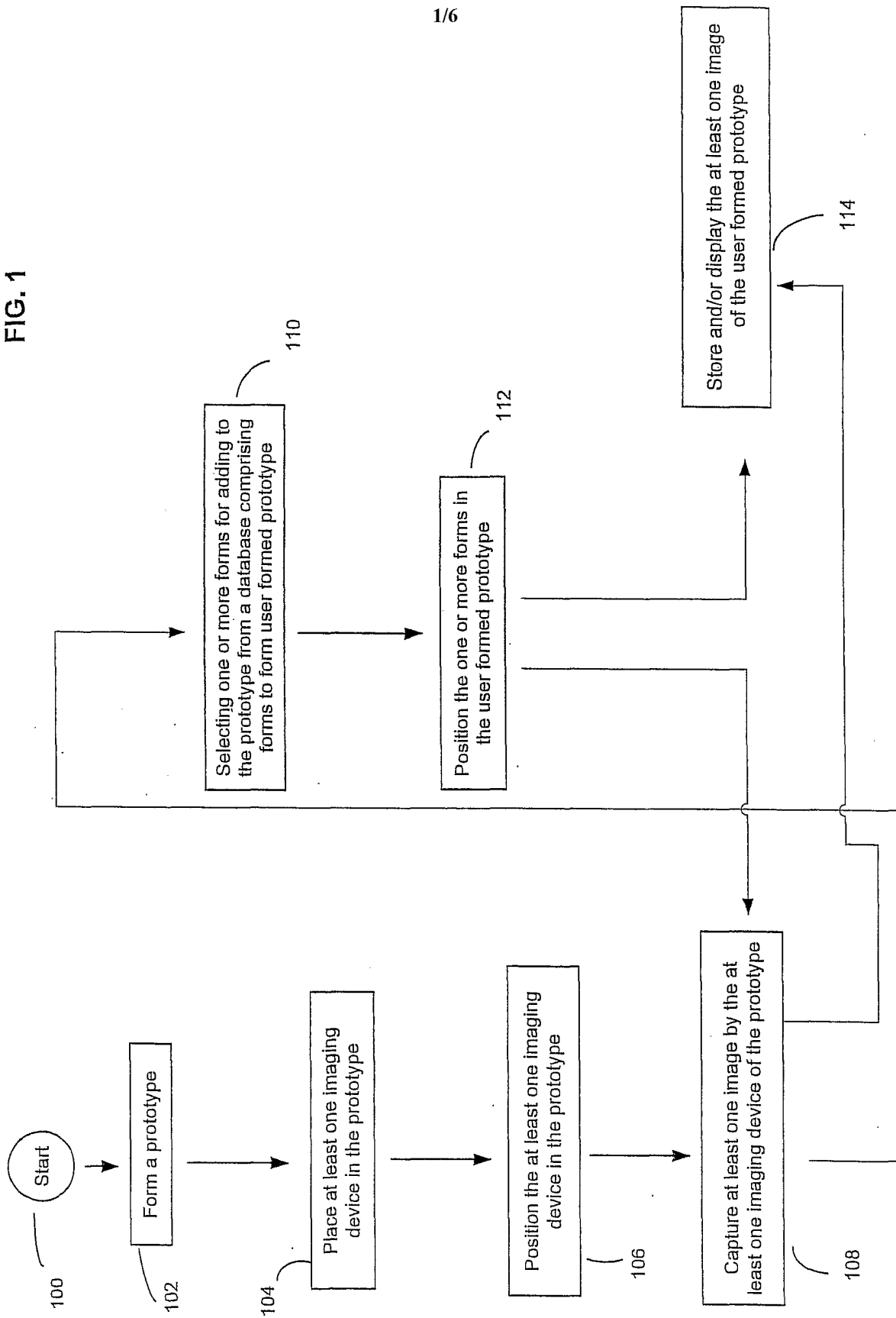
65. The system according to Claim 63, wherein said archetype further comprises a plurality of members.

66. The system according to Claim 65, wherein said plurality of members comprises a physical body of glass, polymer, plastic, wood, paper, laminate, metal, composite, projection, 3 dimensional image, computer simulation, or hologram.

67. The system according to Claim 63, wherein said archetype is a structure.

68. The system according to Claim 63, wherein said archetype is a structure surrounding at least one cavity.
69. The system according to Claim 63, wherein said archetype is a building construction, an interior of a room, a vehicle, or a product body.
70. The system according to Claim 63, wherein said archetype includes at least one parameter of size, shape, texture, color, or type of material specified by a user.
71. The system according to Claim 63, wherein said object from said storage medium includes at least one parameter of size, shape, texture, color, or type of material specified by a user.
72. The system according to Claim 63, further comprising a tag coupled to said object from said storage medium.
73. The system according to Claim 63, further comprising a magnetic tag and a magnetic manipulator coupled to said object.
74. The system according to Claim 63, further comprising a wireless interface coupled to said software, logic, or processing unit.
75. The system according to Claim 74, wherein said wireless interface includes an antenna.

FIG. 1



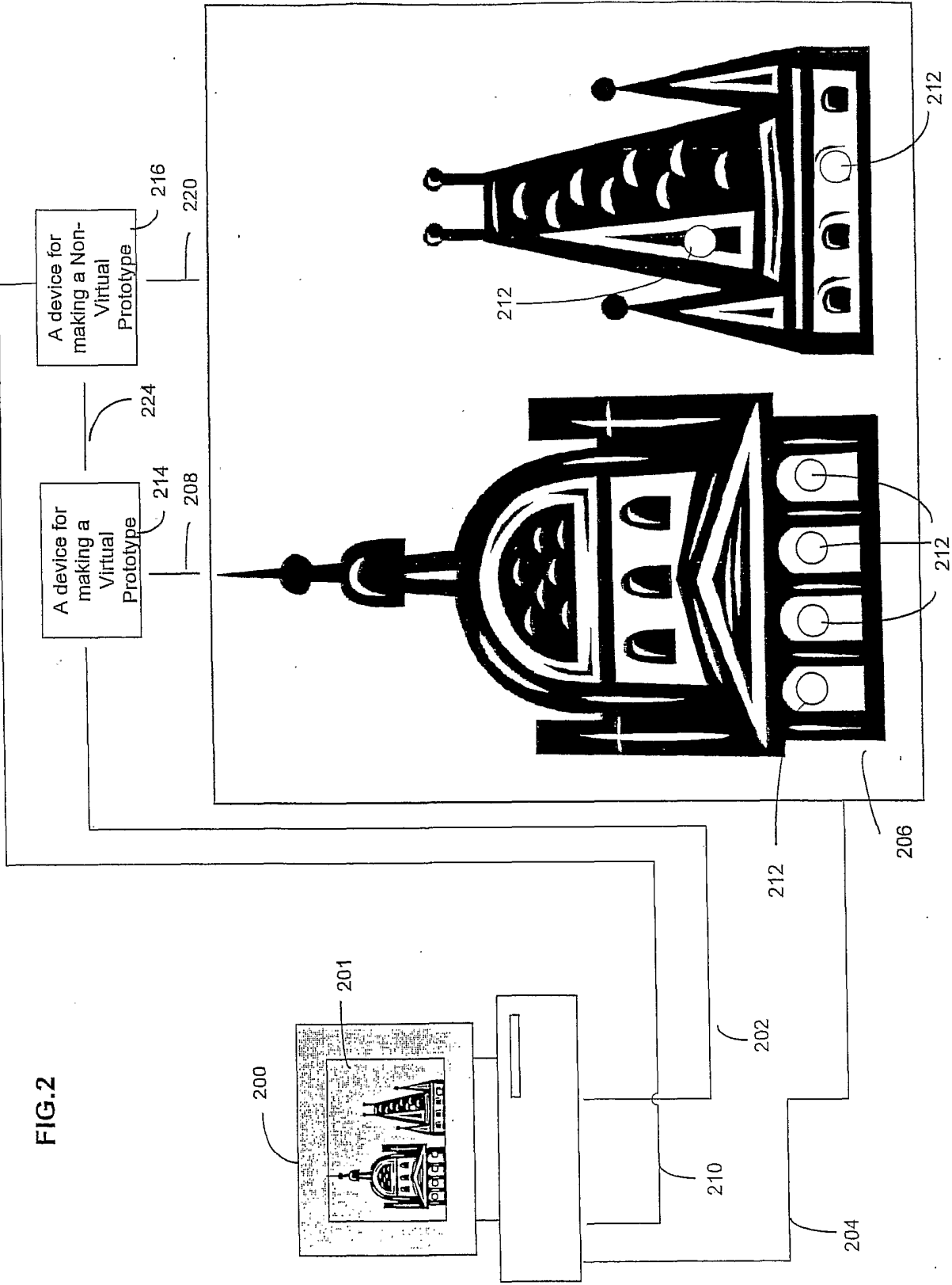


FIG 3

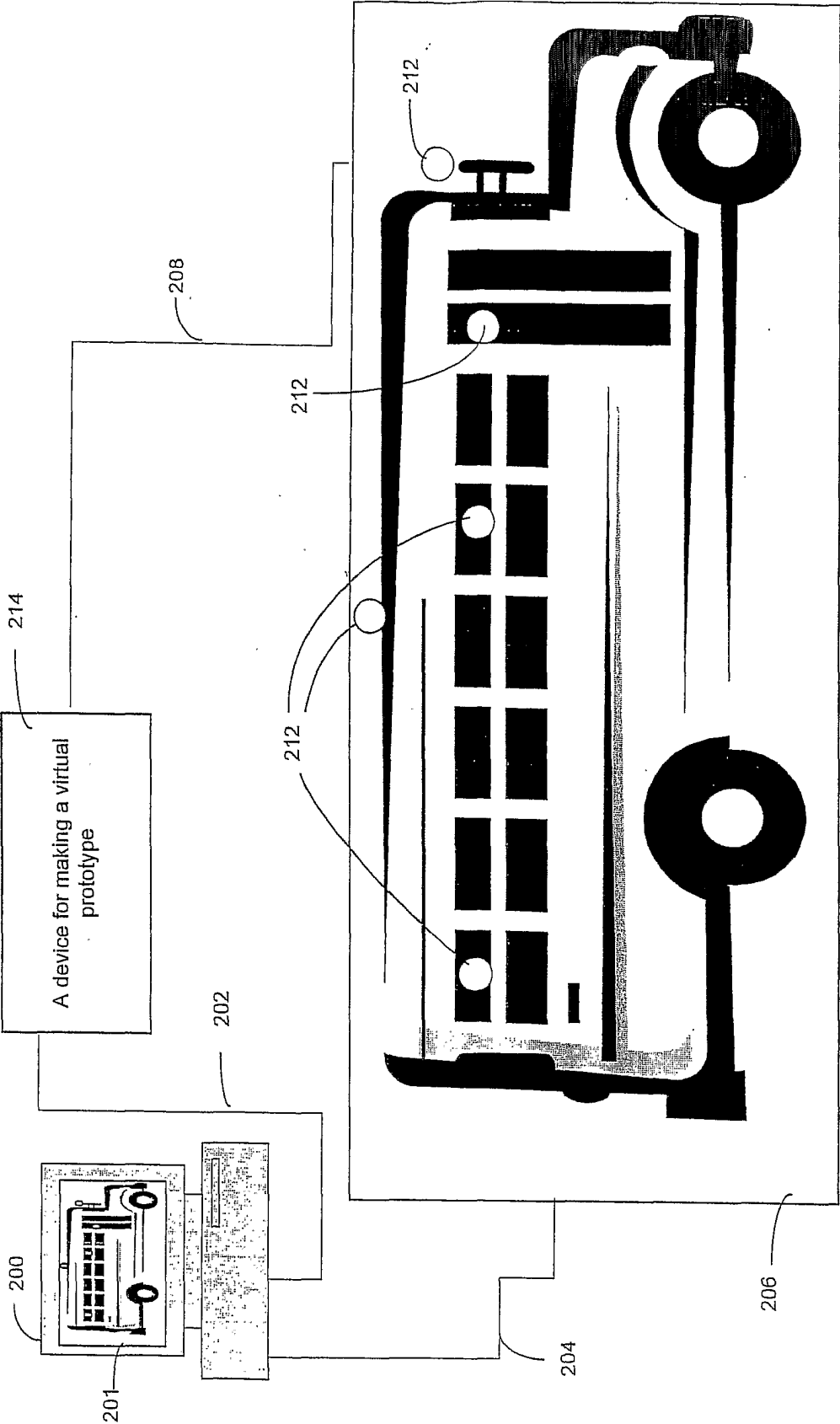


FIG. 4

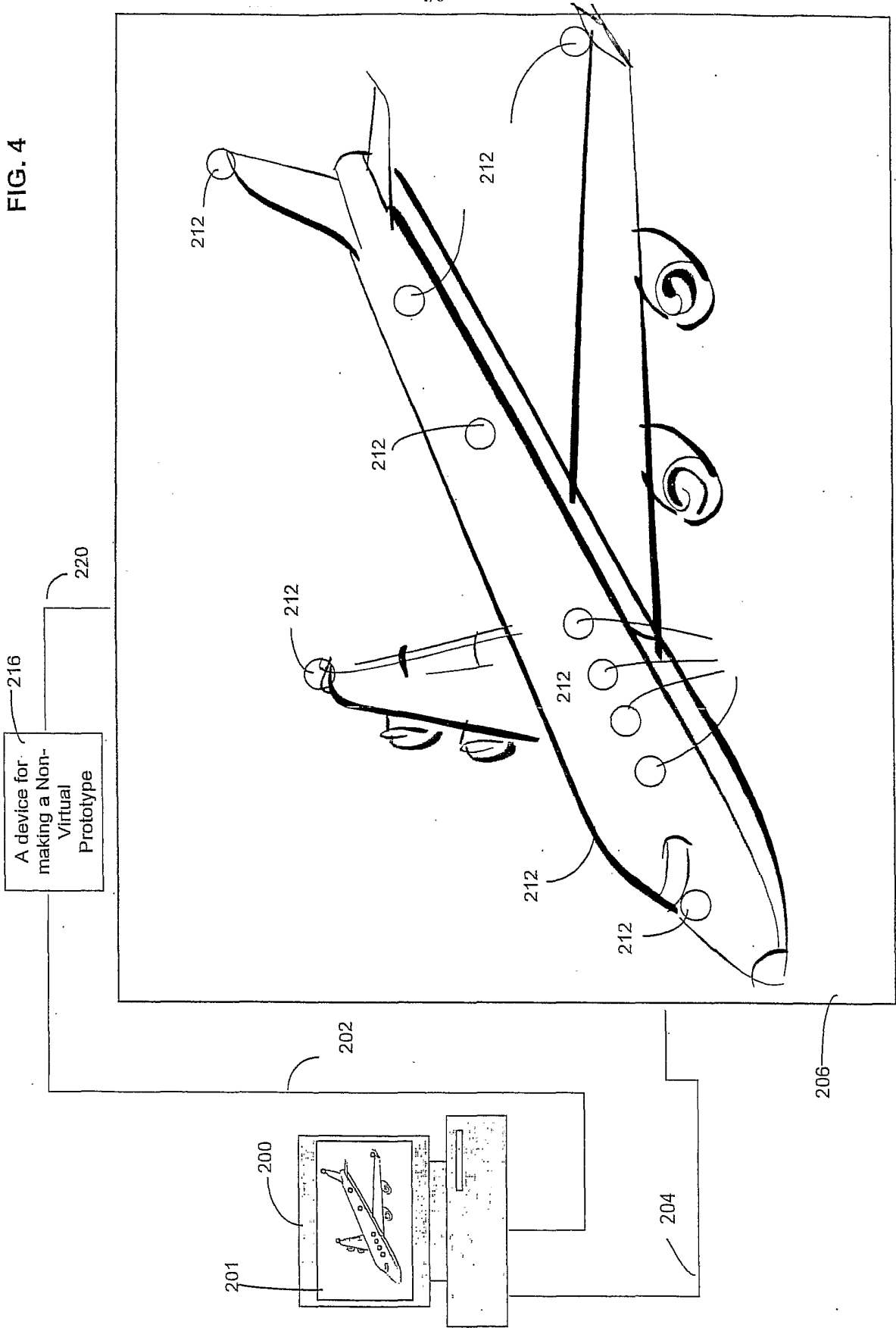


FIG. 5

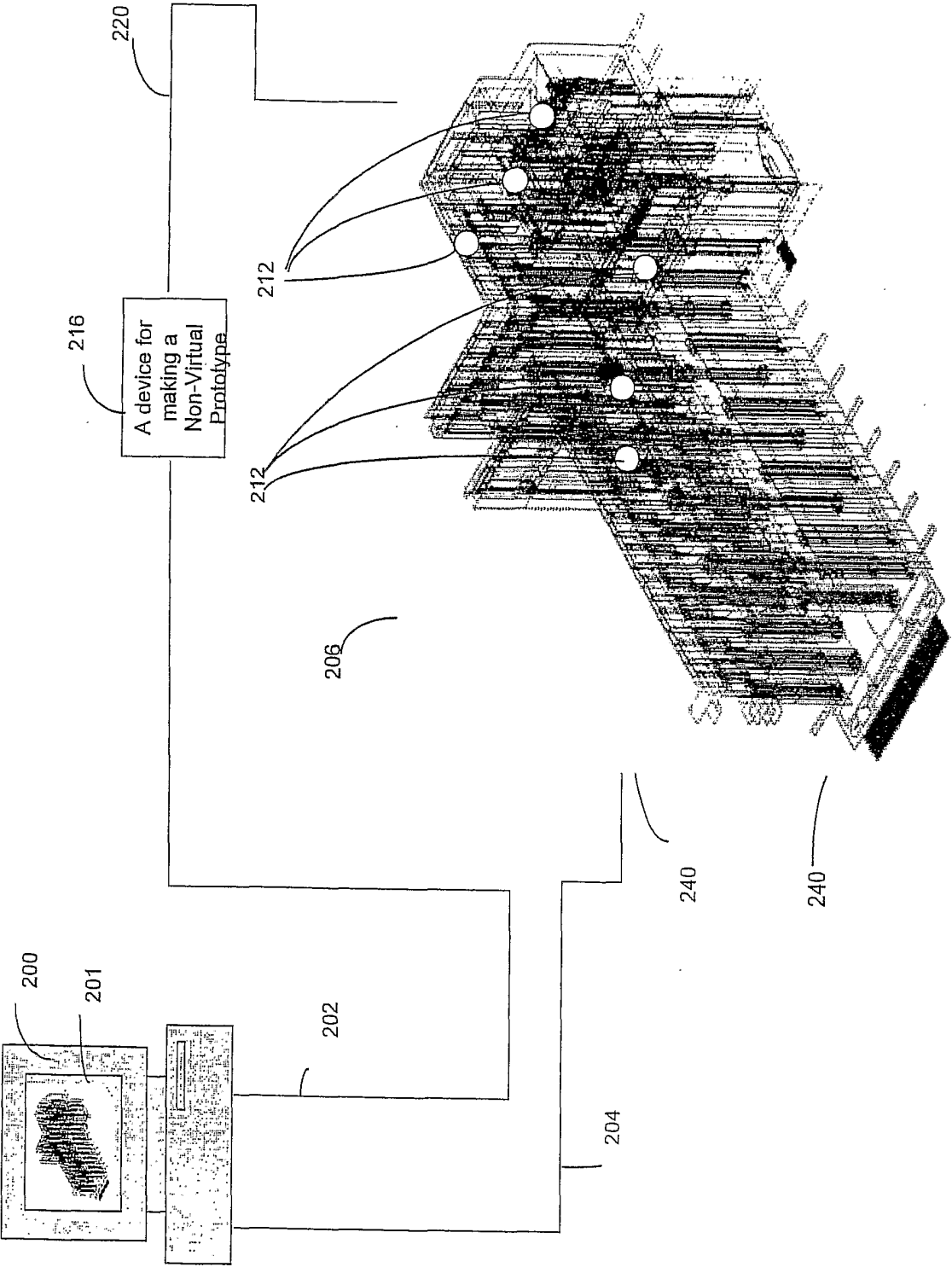


FIG. 6

