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Customized article type

Abstract

A method of making an article of footwear is disclosed. The method may include the steps of selecting a family of article types, selecting a customized article type, manufacturing an article of footwear with the customized article type and shipping the article of footwear to a pre-designated shipping address. The customized article type can be configured with a user selected characteristic. The method can also include limiting the number of article types displayed to a user at any time.

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Background/Summary

CROSS-REFERENCE TO RELATED APPLICATIONS (1) This present application is: (a) a continuation of co-pending U.S. patent application Ser. No. 17/156,134, filed Jan. 22, 2021, which application is (b) a continuation of U.S. patent application Ser. No. 16/829,741, filed Mar. 25, 2020, now U.S. Pat. No. 10,905,201 B2, which is (c) a continuation of U.S. patent application Ser. No. 15/948,138, filed Apr. 9, 2018, now U.S. Pat. No. 10,617,178 B2, which is (d) a continuation of U.S. patent application Ser. No. 14/609,622, filed Jan. 30, 2015, now U.S. Pat. No. 9,949,534 B2, which is (e) a continuation of U.S. patent application Ser. No. 13/327,312, filed Dec. 15, 2011, now U.S. Pat. No. 9,009,614 B2. The content of each of the above noted applications is hereby incorporated by reference in its entirety for any and all non-limiting purposes.

BACKGROUND
(1) The present invention relates generally to footwear, and in particular the present invention relates to a method of making an article of footwear.
(2) Articles of footwear may generally comprise an upper and a sole. The sole may include an outsole, a midsole and/or an insole. The upper may be used to secure the sole to the foot.
SUMMARY
(3) In one aspect, a method of customization for an article of footwear includes receiving a selected family of article types and providing a set of article types according to the family of article types. Each article type in the set of article types has a different height. Providing the set of article types includes sending information related to the set of article types to a program running on a computing system. The information related to the set of article types is configured for use in visibly representing the set of article types within the program. The method further includes receiving a user selected article type from the set of article types and manufacturing the article of footwear corresponding to the user selected article type, the article of footwear having a height corresponding with the user selected article type.
(4) In another aspect, a method of customization for an article of footwear includes receiving a selected family of article types. The method further includes providing a set of article types according to the family of article types, where each article type in the set of article types has a different upper mesh spacing size and where providing the set of article types includes sending information related to the set of article types to a program running on a computing system. The information related to the set of article types is configured for use in visibly representing the set of article types within the program. The method also includes receiving a user selected article type from the set of article types and manufacturing the article of footwear corresponding to the user selected article type. The article of footwear has an upper mesh spacing size corresponding with the user selected article type.
(5) In another aspect, a method of customization for an article of footwear includes providing a set of article types, where providing the set of article types includes sending information related to the set of article types to a program running on a computing system. The information related to the set of article types is configured for use in visibly representing the set of article types within the program. The method also includes receiving a user selected article type from the set of article

types and providing a group of variable article characteristics for the user selected article type, where each variable article characteristic in the group of variable article characteristics has a range of values. At least one of the variable article characteristics in the group of variable article characteristics is a sole density for a sole of the article of footwear. The method further includes receiving information related to a user selected article characteristic for at least one variable article characteristic in the group of variable article characteristics and manufacturing the article of footwear corresponding to the user selected article type. The article of footwear has the user selected article characteristic.

(6) In another aspect, a method of customization for an article of footwear includes providing a set of article types, where providing the set of article types includes sending information related to the set of article types to a program running on a computing system. The information related to the set of article types is configured for use in visibly representing the set of article types within the program. The method further includes receiving a user selected article type from the set of article types and providing a group of variable article characteristics for the user selected article type, where each variable article characteristic in the group of variable article characteristics has a range of values. At least one of the variable article characteristics in the group of variable article characteristics is a height for a sole of the article of footwear. The method also includes receiving information related to a user selected article characteristic for at least one variable article characteristic in group of variable article characteristics and manufacturing the article of footwear corresponding to the user selected article type, the article of footwear having the user selected article characteristic.

(7) In another aspect, a method of customization for an article of footwear includes providing information related to a first family of article types and a second family of article types, the second family of article types being different from the first family of article types. The method also includes receiving a selected family of article types corresponding to the first family of article types. The method further includes retrieving a maximum number of article types to be displayed and selecting a constrained number of article types of be displayed that is less than the maximum number of article types to be displayed. The method also includes providing a set of article types according to the selected family of article types, where each article type in the set of article types has a different physical characteristic, and where the number of article types in the set of article types is equal to the constrained number of articles types. Providing the set of article types includes sending information related to the set of article types to a program running on a computing system, where the information related to the set of article types is configured for use in visibly representing the set of article types within the program. The method also includes receiving a user selected article type from the set of article types and manufacturing the article of footwear corresponding to the user selected article type.

(8) Other systems, methods, features and advantages of the embodiments will be, or will become, apparent to one with skill in the art upon examination of the following figures and detailed description. It is intended that all such additional systems, methods, features and advantages be included within this description, be within the scope of the embodiments, and be protected by the following claims.

Description

BRIEF DESCRIPTION OF THE DRAWINGS
(1) The embodiments can be better understood with reference to the following drawings and description. The components in the figures are not necessarily to scale, emphasis instead being placed upon illustrating the principles of the embodiments. Moreover, in the figures, like reference numerals designate corresponding parts throughout the different views.

(2) FIG. **1** is a schematic view of an illustrative embodiment of a customization system;

(3) FIG. **2** is an embodiment of a process for a customization system;

(4) FIG. **3** is an embodiment of a detailed process for a customization system;

(5) FIG. **4** is an embodiment of a graphical interface system with article types representing families of articles of footwear;

(6) FIG. **5** is an embodiment of a graphical interface system with customized article types;

(7) FIG. **6** is a schematic view of an embodiment of a customized article type associated with a position on a graphical slider that may be manipulated by a customer;

(8) FIG. **7** is a schematic view of an embodiment of a customized article type associated with a position on a graphical slider that may be manipulated by a customer;

(9) FIG. **8** is a schematic view of an embodiment of a customized article type associated with a position on a graphical slider that may be manipulated by a customer;

(10) FIG. **9** is an alternative embodiment of a graphical interface system with a set of a customized article types;

(11) FIG. **10** is an enlarged view of an exemplary embodiment of a customized article set;

(12) FIG. **11** is a schematic view of an embodiment where a user can select a sole material for an article type;

(13) FIG. **12** is a schematic view of an embodiment where a user can select an upper material for an article type;

(14) FIG. **13** is a schematic view of an embodiment where a user can select a toe cap for an article type;

(15) FIG. **14** is a schematic view of an embodiment where a user is shown a preview of a customized article type;

(16) FIG. **15** is an exemplary embodiment of a manufactured pair of footwear with a customized article type;

(17) FIG. **16** is an exemplary embodiment of a portion of a database of customized article types with an associated number manufactured and a manufacture limit;

(18) FIG. **17** is an exemplary embodiment of a graphical interface system displaying a customized article type that is no longer available;

(19) FIG. **18** is an embodiment of a process for ensuring exclusivity of customized article types; and

(20) FIG. **19** is an embodiment of a process for allowing a user to determine if a customize article type may be shared with other users.

DETAILED DESCRIPTION OF THE EMBODIMENTS

(21) FIG. **1** is a schematic diagram of an illustrative embodiment of customization system **101**. The term "customization system", as used throughout this detailed description, refers to a system for manufacturing articles of footwear that include a customized design of some kind. In some embodiments, the article may be customized by the manufacturer or a third party designer. In one embodiment, the article may be customized by the party purchasing the articles of footwear.

(22) In one embodiment, customization system **101** comprises remote terminal **100** connected to vendor **102** by way of network **104**. Generally, remote terminal **100** may be any type of computer, including either a desktop or a laptop computer. In other embodiments, remote terminal **100** may be any type of device that includes a display, a processor, and an ability to transmit and receive data from a remote network. Examples of such devices include, but are not limited to, PDA's, cell phones, as well as other types of devices.

(23) In this embodiment, vendor **102** represents a manufacturing system configured to manufacture articles of footwear. Here, vendor **102** is shown as a single building for illustrative purposes only. In many cases, vendor **102** will comprise many buildings. In some cases, vendor **102** may comprise many buildings that are disposed in different geographic locations. Generally, the term "vendor", as used here, may also refer to distributors and/or suppliers. In other words, the term "vendor" may

also apply to various operations on the manufacturing side, including the operations responsible for parts, labor, and/or retail of the article of footwear, as well as other manufacturing side operations.

(24) In one embodiment, network **104** is configured to relay information between remote terminal **100** and vendor **102**. Generally, network **104** may be a system allowing for the exchange of information between remote terminal **100** and vendor **102**. Examples of such networks include, but are not limited to, personal area networks, local area networks, wide area networks, client-server networks, peer-to-peer networks, as well as other types of networks. Additionally, network **104** may support wired transmissions, wireless transmissions, or both wired and wireless transmissions. In some embodiments, network **104** may be a packet-switched communications system. In one embodiment, network **104** may be the Internet.

(25) In this embodiment, customization system **101** may include provisions that allow a customer to select a customized article type for a pair of footwear that will be produced by a vendor. The term "article type", as used throughout this detailed description, refers to a classification of an article of footwear based on the general structure and physical aspects of the article of footwear. In other words, the term "article type" may include characterizations of articles of footwear including, but not limited to, running shoes, basketball shoes, soccer shoes, athletic shoes with cleats, hiking shoes, loafers, boots, sandals, work shoes, dance shoes, and orthopedic shoes.

(26) Referring to FIG. **2**, process **200** is an embodiment of a process of how customization system **101** may proceed. During first step **202**, a customer may access a graphical interface system in order to select a customized article type. Once the customer has accessed the graphical interface system, the customer may select a customized article type during second step **204**. Following this, the customized article type may be manufactured according to the customer's selection during third step **206**. Finally, during fourth step **208**, the customized article type of footwear may be shipped to the customer.

(27) Referring to FIG. **3**, customization system **101** may be best understood by separating the steps associated with remote terminal **100** and those associated with vendor **102**. In some cases, those steps associated with remote terminal **100** are performed on or by remote terminal **100** and those steps associated with vendor **102** are performed on or by vendor **102**. However, this is not necessarily the case, and some of the steps associated with remote terminal **100** may be performed on or by vendor **102** or some other resource, and some of the steps associated with vendor **102** may be performed on or by remote terminal **100** or some other resource.

(28) In first step **302**, a customer may access a graphical interface system with remote terminal **100**. In some cases, the customer may access the graphical interface system through a website. Here, the term "website" is used in the most general sense as meaning any collection of data located on a remote server accessible with a web browser of some kind. In many cases, a website may be a collection of web pages found on the World Wide Web. In one embodiment, the term "web page" may refer to any HTML/XHTML document.

(29) In one embodiment, vendor **102** includes a server of some type that supports a website with a graphical interface system. This graphical interface system may be used to design a customized article type. In some embodiments, the graphical interface system may be a graphical editor of some kind. In one embodiment, the graphical interface system may provide a set of tools that allow the customer to easily select a customized article type for an article of footwear.

(30) In an alternative embodiment, a website supporting a graphical interface system may be hosted outside of vendor **102**. In other words, the website may be owned and run by a third party separate from vendor **102**. Generally, the process of selecting a customized article type for an article of footwear may proceed as before. In this case, the finalized customized article type information will be processed and sent to vendor **102** by the third party.

(31) Although a graphical interface system may be accessed via a website through the Internet in one embodiment, in other embodiments, the graphical interface system could be accessed in other ways. For example, in some embodiments, the graphical interface system could be run directly on a

remote terminal. In other words, the graphical interface system could be a program that can be installed on a remote terminal. In some cases, the graphical interface system could be installed on a personal computer of a customer. In other cases, the graphical interface system could be installed on a remote terminal located at a retail store or kiosk. In these cases, the graphical interface system may still communicate with one or more vendors through a network, such as the Internet, in order to provide customer ordering information for the customized product. Additionally, in some cases, the remote terminal could print order forms that could then be sent to one or more vendors by a courier or a postal service.

(32) Once the customer has accessed the graphical interface system, the customer may select a family of article types in second step **304**. The term "family of article types", as used throughout this specification and in the claims, refers to a group of article types sharing substantially similar features. In one embodiment, article types may be grouped in families based on similar features including both color and/or design. For example, articles colored black and silver could be grouped into one family, while articles colors blue and gold could be grouped into another family. In another embodiment, article types may be grouped in families based on similar technological features. For example, articles sharing a common technology to provide shock absorption could be grouped in one family, while articles sharing a common technology to provide increased cushioning to a portion of a sole could be grouped into another family.

(33) It should be understood that a family of article types may include a spectrum of article types. For example, a family of article types with a common design feature may contain article types such as a running shoe as well as a hiking boot. In addition, a family of article types can also include different features as well as substantially similar features.

(34) It may also be possible for an article type to have membership in multiple families. For example, an article type may be a member of a first family based on technological features of the article type and a member of a second family based on color.

(35) Following the selection of a family of article types, the customer may select a customized article type in third step **306**. During fourth step **308**, the finalized customized article type may be submitted to vendor **102**. In some embodiments, the submission may be transferred through the Internet.

(36) In fifth step **310**, vendor **102** may receive and reviews the customized article type. During sixth step **312**, vendor **102** manufactures a pair of footwear with the customized article type. Following sixth step **312**, vendor **102** may execute quality control procedures and inspects the pair of footwear with the customized article type during seventh step **314**. Finally, in eighth step **316**, vendor **102** ships the pair of footwear with the customized article type to a pre-designated shipping address.

(37) The following description discusses the details of the steps outlined and briefly described with reference to FIG. **3**. In some cases, a customer has access to a remote terminal. Using the remote terminal, the customer may gain access to a website supplied by a vendor or a third party. In some embodiments, the website may include a graphical interface system, as discussed briefly in first step **302**.

(38) The process of creating a customized type of footwear may begin with a customer selecting one or more article types. In some embodiments, a customer may select one or more article types from a list of pre-selected article types. In some cases, this list can be provided by a vendor. In other embodiments, a customer may select two or more article types from a list of pre-selected article types. In one embodiment, a customer may select a family of article types.

(39) FIG. **4** is an embodiment of graphical interface system **400** that displays four families of articles of footwear. In particular, graphical interface system **400** displays first family **401**, second family **402**, third family **403** and fourth family **404**. In other embodiments, graphical interface system **400** may display more or less families of articles of footwear. In some cases, graphical interface system **400** may provide scroll bar **410** to allow a customer to view additional families of

footwear. In other cases, graphical interface system **400** may include other provisions to allow a customer to view additional families of footwear.

(40) In one embodiment, each family of footwear is associated with a plurality of article types. In some embodiments, each family of footwear may include two pre-selected article types. In other embodiments, each family of footwear may include three pre-selected article types. In still other embodiments, each family of footwear may include four or more pre-selected article types. In this embodiment, each family is associated with three pre-selected article types.

(41) For the sake of clarity, the graphical images of the article types will be referred to as article types, but it should be understood that the article types displayed by graphical interface system **400** are in fact graphical representations of actual articles of footwear. Additionally, throughout this specification, it should be understood that not only a single article of footwear, but a pair of footwear may be designed with customization system **101**. Any customized article types, as well as designs, tools, or other mechanisms applied to the design of one article of footwear, may likewise be applied to a second, complementary, article of footwear. The term "complementary", as used throughout this specification and in the claims, refers to the association of a left article of footwear with a right article of footwear and vice-versa.

(42) In one embodiment, the three article types associated with first family **401**, second family **402**, third family **403** and fourth family **404** share common features. In this embodiment, the article types comprising first family **401** may include a common design such as substantially similar trim designs. Although first family **401** includes article types with a common design, first family **401** is also comprised of multiple article types. In particular, first family **401** is represented by first article type **431**, second article type **432**, and third article type **433**. In some cases, first article type **431** may be a walking shoe, second article type may be a running shoe and third article type **433** may be a hiking boot.

(43) In a similar manner, second family **402** may comprise article types with a black and gold color scheme. Likewise, third family **403** may include article types employing a particular technological feature. Finally, fourth family **404** may include article types colored pink. In other embodiments, first family **401**, second family **402**, third family **403** and fourth family **404** may be grouped based on other common features.

(44) In one embodiment, graphical interface system **400** allows a customer to select a family of article types to create a customized article type. Generally, graphical interface system **400** may be configured in any manner to allow a customer to select a family of article types. In this embodiment, graphical interface system **400** includes selection tool **420**. Selection tool **420** is represented by a cursor configured as an arrow. In other cases, selection tool **420** may include a different graphical representation. With selection tool **420**, graphical interface system **400** allows a customer to select a family of article types. In this embodiment, a customer selects first family **401** with selection tool **420**.

(45) Following the selection of a family of article types, graphical interface system **400** may be configured to allow a customer to create a customized article type based on the selected family. In some embodiments, a customer may select one or more article types from a list of pre-selected article types within the selected family. In one embodiment, a customer may create a customized article type by first viewing two representative article types of the selected family of article types. In some cases, the two representative article types of the family may be the two representatives that are the most dissimilar. For example, two representative article types of a family of article types with a common design feature may be a first article type of a running shoe with a low-top upper comprised of a wide spaced mesh material and light-weight sole and a second article type of a hiking boot with a high-top upper comprised of leather and a heavy-weight sole. With this arrangement, graphical interface system **400** is configured to allow a customer to create a customized article type that may be an intermediate type of the representative article types of the selected family.

(46) FIG. **5** is an embodiment of graphical interface system **400** following the selection of first family **401** in FIG. **4**. In this embodiment, graphical interface system **400** displays two representative article types of first family **401**. In particular, graphical interface system **400** displays first representative article type **531** and second representative article type **532** as representative article types of first family **401**.

(47) In one embodiment, first representative article type **531** and second representative article type **532** are two different article types. In this embodiment, first representative article type **531** is a running shoe. In one embodiment, first representative article type **531** includes a light-weight sole and a low-top upper with height H1. In contrast, second representative article type **532** is a hiking boot. In one embodiment, second representative article type **532** includes a thick sole with treads and a high-top upper with height H2. In one embodiment, height H2 is greater than height H1. Using this arrangement, first representative article type **531** and second representative article type **532** may provide dissimilar article types in order to allow a customer to create a customized article type that may be an intermediate type between first representative article type **531** and second representative article type **532**.

(48) Generally, graphical interface system **400** may be configured in various ways to allow a customer to create a customized article type that is an intermediate type between first representative article type **531** and second representative article type **532**. In some embodiments, graphical interface system **400** may accept a user selected value from a customer in order to create a customized article type that may be intermediate between first representative article type **531** and second representative article type **532**. In an embodiment, graphical interface system **400** may include a slider that may be manipulated by a customer to indicate a customized article type that may be an intermediate type between first representative article type **531** and second representative article type **532**.

(49) In this embodiment, graphical interface system **400** includes slider **515**. Furthermore, slider **515** includes track **516** and indicator **517**. In some cases, track **516** may be disposed horizontally between first representative article type **531** and second representative article type **532**. In other cases, track **516** may be disposed in another location within graphical interface system **400**. With this arrangement, indicator **517** may be moved on track **516** to indicate a customized article type intermediate between first representative article type **531** and second representative article type **532**.

(50) In the current embodiment, a customer may move indicator **517** on track **516** to a position that may be associated with a customized article type. In other words, a customer may move indicator **517** closer to first representative article type **531** than second representative article type **532** to create a customized article type more similar to first representative article type **531** than second representative article type **532**. Likewise, a customer may move indicator **517** closer to second representative article type **532** than first representative article type **531** to create a customized article type more similar to second representative article type **532**. Using this arrangement, a customer may manipulate slider **515** to create a customized article type.

(51) In some cases, positions on track **516** may be associated with customized article types. In the current embodiment, indicator **517** is disposed in first position **571** on track **516** that is associated with first customized article type **551**. In order to assist a customer in creating a customized article type, first customized article type **551** may be displayed in any location within graphical interface system **400** when indicator **517** is disposed in first position **571** on track **516**. In this embodiment, first customized article type **551** is disposed above indicator **517**. Since indicator **517** is closer to first representative article type **531**, first customized article type **551** may be more similar to first representative article type **531** than second representative article type **532**.

(52) FIGS. **6-8** illustrate exemplary embodiments of customized article types that may be associated with different positions of indicator **517**. The customized article types illustrated in these embodiments are intended to be exemplary. In addition, aspects of customized article types may be

different with various positions of indicator **517**, although changes may not be obvious in these exemplary embodiments. In other embodiments, positions of indicator **517** may be associated with different customized article types.

(53) As previously discussed, first position **571** may be associated with first customized article type **551**. Referring to FIG. **6**, first customized article type **551** is configured with height H3. In this embodiment, height H3 is greater than height H1 of first representative article type **531**. Similarly, height H3 is less than height H2 of second representative article type **532**. In other words, height H3 has a value between height H1 and height H2. Furthermore, in this embodiment, since first position **571** is closer to first representative article type **531** than second representative article type **532**, height H3 is closer to height H1 than height H2.

(54) In some cases, as indicator **517** is moved to a position closer to second representative article type **532**, a customized article type may be created that closely resembles second representative article type **532**. Referring to FIG. **7**, indicator **517** is in second position **572** that is closer than first position **571** to second representative article type **532**. In this embodiment, second position **572** may be associated with second customized article type **552**. Second customized article type **552** is configured with height H4. In some cases, height H4 of second customized article type **552** is greater than height H3 of first customized article type **551**, since second position **572** is closer than first position **571** to second representative article type **532** with height H2.

(55) Referring to FIG. **8**, indicator **517** is in third position **573** that is closer than second position **572** to second representative article type **532**. With this configuration, third position **573** may be associated with a customized article type that is more similar to second representative article type **532** than second customized article type **552** of the previous embodiment. In this embodiment, third position **573** is associated with third customized article type **553** with height H5. Furthermore, height H5 is greater than height H4 of second customized article type **552**. With this arrangement, a customer may generate a customized article type with a specific height by selecting a position on slider **515**. In addition, this configuration provides a means of fine tuning the process of creating a customized article type.

(56) It should be understood that the article types of first representative article type **531** and second representative article type **532** differ in additional properties other than height. For the sake of clarity, the discussion regarding FIGS. **6-8** considers the heights of customized article types. However, customized article types associated with different positions on track **516** will differ with respect to other properties as well. The following embodiments illustrate multiple differences between article types.

(57) It is also possible that graphical interface system **400** may be configured in another manner to allow a customer to create a customized article type based on a selected family of article types. In some embodiments, graphical interface system **400** may generate a pre-determined set of customized article types based on the selected family. With this arrangement, a customer may choose a customized article type from a pre-determined set of customized article types.

(58) FIGS. **9-10** illustrate an alternative embodiment of a process for creating a customized article type following the selection of a family of article types. Following the selection of first family **401** in FIG. **4**, graphical interface system **400** displays a pre-determined set of article types based on first family **401**. In this embodiment, graphical interface system **400** displays first customized article type set **901**.

(59) Generally, first customized article type set **901** may contain any number of customized article types. In some cases, the number of customized article types within a customized article type set may vary depending on the selected family of article types. In other words, some families of article types may contain a greater number of customized article types than other families of article types. In this embodiment, first customized article type set **901** includes five article types. In particular, first customized article type set **901** comprises first customized article type **951**, second customized article type **952**, third customized article type **953**, fourth customized article type **954** and fifth

customized article type **955**.

(60) Graphical interface system **400** may display first customized article type set **901** in any manner that may aid a customer in creating a customized article type. In some embodiments, first customized article type set **901** may be displayed by graphical interface system **400** so that article types proximate to each other may be more similar than article types not disposed proximately. In this manner, first customized article type set **901** may be displayed as a spectrum of customized article types. In some cases, this arrangement of first customized article type set **901** may assist a customer in selecting a customized article type.

(61) In order to distinguish the greatest differences in customized article types within the selected family, first customized article type **951** and fifth customized article type **955** may be disposed the furthest distance from each other by graphical interface system **400**. Similar to the previous embodiment, first customized article type **951** and fifth customized article type **955** may be representative article types representing the selected family of article types. In this embodiment, first customized article type **951** may be a running shoe with a low-top upper comprised of a wide spaced mesh material and light-weight sole. In contrast, fifth customized article type **955** may be a hiking boot with a high-top upper comprised of a tough exterior and a heavy-weight sole.

(62) With first customized article type set **901** displayed as a spectrum of article types, second customized article type **952**, third customized article type **953**, and fourth customized article type **954** may be displayed between first customized article type **951** and fifth customized article type **955** as intermediate customized article types. Specifically, second customized article type **952** may be displayed proximate to first customized article type **951** to indicate a similarity between second customized article type **952** and first customized article type **951**. In a similar manner, fourth customized article type **954** may be displayed proximate to fifth customized article type **955** indicating a similarity to fifth customized article type **955**. Finally, third customized article type **953** may be arranged between second customized article type **952** and fourth customized article type **954** to show that third customized article type **953** is most similar to second customized article type **952** and fourth customized article type **954**. In some cases, this arrangement assists a customer in creating a customized article type.

(63) As described above, the customization process may include presenting a user with a set of article types from which the user may select a desired article type. For example, as shown in FIG. **9**, a user is presented with five possible article types from which the user can select a desired customized article type. In general, the number of customized article types presented to a user could vary in different embodiments.

(64) Some embodiments can include provisions for controlling the number of customized article types presented to a user during the customization process. For example, some embodiments may be configured so that the number of customized article types presented to a user is always equal to or greater than a predetermined minimum number. In some cases, the minimum number could be 1. In still other cases, the minimum number could be 2. In still other cases, the minimum number could be 3. In still other cases, the minimum number could be 4 or greater than 4. This arrangement may enhance the user experience by ensuring that the user is given enough options for choosing a customized article type.

(65) Some embodiments could include a maximum number of customized article types that can be presented to, or otherwise provided for, a user. In other words, some embodiments may be configured so that the number of customized article types that may be presented to a user is always less than or equal to the maximum number. In some cases, the maximum number could be 1. In other cases, the maximum number could be 2. In still other cases, the maximum number could be any number greater than 2. In still other cases, the maximum number could be 6. In still other cases, the maximum number could be 8. In still other cases, the maximum number could be 10. In still other cases, the maximum number could be 12. This arrangement may enhance the user experience by ensuring the user is not overwhelmed with too many options when selecting a

customized article type.

(66) It is also to be understood that some embodiments could control the number of options to be displayed to a user for any other customizable feature where the user may be presented with multiple options. In particular, this method for controlling the number of options displayed for a user is not limited to use with customized article types. As discussed in further detail below, various different elements, components and/or characteristics of an article type can also be customized. Examples of such customizable features include, but are not limited to: trim elements, toe caps, heel counters, sole materials, upper materials, component colors, various kinds of graphical elements as well as any other customizable elements, components or characteristics of an article type. Therefore, whenever a user is presented with a number of options for selecting a customizable component or characteristic, the number of options displayed to the user could be constrained with a minimum value and/or maximum value. Moreover, the minimum value and/or the maximum value could vary according to the feature being customized.

(67) FIG. **10** illustrates an enlarged view of an exemplary embodiment of first customized article type set **901**. This embodiment is intended to be exemplary. In other embodiments, first customized article type set **901** may include customized article types with additional and/or different properties. For the sake of clarity, only some changing properties of customized article types of first customized article type set **901** will be discussed in this detailed description. In particular, some portions of the customized article types of first customized article type set **901** are enlarged in FIG. **10** to provide greater detail of particular properties associated with first customized article type set **901**. However, it should be understood that additional properties of customized article types within first customized article type set **901** could also differ.

(68) As previously discussed, a family of article types may share a substantially similar feature. In this embodiment, article types of first customized article type set **901** may include a substantially similar feature of a trim design. Specifically, the article types of first customized article type set **901** include a design of trim that wraps around a heel with ends disposed near a sole. In this embodiment, first customized article type **951**, second customized article type **952**, third customized article type **953**, fourth customized article type **954**, and fifth customized article type **955** include first trim design **911**, second trim design **912**, third trim design **913**, fourth trim design **914**, and fifth trim design **915**, respectively.

(69) In some embodiments, a substantially similar feature common in a family of article types may vary in members of the family of article types. In this embodiment, the width of trim designs differ within article types of first customized article type set **901**. Specifically, first trim design **911** includes width W1. In a similar manner, second trim design **912** has a width W2 that is greater than width W1. Likewise, third trim design **913** of third customized article type **953** includes width W2. With this arrangement, second trim design **912** and third trim design **913** both have a trim design of width W2. In contrast, fourth customized article type **954** includes fourth trim design **914** with width W3. Width W3 is greater than width W2 of second trim design **912** and third trim design **913**. Finally, fifth customized article type **955** includes fifth trim design **915** with width W4. Width W4 is greater than width W3 and all other widths of trim designs of article types of first customized article type set **901**. The differences in width of the trim design provide variation with the common feature of trim design for customized article types within first customized article type set **901**.

(70) In some cases, customized article types within first customized article type set **901** will vary with respect to other properties. Generally, customized article types within first customized article type set **901** will vary with respect to multiple properties. For example, in some cases, color schemes of customized article types within first customized article type set **901** may vary. It is also possible that different materials may be associated with a sole, midsole and/or upper of customized article types of first customized article type set **901**.

(71) In this exemplary embodiment, uppers associated with customized article types of first customized article type set **901** may be constructed of a mesh fabric. Furthermore, the mesh fabric

may be configured with different amounts of spacing between threads in some customized article types of first customized article type set **901**. With this arrangement, some customized article types may be configured with a more breathable mesh upper with greater spacing between threads, while other customized article types may be configured with less spacing between threads to provide a tougher and more rigid upper.

(72) In this embodiment, first upper **921** of first customized article type **951** may be associated with a mesh with spacing S1 between threads. Spacing S1 is relatively large and provides first upper **921** with a degree of breathability. Similarly, second customized article type **952** and third customized article type **953** may include second upper **922** and third upper **923**, respectively. Second upper **922** and third upper **923** are constructed of a mesh with spacing S2 between threads. Spacing S2 is smaller than spacing S1. Accordingly, this provides a greater stiffness for second upper **922** and third upper **923**. Finally, fourth customized article type **954** and fifth customized article type **955** may be associated with fourth upper **924** and fifth upper **925**, respectively. Fourth upper **924** and fifth upper **925** have a mesh with spacing S3 between threads. Spacing S3 is smaller than spacing S2. In some cases, spacing S3 between threads provides fourth customized article type **954** and fifth customized article type **955** with tougher and more protective fourth upper **924** and fifth upper **925**, respectively. Using this configuration, a customer has the opportunity to create a customized article type by selecting from a variety of uppers configured with adjustments in the spacing of the threads of the mesh.

(73) In a similar manner, customized article types within first customized article type set **901** may be associated with soles exhibiting different features. In some embodiments, customized article types within first customized article type set **901** may include soles constructed from different materials. In some cases, a first subset of first customized article type set **901** may include soles comprised of a polymer, while a second subset of first customized article type set **901** may include soles comprised of rubber to form a durable sole. In this exemplary embodiment, customized article types of first customized article type set **901** include soles constructed from the same material configured with different densities.

(74) In this embodiment, first customized article type **951** includes first sole **971** with density D1. In some cases, density D1 is a relatively low density that provides flexibility and a low weight to first sole **971**. Similarly, second customized article type **952** and third customized article type **953** include second sole **972** and third sole **973**, respectively. Furthermore, second sole **972** and third sole **973** are configured with density D2 that is denser than density D1. With this arrangement, second sole **972** and third sole **973** may be more rigid than first sole **971** as well as a heavier weight. Finally, fourth customized article type **954** and fifth customized article type **955** may be associated with fourth sole **974** and fifth sole **975**, respectively. Fourth sole **974** and fifth sole **975** are constructed with density D3. In some cases, density D3 is denser than density D2. This configuration imparts greater weight, rigidity and hardiness to fourth sole **974** and fifth sole **975**. By choosing between customized article types with fine adjustments in the densities of the soles, a customer may create a customized article type.

(75) In some embodiments, once a customer has selected a customized article type, the customer may continue customizing the customized article type using graphical interface system **400**. In some cases, the customer could customize colors, add designs or otherwise further customize the customized article type. In some cases, graphical interface system **400** can include additional tools for adding additional customized designs. A method for modifying articles in this manner is disclosed by David P. Jones et al. in U.S. patent application Ser. No. 11/612,320, filed Dec. 18, 2006 and entitled "Method of Making an Article of Footwear", the entirety of which is hereby incorporated by reference.

(76) A customization system can include provisions for independently selecting various article characteristics. In other words, a customization system can include provisions for allowing a user to choose characteristics or properties such as sole density, upper mesh density and toe cap size in an

independent manner. Such properties or characteristics may be referred to as article characteristics, which correspond to characteristics of a particular component. Moreover, once selected by a user, the resulting article characteristic may be referred to as a user selected article characteristic.

(77) FIGS. **11** through **13** illustrate various schematic views of article characteristics that can be varied, according to at least one embodiment. In some cases, upon selecting second upper **922** from article type set **901** (see FIG. **10**), a user may have the option of independently varying various different article properties or characteristics. In some cases, a user may be have the option of selecting characteristics of the sole including, but not limited to: materials, density, weight, color, geometry as well as any other properties. For example, referring to FIG. **11**, a user may have the option of selecting between a first sole material **1002**, a second sole material **1004** and a third sole material **1006** for article type **922**. For example, in the current embodiment, the user is selecting second sole material **1004** as the user selected article characteristic. In some cases, first sole material **1002**, second sole material **1004** and third sole material **1006** may represent materials of increasing density. For example, in one embodiment, first material **1002** may be a soft foam material, second material **1004** may be a medium foam material and third material **1006** may be a hard foam material. However, in other cases, the materials could vary in any other manner. Moreover, it will be understood that in other cases, a user may select between similar materials that vary in size, shape and/or appearance. Still further, a user could select between soles having different types of cushioning, such as air bladders of varying pressures and/or other cushioning materials.

(78) In some cases, a user may have the option to select different kinds of materials for an upper. For example, referring to FIG. **12**, a user may select between first upper material **1020**, second upper material **1022** and third upper material **1024**. For example, in this case, the user may select third upper material **1024** as the user selected article characteristic. In some cases, first upper material **1020**, second upper material **1022** and third upper material **1024** may correspond to upper materials with increasing mesh densities. In other cases, a user could select between uppers that vary in any other manner. In still other cases, a user could select between uppers of different sizes and/or shapes. In still other cases, a user could select between uppers of varying types of materials. For example, a user could select between uppers made of natural leather, synthetic leather, natural threads, synthetic threads, nylon, polyester, as well as other kinds of materials.

(79) In some cases, a user may have the option to select between different kinds of supporting members. Examples of supporting members include, but are not limited to: toe caps, heel counters, heel cups, lacing systems, cushioning devices, straps as well as any other supporting members. Referring to FIG. **13**, for example, a user may have the option of selecting between three different sizes for a toe cap, including first toe cap size **1032**, second toe cap size **1034** and third toe cap size **1036**. In the current embodiment, as an example, the user may select first toe cap size **1032** as the user selected article characteristic.

(80) Although the current embodiments illustrate three possible options for various article characteristics, other embodiments could include any other number of options. For example, in other cases, a user may select between 2 or more options. In still other cases, a user may select between four or more options. In still other cases, a user may be presented with an approximately continuous range of options.

(81) It will be understood that the presentation of options for article characteristics, such as sole material and/or upper material, may be in any arrangement and/or order. For example, some embodiments may show sole materials in order of increasing density. Likewise, some embodiments may show upper materials in order of decreasing mesh spacing. Still further, some embodiments may show toe caps in order of increasing length or size. However, in other embodiments these various different options could be presented to a user in any other arrangement.

(82) In some embodiments, a system may automatically select a continuous or discrete range of options from which a user can select. For example, in some cases, upon selecting a sole from an

article type, a system may automatically present the user with two or more options for varying sole characteristics. In other cases, however, a user may initially select two characteristic values (such as a low density foam and a high density foam), and the system may present a range of options between these values.

(83) Generally, the range or set of article characteristics presented to a user can be restricted to avoid designs that are not structurally sound and/or that are difficult to manufacture. For example, referring back to FIG. **13**, a system may only give the user options for toe cap sizes that are within the known dimensions for effective toe cap sizes. In other words, a user attempting to select a toe cap that extends back to the heel of an article may be prevented from selecting this option or otherwise informed that this particular toe cap size is not available. Likewise, in selecting upper mesh densities, as shown in FIG. **14**, a user may be restricted from selecting mesh sizes that are outside the range of suitable mesh sizes for various types of footwear. This allows a system to help a user design articles with various characteristics that are within known design parameters.

(84) A customization system can include provisions that allow a user to preview a customized article type prior to submitting the customized article type for manufacturing. Referring to FIG. **14**, a user may be prompted with the option to finalize a design during a preview step of the customization process. During this step, the system may present a visual representation of the article including each of the user selected article characteristics. In still other cases, however, the preview process may occur simultaneously as various article characteristics are selected. For example, changes to the design can be implemented in real time as a user makes various changes to various article characteristics. In still other cases, a system may not provide any previews of the customized article.

(85) In some cases, a graphical interface system includes provisions to allow a customer to submit a selected customized article type to a vendor. Generally, a graphical interface system may allow a customer to submit a selected customized article type in any manner. In some embodiments, a customer may manipulate a slider to create a customized article type and then submit the created customized article type by depressing a button or graphic within the graphical interface system. Referring back to FIG. **5**, a customer may manipulate slider **515** to create a customized article type and then submit the customized article type by depressing submit button **599**. In other embodiments, a customer may use a selection tool to submit a customized article type to a vendor. Referring to FIG. **9**, in an alternative embodiment, a customer may manipulate selection tool **920** to submit a customized article type to a vendor. In this case, the customer submits fourth customized article type **954** to the vendor for manufacturing.

(86) After a vendor receives a customized article type from a customer, the vendor manufactures a pair of footwear with the customized article type. FIG. **15** illustrates an exemplary embodiment of manufactured pair of footwear **1100** with fourth customized article type **954** as shown in FIG. **9**. Once pair of footwear **1100** has been manufactured, it may be inspected for quality by the vendor. During this inspection, the manufactured pair of footwear **1100** may be compared to fourth customized article type **954** as shown in FIG. **9**. Therefore, pair of footwear **1100** is not only inspected for structural integrity, but also for design accuracy. Finally, once pair of footwear **1100** has passed inspection, pair of footwear **1100** may be shipped to a pre-designated shipping address.

(87) In some cases, a customer may create a customized article type with an intention that articles of footwear manufactured from that customized article type are relatively unique. Furthermore, the unique nature of an article of footwear manufactured from a customized article type may be a desirable feature of the process of creating a customized article type. In other words, a customer may engage in the process of creating a customized article type with a purpose to create a customized article type that is exclusive.

(88) Generally, a customized article type may be exclusive if articles of footwear manufactured from the customized article type are not relatively common. In some embodiments, a customization system may implement a limit on the number of articles of footwear that may be manufactured

from a customized article type. This may provide exclusivity to a customized article type.

(89) FIG. **16** illustrates an exemplary embodiment of a portion of database **1200** that may be internal to a vendor of a customization system. In this embodiment, database **1200** includes entries for customized article type **1201**, times used **1202** and customized type limit **1203**. In some embodiments, database **1200** may include additional and/or different attributes. For example, in some cases, database **1200** may include entries that determine if a customized article type has a customized type limit.

(90) In some cases, customized article type **1201** may include entries for all customized article types created by a customization system. Furthermore, times used **1202** includes entries for the number of times an article of footwear of a particular customized article type has been manufactured. Finally, customized type limit **1203** may include a pre-determined limit for the number of times a customized article type may be manufactured. In some cases, the same pre-determined limit may be applied to all customized article types. In other cases, different pre-determined limits may be entered in customized type limit **1203** and associated with different customized article types.

(91) In this exemplary embodiment, database **1200** includes three customized article types. In particular, database **1200** indicates that first customized article type **1211** has been used 221 times and has a limit of 250. Similarly, database **1200** includes second customized article type **1212** with times used **1202** entered as 300 and customized type limit **1203** listed as 500. Likewise, customized article type **1201** includes third customized article type **1213** with times used **1202** indicating 54 uses and customized type limit **1203** indicating 75.

(92) In some cases, database **1200** may be associated with a graphical interface system in order to enforce exclusivity of customized article types. For example, a graphical interface system associated with a customization system may allow 29 more selections of first customized article type **1211** in order to limit the selection of first customized article type **1211** to 250 selections. With this configuration, database **1200** may support the exclusivity of customized article types.

(93) Generally, a customization system may enforce exclusivity of customized article types in any manner. In some embodiments, a graphical interface system may not display a customized article type that has reached a pre-determined limit. In other embodiments, a graphical interface system may not permit the selection of a customized article type that has reached a pre-determined limit.

(94) FIG. **17** is an exemplary embodiment of graphical interface system **1300**. Generally, graphical interface system **1300** may be substantially similar to the alternative embodiment of graphical interface system **400** in FIG. **9**. In particular, graphical interface system **1300** may display second set of customized article types **1302** following the selection of a family of article types.

(95) In this embodiment, second set of customized article types **1302** includes five customized article types. However, third customized article type **1303** is displayed in phantom by graphical interface system **1300**. In addition, text **1380** displayed by graphical interface system **1300** indicates that third customized article type **1303** is no longer available. In some cases, graphical interface system **1300** displays third customized article type **1303** in phantom because a limit associated with third customized article type **1303** has been reached. Using this configuration, the exclusivity of third customized article type **1303** may be ensured.

(96) FIG. **18** is an embodiment of process **1400** that may be executed to preserve exclusivity of customized article types. In some embodiments, process **1400** may be executed by customization system **101**. In some cases, process **1400** may be executed by graphical interface system **1300**.

(97) During first step **1402**, graphical interface system **1300** may receive a customized article type request. In some cases, this request may occur following the selection of a family of article types and prior to the display of a set of customized article types associated with the family of article types. In other cases, the customized article type request may be received when a customer manipulates a slider, for example, and indicates a graphical position that may be associated with the customized article type. In still other cases, the customized article type request may be received

when a customer attempts to submit the customized article type for manufacture.

(98) After receiving a customized article type request in first step **1402**, graphical interface system **1300** determines if the customized article type is associated with a customized type limit during second step **1404**. If the customized article type is not associated with a customized type limit, graphical interface system **1300** continues to fourth step **1408**. During fourth step **1408**, graphical interface system **1300** continues the customization process.

(99) However, if graphical interface system **1300** determines that a customized article type is associated with a customized type limit during second step **1404**, graphical interface system **1300** proceeds to third step **1406**. During third step **1406**, graphical interface system **1300** checks if the customized article type has reached the customized type limit. In some cases, graphical interface system **1300** may query a database such as database **1200** to ascertain the customized type limit for the requested customized article type. If the requested customized article type has not reached the customized type limit, graphical interface system **1300** proceeds to fourth step **1408** and continues the customization process.

(100) If graphical interface system **1300** determines in third step **1406** that the customized article type has reached the customized type limit, graphical interface system **1300** prompts the customer to select another customized article type in fifth step **1410**. Following fifth step **1410**, graphical interface system **1300** prevents the use of the customized article type in sixth step **1412**. With this process, the exclusivity of the customized article type may be ensured.

(101) FIG. **19** illustrates an embodiment of a process for providing a user with article type sharing options. In some cases, some of the following steps could be performed by a graphical interface system. In other cases, some of the following steps could be performed by any other system, including any system associated with a proprietor. Moreover, in some cases, some steps may be performed by a graphical interface system while other steps could be performed by another system. It will be further understood that some of the following steps may be optional. In addition, the order of steps could vary in any manner in other embodiments.

(102) In step **1902**, a graphic interface system may receive a user customized article type. The customized article type may be created using any of the methods described above as well as any other known methods for making article types. Next, in step **1904**, the graphical interface system determines if the customized article type has been used before. If the customized article type has been used before, the system continues to step **1908** where the customization process is continued. In this case, the user does not have the option to select sharing preferences since the article type is not unique to the user.

(103) If, during step **1904**, the graphic interface system determines that the customized article type has not been used before, the system may proceed to step **1906**. In step **1906**, the system may receive a user availability preference. In some cases, the system can prompt the user with a message such as "would you like to share this image?" In other cases, the availability preference could be retrieved from a user profile or other previously stored information.

(104) Next, in step **1910**, the graphical interface system may determine if the user wants to share the customized article type. This decision is based on the information received in step **1906**. If the user has selected to share the customized article type, the graphical interface system may proceed to step **1912**. In step **1912**, the graphic interface system allows the customized article type to be used by other users or customers of the system.

(105) If, during step **1910**, the graphical interface system determines that the user does not want to share the customized article type, the system may proceed to step **1914**. In step **1914**, the graphical interface system may prevent other users from using the customized article type.

(106) By allowing a user to share or not to share a customized article type, the user is able to control the exclusivity of the customized article type. This method allows users to create unique or truly "one of a kind" articles.

(107) While various embodiments of the invention have been described, the description is intended

to be exemplary rather than limiting and it will be apparent to those of ordinary skill in the art that many more embodiments and implementations are possible that are within the scope of the invention. Accordingly, the invention is not to be restricted except in light of the attached claims and their equivalents. Also, various modifications and changes may be made within the scope of the attached claims.

Claims

1. A method of customization for an article of footwear, comprising: receiving data over a network including selection of a family of article types from a user using a remote terminal connected to the network; transmitting data over the network for presenting a range of article types on a graphical interface system operating on the remote terminal based on the family of article types selected; receiving data over the network including a user selected article type from the range of article types; transmitting data over the network for presenting a range of article characteristics on the graphical interface system operating on the remote terminal based on the user selected article type; receiving data over the network including a user selected article characteristic from the range of article characteristics; and sending, to a manufacturer, information about the user selected article type having the user selected article characteristic.

2. The method according to claim 1, wherein the range of article characteristics includes a range of mesh spacing sizes for an upper.

3. The method according to claim 1, wherein the range of article characteristics includes a range of toe cap sizes.

4. The method according to claim 1, wherein the family of article types share a common color scheme.

5. The method according to claim 1, wherein the family of article types share a common trim design.

6. The method according to claim 5, wherein different individual articles within the family of article types have different trim width features.

7. The method according to claim 1, wherein the range of article characteristics includes a range of article of footwear heights or a range of sole heights.

8. The method according to claim 1, wherein the range of article characteristics includes a range of sole densities.

9. The method according to claim 1, wherein the range of article characteristics includes a range of trim design features.

10. A method of customization for an article of footwear, comprising: transmitting data over a network to a remote terminal, the data configured to graphically represent information relating to a set of article types within a graphical interface system displayed on the remote terminal; receiving data over the network from the remote terminal including a user-selected article type from the set of article types entered through the graphical interface system; transmitting data over the network to the remote terminal providing a group of variable article characteristics for the user-selected article type, each variable article characteristic in the group of variable article characteristics having a range of values; receiving data over the network from the remote terminal including a user-selected article characteristic for at least one variable article characteristic in the group of variable article characteristics; and sending, to a manufacturer, information related to the article of footwear corresponding to the user-selected article type including the user-selected article characteristic.

11. The method according to claim 10, wherein the at least one variable article characteristic includes at least one of: different mesh spacing sizes for an upper; different toe cap sizes; different article of footwear heights; different sole heights; different sole densities; and different trim design features.

12. A method of customization for an article of footwear, comprising: transmitting data over a

network to a remote terminal, the data configured to graphically represent information relating to a set of article types within a graphical interface system displayed on the remote terminal; receiving data over the network from the remote terminal including a user-selected article type from the set of article types entered through the graphical interface system; transmitting data over the network to the remote terminal providing a variable article characteristic for the user-selected article type, the variable article characteristic having a range of values; receiving data over the network from the remote terminal including a user-selected article characteristic for the variable article characteristic; and sending, to a manufacturer, information related to the article of footwear corresponding to the user-selected article type including the user-selected article characteristic.

13. The method according to claim 12, wherein the variable article characteristic includes different mesh spacing sizes for an upper.

14. The method according to claim 12, wherein the variable article characteristic includes different toe cap sizes.

15. The method according to claim 12, wherein articles within the user-selected article type share a common color scheme.

16. The method according to claim 12, wherein articles within the user-selected article type share a common trim design.

17. The method according to claim 16, wherein the variable article characteristic includes different trim width features.

18. The method according to claim 12, wherein the variable article characteristic includes different article of footwear heights or different sole heights.

19. The method according to claim 12, wherein the variable article characteristic includes different sole densities.

20. The method according to claim 12, wherein the variable article characteristic includes different trim design features.