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(54) SYSTEM AND METHOD FOR GENERATING A GEMSTONE PROPORTION GRAPHIC

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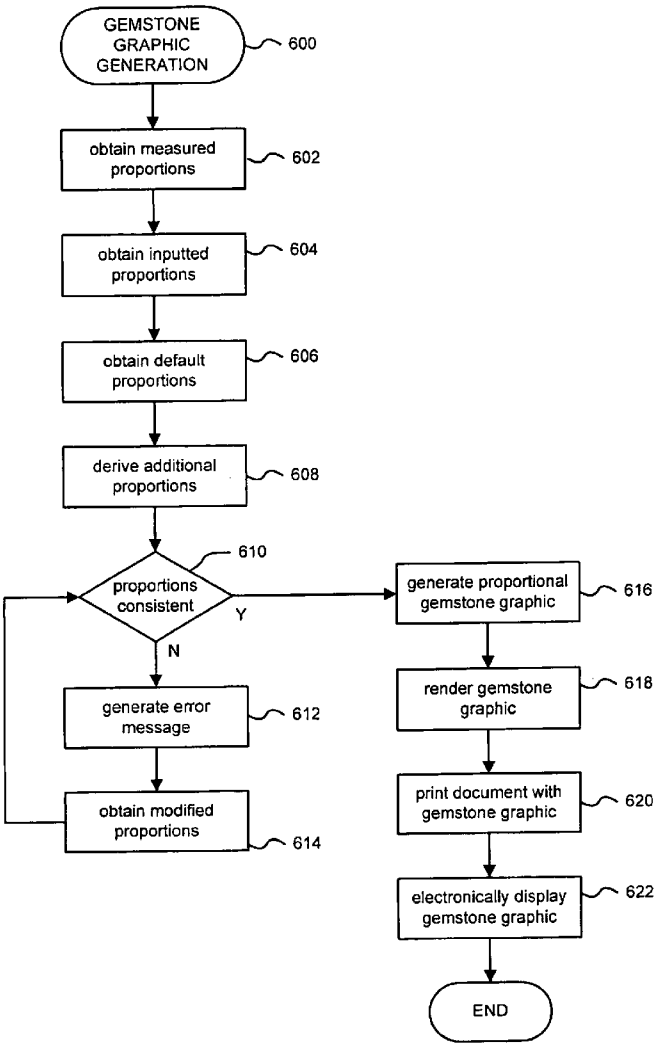
(57) **ABSTRACT**

A system and technique for generating a graphical representation of a gemstone is used to generate a scaled profile view of a gemstone representation. The scaled gemstone graphic includes a first portion that contains scaled graphical representations of facets and a second portion that contains no facets. The gemstone graphic is scaled in accordance with a set of cut proportions obtained for the gemstone representation. The gemstone graphic can be rendered for printing or display in connection with a gemstone grading report.



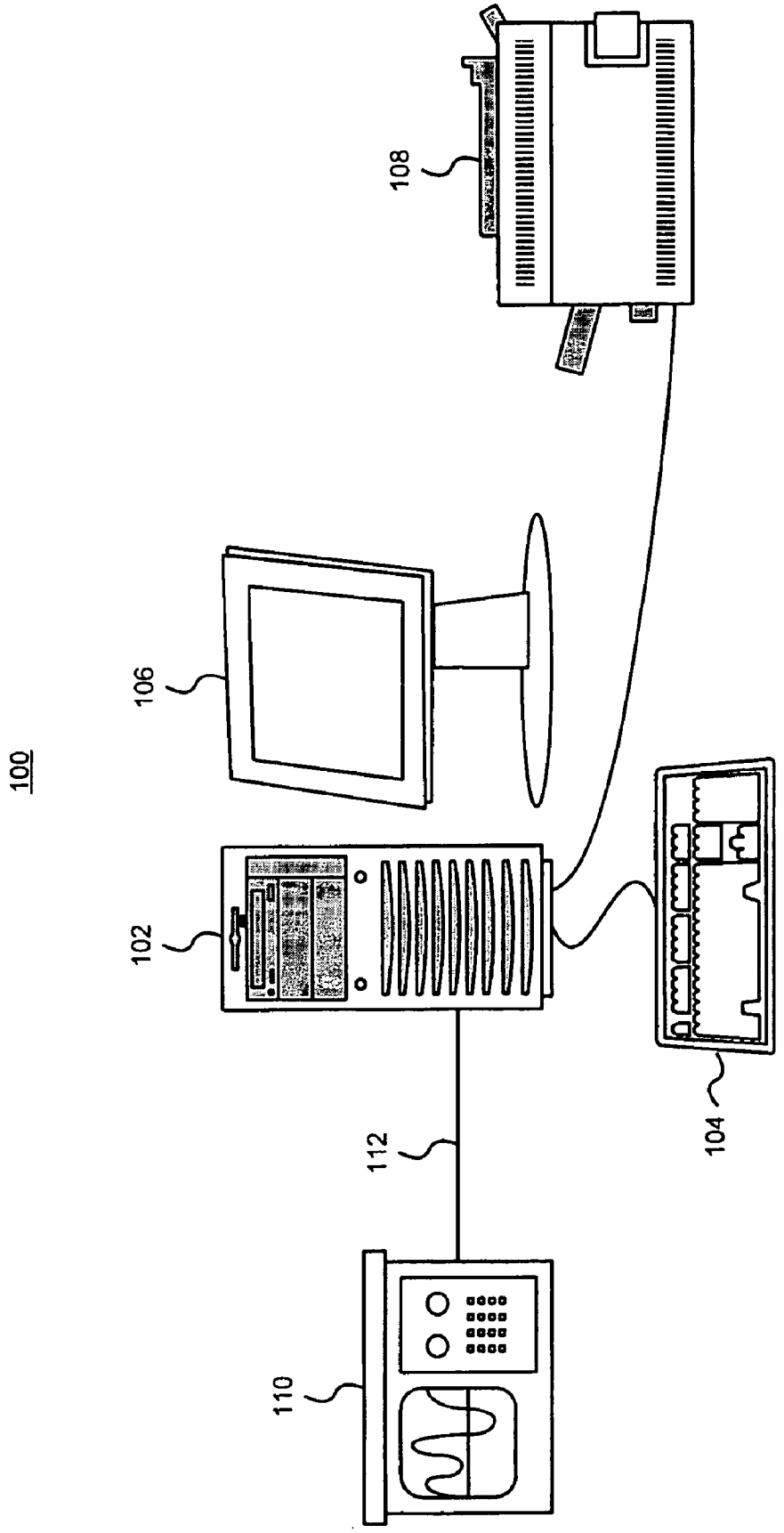


FIG. 1

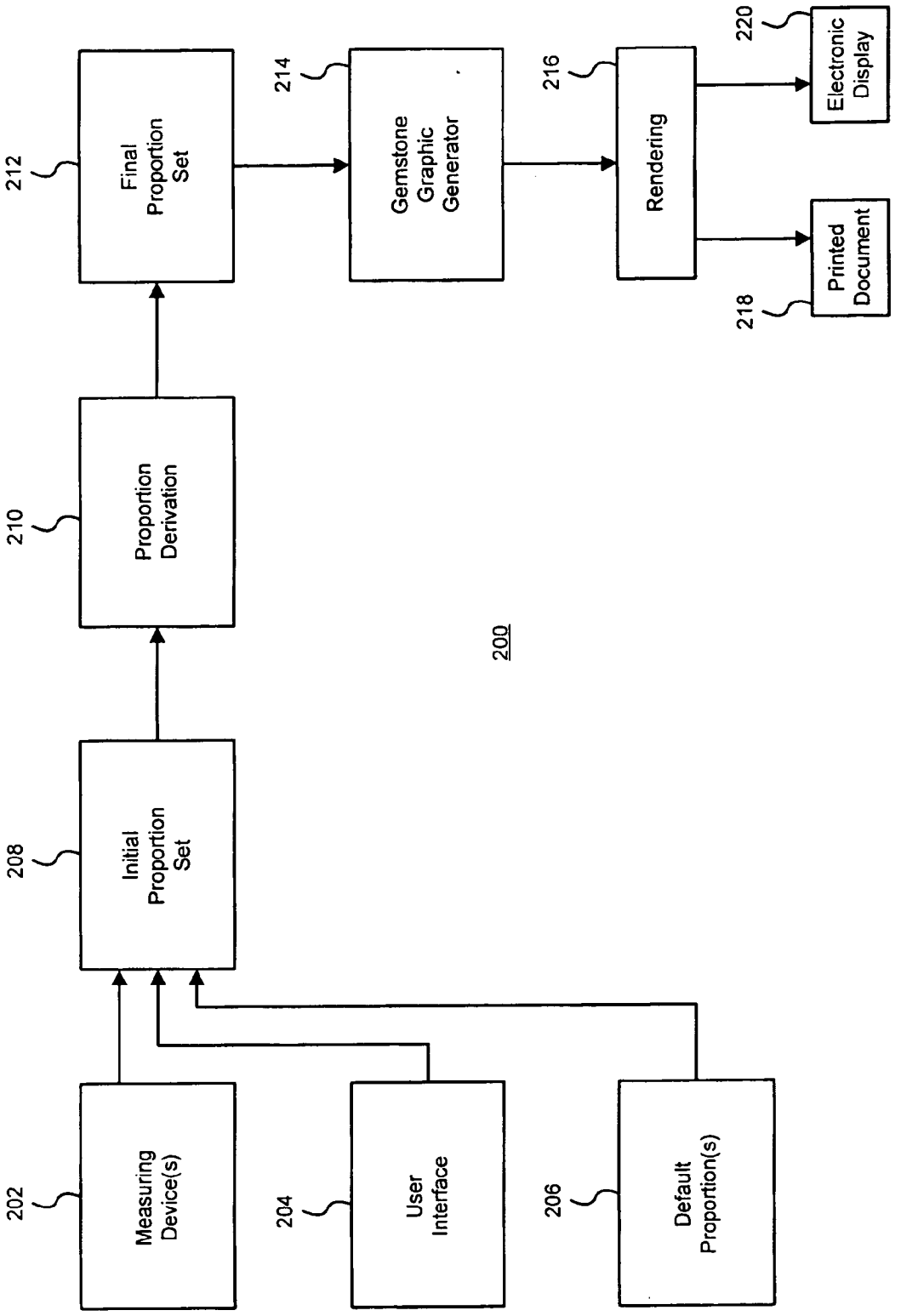

202
Measuring Device(s)
204
User Interface
206
Default Proportion(s)
208
Initial Proportion Set
210
Proportion Derivation
212
Final Proportion Set
214
Gemstone Graphic Generator
216
Rendering
218
Printed Document
220
Electronic Display
200

FIG. 2

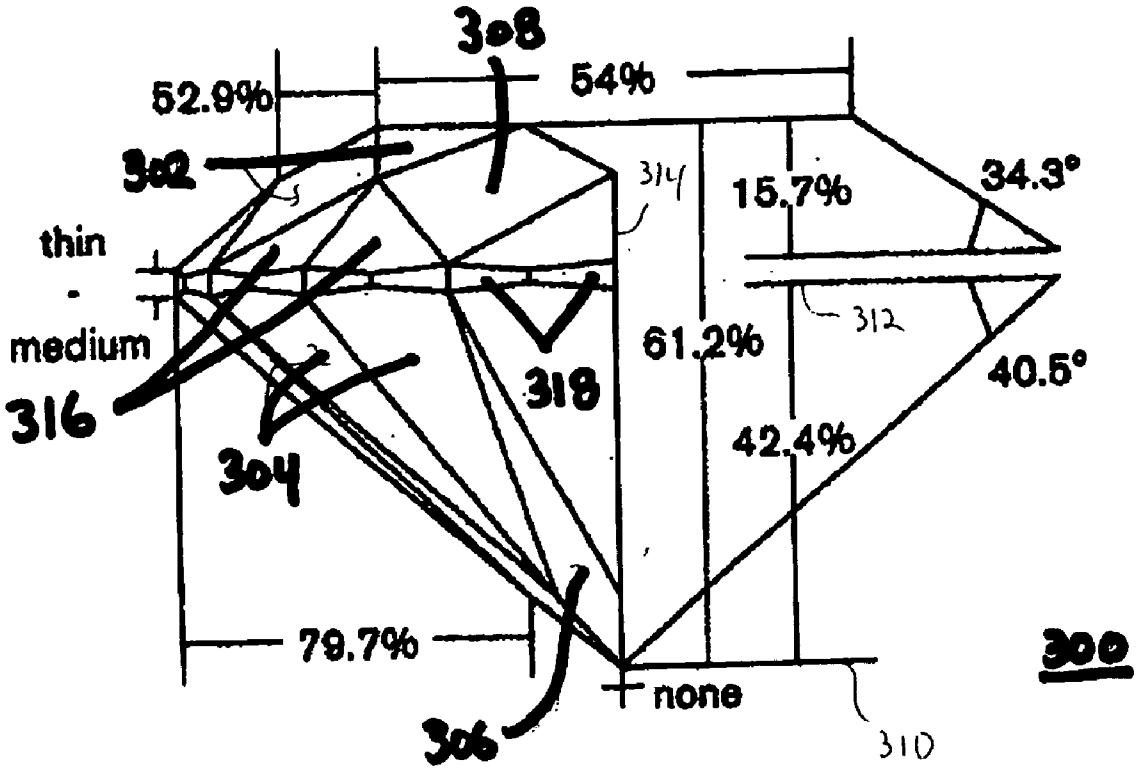

308
52.9%
54%
302
314
15.7%
34.3°
thin
-
medium
316
312
61.2%
318
40.5°
304
42.4%
79.7%
300
none
306
310

FIG. 3

400

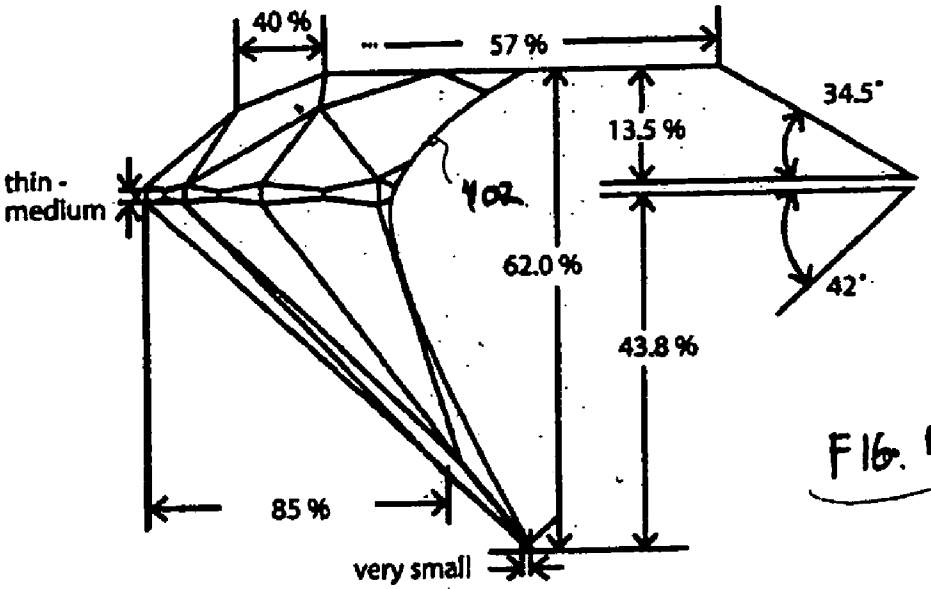
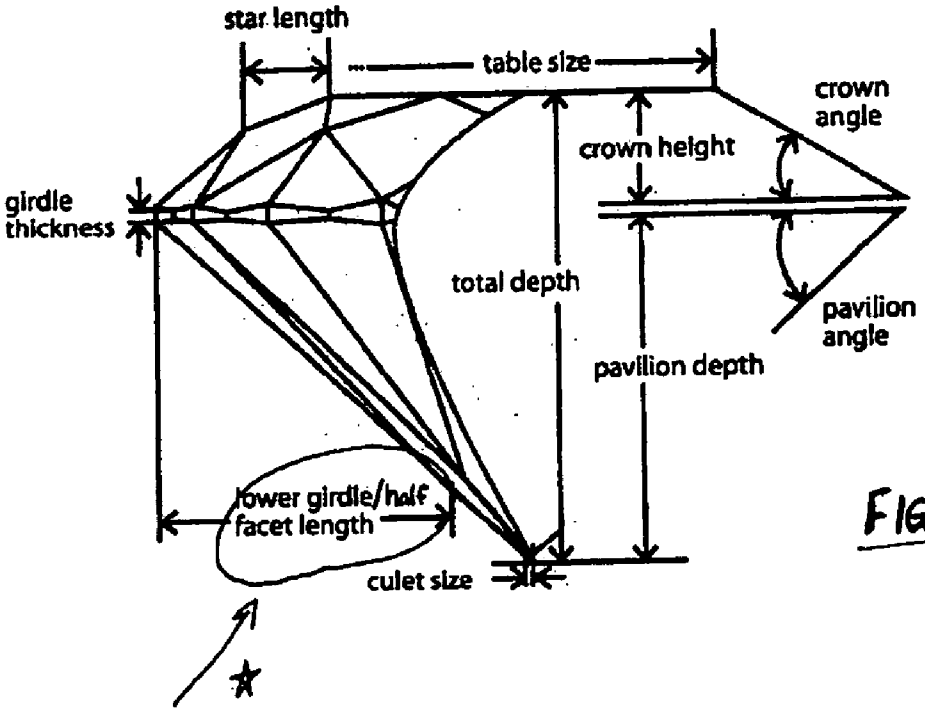


FIG. 4



500

FIG. 5

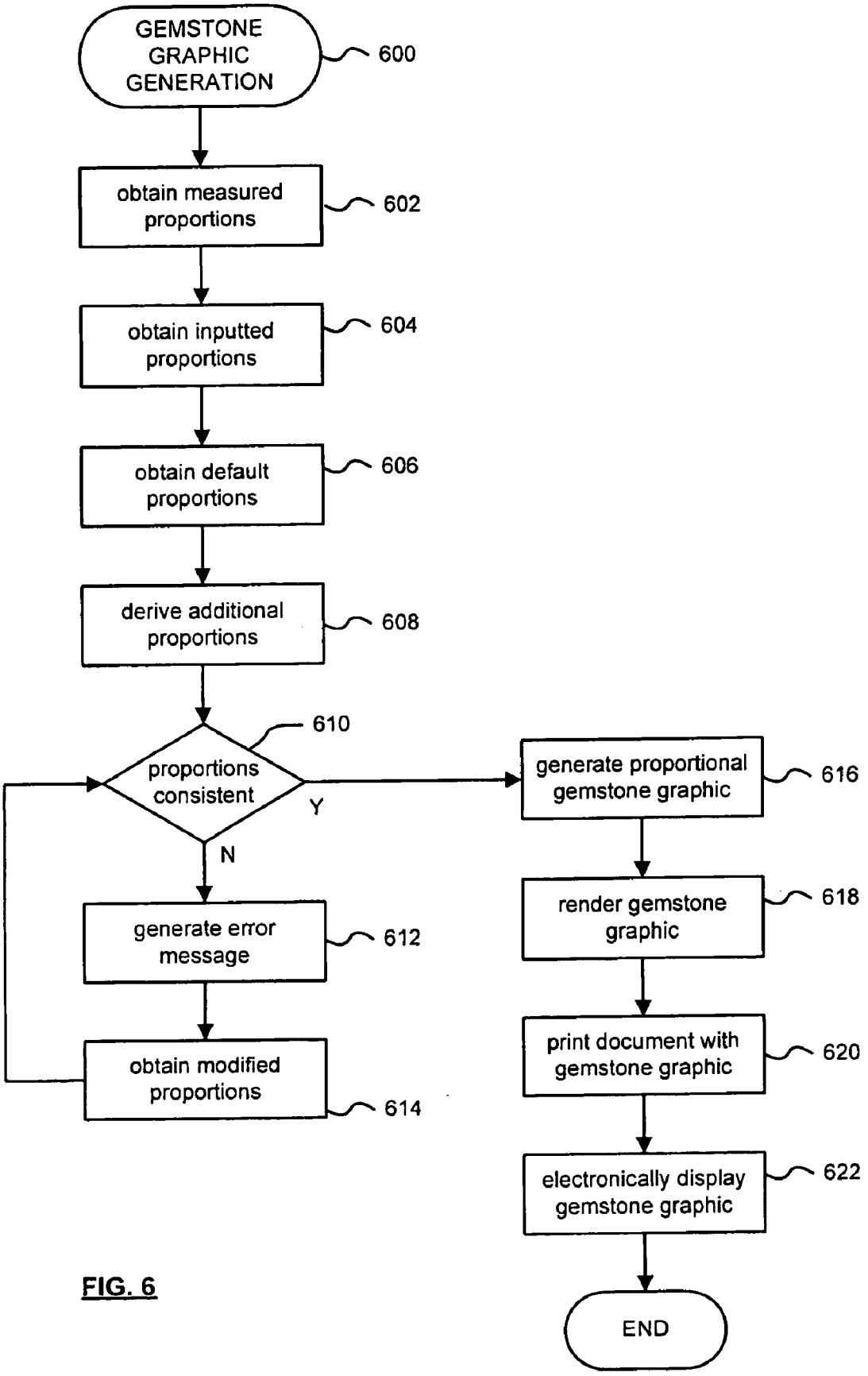

GEMSTONE GRAPHIC GENERATION
600
obtain measured proportions
602
obtain inputted proportions
604
obtain default proportions
606
derive additional proportions
608
610
proportions consistent
Y
N
generate error message
612
obtain modified proportions
614
generate proportional gemstone graphic
616
render gemstone graphic
618
print document with gemstone graphic
620
electronically display gemstone graphic
622
END

FIG. 6

SYSTEM AND METHOD FOR GENERATING A GEMSTONE PROPORTION GRAPHIC

FIELD OF THE INVENTION

[0001] The present invention relates generally to gemstone evaluation, grading, and measurement. More particularly, the present invention relates to the generation of a graphical representation of a gemstone that depicts a number of gemstone proportions.

BACKGROUND OF THE INVENTION

[0002] The quality of a diamond is often mentioned in connection with its cut, color, clarity, and carat weight (the four C's). In this regard, gem grading laboratories, such as GIA's Gem Laboratory, inspect and grade diamonds in accordance with grading techniques and standards widely accepted in the diamond industry. A grading report is typically prepared for each graded diamond—the report may include cut proportion data, identifying data, and any number of characteristics that indicate the grade of the diamond. For example, a diamond grade report will usually include at least the following information: the shape (e.g., round); the faceting style (e.g., brilliant) the carat weight; the clarity grade; the color grade; cut proportion values or measurements; and the date of the report.

[0003] A diamond grading report may also include a diagram or a schematic of the diamond that identifies certain characteristics of the graded diamond, such as the location and size of imperfections, and the overall shape of the diamond. Prior art gemstone graphics and techniques for generating such graphics are typically limited in that they produce somewhat simple diagrams. For example, some prior art gemstone diagrams are not scaled according to the actual proportions, other prior art diagrams do not include descriptors of relevant cut proportions, and other prior art diagrams do not include profile views with facets.

BRIEF SUMMARY OF THE INVENTION

[0004] A gemstone cut proportion graphic generated by the techniques described herein is suitable for use with a gemstone grading report. The graphic is generated in response to certain cut proportions of the gemstone under investigation (which can be a physical gemstone or a computer-generated "virtual" gemstone). In accordance with the invention, the gemstone graphic is a profile view that is scaled in accordance with the cut proportions of the gemstone under investigation. In the example embodiment, only a portion of the profile view contains the gemstone facets. The remaining portion of the profile view contains proportion quantifiers and dimension indicators corresponding to certain cut proportions.

[0005] The above and other aspects of the present invention may be carried out in one form by a method for generating a graphical depiction of a gemstone. The method is carried out by obtaining a plurality of proportions for a gemstone representation, and generating a gemstone graphic comprising a profile view of the gemstone representation. The gemstone graphic is scaled according to the plurality of proportions, and the gemstone graphic includes a number of proportion quantifiers corresponding to a number of the proportions.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] A more complete understanding of the present invention may be derived by referring to the detailed description and claims when considered in conjunction with the following Figures, wherein like reference numbers refer to similar elements throughout the Figures.

[0007] **FIG. 1** is a schematic representation of an example operating environment for a system for generating a graphical depiction of a gemstone.

[0008] **FIG. 2** is a schematic representation of a system for generating a graphical depiction of a gemstone;

[0009] **FIG. 3** is an example gemstone graphic;

[0010] **FIG. 4** is another example gemstone graphic;

[0011] **FIG. 5** is an example legend graphic corresponding to the gemstone graphic shown in **FIG. 4**; and

[0012] **FIG. 6** is a flow diagram of a gemstone graphic generation process.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

[0013] The present invention may be described herein in terms of functional block components and various processing steps. It should be appreciated that such functional blocks may be realized by any number of hardware, software, and/or firmware components configured to perform the specified functions. For example, the present invention may employ various integrated circuit components, e.g., memory elements, logic elements, look-up tables, and the like, which may carry out a variety of functions under the control of one or more microprocessors or other control devices. In addition, those skilled in the art will appreciate that the present invention may be practiced in conjunction with one or more computer devices, architectures, or networks, and that the system described herein is merely one exemplary application for the invention.

[0014] It should be appreciated that the particular implementations shown and described herein are illustrative of the invention and its best mode and are not intended to otherwise limit the scope of the invention in any way. Indeed, for the sake of brevity, conventional techniques for data processing, data transmission, graphical rendering, graphical display, report formatting, gemstone grading, and other aspects of the systems (and the individual operating components of the systems) may not be described in detail herein. Furthermore, the connecting lines shown in the various figures contained herein are intended to represent exemplary functional relationships and/or physical couplings between the various elements. It should be noted that many alternative or additional functional relationships or physical connections may be present in a practical embodiment.

[0015] The following definitions related to diamond appearance, cut grading, and diamond grade reporting are used herein:

[0016] "Cut proportions"—a linear, angular, or relative measurement of one or more physical aspects of a gemstone.

[0017] "Gemstone representation"—an actual "real world" or physical gemstone, or a computerized or virtual gemstone that is characterized by appearance, proportion, or other data.

[0018] "Proportion quantifier"—a value, number, alphanumeric text, or other identifier that quantifies a cut proportion.

[0019] "Proportion descriptor"—alphanumeric text that describes a cut proportion.

[0020] The system described herein can be partially or completely computer-implemented. In this regard, the system may be realized in one or more computer devices, which may be connected together in the form of a computer network. The details of computer hardware, network infrastructures, and software architectures are known to those skilled in the relevant arts—such details will not be described herein. Briefly, a computer-implemented system for generating a graphical depiction of a gemstone utilizes one or more computers configured to perform tasks, processes, and procedures described herein (and possibly other tasks).

[0021] The graphic generation system may utilize standard desktop, laptop, palmtop, server-based, and/or any suitable computing device or architecture. In this regard, the computing arrangement is suitably configured to perform any number of functions and operations associated with the management, processing, retrieval, and/or delivery of data, and it may be configured to run on any suitable operating system such as Unix, Linux, the Apple Macintosh OS, or any variant of Microsoft Windows. Furthermore, the computing architecture may employ any number of microprocessor devices, e.g., the Pentium family of processors by Intel or the processor devices commercially available from Advanced Micro Devices, IBM, Sun Microsystems, or Motorola.

[0022] The computer processors communicate with system memory (e.g., a suitable amount of random access memory), and an appropriate amount of storage or "permanent" memory. The permanent memory may include one or more hard disks, floppy disks, CD-ROM, DVD-ROM, magnetic tape, removable media, solid state memory devices, or combinations thereof. In accordance with known techniques, operating system programs and the application programs associated with the system reside in the permanent memory and portions thereof may be loaded into the system memory during operation. In accordance with the practices of persons skilled in the art of computer programming, the present invention is described below with reference to symbolic representations of operations that may be performed by various computer components, elements, or modules. Such operations are sometimes referred to as being computer-executed, computerized, software-implemented, or computer-implemented. It will be appreciated that operations that are symbolically represented include the manipulation by the various microprocessor devices of electrical signals representing data bits at memory locations in the system memory, as well as other processing of signals. The memory locations where data bits are maintained are physical locations that have particular electrical, magnetic, optical, or organic properties corresponding to the data bits.

[0023] When implemented in software, various elements of the present invention are essentially the code segments, computer program elements, or software modules that perform the various tasks. The program or code segments can be stored in a processor-readable medium or transmitted by a computer data signal embodied in a carrier wave over any suitable transmission medium or communication path. The "processor-readable medium" or "machine-readable medium" may include any medium that can store or transfer information. Examples of the processor-readable medium include an electronic circuit, a semiconductor memory device, a ROM, a flash memory, an erasable ROM (EROM), a floppy diskette, a CD-ROM, an optical disk, a hard disk, a fiber optic medium, a radio frequency (RF) link, or the like. The computer data signal may include any signal that can propagate over a transmission medium such as electronic network channels, optical fibers, air, electromagnetic paths, or RF links. The code segments may be downloaded via computer networks such as the Internet, an intranet, a LAN, or the like.

[0024] The example embodiment described herein is suitable for use in connection with the grading of round brilliant cut diamonds. The techniques of the invention, however, are not so limited. Indeed, a practical embodiment can be specifically configured to accommodate different types of gems, different cut shapes, and different colored gems. Depending upon the particular application, different cut proportions, different views, and different cut proportion descriptors may be handled by the graphic generation system.

[0025] **FIG. 1** is a schematic representation of an example operating environment for a system **100** for generating a graphical depiction (i.e., a graphic) of a gemstone under investigation. A significant portion of system **100** is computer-implemented, and, for ease of illustration, system **100** represents a simplified architecture (a practical architecture may have additional and/or alternative physical and logical elements). In this regard, system **100** can be deployed in connection with a conventional computing device, system, or architecture such as a personal computer **102** (for the sake of clarity, conventional elements of the underlying computer architecture are not shown or described in connection with system **100**). Personal computer **102** includes one or more user interface components, such as a keyboard **104**, a mouse (not shown), a touchpad (not shown), or the like. System **100** includes an electronic display output device, which can be realized as a computer monitor or terminal **106** for personal computer **102**. System **100** may also include a printer **108** coupled to personal computer **102**, where printer **108** is suitably configured to print documents that contain gemstone graphics as described herein. For example, under the control of personal computer **162**, printer **108** can print diamond grading reports that include such gemstone graphics.

[0026] In the example embodiment, personal computer **102** is coupled to (or otherwise communicates with) one or more gemstone measuring devices **110**. In the context of this description, gemstone measuring device **110** obtains one or more measurements that are useful in generating the gemstone graphic. Gemstone measuring device **110** may also obtain one or more measurements that are useful in preparing a grade for the given gemstone representation. Gemstone measuring device **110** may be configured to automatically transfer the relevant measurement data to personal computer **102** via a suitable communication link **112**, which may include one or more physical links and/or one or more wireless links. Alternatively, the measurement data obtained by gemstone measuring device **110** may be transferred to personal computer **102** via a memory storage element such

as a CD-ROM, a flash memory card, a magnetic storage disk, or the like. Device **110** can be replaced in system **100** by manual entry (through PC **102**) of gemstone characteristics. This versatility may be built into system **100**, and also into system **200** which is discussed in detail below.

[**0027**] The specific measurement data gathered by gemstone measurement device **110** can vary from system to system. For example, gemstone measurement device **110** can measure one or more of the following gemstone characteristics: cut proportions (e.g., crown angle, table size), dimensions (e.g., girdle diameter, total depth), and/or calculated weight. Such gemstone measurement devices **110** are known to those skilled in the gemological arts and, therefore, will not be described in detail herein.

[**0028**] **FIG. 2** is a schematic representation of a system **200** for generating a graphical depiction of a gemstone. As mentioned above in connection with the description of system **100**, system **200** may include one or more gemstone measuring device(s) **202** and a user interface **204** for obtaining gemstone cut proportion and other data from a user. User interface **204** is configured to enter, accept, read, or otherwise receive data or information utilized by system **200**. In the practical embodiment, user interface **204** provides gemstone proportion data to system **200**. The data may be entered by a user via a keyboard, received in an electronic format by a data reading device, scanned by a suitably configured input device, or the like.

[**0029**] The measured cut proportions, any user-entered cut proportions, and/or any default cut proportions **206** collectively form an initial proportion set **208** for the gemstone representation under investigation. A default cut proportion **206** can be asserted by the user or by system **200** to "lock" or "assume" a value for any particular proportion. For example, it may be desirable to set the culet size or girdle thickness to "medium" for a given set of gemstones. The initial proportion set **208** may be stored in a suitable memory element of personal computer **102** or in a portable memory element (not shown). The initial proportion set **208** may include some or all of the cut proportions necessary for the generation of the gemstone graphic. The initial proportion set **208** need not include all of the necessary cut proportions because some of the cut proportions can be derived or calculated from other known cut proportions. Accordingly, system **200** may perform a proportion derivation routine **210** based on the initial proportion set **208** to generate a final proportion set **212**. The final proportion set **212** may be stored in a suitable memory element of personal computer **102** or in a portable memory element (not shown).

[**0030**] In the example embodiment, the final proportion set **212** includes the following cut proportions for a round brilliant cut: crown angle; crown height; pavilion angle; pavilion depth; table size; total depth; star facet length; lower girdle/half facet length; girdle thickness; and culet size. The crown angle and pavilion angle are expressed in degrees. The crown height, pavilion depth, table size, and total depth are relative measurements expressed as a percentage of the average diameter of the gemstone. The star facet length and lower girdle/half facet length are relative measurements expressed as a percentage of the distance from the table edge to the girdle edge and the culet to the girdle edge, respectively. In the example embodiment, girdle thickness is expressed in terms of a descriptive term such as: "extremely thin,""very thin,""thin," :medium,""slightly thick,""thick,""very thick," or "extremely thick." Similarly, culet size is expressed in terms of a descriptive term such as: "none,""very small,""small,""medium,""slightly large, ""large,""very large," or "extremely large." Of course, a given practical embodiment may use a different final proportion set having more or less proportions, the verbal descriptors can vary from that given above, and the proportions themselves can differ depending upon the cut of the gemstone.

[**0031**] System **200** processes the final proportion set with a gemstone graphic generator **214** that creates, formats, and sizes a gemstone graphic as described in more detail below. In the practical embodiment, graphic generator **214** is coupled to memory elements that store the cut proportions. The graphic generator **214** scales the gemstone graphic according to the cut proportions so that the relative size and positioning of the gemstone facets and the overall outline of the profile accurately reflect the gemstone representation. Example gemstone graphics are shown in **FIGS. 3 and 4**. System **200** may also include a rendering engine or processor **216** coupled to graphic generator **214**. Rendering processor **216** is configured to render the gemstone graphic for presentation in a designated format. Rendering processor **216** may be configured to render the gemstone graphic in any suitable format, including, without limitation: a word processor document; a Portable Document Format (PDF) file; an HTML file; a JPEG image file, a GIF image file, or the like.

[**0032**] In practice, rendering processor **216** may render the gemstone graphic on a printed document **218** (e.g., a diamond grading report) and/or may render the gemstone graphic for electronic display **220** (e.g., for display on a computer monitor). In this regard, printer **108** (see **FIG. 1**) is suitably coupled to rendering processor **216** via computer **102**. Likewise, display terminal **106** is suitably coupled to rendering processor **216** via computer **102**. In practice, computer **102** employs a graphics card and drivers compatible with display terminal **106**.

[**0033**] **FIG. 3** is an example gemstone graphic **300** that can be generated by system **100** or system **200**. **FIG. 4** depicts an alternate gemstone graphic **400** that may be generated by system **100** or system **200** (the two graphics share many common characteristics and, for the most part, the description of gemstone graphic **300** also applies to gemstone graphic **400**). Generally, gemstone graphic **300** comprises a profile side view of the gemstone representation under investigation. Gemstone graphic **300** is scaled according to the cut proportions obtained by the system. In other words, gemstone graphic **300** resembles a scaled version of the actual gemstone representation and gemstone graphic **300** will vary depending upon the particular set of cut proportions.

[**0034**] A first portion of the profile view of gemstone graphic **300** contains graphical representations of facets. In **FIG. 3**, this portion corresponds to the left side of the profile view. A second portion of the profile view contains no graphical representations of facets. In **FIG. 3**, this portion corresponds to the right side of the profile view. In the preferred embodiment, graphical representations of facets are contained in only a portion of the gemstone graphic **300**, while the remaining portion remains void of facets. For

example, the gemstone graphic **300** may include graphical representations of profile views of at least one of the following facets: a star facet **302**; a lower girdle/half facet **304**; a pavilion main facet **306**, a bezel facet **308**, an upper girdle facet **316**, and girdle facets **318**.

[**0035**] Gemstone graphic **300** includes a number of proportion quantifiers corresponding to a number of cut proportions. In **FIG. 3**, the proportion quantifiers quantify the different cut proportions with specific values, ranges, or relative measures. For example, the proportion quantifier "54%" corresponds to the table size of the gemstone representation, and the proportion quantifier "none" corresponds to the culet size of the gemstone representation. As shown in **FIG. 3**, gemstone graphic **300** includes ten proportion quantifiers corresponding to ten different cut proportions: a crown angle quantifier (34.3°); a crown height quantifier (15.7%); a pavilion angle quantifier (40.5°); a pavilion depth quantifier (42.4%); a table size quantifier (54%); a total depth quantifier (61.2%); a star facet length quantifier (52.9%); a lower girdle/half facet length quantifier (79.7%); a girdle thickness quantifier (thin-medium); and a culet size quantifier (none). Gemstone graphic **300** may also include a number of dimensional lines or markings corresponding to a number of cut proportions. For example, the boundaries for measurement of pavilion depth are defined by a first dimensional line **310** and a second dimensional line **312**. A dimensional line may also correspond to a surface or an edge of a facet. Gemstone graphic **300** may also include one or more dividing lines **314**; these lines separate the faceted portion of gemstone graphic **300** from the non-faceted portion. Referring to **FIG. 4**, gemstone graphic **400** employs a curved dividing line **402** rather than a straight dividing line.

[**0036**] As mentioned above, gemstone graphic **300** is scaled in accordance with the processed cut proportions. For example, the crown angle in gemstone graphic **300** actually measures 34.3°, the pavilion angle in gemstone graphic **300** actually measures 40.5°, and the relative percentage measurements are accurate (all within practical tolerances). Thus, the overall shape, the angular measurements, the individual facet shapes, and the dimensions of the gemstone graphic can vary from one gemstone representation to another.

[**0037**] In **FIGS. 3 and 4**, only a single thickness is depicted for the girdle facets **318**. The girdle thickness would be preferably the thickness of the valleys in this embodiment, which are the thinnest places of the girdle. However, preferably multiple girdle thicknesses are provided, e.g., the thickest and thinnest.

[**0038**] **FIG. 5** is an example legend graphic **500** corresponding to the gemstone graphic shown in **FIG. 4**. Legend graphic **500** shares many of the characteristics of gemstone graphic **300** and portions of the above description of gemstone graphic **300** (and gemstone graphic **400**) also apply to legend graphic **500**. Gemstone legend graphic **500** is a profile view of a gemstone having the same cut (e.g., round brilliant) as the gemstone representation under investigation. A comparison of **FIG. 4** to **FIG. 5** clearly shows the similarity between legend graphic **500** and gemstone graphic **400**.

[**0039**] In lieu of the proportion quantifiers, legend graphic **500** includes proportion descriptors corresponding to the different cut proportions. As shown in **FIG. 5**, gemstone legend graphic **500** includes ten proportion descriptors corresponding to ten different cut proportions: a crown angle descriptor ("crown angle"); a crown height descriptor ("crown height"); a pavilion angle descriptor ("pavilion angle"); a pavilion depth descriptor ("pavilion depth"); a table size descriptor ("table size"); a total depth descriptor ("total depth"); a star facet length descriptor ("star length"); a lower girdle/half facet length descriptor ("lower girdle/half facet length"); a girdle thickness descriptor ("girdle thickness"); and a culet size descriptor ("culet size"). In a practical embodiment, the system generates a gemstone grading report that contains both a gemstone graphic and a gemstone legend graphic. The gemstone legend graphic serves as a convenient reference that enables the reader to easily interpret the corresponding gemstone graphic.

[**0040**] In contrast to gemstone graphic **300**/**400**, gemstone legend graphic **500** need not be scaled according to the actual cut proportions. Accordingly, the system can utilize a "fixed" gemstone legend graphic **500** with a scaled gemstone graphic **300**/**400**. Such a fixed legend graphic **500** can be maintained in the system memory for retrieval, rendering, and presentation as necessary.

[**0041**] **FIG. 6** is a flow diagram of a gemstone graphic generation process **600** for producing a gemstone graphic as described herein. Referring to the above description, system **100** and system **200** are each suitably configured to carry out process **600**. It should be appreciated that the tasks in process **600** need not be performed in the illustrated order and that additional or alternative tasks may be performed in the context of a practical system. Furthermore, process **600** may be performed as part of a more comprehensive process or procedure.

[**0042**] Process **600** begins by obtaining a plurality of proportions for a gemstone representation (which can be either a physical gemstone or a virtual gemstone). An initial set of cut proportions can be obtained from a number of different sources. For example, process **600** can obtain a number of measured proportions for a physical gemstone (task **602**) from one or more measurement devices. Alternatively or additionally, process **600** can obtain a number of user-inputted proportions (task **604**). Alternatively or additionally, process **600** can obtain a number of default proportions (task **606**). Default proportions may be desirable to fix certain proportions for comparative analyses. A practical embodiment need not perform all of tasks **602**, **604**, and **606**, and the initial proportion set may include any suitable number of proportions.

[**0043**] One or more additional proportions can be derived during process **600** (task **608**). In this regard, the initial cut proportions are processed to derive the additional proportions. After task **608**, process **600** is left with a final set of proportions for the given gemstone representation. In accordance with the example embodiment, the following cut proportions are obtained: crown angle; crown height; pavilion angle; pavilion depth; table size; total depth; star facet length; lower girdle/half facet length; girdle thickness; and culet size.

[**0044**] Process **600** may perform a check to confirm whether the final proportions are consistent (query task **610**). In other words, query task **610** determines whether the final proportion set maintains the standard mathematical relation-

ships among the proportions of the standard round brilliant within one tolerance unit for each reported proportion. These relationships include, for example, the correspondence among crown height, crown angle, and table size. If query task **610** determines that the final proportions are inconsistent, then process **600** may generate a suitable error message or indication (task **612**) to warn the user. In response to such an error, process **600** may obtain one or more modified proportions (task **614**), which can be provided by the user and/or automatically generated by the system. Thereafter, the modified proportions are included in the final proportion set and the final set is again tested for consistency. Thus, process **600** can run iteratively to ensure that a consistent set of proportions are processed. Alternatively, process **600** may simply exit if query task **610** detects an inconsistent set of proportions.

[**0045**] If query task **610** determines that the final set of proportions are consistent, then process **600** proceeds to generate a proportional gemstone graphic (task **616**) having the characteristics described above for gemstone graphics **300**/**400**. Briefly summarizing, task **616** generates a scaled profile view of the gemstone representation, where a portion of the profile view contains scaled graphical representations of facets and a portion of the profile view contains no graphical representations of facets. Task **616** also generates a number of proportion quantifiers for the gemstone graphic, along with suitably positioned dimensional lines.

[**0046**] The gemstone graphic is rendered (task **618**) for presentation in an appropriate manner. Task **618** may employ different techniques depending upon the rendered format of the gemstone graphic. For example, task **618** may suitably render the gemstone graphic for printing on a document (task **620**) such as a grading report, and/or suitably render the gemstone graphic for electronic display (task **622**) on a computer monitor. In addition to the rendering of the gemstone graphic, process **600** may generate and render a gemstone legend graphic as described above in connection with **FIG. 5**. In practice, process **600** prints and/or displays the gemstone legend graphic with the gemstone graphic.

[**0047**] The present invention has been described above with reference to a preferred embodiment. However, those skilled in the art having read this disclosure will recognize that changes and modifications may be made to the preferred embodiment without departing from the scope of the present invention. These and other changes or modifications are intended to be included within the scope of the present invention, as expressed in the following claims.

What is claimed is:

1. A method for generating a graphical depiction of a gemstone, said method comprising:

obtaining a plurality of proportions for a gemstone representation; and

generating a gemstone graphic comprising a profile view of said gemstone representation, said gemstone graphic being scaled according to said plurality of proportions, and said gemstone graphic including a number of proportion quantifiers corresponding to a number of said proportions.

2. A method according to claim 1, further comprising rendering said gemstone graphic for presentation.

3. A method according to claim 2, further comprising generating a gemstone report containing said gemstone graphic.

4. A method according to claim 2, further comprising displaying said gemstone graphic in an electronic format.

5. A method according to claim 1, wherein obtaining a plurality of cut proportions comprises obtaining at least one of the following cut proportions: crown angle; crown height; pavilion angle; pavilion depth; table size; total depth; star facet length; lower girdle/half facet length; girdle thickness; and culet size.

6. A method according to claim 1, wherein generating a gemstone graphic comprises generating at least one of the following proportion quantifiers: a crown angle quantifier; a crown height quantifier; a pavilion angle quantifier; a pavilion depth quantifier; a table size quantifier; a total depth quantifier; a star facet length quantifier; a lower girdle/half facet length quantifier; a girdle thickness quantifier; and a culet size quantifier.

7. A method according to claim 1, wherein generating a gemstone graphic comprises generating graphical representations of facets contained in at least a portion of said profile view.

8. A method according to claim 7, wherein generating a gemstone graphic comprises generating said profile view such that at least a portion of said profile view contains no graphical representations of facets.

9. A method according to claim 1, wherein:

said gemstone representation is a physical gemstone; and

said method further comprises measuring at least one of said plurality of proportions for said physical gemstone.

10. The method of claim 1, further comprising testing a consistency of said proportions.

11. The method of claim 10, wherein said consistency testing comprises iterating for ensuring that consistent proportions are processed.

12. The method of claim 10, further comprising exiting when an inconsistency of said proportions is detected.

13. A method for generating a gemstone grading report, said method comprising:

obtaining a plurality of proportions for a gemstone representation;

generating a gemstone graphic of said gemstone representation, said gemstone graphic comprising a profile view of said gemstone representation, graphical representations of facets contained in only a portion of said profile view, and a number of proportion quantifiers corresponding to a number of said proportions; and rendering a grading report for said gemstone representation, said grading report comprising said gemstone graphic.

14. A method according to claim 13, further comprising printing said grading report.

15. A method according to claim 13, further comprising displaying said grading report in an electronic format.

16. A method according to claim 13, wherein generating a gemstone graphic comprises scaling said profile view according to said plurality of proportions.

17. A method according to claim 13, wherein generating a gemstone graphic comprises scaling said graphical representations of facets according to said plurality of proportions.

18. A method according to claim 13, wherein obtaining a plurality of cut proportions comprises obtaining at least one of the following cut proportions: crown angle; crown height; pavilion angle; pavilion depth; table size; total depth; star facet length; lower girdle/half facet length; girdle thickness; and culet size.

19. A method according to claim 13, wherein generating a gemstone graphic comprises generating at least one of the following proportion quantifiers: a crown angle quantifier; a crown height quantifier; a pavilion angle quantifier; a pavilion depth quantifier; a table size quantifier; a total depth quantifier; a star facet length quantifier; a lower girdle/half facet length quantifier; a girdle thickness quantifier; and a culet size quantifier.

20. A method according to claim 13, wherein generating a gemstone graphic generates graphical representations of profile views of at least one of the following facets: a star facet; a pavilion facet; a lower girdle/half facet; a bezel/main facet; an upper girdle/half facet; and a girdle facet.

21. The method of claim 13, further comprising testing a consistency of said proportions.

22. The method of claim 21, wherein said consistency testing comprises iterating for ensuring that consistent proportions are processed.

23. The method of claim 21, further comprising exiting when an inconsistency of said proportions is detected.

24. A method for generating a graphical depiction of a gemstone, said method comprising:

obtaining a plurality of proportions for a gemstone representation;

generating a gemstone graphic of said gemstone representation, said gemstone graphic being scaled according to said plurality of proportions, and said gemstone graphic comprising a first profile view of said gemstone representation, first graphical representations of facets contained in only a portion of said first profile view, and a number of proportion quantifiers corresponding to a number of said proportions; and

generating a gemstone legend graphic for said gemstone graphic, said gemstone legend graphic comprising a second profile view of a gemstone having the same shape or faceting style, or both, as said gemstone representation, second graphical representations of facets contained in only a portion of said second profile view, and a number of proportion descriptors corresponding to a number of said proportions.

25. A method according to claim 24, further comprising rendering said gemstone graphic and said gemstone legend graphic for presentation.

26. A method according to claim 25, further comprising printing a document containing said gemstone graphic and said gemstone legend graphic.

27. A method according to claim 25, further comprising displaying said gemstone graphic and said gemstone legend graphic in an electronic format.

28. A method according to claim 24, wherein obtaining a plurality of cut proportions comprises obtaining at least one of the following cut proportions: crown angle; crown height; pavilion angle; pavilion depth; table size; total depth; star facet length; lower girdle/half facet length; girdle thickness; and culet size.

29. A method according to claim 24, wherein generating a gemstone graphic comprises generating at least one of the following proportion quantifiers: a crown angle quantifier; a crown height quantifier; a pavilion angle quantifier; a pavilion depth quantifier; a table size quantifier; a total depth quantifier; a star facet length quantifier; a lower girdle/half facet length quantifier; a girdle thickness quantifier; and a culet size quantifier.

30. A method according to claim 24, wherein generating a gemstone legend graphic comprises generating at least one of the following proportion descriptors: a crown angle descriptor; a crown height descriptor; a pavilion angle descriptor; a pavilion depth descriptor; a table size descriptor; a total depth descriptor; a star facet length descriptor; a lower girdle/half facet length descriptor; a girdle thickness descriptor; and a culet size descriptor.

31. The method of claim 24, further comprising testing a consistency of said proportions.

32. The method of claim 31, wherein said consistency testing comprises iterating for ensuring that consistent proportions are processed.

33. The method of claim 31, further comprising exiting when an inconsistency of said proportions is detected.

34. A system for generating a graphical depiction of a gemstone, said system comprising:

memory for storing a plurality of proportions for a gemstone representation;

a gemstone graphic generator coupled to said memory and configured to generate a gemstone graphic of said gemstone representation, said gemstone graphic being scaled according to said plurality of proportions, and said gemstone graphic comprising a first profile view of said gemstone representation, first graphical representations of facets contained in only a portion of said first profile view, and a number of proportion quantifiers corresponding to a number of said proportions; and

a rendering processor coupled to said gemstone graphic generator and configured to render said gemstone graphic for presentation.

35. A system according to claim 34, further comprising a printer coupled to said rendering processor and configured to print said gemstone graphic onto a document.

36. A system according to claim 34, further comprising a display terminal coupled to said rendering processor and configured to display said gemstone graphic in an electronic format.

37. A system for generating a graphical depiction of a gemstone, said system comprising:

means for obtaining a plurality of proportions for a gemstone representation; and

means for generating a gemstone graphic comprising a profile view of said gemstone representation, said gemstone graphic being scaled according to said plurality of proportions, and said gemstone graphic including a number of proportion quantifiers corresponding to a number of said proportions.

38. The system of claim 37, further comprising means for testing a consistency of said proportions.

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