

CLAIMS

1. A computer implemented system comprising a central system comprising one or more computers that are configured with software applications and related data to:

scan, by the computer implemented system using an imaging system, an interior of each rough diamond of a plurality of rough diamonds from rough diamond inventory information of a diamond seller and an exterior of each rough diamond;

create, by the computer implemented system, a 3D model showing a location of spatial and physical properties for each rough diamond based on the interior of the rough diamond and the exterior of the rough diamond;

generate, by the computer implemented system, an imaging file for each rough diamond containing data including the 3D model, the location of the spatial and physical properties, an ask price of the seller and associated information for each rough diamond;

receive, by the computer implemented system, a manufacturer's desired polished diamond parameters, wherein the manufacturer's desired polished diamond parameters are not accessible to other manufacturers;

apply, by the computer implemented system, the data in the imaging file to the manufacturer's desired polished diamond parameters for each diamond cut to identify the potential polished diamonds that can be produced from the plurality of rough diamonds that are unique to the manufacturer specifications, unique to polished diamond distribution and based on the manufacturer's desired polished diamond parameters;

apply, by the computer implemented system, a type of manufacturing process for each of the plurality of rough diamonds based on an offer price, a largest value differential between costs of each of the plurality of rough diamonds and a polished diamond, manufacturing processing parameters, customer parameters, the manufacturer's desired polished diamond parameters for a type of polishing and a method of polishing and impacts to the spatial and physical properties for each of the plurality of rough diamonds;

select, by the computer implemented system, a subset of the plurality of rough diamonds based on the applying for each of a plurality of manufacturers;

insert, by the computer implemented system, the plurality of rough diamonds in a rough diamond sorting system to sort the subset of the plurality of rough diamonds among each of the plurality of manufacturers;

store, by the computer implemented system, each subset of the plurality of rough diamonds in a separate repository for each of the plurality of manufacturers to reserve each subset of the plurality of rough diamonds for a sale; and

implement, by the computer implement system, the sale between the seller and manufacturer for the subset of the plurality of rough diamonds, in response to the offer price of the manufacturer exceeding the ask price of the seller.

2. The system according to claim 1, wherein the associated information includes shape, cutting style, physical dimensions, weight, diameter, crown information, girdle information, pavilion information, table information, clarity grade, color grade, and type.

3. A computer implemented method comprising:

scanning, by a computer implemented system using an imaging system, an interior of each rough diamond of a plurality of rough diamonds from rough diamond inventory information of a diamond seller and an exterior of each rough diamond;

creating, by the computer implemented system, a 3D model showing a location of spatial and physical properties for each rough diamond based on the interior of the rough diamond and the exterior of the rough diamond;

generating, by the computer implemented system, an imaging file for each rough diamond containing data including the 3D model, the location of the spatial and physical properties, an ask price of the seller and associated information for each rough diamond;

receiving, by the computer implemented system, a manufacturer's desired polished diamond parameters, wherein the manufacturer's desired polished diamond parameters are not accessible to other manufacturers;

applying, by the computer implemented system, the data in the imaging file to the manufacturer's desired polished diamond parameters for each diamond cut to identify the potential polished diamonds that can be produced from the plurality of rough diamonds that are unique to the manufacturer specifications, unique to polished diamond distribution and based on the manufacturer's desired polished diamond parameters;

applying, by the computer implemented system, a type of manufacturing process for each of the plurality of rough diamonds based on an offer price, a largest value differential between costs of each of the plurality of rough diamonds and a polished diamond, manufacturing processing parameters, customer parameters, the manufacturer's desired

polished diamond parameters for a type of polishing and a method of polishing and impacts to the spatial and physical properties for each of the plurality of rough diamonds;

selecting, by the computer implemented system, a subset of the plurality of rough diamonds based on the applying for each of a plurality of manufacturers;

inserting, by the computer implemented system, the plurality of rough diamonds in a rough diamond sorting system to sort the subset of the plurality of rough diamonds among each of the plurality of manufacturers;

storing, by the computer implemented system, each subset of the plurality of rough diamonds in a separate repository for each of the plurality of manufacturers to reserve each subset of the plurality of rough diamonds for a sale; and

implementing, by the computer implement system, the sale between the seller and manufacturer for the subset of the plurality of rough diamonds, in response to the offer price of the manufacturer exceeding the ask price of the seller.

4. The method according to claim 3, wherein the determining step is performed in response to a particular polished diamond order that specifies an individual polished diamond using manufacturing process parameters that are specific to polished diamonds which includes a particular one of that manufacturer's confidential and proprietary polished diamond manufacturing process parameters.
5. The method according to claim 3, wherein the selecting step is performed until the polished diamond order is fulfilled.
6. The system according to claim 1, wherein the manufacturing process parameters are provided to a confidential escrow system by the manufacturer, and received from the escrow system, wherein the manufacturing process parameters are accessible only by the corresponding manufacturer and the central system.
7. The method according to claim 3, further comprising receiving and storing subsequent rough diamond inventory information.
8. The method according to claim 3, wherein the manufacturing process parameters are provided to a confidential escrow system by the manufacturer, and received from the escrow system, wherein the manufacturing process parameters are accessible only by the corresponding manufacturer and the central system.

9. The system according to claim 1, further configured with software applications and related data to:

place, by the computer implemented system using a sorting system, the subset of the plurality of rough diamonds in a container having an identification number;

check, by the computer implemented system, identifiers of the rough diamonds at different points in a distribution chain to confirm secure transfer to the manufacturer.

10. A method comprising:

receiving, by a processor, polished diamond parameters from a plurality of manufacturers about a plurality of raw diamonds, prior to the plurality of manufacturers seeing the plurality of raw diamonds, wherein the polished diamond parameters are not accessible to other manufacturers,

wherein the polished diamond parameters for the plurality of raw diamonds comprising shapes for subsets of the plurality of polished diamonds, angles of subsets of the plurality of polished diamonds, cuts of subsets of the plurality of polished diamonds, desired sales prices for each of the plurality of polished diamonds, number of each of the plurality of raw diamonds to be sold at the desired sales price, acceptable diamond mines of origin for the plurality of rough diamonds, costs, profile for each of the plurality of polished diamonds, color for each of the plurality of polished diamonds, maximum number of the plurality of raw diamonds for purchase, and losses due to a cutting style used in the manufacturing process parameters;

developing, by the processor, a manufacturing processing plan for each of the plurality of raw diamonds based on the polished diamond parameters from the plurality of manufacturers;

determining, by the processor, a maximum value of each of the plurality of raw diamonds based on the manufacturing processing plan from the plurality of manufacturers;

assigning, by the processor, each of the plurality of raw diamonds to one or more of the plurality of manufacturers based on the number of each of the plurality of raw diamonds at the desired sales price by the one or more of the plurality of manufacturers;

notifying, by the processor, the one or more of the plurality of manufacturers about a subset of the plurality of raw diamonds assigned to each of the one or more of the plurality of manufacturers;

inserting, by the processor, the plurality of rough diamonds in a rough diamond sorting system to sort the subset of the plurality of rough diamonds among each of the plurality of manufacturers;

storing, by the processor, each subset of the plurality of rough diamonds in a separate repository for each of the plurality of manufacturers to reserve each subset of the plurality of rough diamonds for a sale; and

implementing, by the processor, the sale between the seller and manufacturer for the subset of the plurality of rough diamonds, in response to the offer price of the manufacturer exceeding the ask price of the seller.

11. The method of claim 10, wherein the maximum number of the plurality of polished diamonds for purchase includes a number of a subset of the plurality of polished diamonds for purchase.

12. The method of claim 10, wherein:

the desired sales prices for each of the plurality of polished diamonds are associated with a desired size, color, clarity and fluorescence;

the costs are for certification and labor; and

the color for each of the plurality of polished diamonds includes color probability.