

What is claimed is: CLAIMS

1. A method ~~(200)~~ for providing visualization platform ~~(150)~~ optimization, the method ~~(200)~~ comprising:

defining ~~(210)~~ a visualization;

creating ~~(220)~~ a plurality of geometry vectors~~records~~;

receiving ~~(230)~~ a request to display the visualization;

iterating ~~(240)~~ through the plurality of geometry vectors ~~(135)~~;

skipping at least one first vector of the plurality of geometry records according to a geometry skipping algorithm comprising at least one of the following criteria: a zero-length line detection, a total number of the plurality of geometry vectors, a total number of data points, a display size, a data type, and a visualization type;

translating at least one second vector of the plurality of geometry records into at least one drawing instruction; and

displaying ~~(250)~~ the visualization on a display device ~~(150)~~.

~~2. The method (200) of Claim 1, wherein iterating (240) through the plurality of geometry vectors (135) comprises skipping at least one of the plurality of geometry vectors (135).~~

~~3. The method (200) of Claim 2, wherein skipping at least one of the plurality of geometry vectors (135) comprises determining whether the at least one of the plurality of geometry vectors (135) is associated with at least one criterion.~~

~~4. The method (200) of Claim 3, wherein the at least one criterion comprises at least one of the following: a display size, a data type, a visualization type, a total number of data points to be displayed, a total number of the plurality of geometry vectors (135), and a size of an amount of overlap between display objects.~~

25. The method ~~(200)~~ of Claim 1, further comprising:

determining whether the at least one second vector of the plurality of geometry vectors~~records~~ comprises a pixel location associated with at least one third~~second~~ vector of the plurality of geometry vectors~~records~~; and

in response to determining that the at least one second vector of the plurality of geometry vectors~~records~~ comprises the~~a~~ pixel location associated with the at least one second vector of the plurality of geometry vectors~~records~~, skipping the at least one second vector of the plurality of geometry vectors ~~(135)~~.

36. The method ~~(200)~~ of Claim 1, further comprising:

sending a plurality of the translated geometry vectors~~records~~ to an application ~~(140)~~; and

rendering the plurality of the translated geometry vectors~~records~~ for display by the application~~(140)~~.

47. The method ~~(200)~~ of Claim 36, further comprising:

receiving a request from the application ~~(140)~~ for a batch of translated geometry vectors~~records~~;

sending a subset of the plurality of the translated geometry vectors~~records~~ to the application~~(140)~~, wherein the subset of the plurality of the translated geometry vectors~~records~~ comprises a number of translated geometry records associated with the received batch request; and

waiting to send a remaining subset of the plurality of translated geometry vectors~~records~~.

58. The method ~~(200)~~ of Claim 1, wherein translating the at least one of the plurality of geometry vectors~~records~~ into the at least one drawing instruction comprises linearizing at least one of the plurality of geometry vectors~~(135)~~.

69. The method ~~(200)~~ of Claim 1, further comprising:

receiving at least one supported drawing instruction, wherein translating the at least one of the plurality of geometry vectors~~records~~ into the at least one drawing instruction comprises translating the at least one of the plurality of geometry vectors~~records~~ into the at least one supported drawing instruction.

710. A system ~~(300)~~ for providing visualization platform ~~(150)~~ optimization, the system ~~(300)~~ comprising:

a memory storage ~~(309, 310)~~; and

a processing unit ~~(302)~~ coupled to the memory storage ~~(309, 310)~~, wherein the processing unit ~~(302)~~ is operative to:

create ~~(210)~~ a visualization object associated with a plurality of data values,

composite ~~(220)~~ at least one first value of the plurality of data values into a

geometry vector associated with the visualization object, ~~and~~

skip compositing at least one second value of the plurality of data values: according to a predefined criterion, and

translate at least a subset of the plurality of geometry vectors into a plurality of drawing instructions, wherein the subset of the plurality of geometry vectors is selected according to a geometry skipping algorithm comprising at least one of the following criteria: a zero-length line detection, a total number of the plurality of geometry vectors, a total number of data points, a display size, a data type, and a visualization type.

~~11.—The system (300) of Claim 10, further operative to composite (220) a subset of the plurality of data values into a plurality of geometry vectors (135) associated with the visualization object.~~

~~12.—The system (300) of Claim 11, further operative to render (250) the visualization object, wherein being operative to render (250) the visualization object comprises being operative to:~~

~~translate at least one of the plurality of geometry vectors (135) into at least one drawing instruction.~~

~~13.—The system (300) of Claim 12, further operative to translate a subset of the plurality of geometry vectors (135) into a plurality of drawing instructions, wherein the subset of the plurality of geometry vectors (135) is selected according to a geometry skipping algorithm (130).~~

8. The system of Claim 7, wherein the predefined criterion is user configurable.

914. The system ~~(300)~~ of Claim ~~713~~, wherein the geometry skipping algorithm ~~(130)~~ comprises an algorithm (130) is further operative to:

translate at least one first vector of the plurality of geometry vectors ~~(135)~~ into at least one drawing instruction,

iterate ~~(240)~~ to at least one second vector of the plurality of geometry vectors ~~(135)~~;

determine whether the at least one second vector of the plurality of geometry vectors ~~(135)~~ comprises a point on the visualization object proximate to ~~the~~a point on the visualization object associated with the at least one first vector; and

in response to determining that the at least one second vector of the plurality of geometry vectors ~~(135)~~ comprises ~~the~~a point on the visualization object proximate to ~~the~~a point on the visualization object associated with the at least one first vector, skip translating the at least one second vector into ~~the~~a at least one drawing instruction.

10. The system of Claim 7, further operative to:

receive at least one change to the visualization object; and

in response to receiving the at least one change to the visualization object, re-rendering the visualization object.

11. The system of Claim 10, wherein the at least one change to the visualization object comprises at least one of the following: a re-size of the visualization object, a zoom in on the visualization object, a zoom out on the visualization object, a movement of the visualization object, a partial covering of the visualization object, and a movement of an application.

12. The system of Claim 7, further comprising a user application operative to render the visualization object to a display device.

~~13~~¹⁵. A computer-readable medium which stores a set of instructions which when executed performs a method ~~(200)~~ for optimizing a visualization platform ~~(150)~~, the method ~~(200)~~ executed by the set of instructions comprising:

receiving ~~(210)~~ a request from a user application ~~(140)~~ to create a visualization object, wherein the request comprises a plurality of data values and a visualization type and wherein the visualization object comprises a two-dimensional representation of a series of data points each comprising an associated value;

compositing ~~(220)~~ a plurality of geometry vectors ~~(135)~~ associated with the visualization object, wherein compositing the plurality of geometry vectors ~~(135)~~ comprises:

compositing at least one geometry vector associated with at least one of the plurality of data values, and

skipping at least one of the plurality of data values according to a ~~configurable granularity~~ criterion comprising at least one of the following: a display size, a data type, a total number of data points to be displayed, a total number of the plurality of geometry vectors, and a size of an amount of overlap between display objects;

receiving ~~(230)~~ a render request from the user application ~~(140)~~;

translating each of a subset of the plurality of geometry vectors ~~(135)~~ into at least one drawing instruction, wherein the subset of the plurality of geometry vectors ~~(135)~~ is selected according to a geometry skipping algorithm ~~(130)~~ comprising the criterion of at least one of the following: a zero-length line detection, the total number of the plurality of geometry vectors, the total number of data points, the display size, the data type, and the visualization type;

sending the at least one drawing instruction associated with each of the subset of the plurality of geometry vectors ~~(135)~~ to the user application ~~(140)~~;

rendering ~~(250)~~ the visualization object, wherein rendering the visualization object comprises rendering the at least one drawing instruction associated with each of the subset of the plurality of geometry vectors ~~(135)~~ to a display device ~~(150)~~;

receiving a second render request from the user application ~~(140)~~ in response to a detected change affecting the rendered visualization object;

translating each of a second subset of the plurality of geometry vectors ~~(135)~~ into the at least one drawing instruction;

sending the at least one drawing instruction associated with each of the second subset of the plurality of geometry vectors ~~(135)~~ to the user application ~~(140)~~; and

re-rendering the visualization object.