CLAIMS

[Claim 1]

An image processing apparatus characterized by comprising:

indicated-position information acquiring means for acquiring indicated-position information, the indicated-position information including at least one user-indicated position in an image in which at least one object is shown;

reference position information acquiring means for acquiring reference position information including a position of the object in the image and vertex coordinates of a target region of the image ;

partitioning means for partitioning the target region of the image on a basis of the reference position information to generate a plurality of partition regions;

partition region identifying means for identifying at least one partition region on a basis of the plurality of partition regions and the indicated-position information; and

object determining means for determining whether the object has been selected, on a basis of the identified partition region.

[Claim 2]

The image processing apparatus according to Claim 1, characterized in that the object determining means determines whether the object has been selected, on a basis of a position of the object or a region of the object.

[Claim 3]

The image processing apparatus according to Claim 1 or 2, characterized in that,

the reference position information includes at least one position indicative of a boundary of the target region of the image, and

the object determining means includes region determining means for determining whether the partition region identified by the partition region identifying means is related to the object, the object determining means determining the object to have not been selected when the identified partition region is a partition region that is partitioned on a basis of a position indicative of a boundary of the target region of the image, and is determined to be not related to the object.

[Claim 4]

The image processing apparatus according to any one of Claim 1 to 3, characterized in that the partitioning means acquires positions of sites in the image on a basis of the reference position information, and partitions the target region of the image on a basis of Voronoi boundaries defined on a basis of the positions of the sites to generate the plurality of partition regions.

[Claim 5]

The image processing apparatus according to Claim 4, characterized in that the partitioning means partitions the target region of the image on a basis of Delaunay boundaries defined on a basis of the positions of the sites and the Voronoi boundaries to generate the plurality of partition regions.

[Claim 6]

The image processing apparatus according to any one of Claim 1 to 5, characterized in that,

the indicated-position information includes information indicative of a user-indicated line segment or a user-indicated region, and

the partition region identifying means identifies at least one partition region on a basis of the information indicative of the user-indicated line segment or the user-indicated region.

[Claim 7]

The image processing apparatus according to any one of Claim 1 to 6, characterized in that,

the image is an image in which the at least one object and at least one marker are shown,

the image processing apparatus comprises

significant pixel region acquiring means for acquiring a significant pixel region shown in the image, and

discriminating means for discriminating the significant pixel region as one of the object and the marker, and

the indicated-position information acquiring means includes marker information

acquiring means for acquiring the indicated-position information on a basis of the marker in the image.

[Claim 8]

The image processing apparatus according to any one of Claim 1 to 7, characterized by comprising:

means for associating the indicated-position information with indicated-processing information indicative of user-indicated processing with respect to the object;

first indicated-processing information acquiring means for acquiring the indicated-processing information that is associated with the indicated-position information used in the identifying of the identified partition region, and is related to the identified partition region;

second indicated-processing information acquiring means for acquiring the indicated-processing information that is associated with the identified partition region used in the determining of the object determined to have been selected, and is related to the object; and

object processing means for executing, for the object determined to have been selected, processing indicated by the indicated-processing information related to the object.

[Claim 9]

A program for causing a computer to function as:

indicated-position information acquiring means for acquiring indicated-position information, the indicated-position information including at least one user-indicated position in an image in which at least one object is shown;

reference position information acquiring means for acquiring reference position information including a position of the object in the image and vertex coordinates of a target region of the image;

partitioning means for partitioning the target region of the image on a basis of the reference position information to generate a plurality of partition regions;

partition region identifying means for identifying at least one partition region on a basis of the plurality of partition regions and the indicated-position information; and

object determining means for determining whether the object has been selected, on a basis of the identified partition region.

[Claim 10]

A computer readable medium storing a program for causing a computer to function as:

indicated-position information acquiring means for acquiring indicated-position information, the indicated-position information including at least one user-indicated position in an image in which at least one object is shown;

reference position information acquiring means for acquiring reference position information including a position of the object in the image and vertex coordinates of a target region of the image;

partitioning means for partitioning the target region of the image on a basis of the reference position information to generate a plurality of partition regions;

partition region identifying means for identifying at least one partition region on a basis of the plurality of partition regions and the indicated-position information; and

object determining means for determining whether the object has been selected, on a basis of the identified partition region.

[Claim 11]

An image processing method characterized by comprising:

indicated-position information acquiring step for acquiring indicated-position information, the indicated-position information including at least one user-indicated position in an image in which at least one object is shown;

reference position information acquiring step for acquiring reference position information including a position of the object in the image and vertex coordinates of a target region of the image;

partitioning step for partitioning the target region of the image on a basis of the reference position information to generate a plurality of partition regions;

partition region identifying step for identifying at least one partition region on a basis of the plurality of partition regions and the indicated-position information; and

object determining step for determining whether the object has been selected, on a basis of the identified partition region.

CLAIMS

[Claim 1]

An image processing apparatus characterized by comprising:

indicated-position information acquiring means for acquiring indicated-position information, the indicated-position information including at least one user-indicated position in an image in which at least one object is shown;

reference position information acquiring means for acquiring reference position information including at least a position indicative of a boundary of the target region and a position of the object in the image;

partitioning means for partitioning the target region of the image on a basis of the reference position information to generate a plurality of partition regions;

partition region identifying means for identifying at least one partition region on a basis of the plurality of partition regions and the indicated-position information; and

object determining means for determining whether the object has been selected, on a basis of the identified partition region.

[Claim 2]

The image processing apparatus according to Claim 1, characterized in that,

the target region of the image forms a polygon including a plurality of vertexes; and

the reference position information acquiring means acquires the reference position information including a position of at least one vertex of the plurality of vertexes in the target region of the image.

[Claim 3]

The image processing apparatus according to Claim 2, characterized in that the reference position information acquiring means acquires the reference position information including positions of each of the plurality of vertexes in the target region of the image and the position of the object in the image.

[Claim 4]

The image processing apparatus according to any one of Claims 1 to 3, characterized in that the object determining means determines whether the object has been selected, on a basis of the position of the object or a region of the object.

[Claim 5]

The image processing apparatus according to any one of Claims 1 to 4, characterized in that,

the object determining means includes region determining means for determining whether the partition region identified by the partition region identifying means is related to the object, the object determining means determining the object to have not been selected when the identified partition

region is a partition region that is partitioned on a basis of a position indicative of the boundary of the target region of the image, and is determined to be not related to the object.

[Claim 6]

The image processing apparatus according to any one of Claim 1 to 5, characterized in that,

the indicated-position information includes information indicative of a user-indicated line segment or a user-indicated region, and

the partition region identifying means identifies at least one partition region on a basis of the information indicative of the user-indicated line segment or the user-indicated region.

[Claim 7]

The image processing apparatus according to any one of Claim 1 to 6, characterized in that,

the image is an image in which the at least one object and at least one marker are shown,

the image processing apparatus comprises

significant pixel region acquiring means for acquiring a significant pixel region shown in the image, and

discriminating means for discriminating the significant pixel region as one of the object and the marker, and

the indicated-position information acquiring means includes marker information acquiring means for acquiring the indicated-position information on a basis of the marker in the image.

[Claim 8]

An image processing apparatus, characterized by comprising:

indicated-position information acquiring means for acquiring indicated-position information, the indicated-position information including at least one user-indicated position in an image in which at least one object is shown;

reference position information acquiring means for acquiring reference position information including a position of the object in the image;

partitioning means for partitioning a target region of the image on a basis of the reference position information to generate a plurality of partition regions;

partition region identifying means for identifying at least one partition region on a basis of the plurality of partition regions and the indicated-position information;

means for associating the indicated-position information with indicated-processing information indicative of user-indicated processing with respect to the object; and

object processing means for executing, in a case where it is determined that a partition region is identified on a basis of the indicated-position information that is associated with the indicated-processing information and that the object is selected on a basis of the partition region, processing indicated by the indicated-processing information for the object determined to have been selected.

[Claim 9]

The image processing apparatus according to Claim 8, characterized in that,

the at least one object shown in the image is a plurality of objects; and

in a case where it is determined that a partition region is identified on a basis of the indicated-position information that is associated with the indicated-processing information and the objects of the plurality of objects shown in the image are selected on a basis of the partition region, the object processing means executes processing indicated by the indicated-processing information for the objects determined to have been selected.

[Claim 10]

The image processing apparatus according to Claim 8 or 9, characterized in that the indicated-processing information is information indicative of image processing or information indicative of an order of priority of predetermined processing.

[Claim 11]

A program for causing a computer to function as:

indicated-position information acquiring means for acquiring indicated-position information, the indicated-position information including at least one user-indicated position in an image in which at least one object is shown;

reference position information acquiring means for acquiring reference position information including at least a position indicative of a boundary of the target region and a position of the object in the image;

partitioning means for partitioning the target region of the image on a basis of the reference position information to generate a plurality of partition regions;

partition region identifying means for identifying at least one partition region on a basis of the plurality of partition regions and the indicated-position information; and

object determining means for determining whether the object has been selected, on a basis of the identified partition region.

[Claim 12]

A program for causing a computer to function as:

indicated-position information acquiring means for acquiring indicated-position information, the indicated-position information including at least one user-indicated position in an image in which at least one object is shown;

reference position information acquiring means for acquiring reference position information including a position of the object in the image and vertex coordinates of a target region of the image;

partitioning means for partitioning the target region of the image on a basis of the reference position information to generate a plurality of partition regions;

partition region identifying means for identifying at least one partition region on a basis of the plurality of partition regions and the indicated-position information;

means for associating the indicated-position information with indicated-processing information indicative of user-indicated processing with respect to the object; and

object processing means for executing, in a case where it is determined that a partition region is identified on a basis of the indicated-position information that is associated with the indicated-processing information and that the object is selected on a basis of the partition region, processing indicated by the indicated-processing information for the object determined to have been selected.