the claims in any way. The invention may, as the skilled person will recognize, be performed by using alternative features. Similarly, features introduced by "in an embodiment of the invention" or similar expressions are intended to be optional features, without any restriction regarding alternative embodiments of the invention, without any restrictions regarding the scope of the invention and without any restriction regarding the possibility of combining the features introduced in such way with other optional or non-optional features of the invention.

According to a first aspect of the present invention, there is provided a method for evaluating the suitability of a mobile device having a camera for performing an analytical measurement, the method comprising:

a) providing the mobile device;

b) providing a reference object having a predefined spatial extension in a spatial dimension;

c) taking an image of at least part of the reference object using the camera;

d) using the image to derive spatial resolution information that includes one or more numerical values that quantify the capability of the camera to resolve two or more objects in the image, wherein step d) further comprises recognizing the reference object within the image, determining a number of pixels of the reference object in the image in the spatial dimension, and deriving the spatial resolution information by using the determined number of pixels and the predefined spatial extension;

e) providing a threshold value as a minimum number of pixels in the spatial dimension within a region of interest in the image;

f) comparing the spatial resolution information with the threshold value; and

g) determining from the comparison in step f) the suitability of the mobile device for performing the analytical measurement.

According to a second aspect of the present invention, there is provided a mobile device for performing an analytical measurement, the mobile device having a camera and being configured for performing a self-suitability evaluation by using the following steps:

a) taking an image with the camera of at least part of a reference object having a predefined spatial extension in a spatial dimension;

b) using the image to derive spatial resolution information that includes one or more numerical values that quantify the capability of the camera to resolve two or more objects in the image, wherein step b) further comprises recognizing the reference object within the image, determining a number of pixels of the reference object in

the image in the spatial dimension, and deriving the spatial resolution information by using the determined number of pixels and the predefined spatial extension;

c) providing a threshold value as a minimum number of pixels in the spatial dimension within a region of interest in the image;

d) comparing the spatial resolution information with the threshold value; and

e) determining from the comparison the suitability of the mobile device for performing the analytical measurement.

In a first aspect, a method for evaluating the suitability of a mobile device is disclosed, the mobile device having at least one camera for performing an analytical measurement. The analytical measurement, as will be outlined in further detail below, specifically may be on a color formation reaction, e.g. by using at least one test chemical as described above. The method comprises the following steps which, as an example, may be performed in the given order. It shall be noted, however, that a different order is also possible. Further, it is also possible to perform one or more of the method steps once or repeatedly. Further, it is possible to perform two or more of the method steps simultaneously or in a timely overlapping fashion. The method may comprise further method steps which are not listed.

The method steps comprised by the method are as follows:

a) providing the at least one mobile device having the at least one camera;

b) providing at least one reference object having at least one predefined spatial extension in at least one spatial dimension;

c) taking at least one image of at least part of the reference object by using the camera; and

d) deriving at least one item of spatial resolution information by using the image.

The term “mobile device” as used herein is a broad term and is to be given its ordinary and customary meaning to a person of ordinary skill in the art and is not to be limited to a special or customized meaning. The term specifically may refer, without limitation, to a mobile electronics device, more specifically to a mobile communication device such as a cell phone or smart phone. Additionally or alternatively, as will be outlined in further detail below, the mobile device may also refer to a tablet computer or another type of portable computer having at least one camera.

The term “camera” as used herein is a broad term and is to be given its ordinary and customary meaning to a person of ordinary skill in the art and is not to be limited to a special

Claims

1. A method for evaluating the suitability of a mobile device having a camera for performing an analytical measurement, the method comprising:

a) providing the mobile device;

b) providing a reference object having a predefined spatial extension in a spatial dimension;

c) taking an image of at least part of the reference object using the camera;

d) using the image to derive spatial resolution information that includes one or more numerical values that quantify the capability of the camera to resolve two or more objects in the image, wherein step d) further comprises recognizing the reference object within the image, determining a number of pixels of the reference object in the image in the spatial dimension, and deriving the spatial resolution information by using the determined number of pixels and the predefined spatial extension;

e) providing a threshold value as a minimum number of pixels in the spatial dimension within a region of interest in the image;

f) comparing the spatial resolution information with the threshold value; and

g) determining from the comparison in step f) the suitability of the mobile device for performing the analytical measurement.

2. The method according to claim 1, further comprising adjusting scaling information of the mobile device by using the spatial resolution information.

3. The method according to claim 1, wherein step c) comprises providing visual guidance for a user for positioning the mobile device relative to the reference object.

4. The method according to claim 1, wherein the reference object is selected from the group consisting of a test element, a test element container, and a package for receiving at least one test element.

5. A method for performing an analytical measurement by using a mobile device having a camera, comprising:

evaluating the suitability of the mobile device using the method according to claim 1; and

when the spatial resolution information indicates the mobile device is unsuitable for performing the analytical measurement, aborting the method.

6. A method for performing an analytical measurement by using a mobile device having a camera, comprising:

evaluating the suitability of the mobile device using the method according to claim 1; and

when the spatial resolution information indicates the mobile device is suitable for performing the analytical measurement, performing the analytical measurement, comprising the following steps:

applying a sample to a test element having a test chemical capable of a color formation reaction;

taking an image of at least part of the test element using the camera; and

evaluating the image and deriving analytical information therefrom.

7. A method for performing an analytical measurement by using a mobile device having a camera, comprising:

(i) evaluating the suitability of the mobile device using the method according to claim 1; and

(ii) when the spatial resolution information indicates the mobile device is suitable for performing the analytical measurement, performing the analytical measurement, comprising the following steps:

applying a sample to a test element having a test chemical capable of a color formation reaction;

taking an image of at least part of the test element using the camera;

evaluating the image and deriving analytical information therefrom;

wherein step (i) is performed at least once before step (ii) is performed.

8. A method for performing an analytical measurement by using a mobile device having a camera, comprising:

evaluating the suitability of the mobile device using the method according to claim 1; and

when the spatial resolution information indicates the mobile device is unsuitable for performing the analytical measurement, performing at least one of: informing a user of the unsuitability of the mobile device for performing the analytical measurement, blocking future attempts to perform the analytical measurement by using the mobile

device, and transmitting information on the mobile device being unsuited for performing the analytical measurement.

9. A method for performing an analytical measurement by using a mobile device having a camera, comprising:

(i) evaluating the suitability of the mobile device using the method according to claim 1; and

(ii) when the spatial resolution information indicates the mobile device is suitable for performing the analytical measurement, performing the analytical measurement, comprising the following steps:

applying a sample to a test element having a test chemical capable of a color formation reaction;

taking an image of at least part of the test element using the camera, the taking of the image further comprising determining a target size for the test element or of a test field of the test element in the image and providing user guidance by superimposing a visual indicator representing the target size; and

evaluating the image and deriving analytical information therefrom.

10. A non-transitory computer readable medium having stored thereon computer-executable instructions for performing the method according to claim 1.

11. A mobile device for performing an analytical measurement, the mobile device having a camera and being configured for performing a self-suitability evaluation by using the following steps:

a) taking an image with the camera of at least part of a reference object having a predefined spatial extension in a spatial dimension;

b) using the image to derive spatial resolution information that includes one or more numerical values that quantify the capability of the camera to resolve two or more objects in the image, wherein step b) further comprises recognizing the reference object within the image, determining a number of pixels of the reference object in the image in the spatial dimension, and deriving the spatial resolution information by using the determined number of pixels and the predefined spatial extension;

c) providing a threshold value as a minimum number of pixels in the spatial dimension within a region of interest in the image;

d) comparing the spatial resolution information with the threshold value; and

e) determining from the comparison the suitability of the mobile device for performing the analytical measurement.

12. The mobile device according to claim 11, the mobile device further being configured for performing at least one analytical measurement by using the following steps:

evaluating the suitability of the mobile device based on the spatial resolution information; and

when the spatial resolution information indicates the mobile device is unsuited for performing the analytical measurement, aborting the analytical measurement.

13. The mobile device according to claim 11, the mobile device further being configured for performing at least one analytical measurement by using the following steps:

evaluating the suitability of the mobile device based on the spatial resolution information;

when the spatial resolution information indicates the mobile device is suited for performing the analytical measurement, performing the analytical measurement, comprising the following steps:

(i) taking an image of at least part of a test element by using the camera, the test element having at least one test chemical capable of a color formation reaction, the test element having applied thereto at least one sample;

(ii) taking an image of at least part of the test element using the camera;

(iii) evaluating the image and deriving analytical information therefrom.

14. A kit for performing an analytical measurement, the kit comprising:

a mobile device according to claim 11;

a reference object having a predefined spatial extension in a spatial dimension; and

a test element having a test chemical capable of a color formation reaction.