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(54) **SYSTEMS FOR PROVIDING RESPONSIVE-TYPE DRAWING MAKING SERVICE AND METHOD FOR CONTROLLING THE SAME**

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(57) **ABSTRACT**

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The present disclosure provides a system for providing a responsive-type drawing making service which is capable of real-time interaction between a user and an object, wherein the system for providing a responsive-type drawing making service includes: a terminal that is configured to allow inputting event information relating to a user's behavior response for making a drawing; a control part that constructs a network with the terminal, the web and the external server, followed by a communication, generating arbitrary custom information by matching first data of a dynamic image that is provided through at least one of the web and the external server according to event information that was input from the terminal to second data of a signal that uses a drawing tool of a pre-stored drawing making program, and outputting an alarm signal preset according to generated custom information; and an alarm part that is equipped to the terminal, performing visual displaying according to an alarm signal that was output from the control part. According to the present disclosure, it is capable of implementing an interaction-type dynamic image using a drawing that was drawn by a user and providing a guide image depending on a category of a dynamic image that is desired to be generated, thereby more efficiently assisting a user's work.

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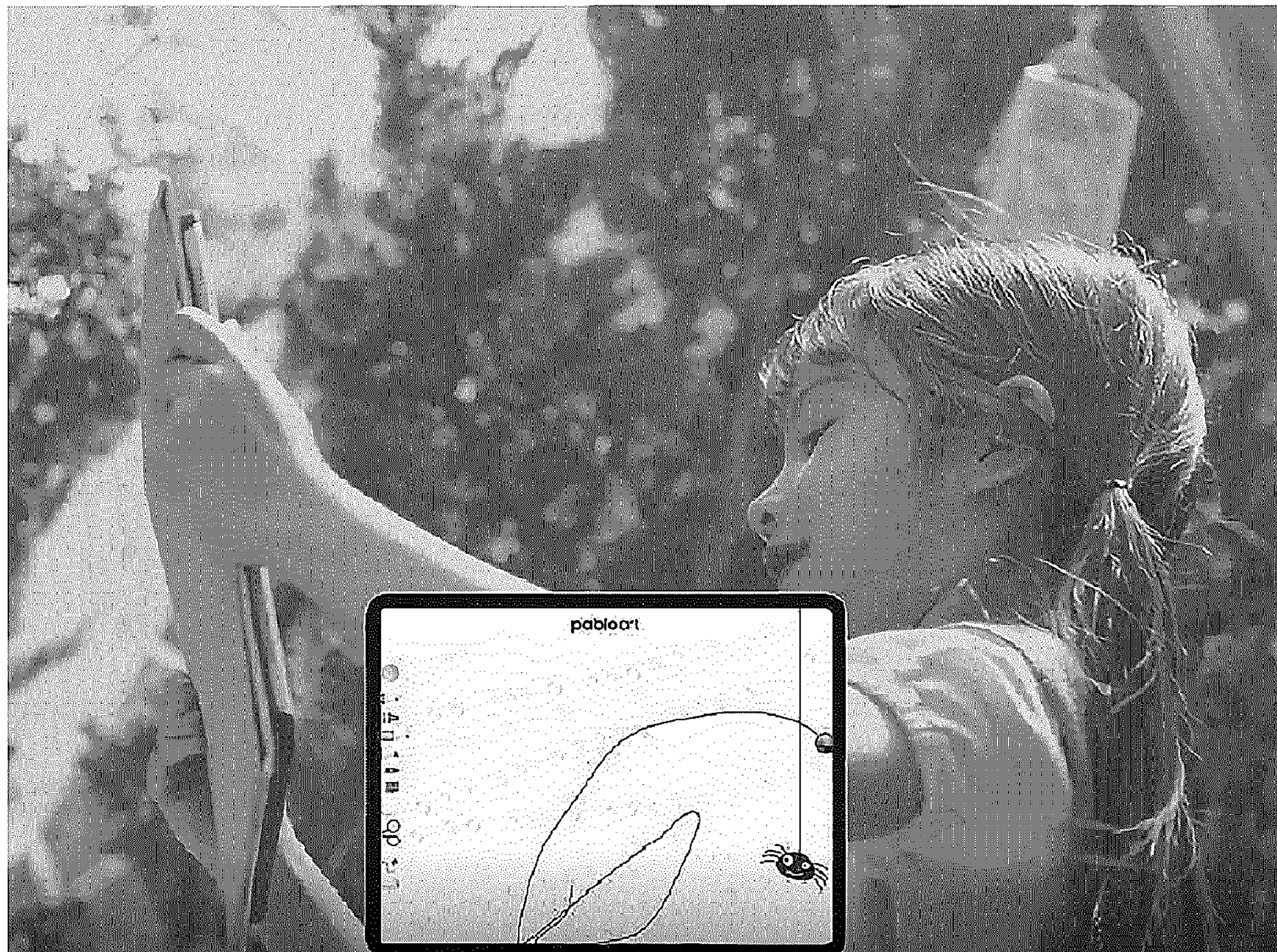
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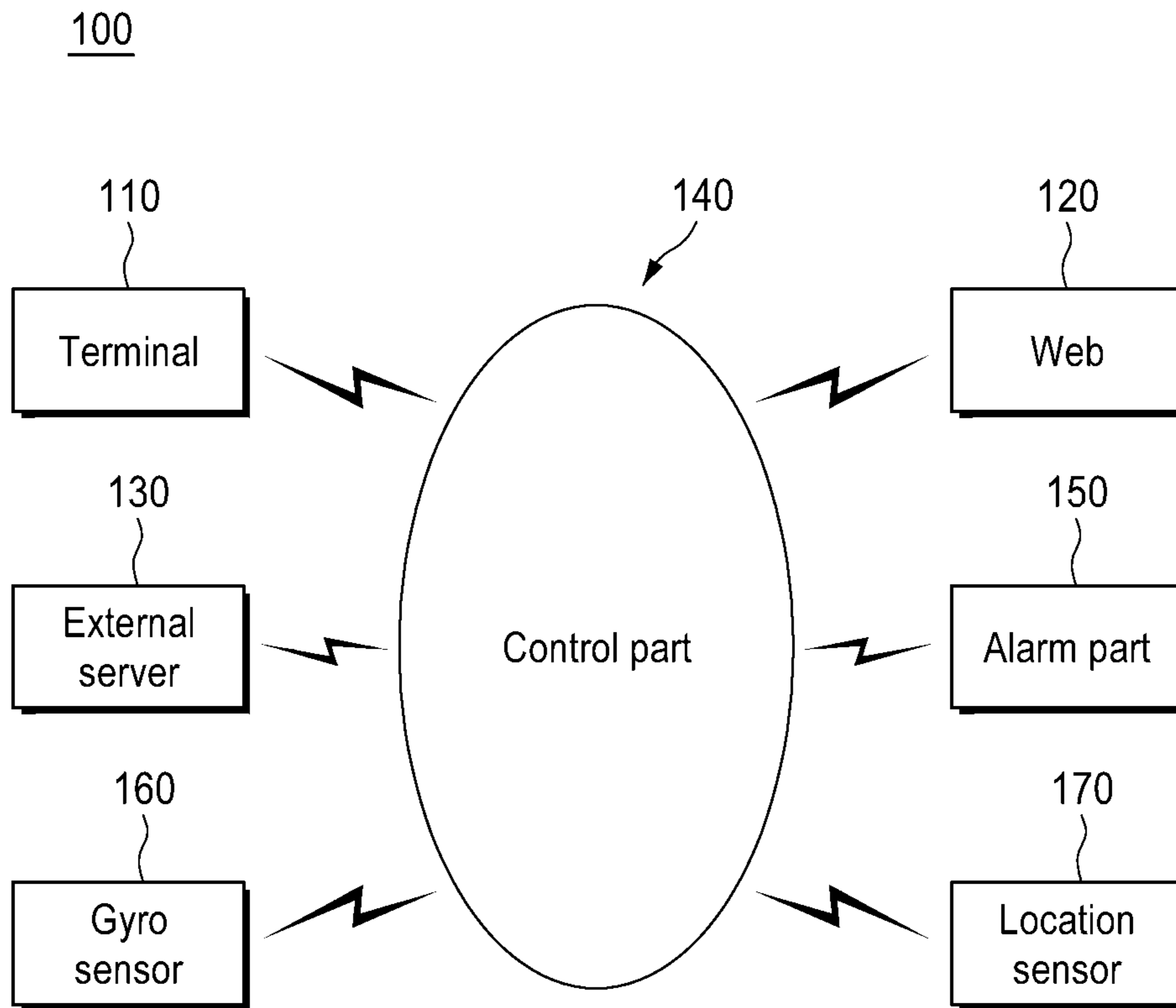


FIG. 1

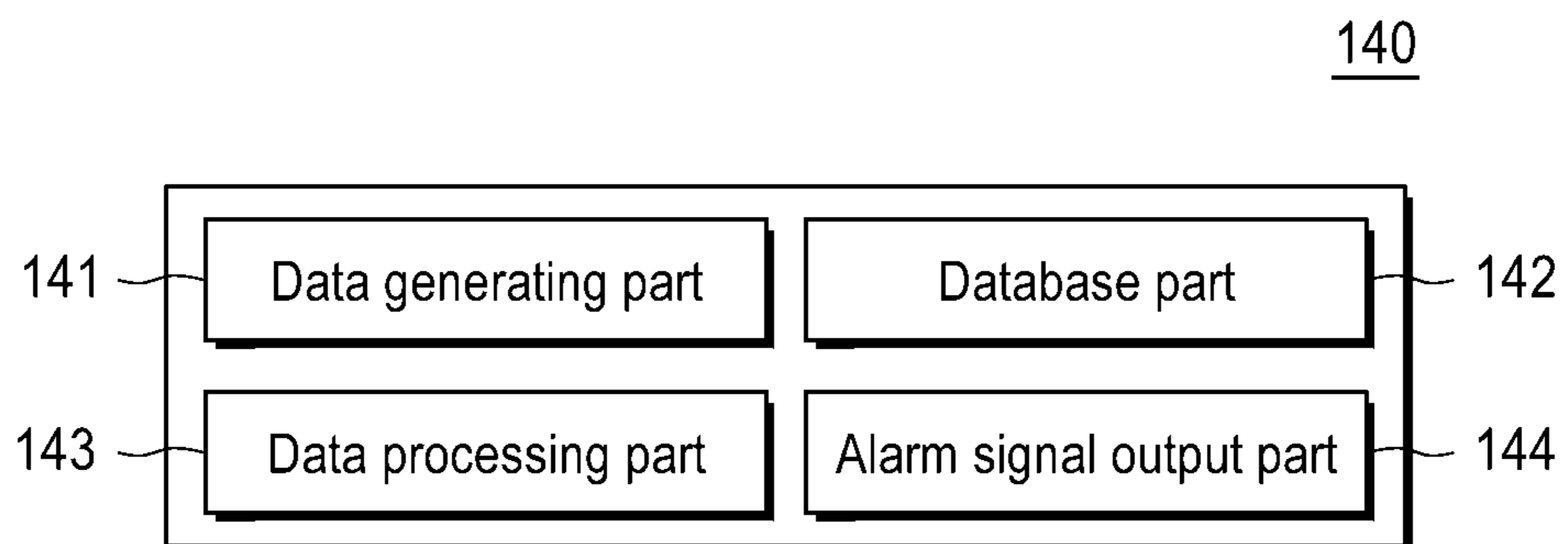


FIG. 2

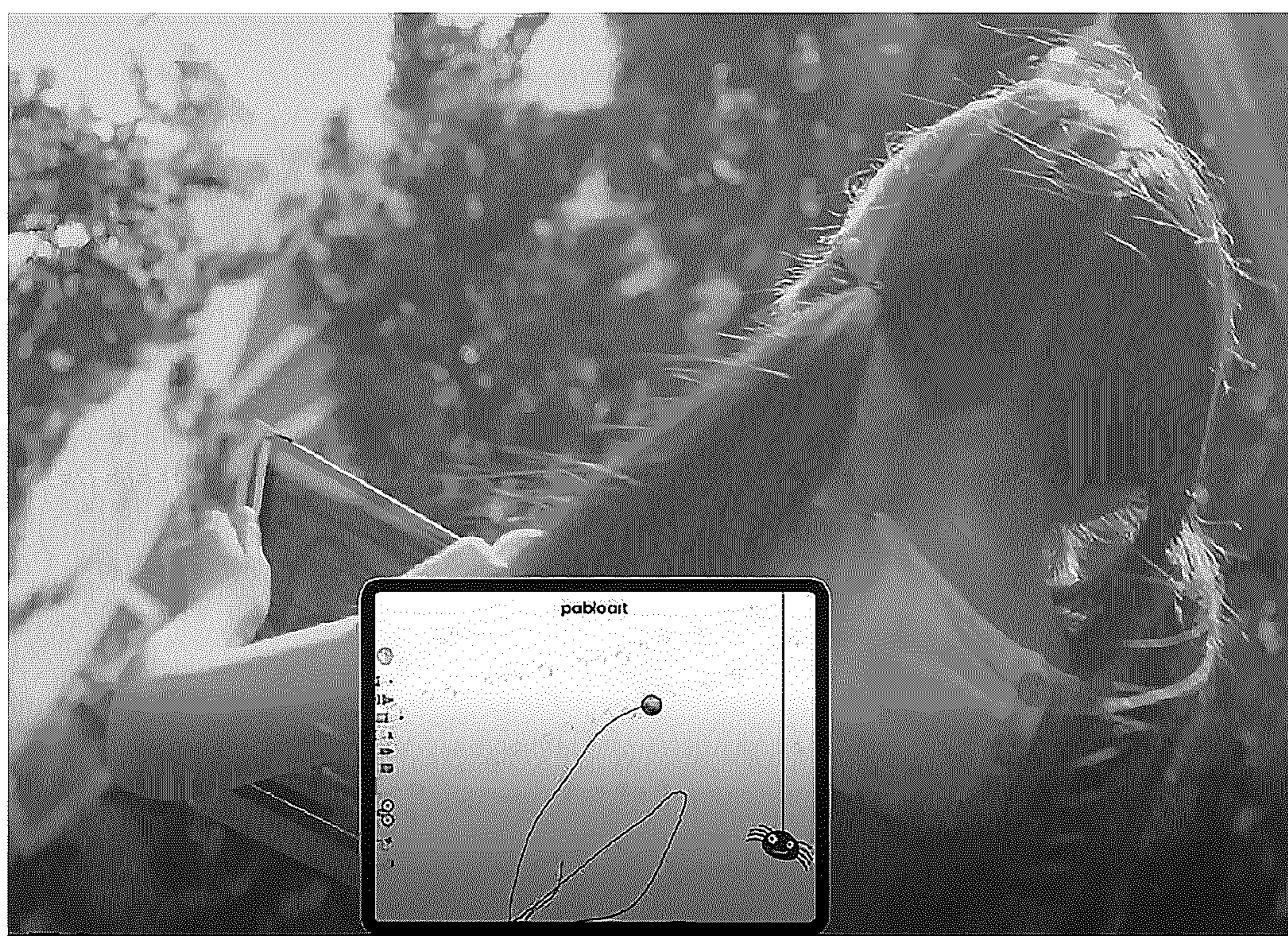


FIG. 3A

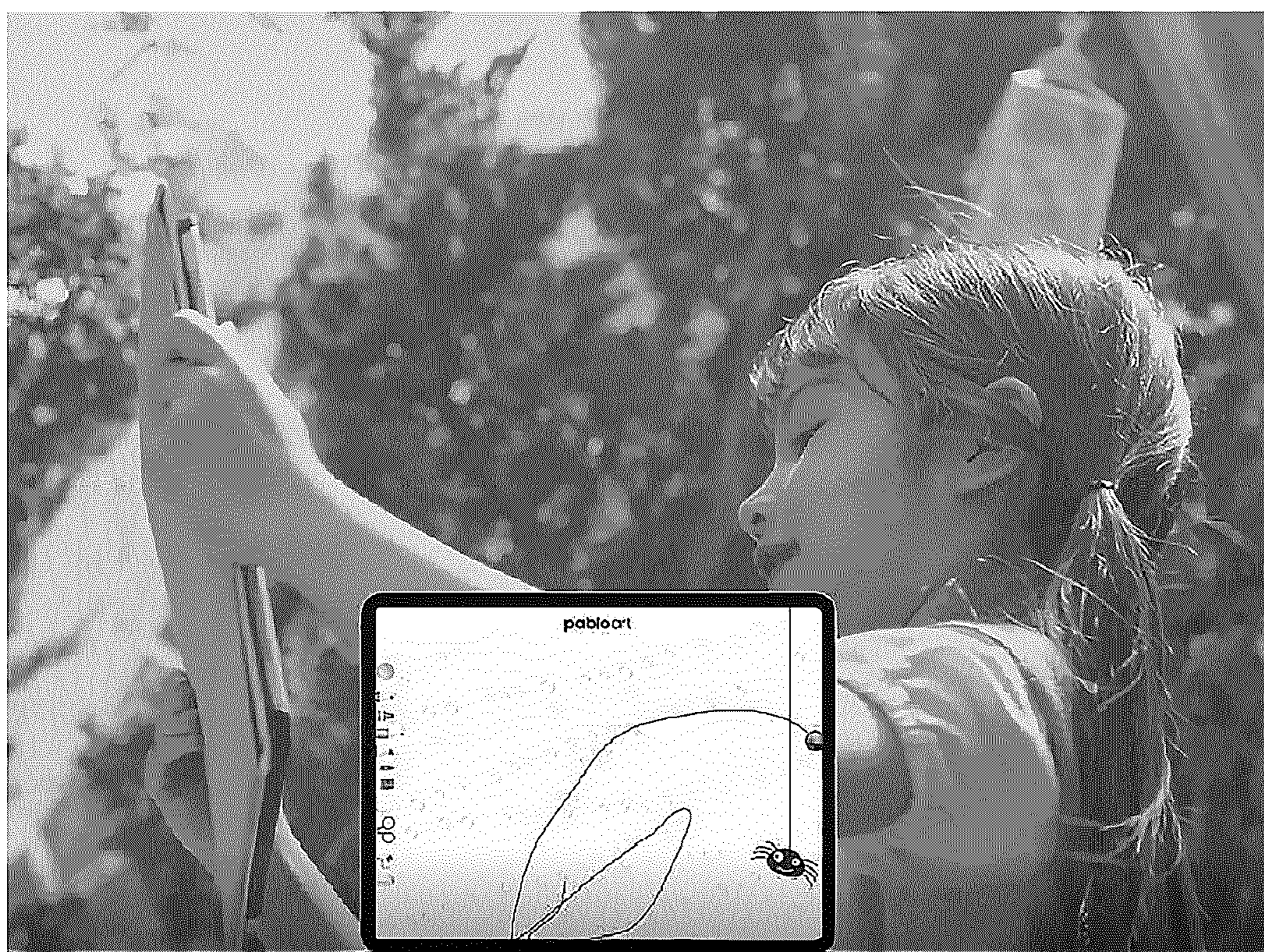


FIG. 3B

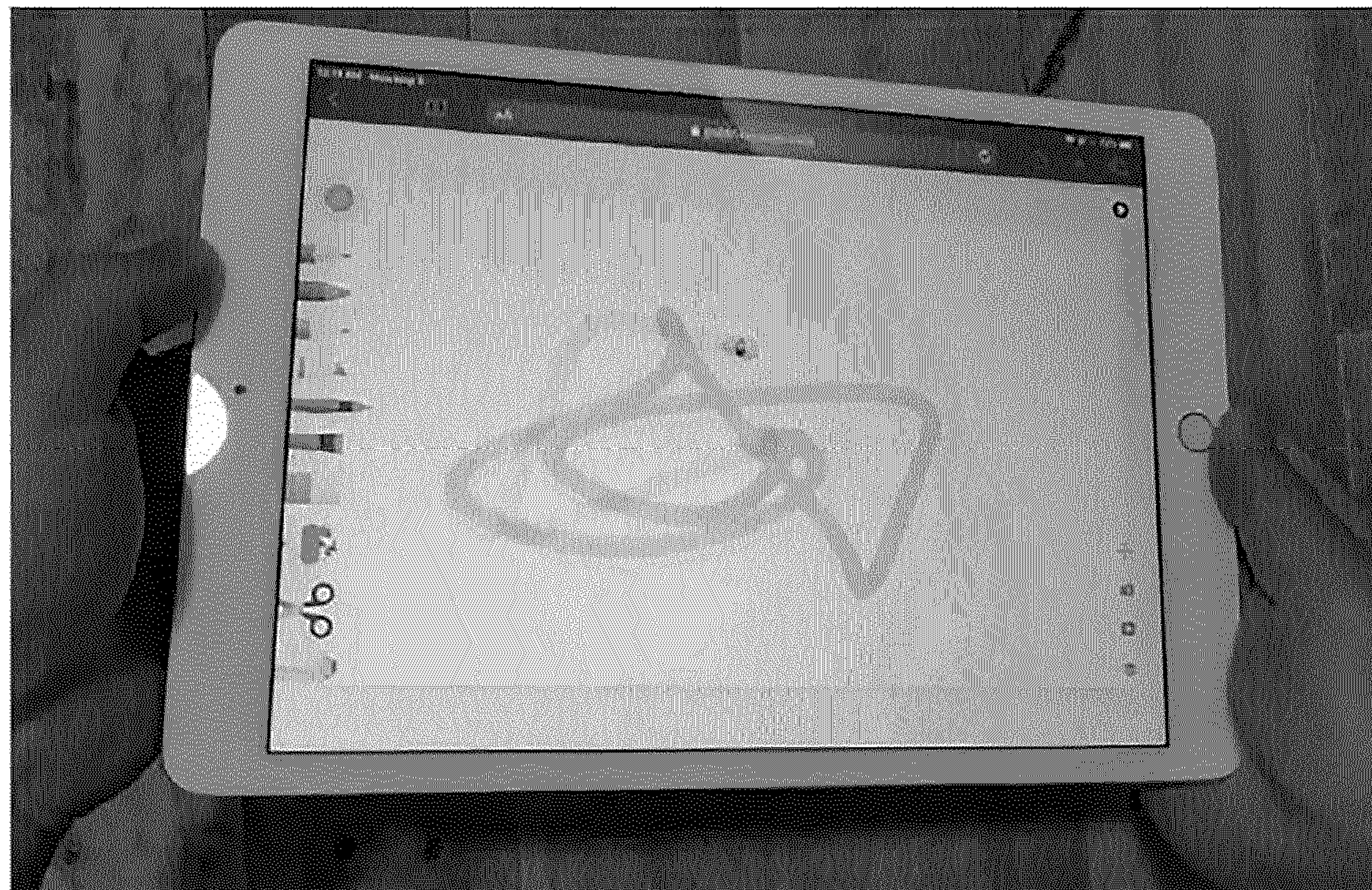


FIG. 4

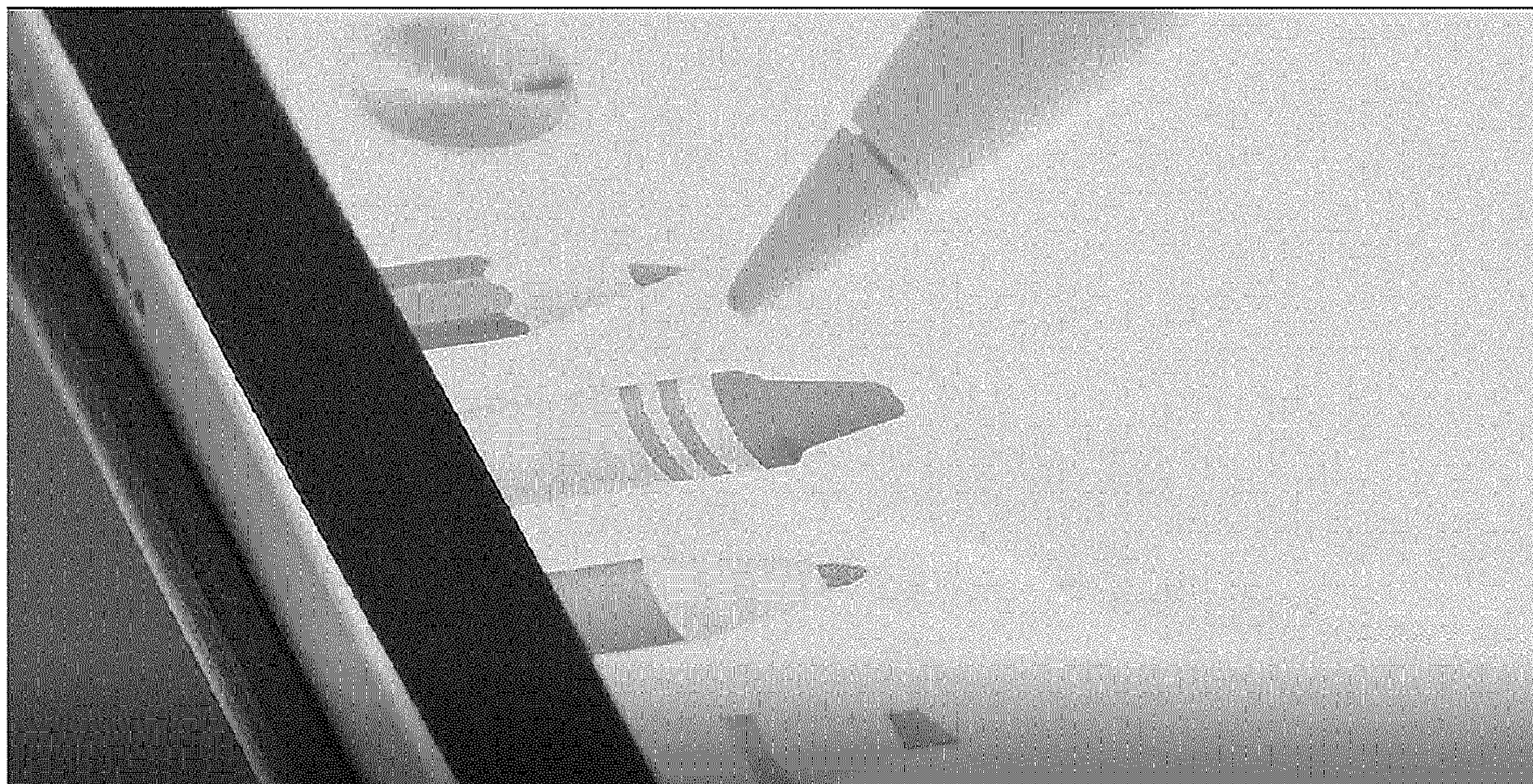


FIG. 5

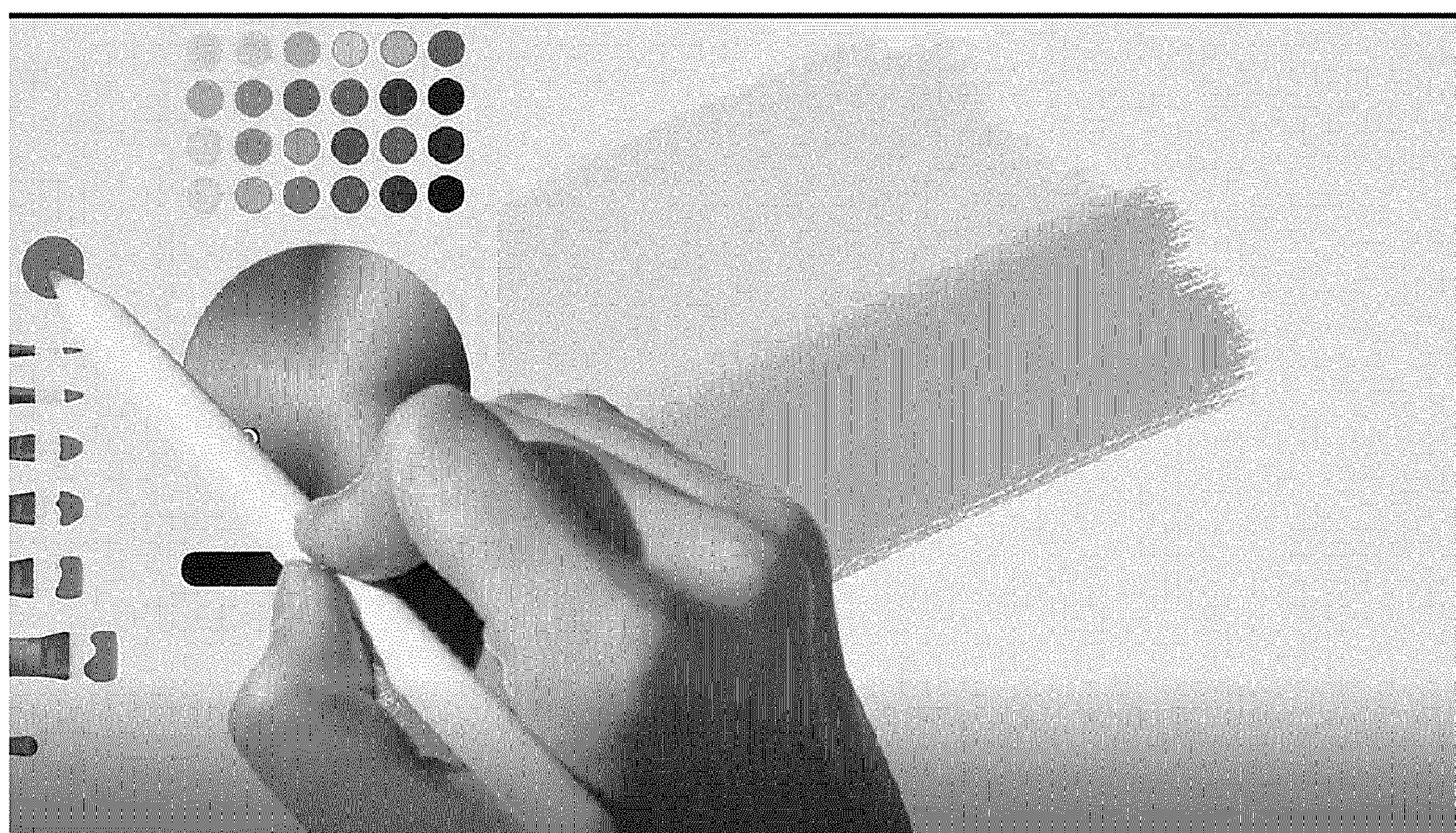


FIG. 6

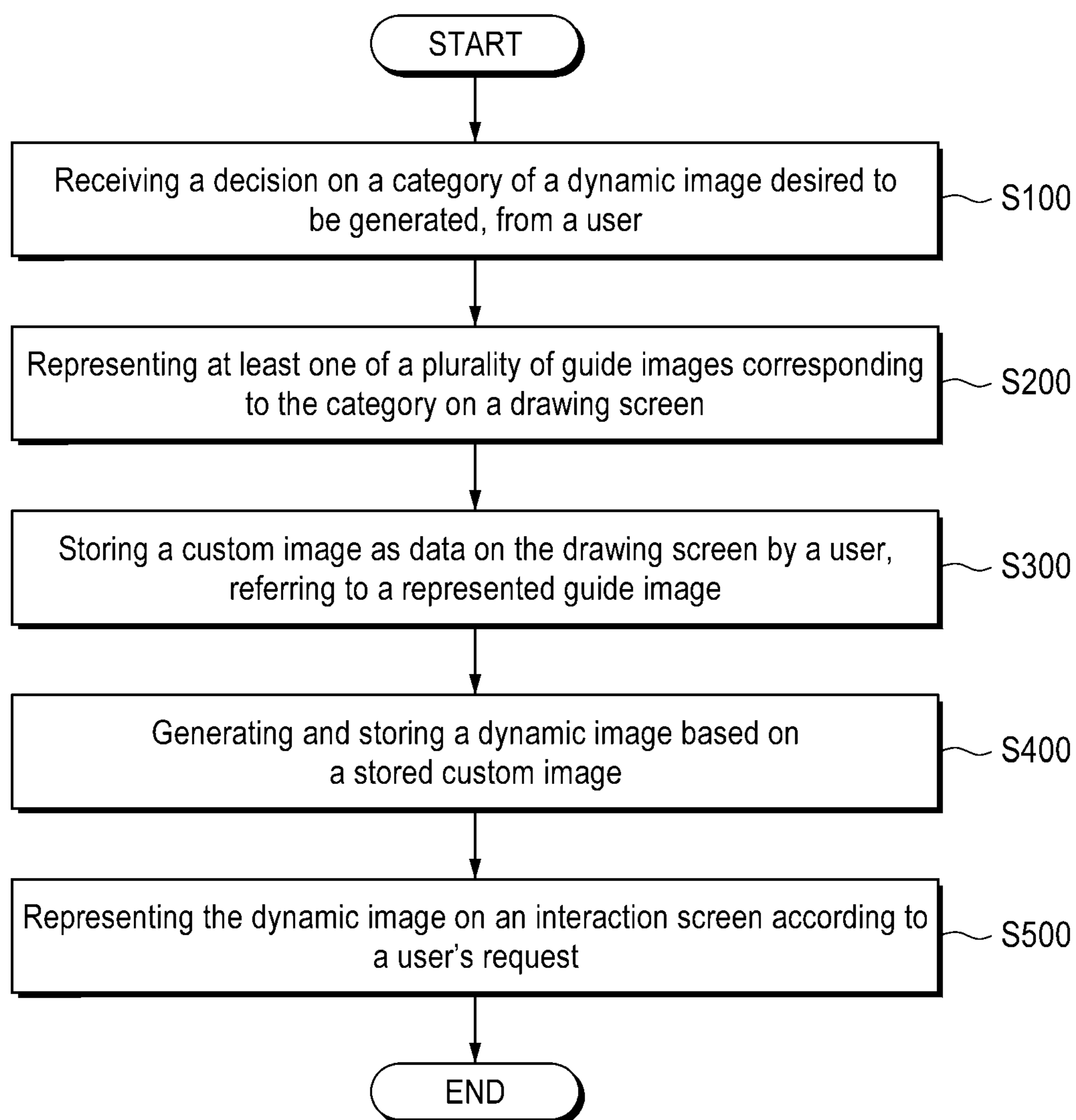


FIG. 7

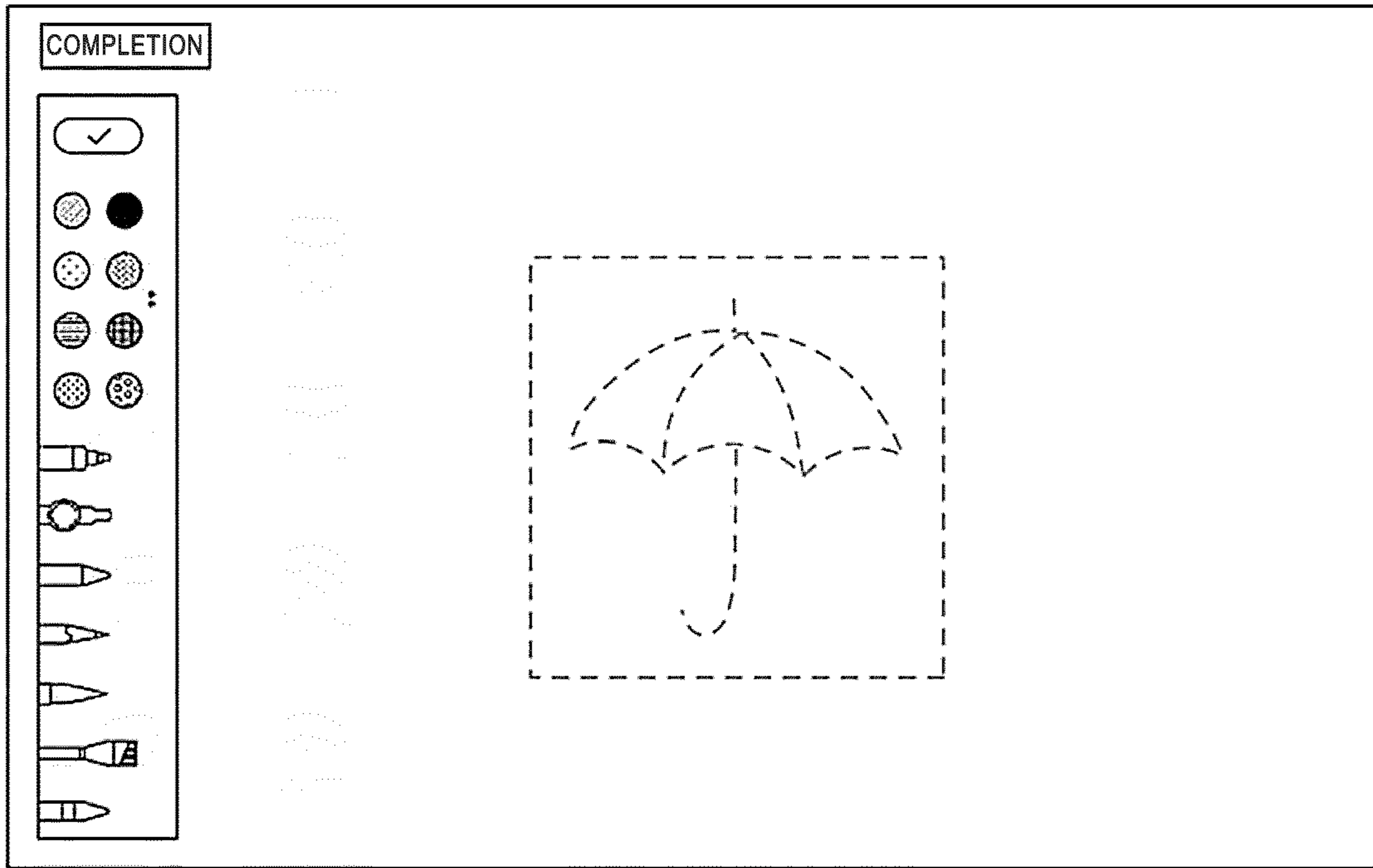


FIG. 8

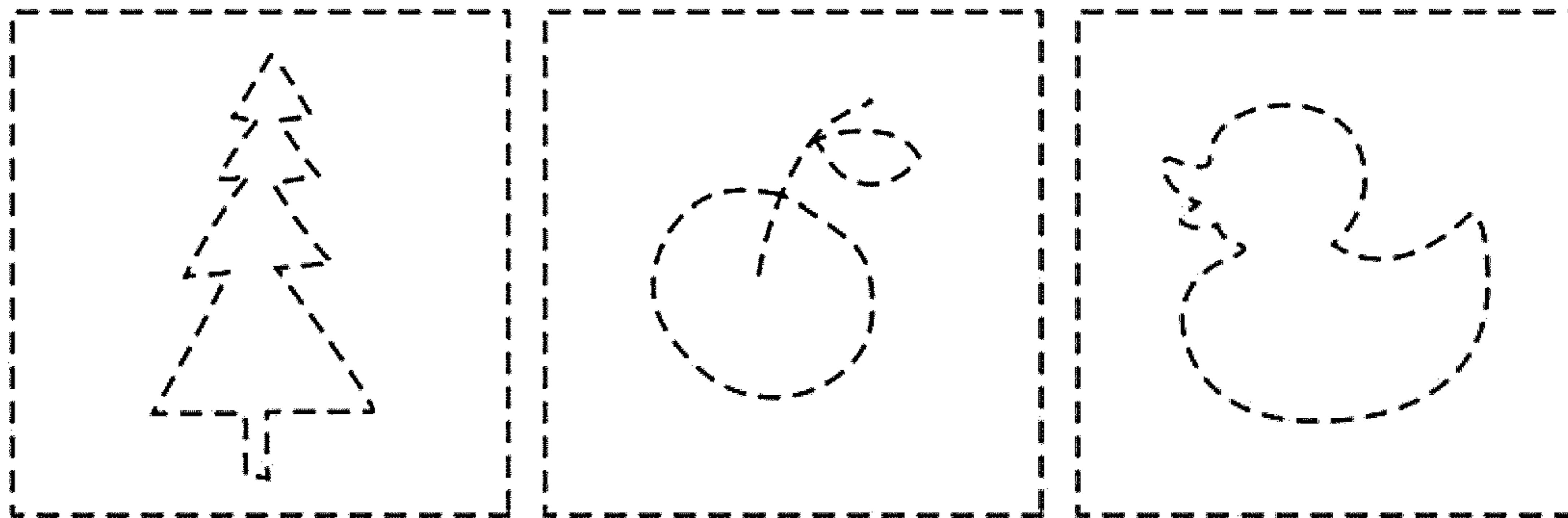


FIG. 9

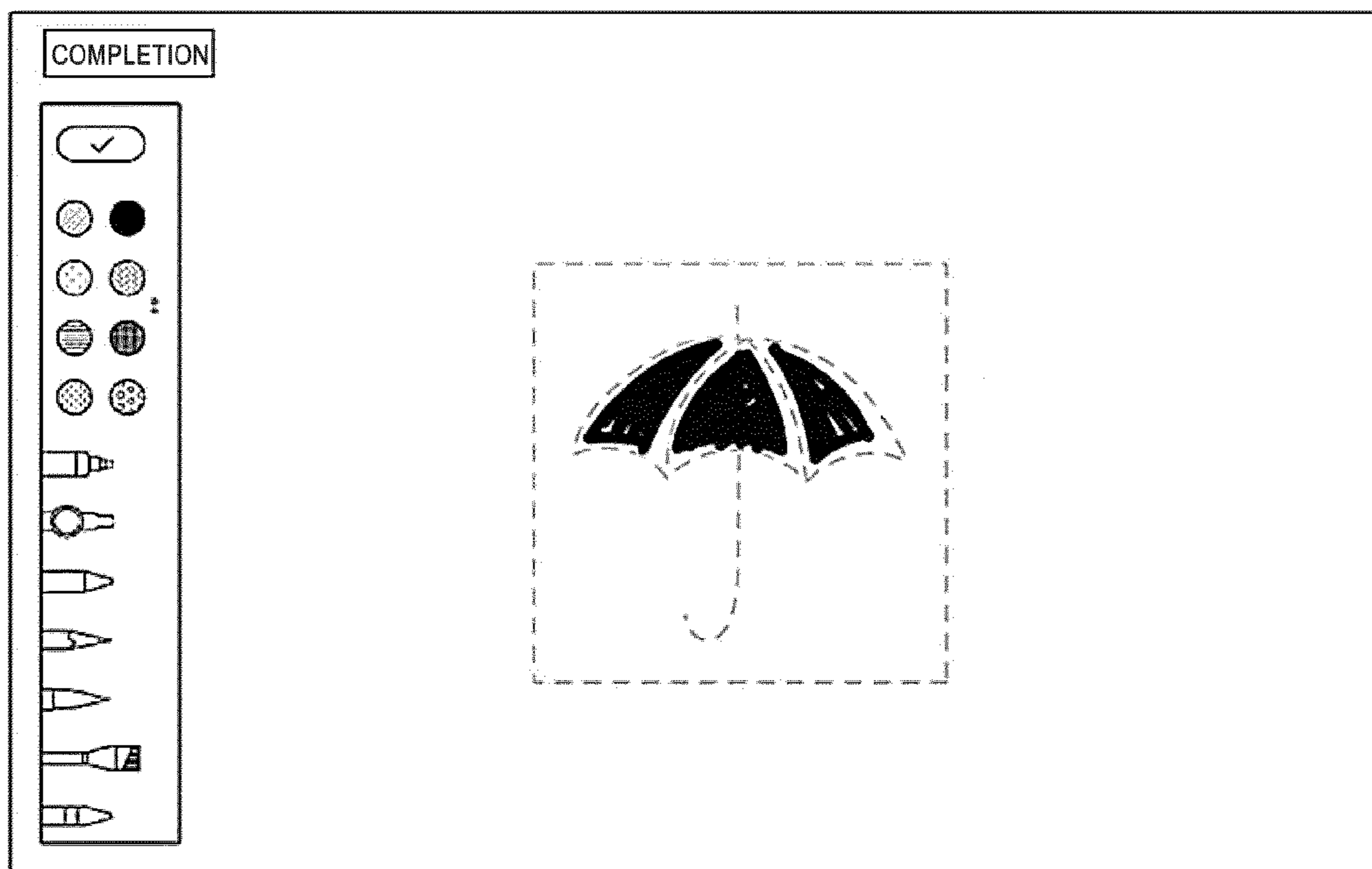


FIG. 10

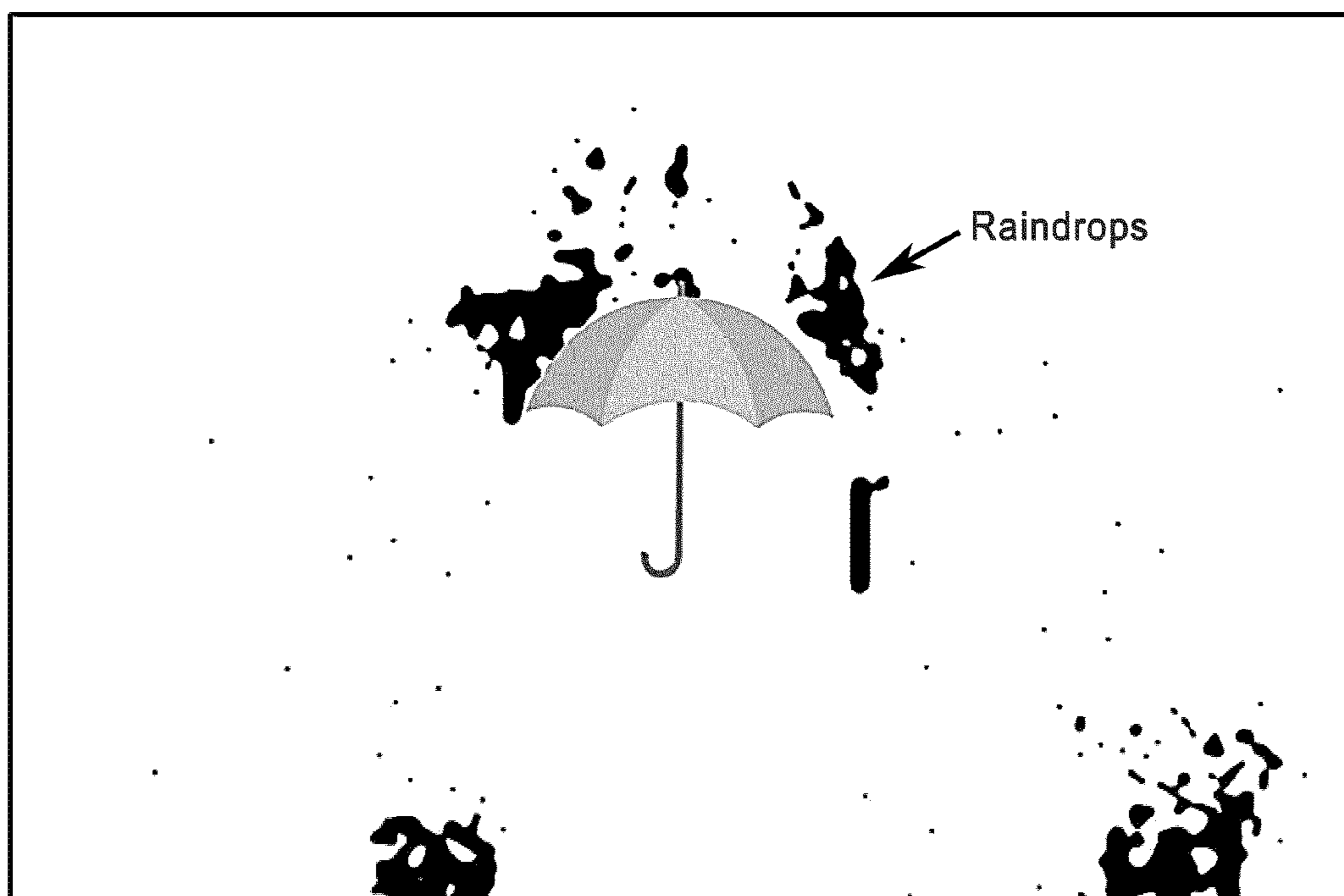


FIG. 11

**SYSTEMS FOR PROVIDING
RESPONSIVE-TYPE DRAWING MAKING
SERVICE AND METHOD FOR
CONTROLLING THE SAME**

TECHNICAL FIELD

[0001] The present disclosure relates to a system for providing a responsive-type drawing making service and a method for controlling the same, which implement an interaction-type dynamic image using a drawing that was drawn directly by a user and provide a guide image depending on a category of a dynamic image that desired to be generated, thereby more efficiently assisting a user's work.

DESCRIPTION OF THE RELATED ART

[0002] Generally, pictures such as comics and calligraphy were provided through only off-line printed media previously. However, due to recent advances in computer graphic techniques and multimedia apparatuses, it is capable of searching and obtaining various images easily online.

[0003] Furthermore, recently, various electronic apparatuses, such as a smartphone, a tablet PC, having a touch screen, and interface devices such as a touch pen are widely provided, allowing users to generate various images by themselves.

[0004] According to advances in a graphic processing technique of the computer, a dynamic image capable of interaction with various motions as well as an existing static image are broadly used. The dynamic image refers to an image that is produced so as to move according to an interaction, differently from an image that replayed according to a determined stream like a video.

[0005] For example, the dynamic image is capable of showing a movement of an object by clicking or touching, a change in a color or a shape of the object across time, or a physical interaction between the object and the other one.

[0006] This dynamic image allows calling user's attention differently from the existing static image and thus is used in various fields of advertising, education, content production, etc.

DISCLOSURE OF INVENTION IN DETAIL

Technical Problem

[0007] The present disclosure aims to provide a system for providing a responsive-type drawing making service and a method for controlling the same, which implement an interaction-type dynamic image using a drawing that was drawn by a user and provide a guide image depending on a category of a dynamic image that is desired to be generated, thereby more efficiently assisting a user's work.

[0008] However, technical solutions to be achieved by the present disclosure are not limited to the aforementioned solutions, and other not-mentioned technical solutions may be clearly understood by the skilled person in the art to which the present disclosure pertains from the description below.

[0009] According to one embodiment of the present disclosure that is a technical manner for achieving the aforementioned aim, in a system for providing a responsive-type drawing making service which is capable of real-time interaction between a user and an object, wherein the system for providing a responsive-type drawing making service

includes: a terminal that is configured to allow inputting event information relating to a user's behavior response for making a drawing; a control part that constructs a network with the terminal, the web and the external server, followed by a communication, generating arbitrary custom information by matching first data of a dynamic image that is provided through at least one of the web and the external server according to event information that was input from the terminal to second data of a signal that uses a drawing tool of a pre-stored drawing making program, and outputting an alarm signal preset according to generated custom information; and an alarm part that is equipped to the terminal, performing visual displaying according to an alarm signal that was output from the control part.

[0010] Further, the drawing making program may be a graphic software configured to support an environment for performing drawing making using a drawing tool that is capable of a pictorial expression of at least one of a dot, a line, a color, light, texture, and a sense of volume on canvas.

[0011] Further, the control part may make a decision on a category of a dynamic image provided through at least one of the web and the external server according to the event information, representing at least one of a plurality of guide images in response to a determined category in a canvas region on the drawing making program, storing, as data, a drawing image which the user drew using the drawing tool based on the guide image and generating a new dynamic image based on a stored drawing image.

[0012] Further, the dynamic image may include a bead image that is movably represented in the canvas region on the drawing making program. The drawing making program may further include: a gyro sensor that is equipped to the terminal and senses a bearing; and a location sensor that is equipped to the terminal and senses a location. The event information includes a first operation signal of the user to change a slope of the terminal. The control part additionally matches third data of information of a terminal slop through at least one of the gyro sensor and the location sensor, followed by reflection to the custom information.

[0013] Further, the control part may show a value that the first data selects the bead image as a dynamic image. When the third data shows a value of change in a slop of the terminal by the first operation signal, the bead image flows like rolling within the canvas region on the drawing making program in response to the value of change in the slope, and the control part outputs an alarm signal that represents, in real time, a trace of the bead image flowably progressing according to the second data of which an attribute value for an artistic expression of the drawing tool is set.

[0014] The drawing making program may be configured allow setting a thickness of a first icon that expresses a formative element for a dot, a line and a face having an arbitrary thickness in the drawing tool according to the event information. The setting a thickness is achieved by a stroke touching (clicking) the first icon. The control part outputs an alarm signal so as to provide an alarm part with a screen on which a size of the first icon was activated in response to a dimension of the set thickness.

[0015] Further, the drawing making program may be configured to allow setting a color of a second icon that express a formative element for a color in the drawing tool according to the event signal. The setting a color may be achieved by firstly touching (clicking) the second icon and then secondarily touching (clicking) a desired color. The control part

may output an alarm signal so as to provide the alarm part with a screen on which at least a part of icons of the drawing tool including the second icon was activated to be the same color as a set color.

[0016] On the other hand, according to one embodiment of the present disclosure that is a technical manner to achieve the aforementioned aim, in a method for controlling a system for providing a responsive-type drawing making service, the method for controlling a system for providing a responsive-type drawing making service may include steps of: Step a: inputting event information by a terminal; Step b: making a decision on a category of a dynamic image provided through at least one of a web and an external server according to event information that was input in the Step a, by a control part; Step c: representing at least one of a plurality of guide images corresponding to a category determined in the Step b in a canvas region on a drawing making program; Step d: storing, as data, a drawing image which a user drew using a drawing tool based on the guide image, by the control part; Step e: generating a dynamic image based on an drawing image stored in the Step d, by the control part; and Step f: displaying a dynamic image generated in the Step e on an arbitrary screen, by an alarm part, wherein the dynamic image shows an interaction in response to input of the user within a screen of the alarm part.

[0017] Further, an interaction of the dynamic image may relate to a category of the dynamic image.

[0018] Further, the interaction of the dynamic image may include an action of moving an object within the dynamic image in response to the input of the user, showing a physical interaction with other objects within the screen of the alarm part, or outputting sound data relating to the dynamic image.

[0019] Further, a manner for the moving the object within the dynamic image or for the physical interaction with other objects within the screen of the alarm part may be determined based on a pre-stored, physics engine program.

[0020] Further, the guide image may include an image of the object of which an outline is expressed with a dot. An object of the guide image relates to the category of the dynamic image.

[0021] Further, the Step f may include loading image data transmitted through a route in which the dynamic image was stored.

Advantageous Effect

[0022] According to the present disclosure, it is capable of implementing an interaction-type dynamic image using a drawing that was drawn by a user and providing a guide image depending on a category of a dynamic image that is desired to be generated, thereby more efficiently assisting a user's work.

[0023] Further, according to the present disclosure, it is capable of providing a drawing effect like drawing a drawing by moving a bead on a tray, by using a location sensor and a gyro sensor that are pre-mounted on a terminal, thereby achieving a more interesting drawing making environment where a drawing can be drawn without touching a display according to a slope of the terminal.

[0024] However, advantageous effects to be obtained by the present disclosure are not limited to the aforementioned effects, and other not-mentioned advantageous effects may

be clearly understood by the skilled person in the art to which the present disclosure pertains from the description below.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] FIG. 1 is a view schematically showing an electronic configuration of a system for providing a responsive-type drawing making service according to the present disclosure,

[0026] FIG. 2 is a block view showing a configuration of a control part in the system for providing a responsive-type drawing making service according to the present disclosure,

[0027] FIGS. 3A and 3B and FIG. 4 show embodiments for an artistic expression using a bead image according to actions of a gyro sensor and a location sensor,

[0028] FIG. 5 is a view showing an embodiment that, as changing setting of an attribute of an icon forming a drawing tool, that icon having a size changed in response thereto is displayed,

[0029] FIG. 6 is a view showing an embodiment that, as changing setting of an attribute of an icon forming a drawing tool, that icon having a color changed in response thereto is displayed,

[0030] FIG. 7 is a flowchart showing a method for controlling a system for providing a responsive-type drawing making service according to an embodiment of the present disclosure,

[0031] FIG. 8 is a view showing a screen of an alarm part and a guide image represented thereon,

[0032] FIG. 9 is a view showing an exemplary guide image to be provided to a user,

[0033] FIG. 10 is a view showing a user who is drawing a drawing along a guide image on a screen of an alarm part, and

[0034] FIG. 11 is a view showing an interaction between a dynamic image generated by a user and other objects on a screen of an alarm part.

BEST MODE OF THE INVENTION

[0035] Hereinafter, exemplary embodiments of the present disclosure will be described in detail so as to be easily implemented by the skilled person in the art, with reference to the accompanying drawings. A description of the present disclosure is merely an exemplary embodiment for a structural or functional description and the scope of the present disclosure should not be construed as being limited by exemplary embodiments described in a text. That is, since the exemplary embodiment can be variously changed and have various forms, the scope of the present disclosure should be understood to include equivalents capable of realizing the technical spirit. Further, it should be understood that since a specific exemplary embodiment should not include all objects or effects or include only the effect, the scope of the present disclosure is not limited by the object or effect.

[0036] Meanings of terms described in the present disclosure should be understood as follows.

[0037] The terms "first", "second", and the like are used to differentiate a certain component from other components, but the scope of the rights should not be construed to be limited by the terms. For example, a first component may be referred to as a second component, and similarly, the second component may be referred to as the first component. It

should be understood that, when it is described that a component is “connected to” the other component, the component may be directly connected to the other component or another component may be present therebetween. In contrast, it should be understood that when it is described that a component is “directly connected to” the other component, another component is not present therebetween. Meanwhile, other expressions describing the relationship between the components, that is, expressions such as “between” and “directly between” or “adjacent to” and “directly adjacent to” should be similarly interpreted.

[0038] It is to be understood that the singular expression encompasses a plurality of expressions unless the context clearly dictates otherwise and it should be understood that the term “including” or “having” indicates that a feature, a number, a step, an operation, a component, a part, or the combination thereof described in the specification is present, but does not exclude a possibility of presence or addition of one or more other features, numbers, steps, operations, components, parts or combinations thereof, in advance. Unless otherwise a singular form has an explicitly different meaning contextually.

[0039] If it is not contrarily defined, all terms used herein have the same meanings as those generally understood by the skilled person in the art. Terms which are defined in a generally used dictionary should be interpreted to have the same meaning as the meaning in the context of the related art, and are not interpreted as an ideal meaning or excessively formal meanings unless clearly defined in the present disclosure.

[0040] FIG. 1 is a view schematically showing an electronic configuration of a system for providing a responsive-type drawing making service according to the present disclosure. FIG. 2 is a block view showing a configuration of a control part in the system for providing a responsive-type drawing making service according to the present disclosure. FIGS. 3A and 3B and FIG. 4 show embodiments for an artistic expression using a bead image according to actions of a gyro sensor and a location sensor. FIG. 5 is a view showing an embodiment that, as changing setting of an attribute of an icon forming a drawing tool, that icon having a size changed in response thereto is displayed. FIG. 6 is a view showing an embodiment that, as changing setting of an attribute of an icon forming a drawing tool, that icon having a color changed in response thereto is displayed. FIG. 7 is a flowchart showing a method for controlling a system for providing a responsive-type drawing making service according to an embodiment of the present disclosure. FIG. 8 is a view showing a screen of an alarm part and a guide image represented thereon. FIG. 9 is a view showing an exemplary guide image to be provided to a user. FIG. 10 is a view showing a user who is drawing a drawing along a guide image on a screen of an alarm part. FIG. 11 is a view showing an interaction between a dynamic image generated by a user and other objects on a screen of an alarm part.

[0041] As shown in FIG. 1, in a system for providing a responsive-type drawing making service which is capable of a real-time interaction between a user and an object, the system for providing a responsive-type drawing making service 100 according to the present disclosure may be configured to include a terminal 110, a web 120, an external server 130, a control part 140 and an alarm part 150.

[0042] However, elements as illustrated in FIG. 1 fall in only a minimum configuration essential for the present

disclosure. Thus, the system for providing a drawing making service may be implemented which has more additional elements.

[0043] The terminal 110 is configured to include various known input devices such as a keyboard, a pad, a mouse, etc. (not illustrated). According to a preferable embodiment of the present disclosure, this may be configured to be located on user's side, allowing inputting event information relating to a user's behavior response to making a drawing into the web 120, the external server 130 and the control part 140.

[0044] Wherein, a plurality of the terminals 110 may be formed and preferably applied to a tablet. However, without a limit thereto, these may be also applied to a PC, a smart phone, etc.

[0045] Since the configuration of this terminal 110 falls into a generally provided, ordinary terminal device, the detailed configuration thereof is not illustrated in the drawing and more detailed descriptions will be omitted.

[0046] The web 120 is an internet service that is configured to support multimedia such as a text, a graphic, an image, a sound, a video, etc. According to the present disclosure, this may be configured to be connected with the terminal 110, allowing providing commonly known, various drawing making-related media as well as a dynamic image to the user who uses the terminal 110.

[0047] The external server 130 is configured to correspond to the above-described web 120 and preferably forms a network with the terminal 110, the web 120 and the control part 140. This performs a function to serve a preset program to the control part 140, linking with the web 120.

[0048] Wherein, the external server 130 may also be configured to provide the dynamic image identically to the above-described web 120. The program may be an editing program that is composed of various kinds of drawing making-related data, and this, as a known technique, may be freely designed through modification by the person skilled in the art.

[0049] The control part 140 is a control server for pre-storing a drawing making program corresponding to the web 120 and the external server 130, actively responding to the event information and providing the dynamic image capable of an interaction between the user and the object. Preferably, it is preferable that this is configured to construct a network with the terminal 110, the web 120 and the external server 130, allowing a mutual communication.

[0050] According to the present disclosure, this control part 140 generates arbitrary custom information by matching first data of the dynamic image provided through at least one of the web 120 and the external server 130 according to the event information input from the terminal to second data of a signal using a drawing tool of a pre-stored drawing making program, and performs a function to output a preset alarm signal according to generated custom information.

[0051] For this, referring to FIG. 2, more particularly, the control part 140 may be configured to include: a data generating part 141 that performs datafication of the event information input from the terminal; a database part 142 that pre-stores and manages the drawing making program for making a real-time response to data of the event information generated by the data generating part 141; a data processing part 143 that generates custom information by matching the first and second data according to the data of the event information; and an alarm signal output part 144 that outputs

the preset alarm signal according to generated custom information through the data processing part **143**.

[0052] Wherein, the custom information signifies one corresponding to data of a new dynamic image to be described hereinafter.

[0053] For example, the control part **140** allows making a decision on a category of a dynamic image that is provided through at least one of the web **120** and the external server **130**, representing at least one of a plurality of guide images in response to a determined category on a canvas region of the drawing making program, storing, as data, a drawing image which a user drew using the drawing tool based on the guide image and generating a new dynamic image based on a stored drawing image.

[0054] The dynamic image according to the present disclosure is a concept including all from large classification such as an animal, a plant, a matter, mankind, etc. to sub classification such as a dog, a cat, a tree, a flower, a fruit, a man, a woman, etc.

[0055] The data part **142** of the control part **140** may pre-stores data of a guide image corresponding to each category and data describing an interaction manner of the each category.

[0056] Further, the drawing making program according to the present disclosure may be a graphic program configured to support an environment for performing drawing making using a drawing tool that is capable of an artistic expression of at least one of a dot, a line, a face, a shape, light, texture and a sense of volume on canvas.

[0057] The alarm part **150** visually displays preset texture and image on an arbitrary scree according to an alarm signal output from the alarm signal output part **144** of the control part **140**. Preferably, it is preferable that this is configured to be equipped to the terminal **110**.

[0058] This alarm part **150** may be configured to include at least one of a liquid crystal display (LCD), a thin film transistor-liquid crystal display (TFT LCD), an organic light-emitting diode (OLED), a flexible display and a 3D display.

[0059] Meanwhile, the dynamic image may include a bead image that is expressed movably within a canvas region on the drawing making program. The system for providing a drawing making service **100** of the present disclosure may be configured to further include a gyro sensor **160** that is equipped to the terminal **110** and senses a bearing and a location sensor **170** that is equipped to the terminal **110** and senses a location.

[0060] At this time, the event information may include a first operation signal of the user which changes a slope of the terminal **110**. The control part **140** may additionally match a third data of information of a terminal slop through at least one of the gyro sensor **160** and the location sensor **170**, followed by reflecting this to the custom information.

[0061] Further, referring to FIGS. **3A** and **3B** and FIG. **4**, the control part **140** shows a value that a bead image is selected as a dynamic image by the first data. When the third data shows a value of change in a slop of the terminal **110** by the first operation signal, the bead image flows like rolling within the canvas region on the drawing making program in response to the value of change in the slope, and the control part outputs a second alarm signal that represents, in real time, a trace of the bead image flowably

progressing according to the second data of which an attribute value for an artistic expression of the drawing tool is set.

[0062] On the other hand, as shown in FIG. **5**, the drawing making program may be configured to allow setting a thickness of a first icon that expresses a formative element for a dot, a line and a face having an arbitrary thickness in the drawing tool according to the event information. The setting a thickness may be achieved by a stroke touching (clicking) the first icon. The control part **140** may output an alarm signal so as to provide the alarm part **150** with a screen on which a size of the first icon was activated in response to a dimension of a set thickness.

[0063] Further, on the other hand, as shown in FIG. **6**, the drawing making program may be configured to allow setting a color of a second icon that express a formative element for a color in the drawing tool according to the event signal. The setting a color is achieved by firstly touching (clicking) the second icon and then secondarily touching (clicking) a desired color. The control part **140** may output an alarm signal so as to provide the alarm part **150** with a screen on which at least a part of icons of the drawing tool including the second icon was activated to be the same color as a set color.

[0064] Next, referring to FIG. **7**, a method for controlling a system for providing a drawing making service **100** as configured above may be configured to include steps of inputting event information **S100**, determining a category **S200**, representing a guide image **S300**, storing a drawing image **S400**, generating a dynamic image **S500** and displaying the dynamic image by an alarm part **S600**.

[0065] In the step of inputting event information **S100**, event information is input by a terminal **100** in real time.

[0066] In the step of determining a category **S200**, a control part **140** allows making a decision on a category of a dynamic image provided through at least one of a web **120** and an external server **130** according to event information input in the step of inputting the event information **S100**.

[0067] In the step of representing a guide image **S300**, the control part allows representing at least one of a plurality of guide images corresponding to a category determined in the step of determining a category in a canvas region on a drawing making program.

[0068] For example, following executing a drawing tool by a user, when a category of an image desired to be generated is determined, the control part **140** loads at least one pre-stored guide image of a relevant category, allowing displaying through an alarm part **150**.

[0069] FIG. **8** shows a guide image represented on a screen of the alarm part **150**. A guide image corresponding to a category selected by the user is represented on the screen, and a drawing tool needed when drawing a drawing is represented on the left hand side thereof.

[0070] In the drawing tool, for example, an icon for selecting a thickness, a type, a color, etc. of a drawing line, may be represented.

[0071] The guide image is such an image that assists the user to draw a drawing easily as imitating this. A category is tagged to each image and this may be a basis of a determination on an interaction manner of a dynamic image to be generated afterward.

[0072] For example, when the user selects a category of 'umbrella', as shown in FIG. **8**, a guide image having a

shape of an umbrella is represented. Then, as shown in FIG. 11, a dynamic image resulting therefrom shows an interaction that splashing raindrops.

[0073] FIG. 9 shows an exemplary guide image to be provided to the user. A first image may fall into a category of 'plant', 'tree', 'Christmas tree', etc. A second image may fall into a category of 'fruit', 'apple', etc. A third image may fall into a category of 'animal', 'bird', 'duck', etc.

[0074] Referring to FIG. 8 and FIG. 9, an outline of an object within the guide image may be represented with a dot, thus inducing the user to perform an activity such as drawing, painting or etc. along the dot.

[0075] In the step of storing a drawing image S400, the control part 140 stores, as data, a drawing image which the user drew based on the guide image using the drawing tool.

[0076] FIG. 10 shows that a user who is drawing a drawing along a guide image on a screen of an alarm part. Particularly, the user may select a thickness, a color, a type (for example, a brush, a crayon, a color pencil, a highlighter, etc.), etc. of a line needed for drawing a drawing image from the drawing tool on the left hand side.

[0077] Following such a selection, the user may draw a drawing freely along the guide image on the screen using an input device (such as a mouse, a touch pen, etc.).

[0078] In the step of generating a dynamic image S500, the control part 140 generates a new dynamic image based on the drawing image that was stored in the step of storing a drawing image S400.

[0079] Wherein, the dynamic image may show an interaction in response to user's input within the screen of the alarm part and be loaded within other applications through referring to a route in which this image was stored. A specific interaction manner or a rule therefor will be described hereinafter.

[0080] In the step of displaying by an alarm part S600, the alarm part 150 displays a dynamic image generated in the step of generating a dynamic image S500 on an arbitrary screen.

[0081] Wherein, the step of displaying by an alarm part S600 may further include loading data (not illustrated) wherein image data transmitted through the route in which a dynamic image was stored.

[0082] For example, the dynamic image may be loaded within various applications (for example, a social messenger, an email, an image processing application, an internet browser, etc.) through referring to the route in which that image was stored. When each of these applications supports a format of the dynamic image, a relevant application allows an interaction therewithin.

[0083] According to the present disclosure, an interaction of the dynamic image may relate to a category of the dynamic image and include an action of moving an object within the dynamic image in response to user's input, showing a physical interaction with other objects within the screen of the alarm part 150, or outputting sound data relating to the dynamic image.

[0084] Further, a manner for moving the object within the dynamic image or for the physical interaction with other objects within the screen of the alarm part may be determined based on a pre-stored, physics engine program. As described above, the guide image may include an image of the object of which an outline is represented with a dot, and an object of the guide image may relate to a category of the dynamic image.

[0085] FIG. 11 shows one embodiment of an interaction between the dynamic image generated by the user and other objects on the screen of the alarm part 150.

[0086] An interaction of the dynamic image may be implemented into various types. At least a part of rules for the interaction relates to a category of the dynamic image (i.e., a category of the guide image, which is a basis of the dynamic image, is determined in the step S200).

[0087] For example, as shown in FIG. 11, in a case of the dynamic image falling into a category of 'umbrella', this is capable of a natural interaction such like splashing raindrops by collision with other objects, such as a rain drop, represented on the screen. In a case that the dynamic image falls into a category of 'bonfire' rather than 'umbrella', this is capable of show an interaction such like putting out a bonfire by contact with raindrops.

[0088] In FIG. 11, the interaction of the dynamic image was explained as one example. However, without limiting a kind of interaction thereto, this may be implemented into various types.

[0089] For example, the interaction may be designed to move the object of the dynamic image in response to user's input (a touch, a mouse click, a keyboard input, a sound input, etc.), or to show a physical interaction with other objects within an interactive screen (for example, modification of two objects through a collision). Alternatively, this may be designed to output a sound relating to a dynamic image (for example, sounds of tree floating, animal cries, etc.).

[0090] Particularly, as described above, a manner for a movement of an object or for the physical interaction may be determined based on a pre-stored physics engine program. For example, the physics engine program may implement an actual law of physics that bounces off or breaks other objects according to a property such as a type, texture, etc. of an object, on a virtual space.

[0091] Accordingly, the user may feel liveness that the image drawn by himself/herself comes to life.

[0092] So as to explain the interaction splashing raindrops on an umbrella in FIG. 11, when an object, such as a raindrop, etc., moving on the screen collides with the umbrella of dynamic image, this is modified into a particle type, allowing showing moving toward a direction opposite to the movement before collision.

[0093] As an easy method relating thereto, each object such as a rain drop, an umbrella, etc. is set as a circle having a regular size. Then, when a distance in between the respective objects is smaller than a value added by a radius of the circle, it may be determined as a collision.

[0094] A physical interaction more complicated than the aforementioned method, for example, a direction and an appearance in which the raindrop is splashed after collision may be implemented taking account of a shape of the umbrella (a slope, etc.), a movement speed of the raindrop, etc.

[0095] According to another example of an interaction, the image which the user drew appears in real time according to user's input. For example, when the user draws a line on the screen through a mouse click or a touch, the interaction may be implemented in various types such like that a pre-generated dynamic image (a flower, a tree, etc.) appears along the line being drawn.

[0096] Detailed descriptions of the preferred exemplary embodiments of the present disclosure disclosed as

described above are provided so as for the skilled person in the art to implement and execute the present disclosure. The present disclosure has been described with reference to the preferred exemplary embodiments, but the skilled person in the art will understand that the present disclosure can be variously modified and changed without departing from the scope of the present disclosure. For example, the skilled person in the art may use the respective components disclosed in the exemplary embodiments by combining the respective components with each other. Therefore, the present disclosure is not limited to the exemplary embodiments described herein, but intends to grant the widest range which is coherent with the principles and new features disclosed herein.

[0097] The present disclosure may be embodied in other specific forms without departing from the spirit and essential characteristics of the present disclosure. Accordingly, the aforementioned detailed description should not be construed as restrictive in all terms and should be exemplarily considered. The scope of the present disclosure should be determined by rational construing of the appended claims and all modifications within an equivalent scope of the present disclosure are included in the scope of the present disclosure. The present disclosure is not limited to the exemplary embodiments described herein, but intends to grant the widest range which is coherent with the principles and new features presented herein. Further, the claims that are not expressly cited in the claims are combined to form an exemplary embodiment or be included in a new claim by an amendment after the application.

1. A system for providing a responsive-type drawing making service which is capable of real-time interaction between a user and an object, wherein

the system for providing a responsive-type drawing making service comprises:

a terminal that is configured to allow inputting event information relating to a user's behavior response for making a drawing;

a control part that constructs a network with the terminal, the web and the external server, followed by a communication, generating arbitrary custom information by matching first data of a dynamic image that is provided through at least one of the web and the external server according to event information that was input from the terminal to second data of a signal that uses a drawing tool of a pre-stored drawing making program, and outputting an alarm signal preset according to generated custom information; and

an alarm part that is equipped to the terminal, performing visual displaying according to an alarm signal that was output from the control part.

2. The system for providing a responsive-type drawing making service of claim 1, wherein the drawing making program is a graphic software configured to support an environment for performing drawing making using a drawing tool that is capable of a pictorial expression of at least one of a dot, a line, a color, light, texture, and a sense of volume on canvas.

3. The system for providing a responsive-type drawing making service of claim 2, wherein the control part makes a decision on a category of a dynamic image provided through at least one of the web and the external server according to the event information, representing at least one of a plurality of guide images in response to a determined

category in a canvas region on the drawing making program, storing, as data, a drawing image which the user drew using the drawing tool based on the guide image and generating a new dynamic image based on a stored drawing image.

4. The system for providing a responsive-type drawing making service of claim 2, wherein the dynamic image includes a bead image that is movably represented in the canvas region on the drawing making program, the drawing making program further comprises:

a gyro sensor that is equipped to the terminal and senses a bearing; and

a location sensor that is equipped to the terminal and senses a location,

the event information includes a first operation signal of the user to change a slope of the terminal, and

the control part additionally matches third data of information of a terminal slope through at least one of the gyro sensor and the location sensor, followed by reflection to the custom information.

5. The system for providing a responsive-type drawing making service of claim 4, wherein the control part shows a value that the first data selects the bead image as a dynamic image, and when the third data shows a value of change in a slope of the terminal by the first operation signal, the bead image flows like rolling within the canvas region on the drawing making program in response to the value of change in the slope, and the control part outputs an alarm signal that represents, in real time, a trace of the bead image flowably progressing according to the second data of which an attribute value for an artistic expression of the drawing tool is set.

6. The system for providing a responsive-type drawing making service of claim 2, wherein the drawing making program is configured to allow setting a thickness of a first icon that expresses a formative element for a dot, a line and a face having an arbitrary thickness in the drawing tool according to the event information, the setting a thickness is achieved by a stroke touching (clicking) the first icon, and the control part outputs an alarm signal so as to provide the alarm part with a screen on which a size of the first icon was activated in response to a dimension of the set thickness.

7. The system for providing a responsive-type drawing making service of claim 2, wherein the drawing making program is configured to allow setting a color of a second icon that express a formative element for a color in the drawing tool according to the event signal, the setting a color is achieved by firstly touching (clicking) the second icon and then secondarily touching (clicking) a desired color, and the control part outputs an alarm signal so as to provide the alarm part with a screen on which at least a part of icons of the drawing tool including the second icon was activated to be the same color as a set color.

8. A method for controlling a system for providing a responsive-type drawing making service, wherein the method for controlling a system for providing a responsive-type drawing making service comprises steps of:

Step a: inputting event information by a terminal;

Step b: making a decision on a category of a dynamic image provided through at least one of a web and an external server according to event information that was input in the Step a, by a control part;

Step c: representing at least one of a plurality of guide images corresponding to a category determined in the Step b in a canvas region on a drawing making program;

Step d: storing, as data, a drawing image a user drew using a drawing tool based on the guide image, by the control part;

Step e: generating a dynamic image based on a drawing image stored in the Step d, by the control part; and

Step f: displaying a dynamic image generated in the Step e on an arbitrary screen, by an alarm part, wherein the dynamic image shows an interaction in response to input of the user within a screen of the alarm part.

9. The method for controlling a system for providing a responsive-type drawing making service of claim **8**, wherein an interaction of the dynamic image relates to a category of the dynamic image.

10. The method for controlling a system for providing a responsive-type drawing making service of claim **9**, wherein the interaction of the dynamic image includes an action of

moving an object within the dynamic image in response to a user's input, showing a physical interaction with other objects within the screen of the alarm part, or outputting sound data relating to the dynamic image.

11. The method for controlling a system for providing a responsive-type drawing making service of claim **10**, wherein a manner for the moving the object within the dynamic image or for the physical interaction with other objects within the screen of the alarm part is determined based on a pre-stored, physics engine program.

12. The method for controlling a system for providing a responsive-type drawing making service of claim **8**, wherein the guide image includes an image of the object of which an outline is expressed with a dot, and an object of the guide image relates to the category of the dynamic image.

13. The method for controlling a system for providing a responsive-type drawing making service of claim **8**, wherein the Step f comprises loading image data transmitted through a route in which the dynamic image was stored.

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