

PAD ASSEMBLY FOR AN INPUT DEVICE AND METHOD OF MAKING A PAD ASSEMBLY

Technical Field

[0001] Various embodiments generally relate to a pad assembly for an input device. In particular, various embodiments generally relate to a pad assembly (e.g. mouse pad assembly) for an electronic tracking device, such as a mouse device.

Background

[0002] Conventional mouse pad designs have been widely used for input devices like a mouse device. Generally, the conventional design involves a planar mat on which the mouse glides.

[0003] One issue with conventional mouse pads is a lack of illumination on the tracking surface. Current mouse pads often rely on external lighting sources or uneven lighting distribution, resulting in difficulties in accurately perceiving the tracking area, especially in low-light conditions. This limitation can impede smooth navigation and precise control for tasks like gaming and graphic design.

[0004] Additionally, conventional mouse pads exhibit limitations in customization and user preference. For example, the tracking surface finish, a factor affecting input device movement, is usually fixed and lacks adaptability to different user preferences. A uniform tracking surface finish might not cater to diverse user requirements, leading to suboptimal performance for specific tasks.

[0005] Moreover, some existing mouse pad designs struggle to provide optimal adhesion to external surfaces. Slippery or inconsistent adhesion can lead to unwanted movement of the pad during use, disrupting user experience and potentially impacting accuracy.

[0006] Accordingly, there is a need to provide an improved pad assembly (e.g. mouse pad assembly), for an input device (e.g. mouse device), which addresses at least the above issues.

Summary

[0007] According to various embodiments, there may be provided a pad assembly for an input device. The pad assembly may include a pad body with a base face and a tracking face opposite the base face. The pad body may include a light-transmission panel between the base face and the tracking face. The light-transmission panel may include a light-output surface for a light that enters the light-transmission panel to exit therefrom, wherein the light-output surface may be facing a same direction as the tracking face. Further, the light-transmission panel may include a light-diffusion surface opposite the light-output surface, wherein the light-diffusion surface may include a textured surface. Yet further, the light-transmission panel may include a light-input surface for the light to enter the light-transmission panel. The pad assembly may include (e.g. further include) at least one light source disposed relative to the light-input surface so as to be capable of emitting the light into the light-transmission panel through the light-input surface.

[0008] According to various embodiments, there may be provided a method for making a pad assembly for an input device. The method may include forming a pad body with a base face and a tracking face opposite the base face. Forming the pad body may include (e.g. involve) providing a light-transmission panel between the base face and the tracking face of the pad body. The light-transmission panel may include a light-output surface for a light that enters the light-transmission panel to exit therefrom, wherein the light-output surface may be facing a same direction as the tracking face. Further, the light-transmission panel may include a light-diffusion surface opposite the light-output surface, wherein the light-diffusion surface may include a textured surface. Yet further, the light-transmission panel may include a light-input surface for the light to enter the light-transmission panel. The method may include (e.g. further include) disposing at least one light source relative to the light-input surface of the light-transmission panel of the pad body in a manner so as to be capable of emitting the light into the light-transmission panel through the light-input surface.

Brief description of the drawings

[0009] In the drawings, like reference characters generally refer to the same parts throughout the different views. The drawings are not necessarily to scale, emphasis instead generally being placed upon illustrating the principles of the invention. In the following description, various aspects are described with reference to the following drawings.

FIG. 1 shows a schematic diagram of a pad assembly for an input device, according to various embodiments;

FIG. 2A is an exploded perspective view of a pad assembly for an input device, according to various embodiments;

FIG. 2B is a partial see-through top view of the pad assembly of FIG. 2A, according to various embodiments;

FIG. 2C shows a schematic side view of the pad assembly of FIG. 2A, according to various embodiments;

FIG. 2D(i) is a schematic close-up partial side view of a light-transmission panel, of the pad assembly of FIG. 2A, according to various embodiments;

FIG. 2D(ii) is another schematic close-up partial side view of the light-transmission panel, of the pad assembly of FIG. 2A, according to various embodiments;

FIG. 2E is a schematic close-up partial side view of a first variant light-permeable adhesive layer, between the light-transmission panel and a tracking layer of the pad assembly of FIG. 2A, according to various embodiments;

FIG. 2F is a perspective view of a pad assembly, with a pad body that includes the first variant light-permeable adhesive layer, according to various embodiments;

FIG. 2G is a perspective view of a pad assembly, with a pad body that includes a tracking layer having non-uniform optical transmittance, according to various embodiments;

FIG. 3 is a flow chart depicting a method of making the pad assembly, according to various embodiments; and

FIG. 4 is a close-up view of an “etched” light-diffusion surface of a prototype pad assembly, according to various embodiments.

Detailed description

[00010] Aspects of the present disclosure described below in context of the apparatus are analogously valid for the respective methods, and vice versa. Furthermore, it will be understood that the aspects described below may be combined, for example, a part of one aspect may be combined with a part of another aspect.

[00011] It should be understood that the terms “on”, “over”, “top”, “bottom”, “down”, “side”, “back”, “left”, “right”, “front”, “lateral”, “up” etc., when used in the following description are used for convenience and to aid understanding of relative positions or directions, and not intended to limit the orientation of any device, or structure or any part of any device or structure. In addition, the singular terms “a”, “an”, and “the” include plural references unless context clearly indicates otherwise. Similarly, the word “or” is intended to include “and” unless the context clearly indicates otherwise.

[00012] Various embodiments may provide a mouse pad assembly (e.g. pad assembly) which may include a light guide or light guide panel (e.g. light-transmission panel) within its body (e.g. pad body) for directing light from a light source (e.g. internal light source) to an upper surface of the body of the mouse pad assembly. The light guide may include a light-output surface oriented to face a same direction as the upper surface of the body of the mouse pad assembly, and a light-modifying (e.g. light-diffusing and/or light-scattering) surface (e.g. light-diffusion surface) opposite the light-output surface. According to the various embodiments, the light-output surface may be planar or flat (e.g. substantially planar or flat) so as ensure a planar or flat upper surface of the body of the mouse pad assembly for facilitating gliding of a mouse device. In contrast, the light-altering surface (e.g. light-diffusion surface) may be textured with a plurality of recessed formations (e.g. etched patterns) to create an internal side (or internal surface) with an uneven or rugged texture. Accordingly, light that enters the light guide panel may be diffused and/or internally reflected by the light-altering surface to the light-output surface so as to exit therefrom and illuminate the upper surface of the body of the pad assembly.

[00013] Furthermore, according to the various embodiments, a gliding layer (e.g. tracking layer) with a gliding surface (e.g. tracking surface) for the mouse device may be optionally provided or disposed over or on (e.g. directly or indirectly on) the light guide panel. The gliding layer may be transparent or translucent, allowing light exiting from the light-output surface of the light guide panel to transmit through the transparent

or translucent gliding layer. The gliding layer may be customized with personalized finishes and/or varying levels of hardness or softness, based on user preference.

[00014] According to the various embodiments, the mouse pad assembly may also include an anti-slip layer beneath the light guide panel to provide enhanced grip of the mouse pad assembly on an external surface.

[00015] The following examples pertain to various embodiments.

[00016] Example 1 is a pad assembly for an input device. The pad assembly may include a pad body with a base face and a tracking face opposite the base face. The pad body may include a light-transmission panel between the base face and the tracking face. The light-transmission panel may include a light-output surface for a light that enters the light-transmission panel to exit therefrom, wherein the light-output surface may be facing a same direction as the tracking face, a light-diffusion surface opposite the light-output surface, wherein the light-diffusion surface may include a textured surface, and a light-input surface for the light to enter the light-transmission panel. The pad assembly may include (e.g. further include) at least one light source disposed relative to the light-input surface so as to be capable of emitting the light into the light-transmission panel through the light-input surface.

[00017] In Example 2, the subject matter of Example 1 may include that the light-input surface of the light-transmission panel may be extending between the light-output surface and the light-diffusion surface with a first edge of the light-input surface adjoined to the light-output surface and a second edge of the light-input surface, opposite the first edge, adjoined to the light-diffusion surface.

[00018] In Example 3, the subject matter of Example 1 or Example 2 may include that the light-transmission panel may include at least one hole, and the light-input surface of the light-transmission panel may include at least one inner surface of the light-transmission panel which defines the at least one hole.

[00019] In Example 4, the subject matter of Example 3 may include that the at least one hole may include a blind hole or a through hole.

[00020] In Example 5, the subject matter of any one of Examples 1 to 4 may include that the light-transmission panel further includes at least one peripheral light-output surface for the light to exit the light-transmission panel, the at least one peripheral light-output surface extending between the light-input surface and the light-diffusion surface with a first edge of the at least one peripheral light-output surface adjoined to the light-

output surface and with a second edge of the at least one peripheral light-output surface, opposite the first edge, adjoined to the light-diffusion surface.

[00021] In Example 6, the subject matter of any one of Examples 1 to 5 may include that the light-diffusion surface of the light-transmission panel may include an arrangement of texture formations forming the textured surface, wherein the texture formations may be recessed into the light-transmission panel.

[00022] In Example 7, the subject matter of Example 6 may include that the texture formations may include a plurality of uniformly-sized concaved dimples.

[00023] In Example 8, the subject matter of Example 6 or Example 7 may include that the texture formations may be arranged in an array and/or uniform and/or regular and/or orderly pattern.

[00024] In Example 9, the subject matter of Example 6 or Example 7 may include that the texture formations may be arranged in an irregular and/or non-uniform pattern.

[00025] In Example 10, the subject matter of any one of Examples 1 to 9 may include that the pad body further includes a tracking layer over the light-transmission panel, wherein the tracking layer may include a tracking surface which serves as the tracking face of the pad body, and that the tracking layer may be translucent or transparent.

[00026] In Example 11, the subject matter of Example 10 may include that at least one portion of the tracking layer, extending between the tracking surface and an opposite surface of the tracking layer, may have a different optical transmittance from at least one other portion of the tracking layer.

[00027] In Example 12, the subject matter of Example 10 or Example 11 may further include a light-permeable adhesive layer between the tracking layer and the light-transmission panel.

[00028] In Example 13, the subject matter of Example 12 may include that the light-permeable adhesive layer may include or define at least one void which forms an air-gap, between the tracking layer and the light-transmission panel.

[00029] In Example 14, the subject matter of any one of Examples 1 to 13 may further include a light-reflecting layer which includes a reflective surface that is directed towards and covering the light-diffusion surface of the light-transmission panel.

[00030] In Example 15, the subject matter of any one of Examples 1 to 14 may further include a controller connected to the at least one light source for controlling the at least one light source.

[00031] In Example 16, the subject matter of any one of Examples 1 to 15 may further include an anti-slip layer which includes a base surface which serves as the base face of the pad body.

[00032] Example 17 is a method of making a pad assembly for an input device (e.g. the input device of Example 1). The method may include forming a pad body with a base face and a tracking face opposite the base face, wherein forming the pad body may include providing a light-transmission panel between the base face and the tracking face of the pad body, wherein the light-transmission panel may include a light-output surface for a light that enters the light-transmission panel to exit therefrom, wherein the light-output surface may be facing a same direction as the tracking face, a light-diffusion surface opposite the light-output surface, wherein the light-diffusion surface may include a textured surface, and a light-input surface for the light to enter the light-transmission panel. The method may further include disposing at least one light source relative to the light-input surface of the light-transmission panel of the pad body in a manner so as to be capable of emitting the light into the light-transmission panel through the light-input surface.

[00033] In Example 18, the subject matter of Example 17 may further include etching the light-diffusion surface of the light-transmission panel to form an arrangement of texture formations forming the textured surface, wherein the texture formations are recessed into the light-transmission panel.

[00034] In Example 19, the subject matter of Example 17 or Example 18 may further include providing a tracking layer over the light-transmission panel, wherein the tracking layer may include a tracking surface which serves as the tracking face of the pad body, wherein the tracking layer may be translucent or transparent.

[00035] In Example 20, the subject matter of Example 19 may include that at least one portion of the tracking layer, extending between the tracking surface and an opposite surface of the tracking layer, has a different optical transmittance from at least one other portion of the tracking layer.

[00036] In Example 21, the subject matter of Example 19 or Example 20 may further include providing a light-permeable adhesive layer between the tracking layer and the light-transmission panel.

[00037] In Example 22, the subject matter of Example 21 may include that the light-permeable adhesive layer may include or define at least one void which forms an air-gap, between the tracking layer and the light-transmission panel.

[00038] In Example 23, the subject matter of any one of Examples 17 to 22 may further include providing a light-reflecting layer which includes a reflective surface that is covering and directed towards the light-diffusion surface of the light-transmission panel.

[00039] In Example 24, the subject matter of any one of Examples 17 to 23 may further include connecting a controller to the at least one light source for controlling the at least one light source.

[00040] In Example 25, the subject matter of any one of Examples 17 to 24 may further include providing an anti-slip layer which includes a base surface which serves as the base face of the pad body.

[00041] FIG. 1 shows a schematic diagram of a pad assembly 100 for an input device, according to various embodiments.

[00042] According to various embodiments, there may be provided the pad assembly 100 for an input device. The input device may be a tracking device, such as a mouse or mouse device (e.g. computer mouse or computer mouse device), and the pad assembly 100 may be a planar (e.g. substantially planar) mat or mouse pad on which the input device (e.g. mouse) may glide or track (e.g. move) along.

[00043] With reference to FIG. 1, the pad assembly 100 may include a pad body 101 which may include or may have a base face 103 (e.g. a bottom or bottommost surface) and a tracking face 102 (e.g. an upper or uppermost surface) opposite the base face 103. The base face 103 may rest upon an external surface (not shown) (such as an external tabletop or desk), while the tracking face 102 may serve as a planar (e.g. substantially planar) upper surface for the input device (not shown) to glide or track on. According to various embodiments, both the base face 103 and the tracking face 102 of the pad body 101 may be planar (e.g. substantially planar) surfaces which may be parallel to each other. Accordingly, according to various embodiments, when the pad assembly 100 is in its “use” or upright orientation (e.g. when placed on an external surface), both the base face 103 and the tracking face 102 of the pad body 101 may be horizontally (e.g. substantially horizontally) oriented.

[00044] According to various embodiments, the pad body 101 may include or may be composed of one or more components or elements (e.g. panel(s), layer(s), sheet(s), plate(s), film(s), substrate, etc.), as described below.

[00045] According to various embodiments, the pad body 101 (or at least a portion of the pad body 101) may be light-permeable.

[00046] For example, the pad body 101 may include a light-transmission panel 110 (or layer), which may be composed of (e.g. entirely of) or may include (e.g. include only) a light-permeable (e.g. a transparent or translucent) material (or material composite). The light-permeable material may include, but not limited to, glass (e.g. clear or tinted glass), or silica, or quartz, or transparent or translucent polymer or plastic (e.g. polycarbonate or optical grade polycarbonate / optical polycarbonate). According to various embodiments, the light-transmission panel 110 may be made of a homogeneous material and may take a form of a monolithic (in other words, single and/or integral and/or continuous and/or unified) entity or structure. According to various embodiments, the light-transmission panel 110 may be rigid. As a non-limiting example, the light-transmission panel 110 may be a rigid glass or rigid polycarbonate panel. According to various other embodiments, the light-transmission panel 110 may be flexible, such as a flexible polycarbonate panel.

[00047] The light-transmission panel 110 may be of a flat (e.g. substantially flat) structure (e.g. thin, flat structure) having two main broad surfaces serving as a bottom surface 113a and an upper surface 112a opposite the bottom surface 113a. According to various embodiments, both the bottom surface 113a and the upper surface 112a of the light-transmission panel 110 may be planar (e.g. substantially planar) surfaces which may be parallel (e.g. substantially parallel) to each other. The light-transmission panel 110 may include (e.g. further include), or may be bounded, by one or more side surfaces 114a, extending between its bottom surface 113a and upper surface 112a. The one or more side surfaces 114a of the light-transmission panel 110 may define a perimeter of the light-transmission panel 110. For example, when the light-transmission panel 110 is circular-shaped, the light-transmission panel 110 may have a single, continuous curved side surface. As another example, the light-transmission panel 110 may be a squarish or rectangular-shaped light-transmission panel 110 having a plurality of (e.g. four) side surfaces adjoined to one other in an end-to-end manner along the peripheral edges of the squarish or rectangular-shaped light-transmission panel 110.

[00048] According to various embodiments, the light-transmission panel 110 may be disposed inside or within the pad body 101. Accordingly, the light-transmission panel 110 may be between (e.g. positioned or disposed between) the base face 103 and the tracking face 102 of the pad body 101 of the pad assembly 100. Particularly, the bottom surface 113a of the light-transmission panel 110 may be facing a same direction (e.g. a same downward direction) as the base face 103 of the pad body 101, and the upper surface 112a of the light-transmission panel 110 may be facing a same direction (e.g. a same upward direction) as the tracking face 102 of the pad body 101 of the pad assembly 100.

[00049] According to various embodiments, the light-transmission panel 110 may function or serve as a light distributing (e.g. light diffusion, light scattering, etc.) panel. The light-transmission panel 110 may also function or serve as a light guide for efficiently redirecting and/or guiding (e.g. transmitting) light that enters the light-transmission panel 110 from a source (e.g. light source(s) 120, described in detail later) to one or more designated light-output surface(s) 112 of the light-transmission panel 110.

[00050] According to various embodiments, the light-transmission panel 110 may include a light-output surface 112 for a light (or at least a portion of the light) that enters the light-transmission panel 110 to exit therefrom. According to various embodiments, the light-output surface 112 may be the upper surface 112a of the light-transmission panel 110.

[00051] According to various embodiments, the light-transmission panel 110 may include (e.g. further include) a light-diffusion surface 113. For example, the light-diffusion surface 113 may be opposite the light-output surface 112. Accordingly, according to various embodiments, the light-diffusion surface 113 may be the bottom surface 113a of the light-transmission panel 110. Hence, the light-output surface 112 and the light-diffusion surface 113 may be two opposite surfaces of the light-transmission panel 110.

[00052] According to various embodiments, the light-transmission panel 110 may include (e.g. further include) a light-input surface 114 for the light to enter the light-transmission panel 110. According to various embodiments, the light-input surface 114 may be adjacent to the light-output surface 112 and/or the light-diffusion surface 113. For example, the light-input surface 114 may be or may include a “chamfer surface”

(or corner surface) of the light-transmission panel 110 adjoined to either the light-output surface 112 or the light-diffusion surface 113. As another example, the light-input surface 114 may be or may include a side surface 114a of the light-transmission panel 110 that is extending between the light-output surface 112 and the light-diffusion surface 113. Thus, the light-input surface 114 may be a surface of the light-transmission panel 110 adjacent to and/or angled (e.g. non-perpendicularly or perpendicularly) with respect to the light-output surface 112 and/or the light-diffusion surface 113.

[00053] Said differently, according to various embodiments, the light-input surface 114 may be between the light-output surface 112 and the light-diffusion surface 113, with the light-input surface 114 forming a first internal angle with the light-output surface 112 and forming a second internal angle with the light-diffusion surface 113. In other words, the light-input surface 114 may be oriented at a first angle (e.g. first internal angle) with respect to the light-output surface 112 and may be oriented at a second angle (e.g. second internal angle) with respect to the light-diffusion surface 113. According to various embodiments, the first internal angle and second internal angle may be similar or identical (e.g. equal or substantially equal) to each other. For instance, the light-input surface 114 may be or may include the side surface 114a of the light-transmission panel 110 (e.g. along its peripheral edge), with the first internal angle and **second internal angle respectively being right angles (e.g. 90° or substantially 90°)**. According to various other embodiments, the first internal angle and second internal angle may be different from each other. For instance, the light-input surface 114 may be a **“chamfer surface” (or corner surface) of the light-transmission panel 110** adjoined to either the light-output surface 112 or the light-diffusion surface 113, with the first internal angle being larger than the second internal angle (e.g. when adjoined to the light-output surface 112) or smaller than the second internal angle (e.g. when adjoined to the light-diffusion surface 113).

[00054] According to various embodiments, the light-input surface 114 may be a flat or planar (e.g. substantially flat or planar) surface. According to various other embodiments, the light-input surface 114 may be a curved (e.g. convexed, or concaved, or wavy, etc.) surface. According to various other embodiments, the light-input surface 114 may be or may include a cut-out region along an edge of the light-transmission panel 110.

[00055] According to various embodiments, the pad assembly 100 may include (e.g. further include) at least one light source 120 (e.g. one or more light-emitting diode(s)) disposed relative to the light-input surface 114 such that the at least one light source 120 may be capable of emitting light into the light-transmission panel 110 through the light-input surface 114. For example, the at least one light source 120 may be disposed and/or oriented to direct the light towards the light-input surface 114 so as to transmit the light into the light-transmission panel 110. According to various embodiments, the at least one light source 120 may be powered by an internal power source (e.g. an internal battery within the pad assembly 100) or an external power source (e.g. power from a mains supply, or an electronic device such as a computer device, laptop, etc.).

[00056] According to various embodiments, the light-diffusion surface 113 may be configured to diffuse or scatter the light from the at least one light source 120 which enters the light-transmission panel 110.

[00057] To elaborate, according to various embodiments, the light-diffusion surface 113 may be a textured surface. For instance, the light-diffusion surface 113 may incorporate or include an arrangement of texture formations 113b forming the textured surface. These texture formations 113b may be recessed into the light-transmission panel 110. For example, each texture formation 113b may be an indentation, depression, or groove, etc., into (or from) the light-diffusion surface 113 of the light-transmission panel 110. As such, an internal face (or internal side) of the light-diffusion surface 113 may appear (that is, may be) rough or uneven. According to various embodiments, the light-diffusion surface 113 may be an integral part of the light-transmission panel 110, in other words, not a separate nor a discrete entity from the light-transmission panel 110. The arrangement of texture formations 113b may be formed by any suitable method or process, for example, etching (e.g. laser etching, micro etching, etc.), mechanical abrasion (e.g. sandblasting), milling (e.g. micro-milling), etc. According to various embodiments, the texture formations 113b may have symmetrical shapes, such as dimple shapes, hemisphere or hemispherical shapes, conical shapes, pyramid shapes, cuboid shapes, or cubic (e.g. cube) shapes, etc. According to various, the texture formations 113b may be uniformly shaped and/or sized. According to various other embodiments, the texture formations 113b may have asymmetrical or irregular shapes. According to various embodiments, the texture formations 113b may be arranged in an orderly pattern (e.g. uniform and/or orderly

array pattern). According to various other embodiments, the texture formations 113b may be arranged in an irregular (or non-uniform) pattern.

[00058] The textured surface of the light-diffusion surface 113, which may diffuse or scatter the light that enters the light-transmission panel 110, may result in diffused or scattered light exiting the light-output surface 112 of the light-transmission panel 110. Additionally, the light-diffusion surface 113, which may be at an angle with respect to the light-input surface 114, may also redirect the light which enters the light-transmission panel 110 via the light-input surface 114 towards the light-output surface 112 opposite the light-diffusion surface 113. Specifically, when light is emitted from the at least one light source 120 into the light-transmission panel 110 (i.e. through the light-input surface 114 of the light-transmission panel 110), at a first angle or first direction (e.g. first light propagation direction) relative to the light-transmission panel 110, the light (or at least a portion of the light) may be redirected (e.g. internally reflected) by the light-diffusion surface 113 so as to exit the light-transmission panel 110 (i.e. through the light-output surface 112 opposite the light-diffusion surface 113) at a second angle or second direction (e.g. second light propagation direction) relative to the light-transmission panel 110, with the second light propagation direction being different (or at an angle) from the first light propagation direction.

[00059] According to various embodiments, the light that exits the light-output surface 112 may then illuminate the tracking face 102 (i.e. upper or uppermost surface) of the pad body 101, either directly (e.g. if the light-output surface 112, i.e. upper surface 112a, of the light-transmission panel 110 serves as the tracking face 102), or indirectly (e.g. if the pad body 101 includes a light-permeable tracking layer 130 over the light-transmission panel 110, described in detail later). According to various embodiments, the light-diffusion surface 113 may effectively diffuse or scatter the light that enters the light-transmission panel 110, leading to a uniformly or substantially uniformly illuminated tracking face 102 of the pad body 101. Thus, the pad assembly 100, according to the various embodiments, may provide a substantially consistent and evenly lit user experience, which may be particularly advantageous under low-light conditions, such as dark rooms, as it may allow a user to perceive an actual area or size of the tracking face 102 of the pad assembly 100. As a result, users of the pad assembly 100 may easily discern where the pad assembly 100 is so as to easily navigate and use their input devices (e.g. mouse devices) accurately on the pad assembly 100.

[00060] According to various embodiments, the pad body 101 of the pad assembly 100 may include (e.g. further or optionally include) a tracking layer 130 (e.g. plate, panel, sheet, film, etc.) disposed over or stacked onto the light-transmission panel 110. According to various embodiments, the tracking layer 130 may be, but is not limited to being, a discrete component from the light-transmission panel 110. Furthermore, the tracking layer 130 may be a monolithic (e.g. single, integral) layer. According to various embodiments, the tracking layer 130 may be attachable (e.g. removably attachable) to the light-transmission panel 110, with a bottom surface 133 of the tracking layer 130 directed towards or facing the light-output surface 112 of the light-transmission panel 110. The tracking layer 130 may have a tracking surface 132 (e.g. an upper surface), opposite the bottom surface 133, which may serve (or may be or may form) the tracking face 102 (e.g. upper surface) of the pad body 101 for an input device (e.g. mouse device) to glide or track on. That is, when the pad assembly 100 includes the tracking layer 130, the upper surface (e.g. tracking surface 132) of the tracking layer 130 may serve (or may be or may form) the upper surface of the pad assembly 100 for placing and moving an input device. According to various embodiments, the tracking surface 132 (e.g. upper surface) of the tracking layer 130 may be configured based on user preference, for example, it may be a smooth / finely patterned surface for fast and fluid input device movement, or it may be a rough / coarsely patterned surface for greater control over the input device movement. Moreover, according to various embodiments, the tracking layer 130 may be composed of a rigid material (e.g. to provide similar properties as a hard mouse pad) or a flexible and/or soft material (e.g. to provide similar properties as a soft mouse pad). According to various embodiments, the tracking layer 130 may be composed of or may include a light-permeable (e.g. a transparent or translucent) material (or material composite). The light-permeable material may include, but not limited to, glass (e.g. clear or tinted glass), or silica, or quartz, or transparent or translucent polymer or plastic. That is, the entire tracking layer 130, or at least a portion thereof, may be light-permeable (e.g. transparent or translucent). Further, the tracking layer 130 may be tinted (e.g. dark-tinted) for reducing an intensity of the light that travels or propagates across such a (tinted) tracking layer 130. For example, a (tinted) tracking layer 130 may have a lower optical transmittance than the underlying light-transmission panel 110. According to various embodiments,

the tracking layer 130 may have a uniform (or homogeneous), or a non-uniform, optical transmittance value.

[00061] According to various embodiments, the pad assembly 100 may be configured such that at least one zone or region (herein may be referred to as “primary region”) of the tracking face 102 of the pad body 101 may be illuminated by (or with) a first intensity while at least one other zone or region (herein may be referred to as “secondary region”) of the tracking face 102 of the pad body 101 may be illuminated by (or with) a second intensity different from (e.g. stronger or weaker than) the first intensity, when light from the at least one light source 120 of the pad assembly 100 emits the light. In other words, according to various embodiments, the tracking face 102 of the pad body 101 of the pad assembly 100 may be illuminated such that at least one primary region thereof may be brighter or dimmer than at least one secondary region thereof. According to various other embodiments, the pad assembly 100 may be configured in a manner such that when the at least one light source 120 is emitting light, the at least one primary region may be illuminated, whereas the at least one secondary region may be non-illuminated.

[00062] For example, according to various embodiments, the tracking layer 130 may be configured with non-uniform optical transmittance. Specifically, at least one portion of the tracking layer 130 corresponding to (e.g. forming or serving as) the at least one primary region of the tracking face 102 of the pad body 101 may have a first optical transmittance, and at least one other portion of the tracking layer 130 corresponding to (e.g. forming or serving as) the at least one secondary region of the tracking face 102 of the pad body 101 may have a second optical transmittance different from (e.g. higher or lower than) the first optical transmittance.

[00063] Another example may involve providing the tracking layer 130 with a uniform optical transmittance throughout and may involve selectively filling an area (e.g. a spacing or gap) between the tracking layer 130 and the light-transmission panel 110 with a light-transmissible medium, such as a light-transmissible or light-permeable adhesive material. Specifically, the light-transmissible medium may be selectively disposed within the pad body 101 of the pad assembly 100 such that it comes into contact or is interfaced with (e.g. with only) at least one region of the light-transmission panel 110 and at least one opposite (e.g. directly opposite) region of the tracking layer 130 (i.e. defining at least one spacing therebetween), respectively corresponding to (e.g.

aligned or vertically aligned with and/or of a same shape as) the at least one primary region of the tracking face 102 of the pad body 101 of the pad assembly 100. Meanwhile, at least one other region of the light-transmission panel 110 and at least one other opposite (e.g. directly opposite) region of the tracking layer 130 (i.e. defining at least one other spacing therebetween), respectively corresponding to (e.g. aligned or vertically aligned with and/or of a same shape as) the at least one secondary region of the tracking face 102 of the pad body 101 of the pad assembly 100, may be apart (e.g. spaced apart or separated) from each other by a void (e.g. an air spacing or air pocket, **which herein may be referred to as an “air-gap”**), because no light-transmissible medium may be disposed or present there. According to various embodiments, the light-transmissible medium may be configured to possess a higher refractive index than **the “air-gap”**. Thus, light that travels or propagates across the “air-gap” may experience attenuation or energy loss (e.g. higher attenuation or energy loss) compared to the light that travels or propagates across the light-transmissible medium. Accordingly, when illuminated, the at least one primary region of the tracking face 102 of the pad body 101 of the pad assembly 100 may be (or may appear) brighter than the at least one secondary region of the tracking face 102 of the pad body 101, even though each of the at least one light source 120 of the pad assembly 100 may emit a same or equal intensity or amount of light.

[00064] According to various embodiments, the pad body 101 of the pad assembly 100 may include (e.g. further include) an anti-slip layer 160 (e.g. an anti-slip base, substrate, plate, panel, sheet, film, etc.) at a bottom of the pad body 101 for providing grip or adhesion against an external surface (e.g. tabletop or desk). The anti-slip layer 160 may include a base surface which may serve (or may be or may form) the base face 103 (e.g. bottom or bottommost surface) of the pad body 101 of the pad assembly 100. The base surface of the anti-slip layer 160 may be configured to provide enhanced grip or adhesion against the external surface. For example, the base surface may include a textured pattern, ridges (e.g. micro-ridges), or a material or material composite (e.g. rubber, silicon rubber, cork, adhesive, etc.) that offers enhanced grip and/or adhesion. According to various embodiments, the anti-slip layer 160 may be a monolithic (e.g. single, integral) layer.

[00065] According to various embodiments, the anti-slip layer 160 may be underneath the light-transmission panel 110. That is, the light-transmission panel 110

may be between (e.g. sandwiched between, e.g., directly or indirectly between) the anti-slip layer 160 and the tracking layer 130, when the pad body 101 includes both the anti-slip layer 160 and the tracking layer 130.

[00066] According to various embodiments, any two adjacent components or elements of the pad body 101 (e.g. the tracking layer 130 and the light-transmission panel 110, and/or the anti-slip layer 160 and the light-transmission panel 110) may be connected or joined to each other, for example, via an adhesive (e.g. double-sided adhesive / light-permeable adhesive) and/or a fastener (e.g. screw or bolt extending across and connecting the two adjacent components or elements), or via any other suitable coupling mechanism.

[00067] FIG. 2A is an exploded perspective view of a pad assembly 200 for an input device, according to various embodiments.

[00068] According to various embodiments, there may be provided the pad assembly 200 for an input device (e.g. a mouse device).

[00069] The components of the pad assembly 200 that are like the corresponding components of the pad assembly 100 of FIG. 1 are similarly numbered. The description of these components made with respect to the pad assembly 200 may be applicable with respect to the pad assembly 100, and vice versa.

[00070] With reference to FIG. 2A, the pad assembly 200 may, similar to the pad assembly 100 of FIG. 1, include a pad body 201 with a base face 203 (e.g. a bottom or bottommost surface) and an opposite tracking face 202 (e.g. an upper or uppermost surface).

[00071] The pad body 201 may, similar to the pad body 101 of FIG. 1, include a light-transmission panel 210. The light-transmission panel 210 may be between (e.g. disposed or sandwiched between) the base face 203 and the tracking face 202 of the pad body 201.

[00072] The light-transmission panel 210 may include a light-output surface 212 (e.g. a main light-output surface) for a light that enters the light-transmission panel 210 to exit therefrom. In other words, at least a portion (e.g. a main portion) of the light that enters the light-transmission panel 210 may exit from the light-output surface 212. As shown, the light-output surface 212 may be facing a same direction (e.g. an upward direction) as the tracking face 202 of the pad body 201.

[00073] The light-transmission panel 210 may include (e.g. further include) a light-diffusion surface 213 opposite the light-output surface 212. As shown, the light-diffusion surface 213 may be facing a same direction (e.g. a downward direction) as the base face 203 of the pad body 201. According to various embodiments, the light-diffusion surface 213 may be a textured surface. For instance, the light-diffusion surface 213 may incorporate or may include a plurality or an arrangement of texture formations 213b (see FIG. 2D(i) forming the textured surface. These texture formations 213b may be recessed into the light-transmission panel 210, that is, each texture formation 213b may be an indentation or depression or recess into the light-transmission panel 210 from the light-diffusion surface 213. As such, the texture formations 213b may form a rough or roughened and/or uneven internal face (or internal side) of the light-diffusion surface 213 for diffusing or scattering the light that is transmitted within the light-transmission panel 210. According to various embodiments, each of the texture formations 213b of the light-diffusion surface 213 may have a symmetrical shape, such as a concaved and/or dimple shape. Additionally, the texture formations 213b may be identical or uniform in shape and/or size. Thus, for example, the texture formations 213b may include or may be a plurality of uniformly-shaped and/or uniformly-sized concaved formations (e.g. concaved dimples). According to various embodiments, the texture formations 213b may be arranged in an array pattern (e.g. a uniform and/or orderly and/or regular pattern, for example but not limited to, a hexagonal or hexagonal-like array or pattern). Additionally, the texture formations 213b may be arranged with equal spacing between neighbouring (e.g. immediately neighbouring or immediately adjacent) texture formations 213b. In other words, a distance (e.g. a direct distance) that is measured between the centers of any pair of neighbouring texture formations 213b may be equal to a constant value.

[00074] FIG. 2D(i) is a schematic close-up side partial view of the light-transmission panel 210, of the pad body 201 of the pad assembly 200 of FIG. 2A. As an example, with reference to FIG. 2D(i), a spacing “S” between a pair (or any pair or each pair) of neighbouring texture formations 213b may be of a value selected from a range between 70 μm to 110 μm , or between 80 μm to 100 μm . The pair of neighbouring texture formations 213b may be immediately adjacent texture formations 213b. The spacing “S” may be measured from a center (or middle) of a first texture formation 213b of the pair to a center (or middle) of a second texture formation 213b. Further, a height “H”

of each texture formation 213b may be of a value selected from a range between 10 μm to 30 μm , or between 15 μm to 25 μm , or may be 20 μm (e.g. about 20 μm). Furthermore, each texture formation 213b may have an opening (or entrance) at the light-diffusion surface 213 having a diameter “D” (or a width) that may be of a value selected from a range between 50 μm to 70 μm , or between 55 μm to 65 μm , or may be 60 μm (e.g. about 60 μm). The opening (or the entrance) of each texture formation 213b at the light-diffusion surface 213 may be of a circular shape, a polygonal shape, an oval shape, an ellipse, or any other suitable closed shape.

[00075] According to various embodiments, the light-transmission panel 210 may include (e.g. further include) at least one (e.g. one or a plurality of) light-input surface(s) 214 (see FIG. 2C and FIG. 2D(ii)) for the light to enter the light-transmission panel 210. FIG. 2C shows a variation of the light-input surface(s) 214 (as described with reference to the light-transmission panel 210) other than the light-input surface 114 as already described with reference to the light-transmission panel 110 of FIG. 1. It is understood that various embodiments may be implemented with variation of the light-input surface to achieve the desired purpose of the light-input surface. According to various embodiments, the at least one light-input surface 214 may be extending between and/or perpendicularly (e.g. substantially perpendicular) to the light-output surface 212 and the light-diffusion surface 213. Referring to FIG. 2C, as an example, according to various embodiments, the light-transmission panel 210 may include at least one hole 216. As shown, the at least one hole 216 may be located or disposed at a fringe or border segment (or side portion) of the light-transmission panel 210 (or of the pad body 201 or pad assembly 200). According to various embodiments, the at least one light-input surface 214 may include or may be the at least one inner surface of the light-transmission panel 210 which defines the at least one hole 216 of the light-transmission panel 210. In other words, according to various embodiments, at least one inner surface of the light-transmission panel 210 which defines the at least one hole 216 of the light-transmission panel 210 may serve (or may be or may form) the at least one light-input surface 214 of the light-transmission panel 210. As an example, as shown in FIG. 2A, the light-transmission panel 210 may include a plurality of holes 216 for receiving or containing a plurality of light sources 220 (described in detail later, with reference to FIG. 2B and FIG. 2C) of the pad assembly 200.

[00076] As an example, according to various embodiments, the at least one hole 216 may be at least one through-hole extending (e.g. substantially vertically) across the light-transmission panel 210, between the light-output surface 212 and the light-diffusion surface 213 thereof. Specifically, the at least one through-hole may be extending from the light-output surface 212 to the light-diffusion surface 213, with a first opening of the at least one through-hole at the light-output surface 212 (or a first edge (e.g. an upper edge) of at least one inner surface of the light-transmission panel 210 (which defines the at least one through-hole) adjoining the light-output surface 212) and with a second opening of the at least one through-hole at the light-diffusion surface 213 (or a second edge (e.g. a bottom edge), opposite the first edge, thereof adjoining the light-diffusion surface 213).

[00077] As another example, according to various other examples, the at least one hole 216 may be at least one blind hole extending in a direction between the light-output surface 212 and the light-diffusion surface 213 (in other words, from either one of the light-output surface 212 or the light-diffusion surface 213 to the other surface 212 or 213). That is, the at least one blind hole may be extending from either the light-output surface 212 or the light-diffusion surface 213, into the light-transmission panel 210.

[00078] According to various embodiments, the light-transmission panel 210 may include (e.g. further include) at least one peripheral light-output surface 217 for the light (or at least a portion of the light) that enters the light-transmission panel 210 to exit therefrom. According to various embodiments, the light-output surface 212 (i.e. upper surface) of the light-transmission panel 210) may be a “main or primary” light-output surface 212 (e.g. for a first / main portion of the light that enters the light-transmission panel 210 to exit therefrom), while the at least one peripheral light-output surface 217 may be at least one “auxiliary” light-output surface 212 (e.g. for a second / remaining / secondary portion of the light that enters the light-transmission panel 210 to exit therefrom). According to various embodiments, the at least one peripheral light-output surface 217 may be extending (e.g. substantially perpendicularly) between the light-output surface 212 and the light-diffusion surface 213 (e.g. similar to the at least one light-input surface 214). As such, according to various embodiments, the at least one peripheral light-output surface 217 may be extending in a same direction as the at least one light-input surface 214. Specifically, according to various embodiments, the at least one peripheral light-output surface 217 and the at least one light-input surface

214 may be vertically (e.g. substantially vertically) oriented. Additionally, according to various embodiments, a first edge (e.g. an upper edge) of the at least one peripheral light-output surface 217 of the light-transmission panel 210 may be adjoined to the light-output surface 212 of the light-transmission panel 210, while a second edge (e.g. a bottom edge) of the at least one peripheral light-output surface 217 of the light-transmission panel 210, opposite the first edge, may be adjoined to the light-diffusion surface 213 of the light-transmission panel 210. Specifically, the at least one peripheral light-output surface 217 may be at least one side surface (e.g. outer side surface) of the light-transmission panel 210 along its outer boundary forming a perimeter of, or bounding, the light-transmission panel 210. Accordingly, the light that exits the at least one peripheral light-output surface 217 may illuminate a border (or at least a portion of a border) of the light-transmission panel 210 of the pad body 201. As an example, with reference to FIG. 2A, the light-transmission panel 210 may include a plurality of peripheral light-output surfaces 217, which may be or may include a first side surface 217a, a second side surface 217b, and/or a third side surface 217c of the light-transmission panel 210. As shown, the second side surface 217b of the light-transmission panel 210 may be adjacent and/or adjoined (e.g. perpendicularly) to an end of the first side surface 217a, while the third side surface 217c of the light-transmission panel 210 may be adjacent and/or adjoined (e.g. perpendicularly) to another (e.g. opposite) end of the first side surface 217a. Accordingly, the first side surface 217a may be between the second side surface 217b and the third side. Furthermore, the third side surface 217c may be opposite the second side surface 217b.

[00079] According to various embodiments, the pad assembly 200 may include at least one light source 220 (e.g. light-emitting diode(s)) (see FIG. 2C) disposed relative to the at least one light-input surface 214 such that the at least one light source 220 may be capable of emitting light into the light-transmission panel 210 through the at least one light-input surface 214 of the light-transmission panel 210. Accordingly, according to various embodiments, the at least one light source 220 may be located or disposed at the fringe or border segment (or side portion) of the light-transmission panel 210 (or of the pad body 201 or pad assembly 200) where the at least one light-input surface 214 (e.g. defining the at least one hole 216 of the light-transmission panel 210) may be. Further, according to various embodiments, the at least one light source 220 may be (e.g. may substantially be) on a same plane (e.g. horizontal plane) as the light-

transmission panel 210. With reference to FIG. 2A and FIG. 2C, the at least one light source 220 may be contained or inserted or received within the at least one hole 216 of the light-transmission panel 210 such that a light-emitting face of the at least one light source 220 (i.e. from which light may be emitted) may be adjacent and/or directed (or facing) towards the at least one light-input surface 214 (e.g. the at least one inner surface of the light-transmission panel 210 defining the at least one hole 216 of the light-transmission panel 210). Accordingly, according to various embodiments, each hole 216 of the light-transmission panel 210 may be sized to receive a corresponding light source 220 therewithin.

[00080] FIG. 2B is a partial see-through top view of the pad assembly 200 of FIG. 2A, according to various embodiments.

[00081] As an example, as shown in FIG. 2B, the pad assembly 200 may include a plurality of (e.g. seventeen) light sources 220. The light-transmission panel 210 may correspondingly include a plurality of (e.g. seventeen) holes 216 for receiving the plurality of light sources 220. With reference to FIG. 2B, according to various embodiments, the plurality of light sources 220 may include a first sub-set 220a of (e.g. thirteen) light sources 220 directed or facing a first direction (e.g. same first direction / light propagation direction, for instance, towards a middle segment or towards the first side surface 217a of the light-transmission panel 210 that may be opposite the first sub-set 220a of light sources 220). In other words, the first sub-set 220a of light sources 220 may be directed or facing the same direction. Further, as shown, according to various embodiments, the first sub-set 220a of light sources 220 may be uniformly spaced apart from each other at regular intervals. Additionally, according to various embodiments, the plurality of light sources 220 may include a second sub-set 220b of at least one (e.g. one or more) other light source 220 as well as a third sub-set 220c of at least one (e.g. one or more) further light source 220, respectively adjacent to the first sub-set 220a of light sources 220. That is, the first sub-set 220a of light sources 220 may be between the second sub-set 220b of at least one light source 220 and the third sub-set 220c of at least one light source 220. As shown, according to various embodiments, each light source 220 of the second sub-set 220b of at least one light source 220 may be directed or facing a respective direction (e.g. light propagation direction) that is different from the first direction (e.g. first light propagation direction) of the first sub-set 220a of light sources 220. Specifically, each light source 220 of the second sub-set 220b of at least

one light source 220 may be directed towards the second side surface 217b of the light-transmission panel 210 that is adjacent and adjoined to an end of the first side surface 217a. Additionally, as shown, when the second sub-set 220b includes more than one (e.g. two, or more) light sources 220, each light source 220 within the second sub-set 220b may be directed or facing a different direction from one other. According to various embodiments, each light source 220 of the third sub-set 220c of at least one light source 220 may be directed or facing a respective direction that is different from that of the first sub-set 220a and the second sub-set 220b. Specifically, each light source 220 of the third sub-set 220c may be directed towards the third side surface 217c of the light-transmission panel 210 that is adjacent and adjoined to an opposite end of the first side surface 217a. Additionally, as shown, when the third sub-set 220c includes more than one (e.g. two, or more) light sources 220, each light source 220 within the third sub-set 220c may be directed or facing a different direction from one other.

[00082] According to various embodiments, the pad assembly 200 may include (e.g. further include) a controller 280 (as shown in FIG. 2A) which may be connected (e.g. electrically connected) to the at least one (or the plurality of) light source(s) 220 for controlling the light source(s) 220. According to various embodiments, the controller 280 may include a processor configured to or for performing or executing a function or instruction such as controlling a colour (e.g. red, green, blue, etc.), a brightness level (or light intensity), a lighting duration (e.g. duration of light emittance), a lighting pattern, a lighting effect, etc., of each or any one or more or all light source(s) 220. According to various embodiments, the controller 280 may be provided on a circuit board assembly 282 (e.g. printed circuit board assembly) of the pad assembly 200. Further, the light source(s) 220 may be provided (e.g. arranged or disposed on and/or connected to) the circuit board assembly 282 (e.g. on an underside of the circuit board assembly 282). With reference to FIG. 2A, according to various embodiments, the controller 280 (or the circuit board assembly 282) may be disposed at a fringe or border segment (or side portion) of the pad body 201.

[00083] Additionally, according to various embodiments, the pad assembly 200 may include (e.g. further include) a cover 281 (e.g. top cover, substantially rigid case) for covering the controller 280 (or the circuit board assembly 282 with the controller 280) so as to protect it from external elements.

[00084] According to various other embodiments (not shown), the pad assembly 200 may include an internal power source (e.g. built-in power source, removable/fixed battery, etc.) and/or an energy harvesting unit (e.g. solar panel) for providing power to the various electrical components (e.g. controller 280 and/or light source(s) 220) of the pad assembly 200.

[00085] Referring to FIG. 2A, according to various embodiments, the pad body 201 may include (e.g. further include) a light-reflecting layer 250 (e.g. plate, panel, sheet, film, etc.) directed towards and/or covering and/or interfaced and/or in contact with and/or connected to the light-diffusion surface 213 of the light-transmission panel 210, for reflecting any portion of the light that exits (or escapes) from the light-diffusion surface 213 back into the light-transmission panel 210. According to various embodiments, the light-reflecting layer 250 may be a monolithic (e.g. single, integral) layer. The light-reflecting layer 250 may include a reflective surface 252 (e.g. an upper surface of the light-reflecting layer 250) that may be directed towards or facing the light-diffusion surface 213 of the light-transmission panel 210 opposite its light-output surface 212. Thus, the reflective surface 252 of the light-reflecting layer 250 may be aligned (e.g. vertically aligned) with and facing a same direction (e.g. upward direction) as the light-output surface 212 of the light-transmission panel 210. According to various embodiments, the reflective surface 252 of the light-reflecting layer 250 may cover an entire (e.g. substantially the entire) area (e.g. at least the substantially planar or flat outer area(s)) of the textured light-diffusion surface 213. Additionally, according to various embodiments, the reflective surface 252 of the light-reflecting layer 250 may be interfaced with and/or in contact with the light-diffusion surface 213. As some non-limiting examples, the light-reflecting layer 250 may be a film or a sheet or a panel of reflective material (or material composite), for example, a polymer with a mirror-like or reflective coating, a metal or metallic alloy with light-reflective properties, a mirror, etc., that may be directed towards and/or connected or attached to the light-transmission panel 210. As another non-limiting example, the light-reflecting layer 250 may be a layer of reflective coating that is applied or coated directly onto the light-diffusion surface 213 of the light-transmission panel 210 (e.g. on its outer face or outer side).

[00086] With reference to FIG. 2A, according to various embodiments, the pad body 201 may include (e.g. further include) an anti-slip layer 260 (e.g. plate, panel, sheet, film, etc.). According to various embodiments, the anti-slip layer 260 may be beneath

the light-reflecting layer 250, such that the light-reflecting layer 250 may be between (e.g. sandwiched between) the anti-slip layer 260 and the light-transmission panel 210. Specifically, the anti-slip layer 260 may be at a bottommost portion of the pad body 201 of the pad assembly 200 and may be configured to provide grip or adhesion against an external surface (e.g. external tabletop or desk). Specifically, the anti-slip layer 260 may include a base surface which may serve (or may be or may form) the base face 203 of the pad body 201 of the pad assembly 200. The base surface of the anti-slip layer 260 may be configured to provide enhanced grip or adhesion against the external surface. For example, the base surface may include a textured pattern, ridges (e.g. micro-ridges), or a material or material composite (e.g. rubber, cork, adhesive, etc.) that offers enhanced grip and/or adhesion.

[00087] FIG. 2C shows a schematic side view of the pad assembly 200 of FIG. 2A, according to various embodiments.

[00088] With reference to FIG. 2C, according to various embodiments, each light source 220 (or its light-emitting face) may be oriented (e.g. at an angle) relative to the light-diffusion surface 213 of the light-transmission panel 210 such that light (or at least a portion of the light) emitted from the light source 220 may be capable of being internally reflected by the light-diffusion surface 213 towards the light-output surface 212. That is, according to various embodiments, the light-diffusion surface 213 may redirect (i.e. internally reflect) the light (or at least a portion of the light) that enters the light-transmission panel 210 (i.e. from the at least one light-input surface 214) towards or to the light-output surface 212.

[00089] Additionally, according to various other embodiments, each light source 220 (or its light-emitting face) may also be oriented (e.g. at an angle) relative to the light-output surface 212 of the light-transmission panel 210 such that light (or at least a portion of the light) emitted from the light source 220 may be capable of being internally reflected by the light-output surface 212 (in addition to being internally reflected by the light-diffusion surface 213) towards or to the at least one peripheral light-output surface 217 at the border of the light-transmission panel 210.

[00090] Thus, for example, each light source 220 may be a side-firing light source 220 (e.g. side-firing light emitting diode). FIG. 2C depicts possible light ray paths 220a, 220b, 220c, of such side-firing light source(s) 220, within the light-transmission panel 210.

[00091] FIG. 2D(ii) is another schematic close-up side partial view of the light-transmission panel 210, of the pad body 201 of the pad assembly 200 of FIG. 2A, according to various embodiments.

[00092] Specifically, FIG. 2D(ii) depicts light that enters the light-transmission being diffused or scattered by a texture formation 213b of the light-diffusion surface 213 of the light-transmission panel 210.

[00093] According to various embodiments, the texture formation 213b may cause light to diffuse or scatter when a light ray 220d interacts (e.g. strikes or hits) the surface (e.g. internal surface) of the texture formation 213b.

[00094] According to various embodiments, the light that exits the light-output surface 212 may then illuminate the tracking face 202 (e.g. upper or uppermost surface) of the pad body 201 of the pad assembly 200. Thus, the light-diffusion surface 213, having the arrangement (e.g. plurality) of texture formations 213b, may effectively diffuse or scatter the light that enters the light-transmission panel 210, leading to a uniformly or substantially uniformly illuminated tracking face 202 of the pad body 201 of the pad assembly 200.

[00095] Referring back to FIG. 2A, according to various embodiments, the pad body 201 of the pad assembly 200 may include (e.g. further or optionally include) a tracking layer 230 (e.g. plate, panel, sheet, film, etc.) over or stacked on the light-transmission panel 210. The tracking layer 230 may be, but is not limited to being, a discrete component from the light-transmission panel 210. According to various embodiments, the tracking layer 230 may have a tracking surface 232 (e.g. an upper surface) which may serve (or may be or may form) the tracking face 202 (e.g. upper surface) of the pad body 201. That is, when the pad assembly 200 includes the tracking layer 230, the upper surface (e.g. tracking surface 232) of the tracking layer 230 may serve (or may be or may form) the upper surface (e.g. tracking face 202) of the pad assembly 200. A bottom surface 233 of the tracking layer 230, opposite the tracking face 202, may be directed towards or facing the light-output surface 212 (i.e. upper surface) of the light-transmission panel 210. According to various embodiments, the tracking layer 230 may be composed of or may include a light-permeable (e.g. a transparent or translucent) material (or material composite). The light-permeable material may include, but not limited to, glass (e.g. clear or tinted glass), or silica, or quartz, or transparent or translucent polymer or plastic. That is, the entire tracking layer 230, or at least a portion

thereof, may be light-permeable (e.g. transparent or translucent). For example, the tracking layer 230 may be a clear (e.g. transparent or translucent) film or sheet or panel. Further, the tracking layer 230 may be tinted for reducing an intensity of the light that exits out from the light-output surface 212 of the light-transmission panel 210 to propagate across the (tinted) tracking layer 230. Thus, according to various embodiments, when the tracking layer 230 is a tinted tracking layer 230, it may have a lower optical transmittance than the light-transmission panel 210. According to various embodiments, the tracking layer 230 may have a uniform, or a non-uniform, optical transmittance.

[00096] With reference to FIG. 2A, according to various embodiments, the pad body 201 may include (e.g. further include) a light-permeable adhesive layer 240 between the tracking layer 230 and the light-transmission panel 210 for connecting or coupling (e.g. optically coupling) the tracking layer 230 and the light-transmission panel 210. For example, according to various embodiments, the light-permeable adhesive layer 240 may include or may be a layer (e.g. a monolithic / single, integral layer or sheet or film) of adhesive (e.g. light-permeable adhesive and/or double-sided adhesive) material (or light-transmissible medium) 241a, between the light-transmission panel 210 and the tracking layer 230. According to various other embodiments, the light-permeable adhesive layer 240 may include the adhesive material (or light-transmissible medium) 241a as well as at least one void 242a (as shown in FIG. 2E) which form at least one “air-gap” (or air spacing or air pocket), between the tracking layer 230 and the light-transmission panel 210.

[00097] According to various embodiments, the pad assembly 200 may be configured such that at least one region (i.e. “primary region”) (see, for example reference 202A of FIG. 2F and reference 202AA of FIG. 2G) of the tracking face 202 of the pad body 201 may be illuminated by a first intensity while at least one other region (i.e. “secondary region”) (see, for example reference 202B of FIG. 2F and reference 202BB of FIG. 2G) of the tracking face 202 of the pad body 201 may be illuminated by a second intensity different from (e.g. stronger or weaker than) the first intensity, when the at least one light source 220 emits the light. In other words, according to various embodiments, the tracking face 202 of the pad body 201 of the pad assembly 200 may be illuminated such that at least one primary region thereof may be brighter or dimmer than at least one secondary region thereof.

[00098] FIG. 2E is a schematic close-up partial side view of a first variant light-permeable adhesive layer 240a, between the light-transmission panel 210 and the tracking layer 230, of the pad body 201 of the pad assembly 200, according to various embodiments.

[00099] According to various embodiments, the first variant light-permeable adhesive layer 240a may be compatible with the pad body 201 of the pad assembly 200. That is, description of the components / features made with respect to the first variant light-permeable adhesive layer 240a of FIG. 2E may be applicable with respect to the light-permeable adhesive layer 240 of FIG. 2A, and vice versa.

[000100] According to various embodiments, the first variant light-permeable adhesive layer 240a may include the adhesive material (or light-transmissible medium) 241a which may be configured to possess a higher refractive index than air (e.g. the void or the “air-gap” 242a). That is, light that travels or propagates across the “air-gap” 242a may experience attenuation or energy loss (e.g. higher attenuation or energy loss) compared to the light that travels or propagates across the adhesive material (or light-transmissible medium) 241a of the first variant light-permeable adhesive layer 240a. Accordingly, at least one portion of the first variant light-permeable adhesive layer 240a, extending between the light-transmission panel 210 (e.g. from the upper surface thereof) and the tracking layer 230 (e.g. to the bottom surface 233 thereof), and corresponding to (e.g. aligned or vertically aligned with and/or of a same shape as) the at least one primary region of the tracking face 202 of the pad body 201, may include (e.g. may be filled or be composed, e.g. entirely or only of) the adhesive material (or light-transmissible medium) 241a. Meanwhile, at least one other portion of the first variant light-permeable adhesive layer 240a, extending between the light-transmission panel 210 (e.g. from the upper surface thereof) and the tracking layer 230 (e.g. to the bottom surface 233 thereof), and corresponding to (e.g. aligned or vertically aligned with and/or of a same shape as) the at least one secondary region of the tracking face 202 of the pad body 201, may include (e.g. may be filled or be composed, e.g. entirely or only of) the void (e.g. “air-gap”) 242a. In this manner, the adhesive material (or light-transmissible medium) 241a of the first variant light-permeable adhesive layer 240a may be in contact or may be interfaced with (e.g. with only) at least one region of the light-transmission panel 210 and at least one opposite region of the tracking layer 230, respectively corresponding to (e.g. aligned or vertically aligned with and/or of a same

shape as) the at least one primary region of the tracking face 202 of the pad body 201, while the void (e.g. “air-gap”) 242a may occupy or take up the space between at least one other region of the light-transmission panel 210 and at least one other opposite region of the tracking layer 230, respectively corresponding to (e.g. aligned or vertically aligned with and/or of a same shape as) the at least one secondary region of the tracking face 202 of the pad body 201. Accordingly, when the at least one light source 220 of the pad assembly 200 emits the light for illuminating the tracking face 202 of the pad body 201, the at least one primary region of the tracking face 202 of the pad body 201, of the pad assembly 200, may be (or may appear) brighter than the at least one secondary region of the tracking face 202 of the pad body 201.

[000101] FIG. 2F is a perspective view of a pad assembly 200A, with a pad body 201A that includes the first variant light-permeable adhesive layer 240a, according to various embodiments.

[000102] According to various embodiments, the first variant light-permeable adhesive layer 240a may include the adhesive material (or light-transmissible medium) 241a at (or over) a plurality of portions of the first variant light-permeable adhesive layer 240a (i.e. extending between the light-transmission panel 210 and the tracking layer 230). The adhesive material 241a at (or over) the plurality of portions of the first variant light-permeable adhesive layer 240a may be, but is not limited to being, discrete (in other words, separate) from each other. Thus, for example, two or more or all portions of the adhesive material 241a may be adjoined or connected to each other. Further, the plurality of portions of the adhesive material 241a may be uniformly (e.g. similarly or identically), or non-uniformly (e.g. differently), shaped (or sized). According to various embodiments, the first variant light-permeable adhesive layer 240a may include (e.g. further include) a plurality of voids 242a at (or over) a plurality of other portions of the first variant light-permeable adhesive layer 240a. The voids 242a at (or over) the plurality of other portions of the first variant light-permeable adhesive layer 240a may be, but is not limited to being, discrete (in other words, separate) from each other. Thus, for example, two or more or all other portions of voids 242a may be adjoined or connected to (e.g. in communication with) each other. Further, the plurality of other portions of the voids 242a may be uniformly (e.g. similarly or identically), or non-uniformly (e.g. differently), shaped (or sized).

[000103] Accordingly, when the at least one light source 220 of the pad assembly 200A emits the light for illuminating the tracking face 202 of the pad body 201A, the at least one primary region 202A of the tracking face 202 of the pad body 201A, of the pad assembly 200A, may be (or may appear) brighter than the at least one secondary region 202B of the tracking face 202 of the pad body 201A.

[000104] FIG. 2G is a perspective view of a pad assembly 200B, with a pad body 201B that includes the tracking layer 230 having non-uniform optical transmittance, according to various embodiments.

[000105] As another example, according to various other embodiments, the tracking layer 230 of the pad body 201B may be configured with non-uniform optical transmittance. Specifically, at least one portion of the tracking layer 230 corresponding to (e.g. aligned, e.g. vertically aligned, with and/or forming or serving as) the at least one primary region 202AA of the tracking face 202 of the pad body 201B may have a first optical transmittance, and at least one other portion of the tracking layer 230 corresponding to (e.g. aligned, e.g. vertically aligned, with and/or forming or serving as) the at least one secondary region 202BB of the tracking face 202 of the pad body 201B may have a second optical transmittance different from (e.g. higher or lower than) the first optical transmittance. Each portion may be extending in a direction between the tracking surface 232 (i.e. its upper surface) and the opposite bottom surface 233 of the tracking layer 230.

[000106] Accordingly, when the second optical transmittance within the tracking layer 230 is lower than the first optical transmittance within the tracking layer 230, the at least one primary region 202AA of the tracking face 202 of the pad body 201B of the pad assembly 200B may be (or may appear) brighter than the at least one secondary region 202BB of the tracking face 202 of the pad body 201B, when the tracking face 202 is illuminated by light emitted from the at least one light source 220 of the pad assembly 200B.

[000107] According to various embodiments, the tracking layer 230 of the pad body 201B may be configured with (or to have) a plurality of portions having the first optical transmittance and a plurality of other portions having the second optical transmittance. The plurality of portions of the tracking layer 230 having the first optical transmittance may be, but is not limited to being, discrete (in other words, separate) from each other. Thus, for example, two or more or all portions of the tracking layer 230 with the first

optical transmittance may be adjoined or connected to each other. Further, the plurality of portions of the tracking layer 230 having the first optical transmittance may be uniformly (e.g. similarly or identically), or non-uniformly (e.g. differently), shaped (or sized). According to various embodiments, the plurality of other portions of the tracking layer 230 having the second optical transmittance may be, but is not limited to being, discrete (in other words, separate) from each other. Thus, for example, two or more or all other portions of the tracking layer 230 with the second optical transmittance may be adjoined or connected to each other. Further, the plurality of portions of the tracking layer 230 having the second optical transmittance may be uniformly (e.g. similarly or identically), or non-uniformly (e.g. differently), shaped (or sized).

[000108] According to various embodiments, any two or more or all of the tracking layer 230, the light-transmissible medium 241a / the light-permeable adhesive layer 240, the light-transmission panel 210, the light-reflecting layer 250, and/or the anti-slip layer 260 may have a same (e.g. an equal) or similar width (e.g. horizontal width, e.g. largest width, average width, or uniform width, etc.) and/or length (e.g. horizontal length, e.g. largest length, average length, or uniform length, etc.) as each other.

[000109] According to various embodiments, any two adjacent components or elements (e.g. from among the tracking layer 230, the light-permeable adhesive layer 240, the light-transmission panel 210, the light-reflecting layer 250, and/or the anti-slip layer 260) may be connected or joined to each other, for example, via an adhesive (double-sided and/or light-permeable adhesive) and/or a fastener (e.g. screw or bolt extending across and connecting the two adjacent components or elements).

[000110] FIG. 3 is a flow chart depicting a method 300 of making the pad assembly 100, 200, 200A, 200B, according to various embodiments.

[000111] According to various embodiments, the method 300 may include forming the pad body 101, 201, 201A, 201B with the base face 103, 203 and the tracking face 102, 202 opposite the base face 103, 203.

[000112] According to various embodiments, forming the pad body 101, 201, 201A, 201B may include providing the light-transmission panel 110, 210 between the base face 103, 203 and the tracking face 102, 202 of the pad body 101, 201, 201A, 201B. The light-transmission panel 110, 210 may include the light-output surface 112, 212 for the light that enters the light-transmission panel 110, 210 to exit therefrom. The light-output surface 112, 212 may be facing a same direction as the tracking face 102, 202.

The light-transmission panel 110, 210 may include (e.g. further include) the light-diffusion surface 113, 213, having the textured surface, opposite the light-output surface 112, 212. The light-transmission panel 110, 210 may include (e.g. further include) the light-input surface 114, 214 for the light to enter the light-transmission panel 110, 210.

[000113] According to various embodiments, the method 300 may include (e.g. further include) disposing or positioning the at least one light source 120, 220 relative to the light-input surface 114, 214 of the light-transmission panel 110, 210 of the pad body 101, 201, 201A, 201B in a manner so as to be capable of emitting the light into the light-transmission panel 110, 210 through the light-input surface 114, 214. According to various embodiments, the at least one light source 120, 220 may be (e.g. may be substantially) on a same plane (e.g. horizontal plane) as the light-transmission panel 110, 210.

[000114] According to various embodiments, the method 300 may include (e.g. further include) etching (e.g. laser etching, micro etching, etc.) the light-diffusion surface 113, 213 of the light-transmission panel 110, 210 (e.g. at or from an outer surface or outer side thereof) to form the arrangement of texture formations 113b, 213b forming the textured surface, with the texture formations 113b, 213b being recessed into the light-transmission panel 110, 210. Accordingly, according to various embodiments, the light-diffusion surface 113, 213 may be a “laser-etched” or “micro-etched” light-diffusion surface 113, 213 or may include “laser-etched” or “micro-etched” texture formations 113b, 213b.

[000115] FIG. 4 is a close-up view of an “etched” light-diffusion surface 413 of a prototype pad assembly 400. The pad assembly 400 may be a prototype based on the pad assembly 100 of FIG. 1, pad assembly 200 of FIG. 2A, pad assembly 200A of FIG. 2F, or pad assembly 200B of FIG. 2G. The components of the pad assembly 400 that are like the corresponding components of the pad assembly 100 of FIG. 1, pad assembly 200 of FIG. 2A, pad assembly 200A of FIG. 2F, or pad assembly 200B of FIG. 2G are similarly numbered. The description of the components made with respect to the pad assembly 400 may be applicable with respect to the pad assembly 100 of FIG. 1, pad assembly 200 of FIG. 2A, pad assembly 200A of FIG. 2F, and/or pad assembly 200B of FIG. 2G, and vice versa.

[000116] As shown, according to various embodiments, the light-diffusion surface 413 of the prototype pad assembly 400 may be an “etched” (e.g. “micro-etched”) surface that includes an arrangement of texture formations 413b. Particularly, the arrangement of texture formations 413b may include or may be indentations or dents or dimples or domes arranged in a uniform pattern or a non-uniform pattern. The uniform pattern may include equally spaced apart texture formations 413b arranged in a hexagonal pattern, a polygonal pattern, a honeycomb pattern, a diamond pattern, or a grid pattern. The non-uniform pattern may include texture formation 413b spaced apart at different distances to form a random pattern or a pattern with a series of texture formations 413b arranged with increasing or decreasing distances apart (in other words, between them or from one another).

[000117] According to various embodiments, the method 300 may include (e.g. further include) providing the tracking layer 130, 230 over the light-transmission panel 110, 210. The tracking layer 130, 230 may include the tracking surface 132, 232 which may serve as the tracking face 102, 202 of the pad body 101, 201, 201A, 201B. Accordingly, according to various embodiments, the tracking layer 130, 230 may be stacked onto or over (e.g. directly or indirectly onto or over) the light-transmission panel 110, 210.

[000118] According to various embodiments, the method 300 may include (e.g. further include) configuring the tracking layer 130, 230 with non-uniform optical transmittance, for example, via any suitable method or process, such as silkscreen printing (e.g. to control or have specific area(s) / zone(s) of the tracking layer 130, 230 to be covered by a tinted / dark-tinted or dark-coloured print or tint).

[000119] According to various embodiments, the method 300 may include (e.g. further include) providing the light-permeable adhesive material (or light-transmissible medium) 241a between the tracking layer 130, 230 and the light-transmission panel 110, 210. According to various embodiments, the light-permeable adhesive material (or light-transmissible medium) 241a may be a monolithic layer of light-permeable adhesive material (or light-transmissible medium) 241a or may be discrete portions of light-permeable adhesive material (or light-transmissible medium) 241a.

[000120] According to various embodiments, the method 300 may include (e.g. further include) providing a light-permeable adhesive layer 240 between the tracking layer 130, 230 and the light-transmission panel 110, 210. The light-permeable adhesive

layer 240 may include the light-permeable adhesive material (or light-transmissible medium) 241a and at least one void 242a which forms an “air-gap”, between the tracking layer 130, 230 and the light-transmission panel 110, 210.

[000121] According to various embodiments, the method 300 may include (e.g. further include) providing a light-reflecting layer 250 having the reflective surface 252 directed towards and/or covering and/or interfaced and/or in contact with and/or connected to the light-diffusion surface 113, 213 of the light-transmission panel 110, 210. Accordingly, the light-reflecting layer 250 may be underneath the light-transmission panel 110, 210. In other words, the light-transmission panel 110, 210 may be stacked onto or over (e.g. directly or indirectly onto or over) the light-reflecting layer 250.

[000122] According to various embodiments, the method 300 may include (e.g. further include) providing the controller 280 for controlling the at least one light source 120, 220. According to various embodiments, the method 300 may include (e.g. further include) connecting (e.g. electrically connecting) the controller 280 to the at least one light source 120, 220.

[000123] According to various embodiments, the method 300 may include (e.g. further include) providing the anti-slip layer 160, 260 having the base surface which may serve as the base face 103, 203 of the pad body 101, 201, 201A, 201B. The anti-slip layer 160, 260 may be underneath the light-transmission panel 110, 210 and/or the light-reflecting layer 250 (e.g. when the method 300 includes providing the light-reflecting layer 250, or when the pad assembly 100, 200, 200A, 200B includes the light-reflecting layer 250). Thus, for example, the light-transmission panel 110, 210 may be stacked onto or over (e.g. directly or indirectly onto or over) the anti-slip layer 160, 260, or the light-reflecting layer 250 may be stacked onto or over (e.g. directly or indirectly onto or over) the anti-slip layer 160, 260. Hence, as an example, when the pad assembly 100, 200, 200A, 200B includes the light-reflecting layer 250, the light-reflecting layer 250 may be between the anti-slip layer 160, 260 and the light-transmission panel 110, 210. As another example, the light-transmission panel 110, 210 may be between (e.g. directly between) the anti-slip surface and the tracking layer 130, 230.

[000124] Various embodiments may thus provide a pad assembly (e.g. mouse pad assembly) with the capability to effectively illuminate its top surface and/or its border (e.g. side surface(s)).

[000125] Furthermore, various embodiments may provide a pad assembly in which a finish of a top surface of the pad assembly may be personalized by optionally or selectively attaching or affixing distinct tracking layers with varying finishes and/or levels of hardness or softness.

[000126] Moreover, according to the various embodiments, the various components or elements (e.g. panel(s), layer(s), sheet(s), plate(s), film(s), substrate, etc.) of the pad assembly may be assembled with ease and simplicity, for example, based on a stacking and/or layering approach.

[000127] While the disclosure has been particularly shown and described with reference to specific aspects, it should be understood by those skilled in the art that various changes, modification, variation in form and detail may be made therein without departing from the scope of the present disclosure as defined by the appended claims. The scope of the present disclosure is thus indicated by the appended claims and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced.

Claims

1. A pad assembly for an input device, the pad assembly comprising:
a pad body with a base face and a tracking face opposite the base face,
wherein the pad body comprises
a light-transmission panel between the base face and the tracking face,
wherein the light-transmission panel comprises
a light-output surface for a light that enters the light-transmission panel to exit therefrom, wherein the light-output surface is facing a same direction as the tracking face,
a light-diffusion surface opposite the light-output surface,
wherein the light-diffusion surface comprises a textured surface, and
a light-input surface for the light to enter the light-transmission panel; and
at least one light source disposed relative to the light-input surface so as to be capable of emitting the light into the light-transmission panel through the light-input surface.
2. The pad assembly of claim 1,
wherein the light-input surface of the light-transmission panel is extending between the light-output surface and the light-diffusion surface with a first edge of the light-input surface adjoined to the light-output surface and a second edge of the light-input surface, opposite the first edge, adjoined to the light-diffusion surface.
3. The pad assembly of claim 1,
wherein the light-transmission panel comprises at least one hole;
wherein the light-input surface of the light-transmission panel comprises at least one inner surface of the light-transmission panel which defines the at least one hole.
4. The pad assembly of claim 3,
wherein the at least one hole comprises a blind hole or a through hole.

5. The pad assembly of claim 1,
wherein the light-transmission panel further comprises at least one peripheral light-output surface for the light to exit the light-transmission panel, the at least one peripheral light-output surface extending between the light-input surface and the light-diffusion surface with a first edge of the at least one peripheral light-output surface adjoined to the light-output surface and with a second edge of the at least one peripheral light-output surface, opposite the first edge, adjoined to the light-diffusion surface.
6. The pad assembly of claim 1,
wherein the light-diffusion surface of the light-transmission panel comprises an arrangement of texture formations forming the textured surface, wherein the texture formations are recessed into the light-transmission panel.
7. The pad assembly of claim 6,
wherein the texture formations comprise a plurality of uniformly-sized concaved dimples.
8. The pad assembly of claim 6,
wherein the texture formations are arranged in an array pattern.
9. The pad assembly of claim 6,
wherein the texture formations are arranged in an irregular pattern.
10. The pad assembly of claim 1,
wherein the pad body further comprises
a tracking layer over the light-transmission panel, wherein the tracking layer comprises a tracking surface which serves as the tracking face of the pad body;
wherein the tracking layer is translucent.
11. The pad assembly of claim 10,

wherein at least one portion of the tracking layer, extending between the tracking surface and an opposite surface of the tracking layer, has a different optical transmittance from at least one other portion of the tracking layer.

12. The pad assembly of claim 10, further comprising:
a light-permeable adhesive layer between the tracking layer and the light-transmission panel.
13. The pad assembly of claim 12,
wherein the light-permeable adhesive layer comprises at least one void which forms an air-gap, between the tracking layer and the light-transmission panel.
14. The pad assembly of claim 1, further comprising:
a light-reflecting layer comprising a reflective surface that is directed towards and covering the light-diffusion surface of the light-transmission panel.
15. The pad assembly of claim 1, further comprising:
a controller connected to the at least one light source for controlling the at least one light source.
16. The pad assembly of claim 1, further comprising:
an anti-slip layer comprising a base surface which serves as the base face of the pad body.
17. A method of making a pad assembly for an input device, the method comprising:
forming a pad body with a base face and a tracking face opposite the base face;
wherein forming the pad body comprises providing a light-transmission panel between the base face and the tracking face of the pad body, wherein the light-transmission panel comprises

a light-output surface for a light that enters the light-transmission panel to exit therefrom, wherein the light-output surface is facing a same direction as the tracking face,

a light-diffusion surface opposite the light-output surface, wherein the light-diffusion surface comprises a textured surface, and

a light-input surface for the light to enter the light-transmission panel; disposing at least one light source relative to the light-input surface of the light-transmission panel of the pad body in a manner so as to be capable of emitting the light into the light-transmission panel through the light-input surface.

18. The method of claim 17, further comprising:

etching the light-diffusion surface of the light-transmission panel to form an arrangement of texture formations forming the textured surface, wherein the texture formations are recessed into the light-transmission panel.

19. The method of claim 17, further comprising:

providing a tracking layer over the light-transmission panel, wherein the tracking layer comprises a tracking surface which serves as the tracking face of the pad body;

wherein the tracking layer is translucent.

20. The method of claim 19,

wherein at least one portion of the tracking layer, extending between the tracking surface and an opposite surface of the tracking layer, has a different optical transmittance from at least one other portion of the tracking layer.

21. The method of claim 19, further comprising:

providing a light-permeable adhesive layer between the tracking layer and the light-transmission panel.

22. The method of claim 21,

wherein the light-permeable adhesive layer comprises at least one void which forms an air-gap, between the tracking layer and the light-transmission panel.

23. The method of claim 17, further comprising:
providing a light-reflecting layer comprising a reflective surface that is covering and directed towards the light-diffusion surface of the light-transmission panel.
24. The method of claim 17, further comprising:
connecting a controller to the at least one light source for controlling the at least one light source.
25. The method of claim 17, further comprising:
providing an anti-slip layer comprising a base surface which serves as the base face of the pad body.