

the control spotlight. The greater the uncertainty (the fuzzier the control spotlight), the larger it is. The smaller the uncertainty regarding the target position (the sharper the control spotlight), the smaller becomes the control spotlight. For example, there is a provision for the control elements on the display device to be scaled or to be optimized in another manner for simple activation, for example by an animation, an expansion of a menu bar, etc., depending on how much of their surface at a predefined scaling dimension is located in the region of the control spotlight, how sharp the control spotlight is and/or how great a distance of the control element from the position (the center) of the control spotlight is.

**[0030]** Exemplary embodiments provide for the ascertainment of the control intention and the corresponding adaptation of the represented information to be performed iteratively and/or continuously. This makes it possible to ascertain the control spotlight continuously, for example, and to scale the control elements located within the control spotlight on the display device steplessly and to adapt them to the movement of the user.

**[0031]** Example embodiments of the present invention provide for the adaptation to involve changing a transparency, a distance from adjacent additional control elements and/or an animation of the control element or of several control elements. For this purpose, a list that includes multiple control elements may be suitably animated so as to facilitate a selection of one or more list elements. In particular, depending on the ascertained control intention, it is possible to scroll or leaf through a longer list.

**[0032]** There may also be a provision to ascertain a distance of the body part from the representation of the control element on the basis of the user information and to scale the control element as a function of this distance. If a contactless sensor is used to activate the control elements for example, then this sensor may detect an approach of the user's hand, for example, approximately 30 cm in front of the display device. The more closely the hand or the finger approaches the display device, the more readily may a prediction be made as to which control element is to be activated. Hence it is then readily possible to represent this control element in a particularly optimized manner on the display device. For this purpose, the represented information is adapted accordingly.

**[0033]** In addition to information about the user, example embodiments provide for the evaluation of information about a driving condition in order to optimize the adaptation of the control element. Thus, for example, driving over an uneven roadway surface affects a user's motoric accuracy in hitting the control element. In such a case, the control element may be displayed larger than in a driving situation on an even, smooth roadway surface. This ensures an improved operability and an increased convenience. At the same time, a maximum possible representation of information is ensured in a situation-dependent manner. Hence, if no control intention is ascertained, it may be provided to adapt the information to a representation that is optimized for a visual communication of information, for example by suppressing all control elements or by "representing" them at a transparency of 100%. This is advantageous in particular in interactive control devices in which only a very limited selection of information may be displayed, because a display surface is small for example.

**[0034]** Example embodiments of the present invention provide for gestures performed by the body part to be detected and evaluated when ascertaining the control intention, the

adaptation of the represented information being performed in accordance with an adaptation function assigned to the respective detected gesture. This makes it possible for example to render a control intention more concrete in case of a particularly high number of potentially operable control elements. A static gesture, for example, may communicate a stop signal, which prevents a further adaptation of the control elements and allows for a final selection without another scaling adaptation. Likewise, a scrolling action may be initiated through a multiplicity of small graphic control elements, one of which is provided with a focus and is magnified for a control operation. The adaptive function thus bring about any suitable modification of the represented information.

**[0035]** So-called static gestures, dynamic gestures and complex gestures have proven to be suitable gestures. Example embodiments of the present invention therefore provide for the gestures to include at least one static gesture that is recognized on the basis of a predefined body part attitude. The gestures may include at least one dynamic gesture that is detected on the basis of a predefined path line traversed by the body part. In the case of a path line, on the one hand, the shape in three-dimensional space may be analyzed. Additionally, however, the speed may also be evaluated, at which the individual segments are traversed in three-dimensional space. The gestures may include at least one complex gesture, which is detected on the basis of a transition between predefined static gestures and/or a static gesture, which traverses a predefined path line. Exemplary embodiments of the present invention may thus take into account only static, only dynamic or only complex gestures or any combination of these. The gestures are detected by the at least one sensor unit, which is able to determine a position of a body part in space. This formulation, that the gestures are detected by the at least one sensor unit, is not meant to express that the gesture must be recognized by one single sensor unit if several sensor units are present. The formulation rather also includes the detection of the gestures by an interaction of several existing sensor units. Whether one individual sensor unit suffices for detecting a gesture depends on the special development of the at least one sensor unit and the gesture itself.

**[0036]** The information may be adapted such that in each case a maximum of information is represented for visual perception, and yet, in the event of a control intention, at least one control element, for which a control intention is ascertained, is represented for optimal operability. For this purpose, various situational influences may be taken into account.

**[0037]** The features of the device have the same advantages as the corresponding features of the method.

**[0038]** In the following, example embodiments of the present invention are explained in greater detail with reference to the appended Figures.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0039]** FIG. 1 is a schematic flow chart for explaining a method for operating an interactive control device according to an example embodiment of the present invention;

**[0040]** FIG. 2 is a schematic representation, on the basis of which the principle of a situation-dependent scaling of control elements is represented;

**[0041]** FIG. 3 provides schematic views of a display device, on which information is represented optimized for visual perception or partly optimized for haptic operation;