

[0019] FIG. 7 is a cross-sectional perspective view the keycap including an attachment member and an overlay, according to one embodiment of the present invention;

[0020] FIG. 8 is an exploded view of the first support structure and the second support structure, according to another embodiment of the present invention; and

[0021] FIG. 9 is plan view of the first support structure and the second support structure, according to FIG. 8.

#### DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0022] A keycap 10, FIG. 1, according to the present invention, displays a plurality of indicia 36 and is used in conjunction with an input device 14 to interface with an electronic or mechanical device 18 such as, but not limited to, a computer. The input device 14 is typically a touch sensitive keyboard having a plurality of activation keys 16, one or more of which is adapted to receive the keycap 10, such as those described in U.S. Pat. No. 6,059,575, incorporated fully herein by reference.

[0023] The keycap 10 is preferably made from plastic, and in particular ABS plastic, but may also be made from any other material such as, but not limited to, composites, metal, and rubber. The keycap 10 includes at least one engagement member 20 and a first support structure 22. The support structure may also include a region 21, such as a rounded corner, which facilitates proper orientation of the keycap 10.

[0024] The engagement member 20, FIG. 2, has a top surface 24 and a bottom surface 26 designed to removably engage with at least one of the activation keys 16. The specific design of the bottom surface 26 of the engagement member 20 is dependant upon the design of the activation keys 16 and is within the ordinary skill of one skilled in the art.

[0025] In a preferred embodiment, the bottom surface 26 of each engagement member 20 includes one or more cavities 28 sized to frictionally engage a plurality of corresponding protrusions 30 located on the top of the activation keys 16. In another embodiment, the engagement member 20 may utilize snaps or hook and loop fasteners (not shown) to removably engage the keycap to one or more activation keys 16.

[0026] The first support structure 22 is coupled proximate the top surface 24 of the engagement member 20 and includes a first top surface 32 and a second bottom surface 34. The first support structure 22 is larger in at least one direction than the activation key 16, which allows the top surface 32 to display a plurality of indicia 36 of sufficient size to be read by an individual with a disability. The plurality of indicia 36 can also be arranged in, but not limited to, sentences, phrases, musical lines, and mathematical formulas cooperating with, for example, a software program. The plurality of indicia 36 may include, but are not limited to, Braille, symbolic representations, alphanumeric characters, pictures, music, math, or a combination thereof.

[0027] In a preferred embodiment, the first surface 32 of the first support structure 22 is substantially flat and free from any encumbrances. Because many disabled individuals often use touch to read, encumbrances located on the top surface 32 of the first support structure 22 can cause con-

fusion and lead to difficulty in distinguishing the encumbrances from the indicia 36, for example Braille characters. The top surface 32 of the first support layer 22 may optionally include a plurality of integrally attached or molded indicia 36.

[0028] According to another embodiment, the first support structure 22 and the engagement member 20 are permanently attached or molded together. In yet another embodiment, the support structure 22, is removably attached to the top surface 24 of the engagement member 20 using any of the removable engagement methods described above.

[0029] Preferably, the second surface 34 of the first support structure 22 includes a plurality of cavities 28 which frictionally engage a plurality of corresponding protrusions 30 on the top surface 24 of the engagement member 20, FIG. 3.

[0030] In a preferred embodiment, the first support structure 22, FIG. 4, further includes at least first and second attachment members 38 that form cavities 52, for facilitating removably attaching a removable overlap 40 to the first surface 32 of the first support structure 22.

[0031] The overlay 40, FIG. 5, includes a plurality of indicia 36 on at least a front surface 42 and has a first edge 44 and a second edge 46. In a preferred embodiment, the overlay 40 is formed from at least a portion of a 3" by 5" index card in which Braille may be easily applied by a user using several well known Braille writers. The use of attachment members 38 allows the keycap 10 to be compatible with a multitude of software programs because the keycap 10 may be easily customized to display the necessary indicia 36, such as raised Braille projections or other tactile (touch sensitive) indicia to be used in conjunction with any software program.

[0032] In another embodiment, the overlay 40 may include pre-made words, symbols, phrases, sentences, etc. corresponding to a specific software program. The back surface 48 of the overlay 40 may optionally include an adhesive portion 50 (either permanent or removable) for adhering the overlay 40 onto the first surface 32 of the first support structure 22.

[0033] According to a preferred embodiment, the attachment member 38, FIG. 4, includes a pair of channels 52 on opposite ends 54 of the first support structure 22. The second support structure 56, FIG. 6, having at least one engagement member 20, is adapted to slidably engage with and into the pair of channels 52, as shown in FIG. 7.

[0034] In use, the overlay 40, FIG. 7, is preferably wrapped around and under the first support structure 22 so that the plurality of indicia 36 are located on the first or top surface 32 of the first support structure 22 and the two overlay edges 44, 46 are folded under and located proximate the second or bottom surface 34 of the first support structure 22. The second support surface 56 is then slid in between the pair of channels 52 effectively sandwiching the overlay 40 between the first support structure 22 and second 56 support structure. This embodiment allows a user to quickly and easily change the overlay 40 and indicia 36 giving the keycap 10 greater flexibility and compatibility with software programs.

[0035] In a further preferred embodiment, the keycap 10 includes some mechanism or interaction between the first