CUSTOMIZABLE PROTECTIVE CASE

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ABSTRACT

Systems, apparatuses, and method are provided for a protective case for use with a mobile device. The protective case may include one or more components, such as an outer shell, a pre-formed shock absorbing insert, and a customizable artistic insert. According to some aspects, the outer shell may be a substantially rigid outer shell having a recessed main compartment. The pre-formed shock absorbing insert and the artistic insert may be placed in the recessed main compartment. The pre-formed shock absorbing insert may be used to dissipate shock or vibration away the mobile device and may be coupled to the back of the outer shell. The artistic insert may be adjacent to the outer shell and the shock absorbing insert. The mobile device may be received in the main compartment of the outer shell and placed adjacent to the shock absorbing insert.
USER SELECTS INSERT FOR PROTECTIVE CASE

USER REMOVES ELECTRONIC DEVICE FROM PROTECTIVE CASE

USER REMOVES SHOCK ABSORBING INSERT

USER REMOVES CURRENT INSERT FROM PROTECTIVE CASE SHELL

USER INSERTS NEW INSERT INTO PROTECTIVE CASE SHELL

USER INSERTS SHOCK ABSORBING INSERT

USER INSERTS PHONE INTO PROTECTIVE CASE

FIG. 14
CUSTOMIZABLE PROTECTIVE CASE
CROSS-REFERENCE TO RELATED APPLICATION


FIELD OF THE TECHNOLOGY

[0002] The present disclosure is generally directed to protective cases for personal electronic devices. More particularly, aspects of the disclosure pertain to a protective case for a mobile telephone or tablet computer that is customizable for a user.

BACKGROUND

[0003] Protective cases for portable mobile electronic devices, such as mobile phones and tablets, help prevent damage to the electronic device in a circumstance of dropping the electronic device. However, users of such protective cases are limited to the visual appearance of the outer protective case that is offered by the manufacturer of the protective case or electronic device.

[0004] Some protective cases may have images printed on them. However, wear and tear can quickly degrade and erode these images. Additionally, a user cannot easily customize these protective cases, but must buy additional cases with different designs or colors printed on the case. Thus, a user may not want to buy an additional case and may feel stuck with a particular design of a case.

[0005] Further, many consumers buy the same protective case as other consumers for their mobile devices. This may lead to confusion when trying to determine which mobile device belongs to which consumer, as many of the protective cases will look alike. For example, a consumer may pick up a co-worker’s cell phone when leaving the office. This consumer may not realize that the consumer has picked up the wrong cell phone until he is in his car, is on the train, or has already reached the consumer’s house.

[0006] Thus, there remains a need to provide a protective case that can be easily customized without having the user buy additional protective cases. More particularly, there remains a need for more user customization of a protective case for a portable electronic device.

BRIEF SUMMARY

[0007] The following presents a simplified summary of the disclosure in order to provide a basic understanding of some aspects. This summary is not an extensive overview of the disclosure. It is not intended to identify key or critical elements of the disclosure or to delineate the scope of the disclosure. The following summary merely presents some concepts of the disclosure in a simplified form as a prelude to the more detailed description provided below.

[0008] One or more aspects of the disclosure provide for a protective kit for a mobile device. The kit may comprise a substantially rigid outer shell comprising front, side, and back face portions, the substantially rigid outer shell having a recessed main compartment formed by the portions. The kit may also comprise a removable pre-formed shock absorbing insert configured to be received in the main compartment, the removable pre-formed shock absorbing insert having a first side configured to be coupled to the back face portion of the substantially rigid outer shell, the removable pre-formed shock absorbing insert being configured to dissipate shock or vibration away the mobile device. The kit may also comprise a removable first artistic insert configured to be received in the main compartment, the first artistic insert being configured to be adjacent coupled to the back face portion of the substantially rigid outer shell and the first side of the removable pre-formed shock absorbing insert, wherein the main compartment of the substantially rigid outer shell is configured to receive the mobile device with a first side of the mobile device being configured to be adjacent coupled to a second side of the removable pre-formed shock absorbing insert after being received in the main compartment of the substantially rigid outer shell, and the back face portion of the substantially rigid outer shell comprises multiple sections, at least one of the multiple sections being semi-transparent or transparent and configured to display through an outward facing side of the back face portion at least a portion of the first artistic insert.

[0009] According to some aspects, a pre-formed shock absorbing insert configured to dissipate shock or vibration and configured to be received in a main compartment of a protective shell is provided. The pre-formed shock absorbing insert may comprise a generally planar rectangular shaped gel having a first side and an outer perimeter, the first side of the gel configured to be coupled to a back face portion of the protective shell and being substantially flat. The pre-formed shock absorbing insert may comprise at least one aperture formed in the gel and extending through the gel, a plurality of tabs formed on the outer perimeter of the gel, and a plurality of slots formed on the outer perimeter of the shock absorbing insert.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] A more complete understanding of the present disclosure and the advantages thereof may be acquired by referring to the following description in consideration of the accompanying drawings, in which like reference numbers indicate like features, and wherein:

[0011] FIG. 1A illustrates an outer protective shell component of a kit in accordance with one or more features described herein;

[0012] FIG. 1B illustrates a first customizable artistic insert component of a kit in accordance with one or more features described herein;

[0013] FIG. 1C illustrates a shock absorbing insert component of a kit in accordance with one or more features described herein;

[0014] FIG. 1D illustrates a second customizable artistic insert component of a kit in accordance with one or more features described herein;

[0015] FIG. 2A illustrates an interior view showing a top interior portion of an outer protective shell in accordance with one or more features described herein;

[0016] FIG. 2B illustrates an inner view showing a bottom interior portion of the outer protective shell in accordance with one or more features described herein;

[0017] FIG. 2C illustrates an interior view showing a top interior edge portion of the outer protective shell in accordance with one or more features described herein;

[0018] FIG. 2D illustrates an exterior view showing an exterior portion of the outer protective shell in accordance with one or more features described herein;
FIG. 2E illustrates a side perspective view showing an exterior side portion of outer protective shell in accordance with one or more features described herein;

FIG. 3A illustrates a front view of a first customizable artistic insert in accordance with one or more features described herein;

FIG. 3B illustrates a side perspective view of the first customizable artistic insert in accordance with one or more features described herein;

FIG. 3C illustrates a rear view of the first customizable artistic insert in accordance with one or more features described herein;

FIG. 4A illustrates a front view of a shock absorbing insert in accordance with one or more features described herein;

FIG. 4B illustrates a rear view of the shock absorbing insert in accordance with one or more features described herein;

FIG. 4C illustrates a perspective view of the shock absorbing insert in accordance with one or more features described herein;

FIG. 5A illustrates a front view of a second customizable artistic insert in accordance with one or more features described herein;

FIG. 5B illustrates a side perspective view of the second customizable artistic insert in accordance with one or more features described herein;

FIG. 5C illustrates a rear view of the second customizable artistic insert in accordance with one or more features described herein;

FIG. 6 illustrates an interior view of a combination of the outer protective shell and the first customizable artistic insert in accordance with one or more features described herein;

FIG. 7A illustrates an inner view of a combination of the outer protective shell, the first customizable artistic insert, and the shock absorbing insert in accordance with one or more features described herein;

FIG. 7B illustrates an inner view showing a bottom interior portion of the combination of the outer protective shell, the first customizable artistic insert, and the shock absorbing insert in accordance with one or more features described herein;

FIG. 7C illustrates an inner view showing a top interior portion of the combination of the outer protective shell, the first customizable artistic insert, and the shock absorbing insert in accordance with one or more features described herein;

FIG. 8 illustrates an interior view of a combination of the outer protective shell, the first customizable artistic insert, and the shock absorbing insert being coupled to a mobile device in accordance with one or more features described herein;

FIG. 9 illustrates an exterior view of a combination of the outer protective shell and the first customizable artistic insert in accordance with one or more features described herein;

FIG. 10 illustrates an exterior view of a combination of the outer protective shell, the first customizable artistic insert, the second customizable artistic insert in accordance with one or more features described herein;

FIG. 11 illustrates a schematic of a system for use in designing a customizable artistic insert in accordance with one or more features described herein;

FIG. 12A illustrates a first screen shot of a display in accordance with one or more features described herein;

FIG. 12B illustrates a second screen shot of the display in accordance with one or more features described herein;

FIG. 12C illustrates a third screen shot of the display in accordance with one or more features described herein;

FIG. 13A illustrates a fourth screen shot of the display in accordance with one or more features described herein;

FIG. 13B illustrates a fifth screen shot of the display in accordance with one or more features described herein;

FIG. 13C illustrates a sixth screen shot of the display in accordance with one or more features described herein;

FIG. 14 illustrates a method for customizing a protective case for use in the protection of a mobile device in accordance with one or more features described herein;

FIG. 15 illustrates a front view of a pre-formed shock absorbing insert in accordance with one or more features described herein;

FIG. 16 illustrates a front view of a pre-formed shock absorbing insert in accordance with one or more features described herein.

DETAILED DESCRIPTION

In the following description of the various embodiments, reference is made to the accompanying drawings, which form a part hereof, and in which is shown by way of illustration various embodiments in which the disclosure may be practiced. It is to be understood that other embodiments may be utilized and structural and functional modifications may be made without departing from the scope of the present disclosure.

FIGS. 1A-1D illustrate exemplary components of a kit 100, which may be configured for use with an electronic mobile device, such as a mobile phone, tablet, and the like, in accordance with one or more disclosed features described herein. Kit 100 may include a one or more components, such as component 200 (FIG. 1A), component 300 (FIG. 1B), component 400 (FIG. 1C), and component 500 (FIG. 1D). Kit 100 may include, different, less, or more components than components 200, 300, 400, and 500. Various components of kit 100 may be configured, defined, or customized in many different designs, configurations, and/or arrangements. Various components of kit 100 may be configured for independent use, such that a sole component may be operable without any other component. Likewise, a combination of elements of kit 100 may be configured for independent use, such that two or more components may be operable without any other component. Kit 100 may be configured as a customizable protective case for use with an electronic mobile device.

FIG. 1A illustrates a component 200, which may be composed of an outer shell 202 configured to releasably engage with and hold other components of kit 100 and a mobile device. Outer shell 202 may be composed of a substantially rigid material, such as a plastic material. Outer shell 202 may be composed of a back face portion 204, a side portion 206, and a front portion 208, which may alone or in combination form a main compartment 226. Each portion 202, 204, and 206 may be coupled to another portion to form one or more crevices 212.

Back face portion 204 may include a sheer section 210, one or more apertures 220 and 222, one or more opaque sections 224, and an inner rim portion 234. Side portion 206
may include one or more outer protrusions 214, apertures 216, and logos 218. Side portion 206 may also include inner projections 230 and channels 228, which may be formed on the inside of side portion 206. Front portion 208 may couple to back face portion 204 through, for example, side portion 206. Side portion 206 may be coupled to either or both front portion 208 or back face portion 204.

[0050] FIG. 1B illustrates a component 300, which may be composed of an insert 302, which may be configured to be received inside outer shell 202 in, for example, main compartment 226. Insert 302 may be composed of a side portion 314, back face 316, and front face 318. Front face 318 may include various designs, such as design 304 and/or design 306, which may be customizable. Additionally, any combination or number of designs may be included on insert 302. Insert 302 may include additional customizable aspects, such as elongated portions 312 and apertures 308 and 310, which may be adapted to fit, join, or correspond to a mobile device or to other components of kit 100.

[0051] FIG. 1C illustrates a component 400, which may be composed of a shock absorbing insert 402, which may be configured to be received inside outer shell 202 in, for example, main compartment 226. Insert 402 may be composed of a pre-formed material, such that its shape and size may be configured to correspond to other components of kit 100 and/or a particular mobile device. Insert 402 may be composed of a side portion 414, back face 416, and front face 418. Insert 402 may include customizable aspects, such as tabs 404, slots 406, and apertures 408 and 410, which may be adapted to fit, join, or correspond to a mobile device or to other components of kit 100. Apertures 408 and 410 may be configured to fit snugly against a surface of a mobile device.

[0052] FIG. 1D illustrates a component 500, which may be composed of an insert 502, which may be configured to be received inside outer shell 202 in, for example, main compartment 226. Insert 502 may be substantially similar to and used in a substantially similar manner as insert 302. Insert 502 may be composed of a side portion 514, back face 516, and front face 518. Front face 518 may include various designs, such as design 504, design 506, and/or design 508, which may also be customizable in a similar manner as described with respect to insert 302, which will be further described below. Designs 504, 506, and 508 may or may not be similar to designs 304, 306, and/or design 308. Any combination or number of designs may be included on insert 502. Insert 502 may include customizable aspects, such as described above with respect to insert 302, and may be adapted to fit, join, or correspond to a mobile device or to other components of kit 100.

[0053] Referring back to FIG. 1A, outer shell 202 may have a predetermined size and shape such that its dimensions, such as depth, width, and length, may correspond to one or more appropriate mobile devices. Outer shell 202 may be composed of a plastic and/or polycarbonate material, such as thermoplastic polyurethane (TPU), which may be rigid, semi-rigid, flexible, and/or semi-flexible. In some embodiments, outer shell 200 may be flexible enough to accommodate the insertion of mobile devices and various components of kit 100.

[0054] Back face portion 204 of outer shell 202 may include a sheer section 210. A portion of sheer section 210 may be see-through, and may be composed of transparent, semi-transparent, translucent, opaque parts, or some combination of these. Although back face portion 204 is shown in the illustrative example of FIG. 1A as being almost the entirety composed of sheer section 210, a transparent or semi-transparent area may be a smaller portion of back face portion 204. For example, back face portion 204 may be a particular shape or design and may include opaque areas 224 that may be less transparent or more opaque than the see-through area of sheer section 210. Back face portion 204 may be configured to display patterns or designs such as shown on insert 302, through, for example, sheer section 210, which will be described in greater detail below.

[0055] Back face portion 204 may also include one or more apertures 220 and 222, which may be indentions or holes formed in back face portion 204. Aperture 220, for example, may be adapted to accommodate a part of a mobile device, such as a camera, light, switch or knob, or input or output receptacles or prongs, such that the part may still operate as intended after the mobile device has been received into outer shell 202. Aperture 222, for example, may be adapted to accommodate a logo or message on a mobile device, such that the logo or message may still be visible after the mobile device has been received into outer shell 202. Apertures 220 and 222 may be configured to fit snugly against a surface of a mobile device.

[0056] As mentioned above, back face portion 204 may include opaque area 224. Opaque area 224 may be arranged in predetermined arrangements, and may be configured to comingle with sheer section 210. Opaque area 224 may include inner rim 234, which may span the entire or portion of the perimeter of back face portion 204. In some aspects, inner rim 234 may also span the entire or portion of a see-through area, such as a portion of sheer portion 210. In some aspects, opaque area 224 may include movable parts that may be customized or moved according to a user’s preference.

[0057] Side portion 206 may include one or more outer protrusions 214, which may be extensions or holes formed on side portion 206. Outer protrusions 214 may be adapted to either accommodate or cover a part of a mobile device, such as a knob, button, or switch, after it has been received into outer shell 202. Side portion 214 also may include one or more apertures 216, which may be configured to accommodate a part of a mobile device, such as logos, speakers, lights, switches, knobs, input or output receptacles or prongs, such that the part may still operate as intended after the mobile device has been received into outer shell 202. Side portion 206 may also include one or more logos 218, which may include the name of a brand, for example. The inner portion of side portion 206 may include various projections 230 and channels 228, which may be adapted to fit with portions of insert 402, which will be further described below. Projections 230 and channels 228 may be of various shapes and sizes which may accommodate parts of a mobile device other components of kit 100.

[0058] Back face portion 204, side portion 206, and front portion 208 may be coupled to each other to form a main compartment 226. Main compartment 226 may be hollow, such that mobile devices and other components of kit 100 may be received in its space. Additionally, the coupling of portions 204, 206, and 208 may form one or more crevices 212 in main compartment 226, for example. Crevices 212 may be, for example, corners or round areas, where portion 204, 206, and 208 meet or couple to one another. Crevices 212 may be elongated or shorten areas. Crevices 212 may be adapted to accommodate other components of kit 100, which will be addressed in greater detail below.
Referring now to FIG. 1B, insert 302 may have a predetermined size and shape such that its dimensions, such as depth, width, and length, may correspond to one or more appropriate mobile devices and other components of kit 100. Alternatively, insert 302 may be of a different dimension and/or not correspond to one or more appropriate mobile devices and other components of kit 100. The shape and/or size of insert 302 may be customized, such that portions of insert 302 may be removed, added, or modified, such as by a user or manufacturer. Insert 302 may be composed of a variety of materials, such as plastic, paper, metal, wood and the like, which may be rigid, semi-rigid, flexible, and/or semi-flexible. In some embodiments, insert 302 may be flexible enough to accommodate its insertion into and removal out of outer shell 202.

Insert 302 may include a front face 318, which may include one or more designs 304 and 306, such as a sun, face, photo, pattern, single color, and the like. Additionally, any combination or number of designs may be included on insert 302. Designs 304 and 306 may be pre-made or prefabricated, such as by a manufacturer, distributor, or seller of kit 100 or component 300. Alternatively or additionally, designs 304 and 306 may be customizable, and may include items such as pre-fabricated items, such as adhesive, stickers, and the like. Designs 304 and 306 may be user-created or user-modified such that a user may create designs 304 and 306, using, for example, a computing device. Insert 302 may include holographic portions. For example, design 304 and/or design 306 may be holographic, such that when a viewing angle of insert 302, design 304, and/or design 306 changes, design 304 and/or design 306 may appear to move and/or change appearance. For example, if design 304 is off a face, at one viewing angle, the face may include a smile and opened eyes, and at a second viewing angle, the face may include a frown and closed eyes. A user may also modify the size and/or shape of insert 302.

Insert 302 may be coupled to back face portion 204, such that designs 304 and 306 may be displayed through back face 204. For example, a user may see designs 304 and 306 through an outward facing portion of back face 204. According to some aspects, portions of designs 304 and 306 may be displayed through a portion of sheet section 210. According to some aspects, portions of designs 304 and 306 may be displayed through a transparent, semi-transparent, or translucent portion of sheet section 210. Opaque areas 224 may also obstruct or mask portions of designs 304 and 306 from being displayed through back face portion 204.

Insert 302 may also include one or more apertures 308 and 310, which may be indentations or holes formed in or on insert 302. Aperture 310, for example, may be adapted to accommodate a part of a mobile device, such as a camera, light, switch or knob, or input or output receptacles or prongs, such that the part may still operate as intended after the mobile device has been received into outer shell 202. Aperture 308, for example, may be adapted to accommodate a logo or message on a mobile device, such that the logo or message may still be visible after the mobile device has been received into outer shell 202. Additionally, apertures 308 and 310 may be formed to accommodate or correspond to portions of outer shell 202. For example, aperture 308 may be formed to accommodate an inner protrusion 230 or aperture 216 of outer shell 202.

Referring now to FIG. 1C, insert 402 may have a predetermined size and shape such that its dimensions, such as depth, width, and length, may correspond to appropriate mobile devices and other components of kit 100. The shape and/or size of insert 402 may be customized or prefabricated by, for example, a manufacturer, distributor, or seller of kit 100 or component 400. Insert 402 may be some type of gel material for dissipating shock and vibration away from a mobile device housed in main compartment 226 of outer shell 202, for example. In some aspects, insert 402 may be composed of a variety of materials, such as epoxidized vegetable oil, a thermoplastic polymer, and/or a prepolymer, and the like, which may be rigid, semi-rigid, flexible, and/or semi-flexible. For example, the material of insert 402 may be of a kind as described in U.S. Pat. No. 7,041,719, which is herein incorporated by reference. In some aspects, insert 402 may be flexible enough to accommodate its insertion into and out of outer shell 202. In some aspects, insert 402 may have elastic properties. In some aspects, insert 402 may be soft or hard to the touch.

Insert 402 may be composed of a side portion 414, back face 416, and front face 418. Insert 402 may include tabs 404 and slots 406, which may be customized, pre-made, or prefabricated by, for example, a manufacturer, distributor, or seller of kit 100 or component 400. Insert 402 may also include one or more apertures 408 and 410, which may be indentations or holes formed in or on insert 402. Aperture 410, for example, may be adapted to accommodate a part of a mobile device, such as a camera, light, switch, knob, or input or output receptacles or prongs, such that the part may still operate as intended after the mobile device has been received by outer shell 202. Aperture 408, for example, may be adapted to accommodate a logo or message on a mobile device, such that the logo or message may still be visible after the mobile device has been received into outer shell 202. Additionally, apertures 408 and 410 may be formed to accommodate or correspond to portions of outer shell 202. For example, an aperture 408 may be formed on insert 402 to accommodate an inner protrusion 230 or aperture 216 of outer shell 202.

In some aspects, insert 402 may be configured to occupy a substantially maximum surface area of main compartment 226 or back face portion 204, such that insert 402 may substantially cover or contact the inner portions of back face portion 204, side portion 206, and/or front portion 208. Additionally, due to various elements of outer shell 202, such as inner protrusions 230 and apertures 220 and 216, the substantially maximum surface area may exclude areas occupied by these various elements. Thus insert 402, in some aspects, may leave these elements uncovered and maintain access to and/or through these various elements.

Referring now to FIG. 1D, insert 502 may be configured to be interchangeable with insert 302 when inserted into and coupled to outer shell 202 and/or coupled to insert 402. For example, a user may desire to display insert 502 for a period of time, such as during work hours, and then display insert 502 for another period of time, such as after work or during the weekend. A user may replace insert 302 with insert 502 by removing and/or detaching a mobile device, insert 402, and insert 302 from outer shell 202, and then inserting insert 502, insert 402, and the mobile device into main compartment 226 of outer shell 202.

Inserts 302 and 502 may be configured to be simultaneously received into main compartment 226, and portions of inserts 302 and 502 may be simultaneously displayed. For example, a user may desire to display insert 302 for a period of time, such as during work hours. If the user then attends a
work related function, the user may desire to display insert 502, but also may desire to maintain displaying insert 302. Insert 502 may be, for example, the user’s business card or some form of advertisement, and the user may want to display designs on insert 502 to other people while also displaying insert 302. Insert 502 may be of a different shape or size than insert 302, and thus, may cover a portion of 502, such that a portion of insert 302 may overlay a portion of 502. Alternatively, inserts 302 and 502 may be displayed simultaneously with no substantial overlay.

[0068] FIGS. 2A-2E illustrate various views of outer shell 202 in accordance with one or more features described herein. FIG. 2A illustrates an inner view showing a top interior portion of outer shell 202. FIG. 2B illustrates an inner view showing a bottom interior portion of outer shell 202. FIG. 2C illustrates an inner view showing a top interior edge portion of outer shell 202. As shown in FIGS. 2A-2C, the interior edge of outer shell 202 may include a number of channels 228 and projections 230. Channels 228 and projection 230 may be configured and/or designed to secure and/or couple to inserts 302 or 402 for a tight and secure fit for protection of a mobile device. Outer shell may include crevice 212, which may be formed from the coupling of portions 204, 206, and/or 208. Crevice 212 may be configured to receive a portion of inserts 302 or 402 to substantially limit movement or shifting of inserts 302 or 402. Additionally, crevice 212, channels 228, and projections 230 may couple to portions of inserts 302 and 402 to form substantially a waterproof, airproof, and/or particulate-proof barrier and/or seal in main compartment 226.

[0069] FIG. 2D illustrates an outer view showing an exterior portion of outer shell 202. FIG. 2E illustrates a perspective view showing an exterior side portion of outer shell 202. As shown, outer shell 202 may include an outer portion of back face portion 204, which may be composed of sheet section 210, which may be partially see-through and/or include see-through areas. Additionally, the outer portion of back face portion 204 may include one or more opaque sections 224 and inner rim portion 234, either of which may obstruct a portion of sheet section 210. Additionally, as shown in this view, apertures 220 and 222 may form through holes in outer shell 202. Also shown, side portion 206 may couple with back face portion 204 to form a portion of outer shell 202.

[0070] FIGS. 3A-3C illustrate various views of insert 302 in accordance with one or more features described herein. FIG. 3A illustrates a front view of insert 302. FIG. 3B illustrates a side perspective view of insert 302. FIG. 3C illustrates a rear view of insert 302. Insert 302 may include designs 304 and 306, but may include any of a number of designs. For example, a user may physically create a visible representation on a surface of insert 302 using a writing implement, such as a marker, or modify insert 302 using a cutting implement, such as a pair scissors. In addition, a user may create a visual representation on a surface of insert 302 using a computing device or some type of printing system. Insert 302 may include apertures 308 and 310, which may be customizable by a user or pre-made or prefabricated by, for example, a manufacturer. As shown in FIG. 3C, a back face of insert 302 may be blank, but may also be substantially all one color and/or include various designs.

[0071] FIGS. 4A-4C illustrate various views of insert 402 in accordance with one or more features described herein. FIG. 4A illustrates a front view of insert 402. FIG. 4B illustrates a rear view of insert 402. FIG. 4C illustrates a perspective view of insert 402. Insert 402 may include tabs 404 and slots 406, which may be configured to couple to channels 228, projections 230, and/or crevice 212 of outer shell 202. Tabs 404 and slots 406 may be customized according to a corresponding outer shell design. For example, the configuration and number of tabs 404 and slots 406 may be designed to accommodate a particular type or design of outer shell 202. Alternatively a single insert 402 may accommodate a wide range of types or designs of outer shells 202. Additionally, a single outer shell may accommodate a wide range of inserts 402. Tabs 404 and slots 406 may accommodate outer projections 214 and apertures 212 and 220 such that a normal function associated with these features may not be hindered. For example, if a user desires to insert through an aperture 216 a headphone input into a headphone output of a mobile device, tabs 404 and slots 406 may be formed such that the headphone input may have unobstructed access to the headphone output. In another example, volume buttons may be covered by outer protrusions 214, and tabs 404 and slots 406 may be formed such that the volume buttons may not be obstructed from use by a user. Insert 402 may be configured to deform when coupled to other elements of kit 100. For example, if a user is using a mobile device that is coupled to outer shell 202, insert 302, and insert 402, insert 402 may deform, flex, bend, or give in response dropping the mobile device to absorb shock or energy associated with the fall. Additionally, insert 402 may move, for example, laterally or vertically, a small amount or substantially not move at all due to the coupling of channels 228, projections 230, and crevice 212 with tabs 404 and slots 406. Tabs 404, slots 406, channels 228, and/or projections 230 may form one of a symmetrical or non-symmetrical arrangement with respect to a common main or secondary axis of any of the components of kit 100.

[0072] FIGS. 5A-5C illustrate various views of insert 502 in accordance with one or more features described herein. FIG. 5A illustrates a front view of insert 502. FIG. 5B illustrates a side perspective view of insert 502. FIG. 5C illustrates a rear view of insert 502. Insert 502 may include designs 504, 506, and 508, but may include any of a number of designs. For example, a user may physically create a visual representation on a surface of insert 502 using a writing implement, such as a marker, or modify insert 502 using a cutting implement, such as a pair scissors. In addition, a user may create a visual representation on a surface of insert 502 using a computing device or some type of printing system. Insert 502 may include apertures, which may be customizable by a user or pre-made or prefabricated by, for example, a manufacturer. As shown in FIG. 5C, a back face of insert 502 may be blank, but may also be substantially all one color and/or include various designs.

[0073] FIG. 6 illustrates an interior view of a combination of outer shell 202 and insert 302 in accordance with one or more features described herein. As shown, insert 302 has been received into main compartment 226. Front face 318 may couple with back face portion 204 to make a flush or substantially flat fit, for example. Back face 318 may face out of main compartment 226 such that back face 318 may couple to other components, such as insert 402, for example. Front face 318 may also couple with back face portion 204, such that a portion of back face portion 204 remains uncovered or untouched by insert 302. Insert 302 may be in a substantially anchored or fixed position, such that insert 302 may move laterally or vertically only a small amount or substantially not.
move at all, for example. This may be due to various coupling of elements of outer shell 202 and insert 302 and/or due to a depression of force against a face of insert 302. Insert 302 may also couple with other portions of outer shell 202, such as side portion 206 and front portion 208. As shown, insert 302 may include apertures 308 and 310, which may align and/or correspond with apertures 220 and 222 of back face 304. Additional apertures may be formed on insert 302 to accommodate any additional features of outer shell 202 or insert 402.

FIGS. 7A-7C illustrate various views of an interior view of a combination of outer shell 202, insert 302, and insert 402 in accordance with one or more features described herein. FIG. 7A illustrates an inner view of the combination. FIG. 7B illustrates an inner view showing a bottom interior portion of the combination. FIG. 7C illustrates an inner view showing a top interior portion of the combination. As shown, insert 402 has been received into main compartment 226. Front face 418 may couple with back face 316 of insert 302 and/or to back face portion 204 of insert 202 make a flush or substantially flat fit, for example. Back face 416 may face out of main compartment 226 such that back face 416 may couple to a mobile device, for example. Front face 418 may also couple with back face portion 204, such as through a portion of back face portion 204 that is substantially uncovered by insert 302. Insert 402 may also couple with other portions of outer shell 202, such as side portion 206 and front portion 208. As shown, insert 402 includes apertures 408 and 410, which may align and/or correspond with apertures 220 and 222 of back face portion 204, apertures 216 of side portion 206, and with apertures 308 and 310 of insert 302. Insert 402 may be in a substantially anchored or fixed position, such that insert 402 may move laterally or vertically only a small amount or substantially not move at all, for example. This may be due to various coupling of elements of outer shell 202, insert 302, and/or insert 402, and mobile device 600. Additionally, when mobile device 600 is in a substantially anchored or fixed position within main compartment 226, mobile device 600 may exert a force on inserts 302 and 402, thus locking inserts 302 and 402 in place.

FIG. 9 illustrates an exterior view of a combination of outer shell 202 and insert 302. As shown, at least a portion of insert 302, such as designs 304 and 306, may be displayed through sheer section 210 of back face 304, such as through transparent, semi-transparent, or translucent areas of sheer section 210. Additionally, portions of insert 302, such as designs 304 and 306, may be obstructed from view by non-see-through areas such as, for example, oblique area 224. Insert 302 may be anchored and/or pushed substantially flat against back face 304 by insert 402 and/or mobile device 600, such that any movement of insert 302 may be substantially limited or eliminated.

FIG. 10 illustrates an exterior view of a combination of outer shell 202, insert 302, and insert 502. As shown, at least a portion of insert 302, such as designs 504 and 506, may be displayed through sheer section 210 of back face 304, such as through transparent, semi-transparent, or translucent areas of sheer section 210. Also shown, at least a portion of insert 502, such as designs 504, 506, and 508, may be displayed through sheer section 210 of back face 304, such as through transparent, semi-transparent, or translucent areas of sheer section 210. A portion of insert 502 may, for example, obstruct or partially obstruct a portion of insert 302. For example, insert 502 may overlay a portion of insert 302, thus simultaneously displaying a portion of both insert 302 and 502 through back face portion 204. Additionally, portions of insert 502, such as designs 504, 506, and 508, may be obstructed from view by, for example, oblique area 224. Insert 502 may be anchored and/or pushed substantially flat against back face 304 by insert 302, insert 402, and/or mobile device 600, such that any movement of insert 502 may be substantially limited or eliminated. Additionally, any movement of insert 302 may be substantially limited or eliminated. It is noted that any number of inserts, similar to inserts 302 and 502, for example, may be used in accordance with one or more features described herein.

FIG. 11 illustrates a schematic of a system 1100 for use in accordance with one or more features described herein. For example, system 1110 may be used to create or customize inserts, such as inserts 302 and 502, with various designs or configurations. System 1100 may include display 1102, central processing unit (CPU) 1104, input device 1106, and/or printing device 1108. Components of system 1100 may be coupled to one another, such that operation on one component may relate to and/or depend on operation of another component. CPU 1104 may include a standard computing device and the like, display 1102 may include a standard or touch device and the like, input device 1106 may include a standard input device and the like, such as a mouse, and printing device 1108 may include a standard printer and/or scanner and the like. One or skill in the art would appreciate that components of system 1110 may be interchangeable with additional equivalents. CPU 1104 may run a software application 1112, display 1102 may display a visual user interface component of software application 1112, input device 1106 may interact with portions of the visual user interface component and software application 1112, and printing device 1108 may print a representation of a displayed visual user interface component. For example, a user may receive software appli-
cation 1112 from a manufacturer, distributor, or seller of kit 100 or portion of kit 100. Alternatively or additionally, a user may receive software application 1112 on a physical disk or may download it from the Internet. Also, a user may execute software application 1112 to retrieve built-in templates for the creation of customizable inserts. Alternatively or additionally, a user may use software application 1112 to build or create customizable inserts without the use of a template. A user 1110 may interact with one or more components of system 1100 to create, for example, an insert, which may be customized according to size, shape, and or artistic design. [0079] FIGS. 12A-C illustrate three screen shots of display 1102 in accordance with one or more features described herein. Display 1102 may display a virtual user interface component 1202 of software application 1112 running on CPU 1104 in accordance with one or more features described herein. Interface 1202 may be a window and may display templates 1204A, 1204B, and/or 1204C and/or image 1206. Templates 1204A, 1204B, and/or 1204C may be customizable, such that a user may modify a size, shape, or design of templates 1204A, 1204B, and/or 1204C. The dimensions of templates 1204A, 1204B, and/or 1204C may correspond to or match a particular outer shell 202, insert 402, mobile device 600, or other insert, such as inserts 302 and 502. A user may enter a name or specification of particular mobile device, and application 1112 may adjust templates 1204A, 1204B, and/or 1204C according to the entered mobile device information. A user may use, for example, input device 1108 or interact with a touch screen to adjust the size and/or dimensions of templates 1204A, 1204B, and/or 1204C. Image 1206 may include text, photos, graphics, and the like. Image 1206 may be scanned into machine using, for example, printing device 1108. Image 1206 may be designed, created, or modified by a user using, for example, input device 1108 or by interacting with a touch screen. Application 1112 may be appropriately linked to the Internet, such that photos may be downloaded and/or uploaded to the Internet, for example. For example, photos or screen shots may be pulled and/or downloaded from social media websites or a photo database. Templates 1204A, 1204B, and/or 1204C may include a design or pattern, which may be applied and/or combined with a design or pattern of image 1206. [0080] FIG. 12 A illustrates screen shot 1200 that includes template 1204A and image 1206 having design 1208A. Template 1204A may be overlaid on image 1206, such that a portion of image 1206, such as a portion of design 1208A, may be included in the overlaid portion of template 1204A. A user may use, for example, change the shape, size, color, or contrast of; interact with; and/or modify in any other way template 1204A. Additionally, a user may move; change the shape, size, color, or contrast of; interact with; and/or modify in any other way image 1206. FIG. 12B illustrates screen shot 1210 that includes template 1204B and image 1206 having design 1208B. In screen shot 1210, template 1204B is shown to have moved and shrunk in size on display 1102 inside visual user interface component 1202. A user may, for example, use input device 1106 or a touch screen to modify the placement or size of template 1204B. Also shown in screen shot 1210, template 1204B may be overlaid on a different portion of image 1206. FIG. 12C illustrates screen shot 1212 that includes template 1204C and image 1206 having design 1208C. As shown, template 1204C includes a portion of design 1208C, which may substantially match an overlaid portion of template 1204C on image 1206, such as shown in FIG. 12C. A user may have implemented a crop or cut command to select a desired portion of image 1206. After a desired portion of image 1206 has been selected and/or cropped, a user may further customize template 1204C by, for example, modifying its size, shape, and or artistic design. After all desired modifications have been implemented, printing device 1108 may print the designed insert for insertion into a protective shell, such as outer shell 202. In some embodiments, image 1206 and/or designs 1208A, 1208B, and/or 1208C may be substantially similar to designs 304 and/or design 306. In some embodiments, image 1206 and/or designs 1208A, 1208B, and/or 1208C may be holographic, such that when a viewing angle of image 1206 and/or designs 1208A, 1208B, and/or 1208C changes, image 1206 and/or designs 1208A, 1208B, and/or 1208C may appear to move and/or change appearance. [0081] FIGS. 13A-C illustrate three screen shots of display 1102 in accordance with one or more features described herein. Display 1102 may display a virtual user interface component 1202 of software application 1112 running on CPU 1104 in accordance with one or more features described herein. FIG. 13A illustrates screen shot 1300 that includes a blank visual user interface component 1202. As shown, a user may open application 1112 and bring up a blank canvas where the user may create customized designs for an insert. FIG. 13B illustrates screen shot 1302 that includes diagram 1304 and apertures 1306 and 1308. A user may design or create diagram 1304 using, for example, input device 1106 or a touch screen. Diagram 1304 may be of any desired size, shape, and/or size. FIG. 13C illustrates screen shot 1310 that includes diagram 1334 and apertures 1336 and 1338. In screen shot 1310, diagram 1334 is shown colored in with a particular color. A user may have selected a particular color for diagram 1334 and may have customized diagram 1334 with apertures 1336 and 1338 and design 1332, which may be similar to design 304 and/or design 306. [0082] FIG. 14 illustrates a method 1400 for customizing a protective case for a mobile device in accordance with one or more features described herein. A user may desire to change an insert, such as insert 302, within a protective case, such as outer shell 202. In step 1402, a user may select a new insert, such as insert 502, for insertion into outer shell 202. Having chosen a particular customizable insert, the process moves to step 1404 where the user may remove the mobile device from the protective case, such as outer shell 202. Moving to step 1406, the user may remove a pre-formed shock absorbing insert, such as insert 402. For example, by simply reaching into the protective case, such as into main compartment 226, the user can pinch insert 402 and pull it out of the interior of outer shell 202. For example, referring to FIGS. 7A-7C, this step may describe a user removing insert 402. Proceeding to step 1408, the user may remove the current customizable insert, such as insert 302, from the interior of outer shell 202, such as from main compartment 226. For example, referring to FIG. 6, this step may describe a user removing insert 302 from the interior of outer shell 202, such as from main compartment 226. Then in step 1410, the user may insert the newly selected customizable insert from step 1401 into the interior of the protective case, such as in main compartment 226. Moving to step 1412, the user may then insert the pre-formed shock absorbing insert, such as insert 402, back into main compartment 226 of outer shell 202. Finally, in step 1414, with the protective case customized, the user may insert the mobile device into the customized protective case, such as in main compartment 226 of outer shell 202.
FIGS. 15 and 16 illustrate front views of various pre-formed shock absorbing inserts 1500 and 1600, which may be similar to and used in a similar fashion as insert 402. Inserts 1500 and 1600 may be configured to fit into and conform to various outer shells. For example, a particular component of kit 100, for example component 200, may correspond to insert 1500, for which both may correspond to a particular mobile device to ensure a secure and snug fit.

While the disclosure has been described with respect to specific examples including presently preferred modes of carrying out the methods described herein, those skilled in the art will appreciate that there are numerous variations and permutations of the above described systems and techniques. Thus, the spirit and scope of the disclosure should be construed broadly.

What is claimed is:

1. A protective kit for a mobile device comprising:
   a substantially rigid outer shell comprising front, side, and back face portions, the substantially rigid outer shell having a recessed main compartment formed by the portions;
   a removable pre-formed shock absorbing insert configured to be received in the main compartment, the removable pre-formed shock absorbing insert having a first side configured to be coupled to the back face portion of the substantially rigid outer shell, the removable pre-formed shock absorbing insert being configured to dissipate shock or vibration away from the mobile device; and
   a removable first artistic insert configured to be received in the main compartment, the first artistic insert being configured to be adjacent to the back face portion of the substantially rigid outer shell and the first side of the removable pre-formed shock absorbing insert,
   wherein:
   the main compartment of the substantially rigid outer shell is configured to receive the mobile device with a first side of the mobile device being configured to be adjacent to a second side of the removable pre-formed shock absorbing insert after being received in the main compartment of the substantially rigid outer shell, and
   the back face portion of the substantially rigid outer shell comprises multiple sections, at least one of the multiple sections being semi-transparent or transparent and configured to display through an outward facing side of the back face portion at least a portion of the first artistic insert.

2. The kit of claim 1, wherein:
   the substantially rigid outer shell further comprises at least one of a plurality of channels and a plurality of projections formed adjacent to an inward facing side of the side portion of the substantially rigid outer shell,
   the removable pre-formed shock absorbing insert further comprises at least one of a plurality of tabs and a plurality of slots formed on an outer perimeter of the removable pre-formed shock absorbing insert, and
   the channels and projections being configured to substantially receive the tabs and slots, respectively, when the removable pre-formed shock absorbing insert is anchored in the main compartment and coupled to the back face portion of the substantially rigid outer shell.

3. The kit of claim 2, wherein an arrangement of the tabs and channels form a non-symmetrical arrangement with respect to a common main axis of the substantially rigid outer shell and the removable pre-formed shock absorbing insert.

4. The kit of claim 2, wherein an arrangement of the slots and projections form a non-symmetrical arrangement with respect to a common main axis of the substantially rigid outer shell and the removable pre-formed shock absorbing insert.

5. The kit of claim 2, wherein a junction of the front portion and side portion of the substantially rigid outer shell forms a crevice configured to receive end portions of the tabs of the removable pre-formed shock absorbing insert when the removable pre-formed shock absorbing insert is anchored in the main compartment and coupled to the back face portion of the substantially rigid outer shell.

6. The kit of claim 1, wherein the back face portion comprises non-movable opaque or semi-transparent elements configured to obstruct display of at least a portion of the first artistic insert.

7. The kit of claim 1, wherein the back face portion comprises movable opaque or semi-transparent elements configured to obstruct display of at least a portion of the first artistic insert.

8. The kit of claim 1 wherein the first artistic insert is user definable and configured to display a user-defined pattern.

9. The kit of claim 8 wherein the user-defined pattern comprises a pattern customized using a computer program.

10. The kit of claim 9 wherein the pattern customized using a computer program comprises a pattern derived from at least one of a template built into the computer program and a user-defined template.

11. The kit of claim 1, wherein the first artistic insert comprises a prefabricated image or message.

12. The kit of claim 1, further comprising a second artistic insert, the second artistic insert being smaller in size than the first artistic insert and configured to be received in the main compartment between and adjacent to the back face portion of the substantially rigid outer shell and an outward facing side of the first artistic insert.

13. The kit of claim 1 wherein the substantially rigid outer shell comprises a semi-flexible material and configured to flex when receiving the removable pre-formed shock absorbing insert.

14. The kit of claim 1, wherein:
   the back face portion of the substantially rigid outer shell comprises at least one aperture extending through the back face portion;
   the removable pre-formed shock absorbing insert comprises at least one aperture substantially corresponding to the at least one aperture of the back face portion and extending through the removable pre-formed shock absorbing insert; and
   the first artistic insert comprises at least one aperture substantially corresponding to the at least one aperture of the back face portion and extending through the first artistic insert.

15. The kit of claim 1 wherein the substantially rigid outer shell comprises a polycarbonate material.

16. The kit of claim 1 wherein the back face portion comprises a thermoplastic polyurethane material.

17. The kit of claim 1 wherein the first artistic insert comprises at least one of a print-out, cut-out, piece of paper, piece of plastic, piece of wood, piece of metal, social media related image or message, user-composed image or message,
user-manipulated image or message, internet related image or message, physically or tangibly manipulated image or message, holographic image, and any combination thereof.

18. The kit of claim 1, wherein the first artistic insert comprises a holographic image.

19. The kit of claim 1, wherein the removable pre-formed shock absorbing insert is configured to deform in response to coupling to the mobile device.

20. A pre-formed shock absorbing insert configured to dissipate shock or vibration and configured to be received in a main compartment of a protective shell comprising:
   a generally planar rectangular shaped gel having a first side and an outer perimeter, the first side of the gel configured to be coupled to a back face portion of the protective shell and being substantially flat;
   at least one aperture formed in the gel and extending through the gel;
   a plurality of tabs formed on the outer perimeter of the gel;
   a plurality of slots formed on the outer perimeter of the shock absorbing insert.
   * * * * *