

mutations, and equivalents, which fall within the scope of this invention. For example, although the invention has been described in terms of an MP3 music player, it should be appreciated that certain features of the invention may also be applied to other types of media players such as video recorders, cameras, and the like. Furthermore, the MP3 music player described herein is not limited to the MP3 music format. Other audio formats such as MP3 VBR (variable bit rate), AIFF and WAV formats may be used. Moreover, certain aspects of the invention are not limited to handheld devices. For example, the touch pad may also be used in other computing devices such as a portable computer, personal digital assistants (PDA), cellular phones, and the like. The touch pad may also be used a stand alone input device that connects to a desktop or portable computer. It should also be noted that there are many alternative ways of implementing the methods and apparatuses of the present invention. For example, although the touch pad has been described in terms of being actuated by a finger, it should be noted that other objects may be used to actuate it in some cases. For example, a stylus or other object may be used in some configurations of the touch pad. It is therefore intended that the following appended claims be interpreted as including all such alterations, permutations, and equivalents as fall within the true spirit and scope of the present invention.

What is claimed is:

1. A media player for storing and playing media such as audio, video or images, the media player comprising:

a housing that encloses internally various electrical components that provide computing operations for the media player; and

a touch pad supported by the housing and configured to provide one or more control functions for controlling various applications associated with the media player.

2. The media player as recited in claim 1 wherein the media player is a music player, a video recorder or a camera.

3. The media player as recited in claim 1 further including a media delivery device configured to output the media to a user of the media device.

4. The media player as recited in claim 3 wherein media delivery device is a display screen configured to display text and graphics to a user of the media device.

5. The media player as recited in claim 4 wherein the control function is associated with moving an object or performing an action with respect to the display screen.

6. The media player as recited in claim 5 wherein the control function corresponds to a scrolling feature.

7. The media player as recited in claim 3 wherein media delivery device is an audio delivery device configured to output music to a user of the media device.

8. The media player as recited in claim 7 wherein the control function is associated with making selections or issuing commands for use by the audio delivery device.

9. The media player as recited in claim 8 wherein the control function corresponds to a volume control feature.

10. The media player as recited in claim 1 wherein the touch pad is arranged to receive input from a finger moving about a surface of the touch pad in order to implement the control function.

11. The media player as recited in claim 7 wherein the touch pad is based on polar coordinates and includes angular input areas for processing input from a swirling finger motion.

12. The media player as recited in claim 7 wherein the touch pad is based on polar coordinates and includes radial input areas for processing input from a radial finger motion.

13. The media player as recited in claim 1 wherein a button is disposed in a central portion of the touch pad, the button providing a user input element for the media player.

14. A pocket sized handheld computing device, comprising:

computing hardware for providing at least one application;

a display screen configured to display text and graphics associated with the at least one application; and

a touch pad configured to provide one or more control functions for allowing a user of the computing device to provide inputs to the at least one application.

15. The computing device as recited in claim 14 wherein the touch pad has a circular shape, the outer perimeter of the circularly shaped touch pad defining the working boundary of the touch pad.

16. The computing device as recited in claim 14 wherein the touch pad has an annular shape, the inner and outer perimeter of the annularly shaped touch pad defining the working boundary of the touch pad.

17. The computing device as recited in claim 14 wherein the touch pad has an opening in its center region, and wherein a button is disposed within the center region of the touch pad.

18. The computing device as recited in claim 14 wherein the touch pad includes input areas that are not based on Cartesian coordinates.

19. The computing device as recited in claim 14 wherein the touch pad includes input areas that are based on Polar coordinates.

20. The computing device as recited in claim 19 wherein the touch pad includes angular input areas for processing input from a swirling finger motion.

21. The computing device as recited in claim 19 wherein the touch pad includes radial input areas for processing input from a radial finger motion.

22. The computing device as recited in claim 14 wherein the computing device is a media player capable of processing at least one of audio media, video media or image media.

23. A touch pad assembly for use in a computing device, the touch pad assembly having a touch sensitive surface for accepting contact with an object, the touch pad assembly being configured to provide polar coordinate information of the object relative to the touch sensitive surface when the object is moved about the touch sensitive surface.

24. The touch pad assembly as recited in claim 23 wherein the polar coordinate information corresponds to the angular or radial position, direction, speed or acceleration of the object as it moves about the touch sensitive surface.

25. The touch pad assembly as recited in claim 23 wherein the polar coordinate information is used to provide a user input to the computing device.

26. The touch pad assembly as recited in claim 25 wherein the polar coordinate information controls the movement of at least one control object on a display screen of the computing device.

27. The device as recited in claim 26 wherein the movement of the object corresponds to linear movements.