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(54) **INTERACTIVE APPARATUS WITH RECORDING AND PLAYBACK CAPABILITY USABLE WITH ENCODED WRITING MEDIUM**

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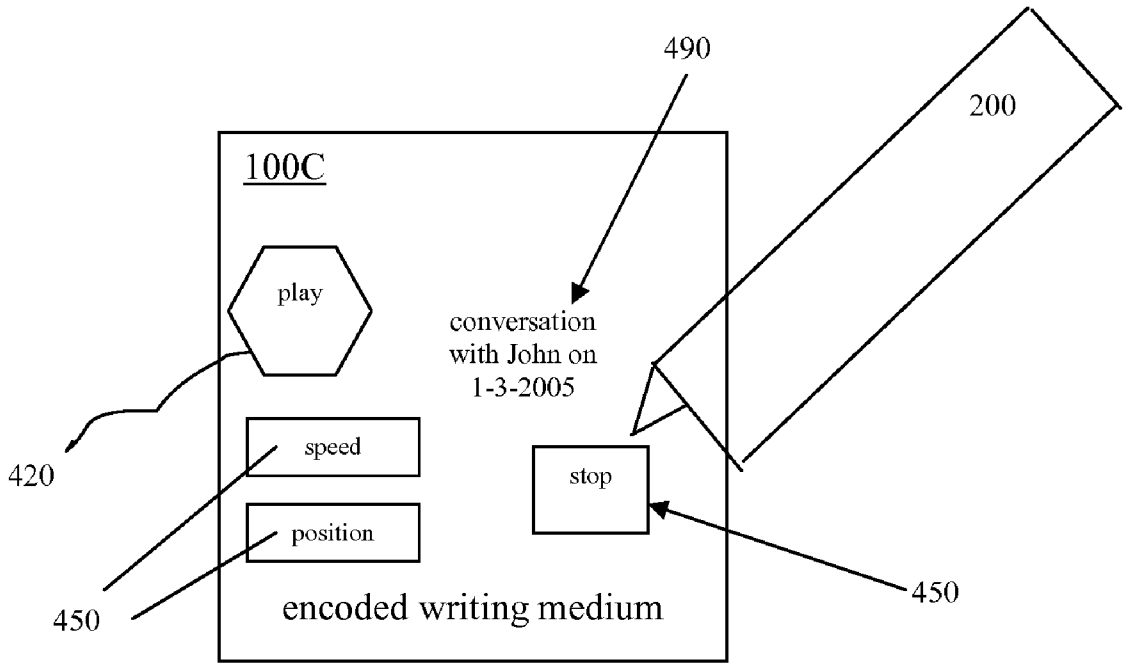
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(57) **ABSTRACT**

An interactive apparatus is disclosed. The interactive apparatus has an audio recording mode and an audio playback mode. Further, the interactive apparatus includes a writing tool for manually writing on an encoded writing medium, an audio input device for recording audio, an audio output device for playing the recorded audio. Moreover, the interactive apparatus has an optical unit for determining position on the encoded writing medium of the writing tool and for recognizing information on the encoded writing medium, wherein recognition of a recording-enabling graphical element on the encoded writing medium activates the audio recording mode and enables time-synchronization of creation of writing on the encoded writing medium with the writing tool and recording of the audio, and further wherein recognition of a playback-enabling graphical element on the encoded writing medium activates the audio playback mode and enables multiple techniques to control playback of the recorded audio.



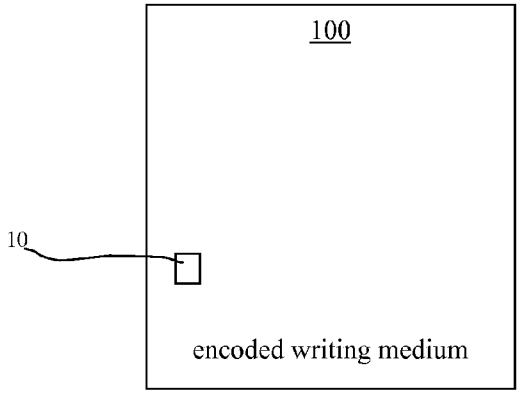


Figure 1A

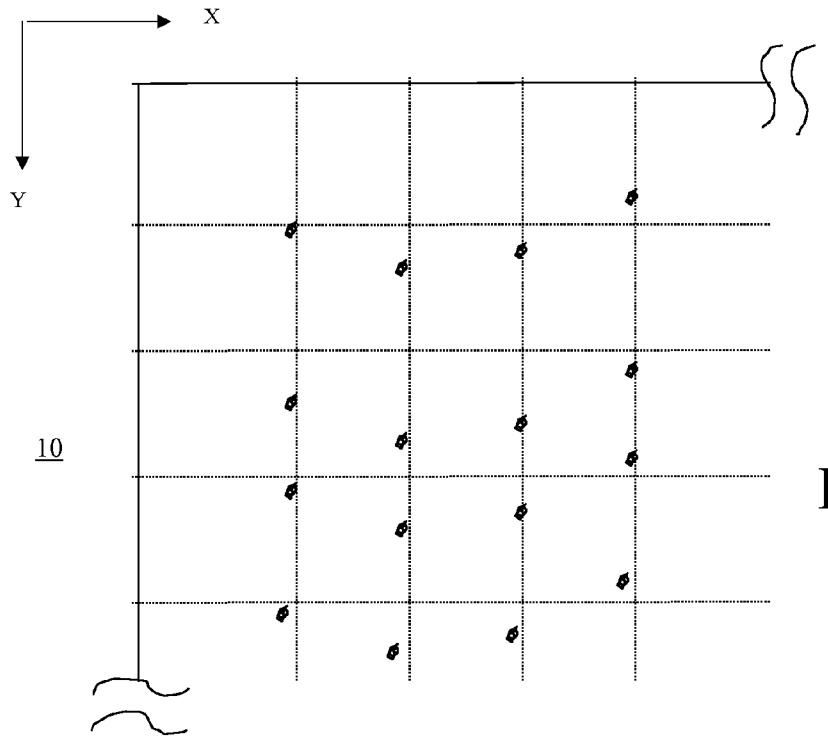


Figure 1B

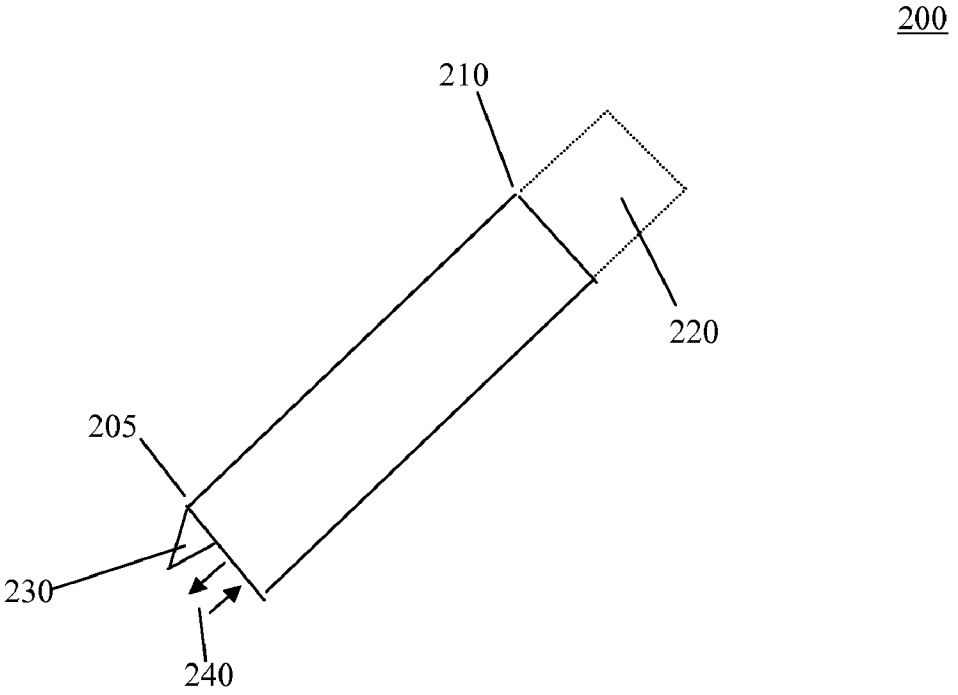


FIGURE 2

FIGURE 3A

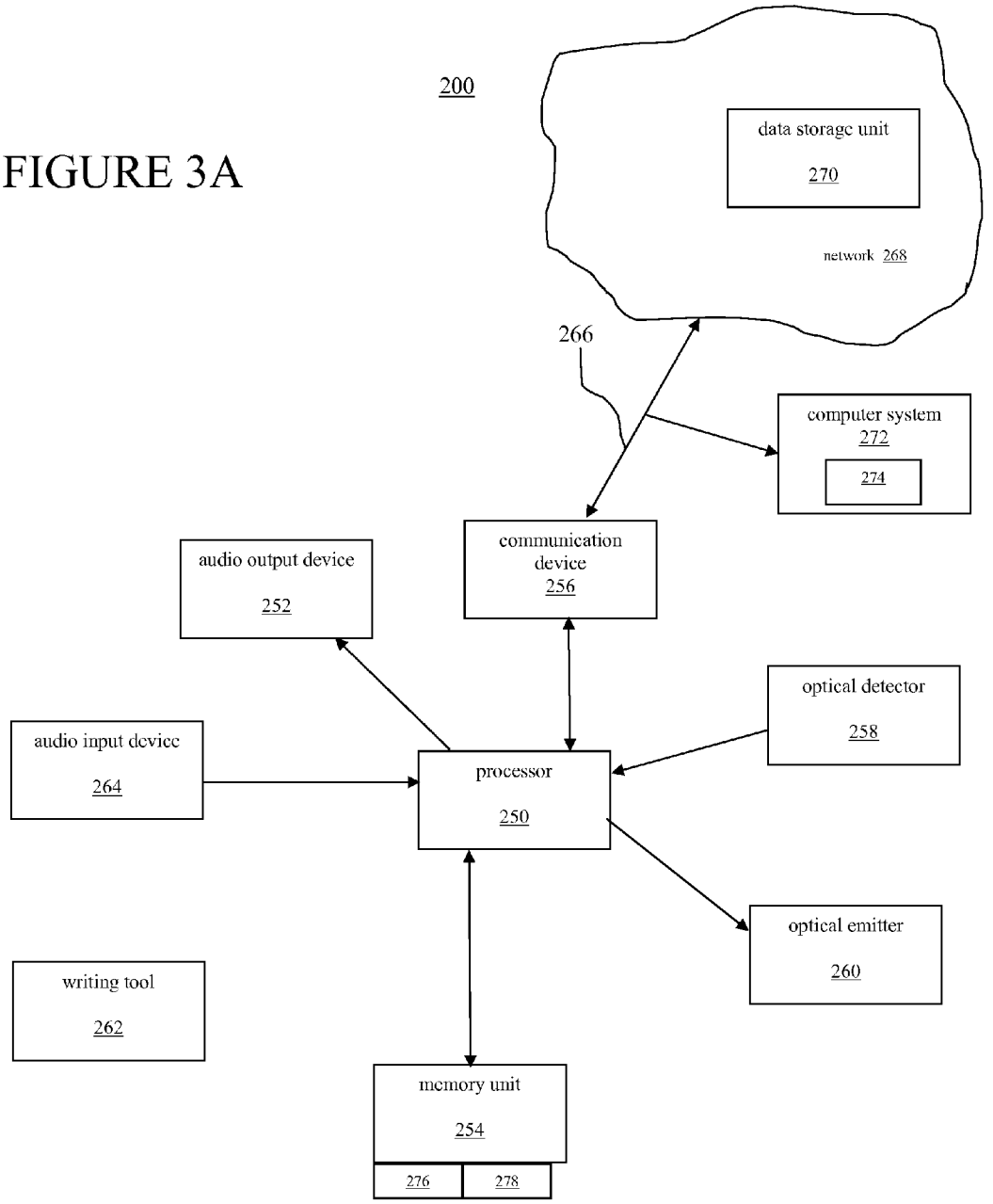
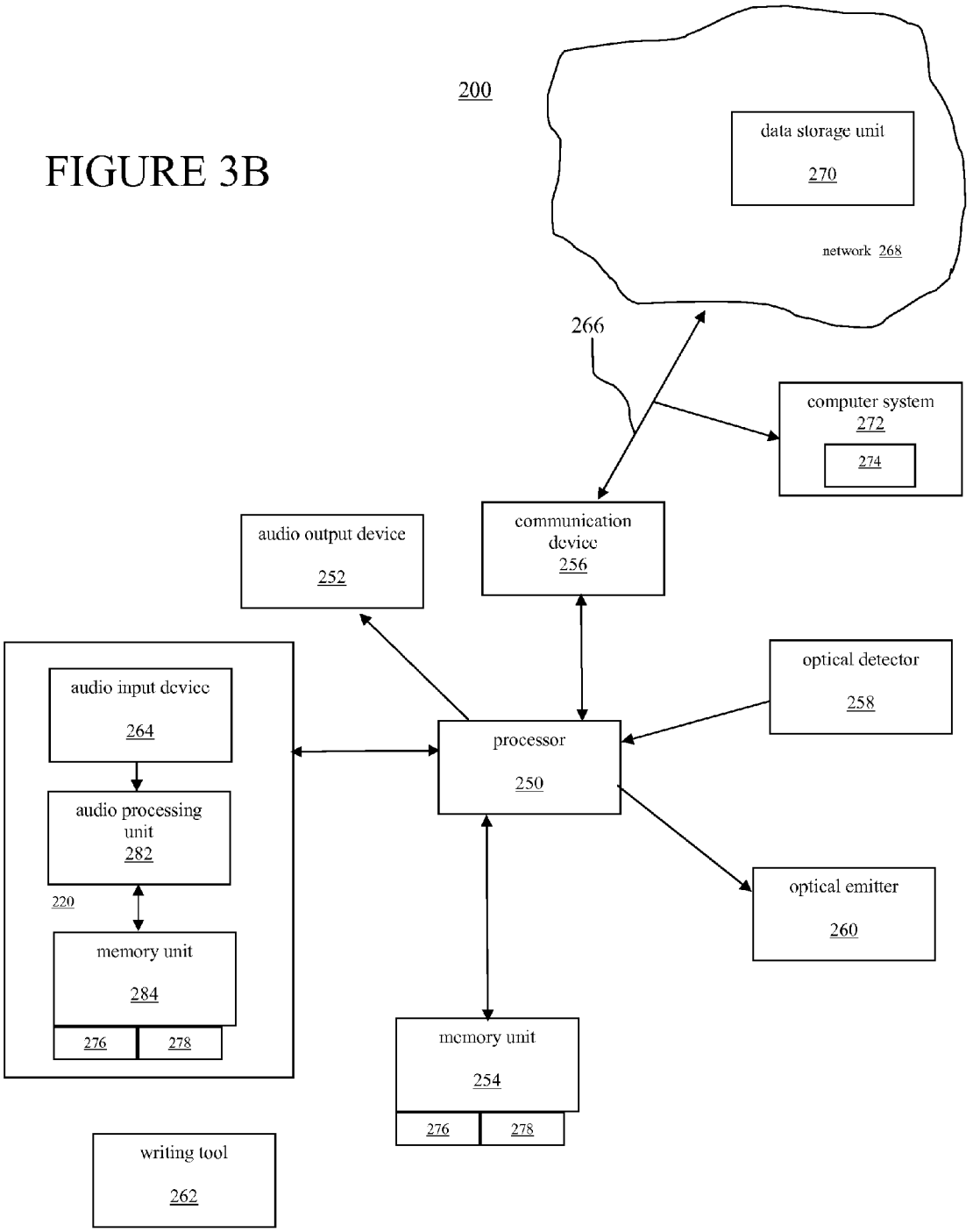

200
data storage unit
270
network 268
266
computer system
272
274
communication device
256
audio output device
252
optical detector
258
audio input device
264
processor
250
optical emitter
260
writing tool
262
memory unit
254
276
278

FIGURE 3B


200
data storage unit
270
network 268
266
computer system
272
274
audio output device
252
communication device
256
audio input device
264
audio processing unit
282
220
memory unit
284
276
278
processor
250
optical detector
258
optical emitter
260
memory unit
254
276
278
writing tool
262

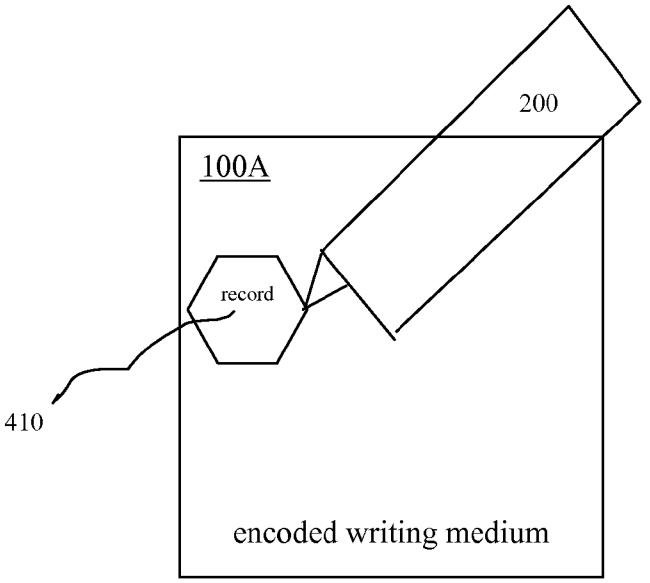
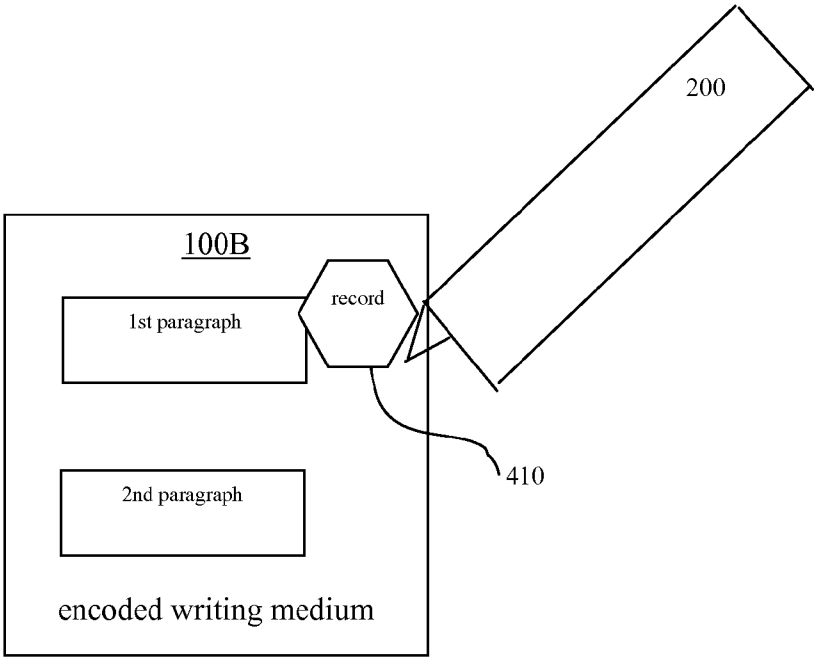

200
100A
record
410
encoded writing medium

Figure 4A


200
100B
record
1st paragraph
410
2nd paragraph
encoded writing medium

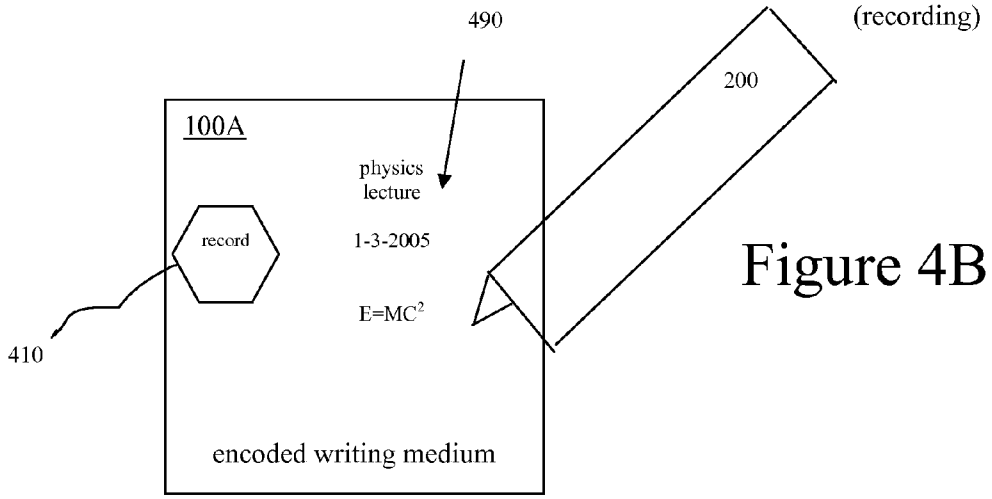
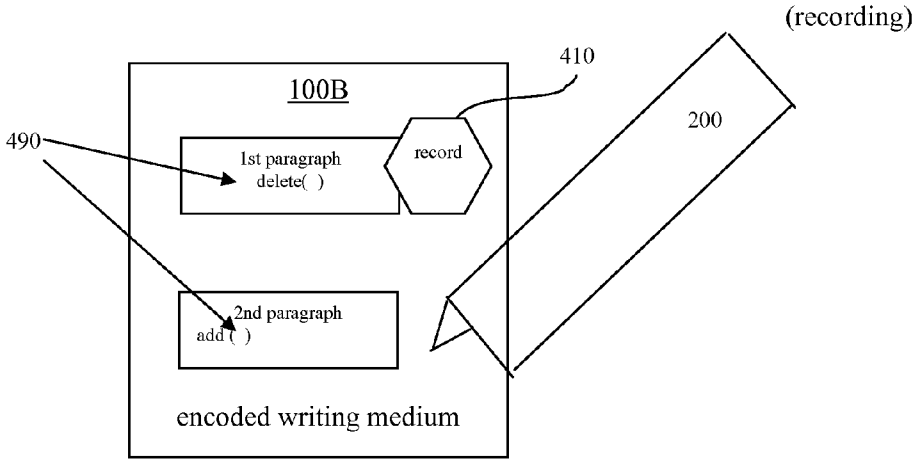

490
(recording)
200
100A
physics
lecture
record
1-3-2005
E=MC2
410
encoded writing medium

Figure 4B


(recording)
410
200
100B
490
1st paragraph
delete( )
record
2nd paragraph
add ( )
encoded writing medium

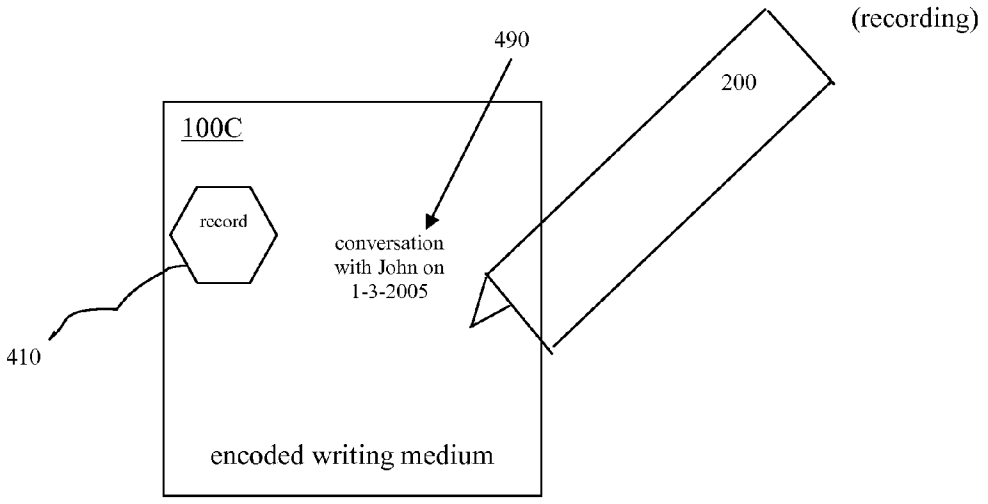
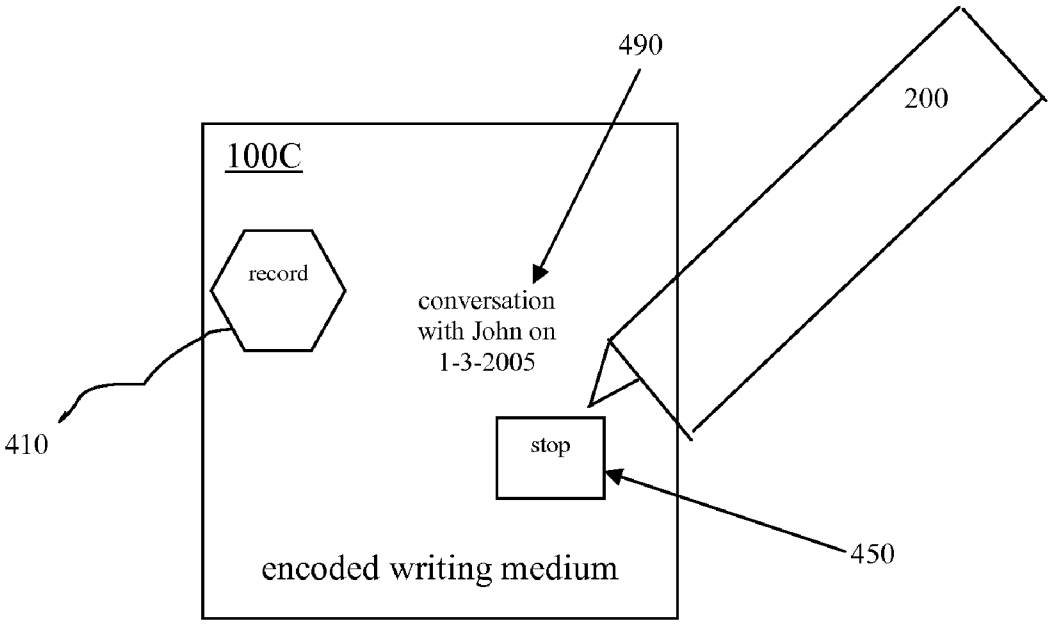

(recording)
490
200
100C
record
conversation
with John on
1-3-2005
410
encoded writing medium

Figure 4C


490
200
100C
record
conversation
with John on
1-3-2005
410
stop
450
encoded writing medium

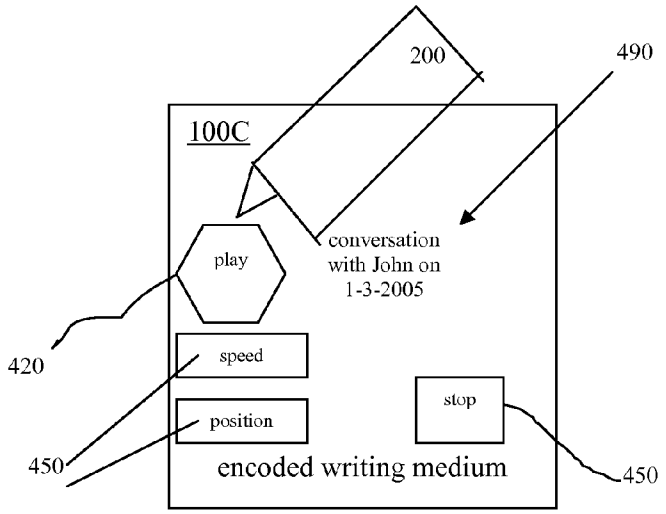


Figure 5A

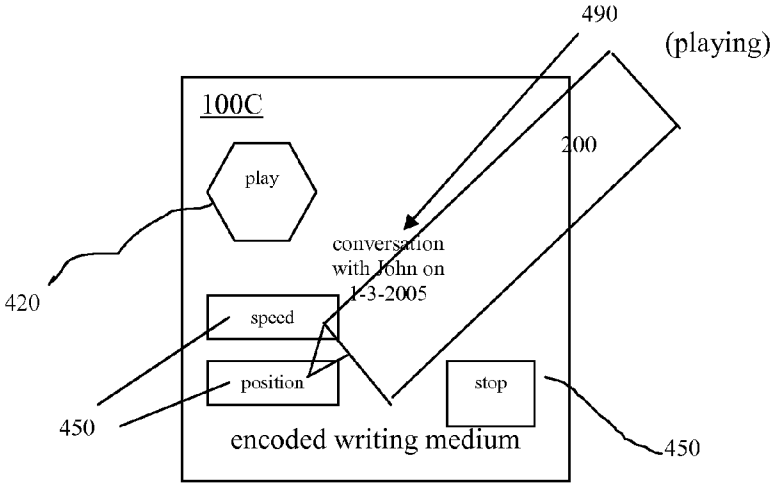


Figure 5B

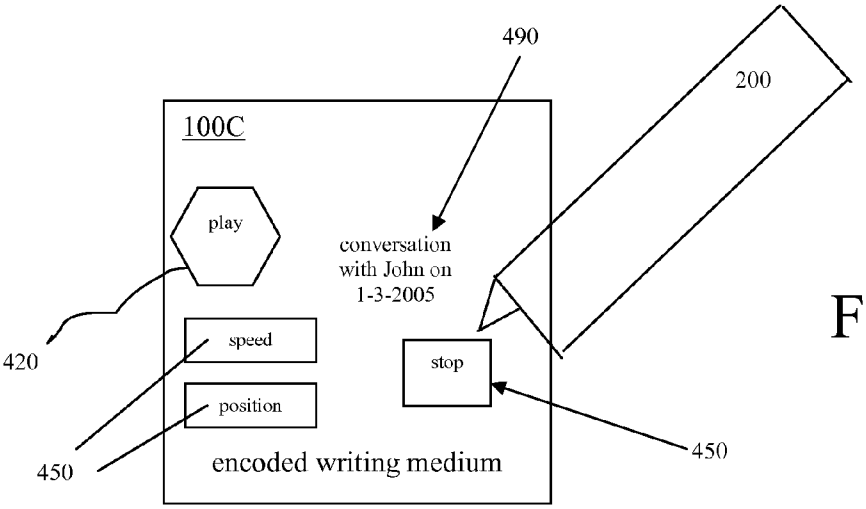


Figure 5C

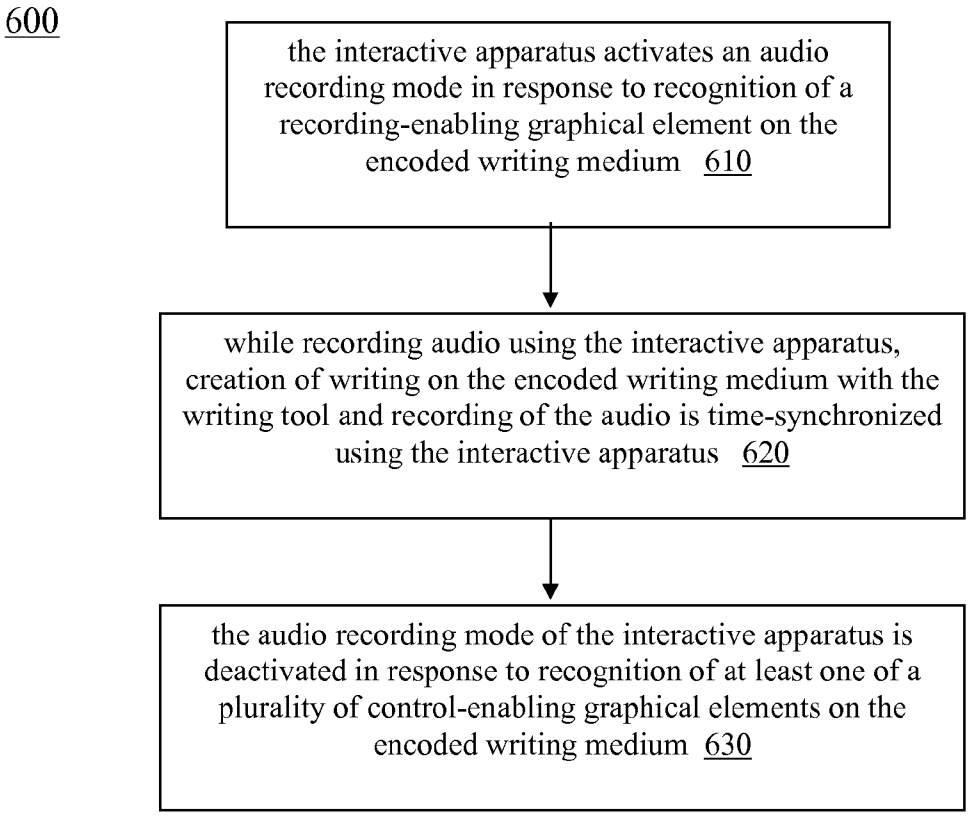

600
the interactive apparatus activates an audio recording mode in response to recognition of a recording-enabling graphical element on the encoded writing medium 610
while recording audio using the interactive apparatus, creation of writing on the encoded writing medium with the writing tool and recording of the audio is time-synchronized using the interactive apparatus 620
the audio recording mode of the interactive apparatus is deactivated in response to recognition of at least one of a plurality of control-enabling graphical elements on the encoded writing medium 630

FIGURE 6A

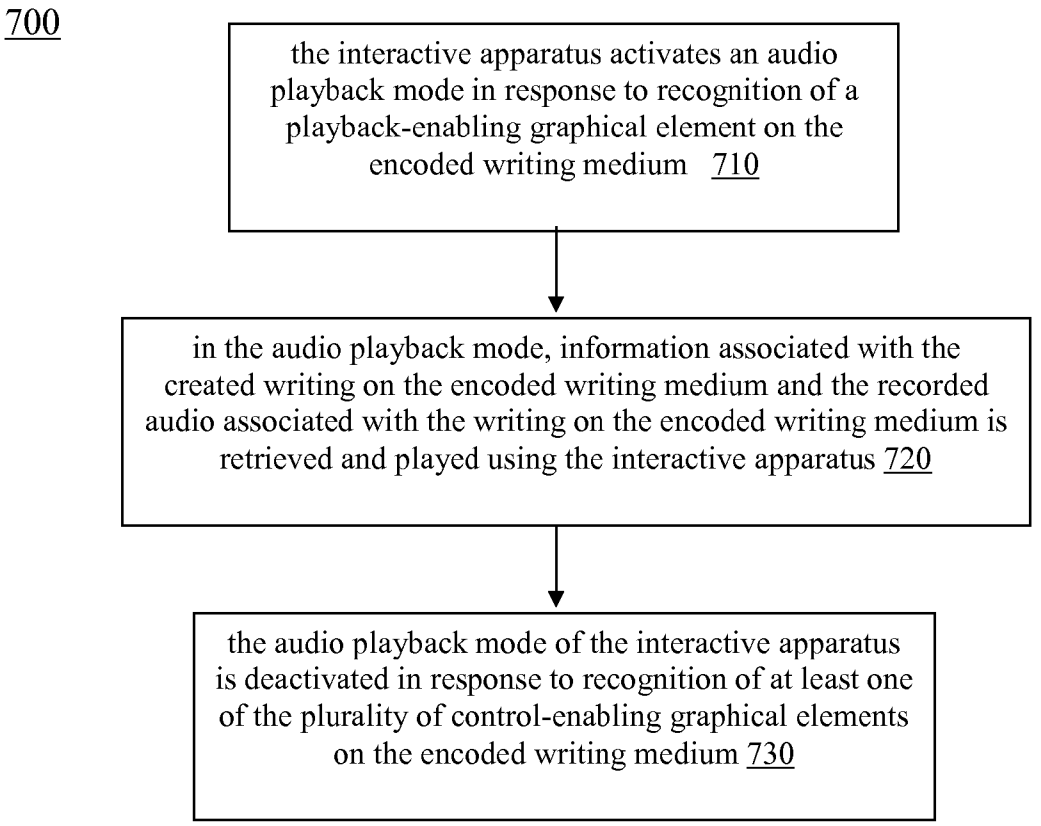

700
the interactive apparatus activates an audio playback mode in response to recognition of a playback-enabling graphical element on the encoded writing medium 710
in the audio playback mode, information associated with the created writing on the encoded writing medium and the recorded audio associated with the writing on the encoded writing medium is retrieved and played using the interactive apparatus 720
the audio playback mode of the interactive apparatus is deactivated in response to recognition of at least one of the plurality of control-enabling graphical elements on the encoded writing medium 730

FIGURE 6B

INTERACTIVE APPARATUS WITH RECORDING AND PLAYBACK CAPABILITY USABLE WITH ENCODED WRITING MEDIUM

CROSS REFERENCE TO RELATED APPLICATION

[0001] This application is a Continuation of and claims priority to U.S. patent application Ser. No. 12/264,828, filed on Nov. 4, 2008, which is a Continuation of and claims priority to U.S. patent application Ser. No. 11/034,495, filed on Jan. 12, 2005 and now issued as U.S. Pat. No. 7,453,447, which are incorporated herein by reference in their entirety. U.S. patent application Ser. No. 11/034,495 is a Continuation-in-Part of U.S. patent application Ser. No. 10/803,806, filed on Mar. 17, 2004, which is incorporated herein by reference in its entirety. U.S. patent application Ser. No. 11/034,495 is a Continuation-in-Part of U.S. patent application Ser. No. 10/861,243, filed on Jun. 3, 2004, which is incorporated herein by reference in its entirety.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention generally relates to writing mediums and devices that interact with writing mediums. More particularly, the present invention relates to interactive apparatus with recording and playback capability usable with encoded writing medium.

[0004] 2. Related Art

[0005] When the computer was introduced, there was initial thought that the computer would lead to a paperless world. However, the computer has created new uses for paper. Moreover, the paper environment continues to integrate with the electronic environment.

[0006] Typically, technologies that merge the paper environment and the electronic environment are costly compared to a conventional sheet of paper. Further, these technologies simply duplicate the fundamental function of paper: storing a persistent image. None of these technologies bring interactive functionality to the paper environment.

[0007] Further, when an audio recording device and a writing medium are utilized together, there is no link between the writing on the writing medium and the recorded audio. That is, the audio recording device and the writing medium operate independently of each other. It is inconvenient and difficult to efficiently utilize both the audio recording device and the writing medium at the same time. Moreover, the recorded audio and the writing medium may be separated from each other and lost.

SUMMARY OF THE INVENTION

[0008] An interactive apparatus is disclosed. The interactive apparatus has an audio recording mode and an audio playback mode. Further, the interactive apparatus includes a writing tool for manually writing on an encoded writing medium, an audio input device for recording audio, an audio output device for playing the recorded audio. Moreover, the interactive apparatus has an optical unit for determining position on the encoded writing medium of the writing tool and for recognizing information on the encoded writing medium, wherein recognition of a recording-enabling graphical element on the encoded writing medium activates the audio recording mode and enables time-synchronization of creation of writing on the encoded writing medium with the writing tool and recording of the audio, and further wherein recognition of a playback-enabling graphical element on the encoded writing medium activates the audio playback mode and enables multiple techniques to control playback of the recorded audio.

[0009] In an embodiment, the interactive apparatus further comprises a memory unit for storing recorded audio and information associated with said writing. Also, the interactive apparatus includes a communication device for transmitting the position of the graphical element and the associated recorded audio to a remote storage location. The communication device may be a wireless communication device. The encoded writing medium may be paper encoded with a grid of dots. The writing tool is may be one of a pen and a pencil.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The accompanying drawings, which are incorporated in and form a part of this specification, illustrate embodiments of the invention and, together with the description, serve to explain the principles of the present invention.

[0011] FIG. **1**A illustrates an encoded writing medium in accordance with an embodiment of the present invention.

[0012] FIG. **1**B illustrates a section of the encoded writing medium of FIG. **1**A in greater detail in accordance with an embodiment of the present invention.

[0013] FIG. **2** illustrates an interactive apparatus in accordance with an embodiment of the present invention.

[0014] FIG. **3**A illustrates a block diagram of the interactive apparatus of FIG. **2** in accordance with an embodiment of the present invention.

[0015] FIG. **3**B illustrates a block diagram of the interactive apparatus of FIG. **2** in accordance with another embodiment of the present invention.

[0016] FIGS. **4**A, **4**B, and **4**C illustrate an audio recoding mode of the interactive apparatus of FIG. **2** in accordance with an embodiment of the present invention.

[0017] FIGS. **5**A, **5**B, and **5**C illustrate an audio playback mode of the interactive apparatus of FIG. **2** in accordance with an embodiment of the present invention.

[0018] FIG. **6**A illustrates a flow chart showing the audio recoding mode of the interactive apparatus of FIG. **2** in accordance with an embodiment of the present invention.

[0019] FIG. **6**B illustrates a flow chart showing the audio playback mode of the interactive apparatus of FIG. **2** in accordance with an embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0020] Reference will now be made in detail to embodiments of the present invention, examples of which are illustrated in the accompanying drawings. While the invention will be described in conjunction with these embodiments, it will be understood that they are not intended to limit the invention to these embodiments. On the contrary, the invention is intended to cover alternatives, modifications and equivalents, which may be included within the spirit and scope of the invention as defined by the appended claims. Furthermore, in the following detailed description of the present invention, numerous specific details are set forth in order to provide a thorough understanding of the present invention.

[0021] FIG. **1**A illustrates an encoded writing medium **100** in accordance with an embodiment of the present invention.

In one embodiment, the encoded writing medium **100** is paper encoded with a grid of dots compatible with technology described in detail in the following U.S. Pat. Nos. assigned to Anoto, a Swedish company, and are incorporated herein by reference in their entirety: 6,502,756; 6,548,768; 6,570,104; 6,586,688; 6,663,008; 6,666,376; 6,667,695; 6,674,427; 6,689,966; 6,698,660; 6,722,574; 6,732,927; and 6,836,555. By reading a pattern of dots on the paper, a position (e.g., X and Y coordinates) on a predefined map can be determined. It should be understood that other types of encoded writing mediums may be utilized.

[0022] Continuing, FIG. **1**B illustrates a section **10** of the encoded writing medium **100** of FIG. **1**A in greater detail in accordance with an embodiment of the present invention. As depicted in FIG. **1**B, each dot is slightly displaced from the X-axis and from the Y-axis.

[0023] FIG. **2** illustrates an interactive apparatus **200** in accordance with an embodiment of the present invention. As shown in FIG. **2**, the interactive apparatus **200** includes a writing/position detection end **205** and an expansion end **210** for coupling a removable functionality expansion unit **220**. The writing/position detection end **205** includes a writing tool **230** and optics that uses light **240** to detect the dot pattern for determining position on the encoded writing medium **100**. The interactive apparatus **200** may be utilized by a user. In an embodiment, the interactive apparatus **200** is shaped for use as a writing instrument by the user.

[0024] A block diagram of the interactive apparatus **200** of FIG. **2** in accordance with an embodiment of the present invention is illustrated in FIG. **3**A. As shown in FIG. **3**A, the interactive apparatus **200** includes a processor **250**, an optical detector **258**, an optical emitter **260**, a memory unit **254**, an audio input device for recording audio, an audio output device for playing audio, a communication device **256**, and a writing tool **262**. The writing tool is used for manually writing on the encoded writing medium **100**. Examples of writing tools include a pen and a pencil. The processor **250**, the optical detector **258**, and the optical emitter **260** form an optical unit, which determines position on the encoded writing medium **100** of the interactive apparatus **200** and recognizes information on the encoded writing medium **100**. In particular, the position of the writing tool **262** on the encoded writing medium **100** is determined. In an embodiment, the optical emitter **260** is a light-emitting diode while the optical detector **258** is a light-sensitive sensor for recording a two-dimensional image, which is processed to determine position on the encoded writing medium **100**. Examples of light-sensitive sensors include a CCD sensor and a CMOS sensor.

[0025] The interactive apparatus **200** has an audio recording mode for recording audio via the audio input device **264** and an audio playback mode for playing the recorded audio via the audio output device **252**. In an embodiment, the recorded audio is stored in a digital format by the audio recoding component/device of the interactive apparatus **200**. As will be described below, recognition of a recording-enabling graphical element on the encoded writing medium activates the audio recording mode and enables time-synchronization of creation of writing on the encoded writing medium with the writing tool and recording of the audio. Further, recognition of a playback-enabling graphical element on the encoded writing medium activates the audio playback mode and enables multiple techniques to control playback of the recorded audio. The memory unit **254** may store recorded audio **278** and information **276** associated with the created writing on the encoded writing medium **100**. Information **276** may include position data, character recognition information, etc. Additionally, the memory unit **254** may store code/instructions for providing the functionality of the interactive apparatus **200**. The optical unit enables the interactive apparatus **200** to recognize graphical elements on the encoded writing medium **100** that activate/deactivate corresponding functionality of the interactive apparatus **200**. Also, optical unit may capture and store optical images of writing on surface of the encoded writing medium **100** during recording of the audio in the audio recording mode.

[0026] In an embodiment, multiple techniques for controlling playback of the recorded audio may include using control-enabling graphical elements to control playback of the recorded audio and using the created writing and the time-synchronization to indicate where to start playback of the recorded audio based on location of the writing tool **262** on the created writing on the encoded writing medium **100**. This facilitates dynamically creating visual cues for the audio on the encoded writing medium **100** with the writing tool **262** of the interactive apparatus **200**.

[0027] The communication device **256** is configured to communicate with network **268** and computer system **272** via communication link **266**. The network **268** has a data storage unit **270** while the computer system **272** has a hard drive **274**. In an embodiment, the communication device **256** is a wireless communication device while the communication link **266** is a wireless communication link. The communication device **256** may transmit at least a portion of the information **276** associated with the created writing on the encoded writing medium **100** and at least a portion of the recorded audio **278** to a remote storage location such as the data storage unit **270** and the hard drive **274** to manage memory capacity or for long term storage.

[0028] FIG. **3**B illustrates a block diagram of the interactive apparatus **200** of FIG. **2** in accordance with another embodiment of the present invention. The discussion of FIG. **3**A applies to FIG. **3**B except as noted below. In FIG. **3**B, a removable functionality expansion unit **220** is coupled to the interactive apparatus **200**. The removable functionality expansion unit **220** includes an audio input device **264**, an audio processing unit **284**, and memory unit **284**. The memory unit **284** may store recorded audio **278** and information **276** associated with the created writing on the encoded writing medium **100**.

[0029] FIGS. **4**A, **4**B, and **4**C illustrate an audio recoding mode of the interactive apparatus **200** of FIG. **2** in accordance with an embodiment of the present invention. Referring to FIG. **4**A, the encoded writing medium **100**A initially may have no writing (printed writing or manual writing). Alternatively, the encoded writing medium **100**B initially may have printed writing and/or manual writing. The interactive apparatus **200** may be utilized to draw the recording-enabling graphical element **410** on the encoded writing medium **100**A. Alternatively, the recording-enabling graphical element **410** may be preprinted on the encoded writing medium **100**A. The interactive apparatus **200** is configured to recognize the recording-enabling graphical element **410** and then to activate the audio recording mode of the interactive apparatus **200**. The recording-enabling graphical element **410** shown in FIG. **4**A is exemplary. The design of the recording-enabling graphical element **410** may be different than that shown. In response to recognizing the recording-enabling graphical element **410**, the audio recoding mode of the interactive appa-

ratus **200** is selected. The recognition may involve tapping on the recording-enabling graphical element **410** and following audio prompts given by the interactive apparatus **200**. This enables dynamic tagging of audio to the encoded writing medium **100**A and **100**B via the recording-enabling graphical element **410**. That is, audio and the encoded writing medium are visually integrated.

[0030] Continuing with FIG. **4**B, once the interactive apparatus **200** is in the audio recoding mode, the interactive apparatus **200** records audio. While recording the audio, the interactive apparatus **200** may be utilized to manually write on the encoded writing medium **100**A, **100**B, and **100**C. Moreover, the interactive apparatus **200** time-synchronizes the creation of writing **490** on the encoded writing medium **100** with the writing tool **262** and recording of the audio. The audio may be recorded digitally into the memory unit **254** and **284** and/or stored remotely from the interactive apparatus **200**. Also, the interactive apparatus **200** obtains information associated with the created writing **490** on the encoded writing medium **100**. The information may include position data, character recognition information, etc. The encoded writing medium **100**A provides an example of writing notes and recording the class lecture.

[0031] Continuing, the encoded writing medium **100**B provides an example of reviewing and editing printed writing and/or manual writing and recording audio comments in addition to or instead of written comments. Lastly, the encoded writing medium **100**C provides an example of writing notes while recording a conversation. The interactive apparatus **200** may capture and store optical images of the writing (printed writing or manual writing) on the surface of the encoded writing medium **100**A, **100**B, and **100**C during recording of the audio in the audio recording mode. This enables the generation and printing of another encoded writing medium having the same writing (printed writing or manual writing) on the surface of the encoded writing medium for use by another user having an interactive apparatus. As described above, the recorded audio, information associated with the created writing **490** on the encoded writing medium, and optical images of the writing (manually created and preprinted) may be stored locally and/or in a remote storage location such as the data storage unit **270** and the hard drive **274**.

[0032] In an embodiment, multiple techniques for controlling playback of the recorded audio may include using control-enabling graphical elements **450** (See FIGS. **5**A, **5**B, and **5**C) to control playback of the recorded audio and using the created writing **490** and the time-synchronization to indicate where to start playback of the recorded audio based on location of the writing tool **262** on the created writing **490** on the encoded writing medium. This facilitates dynamically creating visual cues for the audio on the encoded writing medium with the writing tool **262** of the interactive apparatus **200**.

[0033] At FIG. **4**C, the audio recoding mode of the interactive apparatus **200** may be deactivated in response to recognition of at least one of the plurality of control-enabling graphical elements **450** on the encoded writing medium **100**C. The recognition may involve tapping on the control-enabling graphical element **450** and following audio prompts given by the interactive apparatus **200**. The interactive apparatus **200** may be utilized to draw the control-enabling graphical element **450** on the encoded writing medium **100**C. Alternatively, the control-enabling graphical element **450** may be preprinted on the encoded writing medium **100**C. The control-enabling graphical element **450** shown in FIG. **4**C is exemplary. The design of the control-enabling graphical element **450** may be different than that shown.

[0034] FIGS. **5**A, **5**B, and **5**C illustrate an audio playback mode of the interactive apparatus of FIG. **2** in accordance with an embodiment of the present invention. Referring to FIG. **5**A, the interactive apparatus **200** is configured to recognize the playback-enabling graphical element **420** and then to activate the audio playback mode of the interactive apparatus **200**. The playback-enabling graphical element **420** shown in FIG. **5**A is exemplary. The design of the playback-enabling graphical element **420** may be different than that shown. In response to recognizing the playback-enabling graphical element **420**, the audio playback mode of the interactive apparatus **200** is selected. The recognition may involve tapping on the playback-enabling graphical element **420** and following audio prompts given by the interactive apparatus **200**. The interactive apparatus **200** may be utilized to draw the playback-enabling graphical element **420** and the control-enabling graphical elements **450** on the encoded writing medium **100**C, wherein the control-enabling graphical elements **450** control playback of the recorded audio in the audio playback mode. Alternatively, the playback-enabling graphical element **420** and the control-enabling graphical elements **450** may be preprinted on the encoded writing medium **100**C. The control-enabling graphical elements **450** shown in FIG. **5**A are exemplary. The design of the control-enabling graphical elements **450** may be different than that shown. The interactive apparatus **200** is configured to recognize the control-enabling graphical elements **450** and then to enable controlling playback of the recorded audio in the audio playback mode of the interactive apparatus **200**.

[0035] Continuing with FIG. **5**B, once the interactive apparatus **200** is in the audio playback mode, the recorded audio **278** associated with the writing **490** on the encoded writing medium **100**C is retrieved. The recorded audio **278** is played using the interactive apparatus **200**. The recorded audio may be retrieve from local storage such as memory units **254** and **284**.

[0036] Also, the recorded audio may be retrieve from remote storage such as the data storage unit **270** and the hard drive **274** via the communication link **266**. Moreover, information associated with the created writing **490** on the encoded writing medium **100**C may be retrieved from local storage (e.g., memory units **254** and **284**) and/or remote storage (e.g., the data storage unit **270** and the hard drive **274**) via the communication link **266**. While in the audio playback mode, the interactive apparatus **200** may be utilized to recognize the control-enabling graphical elements **450**. The recognition may involve tapping on the control-enabling graphical elements **450** and following audio prompts given by the interactive apparatus **200**. Controls such delay, pause, play, rewind, forward, fast forward, fast rewind, speed, and stop are provided by the control-enabling graphical elements **450**.

[0037] As described above, multiple techniques for controlling playback of the recorded audio may include using control-enabling graphical elements **450** to control playback of the recorded audio and using the created writing **490** and the time-synchronization to indicate where to start playback of the recorded audio based on location of the writing tool **262** on the created writing **490** on the encoded writing medium **100**C.

[0038] At FIG. **5**C, the audio playback mode of the interactive apparatus **200** may be deactivated in response to rec-

ognition of at least one of the plurality of control-enabling graphical elements **450** on the encoded writing medium **100**C. The recognition may involve tapping on the control-enabling graphical element **450** and following audio prompts given by the interactive apparatus **200**.

[0039] FIG. **6**A illustrates a flow chart **600** showing the audio recoding mode of the interactive apparatus of FIG. **2** in accordance with an embodiment of the present invention. Reference is made to FIGS. **1**A-**5**C.

[0040] At Block **610**, the interactive apparatus **200** activates an audio recording mode in response to recognition of a recording-enabling graphical element **410** on the encoded writing medium **100**. The recording-enabling graphical element **410** may be drawn with the writing tool **262** or may be preprinted on the encoded writing medium **100**. The recognition may involve tapping on the recording-enabling graphical element **410** and following audio prompts given by the interactive apparatus **200**.

[0041] Further, at Block **620**, while recording audio using the interactive apparatus **200**, creation of writing on the encoded writing medium **100** with the writing tool **262** and recording of the audio is time-synchronized using the interactive apparatus **200**.

[0042] Furthermore, at Block **630**, the audio recording mode of the interactive apparatus **200** is deactivated in response to recognition of at least one of a plurality of control-enabling graphical elements **450** on the encoded writing medium **100**. The recorded audio **278** and information **276** associated with the created writing on the encoded writing medium **100** may be stored locally (e.g., memory units **254** and **284**) and/or in a remote storage location such as the data storage unit **270** and the hard drive **274**. Also, the recorded audio **278** and information **276** associated with the created writing on the encoded writing medium **100** may be maintained in local memory (e.g., memory units **254** and **284**) and/or in remote storage location (e.g., the data storage unit **270** and the hard drive **274**) and may be retrieved later during the audio playback mode in response to recognition of other graphical elements or location of the writing tool **262** on created writing on the encoded writing medium **100**.

[0043] FIG. **6**B illustrates a flow chart **700** showing the audio playback mode of the interactive apparatus of FIG. **2** in accordance with an embodiment of the present invention. Reference is made to FIGS. **1**A-**5**C.

[0044] At Block **710**, the interactive apparatus **200** activates an audio playback mode in response to recognition of a playback-enabling graphical element **420** on the encoded writing medium **100**. The playback-enabling graphical element **420** may be drawn with the writing tool **262** or may be preprinted on the encoded writing medium **100**. The recognition may involve tapping on the playback-enabling graphical element **420** and following audio prompts given by the interactive apparatus **200**.

[0045] Further, at Block **720**, in the audio playback mode, the recorded audio **278** associated with the writing on the encoded writing medium **100** is retrieved. The recorded audio **278** is played using the interactive apparatus **200**. The recorded audio may be retrieved from local memory (e.g., memory units **254** and **284**) and/or from a remote storage location (e.g., data storage unit **270** and the hard drive **274**) via a wireless link. Control-enabling graphical elements **450** on the encoded writing medium **100** may be used. Also, information **276** associated with the created writing on the encoded writing medium **100** may be retrieved from local memory (e.g., memory units **254** and **284**) and/or from a remote storage location (e.g., data storage unit **270** and the hard drive **274**) via a wireless link.

[0046] Furthermore, at Block **730**, the audio playback mode of the interactive apparatus **200** is deactivated in response to recognition of at least one of the plurality of control-enabling graphical elements **450** on the encoded writing medium **100**. Also, the recorded audio **278** and information **276** associated with the created writing on the encoded writing medium **100** may be maintained in local memory (e.g., memory units **254** and **284**) and/or in remote storage location (e.g., the data storage unit **270** and the hard drive **274**) and may be retrieved later during the audio playback mode in response to recognition of other graphical elements or location of the writing tool **262** on created writing on the encoded writing medium **100**.

[0047] The foregoing descriptions of specific embodiments of the present invention have been presented for purposes of illustration and description. They are not intended to be exhaustive or to limit the invention to the precise forms disclosed, and many modifications and variations are possible in light of the above teaching. The embodiments were chosen and described in order to best explain the principles of the invention and its practical application, to thereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular use contemplated. It is intended that the scope of the invention be defined by the Claims appended hereto and their equivalents.

What is claimed is:

1. An interactive apparatus comprising:
- a writing tool;
- a position determination unit configured to determine position of said writing tool on a writing medium; and
- an audio input device configured to record audio data in synchronization with position determination of said writing tool.

2. The interactive apparatus of claim **1**, further comprising a memory unit operable to store audio data and position data.

3. The interactive apparatus of claim **1**, further comprising a communication device for transmitting recorded audio data and position data to a remote storage location.

4. The interactive apparatus of claim **3**, wherein said communication device comprises a wireless communication device.

5. The interactive apparatus of claim **1**, wherein said writing medium comprises paper encoded with a grid of dots.

6. The interactive apparatus of claim **1**, wherein said writing tool is one of a pen and a pencil.

7. The interactive apparatus of claim **1**, wherein said audio output device is further configured to play said audio data in synchronization with position determination of said writing tool.

8. The interactive apparatus of claim **7**, wherein said writing medium includes a non-electronic recording-enabling graphical element and a non-electronic playback-enabling graphical element.

9. The interactive apparatus of claim **1**, wherein said position determination unit comprises a processor, an optical emitter, and an optical detector.

10. The interactive apparatus of claim **9**, wherein said position determination unit is further configured to capture and store optical images of writing on a surface of said writing medium.

11. An interactive apparatus comprising:
a writing tool;
a position determination unit configured to determine position of said writing tool on a writing medium; and
an audio output device configured to play audio data in synchronization with position determination of said writing tool.

12. The interactive apparatus of claim **11**, further comprising a memory unit operable to store audio data and position data.

13. The interactive apparatus of claim **11**, wherein said writing medium comprises paper encoded with a grid of dots.

14. The interactive apparatus of claim **11**, wherein said writing tool is one of a pen and a pencil.

15. The interactive apparatus of claim **11**, wherein said writing medium includes a non-electronic recording-enabling graphical element and a non-electronic playback-enabling graphical element.

16. The interactive apparatus of claim **11**, wherein said position determination unit comprises a processor, an optical emitter, and an optical detector.

17. A method comprising:
determining position of a writing tool on a writing medium; and
recording audio data in synchronization with said determining position of said writing tool.

18. The method of claim **17**, further comprising
playing said audio data in synchronization with said determining position of said writing tool.

19. The method of claim **17**, wherein said writing medium comprises paper encoded with a grid of dots.

20. The method of claim **17**, wherein said writing tool is one of a pen and a pencil.

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