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WO 02/10936 A1

(54) Title: METHOD FOR CREATING AND SYNCHRONIZING LINKS TO OBJECTS IN A VIDEO

(57) **Abstract:** The subject invention provides a method of providing information to a viewer of a video through a video player (14) on a displays such as a computer screen or television screen. A program allows an operator to create links between specific information and dynamic objects (10) within the changing scenes (12) of the video. The subject invention uses a program to establish and store the links. The operator can create the links manually or the program can identify features of the object (10) and then maintain the link when the dynamic object (10) changes in size or shape. The program records all of the links and compiles the information into an interface (18). The interface (18) is transparent and is positioned over the video player (14) on the screen (16). The program synchronizes the links to the video. A viewer, while watching the video, can select one of the objects (10) in the scene (12). The video either stops and the specific information linked to the object (10) is displayed in a window (20) or the video continues to play behind the window (20) displaying the information. When the viewer chooses to close the window (16), the video resumes its normal play.

METHOD FOR CREATING AND SYNCHRONIZING LINKS TO OBJECTS IN A VIDEO

BACKGROUND OF THE INVENTION

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1. Field of the Invention

The subject invention relates to a method of providing information specific to objects on a display.

2. Description of the Prior Art

10 There are various methods of providing information that link specific information to a video which are well known in the prior art. An example of such a method is disclosed in the U.S. Patent 6,002,394 to Schein et al. This patent describes an invention practiced under the trademark "WebTV", hereinafter referred to as interactive TV.

15 The interactive TV provides a television schedule and information guide, which allows interaction between a television viewer and information associated with a television program. Two-way communication is established with an on-line internet provider. The on-line internet provider is used to provide information from broadcast stations and advertisers. The on-line internet provider supplies information concerning the television program, actors, products related to the program, etc. This information
20 is displayed in a product window. The link to the information is established between the information and the program itself. The information is only unique to the program the viewer chooses to select.

SUMMARY OF THE INVENTION AND ADVANTAGES

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The subject invention includes a method of delivering information comprising the steps of accessing video media having a changing scene with dynamic objects therein and storing information specific to the dynamic objects. The method is characterized by displaying the information specific to the dynamic object within the changing scene in response to visually cueing the dynamic object.

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Accordingly, the information is linked directly to the dynamic object in the changing scene. Therefore, at the same time, a plurality of dynamics objects would be

accessible to a viewer. Each dynamic object would contain a link to specific information related to that object. The subject invention provides the viewer access to more information than just the generic information linked to the television program or video.

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BRIEF DESCRIPTION OF THE DRAWINGS

Other advantages of the present invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings wherein:

Figure 1 is an exploded perspective of the program of the subject invention running concurrently with a video player on a computer monitor;

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Figure 2 is a frontal elevation of the computer screen when a viewer accesses a link between a dynamic object and information related to the dynamic object;

Figure 3 is a schematic diagram of the steps of the method of the subject invention.

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DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the Figures, wherein like numerals indicate like or corresponding parts throughout the several views, the subject invention includes the method of providing information related to dynamic objects 10 within a video. The method begins with the step of accessing video media that has a changing scene 12. This is accomplished with the use of a video player 14. The changing scene 12 includes dynamic objects 10. The method proceeds with the step of storing information related to the dynamic objects 10 within the changing scene 12.

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The method is characterized by displaying the information that is specific to the dynamic objects 10 within the changing scenes 12. The method displays this information in response to visual cueing. A viewer of the video media selects a dynamic object 10 on a display 16. The information is then displayed that is specific to that dynamic object 10.

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The subject invention utilizes a program to perform the steps of the method. The program is used for entering, linking and storing the information specific to the dynamic objects 10 within the scenes 12. The program is also creates an interface 18 that allows interaction between the video and the viewer. The interface 18 allows the viewer to select the dynamic object 10 within the scene 12 and retrieves the specific information linked to that object 10.

The method includes the steps of creating a new link. There are two techniques to create the links between the specific information and the dynamic object 10. The steps of both techniques are illustrated in a schematic outline in Figure 3. The manual method requires complete control from an operator. The steps of the manual method begin with accessing a video through a video player 14. The operator determines which dynamic object 10 to which to link information. The operator then defines this link by selecting the object 10 in the video. Often this step is accomplished through the use of standard computer equipment such as a mouse or keyboard. The operator uses the program and the standard computer equipment to surround the dynamic object 10 with a link. The operator then defines the information specific to the link. The program records the specific information and the link to the dynamic object 10. When the dynamic object 10 changes in size, shape or location, the operator must redefine the link to the dynamic object 10. The program records the links of the information to the dynamic object 10. The step of redefining the link when the dynamic object 10 changes in size, shape or location is repeated until the end of the video sequence.

In the alternative, the automatic method eliminates the need for complete control by the operator. The initial steps of the automatic method are the same as the manual method. The operator must first access the video through the use of a video player 14. Then, the operator determines which dynamic object 10 to link the information. Through the use of the program the operator defines the link and the information. The program records the link and information. The program also records several identifying features about the object 10 the operator has selected. The

identifying features include features such as pixel size, location or color. The program then monitors the video to identify changes in any of the identifying features. When one of the identifying features changes, the program automatically redefines the link of specific information to the object 10. The program continues to search for changes of the identifying features and redefine the links until the end of the video sequence.

The remaining steps of the method are the same for both the manual and automatic techniques of defining the links. The next step is for the program to compile the recorded links into the interface 18. Referring to Figure 1, the interface 18 is positioned over the video player 14 and runs concurrently. The interface 18 is clear or transparent. The video is observed by the viewer and the links to the specific information of each dynamic object 10 are still attached and available. Once the interface 18 is positioned over the video player 14, the links of information to the objects 10 are synchronized with the video. For the synchronization step, the program uses the details recorded earlier when the operator or program was defining the links.

When the video player 14 plays the video the interface 18 runs concurrently providing the viewer with access to the synchronized links.

During play of the video, a viewer can access the specific information linked to the dynamic objects 10 in the changing scenes 12 of the video. To access the information the viewer must select the desired object 10. Again, this is commonly accomplished with the use of standard computer equipment such as a mouse or keyboard. Typically, a viewer uses the mouse to place a cursor over the dynamic object 10 in the video. When the cursor is in position, the viewer then clicks once or twice to select the object and display the linked information. The invention will either stop play of the video and display the information or continue to run the video while concurrently displaying the linked information. If the video is to stop playing, once one of the dynamic objects 10 is selected all changes and movement in the video halts. The video does not advance any further. Once the video is stopped, the specific information linked to the object 10 is displayed in a window 20 next to the dynamic object. Please

refer to Figure 2. After reviewing the information, the viewer can select a button on the screen that returns to the video. The video resumes play at the point it was originally halted. The interface 18 remains positioned over the video player 14. The video continues to play until another dynamic object 10 is selected by the viewer or until the
5 end of the video sequence.

Alternatively, if the video is to continue playing, the window 20 is displayed containing the linked information over the continually playing video on the display. The video will continue to play behind the window. After reviewing the information, the viewer can select a button on the screen that closes the window that contains the
10 linked information and continue to observe the video. The video continues to play until another dynamic object 10 is selected by the viewer or until the end of the video sequence

Obviously, many modifications and variations of the present invention are possible in light of the above teachings. The invention may be practiced otherwise than
15 as specifically described within the scope of the appended claims, wherein that which is prior art is antecedent to the novelty set forth in the "characterized by" clause. The novelty is meant to be particularly and distinctly recited in the "characterized by" clause whereas the antecedent recitations merely set forth the old and well-known combination in which the invention resides. These antecedent recitations should be interpreted to
20 cover any combination in which the inventive novelty exercises its utility. In addition, the reference numerals in the claims are merely for convenience and are not to be read in any way as limiting.

CLAIMS

What is claimed is:

1. A method of providing information comprising the steps of;
accessing video media having a changing scene (12) with dynamic
5 objects (10) therein;
storing information specific to the dynamic objects (10);
said method characterized by displaying the information specific to the
dynamic object (10) within the changing scene (12) in response to visually cueing the
dynamic object (10).
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2. A method as set forth in claim 1 wherein creating a program for
entering, linking and storing the information and linking the information specific to
each dynamic object (10) to the dynamic object (10).
- 15 3. A method as set forth in claim 2 including creating a new link to the
dynamic object (10) in response to movement or change in size of the dynamic object
(10) in the changing scenes (12).
4. A method as set forth in claim 4 including recording a plurality of the
20 links for each dynamic object (10).
5. A method as set forth in claim 4 including synchronizing the links with
the movement and change of the dynamic objects (10) and the changing scenes (12).
- 25 6. A method as set forth in claim 2 including recording a plurality of
identifying features of each dynamic object (10).

7. A method as set forth in claim 6 including identifying a change of one of the identifying features.

8. A method as set forth in claim 7 including creating a new link of the information to the dynamic object (10) in response to a change in one of the identifying features.

9. A method as set forth in claim 5 including stopping all movement and change in the changing scene (12) and establishing the link while the scene (12) is stopped.

10. A method as set forth in claim 9 including displaying the information related to the dynamic object (10) while all movement and change in the changing scene (12) are stopped.

11. A method as set forth in claim 5 including continuing movement and changes in the changing scene (12) and establishing the link while the scene (12) is changing.

12. A method as set forth in claim 11 including displaying the information related to the dynamic object (10) while the movement and change in the changing scene (12) continue.

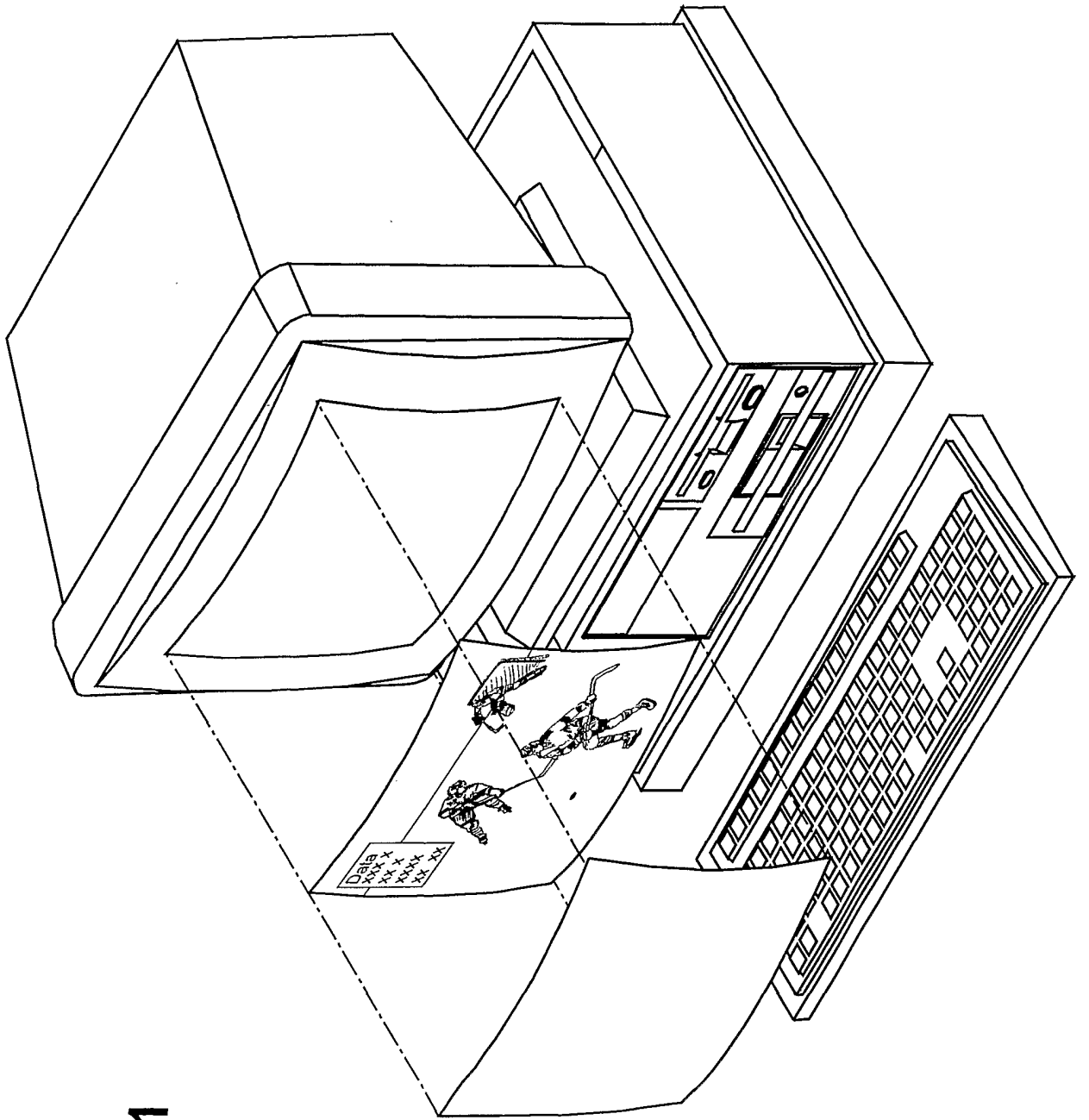


FIG - 1

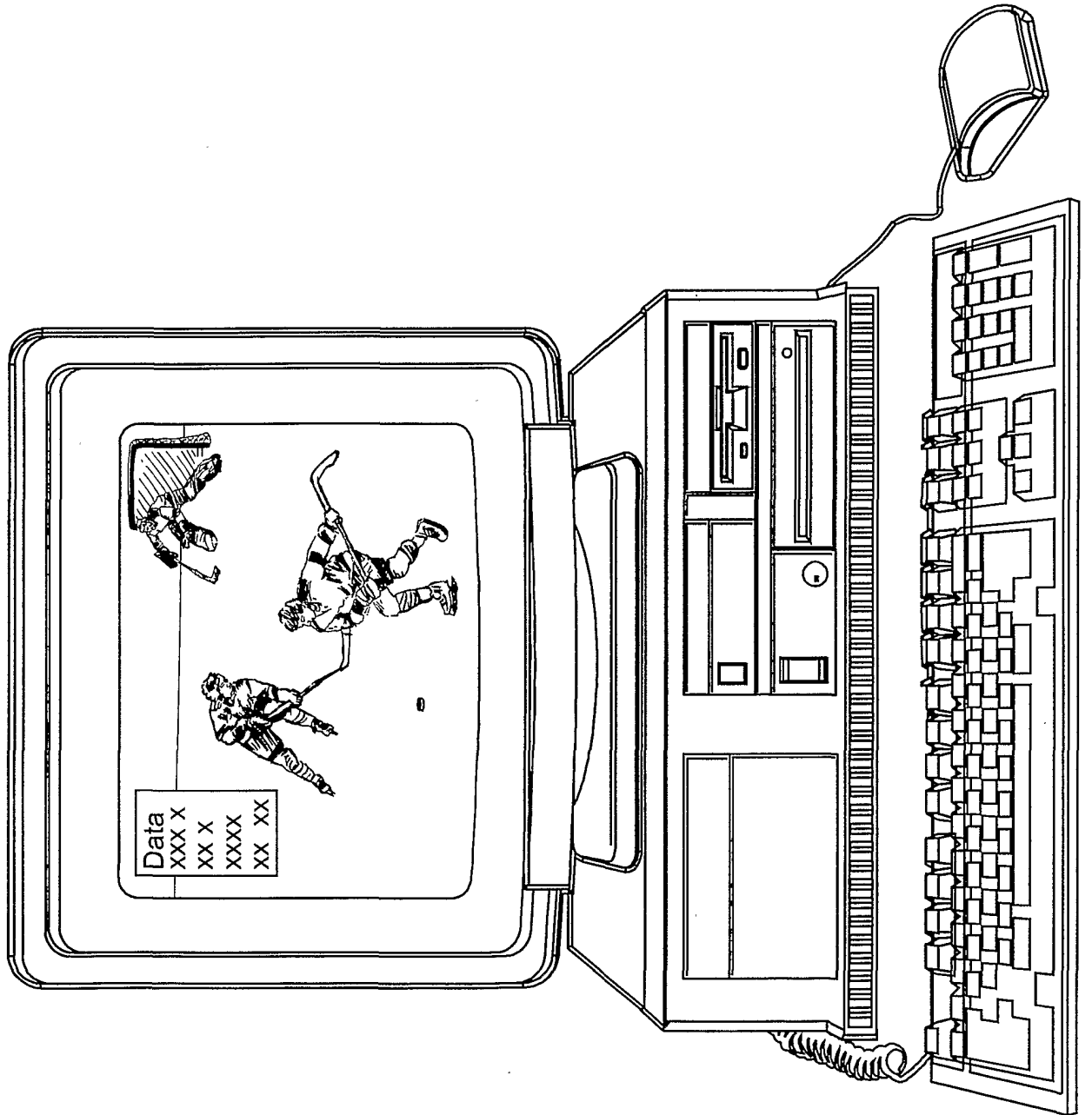
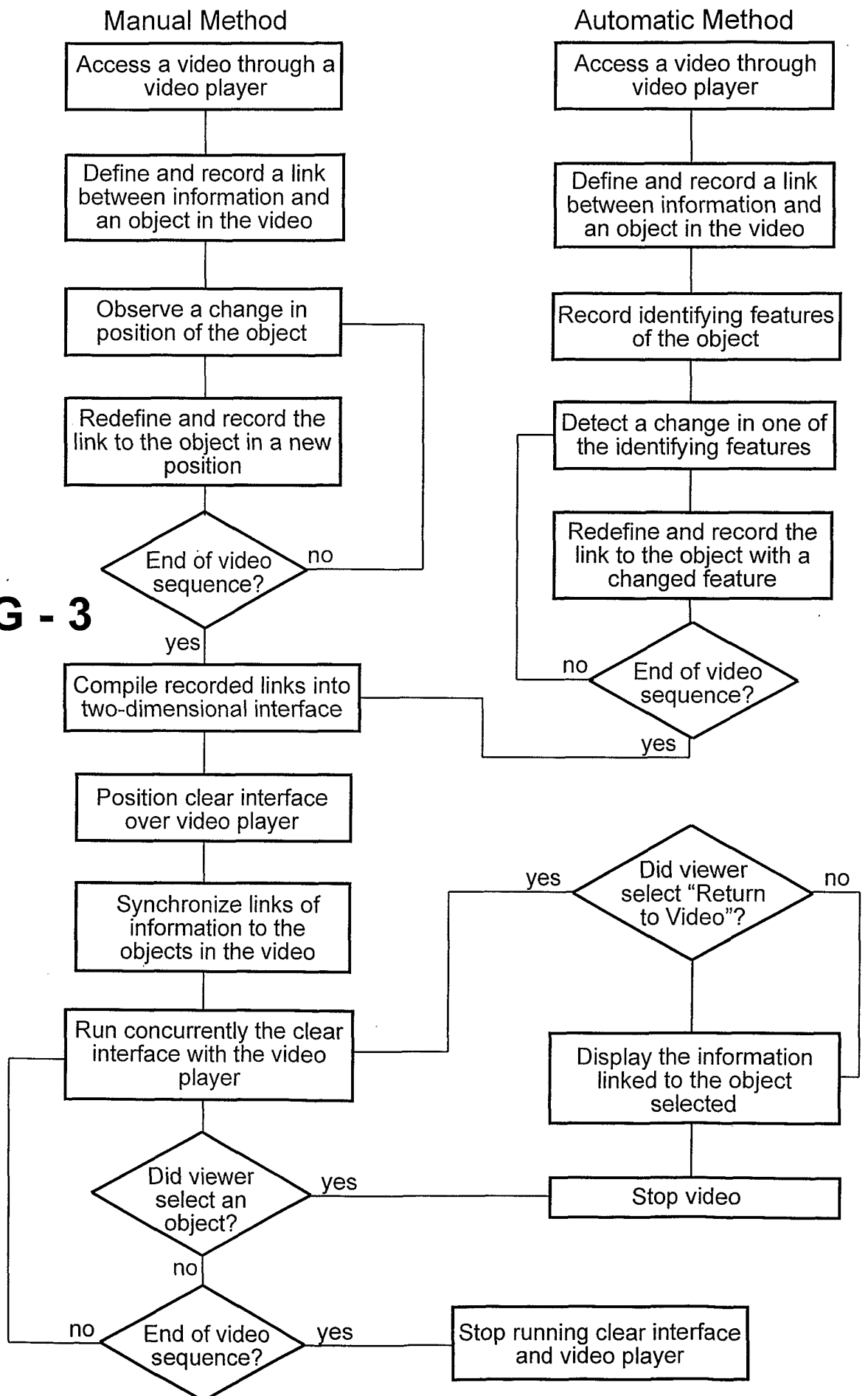


FIG - 2

FIG - 3



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/41324

A. CLASSIFICATION OF SUBJECT MATTER		
IPC(7) :G06K 15/00; G06F 1/00 US CL :348/478, 826, 849, 854, 861; 707/500.1 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED		
Minimum documentation searched (classification system followed by classification symbols) U.S. : 348/478, 826, 849, 854, 861; 707/500.1		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) BRS		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X, P	US 6,144,375 A (JAIN et al) 7 NOVEMBER 2000, col. 8, lines 35 - 60.	1-3 and 6-8
X	US 5,684,715 (PALMER et al) 4 NOVEMBER 1997, col. 7, lines 34 - 58.	1 - 3 and 6 - 8
A	US 6,002,394 A (SCHEIN et al) 14 DECEMBER 1999	1-3 and 6-8
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> See patent family annex.		
* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed		
Date of the actual completion of the international search 27 NOVEMBER 2001	Date of mailing of the international search report 06 DEC 2001	
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer RAY BAYERL <i>James R. Matthews</i> Telephone No. (703) 305-9600	

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/41324

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claims Nos.: 4-5 and 9-12
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
 No protest accompanied the payment of additional search fees.