

FIG. 1

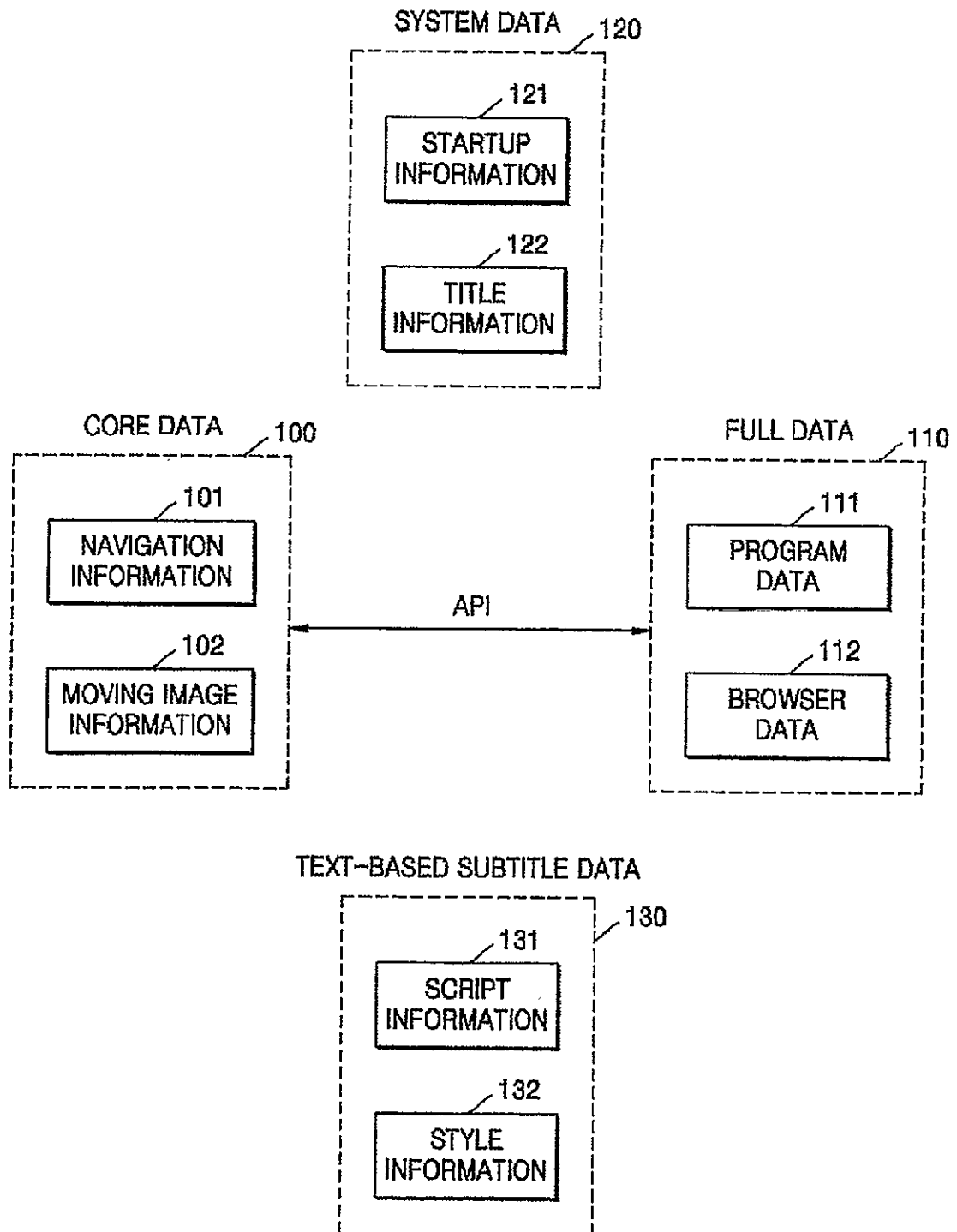


FIG. 2

Elements	Minimal Content Model	Attributes
201 subtitle	stylesheet, script	subtile_id(ID), lang(LanguageCode), title(CDATA)
stylesheet	stylesheet+	
202 stylesheet	style+	stylesheet_id(ID), default("yes" "no"), desc(CDATA)
style	EMPTY	style_id(Class), font(Charset), color(Color), bgcolor(Color), size(Number), position(Number, Number), align("left" "right" "center"), region(Coords), lineheight(Number)
script	dialog+	
203 dialog	PCDATA	begin(PresentationTime), end(PresentationTime), ref_style_id(IDREF)

FIG. 3

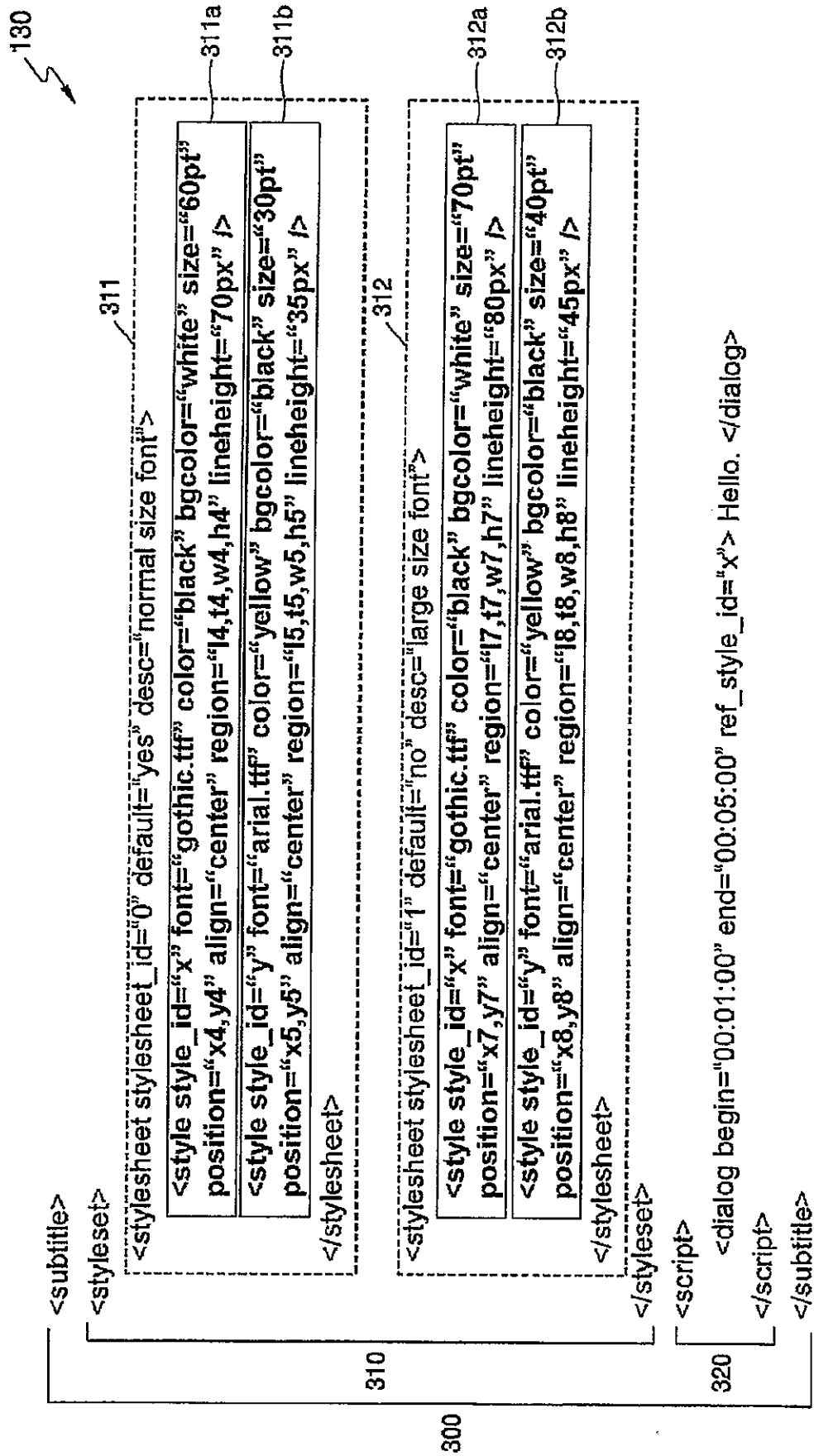


FIG. 4

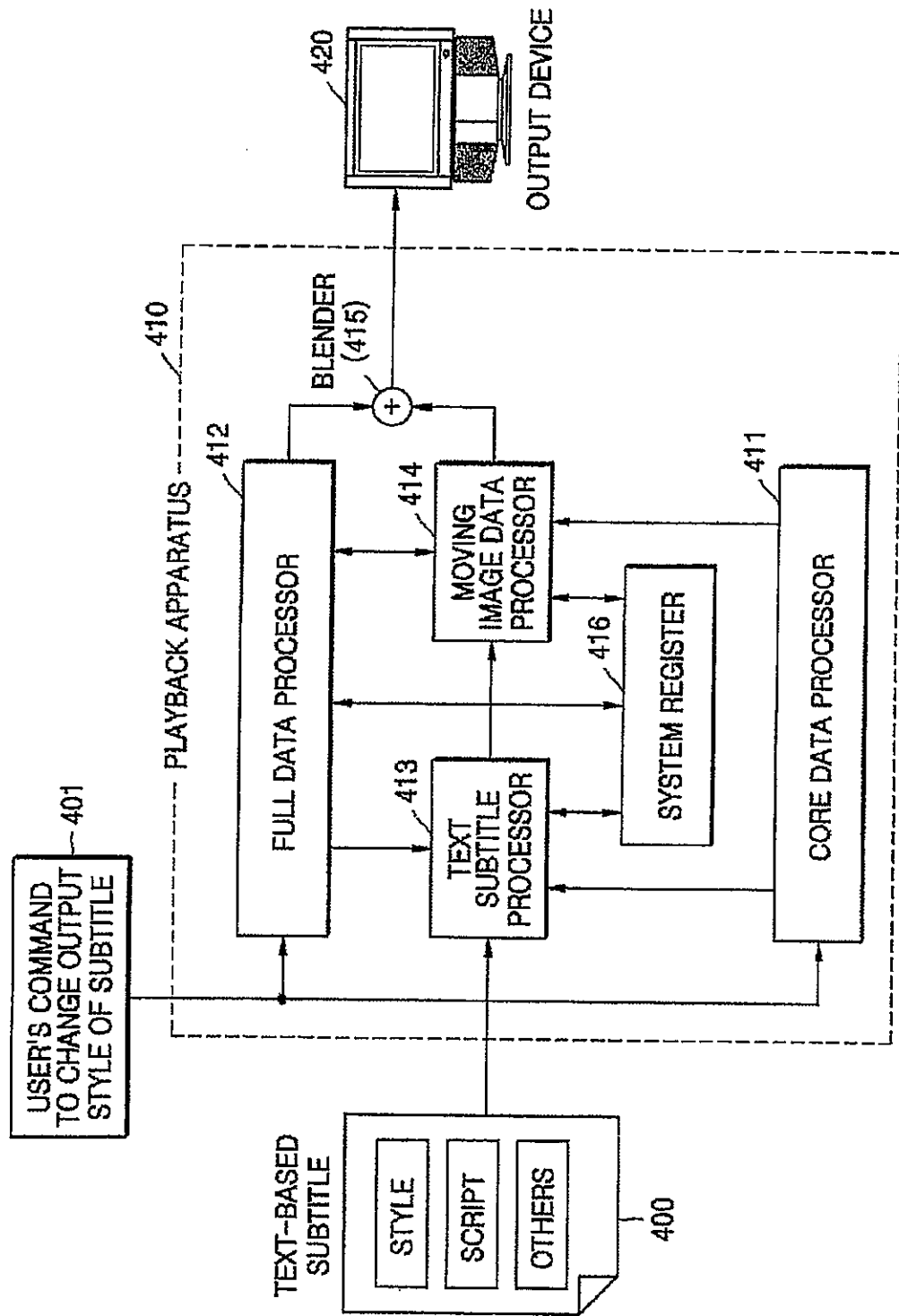


FIG. 5

Player Status Registers (PSRs)

Reg. Num	Name	Meaning
0	—	Reserved
1	Audio	Audio Stream Number
2	Subtitle	Subtitle Stream Number or Text Subtitle id
...		
17	Subtitle Language	Language Code for Subtitle
...		
19	Subtitle Stylesheet	Stylesheet_id for Text Subtitle
20	—	Reserved
:	:	:
63	—	Reserved

FIG. 6

GENERAL PURPOSE REGISTERS (GPRs) OR BUFFER OF TEXT SUBTITLE PROCESSOR

Address	Value	Variable name
0		
:		
100	102	Start_addr_of_Stylesheet_ID
101	2	Num_of_Stylesheet
102	ID for Stylesheet "Normal"	Stylesheet[0]
103	ID for Stylesheet "Large"	Stylesheet[1]
:		
4098		

FIG. 7

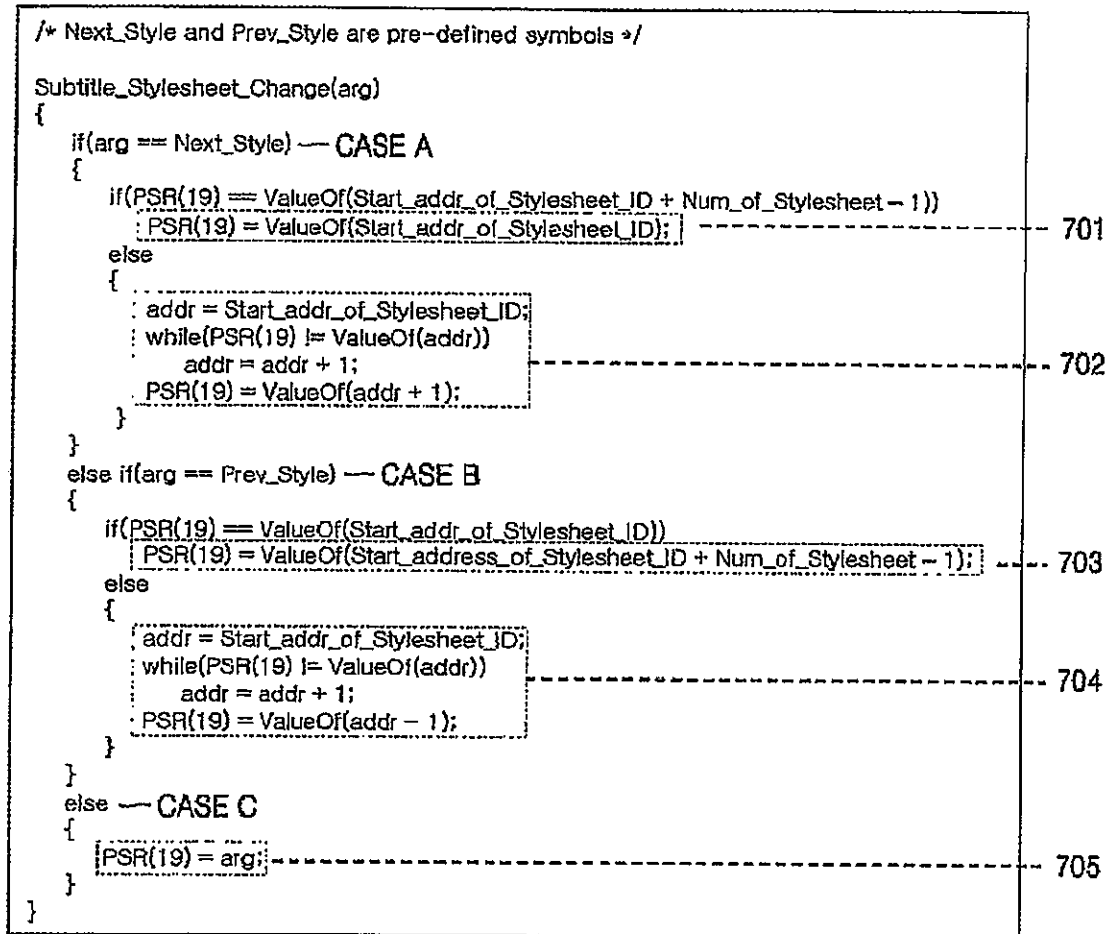


FIG. 8

```
package BDROM.media.subtitle

public interface TextSubtitle extends Subtitle {
    public boolean status;
    public TextSubtitleAttribute getAttribute();
    public unsigned int getLangCode();
    public String getTitleName();
    public unsigned int getSubtitleID();

    public unsigned int getCurrentTextStylesheetID();
    public void setTextStylesheetID(unsigned int ID);
    public void nextTextStylesheet();
    public void prevTextStylesheet();
    public unsigned int getDefaultTextStylesheetID();

    public Time getCurrentPresentationTime();
    public void setPresentationTime(Time t);

    public FILE getCurrentTextSubtitle();
    public void setTextSubtitle(String filename or unsigned int ID);

    public void start();
    public void stop();
}
```

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FIG. 9

```

1 : import BDRom.media.*;
2 : public class PlayXlet extends Xlet implements ControllerListener {
3 :     Player player;
4 :     public void init() {
5 :         setLayout(new BorderLayout());
6 :         String mediaFile = getParameter("FILE");
7 :         try {
8 :             URL mediaURL = new URL(getDocumentBase(), mediaFile);
9 :             player = Manager.createPlayer(mediaURL);
10 :             player.addControllerListener(this);
11 :             player.subtitle = new TextSubtitle();
12 :             player.subtitle.setTextSubtitle("filename");
13 :         } catch (Exception e) {
14 :             System.out.println("Get Exception " + e);
15 :         }
16 :     }
17 :     public void start() {
18 :         player.start();
19 :     }
20 :     public synchronized void controllerUpdate(ControllerEvent e) {
21 :         if (e instanceof SubtitleToggleEvent) {
22 :             if (player.subtitle.status == TRUE)
23 :                 player.subtitle.stop();
24 :             else {
25 :                 player.subtitle.setPresentationTime(player.getMediaTime());
26 :                 player.subtitle.start();
27 :             }
28 :         }
29 :         if (e instanceof nextSubtitleStylesheetEvent) {
30 :             player.subtitle.nextTextStylesheet();
31 :         }
32 :         if (e instanceof prevSubtitleStylesheetEvent) {
33 :             player.subtitle.prevTextStylesheet();
34 :         }
35 :         if (e instanceof setSubtitleStylesheetEvent) {
36 :             player.subtitle.setTextStylesheetID(e.value);
37 :         }
38 :     }
39 : }

```

FIG. 10

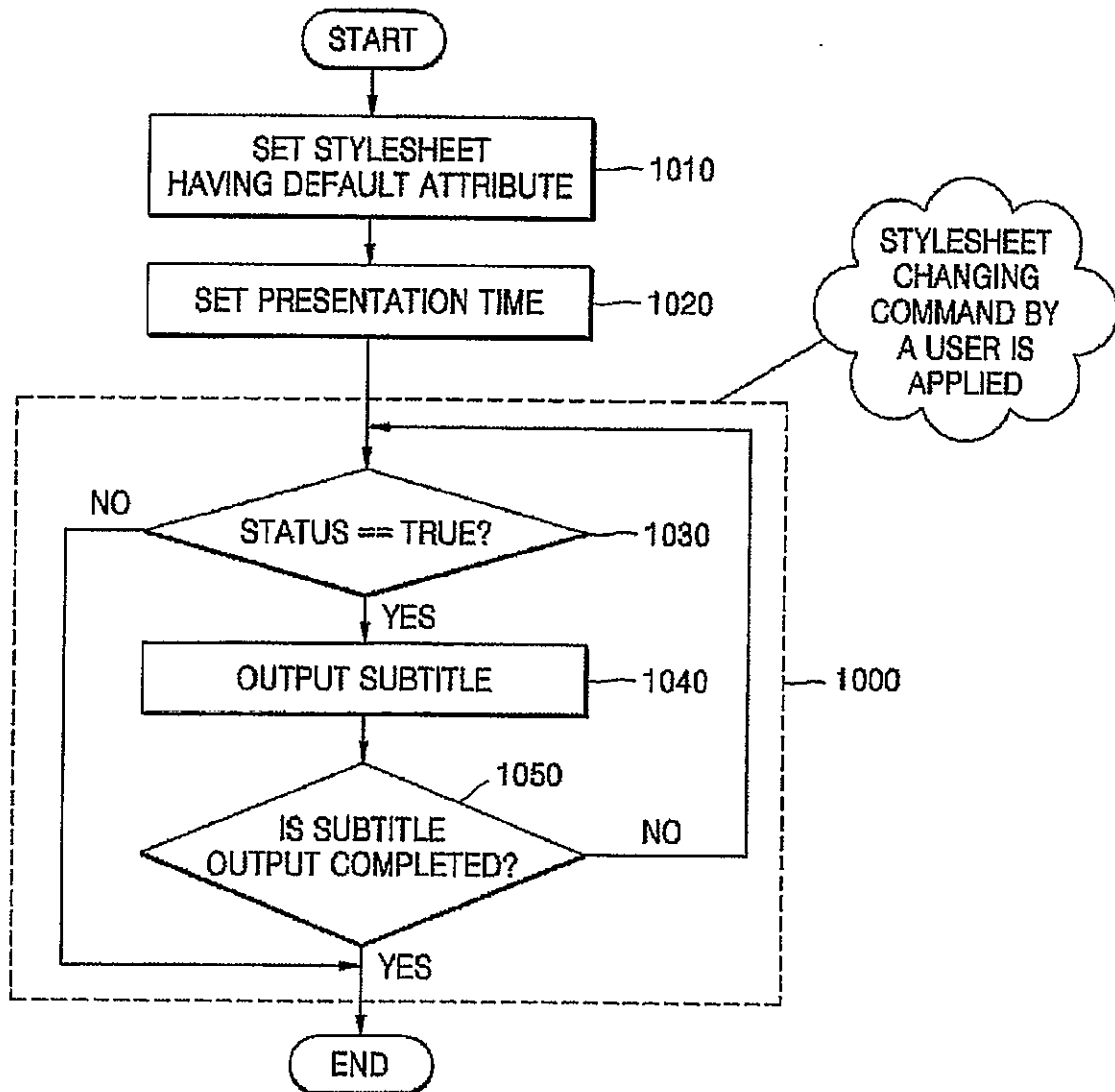


FIG. 11

