Title: METHOD AND COMPUTER READABLE MEDIUM FOR DISPLAYING GAME MENU SCREEN BY FLASH IN ON-LINE GAME

Abstract: Disclosed is a method and recorded medium for displaying game menu by flash. The recorded medium comprises a flash module including flash graphic data and action scripts associated with the flash graphic data, the flash module analyzing the flash graphic data and the action scripts; and a platform program installed in a client for transmitting necessary for game processing through communication with a game server. When a user requests information which requires communication with the game server for obtaining, the flash module provides parameter corresponding to the user’s request information to the platform program, the platform program analyzes the parameter corresponding to the user’s request information and requests the game server the information corresponding to user’s request to receive and provides the received information to the flash module. Screen designer can reduce time for designing game menu and can provide greater graphic. Furthermore, proper communication with game server is possible although game menu is implemented with flash.
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.
Title of the invention

METHOD AND COMPUTER READABLE MEDIUM FOR DISPLAYING
GAME MENU SCREEN BY FLASH IN ON-LINE GAME

Field of the invention

The present invention relates to a method and recorded medium for displaying online game menu screen.

Background of the invention

Along with the development of the Internet, Online games which are different from package format game are increasing. These online games includes many kinds of game such as RPG (Role playing game), shooting game, board game and so on. These online games appeal to users in that competition with others users is possible unlike package game for sole playing.

Recently, one service provider generally provides various kinds of game such as gosstop, porker, baduk, block game and so on, users selects a game to play in the web page of game site.

When user selects a game, channel information is transmitted and the user selects a game room among game rooms generated in the selected channel to play the game.
When user selects a game, application corresponding to the selected game is executed by the control of web page script or ActiveX Control, and the application provides menu screen by which users can select channel and game room.

Conventionally, menu screen by which users can select channel and game room was provided by application, and programmer had to program the menu screen using GDI and other tools, which requires much time for editing menu screen.

Further graphic implemented by the application is a fixed form, and therefore, screen with better design could not be provided.

Although tools including flash which can provided better graphic are used, flash can transmit and receive only text data in socket communication, and therefore, flash had many disadvantages in communication with server. Therefore, flash data was used just as object of online game menu screen, full flash menu screen could not be implemented.

15 **Detailed description of the invention**

**Technical objects**

In order to solve above-mentioned problems, the present invention provides a method and recorded medium for implementing and displaying online game menu screen by flash.
Further, the present invention provides a method and recorded medium that can provide game menu screen with greater graphic while reducing time for editing game menu screen.

Furthermore, the present invention provides a method for displaying game menu screen that enables proper communication with game server although game menu is implemented by flash.

**Technical solution**

According to the preferred embodiment of the present invention, there is provided a recorded medium readable by a digital processing device, tangibly embodying a program of instructions executable by the digital processing device for implementing online game menu display by flash, comprising: a flash module including flash graphic data and action scripts associated with the flash graphic data, the flash module analyzing the flash graphic data and the action scripts; and a platform program installed in a client for transmitting necessary for game processing through communication with a game server, when a user requests information which requires communication with the game server for obtaining, the flash module provides parameter corresponding to the user's request information to the platform program, the platform program analyzes the parameter corresponding to the user's request information and requests the game server
the information corresponding to user's request to receive and provides the received information to the flash module.

The flash module comprises at least one flash graphic data for displaying menu for game progressing; at least one operation control action script that defines action information in the flash when predetermined events occur; at least one platform communication action script that defines action information for communication with the platform program when predetermined events occur; and a flash player module for analyzing the scripts and the flash graphic data to display.

The user's request information which requires communication with the game server for obtaining includes channel information request information and game room information request information.

The platform program comprises a channel information collecting module for receiving requested channel information, when a parameter corresponding to channel request information is provided from the flash module; a channel information transforming/providing module for transforming the collected channel information into predetermined format data and providing the transformed data to the flash module; a game room information collecting module for receiving requested game room information from the game server, when a parameter corresponding to the game room request information is provided from the flash module; a game room information transforming/providing module for transforming the game room information collected
by the game room information collecting module into predetermined format data and
providing the transformed data to the flash module.

The flash module calls a predetermined function of the platform program in
providing parameter corresponding to user's request when the user requests information
which requires communication with the game server for obtaining.

The flash module calls FSCommand() of the platform program in providing the
parameter corresponding to the user's request.

The platform program, in providing information received from the game server as
parameter, calls action script of the platform program corresponding to the providing
parameter.

The flash module and the platform program calls function or script through a
COM interface.

The platform program performs communication with the game server by a socket
communication method.

According to another aspect of the present invention, there is provided a method
for displaying online game menu screen using flash by a flash module and a platform
program, comprising the steps of: (a) receiving user's request information through game
menu screen displayed by the flash module; (b) the flash module's calling an action
script in order to provide a parameter corresponding to the user's request to the platform
program if communication with a game server is required in order to obtain information
that user requested; (c) the platform program's receiving information corresponding to
the user's request in response to the parameter from the flash module; and (d) the
platform program's providing the received information to the flash module as a
parameter.

According to still another aspect of the present invention, there is provided a
method executed in a server for displaying online game menu screen by flash,
comprising the steps of: (a) providing a flash module and a platform program to a user
client; (b) receiving information that user requested through a flash screen from the
platform program installed in the user client; and (c) transmitting data corresponding to
the user's request to the user client, wherein the flash module displays game menu flash
screen and if the information that user requested requires communication with the
server for obtaining, the flash module provides a parameter corresponding to user's
request to the platform program, the platform program requests information
corresponding to the parameter to the server, receives the information, and provides the
received information to the flash module.

**Brief description of the drawings**

FIG. 1 illustrates a system where method for implementing game menu screen
using flash of the present invention is applied.
FIG. 2 is a flow chart for whole process of menu screen implementing method using flash according to a preferred embodiment of the present invention.

FIG. 3 is a block diagram of the flash module according to a preferred embodiment of the present invention.

FIG. 4 is module of the platform program according to a preferred embodiment of the present invention.

FIG. 5 is a flow chart for showing the process that operation of platform program and the flash player is started according to user's game selection information.

FIG. 6 is a flow chart for showing the process that channel information is displayed on a game menu screen implemented by flash according to a preferred embodiment of the present invention.

**Mode of invention**

Hereinafter, the preferred embodiment of the present invention will be described with accompanying drawings.

FIG. 1 illustrates a system where method for implementing game menu screen using flash of the present invention is applied.

Referring to FIG. 1, the system where the present invention is applied may comprise a user client 100, a game server 110 and a game connection server 112, and a
web browser 102, an ActiveX Control 104, a flash module and a platform program 108 may be installed on the user client 100.

In FIG. 1, the user client 100 executes game through communication with the game server 110. The user client 100 may include digital data devices which can communicate through network and operate application program such as web browser and platform program, and the digital data devices may include PC, PDA, notebook, mobile communication terminal, etc.

In general online games, process for user to connect to game site and select game is performed through web browser 102. When user connects to game connection server initially, the game connection server provides a web page by which users can select particular online game, and the web page provided by the game connection server is displayed on the web browser 102 installed in the user client. Herein, the online game may include board games such as gosstop and porker, block games and other various kinds of online games.

The web page may include ActiveX Control information, the ActiveX Control controls the user client to execute corresponding game when user selects a particular game. The ActiveX Control information may be included in the web page in the form of OBJECT Tag, if the ActiveX Control is not installed in the user client, the process for downloading the ActiveX Control is performed.
When ActiveX Control 104 is installed in the user client and user selects a game from the web page, the ActiveX Control 104 controls the user client to download platform program corresponding to selected game.

The selected game through the web page need not be necessarily executed by ActiveX Control, it would be obvious to those skilled in the art that the selected game can also be executed by java script of web page, and so on.

The platform program 108 performs communication with the game server 110 and executes selected game. Conventionally, if the platform program is executed, a menu screen for providing channel information of selected game and receiving selected channel information from user and a menu screen for selecting a particular game room was provided, and according to selection information of user, the game was processed. That is, all of display of menu screen and communication with server was performed by platform program.

As described above, because menu screen for channel and game room selection was provided by the platform program, the programmer had to program the game menu graphic data and due to limit of design tool, it was difficult to provide a game menu with great design.

Therefore, the present invention provides a method, by which the game menu graphic is provided by flash and the game execution and the communication with the game server is performed by the platform program.
In the present invention, the flash module 106 cooperates with the platform program 108 and displays menu screen selected by user. The flash module 106 displays menu screen corresponding to selected game by user. If user inputs request information such as channel selection or game room selection, the flash module processes the request information by executing its script or through communication with the platform program.

When game menu graphic is implemented by flash, menu graphic can implemented only with design of flash designer. Therefore, time can be saved than game menu graphic is implemented by platform program. Furthermore, relatively high quality design of game menu graphic can be provided.

Moreover, the present invention provides a method of which efficiency can be maximized by cooperation of flash module 106 and the platform program 108. General flash can perform simple communication process such as URL connection and calling of java script. However, relatively complex communication could not be performed by flash, especially, in socket communication, only the text data could be transmitted through flash and the binary data could be transmitted through flash.

In order to solve above mentioned problems, according to the present invention, when communication with the game server is necessary in order to process user's request, the request information of user is transferred from the flash module 106 to the platform program 108 and the platform program 108 performs communication with the
game server and the received information from the game server transferred to the flash module 106.

Through above mentioned operation of flash module 106 and the platform program 108, the game menu with greater design can be provided, and limit of communication which is disadvantage of flash can be overcome by the platform program.

FIG. 2 is a flow chart for whole process of menu screen implementing method using flash according to a preferred embodiment of the present invention.

Referring to FIG. 2, when a user selects a particular game though web page, corresponding platform program is executed and the platform program requests to the flash module to display initial screen of selected game 200. Although it is not shown in FIG. 2, when platform program is executed, the platform program may perform process which determines if version update or flash data update is necessary though communication with the game server.

The flash module displays initial screen of the selected game in response to request of the platform program 202. Flash data of initial screen of the game is pre-stored in the client.

In initial screen of the game, a menu by which users can select channel of the game is provided, and the user requests information of particular channel by clicking particular channel 204.
The flash module that received channel selection information provides the channel selection information to the platform program 206.

The platform program that received channel selection information requests the game server to transmit data of selected channel 208, and the platform program receives channel data from the game server 210. At this time, it is preferable that the platform program requests channel data and receives the channel data by socket communication method.

The platform program provides received channel data to the flash module 212. The flash module displays channel information using the received channel data 214.

The channel information may include game room information included in the selected channel, user information that joined the selected channel, the flash module displays the channel information on pre-stored channel information flash screen.

When the user selects a game room among game rooms displayed in channel information display screen, the flash module receives game room selection information 216.

The flash module that received game room selection information transmits the selection information to the platform program 218.

The platform program that received game room selection information requests the game server to transmit information on selected game room 220, and receives game room information 222. Like case of channel selection information, it is preferable that
the platform program requests the game room information and receives the game room
information by socket communication method.

The platform program provides game room information to the flash module 224, and the flash module displays the game room information on predetermined game room
flash screen 226.

Information such as channel information and game room information provided from the game server is relatively large data and the large data can be transmitted and received effectively by socket communication method. As described above, request information is provided to the platform program and the platform program substantially
communicates with the game server. Further, the received channel information and the game room information is not displayed by the platform program and but by the flash module which receives information from the platform program.

As such, according to the present invention, role allocation for graphic processing and communication can be performed effectively through communication between the flash module and the platform program, and the detailed communication method between the flash module and the platform program is described referring to another figures.

FIG. 3 is a block diagram of the flash module according to a preferred embodiment of the present invention.
Referring to FIG. 3, the flash module may comprise a flash data module 300, a flash player module 302 and the flash data module 300 may comprise a flash graphic data 304, operation control action script 306 and platform communication action script 308.

The flash graphic data 304 is data for displaying graphic externally by flash player. As described above, the graphic design can be implemented by flash designer, not by programmer. The flash graphic data may include flash data for initial game screen, flash data for channel information screen and flash data for game room screen, etc. It would be obvious to those skilled in the art that more various flash data can be provided depending on kinds of game.

The flash data for initial game screen and the flash data for channel information, etc. may be separate flash file or unified flash file.

When flash data for each screen are separate files, the flash data corresponding to user's request is loaded by the flash player 302. When there are plurality of flash data in a flash file, only the flash layer corresponding to user's request is displayed and other layers are hidden.

Action script is divided into the operation control action script 306 and platform communication action script 308 according to operation property. The operation control action script controls internal flash operation when there occurs predetermined events.

For example, when user positions the mouse cursor on a channel interface, the operation
control action script controls the flash player to display information on corresponding channel (for example, information on ages for entering the channel). For another example, when user clicks a icon, the operation control action script controls the flash player to perform animation of a character.

The platform communication action script 308 provides user's request information to the platform program when communication with the game server is necessary in order to process user's request information. Further, the platform communication action script 308 receives data from the platform program and processes the data with predetermined processing method. For example, when channel information is provided from the platform program, the platform communication action script displays the channel information on the flash screen.

In more detail, the platform communication action script 308 calls function of the platform program and provides a parameter to the function in order to user's request information to the platform program. Further, when the platform program provides information to the platform communication action script, the platform program calls platform communication action script associated with the information to be provided and provides the information to the called script as parameter.

The flash player module 302 displays flash graphic data on the client and analyzes the operation control action script or platform communication action script to perform process predetermined by the script when there occurs predetermined events.
The flash player module displays flash graphic data may be installed in the user client in the form of ActiveX Control such as general flash.ocx, and it would be obvious to those skilled in the art that the flash player module can be installed in the user client in other forms besides ActiveX Control.

FIG. 4 is module of the platform program according to a preferred embodiment of the present invention.

Referring to FIG. 4, the platform program according to a preferred embodiment of the present invention may comprise a channel information collecting module 400, a channel information transforming/providing module 402, a game room information collecting module 404, a game room information transforming/providing module 406 and a game data transmitting/receiving module 408.

The channel information collecting module 400 receives channel information through communication with the game server. When a user requests channel information of a particular channel through flash, the platform communication action script of flash provides the user's request information to through communication with the platform program, at this time, the channel information collecting module 400 is called and the channel information collecting module 400 receives channel information from the game server. According to an embodiment of the present invention, the flash player analyzes platform communication action script and provides parameter corresponding to the user's channel information request to the platform program, and the
channel information collecting module 400 channel information corresponding to parameter provided from the flash player.

The channel information transforming/providing module 402 transforms the channel information into predetermined format data, the channel information being received by the channel information collecting module 400, and the channel information transforming/providing module 402 provides the transformed channel information to the flash module. The transformed data format may be various, for example, the transformed data may be XML format or string data. According to an embodiment of the present invention, the channel information transforming/providing module 402 calls platform communication action script that displays channel information on screen through communication with the flash player and provides the channel information as parameter.

The game room information collecting module 404 receives game room information through communication with the game server. When a user requests game room information through flash, the corresponding platform communication action script is called and the flash player provides user's request information through communication with the platform program, at this time, the game room information collecting module 404 is called and the game room information collecting module 404 receives requested game room information from the game server.
According to an embodiment of the present invention, the flash player analyzes platform communication action script and provides parameter corresponding to user's game room request information to the platform program, and the game room information collecting module 404 collects game room information corresponding to parameter provided from the flash player.

The game room information transforming/providing module 406 transforms game room information received by the game room information collecting module 404 into the predetermined format data, and the provides the transformed information to the flash module. As described above, data format may be various. According to an embodiment of the present invention, the game room information transforming/providing module 406 calls platform communication action script that displays game room information on flash screen through communication with the flash player and provides game room information as parameter.

The game data transmitting/receiving module transmits game data generated by user's input or occurrence of predetermined event and receives game data generated from other clients by user's input or occurrence of predetermined event through the game server.

In FIG. 4, only modules for communication with the game server and the flash are shown in order to implement game menu screen with flash, and therefore, it would be obvious to those skilled in the art more modules can be further included for
processing game. Moreover, in FIG. 4, channel information and game room information is shown as data provided to the flash, however, it would be obvious to those skilled in the art that more various information can be transmitted/received between the flash and the platform program depending on the kinds of game.

FIG. 5 is a flow chart for showing the process that operation of platform program and the flash player is started according to user's game selection information.

Referring to FIG. 5, when a user selects a specified game among plurality of games provided by game site through web browser, the script for executing the selected game operates and the script requests the execution of platform program 500. In response to request of the script, the platform program is executed 502. In FIG. 5, the case that platform program is executed by script, however, the platform program can also be executed by ActiveX Control associated with the web page.

If the platform program is executed, the platform program requests the flash player to display initial game screen 504. According to an embodiment of the present invention, the platform program provides flash file information corresponding to initial screen data as parameter to the flash player.

The flash player displays game initial screen using the parameter information provided from the platform program 506.
FIG. 6 is a flow chart for showing the process that channel information is displayed on a game menu screen implemented by flash according to a preferred embodiment of the present invention.

Referring to FIG. 6, the flash module receives selected channel information, the channel being selected by mouse, etc. 600. If user selects a channel, the action script associated with the channel selection is called 602.

By the called action script, parameter corresponding to selected channel information is provided from the flash module and function of the platform program is called. According to a preferred embodiment of the present invention, when flash module calls function of platform program, function such as FSCCommand() of Macromedia can be used. Generally, FSCCommand() is used for calling java script of webpage or communication between flash file of swf type and flash player. However, according to the present invention, FSCCommand() is used to provide user's request information to the platform program. The platform program substantially processes the request information. When the flash module provides predetermined parameter corresponding to channel request as the parameter of FSCCommand(), the platform program determines that flash module requests channel information through the parameter.
Further, according to the preferred embodiment of the present invention, when the flash module calls function of the platform program, the flash module uses COM interface.

The platform program determines that channel information for a specified channel is requested when function is called 606, and the platform program requests channel information for the corresponding channel to the game server 608. The game server provides the requested channel information to the platform program 610.

The platform program transforms the received channel information into predetermined format data 612, and calls function that processes channel information display through COM interface. Herein, the function that processes channel information display may be one of action script included in the flash data. The platform program provides parameter corresponding to channel information when calling function(action script).

The flash module displays corresponding channel information on predetermined screen using the parameter corresponding to channel information provided from the platform program 616.

Referring to FIG. 6, method for requesting channel information to the flash module and the method that platform program provides channel information to the flash module after communication with the server was described, and the game room
information or other information can also be communicated between the flash module and the platform program through the method shown in FIG. 6.

**Industrial applicability**

As described above, according to the preferred embodiment of the present invention, game menu editing time can be reduced and game menu screen with greater graphic can be provided.

Further, according to the preferred embodiment of the present invention, proper communication with game server can be performed although game menu is implemented by flash.

Since the accompanying drawings and the detailed description are only examples of the present invention, it is only for describing the present invention not for limiting the scope of the present invention. Therefore, those who skilled in the art will understand that many changes and equivalent embodiments can be made without departing from the present invention. Thus, the true scope of the present invention must be determined by the accompanying claims.
Claims

1. A recorded medium readable by a digital processing device, tangibly embodying a program of instructions executable by the digital processing device for implementing online game menu display by flash, comprising:

a flash module including flash graphic data and action scripts associated with the flash graphic data, the flash module analyzing the flash graphic data and the action scripts; and

a platform program installed in a client for transmitting necessary for game processing through communication with a game server,

when a user requests information which requires communication with the game server for obtaining, the flash module provides parameter corresponding to the user's request information to the platform program,

the platform program analyzes the parameter corresponding to the user's request information and requests the game server the information corresponding to user's request to receive and provides the received information to the flash module.

2. The recorded medium of claim 1, wherein the flash module comprises

at least one flash graphic data for displaying menu for game progressing;

at least one operation control action script that defines action information in the

flash when predetermined events occur;
at least one platform communication action script that defines action information for communication with the platform program when predetermined events occur; and

a flash player module for analyzing the scripts and the flash graphic data to display.

3. The recorded medium of claim 1, wherein the user's request information which requires communication with the game server for obtaining includes channel information request information and game room information request information.

4. The recorded medium of claim 3, wherein the platform program comprises,

a channel information collecting module for receiving requested channel information, when a parameter corresponding to channel request information is provided from the flash module;

a channel information transforming/providing module for transforming the collected channel information into predetermined format data and providing the transformed data to the flash module;

a game room information collecting module for receiving requested game room information from the game server, when a parameter corresponding to the game room request information is provided from the flash module;

a game room information transforming/providing module for transforming the game room information collected by the game room information collecting module into predetermined format data and providing the transformed data to the flash module.
5. The recorded medium of claim 1, wherein the flash module calls a
predetermined function of the platform program in providing parameter corresponding
to user's request when the user requests information which requires communication with
the game server for obtaining.

6. The recorded medium of claim 5, wherein the flash module calls
FSCommand() of the platform program in providing the parameter corresponding to the
user's request.

7. The recorded medium of claim 7, wherein the platform program, in providing
information received from the game server as parameter, calls action script of the
platform program corresponding to the providing parameter.

8. The recorded medium of claim 6, wherein the flash module and the platform
program calls function or script through a COM interface.

9. The recorded medium of claim 1, wherein the platform program performs
communication with the game server by a socket communication method.

10. A method for displaying online game menu screen using flash by a flash
module and a platform program, comprising the steps of:

   (a) receiving user's request information through game menu screen displayed by
the flash module;
(b) the flash module's calling an action script in order to provide a parameter corresponding to the user's request to the platform program if communication with a game server is required in order to obtain information that user requested;

(c) the platform program's receiving information corresponding to the user's request in response to the parameter from the flash module; and

(d) the platform program's providing the received information to the flash module as a parameter.

11. The method of claim 10, wherein the information which requires communication with the game server for obtaining includes channel information request information and game room information request information.

12. The method of claim 10, wherein the step (b) calls a function of the platform program in providing the parameter corresponding to the user's request.

13. The method of claim 12, wherein the flash module calls FSCommand() of the platform program in providing the parameter corresponding to the user's request.

14. The method of claim 10, wherein the step (d), in providing information received from the server as a parameter, calls action script of the flash module corresponding to the parameter.

15. The method of claim 12 and claim 14, wherein the flash module and the platform program calls a function or an action script through a COM interface.
16. The method of claim 12 and claim 14, wherein the flash module and the platform program calls a function or an action script through a COM interface.

17. A method executed in a server for displaying online game menu screen by flash, comprising the steps of:

(a) providing a flash module and a platform program to a user client;

(b) receiving information that user requested through a flash screen from the platform program installed in the user client; and

(c) transmitting data corresponding to the user's request to the user client,

wherein the flash module displays game menu flash screen and if the information that user requested requires communication with the server for obtaining, the flash module provides a parameter corresponding to user's request to the platform program,

the platform program requests information corresponding to the parameter to the server, receives the information, and provides the received information to the flash module.
### A. CLASSIFICATION OF SUBJECT MATTER

**G06F 17/00(2006.01)**

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)

- IPC: G06F 17/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

- Korean Patent and applications for inventions since 1975
- Korean Utility models and applications for Utility models since 1975
- Japanese Utility models and applications for Utility models since 1975

Electronic databases consulted during the international search (name of database and, where practicable, search terms used):

- eKIPASS "online, display, flash, game, menu, screen"

### C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>KR 2004-94254 A (KIM, DOONG HO et al.) 09 NOVEMBER 2004 SEE THE WHOLE DOCUMENT</td>
<td>1, 10, 17</td>
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<tr>
<td>A</td>
<td>KR 2002-25147 A (HANA SOFT CO., LTD.) 03 APRIL 2002 SEE THE WHOLE DOCUMENT</td>
<td>1, 10, 17</td>
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<td>A</td>
<td>KR 2002-76846 A (PARADREAM CO., LTD.) 11 OCTOBER 2002 SEE THE WHOLE DOCUMENT</td>
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<td>A</td>
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- Special categories of cited documents:
  - "A" document defining the general state of the art which is not considered to be of particular relevance
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- Further documents are listed in the continuation of Box C. See patent family annex.

**Date of the actual completion of the international search**

29 JUNE 2006 (29.06.2006)

**Date of mailing of the international search report**

29 JUNE 2006 (29.06.2006)

Name and mailing address of the ISA/KR

- Korean Intellectual Property Office
- 923 Dusan-dong, Seo-gu, Daejeon 302-701, Republic of Korea
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