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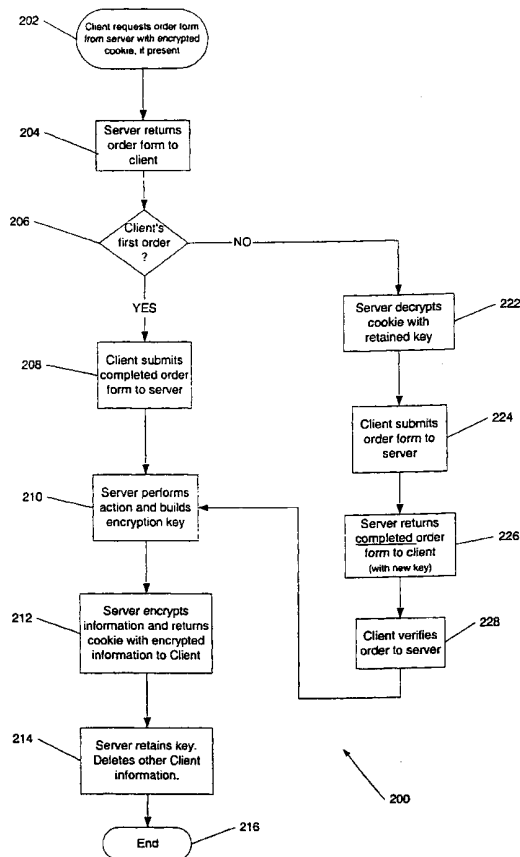
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- (71) Applicant: **FREERUN TECHNOLOGIES, INC.** [US/US]; 2160 Jefferson Street 201, Napa, CA 94559 (US).
- (72) Inventors: **FORBES, Frank**; 59 Golden Gate Circle, Napa, CA 94558 (US). **FRANZ, Benjamin**; 72 Village Parkway, Napa, CA 94558 (US).
- (74) Agents: **WOLFGANG, Stutius et al.**; Ropes & Gray LLP, One International Place, Boston, MA 02110 (US).
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[Continued on next page]

(54) Title: SYSTEMS AND METHODS FOR SECURING A WEB TRANSACTION BETWEEN A CLIENT AND A MERCHANT USING ENCRYPTED KEYS AND COOKIES



(57) Abstract: Data is transmitted between a client (202) and a server (204), such data can include billing and shipping information. A process (200) performs a request (202) from a client(buyer) to a server(merchant). The server (204) returns an order form to the client (202). If the transaction is the client's first order (206), then the client completes the order form (204) and submits the completed order form to the server (208). The server then performs the action of checking the client's credit (210), and generates a new encryption key pair (210). The server returns the encrypted cookie to the client (212), optionally together with an identifier that associated the cookie with the client (212). The server retains the key (214), but deletes the encrypted cookie and any non-encrypted information from its database (214). If this is a subsequent order from the client, as determined in step (206), then the server decrypts the received cookie with the encryption key retained by the server, step (222), and then the client completes order form (204), and submits to server (224). The server returns the completed order form to client with new key/cookie (226), and the client verifies the order (228). The process (200) then returns to step (210), then step (212), then step (214), and then terminates with step (216).

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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.*

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/11282

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : GO6F 17/60; 11/30; HO4K 1/00; HO4N 7/167  
US CL : 380/228, 380/232, 705/26, 35, 39, 64, 67, 70, 71, 75, 76, 713/200

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. : 380/228, 380/232, 705/26, 35, 39, 64, 67, 70, 71, 75, 76, 713/200

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
East database searched; encrypted adj keys or private and public adj keys, secure adj payment adj transaction or web adj transaction

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,848,161 A (LUNEAU et al) 8 December 1998, see col. 4 lines 55-63, see col. 5 lines 1-6 and 35-38, and see col. 6 lines 28-34 and 40-44.	1, 2, 7, 9-10, 13-15
Y	US 5,963,915 A (KIRSCH) 5 October 1999, see col. 4 lines 51-54, 60-62, and 65-67, col. 5 lines 64-66, and col. 8 lines 2-26 and 58-59.	1, 2, 7, 9-10, 13-15
Y,P	US 6,105,012 A (CHANG et al.) 15 August 2000, see col. 3 lines 62-66, and see col. 4 lines 23-28, and 61-62.	3, 6, 11
A	US 5,590,197 (CHEN et al.) 31 December 1996, see col. 4 lines 54-57, and see col. 5 lines 45-60, and see col. 6 lines 48-57.	1, 2, 9-10, 13-15
A	US 5,671,279 A (ELGAMAL) 23 September 1997, see col. 3 lines 26-36, col. 5 lines 1-6, and 17-18, and col. 16 lines 40-63.	2, 5, 6, 12

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

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"E" earlier application or patent published on or after the international filing date	"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
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"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	"&" document member of the same patent family

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Box PCT

Washington, D.C. 20231

Facsimile No. (703)305-3230

Authorized officer

Gail Hayes

Telephone No. (703) 306-0426