

391

SUPERINDUSTRIA Y COMERCIO
Radicación : 01033027 00000003 Folios: 102
Fecha (FND): 2001-09-28 09:49:04
Trámite : 002 PATENTES D 1 REGISTRADO/ 441 RESPUESTA
Dirección: 2000 INSTITUCION DE NUEVAS CREACIONES

**Señores
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
División de Nuevas Creaciones
E. S. D.**

**Ref: EXPEDIENTE N° 01-033027
Solicitud de patente a nombre de
HUGHES ELECTRONICS CORPORATION**

Me refiero al examen de forma realizado en el asunto de la referencia y adjunto presento los siguientes documentos:

1-Fotocopia del poder legalizado por Apostilla, donde se acredita la existencia y representación de la sociedad solicitante.

2- El documento de Cesión de la patente. Sobre este punto y de acuerdo con las facultades contenidas en el poder, manifiesto que acepto en nombre de la Cesionaria, la cesión que de la invención la hacen los inventores.

3- La copia certificada de la solicitud estadounidense No 60/200.476 de Abril 28 del 2000.

4- La copia certificada de la solicitud estadounidense No 60/201.558 del 1° de Mayo del 2000.

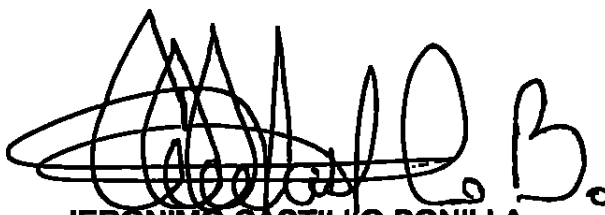
5- La copia certificada de la solicitud estadounidense No 09/732.498 del 6 de diciembre del 2000.

6- Los recibos Nos. 01-60976 y 01-60975 por concepto de faltante de dos prioridades reivindicadas.

La sociedad está constituida de acuerdo con las leyes del Estado de Delaware, Estados Unidos de América.

Como el expediente queda así completo, pido se ordene la publicación del extracto.

Atentamente,



**JERONIMO CASTILLO BONILLA
T.P. 104167 del C. S. de la Judicatura
C.C. 79.462.057 de Bogotá**

LAW OFFICES
PEDRO CASTILLO PINEDA & ASOCIATES
P.O. BOX 48362
Bogotá, Colombia / South America

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IMPORTANT NOTE

The lodging of this GENERAL POWER with the Patent Office obviates the necessity of presenting special powers with each individual trade mark application.

FOR PATENTS AND TRADE MARKS IN
COLOMBIA

	Poder General	General Power of Attorney
1 Applicant's name	(1) HUGHES ELECTRONICS CORPORATION 200 N. Sepulveda Blvd.	(1) HUGHES ELECTRONICS CORPORATION 200 North Sepulveda Boulevard,
2 Applicant's address	domiciliado en (2) El Segundo, California Estados Unidos de América	domiciled in (2) El Segundo, California 90245, United States of America
3 Leave blank	nombra al, Dr. JERONIMO CASTILLO BONILLA y/o Dra. XIMENA BONILLA PEREIRA, y/o Dr. ALVARO CASTILLO GRAU, Calle 93A N° 14-17 Oficina 311 en Bogotá, Colombia, como sus representantes con poder especial amplio y suficiente, para recabar de las oficinas y autoridades Colombianas, administrativas, judiciales o de policía, en primera o segunda instancia, la obtención de Patentes de Invención, Registro de Marcas, de Modelos y de Dibujos Industriales, de Nombres Comerciales y Enseñas, Lemas Comerciales y Denominación de Origen, lo mismo que traspasos, extensiones, renovaciones, cambios de nombre, registro de licencias de explotación y registro de licencias de uso referentes a tales actuaciones, cancelación de Registros de marca, a cuyo efecto les faculta para dar ante dichas autoridades todos los pasos necesarios al objeto indicado, elevar solicitudes, formular descripciones, enmiendas, protestas, declaraciones, apelaciones y reclamos, solicitar la aplicación de medidas cautelares; solicitar la nulidad de Patentes de Invención, modelos de utilidad, diseños Industriales, así como la de registros de marcas ante la autoridad nacional competente; aceptar en nuestro nombre y representación la Cesión de derechos de invención y de patente de invención que se nos haga por cualquier persona, abonar todos los impuestos, cuotas y pagos determinados por la ley, recibir todos los documentos y valores dando el descargo respectivo, llenar cualesquiera otros requisitos, desistir y tomar en fin todas las medidas que creyeran conducentes al resguardo de nuestros intereses y en caso de presentarse oposiciones para que intervengan como demandantes o como demandados, con todas las demás facultades necesarias. Este poder comprende además las facultades de recibir, desistir, transigir, comprometer, sustituir, revocar sustituciones, recibir notificaciones y nombrar apoderados judiciales o extrajudiciales. Los mandatarios podrán ejercer el poder alternativa o indistintamente.	hereby appoint Dr. JERONIMO CASTILLO BONILLA and/or Dra. XIMENA BONILLA PEREIRA, and/or Dr. ALVARO CASTILLO GRAU, Calle 93A N° 14-17 Office 311 en Bogotá, Colombia, as our representatives with special, ample and sufficient power to obtain from the offices and Colombian authorities, administrative, judicial and police, in first or in second instance, Privileged Patents of invention, Registration of Trade Marks, of Models and Industrial Drawings, of Commercial Names and ensigns, Commercial Slogans and Origin Denominations as well as assignments, extensions, renewals, changes of name, registration of license of exploitation and of license of use referred to said actions, Cancellation Actions against trademark Registrations, who are empowered to take before said authorities all of the necessary steps for the purposes indicated, to file applications, to formulate descriptions, corrections, protests, declarations, appeals and claims, apply for precautionary measures; apply for the nullity of Patent Inventions, Utility Models, Industrial Designs, as well as for Trademark Registrations before the competent national authority; to accept on our behalf and representation the assignment of rights of inventions and titles of invention that may be done to us by any person, to pay all taxes, quotas and payments prescribed by law, to receive all the documents and proceeds giving the respective acquittance or receipt; to fulfill any other requisites to desist and take in fact any other measures that may be deemed conducive to the safeguard of our interests, and in case oppositions are presented to intervene as complainant and defendant, with all necessary legal faculties. This power of attorney includes the faculties to receive, desist, compromise, transact substitute it in all or in part, to revoke substitutions, to receive notifications and to appoint extra-judicial or judicial attorneys. The attorneys can exercise the power alternatively or indistinctly.
4 Date	Dado y firmado en (4) El Segundo, California, Junio 20, 2001	Given and signed in (4) El Segundo, California, this 20 th day of June 2001.
5 Applicant's signature	5)	HUGHES ELECTRONICS CORPORATION  MICHAEL W. SALES Assistant Secretary

DECLARACION NOTARIAL

(Individual)

A los días del mes de
19.... comparecí..... personalmente ante
mí, Notario Público

.....
a quien(es) doy fé de conocer y me consta
que es (son) la(s) persona(s) descrita(s)
y firmante(s) del documento que precede,
declarando ante mí que otorga(n) el mis-
mo para los fines y propósitos que en él
se expresan.

El Notario Público,

NOTARIAL CERTIFICATE

(Individual)

On this day of
19.... personally appeared before me, a
Notary Public

.....
to me known, and known to me to be the
person(s) described in and who executed
the foregoing document, and he (they)
duly acknowledged to me that he (they)
executed same for the uses and purposes
therein expressed.

.....
Notary Public.

(Sociedades)

El infrascrito Notario Certifica: que la fir-
ma que antecede y dice
MICHAEL W. SALES

.....
es auténtica; que el signatario desempeña
actualmente el cargo de
Secretario Asistente
de **HUGHES ELECTRONICS CORPORATION**

.....
que tiene facultad para otorgar esta poder;
y que dicha compañía está domiciliada en
El Segundo, California, Estados
Unidos de America

.....
y actualmente existe y está organizada de
acuerdo a las leyes del **Estado de**
Delaware

.....
Todos los hechos anteriores le constan por
haber examinado los documentos respecti-
vos y de todo ello da fé.

.....
Dado y firmado en **El Segundo,**
California, Junio 20, 2001

El Notario Público,

(Con legalización Consular)

(Corporations)

The undersigned Notary Public certifies:
that the preceding signature reading
MICHAEL W. SALES

.....
is authentic; that the signer at present fills
the post of **Assistant Secretary**

.....
of **HUGHES ELECTRONICS CORPORATION**

.....
and that he is empowered to grant this
power; and that said company is domici-
led in **El Segundo, California,**
United States of America

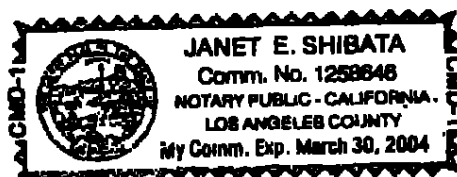
.....
and actually exists and is organized in ac-
cordance with the laws of the State ..
of **Delaware, U.S.A.**

.....
All the foregoing facts are known to the
Notary due to his having examined the
respective documents to wich he, the No-
tary attests.

.....
Granted and signed in **El Segundo, California,**
this **20th** day of **June 2001.**

.....
Notary Public.

(With Consular legalization)



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3

State of California

SECRETARY OF STATE APOSTILLE

(Convention de La Haye du 5 octobre 1961)

1. Country: *United States of America*
This public document
2. *has been signed by JANET E. SHIBATA*
3. *acting in the capacity of Notary Public, State of California*
4. *bears the seal/stamp of JANET E. SHIBATA, Notary Public,
State of California*

CERTIFIED

5. *At Sacramento, California*
6. *the 25th day of June 2001*
7. *by Deputy Secretary of State, State of California*
8. *No. 100398*
9. *Seal/Stamp:*



10. Signature

Bill Jones
BILL JONES
Secretary of State

BY *C. Van Hecke*



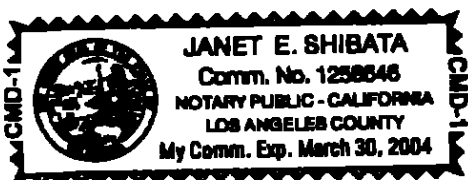
State of CALIFORNIA

County of LOS ANGELES

On June 20, 2001 before me, JANET E. SHIBATA, Notary Public
DATE NAME, TITLE OF OFFICER - E.G., "JANE DOE, NOTARY PUBLIC"

personally appeared MICHAEL W. SALES
NAME(S) OF SIGNER(S)

☒ personally known to me - OR - ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.



WITNESS my hand and official seal.

Janet E. Shibata
SIGNATURE OF NOTARY

OPTIONAL

Though the data below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent reattachment of this form.

CAPACITY CLAIMED BY SIGNER

- ☐ INDIVIDUAL
☒ CORPORATE OFFICER

Assistant Secretary
TITLE(S)

- ☐ PARTNER(S) ☐ LIMITED
☐ GENERAL

- ☐ ATTORNEY-IN-FACT
☐ TRUSTEE(S)
☐ GUARDIAN/CONSERVATOR
☐ OTHER: _____

SIGNER IS REPRESENTING:
NAME OF PERSON(S) OR ENTITY(IES)

Hughes Electronics Corporation

DESCRIPTION OF ATTACHED DOCUMENT

TITLE OR TYPE OF DOCUMENT

NUMBER OF PAGES

June 20, 2001

DATE OF DOCUMENT

SIGNER(S) OTHER THAN NAMED ABOVE

USE STATE.

143

ESTADO DE CALIFORNIA
SECRETARIA DE ESTADO
APOSTILLA
(Convención de La Haya de Octubre 5, 1961)

1. País: Estados Unidos de América
Este Documento Público
2. Ha sido firmado por JANET E. SHIBATA
3. Actuando en capacidad de Notario Público, Estado de California
4. Coloca el sello/estampilla de JANET E. SHIBATA, Notario Público
Estado de California

CERTIFICA

5. en Sacramento, California
6. el 25 de Junio de 2001
7. por el secretario diputado del Estado, Estado de California
8. No. 100398
9. Sello/Estampilla

10. Firma
(Firmado Bill Jones)
Bill Jones
Secretario de Estado
Por: Firma ilegible

ACEPTACION PARA TODOS LOS PROPOSITOS - CALIFORNIA**Estado de CALIFORNIA****Condado de LOS ANGELES****En Junio 20, 2001, compareció ante mí JANET E. SHIBATA, Notario Público****Personalmente, MICHAEL W. SALES****Personalmente conocido por mí, y probando mediante evidencia satisfactoria ser la persona cuyo nombre se suscribe en el instrumento y aceptó ante mí que ejecutó el mismo mediante su capacidad autorizada, y que la firma en el documento es cierta y válida para ejecutar el mismo.****Doy fe mediante mi firma y sello oficial****Janet E. Shibata****Firma del Notario****OPCIONAL****A pesar de que los datos abajo no son requeridos por ley, estos pueden ser valiosos para personas que necesiten el documento y puede prevenir anexos fraudulentos en esta forma.****CAPACIDAD REIVINDICADA POR EL FIRMANTE****Oficial Corporativo****Secretario Asistente****Junio 20, 2001.****EL SIGNATARIO ESTA REPRESENTANDO A****HUGHES ELECTRONICS CORPORATION**

ASSIGNMENT

HUGHES

45 Page 1 of 2
PD-200153A

WHEREAS, I, as below named sole inventor (If only one name is listed below) or joint inventor (If plural names are listed below) of the city and state as stated below next to my name, have invented a(an) **A SYSTEM FOR OBTAINING DATA REGARDING CUSTOMER USE OF INTERACTIVE TELEVISION** for which application for Letters Patent of the United States has been executed by me on this day, or (If the following is completed) filed on December 6, 2000 as Serial No. 00/732,498; and which application claims benefit of U.S. provisional application with Serial No. 60/201,558 (PD-200153A) filed on May 1, 2000.

WHEREAS, **HUGHES ELECTRONICS CORPORATION**, (hereinafter referred to as **HUGHES**), a Delaware Corporation, having its principal place of business in El Segundo, California, is desirous of acquiring the entire and exclusive right, title and interest in, to and under said invention, said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world;

NOW, THEREFORE, in consideration of the obligations voluntarily assumed by me and set forth in an invention agreement between me and my employer, effective the date as stated below next to my name, and other good and valuable consideration, receipt of which is hereby acknowledged, I do hereby sell, assign and transfer to **HUGHES**, its successors, assigns or other legal representatives, the entire and exclusive right, title and interest in and to said invention invented by me, to said application and any and all applications which are continuations, continuations-in-part, divisions or substitutes of said application and any and all Letters Patent that may be granted therefor in the United States and throughout the world on any of said applications and to any and all reexaminations, reissues, renewals or extensions of said Letters Patent in the United States and throughout the world for the full term or terms for which said Letters patent may be granted in the United States and throughout the world; authorize and request The Commissioner of Patents and Trademarks of the United States and all foreign countries to issue all such Letters Patent to said **HUGHES**, its successors, assigns or other legal representatives; covenant that no assignment, sale, agreement, transfer or encumbrance has been, or will be, made or entered into which would conflict with this assignment, sale and transfer; and agree to communicate to **HUGHES**, its successors, assigns or other legal representatives, upon request and at no cost or expense to me, any facts known by me respecting said invention, do all lawful acts, including the execution and delivery of all papers and proper oaths and giving of testimony that is deemed necessary or desirable by **HUGHES**, its successors, assigns or other legal representatives with regard to said invention for protecting, obtaining, maintaining and enforcing any and all of said Letters Patent in the United States and throughout the world for said invention and for perfecting, affirming, recording and maintaining the title of **HUGHES**, its successors, assigns or other legal representatives, and generally cooperate to the fullest extent in all matters pertaining to said invention, and any and all of said Letters Patent and the title thereto in **HUGHES**, its successors, assigns or other legal representatives.

46

IN WITNESS WHEREOF, I have executed this instrument.

FULL NAME OF SOLE OR JOINT INVENTOR Derek P. Footer	INVENTOR'S SIGNATURE 	DATE 9/10/01
RESIDENCE (CITY AND STATE) 531 Devonshire Court, Mountain View, California 94043		INVENTION AGREEMENT DATE November 8, 1999
FULL NAME OF SOLE OR JOINT INVENTOR Carlos Gonzalez	INVENTOR'S SIGNATURE	DATE
RESIDENCE (CITY AND STATE) 19432 38 th Court, North Miami Beach, Florida 33180		INVENTION AGREEMENT DATE March 8, 1999
FULL NAME OF SOLE OR JOINT INVENTOR Angela M. Trujillo	INVENTOR'S SIGNATURE	DATE
RESIDENCE (CITY AND STATE) 650 Splinnaker Road, Weston, Florida 33326		INVENTION AGREEMENT DATE August 18, 1998
FULL NAME OF SOLE OR JOINT INVENTOR Narda J. Laverde	INVENTOR'S SIGNATURE	DATE
RESIDENCE (CITY AND STATE) 111 Briny Avenue 2214, Pompano Beach, Florida 33062		INVENTION AGREEMENT DATE November 22, 1999

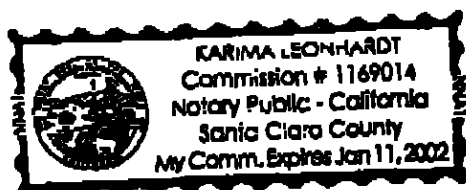
STATE OF California
COUNTY OF Santa Clara

SS:

On Sept. 10, 2001 before me, Karima Leonhardt
a Notary Public in and for said State, personally appeared
Derek Patrick Footer

☐ personally known to me or ☒ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.




Notary Public

IN WITNESS WHEREOF, I have executed this instrument.

FULL NAME OF SOLE OR JOINT INVENTOR Derek P. Footer	INVENTOR'S SIGNATURE	DATE
RESIDENCE (CITY AND STATE) 632 Navarre Avenue, Coral Gables, Florida 33134		INVENTION AGREEMENT DATE November 8, 1999
FULL NAME OF SOLE OR JOINT INVENTOR Carlos Gonzalez	INVENTOR'S SIGNATURE <i>Carlos Gonzalez</i>	DATE 01/26/01
RESIDENCE (CITY AND STATE) 19432 38 th Court, North Miami Beach, Florida 33160		INVENTION AGREEMENT DATE March 8, 1999
FULL NAME OF SOLE OR JOINT INVENTOR Angela M. Trujillo	INVENTOR'S SIGNATURE <i>Angela M. Trujillo</i>	DATE 01/26/01
RESIDENCE (CITY AND STATE) 650 Spinnaker Road, Weston, Florida 33328		INVENTION AGREEMENT DATE August 18, 1998
FULL NAME OF SOLE OR JOINT INVENTOR Narda J. Laverde	INVENTOR'S SIGNATURE <i>Narda J. Laverde</i>	DATE 01/26/01
RESIDENCE (CITY AND STATE) 5555 N. OCEAN BLVD # 53 FORT LAUDERDALE, FL 33308 ~~111 BARRY AVENUE 2214, Pompano Beach, Florida 33062~~		INVENTION AGREEMENT DATE November 22, 1999

STATE OF Florida)
COUNTY OF Broward) SS:
On January 26, 2001 before me, Maria E. Hurtado
a Notary Public in and for said State, personally appeared
Carlos Gonzalez

☐ personally known to me or ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Maria E. Hurtado
Notary Public



MARIA E. HURTADO
COMMISSION # CC762659
EXPIRES JUL 27, 2003
BONDED THROUGH
ADVANTAGE NOTARY

STATE OF Florida)
COUNTY OF Broward) SS:
On January 26, 2001 before me, Maria E. Hurtado
a Notary Public in and for said State, personally appeared
Angela M. Tenjillo

☒ personally known to me or ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.



MARIA E. HURTADO
COMMISSION # CC762659
EXPIRES JUL 27, 2002
BONDED THROUGH
ADVANTAGE NOTARY

Maria E. Hurtado
Notary Public

STATE OF Florida)
COUNTY OF Broward) SS:
On January 26, 2001 before me, Maria E. Hurtado
a Notary Public in and for said State, personally appeared
Maria E. Hurtado

☐ personally known to me or ☐ proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.



MARIA E. HURTADO
COMMISSION # CC762659
EXPIRES JUL 27, 2002
BONDED THROUGH
ADVANTAGE NOTARY

Maria E. Hurtado
Notary Public

Industria y Comercio
SUPERINTENDENCIA

NIT : 800176089-2

Indicacion : 01033027 00000003

Folios: 102

Fecha (IMP): 2001-09-28 09:19:04

Tramite : 002 PATENTES D 1 REGISTRO/ 444 REPUESTA

Dependencia: 2029 DIVISION DE NUEVAS CREACIONES

RECIBO OFICIAL DE CAJA : 01 - 60,976
FECHA : SEPTIEMBRE 26 DE 2001

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CASTILLO PINEDA	CONSIGNACION	BANCO POPULAR	050-00110-6	5266624	26/09/2001	348,000.00

***** C O N C E P T O *****

CANT. HISTORICO	CONCEPTO	TOTAL CONCEPTO
1 50005-01-01 SOLICITUDES	82 INVOCACION DE UNA PRIORIDAD EN NU	100,000.00
	TOTAL :	100,000.00

SON: CIEN MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

Carrera 13 No. 27-00 Pisos 5, 7 y 10
Conmutador 382 0840
Fax 350 5220
E-mail: Info@sic.gov.co
www.sic.gov.co
Bogotá, D.C., Colombia



50

Industria y Comercio

SUPERINTENDENCIA

NIT : 800176089-2

SUPERINDUSTRIA Y COMERCIO

Indicacion : 01033027 00000003

Folios: 102

Fecha (AND): 2001-09-28 09:49:04

Tramite : 002 PATENTES D 1 REGISTRO/ 441 REPUESTA

Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

RECIBO OFICIAL DE CAJA : 01 - 60,975
FECHA : SEPTIEMBRE 26 DE 2001

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
CASTILLO PINEDA	CONSIGNACION	BANCO POPULAR	050-00110-6	5266624	26/09/2001	348,000.00

***** CONCEPTO *****

CANT. CONTABILISTICO	CONCEPTO	TOTAL CONCEPTO
1 50005-01-01 SOLICITUDES	82 INVOCACION DE UNA PRIORIDAD EN NU	100,000.00
	TOTAL :	\$ 100,000.00

SOM: CIENTO MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

Carrera 13 No. 27-00 Pisos 5, 7 y 10
Conmutador 382 0840
Fax 350 5220
E-mail: info@sic.gov.co
www.sic.gov.co
Bogotá, D.C., Colombia

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LOS ESTADOS UNIDOS DE AMERICA
A TODOS A QUIENES ESTE DOCUMENTO PUEDA IMPORTAR
DEPARTAMENTO DE COMERCIO DE ESTADOS UNIDOS
Oficina de Patentes y Marcas de Los Estados Unidos

Abr 11 3, 2001

LO SIGUIENTE ES PARA CERTIFICAR QUE LO QUE AQUÍ SE ANEXA ES UNA COPIA VERDADERA DE LOS ARCHIVOS DE LA OFICINA DE PATENTES Y MARCAS DE LOS ESTADOS UNIDOS, SOBRE AQUELLOS DOCUMENTOS ABAJO IDENTIFICADOS COMO UNA SOLICITUD DE PATENTE, Y QUE LOS MISMOS REUNEN LOS REQUISITOS PARA QUE SE LES OTORQUE UNA FECHA DE PRESENTACION BAJO EL 35 USC 111.

NUMERO DE SOLICITUD: 09/732.498
FECHA DE PRESENTACION: Diciembre 6, 2000

Por la Autoridad del
COMISIONADO PARA PATENTES Y MARCAS

Firmado
W. MONTGOMERY
Oficial Certificador

52
24

PA 385286



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

April 03, 2001

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE UNDER 35 USC 111.

APPLICATION NUMBER: 09/732,498

FILING DATE: December 06, 2000



By Authority of the
COMMISSIONER OF PATENTS AND TRADEMARKS

W. Montgomery
W. MONTGOMERY

Certifying Officer

CUSTOMER NO.: 020891

12-08-00

PATENT
Docket No. PD-200163A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
APPLICATION TRANSMITTAL LETTER

Certification under 37 CFR 1.10 (if applicable)

EF740979219US

December 8, 2000

EXPRESS MAIL mailing number

Date of Deposit

I hereby certify that this application is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231.

VICKIE CHUPP

(Type or printed name of person mailing application)

Vickie Chupp
(Signature of person mailing application)

DATE: December 7, 2000

Anticipated Classification of

☐

Class

Subclass

Prior Application: 60/201,558

Examiner: unknown

Art Unit: unknown

☐

Assistant Commissioner for Patents

Washington, D. C. 20231

☐

Sir:

Applicant hereby claims the benefit under 35 U.S.C. §119(e) of the following United States provisional application: 60/201,558, filed May 1, 2000.

1. Enclosed is a complete copy of the prior application, including the declaration as originally filed.

2. ☒ The filing fee is calculated below:

CLAIMS AS FILED IN THE PRIOR APPLICATION
LESS ANY CLAIMS CANCELLED AND/OR PLUS ANY CLAIMS ADDED BY AMENDMENT BELOW

For:	Number Filed	Number Extra	Rate
Basic Fee			\$ 710.00
Total Claims	24 - 20 =	4 x	\$ 18.00 \$ 72.00
Independent Claims	5 - 3 =	2 x	\$ 80.00 \$ 160.00
Multiple Dependent Claims		+	\$260.00 \$
TOTAL FILING FEE :			\$ 942.00

3. ☒ Please charge Deposit Account No. 50-0383 of Hughes Electronics Corporation, El Segundo, California, in the amount of \$942.00. The Commissioner is hereby authorized to charge any additional fees, which may be required, or credit any overpayment, to that account.

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CUSTOMER NO.: 020991

PATENT
Docket No. PD-200163A

4. ☒ The Commissioner is hereby authorized to charge any fees which may be required or to credit any overpayment to Deposit Account No. 50-0383. This letter is submitted in triplicate for charge purposes.

5. ☒ The Commissioner is further hereby authorized to charge to the said above Deposit Account No. 50-0383, pursuant to 37 CFR 1.25(b), any fees whatsoever which may properly become due or payable, as set forth in 37 CFR 1.16 to 1.17 inclusive, for the entire pendency of this application without specific additional authorization.

6. ☐ Cancel in this application original claims _____ of the prior application before calculating the filing fee.

7. ☒ Amend the specification by inserting before the first line the sentence:

— This Application claims the benefit under 35 U.S.C. §119(e) of the following United States provisional application: 60/201,558, filed May 1, 2000. —

8. ☐ Transfer the drawings from the prior application to this application and abandon said prior application as of the filing date accorded this application. A duplicate copy of this letter is enclosed for filing in the prior application file.

9. ☒ New drawings are enclosed.

The prior application is assigned to _____.

The power of attorney in the prior application is to _____, Registration No. _____.

a. ☐ The power appears in the original papers in the prior application.

b. ☐ Since the power does not appear in the original papers, a copy of the power in the prior application is enclosed.

c. ☐ A new power of attorney is enclosed.

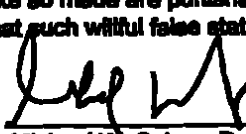
d. ☒ Address all future communications to: Customer Number 020991, Hughes Electronics Corporation, Patent Docket Administration, Bldg. 001, M/S A109, PO Box 958, El Segundo, CA 90245-0958.

12. ☐ A preliminary amendment is enclosed.

13. ☒ I hereby verify that the attached papers are true copy(ies) of prior provisional application Serial No. 60/201,558 as originally filed on May 1, 2000.

The undersigned declares further that all statements made herein of his or her own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

December 8, 2000
Date


Michael W. Sales, Registration No.: 30,213
Attorney for Applicant(s) and Assignee

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Date: December 8, 2000

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PD-200153A

A SYSTEM FOR OBTAINING DATA REGARDING CUSTOMER USE OF
INTERACTIVE TELEVISION

09732498-120600

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A SYSTEM FOR OBTAINING DATA REGARDING
CUSTOMER USE OF INTERACTIVE TELEVISION

BACKGROUND OF THE INVENTION

1. Field of the Invention

The invention generally relates to methods and systems for collecting and recording data and communication functionality in databases and more particularly to methods and systems for collecting and recording navigation and transaction data regarding customer use of interactive television.

2. Description of the Prior Art

Satellites have had a significant impact on the television industry. With an orbital location so far from earth, satellites transmit a usable signal over a broad footprint. The large geographical coverage of satellite makes it possible to serve thousands, if not millions, with a single satellite. People use individual satellite dishes for direct to viewer ("DTV") television systems. Recently, interactive television has become available. With interactive television, a viewer can make transactions or navigate information systems through applications made available through the DTV system.

The basic components of a satellite system are one or more transmitting earth stations, the uplink, the satellite, the downlink, and one or more receiving earth stations. The communications satellite is a radio relay operating in space for ten or more years without the need for on-site servicing or adjustment. Satellites contain transceivers that receive and

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transmit signals, including video programming, telephone calls and data. They operate in a vacuum at a location exposed to extreme temperature changes.

Presently, there is no system or method for obtaining navigation and transaction data regarding customer interactive television actions in an Information Data Repository ("IDR"). Only providers of content, such as banks providing transactions, can obtain such data, while the data is generally unavailable to the information broadcaster and others. Present smart card systems can only log and transmit very limited viewer preference information due to the limited available memory and an inability to access the user input data. The use of flash memory allows for the download of data logs through callbacks from the integrated receiver/decoders ("IRDs") used in satellite television systems. Furthermore, a system for extraction of this data would be preferably scalable to accommodate future growth. Such a system and method would enable convenient transactions and precise recording of user patterns. There is also a need for a system and method for the collection, administration and management of the information that is provided and processed by the various interactive television applications to and from geographically dispersed operating companies.

It is, therefore, to the effective resolution of the aforementioned problems and shortcomings of the prior art that the present invention is directed.

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SUMMARY OF THE INVENTION

The present invention provides a system and a method for storing interactive television data in an interactive data repository ("IDR") for access by the information broadcaster and others. Each interactive television application contains programs and/or libraries. The programs and libraries collect specific data pertaining to individual business needs. The data is stored in a memory such as flash memory in the customer's IRD.

Depending upon the application, the data is communicated to a communication server at an operating company through a modem at real time or at scheduled intervals. The data is then communicated to an interactive server and then stored in an IDR.

The present invention overcomes the disadvantages of the prior art by allowing customer use of interactive television data to be collected in an interactive data repository ("IDR"). The data may be downloaded from the IRDs of the customer without requiring the customer to do anything other than normal transactions and navigation within interactive television applications. The IDR may be correlated with an interactive business system ("IBS") database, which contains information about the downloading IRD, such as the identity of the customer and other information about the customer.

In accordance with the purpose of the invention, as embodied and broadly described herein, the invention is a system and

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method for obtaining data regarding customer use of interactive television, comprising one or more application servers including one or more application programs for the input of information by a customer; a broadcast center for communicating one or more application programs with a communications satellite; one or more individual satellite dishes for receiving one or more application programs from the communications satellite in electronic communication with one or more integrated receiver/decoders ("IRDs"); a Graphical User Interface ("GUI") for a customer to input information into the application program and in electrical communication with one or more modems, wherein the IRDs comprise callback functionality and flash memory for storing a data log of customer transaction and navigation information, wherein said one or more modems are in electronic communication with one or more communications servers for receiving callbacks from the IRDs; one or more communications servers for receiving the callback; and one or more interactive servers in electronic communication with one or more interactive data repositories ("IDRs") for storing data.

In further accordance with the purpose of the invention, as embodied and broadly described herein, the interactive server of the invention comprises a parser of the data in the data log and an encapsulator of the information into appropriate protocol for database users, said interactive server being in electronic communication with one or more IDRs, wherein the IDR is in communication with an interactive business system ("IBS") wherein

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data in the IDR is correlated with data in the IBS.

It is to be understood that both the foregoing general description and the following detailed description are explanatory and are not restrictive of the invention as claimed.

5 The accompanying drawings, which are incorporated in and constitute part of the specification, illustrate embodiments of the present invention and together with the general description, serve to explain principles of the present invention.

In accordance with these and other objects which will become apparent hereinafter, the instant invention will now be described with particular reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 illustrates the architecture of the hardware components of the present invention.

Figure 2 is a block diagram illustrating the data flow from the customer's IRD to the IDR.

Figure 3A is an illustration of the form of the data for each customer action being stored in the IDR.

20 Figure 3B is an illustration of the form of the customer action data log being stored in and downloaded from the IDR.

Figure 4 is a block diagram illustrating data flow from the IRD to the user's top level application in the preferred embodiment.

25 Figure 5 is a block diagram illustrating data flow in an

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alternative embodiment of the invention.

Figure 6 is a block diagram illustrating data transmission in an alternative embodiment of the invention.

Figure 7 is an alternative embodiment of the invention.

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DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to Figure 1, the system architecture of the present invention 100, a system for obtaining data regarding a customer's interactive television use, is shown.

One or more application servers 110 carries one or more application programs 120. The application program 120 may provide information to the customer, communications functionality such as communication with a bank, or electronic commerce functionality, or any combination of these services. The preferred application server 110 is a Sun Ultra 5 server, although an NT server or equivalent server may be used. The application program 120 may be one written in OpenTV or an equivalent language. The application program 120 allows the input of information by a customer. The application program 120 is transmitted to a broadcast center 130.

Transmission to the broadcast center 130 may be via a terrestrial T1 link or its equivalent. The application program 120 is then uplinked to a communications satellite 140, preferably a G8i satellite or equivalent. One or more customers, at a location within the satellite's footprint, in South America for example, receives the application program 120 via his or her individual

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satellite dish ("ISD") 150, and then into one or more integrated receiver/decoders ("IRDs") 160.

The IRD 160 is connected to the customer's graphical user interface ("GUI") 170. The GUI 170 is preferably the customer's television connected to a standard remote or keyboard as is known in the art, whereby the customer makes transactions or navigates through an interactive television interface portion of the application program. As the customer navigates and performs actions in the interactive television interface, the customer inputs transaction and navigation information into the application program 120 via the interactive television interface. The information is stored in the IRD 160 as a data log 180 of navigation data and transaction data input by the user into the one or more application programs 120 via the GUI 170. For example, the user may impart information regarding games played, weather requests, advertising viewed, navigation within the interactive television environment and lead generation. In addition, transaction data such as for banking transactions may be input via the GUI 170. Preferably, the data log 180 also includes a time and date stamp for each action by the customer.

The data log 180 is then stored within flash memory 190 within the IRD 160. Preferably, the flash memory 190 is stored in a communication card with an identification number located within the IRD 160. However, the data log 180 may also be stored in random access memory stored within the IRD 160. The preferred

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format of the data log is illustrated in Figures 3A and 3B, described in greater detail below. Thus, in the preferred embodiment, every time a customer accesses an interactive television application 120 and performs an action within it, the type of action and the time and date of the action within the interactive application 120 are stored in the data log in flash memory 190.

Through a callback procedure, the data log 180 is transmitted from the IRD 160 through a modem 200. The data log 180 is encapsulated in a data transfer protocol. Any appropriate protocol for data transmission may be used, such as TCP/IP or HTTP. In the preferred embodiment, the protocol is one that is proprietary to Telefonico Investigacion y Desarrollo, S.A.

In the callback procedure, the IRD 160 transmits the data log 180. The callback may be made at certain time intervals or after a fixed number of transactions, or upon some other standard. The data log 180 is then communicated to a communications server 210.

The callback originates as a program within the IRD 160. The callback sends the data log 180 from the IRD 160 through the communications server 210 through the interactive server 220 and the routing application 230 within the interactive server 220 to the interactive data repository ("IDR") 240. In performing the callback, the IRD 160 is preferably programmed to make several attempts to transmit the data log 180 if it fails initially to

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make the necessary connection.

The communications server 210 may be a server such as an Ascend Max 4004. However, the communications server 210 may also be a bank of modems for accepting callbacks from the IRD 160. The
5 modems may be integral with each other or, in the preferred method, they may be leased from outside sources for scalability.

After the data log 180 is transferred from the IRD 160 through the communications server 210, to the interactive server 220. The interactive server 220 strips the transfer protocol from the data log 180, parses each discrete customer action within the data log 180, encapsulates each action into data with an appropriate protocol, and multiplexes the newly encapsulated data.

In the preferred embodiment, the interactive server 220 identifies a particular interactive television action by a code and routes it to an appropriate IDR 240. The interactive server 220 encapsulates the data into TCP/IP form for transmittal. However, other protocols are known in the art and may be used. The interactive server 220 is preferably a Sun Ultra 5 with a 333 MHz CPU and 256 MB of RAM or its equivalent. As shown in Figure
20 1, the interactive server 220 includes a routing application 230 for routing the newly encapsulated particular action data taken from the data log 180 transferred via the callback. The routing application 230 is preferably written in Unix C, however it may also be written in OpenTV or an equivalent programming language.
25 From the routing application 230, the information regarding the

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particular action is communicated to one or more interactive data repositories ("IDR") 240. The IDR 240 is preferably a memory storage and manipulation device, such as a computer database.

In the preferred embodiment, the particular action data within the IDR 240 is then correlated with an integrated business system ("IBS") 250. The IBS 250 in the preferred embodiment contains information that can be correlated with the information sent to the IDR 240. For example, in the preferred embodiment, the IDR 240 contains an identification number for the communications card containing the flash memory 190 in the IRD 160 that initiated the callback. This identification number is made part of the log transmitted in the callback. The IBS 250 may include the name, biographical information and other information regarding the interactive television customer that uses the IDR 240. Thus, information about a customer's interactive television navigation and transaction habits may be derived. Clearly, this system 100 is intended to be used for a multiple of customers and a corresponding multiple of IRDs 160. In the preferred embodiment, the IBS 250 is a program written in Magic and SQL on a HP9000 server or IBM RS 6000/H70 server. However, equivalent programming languages and servers are also contemplated.

As shown in Figure 1, the communications server 210, interactive server 220, IDR 240 and IBS 250 are all in the location of the operating company 260. In Latin America, an operating company 260 is often a government monopoly, so the

operating company is in fact also an operating country. However, an individual company that is not part of a government monopoly may also use this system 100. The IDR 240 and the IBS 250 may alternatively be in separate operating companies. In addition, in
5 the preferred embodiment, the IDR 240 includes the ability to generate reports using the individual action data taken from the interactive server 220 from one or more IDR 240 downloads. Furthermore, the data in the IDR 240 may be communicated to another central IDR. The communication may be performed by
10 satellite.

Figure 2 illustrates an embodiment of the invention where individual action data including customer navigation data and transaction data is distributed to two different interactive content providers 330A, 330B under two different protocols. As
15 shown in Figure 1, the data log 180 is downloaded from the IRD 160 in a callback via a modem 200 to the communications server 280. The data log 180 then flows from the communications server 280 to the interactive server 270. In the preferred embodiment, as described above, the data log 180 from the callback flows in
20 encapsulated form. Within the interactive server 270, the data log 180 is then communicated to an Application Program Interface ("API") 300. The API 300 strips the encapsulating protocol from the data log 180 and parses the individual transaction data from the data log 180. Each particular action performed by the
25 customer preferably has its own identification number. The API

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5 the router application 300. The router application 300 puts the individual transaction data into pre-selected protocol and distributes the data to the different content servers 330A,330B. Preferably, the router application is written in OpenTV.

10 action data to different protocol forms. The interactive television action for each content provider 310A,310B is then communicated from the interactive server 270. For example, a bank content provider 330A may require its information 310A to be in a protocol such as HTTP. Alternatively, the bank may request
15 information to be sent to it in its own proprietary protocol. The bank 330A thereby allows interactive television customers to make secure banking transactions while the interactive television content provider tracks the time, date and number of transactions.

20 communicated through the interactive server 270 through a HTTP socket 320A in the interactive server 270. In addition, data for a different content provider 330B may be communicated through the interactive server 270 via a different protocol, such as through a TCP/IP socket 320B. The different content provider 330B could
25 obtain navigation data or customer action data. Thus, secure

communication may be made, with only a record of the customer's action being made for the database user or interactive television content provider. Other protocols are also contemplated.

For example, a deposit could be made in a bank account via an interactive television application, and a record that a deposit was made may be recorded, while the amount of the deposit and the account number of the deposit may remain secure with regard to the interactive television application provider. The interactive server 270 may also use other protocol sockets, such as those for IMAP and bank proprietary protocols. Several database users or content providers may be included in the system. Each content provider 330A, 330B may have a different protocol for distribution of the information regarding an action associated with it. However, more data may be transferred if the protocol is one that is not CPU intensive, such as TCP/IP.

In one embodiment of the invention shown in Figure 2, the database user 330B receives the interactive television action information through its own TCP/IP socket 335, and stores the information in its IDR 350. The database user 330B would then be able to extract a report of the relevant portions of the information 180 in the IDR 350, such as the number of actions, or the date, time and frequency of particular actions. In addition, a database engine 340 as is known in the art may be used to extract information from the database user's database 350.

Figure 3A illustrates the preferred form that the information

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180 is to take. Fields may include Smart Card ID, Producer ID, Application ID, Page ID and a Time/Date/Stamp ID. For example, Smart Card ID can be used to identify the communications card and thus, the IRD 160, from which the data log 180 is coming.

5 Producer ID can identify the producer of the services offered and accepted, Application ID can identify which application from a particular producer has been accessed, Page ID may describe which page of several was accessed within a particular application, and a Time/Date/Stamp ID would identify when the individual action occurred. However, other data names and data retrieved are also contemplated. The data as shown are string variables. However, it may also be appropriate that they be numerical. Finally, it is important that the data fields be of appropriate length. The lengths of the variables in Figure 3A are merely illustrative. Figure 3B illustrates how the data log 180 comprises a number of single actions.

Figure 4 illustrates data flow during the preferred use of the system 100 in obtaining two types of particular action data - navigation data 370 and transaction data 380. As shown, data from various interactive television applications 360 may be obtained in the IRD 160 and saved as a data log as described above. In the preferred embodiment, the data can include navigation data 370 from within applications such as a gaming application, weather application, or advertising application. Also, transaction data 380 may be obtained from a banking application, e-commerce

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application or other interactive application. In a banking application, the particular action data is preferably encrypted. Since the nature of the particular action data in this example is a transaction, navigation data within the banking application is not obtained. Similarly, as shown at 360 in Figure 4, e-commerce applications or other interactive television applications may have their data encrypted or their data may not be defined pursuant to the parameters defined in the IRD 160. In that case, the IRD 160 may still obtain transaction data 380.

All of the customer actions 360 are then obtained and stored in the IRD 160 as a database of customer actions until a callback is initiated. Upon callback, the IRD 160 transmits the actions 360 to a communication server 215. In the preferred embodiment, the information 360 is transmitted in a proprietary interactive server protocol. The communication server 215 receives the callbacks in the preferred embodiment. The interactive server 220 encapsulates the individual action data taken from the data log 180 into TCP/IP protocol and multiplexes the data for efficient distribution. However, where an application is a banking application to be encapsulated in a protocol proprietary to a bank, encapsulation to a protocol before encapsulation into the banking protocol is unnecessary.

After the interactive server 220 parses the information 360 into data regarding particular interactive television actions, the interactive server 220 determines the proper protocol for the

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transfer of the information and converts that information into that protocol. In the preferred embodiment, each transaction is identified by a code when it is input into the flash memory. When the transaction is parsed, the interactive server 220 reads the code and puts the appropriate particular action in the appropriate protocol associated with the code. That information, properly converted, is routed to the appropriate database user. In the example illustrated in Figure 4, the navigation data 370 and the transaction data 380 are routed separately. The navigation data 370 and the transaction data 380 are then preferably loaded 400,410 into the IDR 420. The IDR 420 would interact with an IBS 430, so the data in the IDR 420 would be correlated with the data in the IBS 430. Reports 440 may be generated from the IDR 420 alone, or after correlation with the IBS 430.

Figure 5 shows an alternate embodiment of a system 500 for the obtainment of data from interactive television, wherein an IDR 620 is kept at a central location as well as at one or more operating companies 590. In Figure 5, the application server 510 is in a central location, such as Fort Lauderdale, Florida, and is transmitted to a broadcast center 520. One or more application programs 510 are transmitted to the satellite 530 and down to an ISD 540 into an IRD 550. The IRD 550 transmits a data log of navigation and transaction information via callback through a telephone line 560 within a country's telephone system. The data log is sent through a communication server 570 and interactive

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server 580 as discussed above. The communications server 570 and the interactive server 580 may alternatively be located at the same operating company. Interactive television actions 585 are then communicated to an IDR 590, such as an IDR 590 for a particular Interactive Content Provider ("ICP") 630.

As described above, the operating company IDR 590 is in communication with an operating company IBS 600. The operating company IBS 600 preferably includes data such as the identification of the customer associated with the IRD 550 used for a particular interactive television action 585. Thus, a customer may be accurately identified with an action and may be properly billed for the action. Also, other uses for the data may be made. The data for the particular action 585 is transmitted to the operating country IDR 590, and then may be transmitted to a central IDR 620, shown in Figure 5 to be in Fort Lauderdale. The file of particular actions 585 is then communicated to one or more database users, or interactive content providers ("ICPs") 630A, 630B. The ICPs 630A, 630B may or may not be at the location of the operating country. Data transmission between the operating company IDR 590 and the central IDR 620 in the preferred embodiment is via two-way satellite, such as the 8gi satellite used by Galaxy Latin America. However, other data transmission methods known in the art may also be used. The data from more than one operating company IDR 590 may thus be transmitted and held in the central IDR 620. In another embodiment, a central IBS

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is correlated with the central IDR 620.

A system for the two-way distribution of information of an operating companies IDR is further illustrated in Figure 6 at 700. From each operating company 710,720, data is extracted from the 5 IDR 730,740 and transmitted via satellite 750 to a central IDR 760 that will be able to produce consolidated reports 770. Data in the operating company IDRs 730,740 may still be correlated with one or more IBSS 780,790 within each operating company 710,720. Preferably, the protocol for the satellite interface would be consistent for all broadcast centers for each operating country. 10 The data sent to the central IDR 760 may be data from the operating company IDR 730,740. The data may then be correlated with a central IBS 800. Alternatively, the data sent may be data from the operating company IDR 730,740 after it has been correlated with the operating company IBS 780,790. 15

In an alternative embodiment, illustrated in Figure 7, a data log 900 is downloaded from the IRD 910 through a modem 920 via a callback. The communication server 930, a bank of telephone modems in this embodiment, receives the callbacks and transmits 20 the data log 900 to an interactive server 940. The data log 900 is encapsulated in a data transmission protocol, such as TCP/IP. The interactive server 940 strips the protocol from the data log 900, and saves the data on the interactive server. Preferably, the data is saved as a data table. Preferably, the data table is 25 a flat table of ASCII text. However, for other applications, the

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data may be saved in other forms, such as a relational database. Database users, such as the operating companies, would be able to access the data stored in the interactive server 940 by download from a file server, the internet or other means known in the art.

- 5 An IBS used to identify a customer or provide supplemental information to that in the saved data could reside in the operating company 950, at the facility of the interactive server 960, or both.

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CLAIMS

What Is Claimed Is:

1. A system for obtaining data regarding customer use of interactive television, comprising:

5 one or more application servers including one or more application programs for the input of information by a customer, said application server being in electronic communication with one or more broadcast centers;

10 a broadcast center for communicating one or more application programs with a communications satellite;

a communications satellite;

15 one or more individual satellite dishes for receiving one or more application programs from the communications satellite in electronic communication with the communications satellite and in electronic communication with one or more integrated receiver/decoders ("IRDs");

20 one or more IRDs in electrical communication with one or more Graphical User Interfaces ("GUIs") for a customer to input information into the application program and in electrical communication with one or more modems, said IRDs further comprising callback functionality and flash memory for storing a data log of customer transaction and navigation information, wherein said one or more modems are in electronic communication with one or more communications servers for receiving callbacks
25 from the IRDs;

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one or more communications servers for receiving the callback in electronic communication with one or more interactive servers;

one or more interactive servers in electronic communication with one or more interactive data repositories ("IDRs"); and

5 one or more IDRs for storing data.

2. The system of claim 1, wherein the interactive server comprises a parser of the data in the data log and an encapsulator of the information into appropriate protocol for database users, said interactive server being in electronic communication with one or more IDRs, and the IDR stores parsed information.

3. The system of claim 1, wherein the IDR is in communication with an interactive business system ("IBS") wherein data in the IDR is correlated with data in the IBS.

4. The system of claim 1, wherein the communication server is a bank of modems.

5. The system of claim 1, wherein the router in the interactive server identifies a particular interactive television action by a code and routes it to the appropriate IDR.

6. The system of claim 1, wherein the application program
20 is a banking application.

7. The system of claim 1, wherein the application provides information to a customer.

8. The system of claim 1, wherein the interactive server encapsulates the information regarding a particular interactive
25 television action into TCP/IP protocol.

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9. The system of claim 1, wherein the communication server, the interactive server, and the IDR are located at the same operating company.

10. The system of claim 3, wherein the communication server, the interactive server, the IDR and the IBS are located at the same operating company.

11. The system of claim 3, wherein data in the IDR is communicated to a central IDR.

12. The system of claim 11, wherein communication between the IDR and the central IDR is performed by satellite.

13. The system of claim 3, wherein a code in the data downloaded from the IRD is compared with the information in the IBS to allow identification of the customer.

14. A method for obtaining data regarding a customer use of interactive television, comprising the steps of:

providing one or more application programs on one or more application servers;

transmitting the application program to a broadcast center;

transmitting the application program from the broadcast center to a communications satellite;

transmitting the application program from the communications satellite to one or more individual satellite dishes;

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communicating the application program from the individual satellite dish to one or more integrated receiver/decoders ("IRDs");

5 enabling a customer to input information into the application program received by the IRD via a GUI;

inputting the information into a data log in flash memory in the IRD;

transmitting the data log via callback from the IRD to a communications server;

transmitting the data log from the communications server to an interactive server;

parsing the individual customer navigation and transaction data from the data log; and

storing the individual customer navigation and transaction data in one or more interactive data repositories ("IDRs").

15. The method of claim 14, further comprising the steps of correlating the data in the IRD with data in an Interactive Business System ("IBS").

20 16. The method of claim 15, wherein communication of the data in the IDR with the data in the IBS enables the operator of the IBS to identify the customer associated with the IDR.

17. The method of claim 16, further comprising the step of communicating the data in the IDR with a central IDR.

25 18. A system for obtaining data regarding customer use of

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interactive television, comprising:

one or more application servers further including one or more application programs for the input of information by a customer, said application server being in electronic communication with one or more broadcast centers;

a broadcast center for communicating one or more application programs with a communications satellite;

a communications satellite;

one or more individual satellite dishes for receiving one or more application programs from the communications satellite in electronic communication with the communications satellite and in electronic communication with one or more integrated receiver/decoders ("IRDs");

one or more IRDs in electrical communication with one or more Graphical User Interfaces ("GUIs") for a customer to input information into the application program and one or more modems, said IRDs further comprising callback functionality and flash memory for storing a data log of customer transaction and navigation information, wherein said one or more modems are in electronic communication with one or more communications servers for receiving callbacks from the IRDs;

one or more communications servers for receiving the callback in electronic communication with one or more interactive servers;

one or more interactive servers comprising a parser of the data in the data log into particular actions and a router of the

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particular action data, wherein the router encapsulates the particular action data into appropriate protocol for database users, said interactive server being in electronic communication with one or more interactive data repositories ("IDRs"); and

5 one or more IDRs for storing particular actions parsed in the interactive server in electronic communication with an interactive business system ("IBS");

wherein the IDR is in communication with a central IDR, and a central IBS is in communication with the central IDR.

10 19. The system of claim 18, wherein navigation data and transaction data are parsed by an application program interface and distributed by a router to IDRs of appropriate interactive television content servers.

15 20. The system of claim 18, wherein communication between the IDR and the central IDR is performed by satellite.

21. A system for obtaining data regarding customer use of interactive television, comprising:

one or more application servers further including one or more application programs for the input of information by a customer,
20 said application server being in electronic communication with one or more broadcast centers;

a broadcast center for communicating one or more application programs with a communications satellite;

a communications satellite;

25 one or more individual satellite dishes for receiving one or

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more application programs from the communications satellite in electronic communication with the communications satellite and in electronic communication with one or more integrated receiver decoders ("IRDs");

5 one or more IRDs in electrical communication with one or more Graphical User Interfaces ("GUIs") for a user to input information into the application program and one or more modems, said IRDs further comprising callback functionality and flash memory for storing a data log of customer transaction and navigation
10 information, wherein said one or more modems are in electronic communication with one or more communications servers for receiving callbacks from the IRDs;

one or more communications servers for receiving the callback in electronic communication with one or more interactive servers;

15 one or more interactive servers receiving the data log and placing the data into an interactive data repository ("IDR") in the form of a data table; and

one or more interactive business systems ("IBS") in electronic communication with the IDR, wherein the IBS has data
20 which correlates data in the IDR.

22. The system of claim 21, wherein the data table is a flat ASCII data table.

23. The system of claim 21, wherein the data table is a relational data table.

25 24. An integrated receiver/decoder ("IRD") for use in a

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system for obtaining data regarding customer use of interactive television, wherein the system comprises:

one or more application servers further including one or more application programs for the input of information by a customer,
5 said application server being in electronic communication with one or more broadcast centers;

a broadcast center for communicating one or more application programs with a communications satellite;

a communications satellite;

10 one or more individual satellite dishes for receiving one or more application programs from the communications satellite in electronic communication with the communications satellite and in electronic communication with one or more IRDs;

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15 one or more IRDs in electrical communication with one or more Graphical User Interfaces ("GUIs") for a user to input information into the application program and one or more modems, said IRDs further comprising callback functionality and flash memory for storing a data log of customer transaction and navigation information, wherein said one or more modems are in electronic
20 communication with one or more communications servers for receiving callbacks from the IRDs;

one or more communications servers for receiving the callback in electronic communication with one or more interactive servers;

one or more interactive servers receiving the data log and
25 placing the data into an interactive data repository ("IDR") in

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the form of a data table; and

one or more interactive business systems ("IBS") in electronic communication with the IDR, wherein the IBS has data which correlates data in the IDR.

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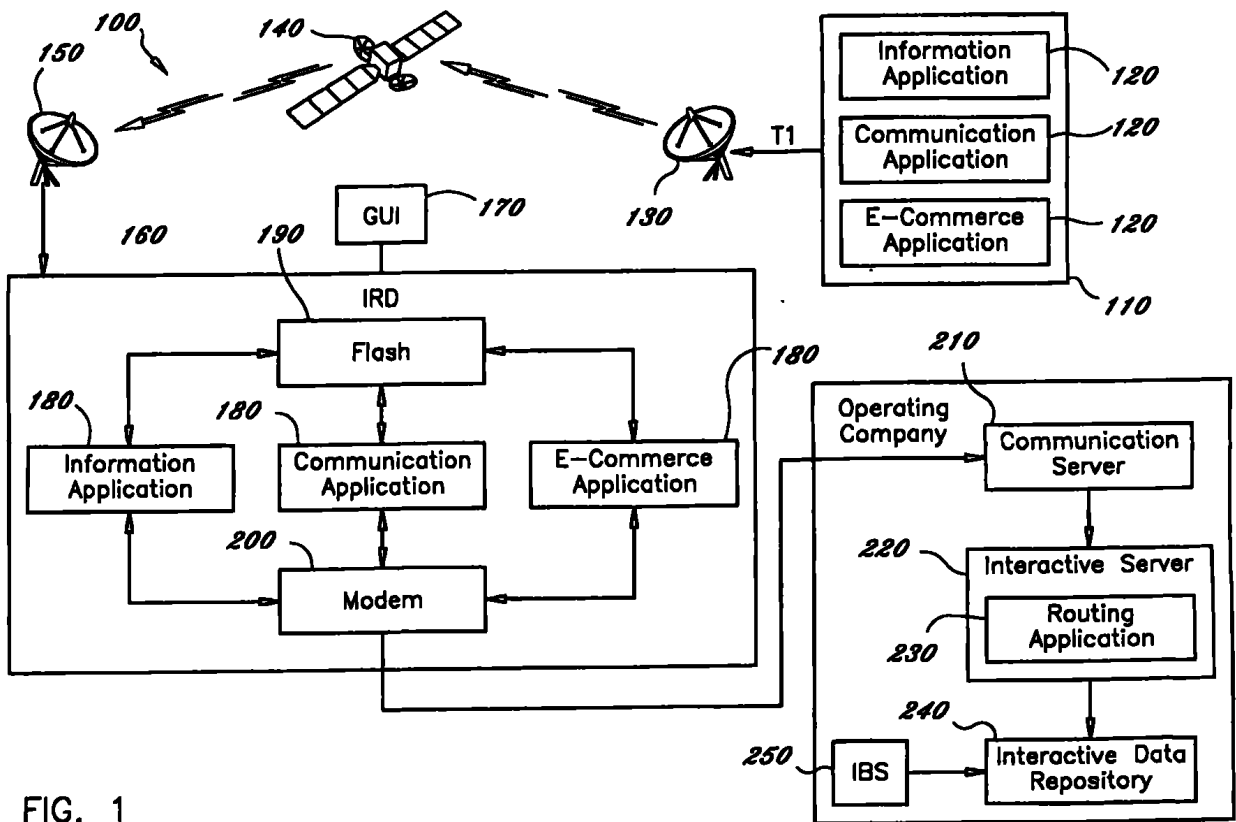
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ABSTRACT OF THE DISCLOSURE

A system and method for obtaining data regarding customer use of interactive television, comprising one or more application servers including one or more application programs for the input of information by a customer through a graphical user interface; a broadcast center; a communications satellite; one or more individual satellite dishes for receiving one or more application programs from the communications satellite; one or more integrated receiver/decoders ("IRDs") with a modem, said IRDs further comprising callback functionality and flash memory for storing a data log of customer transaction and navigation information, wherein said modem is in electronic communication with one or more communications servers for receiving callbacks from the IRDs; one or more communications servers for receiving the callback in electronic communication with one or more interactive servers; one or more interactive servers in electronic communication with one or more interactive data repositories IDR for storing data. The interactive server may comprise a parser of the data in the data log and an encapsulator of the information into appropriate protocol for database users, said interactive server being in electronic communication with one or more IDRs. The IDR may be in communication with an interactive business system ("IBS") wherein data in the IDR is correlated with data in the IBS.

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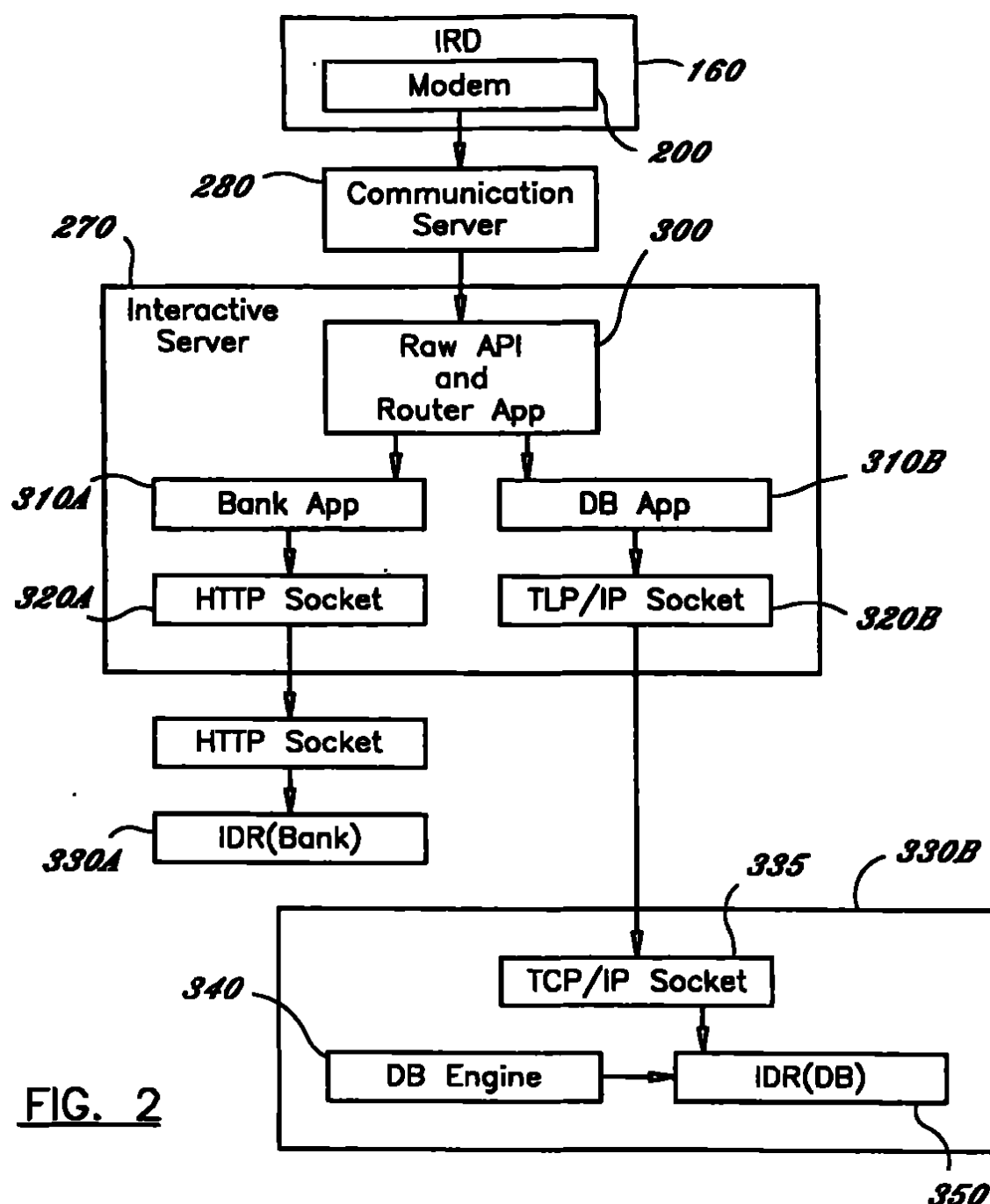
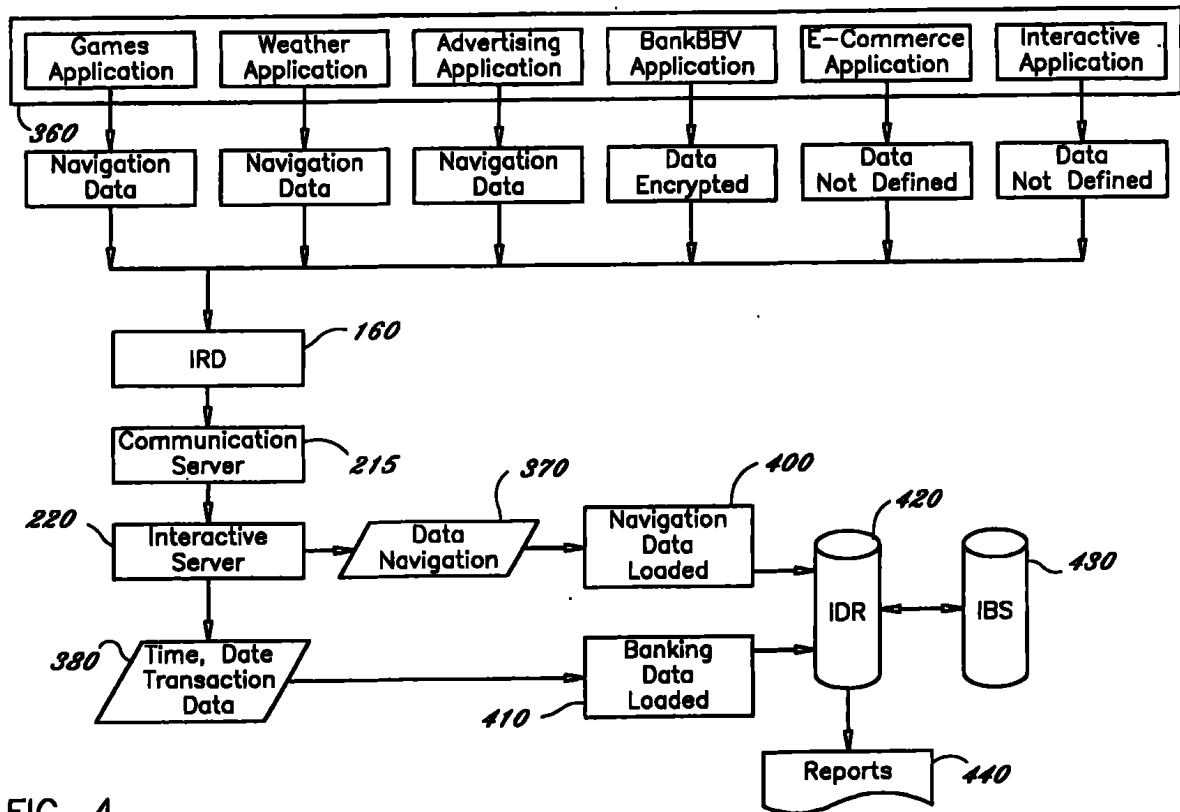


FIG. 2

Field Name	Type	Length
Smart Card ID	String	12
Prodecer ID	String	10
Application ID	String	12
Page ID	String	2
Time Date Stamp ID	String	8

FIG. 3A

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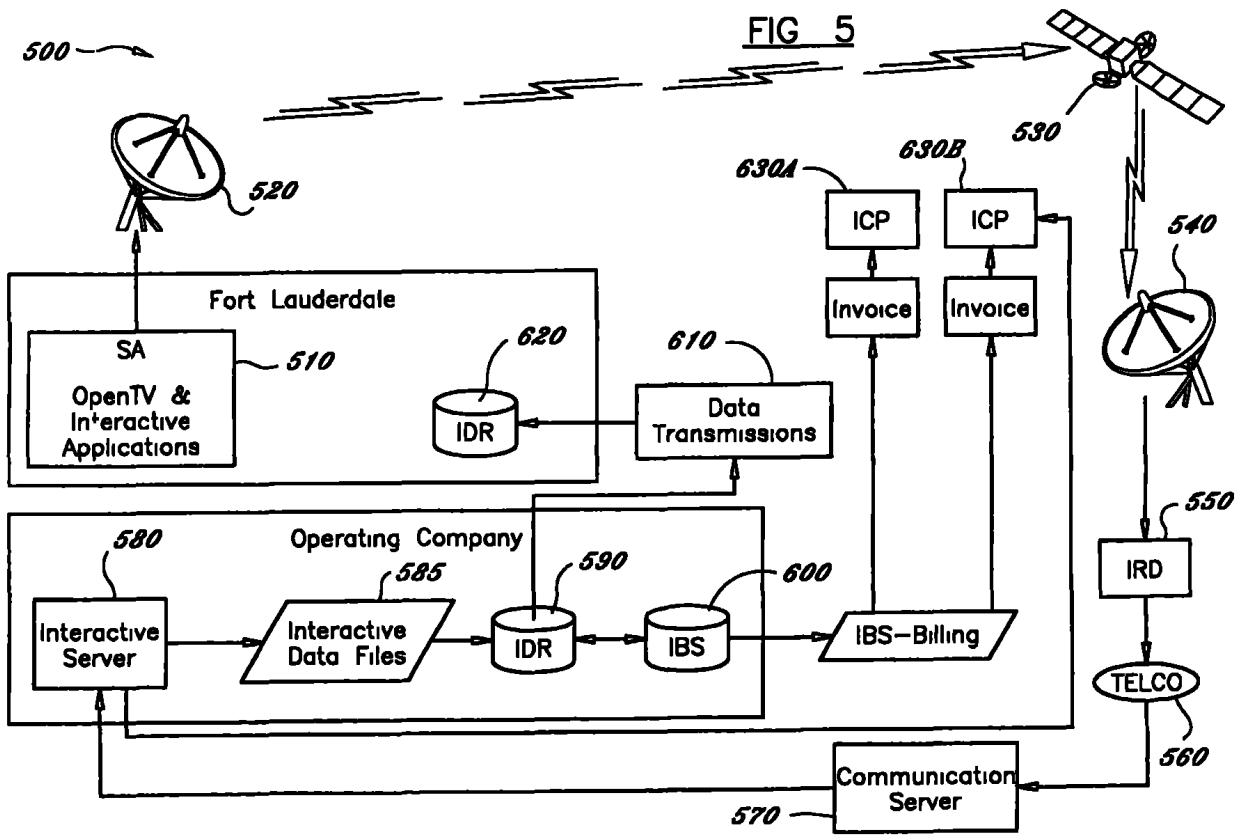
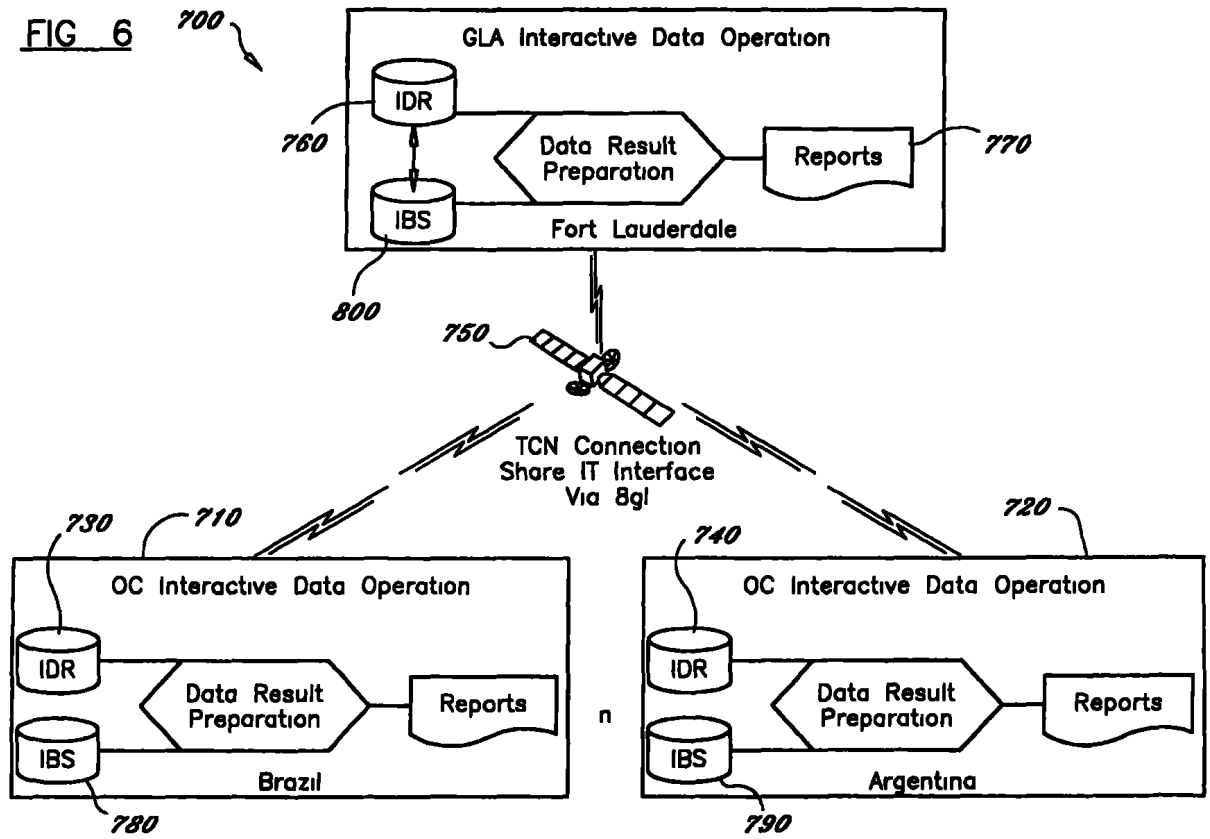


FIG 6



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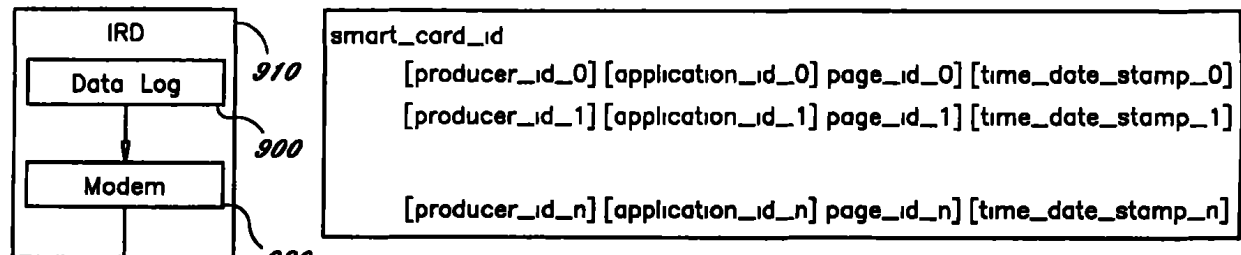


FIG. 3B

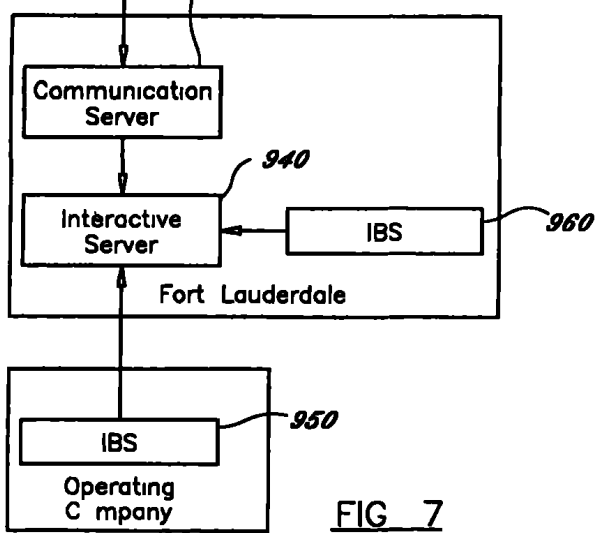


FIG. 7

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April 03, 2001

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APPLICATION NUMBER: 60/200,476

FILING DATE: April 28, 2000



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W. Montgomery
W. MONTGOMERY
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PROVISIONAL APPLICATION FOR PATENT COVER SHEET

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

INVENTOR(S)					
Given Name (first and middle (if any))	Family Name or Surname	Residence (City and either State or Foreign Country)			
Derek	Footer	Fort Lauderdale, FL			
Carlos	Gonzalez	Fort Lauderdale, FL			
Angela M.	Trujillo	Fort Lauderdale, FL			
Narda J.	Lavarde	Fort Lauderdale, FL			
☐ Additional inventors are being named on the _____ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (200 characters max)					
INTERACTIVE DATA REPOSITORY FOR INTERACTIVE TV					
Direct all correspondence to: CORRESPONDENCE ADDRESS					
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☒ Firm or Individual Name		Hughes Electronics Corporation Corporate Patents & Licensing			
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Address		200 North Sepulveda Boulevard			
City		El Segundo	State	CA	ZIP 90245-0956
Country		USA	Telephone	(310) 662-9920	Fax (310) 322-0729
ENCLOSED APPLICATION PARTS (check all that apply)					
☒ Specification Number of Pages		10		☐ Small Entity Statement	
☒ Drawing(s) Number of Sheets		6		☒ Other (specify) Certificate of Mailing	
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The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
☒ No.					
☐ Yes, the name of the U.S. Government agency and the Government contract number are: _____					

Respectfully submitted,

Date 4, 28, 00.

SIGNATURE

TYPED or PRINTED NAME

BRADLEY K. LORTZ

TELEPHONE (310) 662-9220

REGISTRATION NO.

45,472

(If appropriate)

Docket Number:

PD-200153

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PROVISIONAL PATENT APPLICATION

PD-200153

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INTERACTIVE DATA REPOSITORY FOR INTERACTIVE TELEVISION

Derek P. Footer
Carlos Gonzalez
Angela M. Trujillo
Narda J. Laverde

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INTERACTIVE DATA REPOSITORY FOR INTERACTIVE TELEVISION

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention generally relates to methods and systems for collecting and recording data and communication functionality in databases and more particularly to methods and systems for collecting and recording data and communication functionality in databases for interactive television.

Description of the Related Art

Presently, there is no system or method for obtaining navigation and e-commerce transaction data in an Information Data Repository (IDR) for interactive television. Only providers of the information content can obtain such data, e.g. e-commerce transactions as applicable in banking, while the data is generally unavailable to the information broadcaster and others. Present smart card systems can only log very limited viewer preference information, due to limited available memory and an inability to access the user input data.

There is a need for a system and method for collecting and storing data for interactive television, such as navigation and e-commerce transaction data, in an Information Data Repository (IDR) for access by the information broadcaster and others. Such a system and method will enable one-click transactions and precise recording of user patterns.

There is also a need for a system and method for the collection, administration and management of the information that is provided and processed by the various interactive television applications to and from geographically dispersed operating companies.

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It is therefore one object of the present invention to provide a system and method for collecting and storing data for interactive television from a range of interactive television applications in an Information Data Repository (IDR).

Another object of the present invention is to provide a system and method for the collection, administration and management of interactive television data that is provided and processed by the various interactive television applications to and from geographically dispersed operating companies.

SUMMARY OF THE INVENTION

The present invention provides a system and method for storing interactive television data in an Information Data Repository (IDR) for access by the information broadcaster and others.

Each interactive television application contains programs and/or libraries. The programs and libraries collect specific data pertaining to individual business needs. The data is stored in a memory, such as a flash memory in the user integrated receiver/decoder. Depending upon the application, the data is communicated to a communication server at an operating company through a modem in real time or at scheduled intervals. The data is then communicated to an interactive server and then stored at an IDR.

BRIEF DESCRIPTION OF THE DRAWINGS

- FIG. 1 is a diagram of the IDR system architecture.
- FIG. 2 is a diagram of the IDR system applied to a banking server.
- FIG. 3 is a diagram of IDR data flow with interactive applications.
- FIG. 4 is a diagram of the IDR as a collector of the data files provided by the interactive applications.

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FIG. 5 is a diagram of a physical architecture for the IDR.

FIG. 6 is a diagram of data flow with a centralized IDR.

DETAILED DESCRIPTION OF THE INVENTION

The system of the present invention, including the IDR is generally shown in Figure 1. The system includes the IDR in communication with an interactive service that includes a recording application. The interactive service receives and/or provides scheduled or real-time communication of information from communication interactive applications located at clients through a modem connection.

Each interactive television service employs one or more interactive applications that utilize programs and/or libraries. The programs collect and store libraries of specific data from users pertaining to individual business needs. Each interactive application may have a specific function that requires a specific data definition to collect the information. Some examples of these specific programs and information are provided below.

Navigation Program and Library.

The navigation program is included in the interactive applications. Interactive television applications of Games, Weather and Advertising are some examples. The inclusion of this library will be part of the specifications of new interactive applications. This program enables identifying which interactive services applications and which pages a user accesses.

The data file for the navigation program has the following characteristics. Every time the subscriber goes to an interactive application, e.g. Games, Weather, Advertising applications, the page, time and date and other pertinent data will be saved in a memory, preferably RAM. When the user quits the application, the data may be saved in a different memory, preferably a flash memory for more permanent storage. This data will be saved and transferred by the integrated receiver/decoder at the user to the Interactive Server (IS), through a callback transfer. A scheduled

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transmission is preferred, however, a real-time/online transfer is also possible. The data transferred by the navigation program preferably should not exceed 30K per user.

The data file for the navigation program has a prescribed format specifying field names, field types and field lengths. The preferred format is shown in the following table.

Smart card_ID	String	12
Producards_ID	String	10
Application_ID	String	10
Page_ID	String	2
Time_Date_Stamp	String	8

Examples of data fields are as follows.

[Smart_card_id_] [producer_id_0] [application_id_0], [page_id_0], [time_date_stamp_0]
[producer_id_1] [application_id_1], [page_id_1], [time_date_stamp_1]
.
.
.
[producer_id_n] [application_id_n], [page_id_n], [time_date_stamp_n]

Particular data of interest collected by the navigation application include the frequency and pages that are accessed for each interactive application, the number of transactions performed per application and the geographical distribution of the interactive applications used.

Banking Application

The BBV bank application is encrypted, therefore no library inclusion is possible. The collected data is tracking of the transaction requests of the user to the bank.

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A diagram of the IDR system applied to a banking server is shown in Figure 2. Bank BBV application data is obtained from a file of the transaction request the Interactive Server (IS) makes to the Bank Application. Every time the subscriber initiates the bank application and requests information directly from the bank a transaction record is generated. A log of these transactions can be saved on a database. The preferred data format includes only an application ID and a time and date stamp.

The data may be transferred in an on line/real-time format or by batch at scheduled intervals. The information provided by the IS needs to be saved on a database. Because the smart card ID is not on file, look-ups to the IBS Database will not be possible. With the information collected in the IDR various views of the data can be developed.

Particular data of interest collected by the bank BBV application include the number of transactions by date and the usage of this application by days and weeks. This information may be used to bill the bank by number of transactions.

E-commerce Applications

A variety of e-commerce applications are possible involving the automated sale of goods and services directly to users. Validation of the subscriber in IBS may be required by e-commerce applications.

New interactive applications may be developed with specific functions, requiring a specific data definition to collect the information. Systems process definition and IBS information interconnectivity is determined for each new interactive application.

Some programs and libraries may be "Lead Generation," requiring specific information from the user before a function is performed. Registering every time a user requests brochures, signs on to promotions or requests more information from

advertisements are some examples of this. The system provides files and reports and requires several look-ups to IBS at the user level.

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Data Flow of the Interactive Applications.

A diagram of IDR data flow with interactive applications is shown in Figure 2. To be able to collect information from the interactive application an interactive server must be implemented at the Operational Company (OC) level. The information will be transmitted via callback from the INTEGRATED RECEIVER/DECODER of the user. Each application will define the frequency and time of callbacks. All data collected on the flash memory of the INTEGRATED RECEIVER/DECODER will go through the Interactive server (IS).

IDR Data Collection

Figure 4 shows a diagram of the IDR as a collector of the data files provided by the interactive applications. The requirements of the IDR are determined by the interactive applications. The IDR may be enhanced every time new specifications from the interactive applications are delivered. The IDR hardware platform is scalable to handle further growth of interactive television services.

One data file per application is transferred to the IDR. A custom load program for each file may be used.

The description tables for all the codes included in the interactive files, e.g. application IDs and page IDs must be provided to collect the information in the IDR. This supports the generation of reports or files. Preferably reports should link no more than three or four IBS tables.

Before a new data file of an interactive application can be loaded into the IDR, file specifications must be provided. Data file definition is necessary to do the proper modifications to the IDR. Specification of every data item in the data files is required, including the types of codes, the data types definitions of each field and length and

file code definitions. Data volume is required to define the actual infrastructure capacity requirements. The number of records anticipated for the IDR is determined from the number of records per file and the frequency of callbacks.

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IDR Physical Infrastructure

Figure 5 depicts a diagram of a physical architecture for the IDR infrastructure. Each OC has an IDR to collect the information of the Interactive Services. At the OC level this information will be used to produce specific reports and some of them will require look-up to the local IBS database. In the Interactive Services platform (Head-End), the IDR will operate as another information provider. The IDR provides billing and/or general information as required to the different information providers.

Data Transmission to a Centralized IDR

Figure 6 is a diagram of data flow with a centralized IDR. From each OC, information is extracted for the IDR to produce a file that is transmitted to a centralized IDR Database whose purpose will be to produce consolidated reports. The extraction of data from each local IDR requires generating generic consolidated files. The data extraction file will be complemented with specific data from the IBS database.

The preferred hardware and software for each OC will be an IBM RS8000/H70 running AIX. The H70 server meets current needs and has the scalability to meet anticipated needs as well. It has a minimum of configuration of 1 processor and 8GB of disk space and can scale up to 4 processors with up to 128GB of disk space.

The system discussed herein is exemplary and the scope of the invention should not be limited to the specific embodiments described herein. It should be understood that the foregoing description relates to certain preferred embodiments of the invention and that numerous variations and alternate embodiments will occur to

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those skilled in the art which may be made without departing from the spirit and scope of the invention.

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INTERACTIVE DATA REPOSITORY FOR INTERACTIVE TELEVISION

ABSTRACT OF THE DISCLOSURE

A system and method for storing navigation and e-commerce transaction data from a range of interactive television applications in an Information Data Repository (IDR) is presented. A system and method for the collection, administration and management of the navigation and e-commerce transaction data that is provided and processed by the various interactive television applications to and from geographically dispersed operating companies is also presented.

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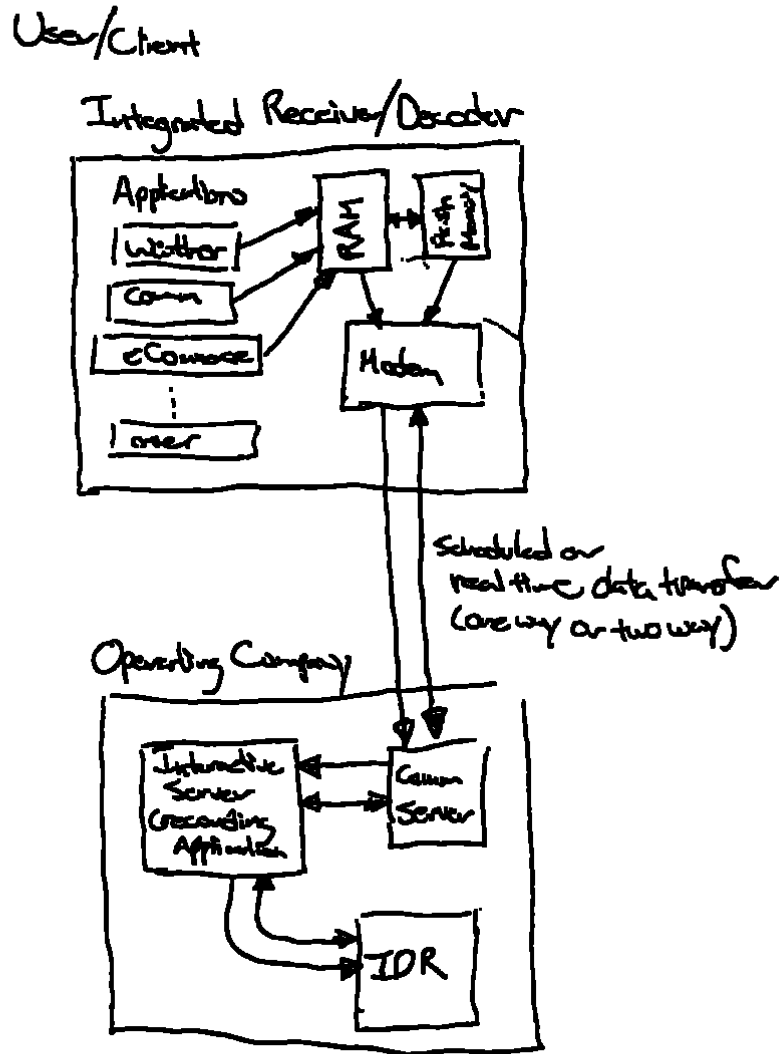
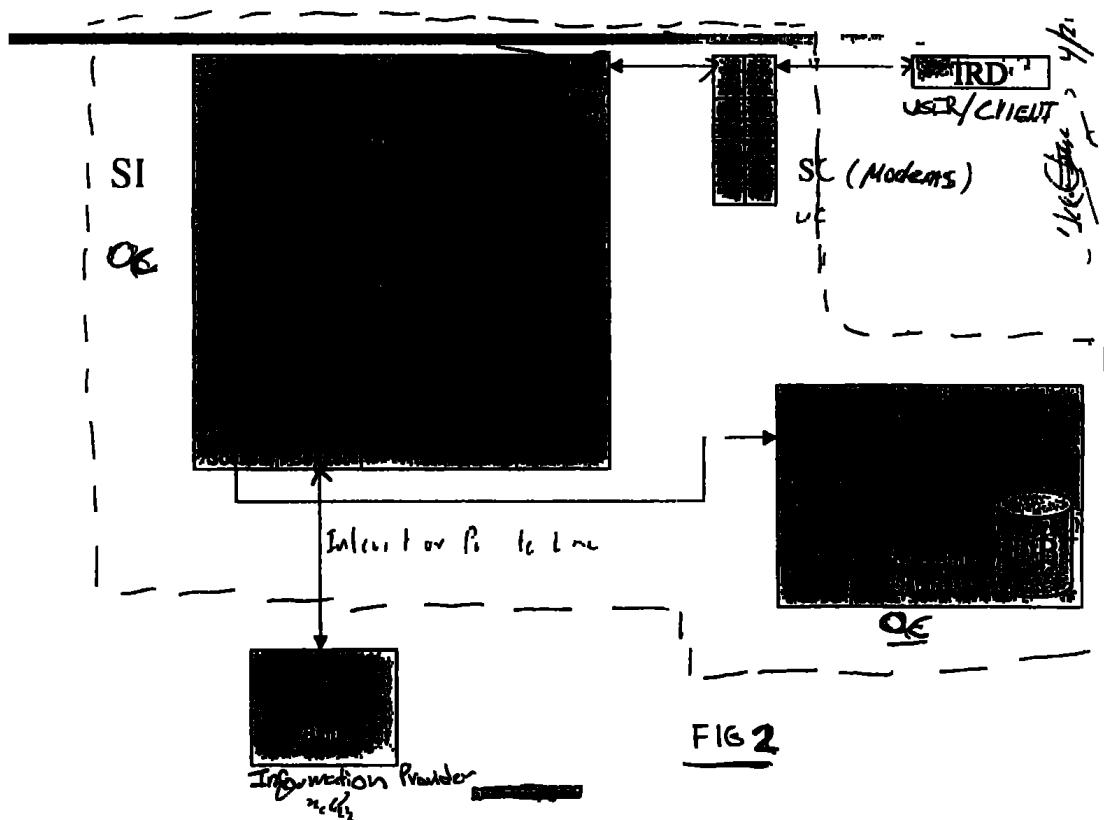


FIG. 1

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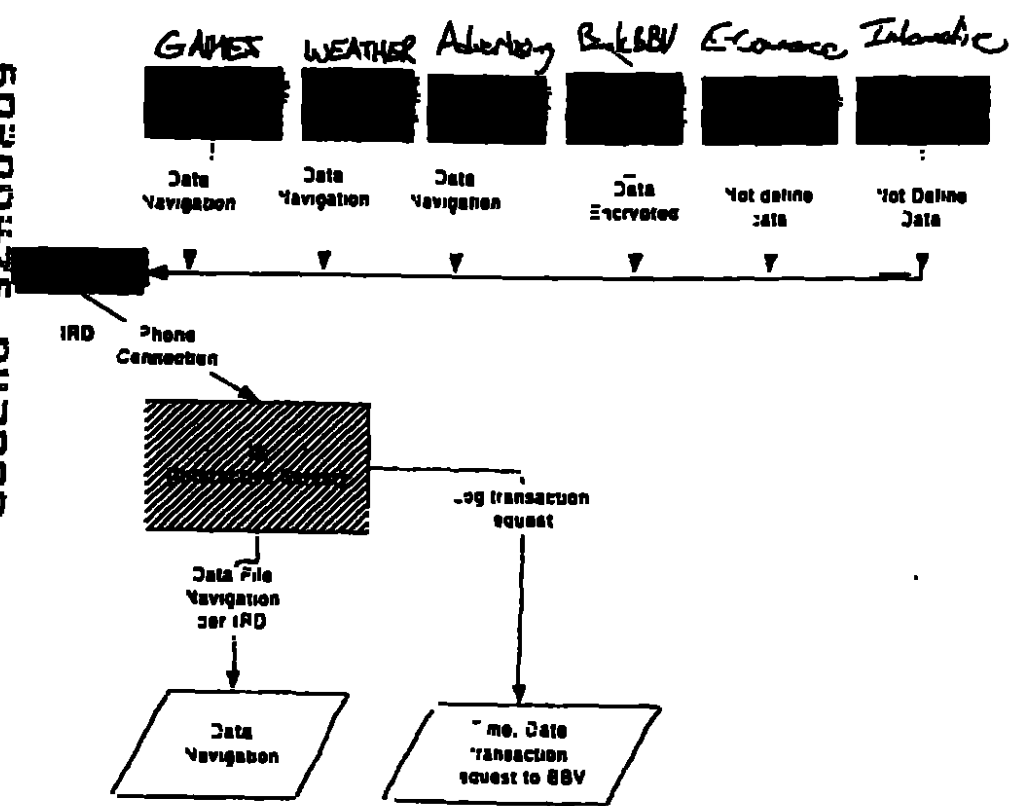


FIG. 3

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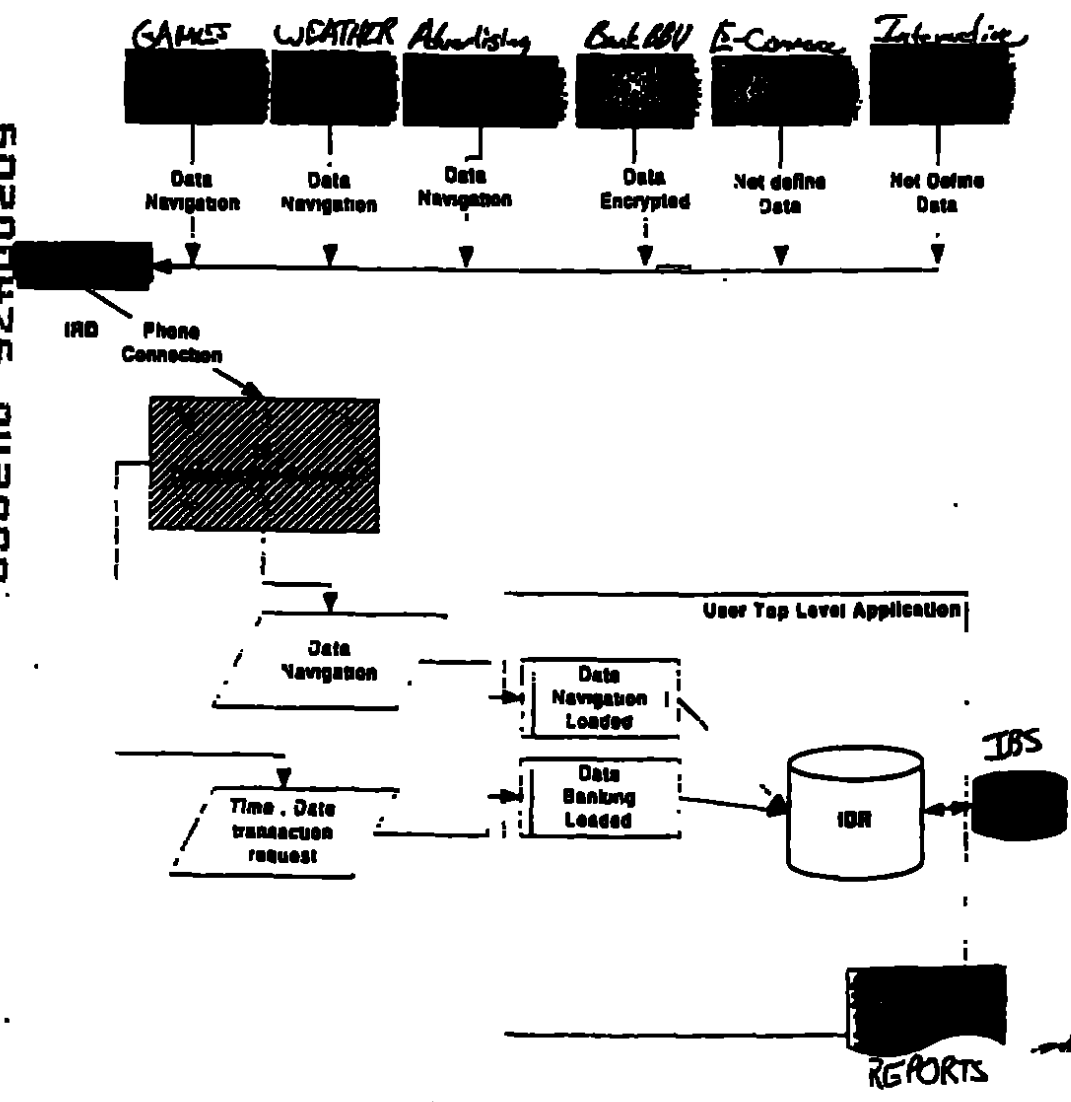


FIG. 4

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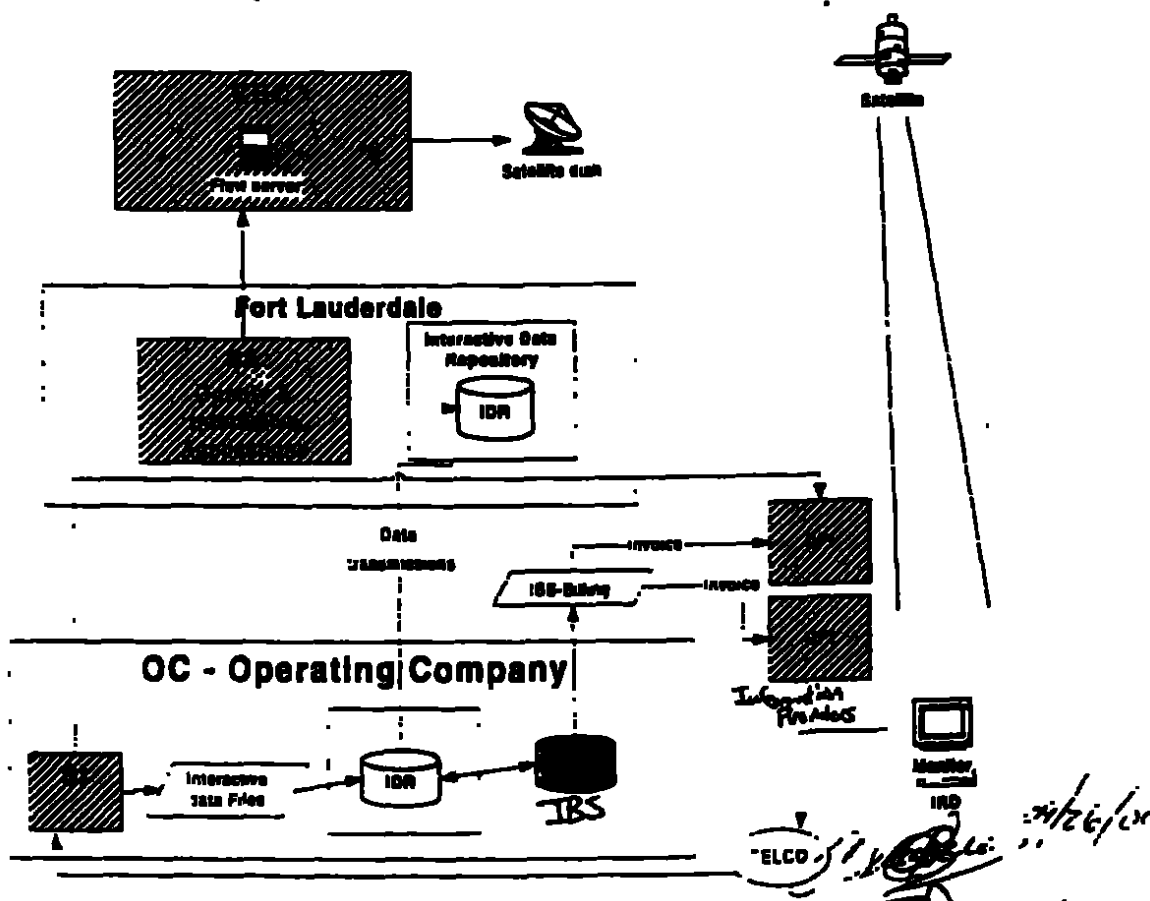


FIG. 5

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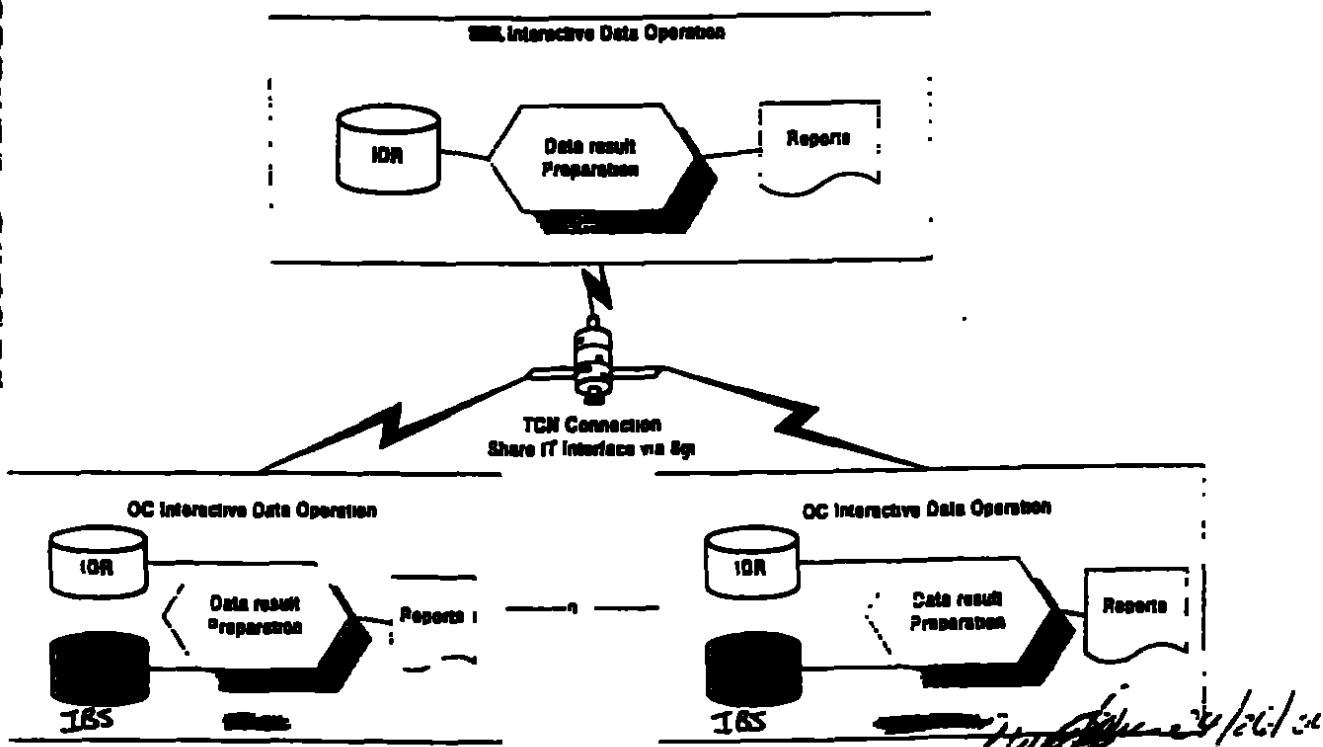


FIG 6.

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FECHA DE PRESENTACION: Abr11 28, 2000

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Oficial Certificador

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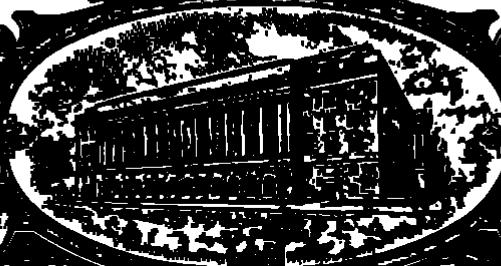
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NUMERO DE SOLICITUD: 60/201.558
FECHA DE PRESENTACION: Mayo 1, 2000

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Firmado
N. WOODSON
Oficial Certificador

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APPLICATION NUMBER: 60/201,558

FILING DATE: May 01, 2000



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N. WOODSON

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valid OMB control number.**PROVISIONAL APPLICATION FOR PATENT COVER SHEET**

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (c).

INVENTOR(S)					
Given Name (first and middle (if any))	Family Name or Surname	Residence (City and either State or Foreign Country)			
Derek	Footer	Fort Lauderdale, FL			
Carlos	Gonzalez	Fort Lauderdale, FL			
Angela M.	Trujillo	Fort Lauderdale, FL			
Narda J.	Laverda	Fort Lauderdale, FL			
☐ Additional inventors are being named on the _____ separately numbered sheets attached hereto					
TITLE OF THE INVENTION (250 characters max)					
INTERACTIVE DATA REPOSITORY FOR INTERACTIVE TV					
Direct all correspondence to: CORRESPONDENCE ADDRESS					
☒ Customer Number	020991		Place Customer Number Bar Code Label here		
OR Type Customer Number here					
☒ Firm or Individual Name	Hughes Electronics Corporation Corporate Patents & Licensing				
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Address	200 North Sepulveda Boulevard				
City	El Segundo	State	CA	ZIP	90245-0956
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The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.					
☐ No.					
☐ Yes, the name of the U.S. Government agency and the Government contract number are: _____					

Respectfully submitted,

Date: 5, 1 00 1

SIGNATURE

BRADLEY K. LOKIZ

TYPED or PRINTED NAME

(310) 662-9920

TELEPHONE

REGISTRATION NO.
(if appropriate)

45,472

Docket Number:

PD-200153A

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60/201558
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Derek Footer et al.

Date: May 1, 2000

Serial No.: (FILED HEREWITH)
Filed: (FILED HEREWITH)

Group Art Unit: Unknown

Examiner: Unknown

For: INTERACTIVE DATA
REPOSITORY FOR INTERACTIVE
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Respectfully submitted,

By:

Bradley K. Lortz
Reg. No. 45,472

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INTERACTIVE DATA REPOSITORY FOR INTERACTIVE TELEVISION

60201558-050100

Derek P. Footer
Carlos Gonzalez
Angela M. Trujillo
Narda J. Laverde

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BACKGROUND OF THE INVENTION

Field of the Invention

The present invention generally relates to methods and systems for collecting and recording data and communication functionality in databases and more particularly to methods and systems for collecting and recording data and communication functionality in databases for interactive television.

Description of the Related Art

Presently, there is no system or method for obtaining navigation and e-commerce transaction data in an Information Data Repository (IDR) for interactive television. Only providers of the information content can obtain such data, e.g. e-commerce transactions as applicable in banking, while the data is generally unavailable to the information broadcaster and others. Present smart card systems can only log very limited viewer preference information, due to limited available memory and an inability to access the user input data.

There is a need for a system and method for collecting and storing data for interactive television, such as navigation and e-commerce transaction data, in an Information Data Repository (IDR) for access by the information broadcaster and others. Such a system and method will enable one-click transactions and precise recording of user patterns.

There is also a need for a system and method for the collection, administration and management of the information that is provided and processed by the various interactive television applications to and from geographically dispersed operating companies.

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It is therefore one object of the present invention to provide a system and method for collecting and storing data for interactive television from a range of interactive television applications in an Information Data Repository (IDR).

Another object of the present invention is to provide a system and method for the collection, administration and management of interactive television data that is provided and processed by the various interactive television applications to and from geographically dispersed operating companies.

SUMMARY OF THE INVENTION

The present invention provides a system and method for storing interactive television data in an Information Data Repository (IDR) for access by the information broadcaster and others.

Each interactive television application contains programs and/or libraries. The programs and libraries collect specific data pertaining to individual business needs. The data is stored in a memory, such as a flash memory in the user integrated receiver/decoder. Depending upon the application, the data is communicated to a communication server at an operating company through a modem in real time or at scheduled intervals. The data is then communicated to an interactive server and then stored at an IDR.

DETAILED DESCRIPTION OF THE INVENTION

See Attached Sheets.

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3. SUMMARY OF THE INVENTION

SHEET 3 OF 25

A. GIVE A BRIEF DESCRIPTION OF YOUR INVENTION PARTICULARLY POINTING OUT WHAT IS BELIEVED
TO BE NOVEL, THE "HEART" OF WHAT IS NEW

Recording and communication functionality for
navigation and eCommerce transactions and
usage of the IRO. This enables one click
transactions and precise recording of ~~user~~^{user} patterns

B. EXPLAIN THE PURPOSE AND ADVANTAGES OF YOUR INVENTION (WHAT WILL THE INVENTION DO BETTER
THAN DONE PREVIOUSLY?)

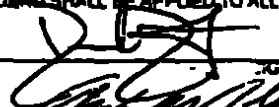
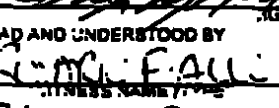
Presently, there is no means of obtaining
this information from the IRO. Until now,
this information is not available to the
broadcaster as opposed to the vendor providing
the eCommerce content (i.e. banking). Present
Smart card systems can only log very
limited viewer ~~usage~~^{PPF} preference information
due to limited memory and inability to
access user input data.

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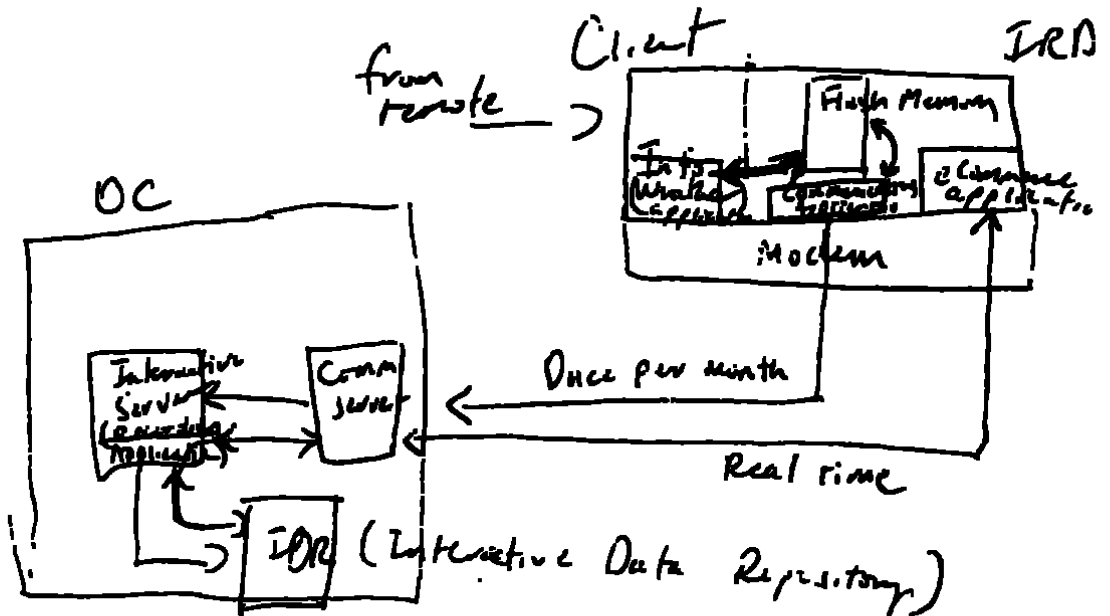
SHEET 5 OF 25

B. DETAILED DESCRIPTION

DESCRIBE YOUR INVENTION IN DETAIL, USING NECESSARY ADDITIONAL SHEETS

- A. BE SURE THAT EACH SHEET IS DATED AND SIGNED BY EACH INVENTOR AND TWO WITNESSES
SHEET 6 SHOULD BE USED IF PRACTICAL
- B. ATTACH COPIES OF DRAWINGS OR DETAILED REPORTS HELPFUL IN UNDERSTANDING HOW YOUR
INVENTION WORKS
- C. IF YOUR INVENTION HAS BEEN TESTED BRIEFLY SUMMARIZE THE TEST RESULTS WHICH CONFIRM THE
FUNCTIONS AND ADVANTAGES LISTED IN 8 B ABOVE

Recording data to flash memory



→ Added functionality includes recording module in applications, Recording Communication application, real time e-commerce interaction with IDR, and the IDR itself.

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WITNESS NAME (TYPE) _____ SIGNATURE _____ DATE _____

WITNESS NAME (TYPE) _____ SIGNATURE _____ DATE _____

PATENT DOCKET NO



Banking Server

GLA



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Interactive Data Repository



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**IT BUSINESS SYSTEMS
SOLUTIONS
INTERACTIVE DATA
REPOSITORY**

50201558-050100

Recommendation Report

**GLA IT Bus Systems
Solutions
Galaxy Latin America
April 26, 2000**

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Interactive Data Repository

INTRODUCTION

As part of the teamwork of the interactive TV project, IT Business Systems Solutions has prepared this recommendation report for a system solution to handling the information provided by the interactive TV applications.

OBJECTIVE

The primary objectives are:

1. Provide a system solution for the collection, administration and management of the information that will be extracted from the Interactive TV Applications.
2. Provide recommendations regarding a scale platform to handle the actual needs of information and which anticipates future growth.

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APPROACH. To define a system solution for this project the approach was to the following phases :

1. Understand the interactive TV project working in several meetings with Business Development and Engineer areas (Discovery Phase). The discovery phase will cover the following steps:
 - Data definition and description.
 - Data collection process.
 - Definition of data volumes.
 - End user information requirements.
2. Perform analysis, determine solutions for the administration and management of the information provided by the interactive applications. (Analysis & Design Phase).
3. Prepare implementation/training plans for approved recommendations (Implementation Phase).

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* The objective is to provide management with sufficient information to make the approval decision. Upon approval by management, Information Technology (IT) will expand the initial recommendation in to a fully developed solution (Phase 3).

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FINDINGS

SUMMARY

During the discovery phase the following findings were identify:

1. Description of data provided by the interactive applications.
2. Data volume analysis.
3. Presentation of data flow of the Interactive Applications.
4. Data definition of the Navigation Application.
5. Data definition of the Bank BBV application.

1. Description of data provided by the Interactive applications.

Each Interactive TV application will contain programs / libraries.

The objective of these programs / libraries will be the collection of specific data; pertaining to individual business needs. Some specifications of these programs are:

- **Navigation Library :**
 - The navigation program is being developed to be included into the interactive applications of *Games, Weather and Advertising*. The inclusion of this library will be part of the specifications of new interactive applications.
- **Banking Application**
 - The BBV bank application is encrypted, therefore no library inclusion is possible.
 - The collection of data will be just tracking of the transaction requests of the subscriber to the bank.
- **E-commerce Application.**
 - No E-commerce application is being developed at the moment. In order to collect the information, new libraries will be developed; this will be an engineering responsibility.
 - Enhancement to the system solution will be needed to collect the information that these new applications will provide.
 - Possible validation of the subscriber in IBS will be required by these new applications.

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Interactive Applications.

- Each Interactive application could have a specific function, and this will require a specific data definition to collect the information.
- For each Interactive Application, systems process definition and IBS information interconnectivity has to be determined.
- Some future programs/libraries will be Lead Generation; this concept will require collecting specific information like registering every time a subscriber requests brochures, sign on to promotions or request more information from advertisements. The system solution must provide files/reports, requiring several look-ups to IBS at the subscriber level.

2. Data Volumes Analysis.

- Data estimations were done with Business Development for each interactive application and for each Operational Country (OC).
- It was discussed and calculated an average record size of the information that was going to be collected. (Attach documentation data estimations).

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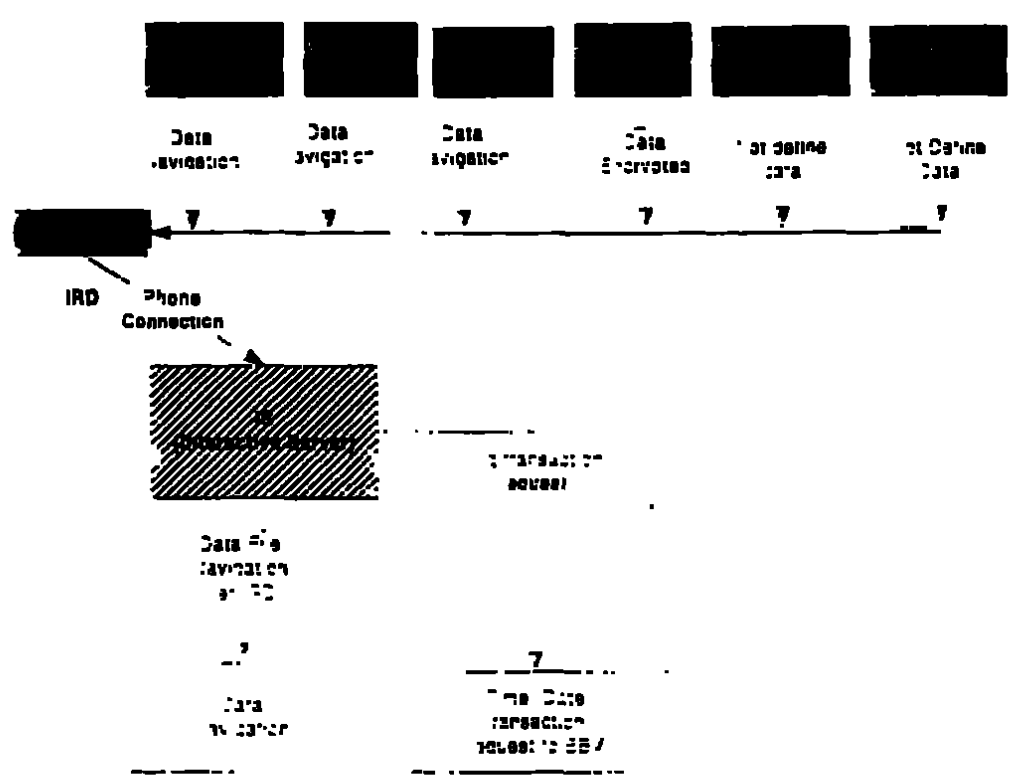
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Interactive Data Repository

3. Data flow of the Interactive Applications.

- Each interactive application will provide it's own data description.
- To be able to collect information from the interactive application an interactive server must be implemented at the Operational Company (OC) level.
- The information will be transmitted via callback from the IRD of the subscriber.
- Each application will define the frequency and time of callbacks.
- All data collected on the flash memory of the IRD will go through the Interactive server (IS).



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4. Data definition of the Navigation Application.

This application will allow us to know which interactive services applications and which pages the subscriber looks at.
At the beginning this application will be included in the Weather, Games and Advertising applications.
Data File Definition.

Every time the subscriber goes to an interactive application (Games, Weather, Ads) the page, time and data will be saved in RAM; only when he quits the application all the information will be saved on the flash memory.
This information will be saved and transferred by the IRD to the Interactive Server (IS) through a callback.
The callback specifications such as time; frequency is still being analyzed.
The navigation information should not exceed 30K per subscriber.

File format description for this application:

Smart_card_ID	String	12
Producer_ID	String	10
Application_ID	String	10
Page_ID	String	2
Time_Date_Stamp	String	8

Examples of the types of information recordable

```
smart_card_id)
  [producer_id_0], [application_id_0], [page_id_0], [time_date_stamp_0]
  [producer_id_1], [application_id_1], [page_id_1], [time_date_stamp_1]
  .
  .
  [producer_id_n], [application_id_n], [page_id_n], [time_date_stamp_n]
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Interactive Data Repository

RISKS:

- This file specification may change because the application to collect the data has not been developed.
- The operation of transmission of these files still has not been defined. Two ways of communication online/real-time and by batch still have to be discussed.
- Assumptions of volumes of data have been taken in order to proceed with this recommendation (attachment: file data volume's analysis).

End user requirements.

- The information provided by the IS server will be saved in the IDR.
- Look-Ups to the IBS Database could be provided since the Smart_card_ID is on file.
- With the information collected in the IDR different views of Data can be developed.
- The exact record layouts have not been defined.

The following information will be required for the navigation application:

- Number of times and which pages are being accessed for each interactive application (Weather, Games, and Advertisement).
- How many transactions are being done per application.
- Geographical distribution of the interactive applications used.

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5. Data definition of the Bank BBV application.

This application will be encrypted. Therefore, information will be obtained from a file of the transaction request the Interactive Server (IS) made to the Bank Application.

Data File Definition.

Every time the subscriber goes inside of the bank application and requests information directly from the bank using the back channel, a log of these transactions can be saved on a database.
The information collected will be the bank application identification and time and date of the request.

There will be a file for each transaction request made to the bank.
Volume of data will be determined for the number of subscribers who have this transactions request.
Estimated data was assumed in order to proceed with the project.

File Format:

Application_ID	To be defined	To be defined
Time Date Stamp	To be defined	To be defined

RISKS.

- This file specification may change because the final specification still has to be defined by engineering.
- The operation of transmission of these files still has not been defined in order to specify all the tasks around it. Two ways of communication online/real-time and by batch still have to be discussed.
- Assumptions of volumes of data have been done, to proceed with this recommendation (attachment: file data volume's analysis). Adjustments should be made, if data calculations are not close to the projections.

End user requirements.

- The information provided by the IS needs to be saved on a database.
- Look-Ups to the IBS Database *will not* be possible because the Smart_card_ID is not on file.
- With the information collected in the IDR different views of the Data can be developed.
- The exact record layouts have not been defined.

The following information could be retrieved from the bank application:

- Number of transactions made via bank BBV by date.
- Percentages of usage of this application by days and weeks

This information could be used to bill the bank by number of transactions once the system process is defined.

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Interactive Data Repository

RECOMMENDATIONS.

Galaxy Latin America (GLA) Information Technology has developed the following recommendations based on the objectives established.

- 1. The information provided by the Interactive applications will require it's own database name. That database is called Interactive Data Repository (IDR).
- 2. The requirements of the Interactive Data Repository (IDR) would be determined by each Interactive application.
- 3. To cover the actual needs and anticipates future growth we recommend a two stage IDR development approach:

Stage 1:

- Provide a database that could be enhanced every time new specifications from the Interactive applications are delivered.
- Recommend a scale hardware platform to handle future growth.
- Initially Ad-hoc query tools (e.g. Crystal Reports) will be provided to process the information requirements.

Stage 2:

- Study more powerful tools to improve IDR Information management.
- Recommend a system solution to support future billing requirements.
- Enhance of the IDR to cover the specifications of the e-commerce applications.
- Define e-commerce subscriber validation to determine future IBS Information requirements.

The follow recommendations address stage 1. Stage 2 recommendation will be developed at a later time.

Provide an IDR database data collection in each OC.	R1
Define an IDR database physical location.	R2
Define Data transmission to centralized IDR in GLA.	R3
Define Computer resource requirements and cost projections.	R4
Define Project schedule	R5
Define an IDR responsibility matrix.	R6

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Interactive Data Repository

R1: IDR DATABASE DATA COLLECTION.

- An Interactive Data Repository (IDR) database will be created to collect all the information provided by data files of each interactive application.
- If there are multiple files (one per application) that need to be loaded into the IDR, programming of a "custom" load program for each file will be required; every application must be analyzed independently, because there could be different requirements. Due to this factor the time of development could be affected.
- The description tables for all the codes included on the interactive files like: applications ids, pages ids must be provided to collect the information in the IDR; this requirement will support the development of reports or files.
- Reports will be basic, linking no more than three or four IBS tables in this first stage of the project.
- Before a new data file of an interactive application can be loaded into the IDR database, file specifications must be provided to IT. The information required is described in the table below.

Data File Definition	Due the proper modifications to the IDR.	- Specify every data item on the Data File. - Types of codes. - Data types definition of each field, length. - Codes file definitions.
Data Volumes	Will be used to define if the actual infrastructure can support the amount of data expected.	- Number of records expected to be saved on the IDR. - Amount of records per file. - Frequency of callbacks.
End User Information Requirements	Define and develop of system processes and reporting.	- Define reports layouts. - Define information needs.

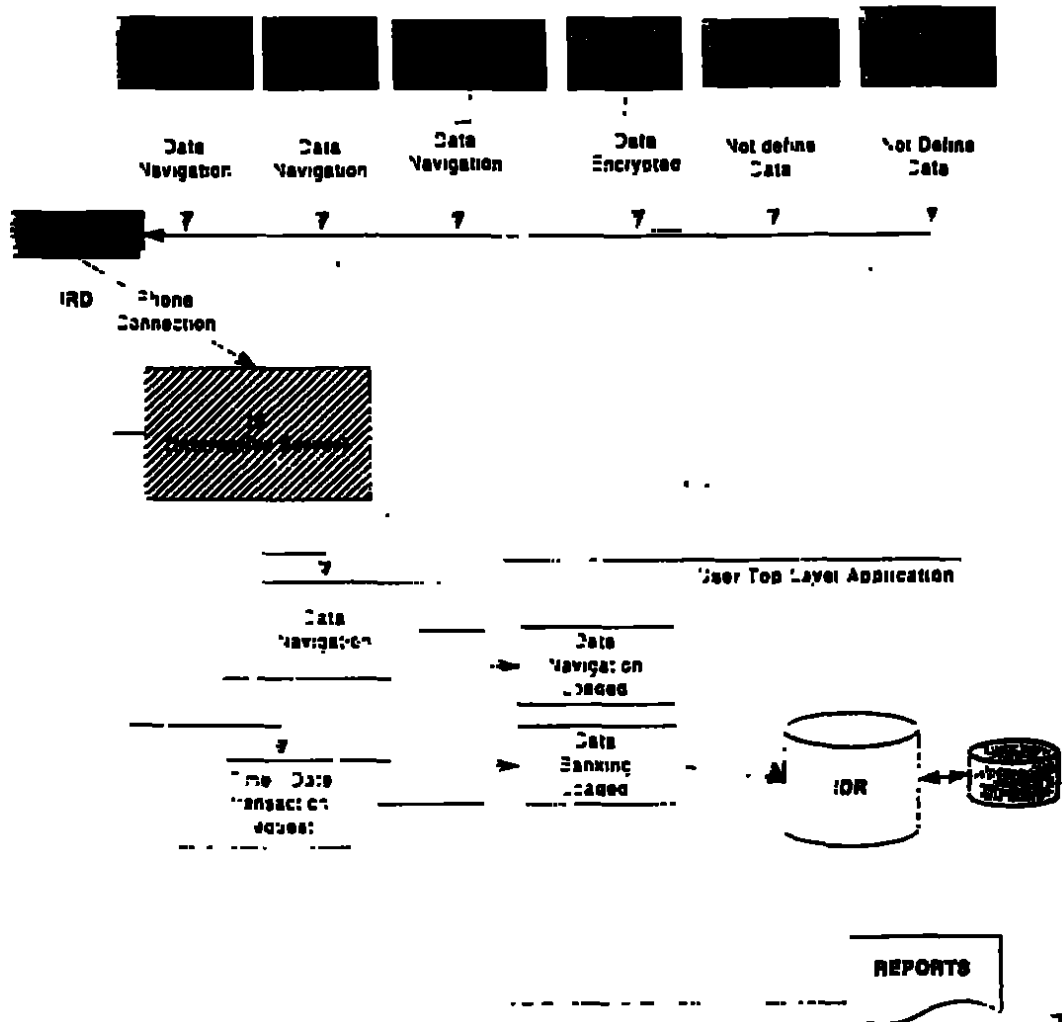
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Interactive Data Repository

Diagram of the IDR as a collector of the data files provided by the interactive applications.



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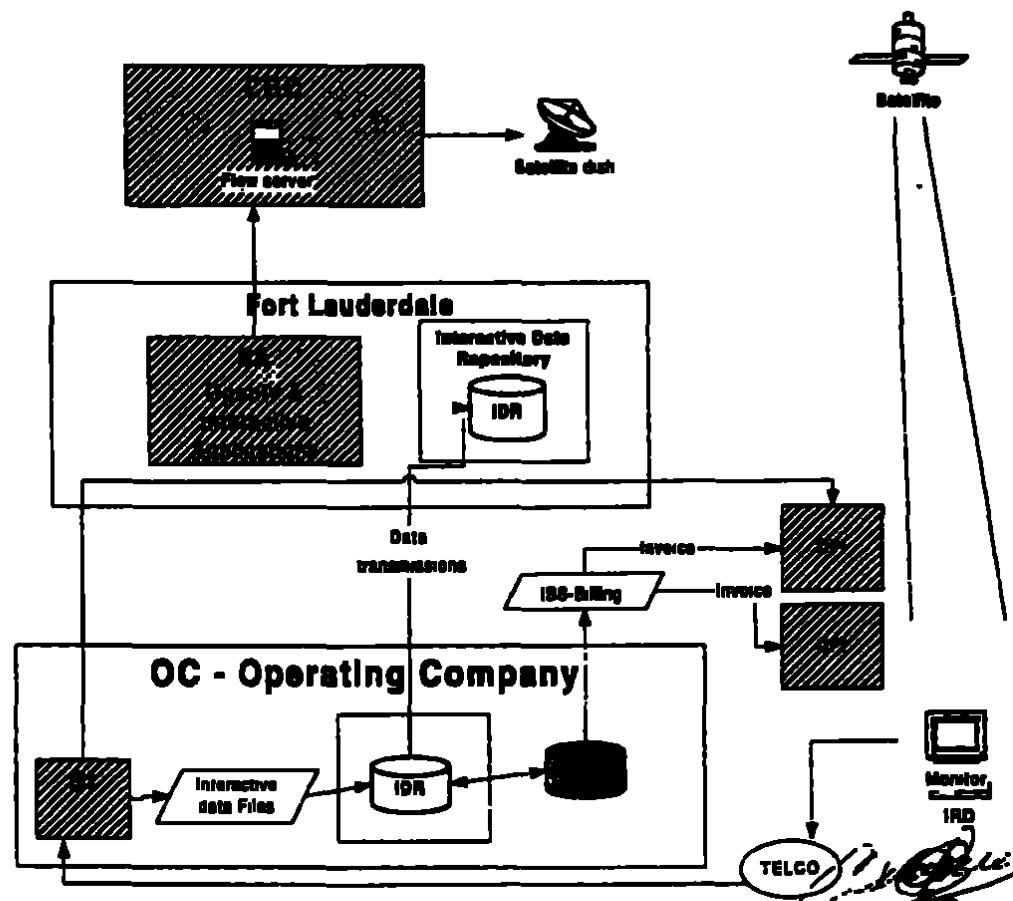
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Interactive Data Repository

R2: IDR DATABASE PHYSICAL LOCATION.

- Each OC will have an IDR Data Base to collect the information of the Interactive Services. At the OC level this information will be used to produce specific reports and some of them will require look-up to the Local IBS database.
- In the Interactive Services platform (Head-End), the IDR will operate as another CPI (Spanish "Centro Proveedor de Información").
- The IDR will provide, once defined, billing and/or general information as required to the different CPIs (Information Providers).
- The billing function has not been defined. Once this operation is determined, the selection of IBS as a Billing system to the CPIs will be established.



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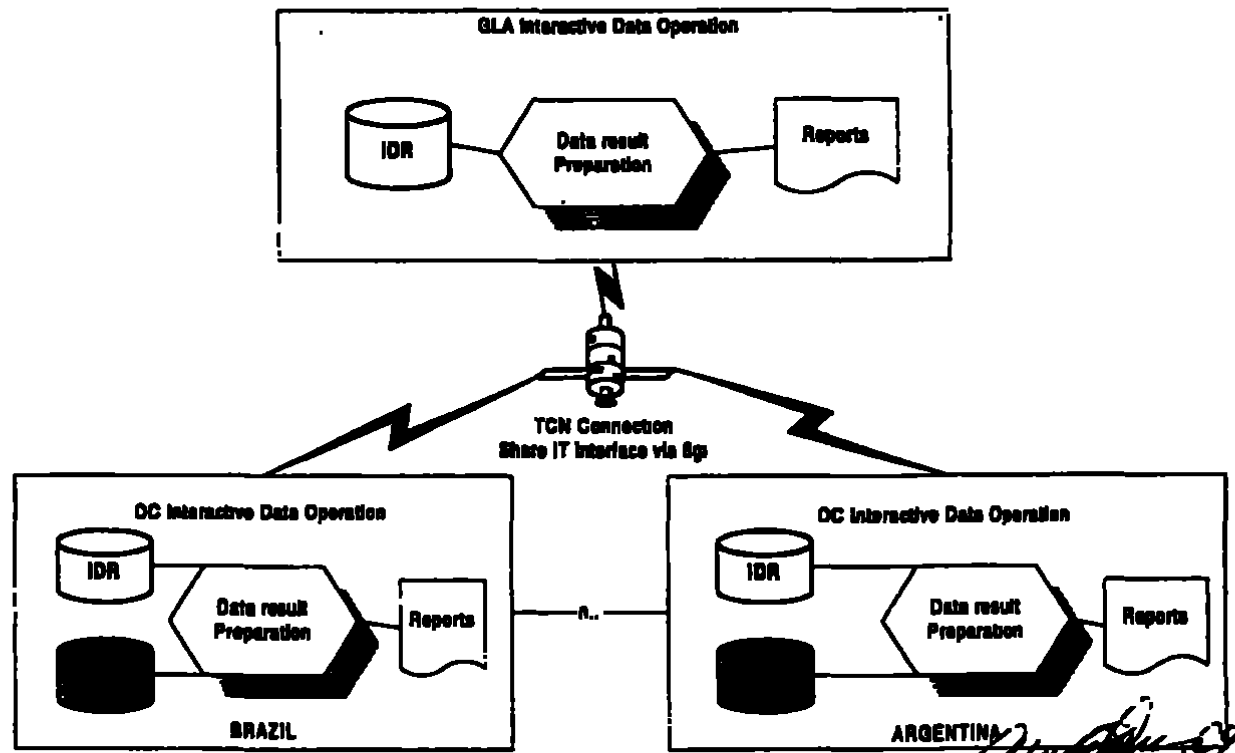
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R3: DATA TRANSMISSION TO CENTRALIZED IDR DATABASE IN GLA.

- From each OC, information will be extracted from the IDR to produce a file that will be transmitted Via TCN to a centralized IDR Database whose purpose will be to produce consolidated reports.
- The transmission will shared the IT interface via 8gi. This interface is already defined for all the OC with Broadcast Centers. This connectivity still has to be defined for those OC without Broadcast centers.
- The extraction of data from each local IDR will require program development so generic consolidated files can be generated.
- The data extraction files will be complemented with specific data from the IBS database.



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Interactive Data Repository

R4: COMPUTER RESOURCE REQUIREMENTS & COST PROJECTIONS.

The hardware and software recommended for each operating country and GLA will be an IBM RS6000/H70 running AIX. The database will be Informix and the end-user tool (for the initial implementation) will be Crystal Reports.

This H70 server will be able to meet current needs and has the scalability to meet future needs as well. It has a minimum configuration of 1 processor and 9 gig of disk space and can scale up to 4 processors with up to 128 gig. In an effort to remain consistent and to take advantage of our expertise on staff (both in-country and here at GLA), the database for this application will be Informix running on an AIX platform.

Two Phases for the project are recommended:

- Since the end-user requirements for the extraction of interactive service's information stage 1 are relatively simple, we will recommend using Crystal reports. The database will be an Informix relational database and Crystal reports will be sufficient to extract the required information. If necessary, database views can be created to increase end-user ease of use.
- Stage 2 will consider a more powerful tool to manage the database and behave as a real Data mining.

The cost project is described in follow worksheet:

cost project
interactive.xls

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Interactive Data Repository

R5: IDR RESPONSIBILITY MATRIX.

The following table will describe the different tasks that will be required to operate the IDR and which area will be responsible.

- IDR Data Base	- Data base Maintenance/Administration	OC DBA	OC
- Modifications to IDR Data Base Local and Centralized database	- Add, modify, delete, update tables, columns. This operation will depend on the interactive application	IT GLA	OC
- IBS Interconnectivity	- Each interactive application will determine the kind of access to IBS. - Views of the IRD vs. IBS will be provided to increase user usability. - Look-ups of Data from IBS will be required.	IT GLA	GLA
- End User information requirements	- Reports generation	IT OC, B&D, IT GLA	OC, GLA
- IDR Data Consolidation.	- Selection of Data to be extracted - Coordinate transmissions of files.	B&D, IT GLA	GLA

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Interactive Data Repository

R6: PROJECT SCHEDULE

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Database design and development cannot be started until exact record layouts of the input file/files are received by IT.

Delivery of hardware is dependent on purchase order approval.

Attach file with the description of the development & implementation plan of the IDR.



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APPENDIX.

- IDR Project data Volume's Analysis.
- IDR Project Cost Evaluation.
- IDR Project Schedule

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INTERACTIVE DATA REPOSITORY FOR INTERACTIVE TELEVISION

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ABSTRACT OF THE DISCLOSURE

A system and method for storing navigation and e-commerce transaction data from a range of interactive television applications in an Information Data Repository (IDR) is presented. A system and method for the collection, administration and management of the navigation and e-commerce transaction data that is provided and processed by the various interactive television applications to and from geographically dispersed operating companies is also presented.

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2do. EXAMEN DE FORMA PATENTE DE INVENCION

Folio 141

Radicación no 01-33027

Concepto Técnico no 552 Clasificación Internacional de Patentes: G 06 F 17 / 60

Practicado el examen de acuerdo a lo establecido en el Art. 38 de la Decisión 486 se determinó que esta solicitud de Patente de Invención:

- SI [☒] NO [☐] Contiene un resumen de la invención (Art.26-e).
- SI [☒] NO [☐] Contiene el título o nombre de la invención (Art.27-d).
- SI [☒] NO [☐] Contiene la descripción de la invención (Art.26-b).
- SI [☒] NO [☐] NO ES APLICABLE [☐] Contiene los dibujos necesarios para comprender la invención (Art.26-d)
- SI [☒] NO [☐] Contiene una o más reivindicaciones. (Art.26-c).
- SI [☐] NO [☐] NO ES APLICABLE [☒] Han sido desarrollados los productos y/o procedimientos a partir de recursos genéticos o de sus productos derivados de los que cualquiera de los Países Miembros es país de origen. (Art. 26- h).
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- SI [☐] NO [☒] La invención se refiere a un producto relativo a un material biológico. (Art.26-j).
- SI [☒] NO [☐] La prioridad coincide con la materia reivindicada.
- SI [☒] NO [☐] **CUMPLE LOS REQUISITOS TÉCNICOS**

OBSERVACIONES Y OTROS: SI [☒] NO [☐] ver hoja(s) anexa(s).

1. Anexa documento en que consta la cesión del derecho a la patente otorgado por el inventor al solicitante, a partir del folio No. 40.
2. Anexa copias certificadas de las solicitudes estadounidenses No. 60/200,476 de Abril 28 de 2000, 60/201,558 de Mayo 1 de 2000 y 09/732,498 de Diciembre 6 de 2000 a partir del folio No. 52.
3. Anexa comprobantes de pago por invocación de dos (2) prioridades a partir del folio No. 49.

EXAMINADOR TÉCNICO
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Bogotá D. C. Marzo 27 de 2003

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2020
Bogotá DC

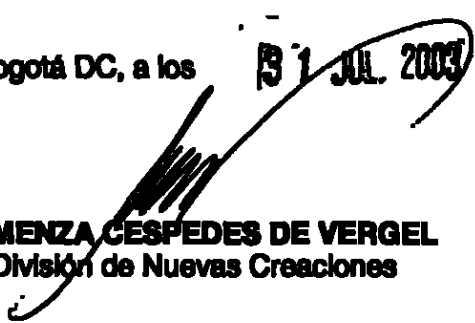
Doctor
JERONIMO CASTRO BONILLA
Apoderado

REFERENCIA:	Radicación No.	01-33027
	Trámite	002
	Evento	001
	Actuación	416
	Oficio No.	597
	Folios	001

Teniendo en cuenta que la solicitud de privilegio de patente que se tramita bajo el expediente indicado en la referencia, reúne los requisitos de forma establecidos en los artículos 28 y 27 de la Decisión 486 de la Comisión de la Comunidad Andina, y en las demás disposiciones vigentes sobre la materia, se envía el extracto de la solicitud a la Oficina de Comunicaciones para efecto de su publicación en la Gaceta de Propiedad Industrial, conforme lo establece el artículo 40 de la misma Decisión.

No obstante lo anterior, no se tendrán en cuenta las prioridades US 60/200.476 de 28-04-2000 y US 60/201.558 de 01-05-2000 por presentarse fuera de los terminos establecidos.

Cúmplase
Dado en Bogotá DC, a los **13 JUL 2003**


ALIX CARMENZA CESPEDES DE VERGEL
Jefe de la División de Nuevas Creaciones

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