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| --- | --- | --- |
| C:\Users\Davielis\Desktop\logo.png | **UNIVERSIDAD CATÓLICA ANDRÉS BELLO**  Urb. Montalbán – La Vega- Apartado 29086  Teléfono: +58212 - 4074407 Fax: +58212 - 4074447  Caracas, 1021 –Venezuela  **Facultad de Ingeniería**  **Escuela de Ingeniería Informática** |  |

**Base de Datos I**

**Diseño Conceptual y Lógico**

* Integrantes:
* De Freitas, Johan.
* Reverón, Alberto.
* Vidal, Christian.

Caracas, 30 de Octubre del 2014

**ESQUEMA LÓGICO**

**Tabla: DESARROLLADOR**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | NotNull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| DEId | **X** | **X** |  |  | **X** | VARCHAR |
| DENombre | **X** |  |  |  |  | VARCHAR |
| DETipo | **X** |  |  |  |  | VARCHAR |

**Tipo:**

**Tabla: PERSONA**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| PECedula | **X** | **X** |  |  | **X** | VARCHAR |
| PEPrimerNombre | **X** |  |  |  |  | VARCHAR |
| PESegundoNombre | **X** |  |  |  |  | VARCHAR |
| PEPrimerApelldido | **X** |  |  |  |  | VARCHAR |
| PESegundoApellido | **X** |  |  |  |  | VARCHAR |
| PECorreo | **X** |  |  |  |  | VARCHAR |
| PEFechaNacimiento | **X** |  |  |  |  | DATE |
| PETelefono | **X** |  |  |  |  | INTEGER |
| PERif | **X** |  |  |  |  | VARCHAR |
| PETipo | **X** |  |  |  |  | VARCHAR |

**Tipo: empleado, cliente.**

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**Tabla: CONTENIDO**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| COId | **X** | **X** |  |  | **X** | VARCHAR |
| COFechaRegistro | **X** |  |  |  |  | DATE |
| CONombre | **X** |  |  |  |  | VARCHAR |
| COImagen | **X** |  |  |  |  | VARCHAR |
| COCosto | **X** |  |  |  |  | FLOAT |
| COVecesValorada | **X** |  |  |  |  | INTEGER |
| COVecesDescargadas | **X** |  |  |  |  | INTEGER |
| COTipo | **X** |  |  |  |  | VARCHAR |

TIPO:

**Tabla: APLICACION**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| CAPDescripcion | **X** |  |  |  |  | VARCHAR |
| CAPVideo | **X** |  |  |  |  | VARCHAR |
| CAPFechaActualizacion | **X** |  |  |  |  | DATE |
| CAPTamaño | **X** |  |  |  |  | VARCHAR |
| CAPVersionActual | **X** |  |  |  |  | VARCHAR |
| CAPVersionMinSo | **X** |  |  |  |  | VARCHAR |
| CAPClasificacion | **X** |  |  |  |  | VARCHAR |

**Tabla: ROL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| id\_rol | **X** | **X** |  |  | **X** | INTEGER |
| RODescripcion | **X** |  |  |  | **X** | VARCHAR |

**Tabla: PELICULA**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| CPEFechaEstreno | **X** |  |  |  |  | VARCHAR |
| CPEFechaVideo | **X** |  |  |  |  | DATE |
| CPEDescripcion | **X** |  |  |  |  | VARCHAR |
| CPELenguaje | **X** |  |  |  |  | VARCHAR |
| CPESubtitulos | **X** |  |  |  |  | VARCHAR |
| CPEDuracion | **X** |  |  |  |  | INTEGER |
| CPECategoria | **X** |  |  |  |  | VARCHAR |

**Tabla: MUSICA**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| CMUFechaProduccion | **X** |  |  |  |  | DATE |
| CMUNumeroCanciones | **X** |  |  |  |  | INTEGER |
| CMUFormato | **X** |  |  |  |  | VARCHAR |
| CMUDisquera | **X** |  |  |  |  | VARCHAR |

**Tabla: LIBRO**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| CLIReseña | **X** |  |  |  |  | VARCHAR |
| CLIFechaPublicacion | **X** |  |  |  |  | DATE |
| CLIDescripcion | **X** |  |  |  |  | VARCHAR |
| CLICantidadPaginas | **X** |  |  |  |  | INTEGER |
| CLICodigoISBN | **X** |  |  |  |  | VARCHAR |

**Tabla: EDITORIAL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| EDId | **X** | **X** |  |  | **X** | VARCHAR |
| EDNombre | **X** |  |  |  |  | VARCHAR |

**Tabla: TIPO\_SO**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| TSOId | **X** | **X** |  |  | **X** | INTEGER |
| TSONombre | **X** |  |  |  | **X** | VARCHAR |

**Tabla: SO**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| SOId | **X** | **X** |  |  | **X** | VARCHAR |
| SOCaracteristicas | **X** |  |  |  |  | VARCHAR |
| SOCompañia | **X** |  |  |  |  | VARCHAR |
| SOFechaLanzamiento | **X** |  |  |  |  | DATE |

**Tabla: PROMOCION**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| PRId | **X** | **X** |  |  | **X** | VARCHAR |
| PRNombre | **X** |  |  |  |  | VARCHAR |
| PRFechaInicio | **X** |  |  |  |  | DATE |
| PRFechaFin | **X** |  |  |  |  | DATE |
| PRValor | **X** |  |  |  |  | FLOAT |
| PREstado | **X** |  |  |  |  | BOOLEAN |
| PRCondiciones | **X** |  |  |  |  | VARCHAR |
| PRDescripcion | **X** |  |  |  |  | VARCHAR |

**Tabla: DIRECTOR**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| DIId | **X** | **X** |  |  | **X** | VARCHAR |
| DINombre | **X** |  |  |  |  | VARCHAR |

**Tabla: ACTOR**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| ACId | **X** | **X** |  |  | **X** | VARCHAR |
| ACNombre | **X** |  |  |  |  | VARCHAR |

**Tabla: GENEROM**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| GEMId | **X** | **X** |  |  | **X** | VARCHAR |
| GEMNombre | **X** |  |  |  |  | VARCHAR |

**Tabla: CANTANTE**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| CANId | **X** | **X** |  |  | **X** | VARCHAR |
| CANNombre | **X** |  |  |  |  | VARCHAR |

**Tabla: AUTOR**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| AUId | **X** | **X** |  |  | **X** | VARCHAR |
| AUNombre | **X** |  |  |  |  | VARCHAR |

**Tabla: GENEROL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| GELId | **X** | **X** |  |  | **X** | VARCHAR |
| GELNombre | **X** |  |  |  |  | VARCHAR |

**Tabla: CARGO**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| CARId | **X** | **X** |  |  | **X** | VARCHAR |
| CARSalario | **X** |  |  |  |  | FLOAT |
| CARNombre | **X** |  |  |  |  | VARCHAR |

**Tabla: CONTRATO**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| CONId | **X** | **X** |  |  | **X** | VARCHAR |
| CONFechaInicio | **X** |  |  |  |  | DATE |
| CONFechaFin | **X** |  |  |  |  | DATE |
| CONCausa | **X** |  |  |  |  | VARCHAR |

**Tabla: COMENTARIO**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| COMId | **X** | **X** |  |  | **X** | VARCHAR |
| COMDescripcion | **X** |  |  |  |  | VARCHAR |
| COMFecha | **X** |  |  |  |  | DATE |
| COMHora | **X** |  |  |  |  | INTEGER |

**Tabla: CALIFICACION**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| CALId | **X** | **X** |  |  | **X** | VARCHAR |
| CALValor | **X** |  |  |  |  | INTEGER |
| CALFecha | **X** |  |  |  |  | DATE |
| CALHora | **X** |  |  |  |  | INTEGER |

**Tabla: EMPLEADO**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| PEMNivelEducativo | **X** |  |  |  |  | VARCHAR |
| PEMGrupoSanguineo | **X** |  |  |  |  | VARCHAR |

**Tabla: CLIENTE**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| PCLEdoCivil | **X** |  |  |  |  | VARCHAR |
| PCLFechaRegistro | **X** |  |  |  |  | DATE |

**Tabla: FACTURA**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| FAId | **X** | **X** |  |  | **X** | VARCHAR |
| FAFechaEmision | **X** |  |  |  |  | DATE |

**Tabla: LUGAR**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| LUId | **X** | **X** |  |  | **X** | VARCHAR |
| LUNombreLugar | **X** |  |  |  |  | VARCHAR |
| LUTipoLugar | **X** |  |  | **X** |  | VARCHAR |
| LUCodigoPostal | **X** |  |  | **X** |  | INTEGER |
| fk\_lugar |  |  | **X** |  |  | VARCHAR |

**tipo\_lugar:** PAIS, CIUDAD, ESTADO, MUNICIPIO, ENTRE OTROS.

**Tabla: TIPO\_TARJETA**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| TTId | **X** | **X** |  |  | **X** | VARCHAR |
| TTNombre | **X** |  |  |  |  | VARCHAR |

**Tabla: TARJETA\_CREDITO**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| TDCId | **X** | **X** |  |  | **X** | VARCHAR |
| TDCNombreImpreso | **X** |  |  |  |  | VARCHAR |
| TDCBanco | **X** |  |  |  |  | VARCHAR |
| TDCNumero | **X** |  |  |  |  | INTEGER |
| TDCFechaVencimiento | **X** |  |  |  |  | DATE |

**Tabla: USUARIO**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| USId | **X** | **X** |  |  | **X** | VARCHAR |
| USUsername | **X** |  |  |  | **X** | VARCHAR |
| USContraseña | **X** |  |  |  |  | VARCHAR |

**Tabla: ACCION**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| ACId | **X** | **X** |  |  | **X** | VARCHAR |
| ACDescripcion | **X** |  |  |  |  | VARCHAR |

**Tabla: USUARIO\_ROLL**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
| USROId | **X** | **X** |  |  | **X** | VARCHAR |
| USROHistorial | **X** |  |  |  |  | VARCHAR |

**Tabla:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
|  | **X** | **X** |  |  | **X** | INTEGER |
|  | **X** |  |  |  |  | VARCHAR |
|  | **X** |  |  |  |  | INTEGER |

**Tabla:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
|  | **X** | **X** | **X** |  |  | INTEGER |
|  | **X** | **X** | **X** |  |  | INTEGER |

**Tabla:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
|  | **X** | **X** |  |  | **X** | INTEGER |
|  | **X** |  |  |  |  | VARCHAR |
|  | **X** |  |  |  |  | VARCHAR |

**Tabla:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
|  | **X** | **X** |  |  | **X** | INTEGER |
|  | **X** |  |  |  |  | VARCHAR |
|  | **X** |  |  |  |  | VARCHAR |
|  | **X** |  |  |  |  | VARCHAR |
|  | **X** |  |  |  |  | TIME |
|  | **X** |  | **X** |  |  | INTEGER |

**Tabla:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
|  | **X** | **X** | **X** |  |  | INTEGER |
|  | **X** | **X** | **X** |  |  | INTEGER |

**Tabla:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
|  | **X** | **X** | **X** |  |  | INTEGER |
|  | **X** |  | **X** |  |  | VARCHAR |
|  |  |  |  |  |  | VARCHAR |
|  | **X** |  | **X** |  |  | INTEGER |
|  | **X** |  | **X** |  |  | INTEGER |

**Tabla:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
|  | **X** | **X** |  |  | **X** | INTEGER |
|  | **X** |  |  |  |  | DATE |
|  | **X** |  |  | **X** |  | VARCHAR |
|  | **X** |  |  |  |  | BOOLEAN |
|  | **X** |  |  |  |  | BOOLEAN |
|  | **X** |  | **X** |  |  | INTEGER |
|  | **X** |  | **X** |  |  | INTEGER |
|  | **X** |  | **X** |  |  | INTEGER |

**Tabla:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
|  | **X** | **X** |  |  | **X** | INTEGER |
|  |  |  |  |  |  | DATE |
|  | **X** |  | **X** |  |  | INTEGER |
|  | **X** |  | **X** |  |  | INTEGER |

**Tabla:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Atributos | Notnull (NN) | Clave Primaria (PK) | Clave Foránea (FK) | Check | Unique (U) | Tipo de Datos |
|  | **X** | **X** |  |  | **X** | INTEGER |
|  | **X** |  |  |  |  | VARCHAR |
|  | **X** |  | **X** |  |  | INTEGER |
|  | **X** |  | **X** |  |  | INTEGER |

**Reglas de integridad**



**Estándares de diseño**

* El nombre de las entidades están en mayúscula.
* El nombre de los atributos son en minúscula, separados con “\_”, unido al nombre de su entidad que lo representa. Ejemplo: “id\_persona”.
* En algunas entidades que tienen clave foránea (fk), será representado con “fk\_” seguido de la entidad. Ejemplo: “fk\_lugar”.

**Reportes adicionales**

**Johan de Freitas:**

1. Listado de clientes que tienen al menos 5 años registrados en el sistema.

JUSTIFICACION: Necesitamos saber la trayectoria de los clientes y se podrán crear promociones por fidelidad.

Ejemplo. Los que tengan 10 años tendrán un 10% de descuento de todas sus compras el día de aniversario en que se subscribió.

1. Top 5 de las películas más vendidas.

JUSTIFICACION: Se pueden ofrecer en un 5-pack promocional a nuevos suscriptores.

1. Listado de monto de ventas totales del mes por contenido.

JUSTIFICACION: Ejemplo monto ventas totales del mes de noviembre de libros, películas, etc. para decidir que segmento del negocio produce ganancias e invertir en la expansión de esa rama.

1. Top 5 de los libros más vendidos.

JUSTIFICACION: Llevar un seguimiento de los autores con best-sellers y recomendar otras de sus publicaciones a clientes que los hayan comprado.

1. Listado de los clientes que no han efectuado compras en un año.

JUSTIFICACION: Para incentivarlos a comprar se le ofrece un descuento del 10% después de un monto de compra. ejemplo al efectuar una compra de 500$ o más se le otorga un descuento del 3%.

**Alberto Reverón**

* **Reporte 1**
* **Reporte 2**
* **Reporte 3**
* **Reporte 4**
* **Reporte 5**

**Christian Vidal**

1. Listado de clientes que tienen al menos una tarjeta VISA asociada al sistema.

JUSTIFICACION: Necesitamos saber la cantidad de los clientes que tienen al menos una TDC visa para poder crear una promoción nueva.

Ejemplo. Los que usen Visa tendrán un 20% de descuento por lo cual se necesita predecir la ganancia total en un periodo de 6 meses.

1. Top 5 de las facturas con los mayores totales.

JUSTIFICACION: Necesitamos saber los clientes que más le han dado ganancias a la empresa en una sola comprar para obsequiar un premio.

1. Listado de los clientes que solo han descargado libros.

JUSTIFICACION: Para poder enviarles promociones de otros contenidos y extendernos en personas puramente lectoras.

1. Top 5 de los desarrolladores con más aplicaciones en la tienda.

JUSTIFICACION: Llevar un control de quienes son los desarrolladores más destacados.

1. Listado de los discos que nunca han sido vendidos.

JUSTIFICACION: Para poder promocionarlos aún más o para retirarlos de la tienda ya que no dan ninguna ganancia.