Semantic Object Modeling

DMS-KFS

1. Person

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| First Name | YES | String | Between 3 and 17 character | False |
| Middle Name | NO | String | Between 3 and 30 character | False |
| Last Name | YES | String | Between 3 and 17 character | False |
| Password | YES | String | Between 10 to 40 chars | False |
| Contacts | YES | Contacts Ref | Email COLUMN | True |
| Academic Number | YES | String | Digits only 16 or so in length (Needs revision) | True |
| Gender | YES | String | Single character F or M | False |
| City | YES | City Reference | Shortcut COLUMN | False |

1. City

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Name | YES | String | Between 3 and 25 characters | True |
| Shortcut | YES | String | Between 3 and 5 characters | True |
| Postal Code | YES | Integer | Valid Postal Code for each city | True |

1. Person Contacts

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Email | YES | String-Email | Valid Email To Contact | True |
| Phone Number(Primary) | YES | String | 11 digits valid phone number- | True |
| PHD certificate | NO | String | String describe the certificate | False |
| Image Href | NO | String | Image to be loaded in the profile | True |
| Bio | NO | String |  | FALSE |

1. Person Roles

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Person | YES | Person Ref | Person ID COLUMN | True |
| Employee Title | YES | Employees Hierarchy Ref | Employees Hierarchy  Title COLUMN | False |
| Institution | YES | Institution Ref | Institution ID COLUMN | False |
| Hiring Date | YES | Date |  | False |
| Active | YES | BOOLEAN |  | False |

1. Person Permissions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Bit | YES | INT | 2\*\*n as binary values | True |
| Name | YES | String |  | True |

1. Employees Hierarchy

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Field** | **Required** | **Data Type** | **Domain** | **Unique** |
| Title | YES | STRING |  | TRUE |
| Priority Level | YES | INT |  | FALSE |
| Permission Level | YES | INT-it's not a direct foreign but it will be compared to the employee permissions | The Sum Of the permissions granted to this role  Example-> the president will have the maximum permissions | FALSE |
| Job Description | NO | STRING |  | FALSE |

1. Person Action Logs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Affecter Person | YES | Person Ref | Person ID COLUMN  The one with the action | FALSE |
| Affected Person | YES | Person Ref | Person ID COLUMN  The one takes the action | FALSE |
| Action Date | YES | DATETIME |  | FALSE |
| Permission Action Performed | YES | Person Permission Ref | Person Permission BIT COLUMN | FALSE |

1. Notification Types

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Name | YES | STRING | Entity+Operation Type  Example-> FILE\_ADDED | TRUE |

1. Person Notifications

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Person ID | YES | Person REF | Person ID COLUMN | False |
| Notification Type | YES | Notification Types REF | Notification Type NAME COLUMN | FALSE |
| Seen | YES | BOOLEAN |  | FALSE |
| File ID | YES | File Ref | File ID COLUMN | FALSE |
| Notification maker Person | YES | Person REF | Person ID COLUMN | FALSE |
| Date Created | YES | DATETIME |  | FALSE |

1. Attachments

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| ID | YES | Int |  | True |
| Sender | YES | Person Ref | Person ID COLUMN | False |
| Receiver | YES | Person Ref | Person ID COLUMN | False |
| AttachmentType | YES | FileType Ref | FileType COLUMN | False |
| dateSent | YES | DateTime |  | False |
| Notes | NO | String |  | False |
| AttachmentContent | YES | FileContent Ref | FileContent ID COLUMN | False |
| seen | YES | boolean |  | False |

1. Institution

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Name | YES | String | Valid Faculty Name | True |
| Institution ID | YES | Integer | Auto Generated | True |
| Inside Campus | YES | Boolean | Physical Location | False |
| Institution Contacts | YES | Institution Contacts Ref | Website URL COLUMN | True |
| Active | YES | Boolean | Status flag | False |

1. Institution Contacts

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Website URL | YES | String | Valid Faculty Website | True |
| Primary phone | NO | String |  | False |
| Secondary Phone | NO | String |  | False |
| Fax | NO | String |  | False |
| Email | NO | String |  | False |

1. Folder

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Folder ID | YES | Integer | Auto increment | True |
| Parent Folder | YES | Folder Ref | Folder ID COLUMN | False |
| Date Created | YES | Date | . | False |
| Author | YES | Person-Ref | Person ID COLUMN | False |
| Current Version | YES | Folder Version Ref | Version ID COLUMN | True |

1. Folder Action Logs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Person ID | YES | Person Ref | Person ID COLUMN  The one with the action | FALSE |
| Folder ID | YES | Folder Ref | Folder ID COLUMN | FALSE |
| Action Date | YES | DATETIME |  | FALSE |
| Permission Action Performed | YES | Folder Permission Ref | Folder Permission BIT COLUMN | FALSE |

1. Folder Version

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Version ID | YES | Integer | Auto Increment | True |
| Version Name | YES | String | Valid String name from 4 to 50 chars | False |
| Version Notes | NO | String | Descriptive String for the version from 0 to 255 | False |
| Version  Number | No | Float | Represents the version | False |
| Folder ID | YES | Folder Ref | Folder ID COLUMN | True |
| Date Created | YES | Date |  | False |
| Author | YES | Person-Ref | Person ID COLUMN | False |

1. File

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| File ID | YES | Integer | Auto increment | True |
| Parent Folder | YES | Folder Ref | Folder ID COLUMN | False |
| Date Created | YES | Date |  | False |
| Author | YES | Person-Ref | Person ID COLUMN | False |
| Current Version | YES | File Version ID | Version ID COLUMN | True |

1. File Action Logs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Person ID | YES | Person Ref | Person ID COLUMN  The one with the action | FALSE |
| File ID | YES | File Ref | File ID COLUMN | FALSE |
| Action Date | YES | DATETIME |  | FALSE |
| Permission Action Performed | YES | File Permission Ref | File Permission BIT COLUMN | FALSE |

1. File Type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Type Name | YES | String | Valid String name from 4 to 50 chars | True |
| Extension | YES | String | String begins with . and 2 or more chars 2-10 | True |

1. File Versions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| File ID | YES | File Ref | File ID COLUMN | False |
| Version ID | YES | Integer | Auto Increment | True |
| Version Notes | NO | String | Descriptive String for the version from 0 to 255 | False |
| Version Name | YES | String | String from 4 to 50 chars | False |
| Version  Number | No | Float | Represents the version | False |
| Date Created | YES | Date |  | False |
| Author | YES | Person-Ref | Person ID COLUMN | False |
| File Content | YES | File Content Ref | File Content ID COLUMN | True |
| File Type | YES | File Type Ref | Type Name COLUMN | False |

1. File Content

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| ID | YES | INT | PK | TRUE |
| Href | YES | String | String representing the URL of the file | True if file name included false otherwise |
| File Size | YES | INT |  | FALSE |

1. Person-Folder Roles

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Person ID | YES | Person Ref |  | False |
| Folder ID | YES | Folder Ref |  | False |
| Folder Permissions Bit | YES | INT | The sum of the bits of the granted permissions | False |
| EXP-Date | YES | Date |  | False |

1. Person-File Roles

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Person ID | YES | Person Ref |  | False |
| File ID | YES | File Ref |  | False |
| File Permissions Bit | YES | INT | The sum of the bits of the granted permissions | False |
| EXP-Date | YES | Date |  | False |

1. File Permissions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Bit | YES | INT |  | True |
| Name | YES | String |  | True |

1. Folder Permissions

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field | Required | Data Type | Domain | Unique |
| Bit | YES | INT |  | True |
| Name | YES | String |  | True |