Final Assignment Report

Due Date: 25 October 2022

ISYS1001 – Database Systems

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Contents

## Database Design

### Assumptions

The Following assumptions have been made for the purpose of the design of this database:

### ER Diagram

Diagram

Description automatically generated

### Relationships

|  |  |  |
| --- | --- | --- |
| Relationship Set | Between Which Entities | Attributes (if any) |
| Casts | Film, Actor | Role |
| Win | Actor, Award | Date |
| Win | Film, Award | Date |
| Given at | Award, Festival |  |
| Is A | Award, Actor Award |  |
| Is A | Award, Film Award |  |

### Cardinality

|  |  |  |
| --- | --- | --- |
| Relationship Sets | Between which entities | Cardinality |
| Casts | Film, Actor | Many-to-many, (A film can cast many actors. An actor can act in many films) |
| Wins | Actor, Award | One-to-many, (An actor can win many awards. An award is presented to 1 actor) |
| Wins | Film, Award | One-to-many, (A film can win many awards. An award is presented to 1 film.) |
| Given at | Award, Festival | Many-to-one, (Many awards are given at a festival, at one festival many awards are given.) |
| Is A | Award, Actor Award | One-to-one, (An actor award is an award) |
| Is A | Award, Film Award | One-to-one, (A film award is an award) |

### Participation

|  |  |  |
| --- | --- | --- |
| Relationship Sets | Between which entities | Participation |
| Casts | Film, actor | Film – total, Actor – Partial  (A film must have actors in it, an actor may or may not act in a film) |
| Presented | Actor, Actor Award | Actor – partial, Award – total  (An actor may or may not win an award. An award must be given to an actor) |
| Presented | Film, Film Award | Film – partial, Award – total  (A film may or may not win an award. An award must be given to a film.) |
| Given At | Award, Festival | Award – total, Festival – Total (A festival must have awards, an award must be presented at a festival) |
| Is A | Award, actor award | Award – partial, actor award – total (An award may or may not be an actor award, but an actor award must be an award) |
| Is A | Award, film award | Award – partial, actor award – total (An award may or may not be a film award, but a film award must be an award) |

### Relational Schema

|  |  |  |
| --- | --- | --- |
| Entity Set | Key | Other Attributes |
| Festival | fest\_ID (primary key) | Title, location, date |
| Award | award\_ID (primary key) | title, date |
| Film Award | award\_ID (foreign key),  film\_ID (foreign key) | Title, date |
| Actor Award | award\_ID (foreign key),  actor\_ID (foreign key) | Title, date |
| Film | film\_ID (primary key) | Title, genre, description |
| Actor | actor\_ID (primary key) | First name, last name, gender |
| Casts | actor\_ID (foreign key),  film\_ID (foreign key) | Role |

### Festival

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fields | Data Type | Size | Null | Description |
| fest\_ID (primary key) | CHAR | 5 | No | ID of festival in format ‘FE-00’. |
| Title | VARCHAR | 50 | No | Title of the festival |
| Location | VARCHAR | 50 | No | Location where festival is held |
| Date | DATE |  |  | Year festival was held |

### Award

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fields | Data Type | Size | Null | Description |
| award\_ID (primary key) | CHAR | 5 | No | ID of the award in form ‘FA-00’ for film award or ‘AA-00’ for actor award |
| Title | VARCHAR | 24 | No | Title of the award presented |
| Date | DATE |  |  | Date which award is presented |

### Film Award

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fields | Data Type | Size | Null | Description |
| award\_ID (primary key) | CHAR | 5 | No | ID of the film award in form ‘FA-00’ |
| film\_ID  (Foreign key) | CHAR | 4 | No | ID of the film in form ‘F-00’ |
| Title | VARCHAR | 48 |  | Title of the film |
| fest\_ID | CHAR | 5 | No | Festival which award is presented |
| Date | DATE |  |  | Date which award is presented |

### Actor Award

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fields | Data Type | Size | Null | Description |
| award\_ID (primary key) | CHAR | 5 | No | ID of the actor award in form ‘AA-00’ |
| actor\_ID  (Foreign key) | CHAR | 4 | No | ID of actor in form ‘A-0’ |
| Title | VARCHAR | 48 |  | Title of the film |
| fest\_ID | CHAR | 5 | No | Festival which award is presented |
| Date | DATE |  |  | Date which award is presented |

### Film

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fields | Data Type | Size | Null | Description |
| film\_ID  (primary key) | CHAR | 4 | No | ID of film in form ‘F-00’ |
| Title | VARCHAR | 50 | No | Title of the film |
| Genre | VARCHAR | 24 |  | Genre of the film |
| Description | MEDIUMTEXT |  |  | Description of film |

### Actor

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fields | Data Type | Size | Null | Description |
| actor\_ID  (primary key) | CHAR | 4 | No | ID for actor in form ‘A-00’ |
| First name | VARCHAR | 24 | No | First name of the actor |
| Last name | VARCHAR | 24 |  | Last name of actor |
| Gender | CHAR | 1 |  | Gender of the actor ‘M’ = male, ‘F’ = female, ‘O’ = other. |

### Casts

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Fields | Data Type | Size | Null | Description |
| actor\_ID  (Foreign key) | CHAR | 4 | No | ID of actor in form ‘A-0’ |
| film\_ID  (Foreign key) | CHAR | 4 | No | ID of the film in form ‘F-00’ |
| Role | VARCHAR | 24 |  | Role Actor plays in film. |

### Database Implementations