

Diagrama Entidade Relacionamento - MER

Image10.png

UNILAB - Universidade da Integração Internacional da Lusofonia Afro-Brasileira

Erivando Sena

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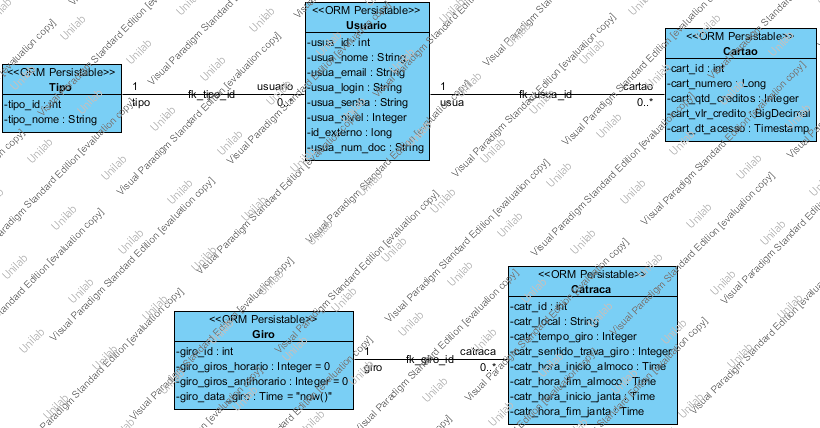
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Class Diagram

# Diagrama de Classes



|  |  |
| --- | --- |
| **Name** | **Value** |
| Name | Diagrama de Classes |
| Status | Implemented |
| Difficulty | Medium |
| Discipline | Business Modeling |
| Priority | Medium |
| Version | 1.0 |
| Iteration | Iteration 1 |
| Phase | Construction |
| Author | Erivando Sena |
| Create Date Time | 10/08/2015 12:28:45 |
| Last Modified | 10/08/2015 12:47:29 |
| Transit From | Image1.png [Diagrama Entidade-Relacionamento](#0PcF6PKAUBQMEQQj) |

## Summary

|  |  |
| --- | --- |
| **Name** | **Description** |
| Image2.png [Usuario](#uP5cGPKAUBQMEQsY) |  |
| Image2.png [Cartao](#_35cGPKAUBQMEQsM) |  |
| Image2.png [Tipo](#uP5cGPKAUBQMEQsV) |  |
| Image2.png [Catraca](#kP5cGPKAUBQMEQsP) |  |
| Image2.png [Giro](#yP5cGPKAUBQMEQsS) |  |

#### Description

Diagrama de Classes da camada de acesso I/O da catraca.

## Details

### Image3.png Usuario

|  |  |
| --- | --- |
| **Name** | **Value** |
| Active | false |
| Business Key Mutable | true |
| Orm Detail | N/A |
| Business Model | false |
| Visibility | public |
| Leaf | false |
| Root | false |
| Stereotypes | ORM Persistable |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | |

#### Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| **private usua\_id : int** | | | |
| Type | Image4.png int | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 1 | | |
| Mapped Column | usua\_id | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private usua\_nome : String** | | | |
| Type | String | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | usua\_nome | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private usua\_email : String** | | | |
| Type | String | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | usua\_email | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private usua\_login : String** | | | |
| Type | String | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | usua\_login | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private usua\_senha : String** | | | |
| Type | String | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | usua\_senha | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private usua\_nivel : Integer** | | | |
| Type | Integer | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | usua\_nivel | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private id\_externo : long** | | | |
| Type | Image4.png long | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 1 | | |
| Mapped Column | id\_externo | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private usua\_num\_doc : String** | | | |
| Type | String | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | usua\_num\_doc | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

#### Relationships

|  |  |
| --- | --- |
| **fk\_usua\_id : Association** | |
| To (cartao) | |  |  | | --- | --- | | **Name** | **Value** | | End Model Element | Image3.png [Cartao](#pn5cGPKAUBQMEQqv) | | Provide Property Getter Method | false | | Provide Property Setter Method | false | | Multiplicity | 0..\* | | Visibility | Unspecified | | Aggregation Kind | None | | Navigable | Navigable | | Derived | false | | Derived Union | false | | Read Only | false | | Static | false | | Leaf | false | | Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | |
| Abstract | false |
| Leaf | false |
| Visibility | Unspecified |
| Derived | false |
| Orm Detail | N/A |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | |

|  |  |
| --- | --- |
| **fk\_tipo\_id : Association** | |
| From (tipo) | |  |  | | --- | --- | | **Name** | **Value** | | End Model Element | Image3.png [Tipo](#wX5cGPKAUBQMEQrX) | | Provide Property Getter Method | false | | Provide Property Setter Method | false | | Orm Detail | N/A | | Multiplicity | 1 | | Visibility | Unspecified | | Aggregation Kind | None | | Navigable | Navigable | | Derived | false | | Derived Union | false | | Read Only | false | | Static | false | | Leaf | false | | Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | |
| Abstract | false |
| Leaf | false |
| Visibility | Unspecified |
| Derived | false |
| Orm Detail | N/A |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | |

#### ORM Class Detail

|  |  |
| --- | --- |
| **Name** | **Value** |
| Mapped Table | Image5.png [usuario](#ENWUGPKAUBQMEQiM) |
| Read Only | false |
| Lazy | false |
| Cache | Disable |
| Inheritance Strategy | Table per class hierarchy |
| Reference | false |

### Image3.png Cartao

|  |  |
| --- | --- |
| **Name** | **Value** |
| Active | false |
| Business Key Mutable | true |
| Orm Detail | N/A |
| Business Model | false |
| Visibility | public |
| Leaf | false |
| Root | false |
| Stereotypes | ORM Persistable |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | |

#### Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| **private cart\_id : int** | | | |
| Type | Image4.png int | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 1 | | |
| Mapped Column | cart\_id | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private cart\_numero : Long** | | | |
| Type | Long | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | cart\_numero | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private cart\_qtd\_creditos : Integer** | | | |
| Type | Integer | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | cart\_qtd\_creditos | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private cart\_vlr\_credito : BigDecimal** | | | |
| Type | BigDecimal | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | cart\_vlr\_credito | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private cart\_dt\_acesso : Timestamp** | | | |
| Type | Timestamp | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | cart\_dt\_acesso | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

#### Relationships

|  |  |
| --- | --- |
| **fk\_usua\_id : Association** | |
| From (usua) | |  |  | | --- | --- | | **Name** | **Value** | | End Model Element | Image3.png [Usuario](#wX5cGPKAUBQMEQrd) | | Provide Property Getter Method | false | | Provide Property Setter Method | false | | Orm Detail | N/A | | Multiplicity | 1 | | Visibility | Unspecified | | Aggregation Kind | None | | Navigable | Navigable | | Derived | false | | Derived Union | false | | Read Only | false | | Static | false | | Leaf | false | | Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | |
| Abstract | false |
| Leaf | false |
| Visibility | Unspecified |
| Derived | false |
| Orm Detail | N/A |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | |

#### ORM Class Detail

|  |  |
| --- | --- |
| **Name** | **Value** |
| Mapped Table | Image5.png [cartao](#Z.WUGPKAUBQMEQhv) |
| Read Only | false |
| Lazy | false |
| Cache | Disable |
| Inheritance Strategy | Table per class hierarchy |
| Reference | false |

### Image3.png Tipo

|  |  |
| --- | --- |
| **Name** | **Value** |
| Active | false |
| Business Key Mutable | true |
| Orm Detail | N/A |
| Business Model | false |
| Visibility | public |
| Leaf | false |
| Root | false |
| Stereotypes | ORM Persistable |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | |

#### Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| **private tipo\_id : int** | | | |
| Type | Image4.png int | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 1 | | |
| Mapped Column | tipo\_id | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private tipo\_nome : String** | | | |
| Type | String | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | tipo\_nome | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

#### Relationships

|  |  |
| --- | --- |
| **fk\_tipo\_id : Association** | |
| To (usuario) | |  |  | | --- | --- | | **Name** | **Value** | | End Model Element | Image3.png [Usuario](#wX5cGPKAUBQMEQrd) | | Provide Property Getter Method | false | | Provide Property Setter Method | false | | Multiplicity | 0..\* | | Visibility | Unspecified | | Aggregation Kind | None | | Navigable | Navigable | | Derived | false | | Derived Union | false | | Read Only | false | | Static | false | | Leaf | false | | Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | |
| Abstract | false |
| Leaf | false |
| Visibility | Unspecified |
| Derived | false |
| Orm Detail | N/A |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | |

#### ORM Class Detail

|  |  |
| --- | --- |
| **Name** | **Value** |
| Mapped Table | Image5.png [tipo](#SlWUGPKAUBQMEQiI) |
| Read Only | false |
| Lazy | false |
| Cache | Disable |
| Inheritance Strategy | Table per class hierarchy |
| Reference | false |

### Image3.png Catraca

|  |  |
| --- | --- |
| **Name** | **Value** |
| Active | false |
| Business Key Mutable | true |
| Orm Detail | N/A |
| Business Model | false |
| Visibility | public |
| Leaf | false |
| Root | false |
| Stereotypes | ORM Persistable |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | |

#### Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| **private catr\_id : int** | | | |
| Type | Image4.png int | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 1 | | |
| Mapped Column | catr\_id | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private catr\_local : String** | | | |
| Type | String | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | catr\_local | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private catr\_tempo\_giro : Integer** | | | |
| Type | Integer | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | catr\_tempo\_giro | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private catr\_sentido\_trava\_giro : Integer** | | | |
| Type | Integer | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | catr\_sentido\_trava\_giro | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private catr\_hora\_inicio\_almoco : Time** | | | |
| Type | Time | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | catr\_hora\_inicio\_almoco | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private catr\_hora\_fim\_almoco : Time** | | | |
| Type | Time | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | catr\_hora\_fim\_almoco | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private catr\_hora\_inicio\_janta : Time** | | | |
| Type | Time | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | catr\_hora\_inicio\_janta | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private catr\_hora\_fim\_janta : Time** | | | |
| Type | Time | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | catr\_hora\_fim\_janta | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

#### Relationships

|  |  |
| --- | --- |
| **fk\_giro\_id : Association** | |
| From (giro) | |  |  | | --- | --- | | **Name** | **Value** | | End Model Element | Image3.png [Giro](#nn5cGPKAUBQMEQrN) | | Provide Property Getter Method | false | | Provide Property Setter Method | false | | Orm Detail | N/A | | Multiplicity | 1 | | Visibility | Unspecified | | Aggregation Kind | None | | Navigable | Navigable | | Derived | false | | Derived Union | false | | Read Only | false | | Static | false | | Leaf | false | | Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | |
| Abstract | false |
| Leaf | false |
| Visibility | Unspecified |
| Derived | false |
| Orm Detail | N/A |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | |

#### ORM Class Detail

|  |  |
| --- | --- |
| **Name** | **Value** |
| Mapped Table | Image5.png [catraca](#HRWUGPKAUBQMEQh3) |
| Read Only | false |
| Lazy | false |
| Cache | Disable |
| Inheritance Strategy | Table per class hierarchy |
| Reference | false |

### Image3.png Giro

|  |  |
| --- | --- |
| **Name** | **Value** |
| Active | false |
| Business Key Mutable | true |
| Orm Detail | N/A |
| Business Model | false |
| Visibility | public |
| Leaf | false |
| Root | false |
| Stereotypes | ORM Persistable |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | |

#### Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| **private giro\_id : int** | | | |
| Type | Image4.png int | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 1 | | |
| Mapped Column | giro\_id | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private giro\_giros\_horario : Integer** | | | |
| Initial Value | 0 | | |
| Type | Integer | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | giro\_giros\_horario | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private giro\_giros\_antihorario : Integer** | | | |
| Initial Value | 0 | | |
| Type | Integer | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 0..1 | | |
| Mapped Column | giro\_giros\_antihorario | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **private giro\_data\_giro : Time** | | | |
| Initial Value | "now()" | | |
| Type | Time | | |
| Allow Empty Name | false | | |
| Getter | false | Setter | false |
| Derived | false | | |
| Multiplicity | 1 | | |
| Mapped Column | giro\_data\_giro | | |
| Aggregation | None | | |
| Derived Union | false | | |
| Read Only | false | | |
| Is ID | false | | |
| Leaf | false | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | | | |

#### Relationships

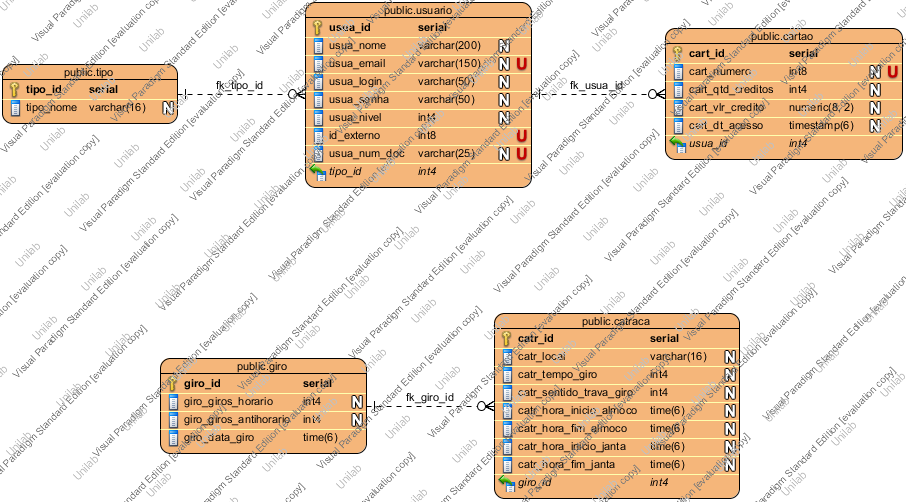
|  |  |
| --- | --- |
| **fk\_giro\_id : Association** | |
| To (catraca) | |  |  | | --- | --- | | **Name** | **Value** | | End Model Element | Image3.png [Catraca](#9n5cGPKAUBQMEQq7) | | Provide Property Getter Method | false | | Provide Property Setter Method | false | | Multiplicity | 0..\* | | Visibility | Unspecified | | Aggregation Kind | None | | Navigable | Navigable | | Derived | false | | Derived Union | false | | Read Only | false | | Static | false | | Leaf | false | | Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | |
| Abstract | false |
| Leaf | false |
| Visibility | Unspecified |
| Derived | false |
| Orm Detail | N/A |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:28:50 | | Last Modified | 10/08/2015 12:31:06 | |

#### ORM Class Detail

|  |  |
| --- | --- |
| **Name** | **Value** |
| Mapped Table | Image5.png [giro](#Y5WUGPKAUBQMEQiC) |
| Read Only | false |
| Lazy | false |
| Cache | Disable |
| Inheritance Strategy | Table per class hierarchy |
| Reference | false |

Entity Relationship Diagram

# Diagrama Entidade-Relacionamento



|  |  |
| --- | --- |
| **Name** | **Value** |
| Name | Diagrama Entidade-Relacionamento |
| Status | Implemented |
| Difficulty | Medium |
| Discipline | Business Modeling |
| Priority | Medium |
| Version | 1.0 |
| Iteration | Iteration 1 |
| Phase | Construction |
| Author | Erivando Sena |
| Create Date Time | 10/08/2015 09:41:07 |
| Last Modified | 10/08/2015 12:47:29 |
| Transit To | Image7.png [Diagrama de Classes](#5ZZcGPKAUBQMEQqr) |
| Data Model | Physical |

## Summary

|  |  |
| --- | --- |
| **Name** | **Description** |
| Image8.png [usuario](#HdO0GPKAUBQMEQlq) | Tabela de usuario do cartao para acesso na catraca. |
| Image8.png [cartao](#HdO0GPKAUBQMEQli) | Tabela dos registros de uso do Smart Card RFID. |
| Image8.png [tipo](#HdO0GPKAUBQMEQlo) | Tabela dos tipos de utilizadores da catraca. |
| Image8.png [catraca](#HdO0GPKAUBQMEQlk) | Tabela de predefinicoes e configuracoes para o funcionamento da catraca. |
| Image8.png [giro](#HdO0GPKAUBQMEQlm) | Tabela de contabilizacao de giros horario e anti-horario. |

#### Description

Diagrama entidade-relacionamento do BD local da catraca.

## Details

### Image5.png usuario

|  |  |
| --- | --- |
| **Name** | **Value** |
| Description | Tabela de usuario do cartao para acesso na catraca. |
| Data Model | Physical |
| Mapped Class | Image3.png [Usuario](#wX5cGPKAUBQMEQrd) |
| Schema | public |
| Primary Key Constraint Name | pk\_usua\_id |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:28 | | Last Modified | 10/08/2015 12:31:06 | |

#### Columns Summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **DataType** | **Constraints** | **Nullable** | **Description** |
| usua\_id | int4 | PK | No | Campo autoincremento destinado para chave primaria da tabela. |
| usua\_nome | varchar(200) |  | Yes | Nome completo do utilizador do cartao. |
| usua\_email | varchar(150) |  | Yes | E-mail do utilizador do cartao sem permissao de duplicidade. |
| usua\_login | varchar(50) |  | Yes | Nome de usuario do utilizador do cartao. |
| usua\_senha | varchar(50) |  | Yes | Senha de usuario do utilizador do cartao. |
| usua\_nivel | int4 |  | Yes | Nivel de acesso ao sistema do utilizador do cartao. |
| id\_externo | int8 |  | No | Campo controle de ID unico proveniente de outros sistemas. |
| usua\_num\_doc | varchar(25) |  | Yes | Numero de CPF ou CIE do utilizador do cartao sem permissao de duplicidade. |
| tipo\_id | int4 | FK ([tipo.tipo\_id](#SlWUGPKAUBQMEQiI)) | No | Campo para chave estrengeira da tabela tipos. |

#### Columns

|  |  |
| --- | --- |
| **usua\_id** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **usua\_nome** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **usua\_email** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **usua\_login** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **usua\_senha** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **usua\_nivel** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **id\_externo** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **usua\_num\_doc** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **tipo\_id** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

#### Constraints

|  |  |
| --- | --- |
| **u\_id\_externo** | |
| Columns | |  |  | | --- | --- | | **id\_externo** | | | Project Management | |  |  | | --- | --- | | **Name** | **Value** | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:29 | |

|  |  |
| --- | --- |
| **u\_usua\_email** | |
| Columns | |  |  | | --- | --- | | **usua\_email** | | | Project Management | |  |  | | --- | --- | | **Name** | **Value** | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:29 | |

|  |  |
| --- | --- |
| **u\_usua\_num\_doc** | |
| Columns | |  |  | | --- | --- | | **usua\_num\_doc** | | | Project Management | |  |  | | --- | --- | | **Name** | **Value** | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:29 | |

#### Relationships

|  |  |
| --- | --- |
| **fk\_usua\_id : Relationship** | |
| To | Image8.png [cartao](#HdO0GPKAUBQMEQli) |
| Identifying | false |
| Subtype | false |
| On Delete | No action |
| On Update | No action |
| To Multiplicity | 0..\* |
| From Multiplicity | 1 |
| Sync To Association | Yes |
| Data Model | Physical |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:28 | | Last Modified | 10/08/2015 12:31:06 | |

|  |  |
| --- | --- |
| **fk\_tipo\_id : Relationship** | |
| From | Image8.png [tipo](#HdO0GPKAUBQMEQlo) |
| Identifying | false |
| Subtype | false |
| On Delete | No action |
| On Update | No action |
| To Multiplicity | 0..\* |
| From Multiplicity | 1 |
| Sync To Association | Yes |
| Data Model | Physical |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:28 | | Last Modified | 10/08/2015 12:31:06 | |

### Image5.png cartao

|  |  |
| --- | --- |
| **Name** | **Value** |
| Description | Tabela dos registros de uso do Smart Card RFID. |
| Data Model | Physical |
| Mapped Class | Image3.png [Cartao](#pn5cGPKAUBQMEQqv) |
| Schema | public |
| Primary Key Constraint Name | pk\_cart\_id |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:27 | | Last Modified | 10/08/2015 12:31:06 | |

#### Columns Summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **DataType** | **Constraints** | **Nullable** | **Description** |
| cart\_id | int4 | PK | No | Campo autoincremento destinado para chave primaria da tabela. |
| cart\_numero | int8 |  | Yes | Numero do ID do cartao de acesso sem permissao de duplicidade. |
| cart\_qtd\_creditos | int4 |  | Yes | Quantidade de creditos para uso diario do cartao. |
| cart\_vlr\_credito | numeric(8, 2) |  | Yes | Valor em R$ para uso diario do cartao. |
| cart\_dt\_acesso | timestamp(6) |  | Yes | Data/hora do ultimo acesso. |
| usua\_id | int4 | FK ([usuario.usua\_id](#ENWUGPKAUBQMEQiM)) | No | Campo para chave estrengeira da tabela usuario. |

#### Columns

|  |  |
| --- | --- |
| **cart\_id** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **cart\_numero** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **cart\_qtd\_creditos** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **cart\_vlr\_credito** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **cart\_dt\_acesso** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **usua\_id** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

#### Constraints

|  |  |
| --- | --- |
| **u\_cart\_numero** | |
| Columns | |  |  | | --- | --- | | **cart\_numero** | | | Project Management | |  |  | | --- | --- | | **Name** | **Value** | | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:29 | |

#### Relationships

|  |  |
| --- | --- |
| **fk\_usua\_id : Relationship** | |
| From | Image8.png [usuario](#HdO0GPKAUBQMEQlq) |
| Identifying | false |
| Subtype | false |
| On Delete | No action |
| On Update | No action |
| To Multiplicity | 0..\* |
| From Multiplicity | 1 |
| Sync To Association | Yes |
| Data Model | Physical |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:28 | | Last Modified | 10/08/2015 12:31:06 | |

### Image5.png tipo

|  |  |
| --- | --- |
| **Name** | **Value** |
| Description | Tabela dos tipos de utilizadores da catraca. |
| Data Model | Physical |
| Mapped Class | Image3.png [Tipo](#wX5cGPKAUBQMEQrX) |
| Schema | public |
| Primary Key Constraint Name | pk\_tipo\_id |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:27 | | Last Modified | 10/08/2015 12:31:06 | |

#### Columns Summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **DataType** | **Constraints** | **Nullable** | **Description** |
| tipo\_id | int4 | PK | No | Campo autoincremento destinado para chave primaria da tabela. |
| tipo\_nome | varchar(16) |  | Yes | Tipos de utilizadores permitidos: 1=Estudante, 2=Professor, 3=Tecnico, 4=Visitante, 5=Operador, 6=Administrador. |

#### Columns

|  |  |
| --- | --- |
| **tipo\_id** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **tipo\_nome** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

#### Relationships

|  |  |
| --- | --- |
| **fk\_tipo\_id : Relationship** | |
| To | Image8.png [usuario](#HdO0GPKAUBQMEQlq) |
| Identifying | false |
| Subtype | false |
| On Delete | No action |
| On Update | No action |
| To Multiplicity | 0..\* |
| From Multiplicity | 1 |
| Sync To Association | Yes |
| Data Model | Physical |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:28 | | Last Modified | 10/08/2015 12:31:06 | |

### Image5.png catraca

|  |  |
| --- | --- |
| **Name** | **Value** |
| Description | Tabela de predefinicoes e configuracoes para o funcionamento da catraca. |
| Data Model | Physical |
| Mapped Class | Image3.png [Catraca](#9n5cGPKAUBQMEQq7) |
| Schema | public |
| Primary Key Constraint Name | pk\_catr\_id |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:27 | | Last Modified | 10/08/2015 12:31:06 | |

#### Columns Summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **DataType** | **Constraints** | **Nullable** | **Description** |
| catr\_id | int4 | PK | No | Campo autoincremento destinado para chave primaria da tabela. |
| catr\_local | varchar(16) |  | Yes | Nome do local onde a catraca esta instalada. |
| catr\_tempo\_giro | int4 |  | Yes | Tempo para o giro do braço da catraca em milissegundos. |
| catr\_sentido\_trava\_giro | int4 |  | Yes | 1 = Giro Horario(Entrada controlada com saida bloqueada), 2 = Giros Horario/Anti-horario(Entrada controlada com saida liberada), 3 = Giros Horario/Anti-horario(Entrada e saida liberadas). |
| catr\_hora\_inicio\_almoco | time(6) |  | Yes | Hora inicio do 1º periodo para liberacao da catraca. |
| catr\_hora\_fim\_almoco | time(6) |  | Yes | Hora final do 1º periodo para liberacao da catraca. |
| catr\_hora\_inicio\_janta | time(6) |  | Yes | Hora inicio do 2º periodo para liberacao da catraca. |
| catr\_hora\_fim\_janta | time(6) |  | Yes | Hora final do 2º periodo para liberacao da catraca. |
| giro\_id | int4 | FK ([giro.giro\_id](#Y5WUGPKAUBQMEQiC)) | No | Campo para chave estrengeira da tabela giros. |

#### Columns

|  |  |
| --- | --- |
| **catr\_id** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **catr\_local** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **catr\_tempo\_giro** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **catr\_sentido\_trava\_giro** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **catr\_hora\_inicio\_almoco** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **catr\_hora\_fim\_almoco** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **catr\_hora\_inicio\_janta** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **catr\_hora\_fim\_janta** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **giro\_id** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

#### Relationships

|  |  |
| --- | --- |
| **fk\_giro\_id : Relationship** | |
| From | Image8.png [giro](#HdO0GPKAUBQMEQlm) |
| Identifying | false |
| Subtype | false |
| On Delete | No action |
| On Update | No action |
| To Multiplicity | 0..\* |
| From Multiplicity | 1 |
| Sync To Association | Yes |
| Data Model | Physical |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:28 | | Last Modified | 10/08/2015 12:31:06 | |

### Image5.png giro

|  |  |
| --- | --- |
| **Name** | **Value** |
| Description | Tabela de contabilizacao de giros horario e anti-horario. |
| Data Model | Physical |
| Mapped Class | Image3.png [Giro](#nn5cGPKAUBQMEQrN) |
| Schema | public |
| Primary Key Constraint Name | pk\_giro\_id |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:27 | | Last Modified | 10/08/2015 12:31:06 | |

#### Columns Summary

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **DataType** | **Constraints** | **Nullable** | **Description** |
| giro\_id | int4 | PK | No | Campo autoincremento destinado para chave primaria da tabela. |
| giro\_giros\_horario | int4 |  | Yes | Contador de giros no sentido horario(Entrada). |
| giro\_giros\_antihorario | int4 |  | Yes | Contador de giros no sentido anti-horario(Saida). |
| giro\_data\_giro | time(6) |  | No | Data/hora da ocorrencia do giro. |

#### Columns

|  |  |
| --- | --- |
| **giro\_id** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **giro\_giros\_horario** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **giro\_giros\_antihorario** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

|  |  |
| --- | --- |
| **giro\_data\_giro** | |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | |

#### Relationships

|  |  |
| --- | --- |
| **fk\_giro\_id : Relationship** | |
| To | Image8.png [catraca](#HdO0GPKAUBQMEQlk) |
| Identifying | false |
| Subtype | false |
| On Delete | No action |
| On Update | No action |
| To Multiplicity | 0..\* |
| From Multiplicity | 1 |
| Sync To Association | Yes |
| Data Model | Physical |
| Project Management | |  |  | | --- | --- | | **Name** | **Value** | | Author | erivando | | Create Date Time | 10/08/2015 12:10:28 | | Last Modified | 10/08/2015 12:31:06 | |