1. **Diagrama de Casos de Uso**

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1. **Realización de Casos de Uso**

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1. **Diagrama de Arquitectura**

Datos

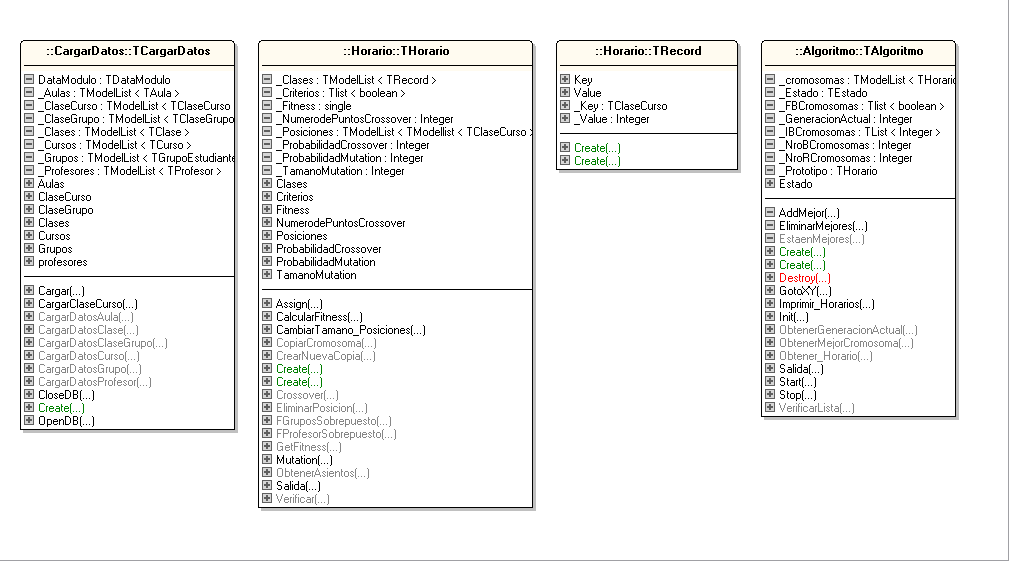
Modelo

Proceso

1. **Diagrama de Componentes**

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1. **Diagrama de Clases**

****

**Package: CargarDatos**

|  |  |
| --- | --- |
| **TCargarDatos** | **class** |

**Attributes**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Visibility** |
| \_Aulas | TModelList ( TAula ) | private |
| \_Cursos | TModelList ( TCurso ) | private |
| \_Clases | TModelList ( TClase ) | private |
| \_Grupos | TModelList ( TGrupoEstudiante ) | private |
| \_Profesores | TModelList ( TProfesor ) | private |
| \_ClaseGrupo | TModelList ( TClaseGrupo ) | private |
| \_ClaseCurso | TModelList ( TClaseCurso ) | private |
| DataModulo | TDataModulo | private |
| Aulas |  | public |
| Cursos |  | public |
| Clases |  | public |
| Grupos |  | public |
| profesores |  | public |
| ClaseCurso |  | public |
| ClaseGrupo |  | public |

**Operations**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Parameters** | **Returns** | **Visibility** |
| Create |  |  | public |
| OpenDB |  |  | public |
| CloseDB |  |  | public |
| Cargar |  |  | public |
| CargarClaseCurso |  |  | public |
| CargarDatosProfesor |  | TModelList(TProfesor) | public |
| CargarDatosAula |  | TModelList(TAula) | public |
| CargarDatosCurso |  | TModelList(TCurso) | public |
| CargarDatosGrupo |  | TModelList(TGrupoEstudiante) | public |
| CargarDatosClase |  | TModelList(TClase) | public |
| CargarDatosClaseGrupo |  | TModelList(TClaseGrupo) | public |

**Package: Horario**

|  |  |
| --- | --- |
| **THorario** | **class** |

**Attributes**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Visibility** |
| \_NumerodePuntosCrossover | Integer | private |
| \_TamanoMutation | Integer | private |
| \_ProbabilidadCrossover | Integer | private |
| \_ProbabilidadMutation | Integer | private |
| \_Fitness | single | private |
| \_Criterios | Tlist ( boolean ) | private |
| \_Posiciones | TModelList ( TModellist ( TClaseCurso ) ) | private |
| \_Clases | TModelList ( TRecord ) | private |
| NumerodePuntosCrossover |  | public |
| TamanoMutation |  | public |
| ProbabilidadCrossover |  | public |
| ProbabilidadMutation |  | public |
| Fitness |  | public |
| Criterios |  | public |
| Posiciones |  | public |
| Clases |  | public |

**Operations**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Parameters** | **Returns** | **Visibility** |
| Create | [THorario](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_73.html#xmi_24) semilla  boolean Inicio |  | public |
| Create | Integer NumerodePuntosCrossover  Integer TamanoMutation  Integer ProbabilidadCrossover  Integer ProbabilidadMutation |  | public |
| Assign | TPersistent Source |  | public |
| CopiarCromosoma | boolean inicio | [THorario](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_73.html#xmi_24) | public |
| CrearNuevaCopia |  | [THorario](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_73.html#xmi_24) | public |
| Crossover | [THorario](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_73.html#xmi_24) Familia2 | [THorario](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_73.html#xmi_24) | public |
| CambiarTamano\_Posiciones | Integer Cantidad |  | public |
| Mutation |  |  | public |
| CalcularFitness |  |  | public |
| Salida | [THorario](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_73.html#xmi_24) vHorario |  | public |
| EliminarPosicion | Integer Posicion  Integer Id | Integer | public |
| FGruposSobrepuesto | TClaseCurso Clase1  TClaseCurso Clase2 | boolean | public |
| FProfesorSobrepuesto | TClaseCurso Clase1  TClaseCurso Clase2 | boolean | public |
| GetFitness |  | single | public |
| Verificar |  | boolean | public |
| ObtenerAsientos | Integer Id | Integer | public |

|  |  |
| --- | --- |
| **TRecord** | **class** |

**Attributes**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Visibility** |
| \_Key | TClaseCurso | public |
| \_Value | Integer | public |
| Key |  | public |
| Value |  | public |

**Operations**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Parameters** | **Returns** | **Visibility** |
| Create |  |  | public |
| Create | TClaseCurso pKey  Integer pValue |  | public |

**Package: Algoritmo**

|  |  |
| --- | --- |
| **TAlgoritmo** | **class** |

**Attributes**

|  |  |  |
| --- | --- | --- |
| **Name** | **Type** | **Visibility** |
| \_cromosomas | TModelList ( THorario ) | private |
| \_FBCromosomas | Tlist ( boolean ) | private |
| \_IBCromosomas | TList ( Integer ) | private |
| \_NroBCromosomas | Integer | private |
| \_NroRCromosomas | Integer | private |
| \_Prototipo | [THorario](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_73.html#xmi_24) | private |
| \_GeneracionActual | Integer | private |
| \_Estado | [TEstado](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_34.html#xmi_35) | private |
| Estado |  | public |

**Operations**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Parameters** | **Returns** | **Visibility** |
| AddMejor | Integer ICromosoma |  | private |
| EstaenMejores | Integer ICromosoma | boolean | private |
| EliminarMejores |  |  | private |
| Create | Integer NumerodeCromosomas  Integer ReemplazoporGeneracion  Integer NroMejores  [THorario](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_73.html#xmi_24) Prototipo |  | public |
| Create |  |  | public |
| Destroy |  |  | public |
| Init |  |  | public |
| Start | TListHorario Horario |  | public |
| Stop |  |  | public |
| Imprimir\_Horarios | [THorario](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_73.html#xmi_24) MejorHorario |  | public |
| Obtener\_Horario | [THorario](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_73.html#xmi_24) MejorHorario | TListHorario | public |
| ObtenerMejorCromosoma |  | [THorario](file:///C:\Users\usuario2574\Desktop\Nueva%20carpeta\p_xmi_73.html#xmi_24) | public |
| ObtenerGeneracionActual |  | Integer | public |
| VerificarLista | TList ( THorario ) Lista | boolean | public |
| Salida |  |  | public |
| GotoXY | Integer x  Integer y |  | public |

1. **Diagrama de Arquitectura**