This file serves as guide to the work conducted on the modelling phase of the Patient and Medical Assessment Entity Relationship Diagram which is attached to this document.

Our work was based on the forms received from the occupational health services cc Letlotlo which are:

* Medical Assessment form

This form encapsulates the patient details along with occupation history, past medical history, physical examination, etc.

* Screening Audiogram

The above form depicts hearing tests done on the patient.

* Pulmonary Function Report

A combined set of various pulmonary tests ad results.

* Medical Certificate of Fitness
* Entry and Exit Certificate

Data collected on those forms were modelled into separate entities with specific attribute name and data type in which they were proven more explicit and fitting.

The conceptual modelling part of our work has led us to its logical modelling, thus increasing the number of entities from 2 (Patient and Medical Assessment) to 11 entities, each having unique attributes bearing unique meaning.

Entities Found

Conceptual Model:

* Patient
* Medical Assessment

Logical Model:

* Patient
* Medical Assessment
* Medical History
* Supplementary Test
* Smoking History
* Abnormalities
* Alcohol Consumption
* Predicted Set
* Substance Abuse test
* Pulmonary function report
* Pre-Bronchodilator result

Attributes

Entity: Patient

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| ID | Char(10) |
| Surname | Varchar(20) |
| Name | Varchar(20) |
| ID/Passport\_Number | Varchar(16) |
| DOB | Date |
| Gender | Char(1) |
| Cellphone\_Number | Varchar(10) |
| Medical\_Type | Varchar(15) |
| Company | Varchar(50) |
| Occupation | Varchar(50) |
| Previous\_Employer | Varchar(50) |
| Job\_Description | Varchar(200) |
| Date\_from\_to | Varcher(20) |
| Height | Double |
| Weight | Double |
| Race | Varchar(15) |
| Race\_Predicted\_Correction | Varchar(50) |

Entity: Medical Assessment

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| Urinalysis\_Substance | Varchar(50) |
| Cannabis | Varchar(50) |
| Systolic | Double |
| Diastolic | Double |
| Pulse | Double |
| HGT | Double |
| Visual\_Near\_Right | Int |
| Visual\_Near\_Left | int |
| Visual\_Near\_Both | int |
| Visual\_far\_Right | int |
| Visual\_Far\_Left | int |
| Visual\_Far\_Both | int |
| Visual\_Field | Varchar(10) |
| Voulour\_Vision | Varchar(15) |
| Depth\_Perception | Varcher(15) |
| Chest\_X\_Ray\_Comment | Varchar(100) |
| Fitness\_Condition | Varchar(15) |
| Fitness\_Comment | Varchar(50) |

Entity: Medical History

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| Head\_CNS | Char(50) |
| Eyes | Char(50) |
| Ears | Char(50) |
| Nose\_And\_Throat | Char(50) |
| Cardiovascular | Char(50) |
| Respiratory | Char(50) |
| Gastroinstestinal | Char(50) |
| Gentio\_Urinary | Char(50) |
| Musculoskeletal | Char(50) |
| Skin | Char(50) |
| Psychiatry | Char(50) |

Entity: Supplementary Test

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| Name | Varchar(50) |
| Description | Char(100) |

Entity: Smoking History

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| Type | Varchar(10) |
| Amount\_Per\_Day | Int |

Entity: Abnormalities

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| Name | Varchar(50) |

Entity: Alcohol Consumption

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| Type\_Of\_Drink | Varchar(50) |
| Frequency | Varchar(50) |

Entity: Predicted Set

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| Set | Varchar(50) |

Entity: Substance Abuse Test

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| Name | Varchar(50) |
| Description | Char(100) |

Entity: Pre\_Broncholidator Result

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| FVC\_Predicted | Double |
| FVC\_Best | Double |
| FVC\_%Predicted | Double |
| FVC\_Trial2 | Double |
| FVC\_Trial3 | Double |
| FVC\_Trial4 | Double |
| FEV1\_Predicted | Double |
| FEV1\_Best | Double |
| FEV1\_%Predicted | Double |
| FEV1\_Trial2 | Double |
| FEV1\_Trial3 | Double |
| FEV1\_Trial4 | Double |
| FEV1\_By\_FVC\_Predicted | Double |
| FEV1\_By\_FVC \_Best | Double |
| FEV1\_By\_FVC \_%Predicted | Double |
| FEV1\_By\_FVC \_Trial2 | Double |
| FEV1\_By\_FVC \_Trial3 | Double |
| FEV1\_By\_FVC \_Trial4 | Double |
| PEFR\_Predicted | Double |
| PEFR\_Best | Double |
| PEFR\_%Predicted | Double |
| PEFR\_Trial2 | Double |
| PEFR\_Trial3 | Double |
| PEFR\_Trial4 | Double |
| FEF25%\_Predicted | Double |
| FEF25%\_Best | Double |
| FEF25%\_%Predicted | Double |
| FEF25%\_Trial2 | Double |
| FEF25%\_Trial3 | Double |
| FEF25%\_Trial4 | Double |
| FEF50%\_Predicted | Double |
| FEF50%\_Best | Double |
| FEF50%\_%Predicted | Double |
| FEF50%\_Trial2 | Double |
| FEF50%\_Trial3 | Double |
| FEF50%\_Trial4 | Double |
| FEF75%\_Predicted | Double |
| FEF75%\_Best | Double |
| FEF75%\_%Predicted | Double |
| FEF75%\_Trial2 | Double |
| FEF75%\_Trial3 | Double |
| FEF75%\_Trial4 | Double |
| FEF25\_75%\_Predicted | Double |
| FEF25\_75%\_Best | Double |
| FEF25\_75%\_%Predicted | Double |
| FEF25\_75%\_Trial2 | Double |
| FEF25\_75%\_Trial3 | Double |
| FEF25\_75%\_Trial4 | Double |
| FIVC\_Predicted | Double |
| FIVC\_Best | Double |
| FIVC\_%Predicted | Double |
| FIVC\_Trial2 | Double |
| FIVC\_Trial3 | Double |
| FIVC\_Trial4 | Double |
| Exp\_Time\_Predicted | Double |
| Exp\_Time\_Best | Double |
| Exp\_Time\_%Predicted | Double |
| Exp\_Time\_Trial2 | Double |
| Exp\_Time\_Trial3 | Double |
| Exp\_Time\_Trial4 | Double |
| FVC\_EqualorBetter\_ThanPredicted | Double |
| FEV1\_EqualorBetter\_ThanPredicted | Double |

Entity: Pulmonary Function Report

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| Operator | Char(50) |
| Physician | Char(50) |
| Race\_Predicted\_Correction | Char(50) |
| Position | Char(50) |
| Interpretation | Char(50) |
| Test\_Date | Char(50) |
| Test\_Time | Char(50) |
| Site | Char(50) |
| ATS\_Met | Char(50) |
| Efforts\_Performed | Char(50) |
| Test\_Grade | Char(50) |
| Pneum\_Cal\_Date | Date |
| Pneum\_Cal\_Time | Date |
| Pneumotach\_Calibrated\_By | Char(50) |
| Effort\_Protocol | Char(50) |
| Effort\_Summary | Char(50) |
| Test\_Comments | Char(50) |
| Room\_Temperature | Double |
| Bar\_Pressure | Double |
| Humidity | Char(50) |
| Pneum\_Cal\_Exp | Double |
| Pneum\_Cal\_Measure | Double |
| Usability\_Cautions | Char(50) |
| Acceptability\_Cautions | Char(50) |
| Reproducibilty\_Cautions | Char(50) |

Entity: Audiometry Test

|  |  |
| --- | --- |
| **Name** | **Data type(Length)** |
| PLH | Double |
| ABHL | Double |