**SYSTEM REQUIREMENTS SPECIFICATION DOCUMENT**

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| **Version Change** | **Date of Change** | **Changes Made** |
| ***<Example>***  Version 1.0 to 1.2 | 12th April 2020 | Added list of constraints |
| ***<Example>***  Version 1.2 to 1.6 | 16th April 2020 | Added ERD diagram |

# Executive Summary

***<This will be filled in at the end. It is like an abstract>***

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# Introduction

## The Mission of the Business

## The Day to Day Operations of the Business

***<Create a flowchart here that represents the business processes involved in producing the business' main product/service>***

***<Create a Data Flow Diagram (DFD) that represents the flow of information through the business organization in the case study>***

## Statement of Objectives

***<Hint: Think in terms of an IT-based solution to address the negative effects associated with the non-value adding activities in the organization’s business processes>***

1. To…
2. To…
3. To…

# System Capabilities

## Example1 Data (E.g. Patient Data or Client Data or Bicycle Data) <*Client Data>*

***<Guiding example: The database should be capable of storing data about the clients and for each client, the following data should be stored:>***

|  |  |
| --- | --- |
| **1.** | ***<E.g. A client identification number>*** |
| **2.** |  |
| **3.** |  |

## Example2 Data *<Rental Property Data>*

***<Guiding example: The database should be capable of storing data about the rental properties and for each rental property, the following data should be stored:>***

|  |  |
| --- | --- |
| **1.** | ***<E.g. The location of the rental property>*** |
| **2.** |  |
| **3.** |  |

## Example3 Data

|  |  |
| --- | --- |
| **1.** |  |
| **2.** |  |
| **3.** |  |

# System Conditions

## Example1 Data (E.g. Patient Data or Client Data or Bicycle Data) *<Client Data>*

***<Guiding example: The database should contain the following measurable characteristics for each capability specified in Chapter 2.>***

|  |  |
| --- | --- |
| **2.A.1.** | ***<Guiding example: A client identification number shall be a national identity number or a company PIN. If the clients are in a group, then 1 of them shall take the lead ­role and make the reservation on behalf of the whole group. Therefore, only 1 national identity number or 1 company PIN shall be recorded per reservation.>*** |
| **2.A.2.** |  |
| **2.A.3.** |  |

## Example2 Data

|  |  |
| --- | --- |
| **2.B.1.** |  |
| **2.B.2.** |  |
| **2.B.3.** |  |

## Example3 Data

|  |  |
| --- | --- |
| **2.C.1.** |  |
| **2.C.2.** |  |
| **2.C.3.** |  |

# System Constraints

***<E.g. interrelational, intrarelational, static, dynamic, semantic, primary key, & foreign key>***

*E.g. The database must satisfy the following constraints:*

## Example1 Data (E.g. Patient Data or Client Data or Bicycle Data)

|  |  |
| --- | --- |
| **2.A.1.** | *E.g. The National Identity Number and company PIN shall together have a key constraint. This will be in the form of an intrarelational, static, composite key constraint to form the primary key* |
| **2.A.2.** |  |
| **2.A.3.** |  |

## Example2 Data

|  |  |
| --- | --- |
| **2.B.1.** |  |
| **2.B.2.** |  |
| **2.B.3.** |  |

## Example3 Data

|  |  |
| --- | --- |
| **2.C.1.** |  |
| **2.C.2.** |  |
| **2.C.3.** |  |

# Assumptions

# Database Design

## Entity Relationship Diagram Based on the Chen Notation

## Database Schema Based on the UML Notation

## System Architecture

# Normalization

## List of Database Dependencies before Normalization

***List all the database dependencies that exist in each relation, i.e. full functional dependencies, partial functional dependencies, transitive functional dependencies, Multi-Valued Dependencies (MVD), and Join Dependencies (JD)***

## Normal Forms

***Specify the textual database schema of how the database will look in each normal form, i.e. in 1NF, 2NF, 3NF, BCNF, 4NF, and in 5NF***

# Advanced Database Objects

## Storage Engines

***List the storage engine that each relation will use***

## Indexes

***List all the attributes that will be indexed as well as the type of index that will be used***

## Normal Triggers

***List all the normal triggers and how they will be used to enforce the database constraints***

## Temporal Triggers

***List all the temporal triggers and how they will be used to enforce the database constraints***

## Procedures

***List all the procedures and how they will be used to retrieve data required for reports***

## Functions

***List all the functions and how they will be used to retrieve data required for reports***

## Views

***List all the views and how they can be used to provide various displays of the data for different users***

# DDL Statements

***Provide the DDL statements that were used to create the entire database (including all the advanced database objects)***