**Software Requirements**

**Specification**

**for**

**Makati Dialysis and Diagnostics Center Inc.**

**Web-based System**

**Version 1.0 approved**

**Prepared by**

**Mercado, Gavriel A.**

**Ventura, Gillian M.**

**Verano, Ruy Josel G.**

**Asia Pacific College**

**June 7, 2017**

**Copyright © 1999 by Karl E. Wiegers. Permission is granted to use, modify, and distribute this document.**

**Software Requirements Specification for MDDCI Web-based System Page ii**

# Table of Contents

[Table of Contents 2](#_Toc476330608)

[Revision History 2](#_Toc476330609)

[1. Introduction 1](#_Toc476330610)

[1.1 Purpose 1](#_Toc476330611)

[1.2 Document Conventions 1](#_Toc476330612)

[1.3 Intended Audience and Reading Suggestions 1](#_Toc476330613)

[1.4 Product Scope 1](#_Toc476330614)

[1.5 References 1](#_Toc476330615)

[2. Overall Description 1](#_Toc476330616)

[2.1 Product Perspective 1](#_Toc476330617)

[2.2 Product Functions 2](#_Toc476330618)

[2.3 User Classes and Characteristics 2](#_Toc476330619)

[2.4 Operating Environment 2](#_Toc476330620)

[2.5 Design and Implementation Constraints 2](#_Toc476330621)

[2.6 User Documentation 2](#_Toc476330622)

[2.7 Assumptions and Dependencies 2](#_Toc476330623)

[3. External Interface Requirements 3](#_Toc476330624)

[3.1 User Interfaces 3](#_Toc476330625)

[3.2 Hardware Interfaces 3](#_Toc476330626)

[3.3 Software Interfaces 3](#_Toc476330627)

[3.4 Communications Interfaces 3](#_Toc476330628)

[4. System Features 3](#_Toc476330629)

[4.1 Online Reservation 4](#_Toc476330630)

[4.2 Online Registration 4](#_Toc476330631)

[4.3 Item Inventory 5](#_Toc476330632)

[4.4 Patient Record Inventory 5](#_Toc476330633)

[5. Other Nonfunctional Requirements 5](#_Toc476330634)

[5.1 Performance Requirements 5](#_Toc476330635)

[5.2 Safety Requirements 5](#_Toc476330636)

[5.3 Security Requirements 5](#_Toc476330637)

[5.4 Software Quality Attributes 6](#_Toc476330638)

[5.5 Business Rules 6](#_Toc476330639)

[6. Other Requirements 6](#_Toc476330640)

[Appendix A: Glossary 6](#_Toc476330641)

[Appendix B: Analysis Models 6](#_Toc476330642)

[Appendix C: To Be Determined List 6](#_Toc476330643)

# Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| Ventura, Gillian M. | June 7, 2017 | Document Created | 1.0 |
| Mercado, Gavriel | July 5, 2017 | Revision on Requirements Analysis | 1.1 |
| Ventura, Gillian M. | July 5, 2017 | Revision on Introduction | 1.2 |

# Introduction

## Purpose

Makati Dialysis and Diagnostic Center Incorporated caters to dialysis patients in need of assured quality treatment within a convenient facility. Besides aiming to consistently deliver quality treatment, MDDCI equally aspires to be every patient’s caring friend, walking side by side along the path, leading to improved health and wellbeing.

The common problem existing in the company is a delay of operations between the company and partner agencies. They have an existing information system, Portal, which is a provided software by PhilHealth to be used to easily manage the records of the patients. Servers of external providers are frequently down causing traffic in managing the patient's records.

## Document Conventions

This document is set in Microsoft Word 2016, with a font “Arial” and font size of 12. Each part of the document is written as header 1 and under each part are in header 2; both are in bold property.

## Intended Audience and Reading Suggestions

The intended readers of the SRS document are the following:

* + - **Developers -** These are the people who manage the entire document and system. They may use this document to implement the functionalities and to ensure to be in the right track while developing the system. When there are changes that are needed, they can look through this document for guidance.
    - **Project Managers -** The project manager can use this document as reference to when there are changes in requirements, resources, etc.
    - **Authors of documents –** The document authors may use this document as reference to know the correct format in creating a proper document and they will be the one who will prepare the user manuals and other necessary documents of the system.
    - **Users/Customers –** Users are those who will benefit from this system. The users may use this document to have knowledge in the different functions and interfaces of MDDCI-WBS. This can be used for easy access and familiarization to the system since this system will be used most likely by them.
  + The remaining information in this document are describing the functional requirements of the system.

## Product Scope

<Provide a short description of the software being specified and its purpose, including relevant benefits, objectives, and goals. Relate the software to corporate goals or business strategies. If a separate vision and scope document is available, refer to it rather than duplicating its contents here.>

According to our vision and scope document, the system will organize the records of the existing patients and data access will be restricted to the employees by using their privileged accounts. The system may not have a mobile application but it may be accessed through mobile using their browser.

## References

<List any other documents or Web addresses to which this SRS refers. These may include user interface style guides, contracts, standards, system requirements specifications, use case documents, or a vision and scope document. Provide enough information so that the reader could access a copy of each reference, including title, author, version number, date, and source or location.>

[1]Verano, R. (2017, June 28).Makati Dialysis and Diagnostic Center Inc. Usecase Diagram. Retrieved July 4, 2017 from <http://imgur.com/D2ddd6d>

[2]Verano, R. (2017, June 13). Makati Dialysis and Diagnostic Center Inc. Organizational Chart. Retrieved July 4, 2017 from <http://imgur.com/n473RNp>

[3] Verano, R. (2017, June 28). Makati Dialysis and Diagnostic Center Inc. State Transition Diagram. Retrieved July 4, 2017 from <http://imgur.com/B5Hc6vx>

[4] Verano, R. (2017, June 28). Makati Dialysis and Diagnostic Center Inc. Activity Diagram. Retrieved July 4, 2017 from <http://imgur.com/SLnt2Xr>

[5] Verano, R. (2017, June 13). Makati Dialysis and Diagnostic Center Inc. Context Diagram. Retrieved July 4, 2017 from <http://imgur.com/uh7WGhd>

[6] Verano, R. (2017, June 28). Makati Dialysis and Diagnostic Center Inc. Entity Relation Diagram. Retrieved July 4, 2017 from http://imgur.com/5QNlR12

[7] Verano, R. (2017, June 28). Makati Dialysis and Diagnostic Center Inc. Class/Object Diagram. Retrieved July 4, 2017 from <http://imgur.com/DH73wie>

[8] Verano, R. (2017, June 13). Makati Dialysis and Diagnostic Center Inc. Function Decomposition Diagram. Retrieved July 4, 2017 from <http://imgur.com/YGNvryh>

[9] Verano, R. (2017, June 13). Makati Dialysis and Diagnostic Center Inc. Data Decomposition Diagram. Retrieved July 4, 2017 from <http://imgur.com/YpThyOR>

[10] B.Braun: Sharing Expertise. <https://www.bbraun.com/en.html>

[11] PhilHealth: Your Partner in Health. <https://www.philhealth.gov.ph/>

[12] Mercado, G., Ventura, G., Verano, R.,. (2017, June 14). Vision and Scope Document for Makati Dialysis and Diagnostic Center Inc. Web-based System. Version 1.0. Retrieved July 4, 2017 from <https://asiapacificcollege-my.sharepoint.com/personal/gmventura_student_apc_edu_ph/_layouts/15/guestaccess.aspx?guestaccesstoken=vNODhXFSQc3odjUuLMyIScptBo7Vspwv4BHmHGpIrbc%3d&docid=2_00ae399342b794519b88092b654b2441e&rev=1>

[13] Mercado, G., Ventura, G., Verano, R.,(2017) User Manual

# Overall Description

## Product Perspective

The common problem existing in the company is delay of operations between the company and partner agencies. They have an existing information system, Portal, which is a provided software by PhilHealth to be used to easily manage the records of the patients most of the time the servers are down causing traffic in managing the patient's records.

The purpose of the project is to provide solution on the existing problems of the Clinic. The MDDCI Clinic utilizes existing external systems that were provided by the government. The data on these systems are provided by the patients through a form the clinic hands them and the clinic inputs it into the system. The system will provide online registration on PhilHealth Dialysis Program through the web-based platform and the data will be sent to the admin of the site for verification which will be sent to PhilHealth Database.

## Product Functions

* Online Reservation of the schedule of dialysis session
* Online checklist for inquiries of new patients
* Online Inventory System of patient’s record

## User Classes and Characteristics

<Identify the various user classes that you anticipate will use this product. User classes may be differentiated based on frequency of use, subset of product functions used, technical expertise, security or privilege levels, educational level, or experience. Describe the pertinent characteristics of each user class. Certain requirements may pertain only to certain user classes. Distinguish the most important user classes for this product from those who are less important to satisfy.>

This system aims to benefit the patients and the clinic staff of the company. The patients can use the system for online booking for their treatment. On the other hand, the staff can use the system to check the patient records and make sure that there is no conflicting schedules among the patients. Both the users may use the system anytime.

## Operating Environment

<Describe the environment in which the software will operate, including the hardware platform, operating system and versions, and any other software components or applications with which it must peacefully coexist.>

The web-based system can be accessed through the internet. The full functionality will only be available to users with privileged user accounts. Any user can register and the admin may modify its privilege. The data will be collected both from the government and the patients, which the data will be stored and easily retrieved using the inventory system. The item inventory system, which is part of the web-based system, will keep track of their assets to help them decide on the ordering of items in the stockroom. The system will be scalable and may be used by numbers of customers.

## Design and Implementation Constraints

<Describe any items or issues that will limit the options available to the developers. These might include: corporate or regulatory policies; hardware limitations (timing requirements, memory requirements); interfaces to other applications; specific technologies, tools, and databases to be used; parallel operations; language requirements; communications protocols; security considerations; design conventions or programming standards (for example, if the customer’s organization will be responsible for maintaining the delivered software).>

## User Documentation

<List the user documentation components (such as user manuals, on-line help, and tutorials) that will be delivered along with the software. Identify any known user documentation delivery formats or standards.>

Refer to the User manual document

## Assumptions and Dependencies

<List any assumed factors (as opposed to known facts) that could affect the requirements stated in the SRS. These could include third-party or commercial components that you plan to use, issues around the development or operating environment, or constraints. The project could be affected if these assumptions are incorrect, are not shared, or change. Also identify any dependencies the project has on external factors, such as software components that you intend to reuse from another project, unless they are already documented elsewhere (for example, in the vision and scope document or the project plan).>

The website is accessible by anyone who has internet connection and anyone is allowed to register. An admin who can delete inactive user accounts. The website can be accessed even without registering an account if the user just wanted to inquire, the module for reservation and registration will only be available if the user log in, the item and record inventory will only be available for the admin user. The primary draw-back of the clinic is that not all the customers are tech savvy so the website will provide option and information which could help them to perform the usual way of the transaction. In order to make the system it is required to procure:

* Internet access
* Database
* Server
* Approval of the Management

# External Interface Requirements

## User Interfaces

<Describe the logical characteristics of each interface between the software product and the users. This may include sample screen images, any GUI standards or product family style guides that are to be followed, screen layout constraints, standard buttons and functions (e.g., help) that will appear on every screen, keyboard shortcuts, error message display standards, and so on. Define the software components for which a user interface is needed. Details of the user interface design should be documented in a separate user interface specification.>

\*Screen Shots of Page layouts\*

## Hardware Interfaces

<Describe the logical and physical characteristics of each interface between the software product and the hardware components of the system. This may include the supported device types, the nature of the data and control interactions between the software and the hardware, and communication protocols to be used.>

The system will be accessed through any computer connected to the internet.

## Software Interfaces

<Describe the connections between this product and other specific software components (name and version), including databases, operating systems, tools, libraries, and integrated commercial components. Identify the data items or messages coming into the system and going out and describe the purpose of each. Describe the services needed and the nature of communications. Refer to documents that describe detailed application programming interface protocols. Identify data that will be shared across software components. If the data sharing mechanism must be implemented in a specific way (for example, use of a global data area in a multitasking operating system), specify this as an implementation constraint.>

The system was built with Joomla 3.7 and its database constructed with MySQL. The system is accessed through any web browser and its registered users will be recorded in the MySQL database. The website will be hosted under the server of their choice. The patients will register their information into the system and the staff will be using the database to obtain the records of their patients.

## Communications Interfaces

<Describe the requirements associated with any communications functions required by this product, including e-mail, web browser, network server communications protocols, electronic forms, and so on. Define any pertinent message formatting. Identify any communication standards that will be used, such as FTP or HTTP. Specify any communication security or encryption issues, data transfer rates, and synchronization mechanisms.>

The system is web-based, so any web browser will be able to access the system. The emails listed will be provided from the patients and staff. MDDC will post the documents and forms which will be linked into the system. Only registered users will be able to access the reservation component while the public user will only be able to inquire and see information about the clinic. Both users will be able to access the documents and forms that the clinic provides, but only registered users will have access to the specific documents the clinic requires them.

# System Features

<This template illustrates organizing the functional requirements for the product by system features, the major services provided by the product. You may prefer to organize this section by use case, mode of operation, user class, object class, functional hierarchy, or combinations of these, whatever makes the most logical sense for your product.>

The Makati Dialysis and Diagnostics Center Incorporated Web-based System includes different modules that are both useful for employees and patients of the clinic.

## Online Reservation

4.1.1 Description and Priority

<Provide a short description of the feature and indicate whether it is of High, Medium, or Low priority. You could also include specific priority component ratings, such as benefit, penalty, cost, and risk (each rated on a relative scale from a low of 1 to a high of 9).>

The online reservation feature of the web-based system is a high priority because one of some noticeable problems that the clinic face is that the customer manually log each time the moment they had arrived the clinic. And the clinic has to call their patients if they have not arrived on time on the scheduled treatment.

4.1.2 Stimulus/Response Sequences

<List the sequences of user actions and system responses that stimulate the behavior defined for this feature. These will correspond to the dialog elements associated with use cases.>

The user must login to the web-based system to indicate the time which they will arrive, once a user had reserved a dialysis machine, sterilization will be done before a patient arrived. If the user have not arrived before fifteen minutes of the indicated time, the slot may be given to the walk-in patients.

4.1.3 Functional Requirements

<Itemize the detailed functional requirements associated with this feature. These are the software capabilities that must be present in order for the user to carry out the services provided by the feature, or to execute the use case. Include how the product should respond to anticipated error conditions or invalid inputs.

Requirements should be concise, complete, unambiguous, verifiable, and necessary. Use “TBD” as a placeholder to indicate when necessary information is not yet available.>

<Each requirement should be uniquely identified with a sequence number or a meaningful tag of some kind.>

REQ-1: User must be log in, in order to use this feature

## Patient Record Inventory

4.4.1 Description and Priority

The Patient Record Inventory feature refers to the organized records of each patients, this will reduce data anomalies because of human error. This feature is a high priority of the system.

4.4.2 Stimulus/Response Sequences

When the patient submitted requirements, the Admin must record these information. The admin may add, delete and update the data on the inventory to maintain each data.

4.4.3 Functional Requirements

REQ-1: User must be log in, in order to use this feature

REQ-2: User must be privileged to access this feature.

# Other Nonfunctional Requirements

## Performance Requirements

<If there are performance requirements for the product under various circumstances, state them here and explain their rationale, to help the developers understand the intent and make suitable design choices. Specify the timing relationships for real time systems. Make such requirements as specific as possible. You may need to state performance requirements for individual functional requirements or features.>

The web-based system will provide users information helpful for their inquiries. The employees of the clinic will provide more accurate and organized data. The employees must coordinate the schedule of the patients with the doctors and the importance of their condition.

## Safety Requirements

<Specify those requirements that are concerned with possible loss, damage, or harm that could result from the use of the product. Define any safeguards or actions that must be taken, as well as actions that must be prevented. Refer to any external policies or regulations that state safety issues that affect the product’s design or use. Define any safety certifications that must be satisfied.>

Information provided must be accurate. If there are data anomalies, the admin can maintain the data. Any transaction will be logged on the database. Frequently back up the database will prevent the loss of records and allow a copy of the data for when upgrading the system.

## Security Requirements

<Specify any requirements regarding security or privacy issues surrounding use of the product or protection of the data used or created by the product. Define any user identity authentication requirements. Refer to any external policies or regulations containing security issues that affect the product. Define any security or privacy certifications that must be satisfied.>

Even if the web-based system is accessible online, modification of user privileged will be done in order to keep the system secured. Only the admin can make this type of modification. User information will also be held in discrepancy and only accessed by the ones handling the data.

## Software Quality Attributes

<Specify any additional quality characteristics for the product that will be important to either the customers or the developers. Some to consider are: adaptability, availability, correctness, flexibility, interoperability, maintainability, portability, reliability, reusability, robustness, testability, and usability. Write these to be specific, quantitative, and verifiable when possible. At the least, clarify the relative preferences for various attributes, such as ease of use over ease of learning.>

The modules included in the web-based system is composed of different procedures. Every data manipulated and stored in the database must be reviewed by the admin. Maintenance of the system is needed. The system may be accessed through a mobile component connected to the internet, but has yet to be assimilated for a mobile design.

## Business Rules

<List any operating principles about the product, such as which individuals or roles can perform which functions under specific circumstances. These are not functional requirements in themselves, but they may imply certain functional requirements to enforce the rules.>

* Admin Users can modify user privilege
* Privileged Users can view records in the inventor
* Average Users can submit information
* Admin must verify the submitted information

# Other Requirements

<Define any other requirements not covered elsewhere in the SRS. This might include database requirements, internationalization requirements, legal requirements, reuse objectives for the project, and so on. Add any new sections that are pertinent to the project.>

# Appendix A: Glossary

<Define all the terms necessary to properly interpret the SRS, including acronyms and abbreviations. You may wish to build a separate glossary that spans multiple projects or the entire

organization, and just include terms specific to a single project in each SRS.>

# Appendix B: Analysis Models

<Optionally, include any pertinent analysis models, such as data flow diagrams, class diagrams, state-transition diagrams, or entity-relationship diagrams.>

# Appendix C: To Be Determined List

<Collect a numbered list of the TBD (to be determined) references that remain in the SRS so they can be tracked to closure.>