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**TEAM ANODYNE**

**SRS**

SOFTWARE REQUIREMENTS SPECIFICATION

1.0

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**TEAM ANODYNE**

Lead Software Engineer

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**INSTRUCTOR**:

Dr. Cristina Luca

Bryant 110, Cambridge Campus

Cristina.luca@anglia.ac.uk

# REVISION HISTORY

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# DOCUMENT APPROVAL

The following Software Requirements Specification has been accepted and approved by the following:

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| --- | --- | --- | --- |
| **SIGNATURE** | **PRINTED NAME** | **TITLE** | **DATE** |
|  | DR. CRISTINA LUCA | INSTUCTOR | OCTOBER 2014 |
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# 1. INTRODUCTION

This SRS document is written in a self-explanatory form that will give a great insight to the system’s development process.

## 1.1 PURPOSE

The aim of this document is to give a detailed description of the Electronic System of the Over Surgery designed to replace the existing Paper-Based System currently in use.

This which will make working hours more productive and efficient

*.*

## 1.2 SCOPE

This Designed Electronic System **WILL** allow its **authorized** user(s)

* Check the Availability of GP(s) and Nurses
* Register new patient(s)
* Book, Change and Cancel Appointments,
* Extend Prescriptions (where necessary)
* Check and Print out Patient’s Test Result(s).

The System **WILL NOT** allow its **authorized** user(s)

* Generate (Bio-) Data of Patients that are not registered on the system
* Extend Prescription(s) of patients without a GP’s approval
* See a GP(s) or Nurse(s) availability **expect** the GP(s) or Nurse(s) has logged in/registered his/her presence/availability into a “connected” secondary database

## 1.3 Definitions, Acronyms, and Abbreviations

|  |  |  |
| --- | --- | --- |
| **TERM** | **SECTION USED** | **MEANING** |
| Authorized | 1.2 | To give someone a legitimate access |
| (Bio) - Data | 1.2 | Primary Details of a person such as Name, Age |
| SRS | 1 | Software Requirement Specification |
|  |  |  |

## 1.4 REFERENCES

**[1]** Dr. Orest Pilskalns (WSU, Vancover) and Jack Hagemeister (WSU, Pullman: The SRS templates used as guides in developing the template for the WSU-TC Spring 2005 CptS 322 course that is used in this document

**[2]** Sections of this document are based upon the IEEE Guide to Software Requirements Specification (ANSI/IEEE Std. 830-1984).

## 1.5 OVERVIEW

The rest of this SRC document will state the General description and Specific Requirements as well as the Non-Functional Requirements of the Designed System.

It will describe the user’s characteristics and the system’s perspective, functions and its general constraints, assumptions and dependencies

It will also describe the user/ hardware/ software/ communications interfaces

For a better understanding of this documents pictorial explanations will used

…all these will be in **plain language!**

# 2. GENERAL DESCRIPTION

## 2.1 Product Perspective

The system will allow the user to carry out a wide variety of tasks, which the user will use at the Over Surgery. The user uses a paper based system to carry out tasks such as booking appointments and canceling appointments and registering patients and many more. With each task been carried out using a paper system, this is very hard to manage and keep tack of, due to the size of the system. When the system uses a computer it will allow the user to carry out the exact same tasks but on an electronic system, which will be easier to use and manage. The product will also be used by itself and not run along side any other product. The function of the product will be discussed bellow in section 2.2 Product function.

## 2.2 Product Functions

This subsection of the SRS should provide a summary of the functions that the software will perform.

The software will perform will perform a wide variety of tasks which will allow the user to carry out the same tasks that they do on the current paper based system. The system should be easier to use and quicker to use while at the same time allowing the user to keep all the functionality of the current system. The system will need to be able to:

* Handle large amounts of data
* Run without crashing
* Provide useful error messages
* Be upgradeable – Add new parts to the system
* Easy to maintain
* Scalable
* Perform quickly even when processing large amounts of data
* Have a simple easy to use GUI

To ensure that each part of the system meets the product function set out in this documentation. It will be tested to make sure that no problems arise. The product function will also be communicated to the user.

## 2.3 User Characteristics

The user is of a non technical nature who wants to enter as little information into the system as possible. The user needs to know only about patient information and GP/nurse information to use the system effectively. The user needs aspect to all parts of the system with the expectation of that database itself, so the user will not require a high technical knowledge. The user is also slow at typing so minimum input by the user will be the best option of the system.

## 2.4 General Constraints

The computer that the system will be running on will be a standalone machine with an age of 3 years, so the system will have to use very few resources in order to function on this old computer. The system will only have to interface with other applications when printing patient prescriptions. The system will also be accessed by one user and must ask for a secure username and password to make sure that the database can only be accessed by the receptionist.

The user will have access to all patient and GP/nurse information but will have no control over the physical database therefore eliminating any threat of data been stolen by the user.

## 2.5 Assumptions and Dependencies

A number of factors that may affect the requirements specified in the SRS include:

* The operating system been changed through the project to OSX or a never Windows operating system. This intron may cause the application to crash or not work correctly, resulting in a loss of data.
* The user maybe changed which may affect how the system is intended to work as the user may have different requirements to the previous user, resulting in a change of the system which could affect the surgery due to system downtime.
* The SRS may change also if the hardware is out of date or not functioning correctly, such as faulty USB ports so not been able to connect a printer, resulting in the system not been able to print prescriptions.

# 3. SPECIFIC REQUIREMENTS

## 3.1 Functional Requirements

### 3.1 <Functional Requirement or Feature #1>

3.1.1 Introduction

The user needs to be able to log into the system, but at the same time the system must be secure and use the appropriate error messages incase incorrect details are entered

3.1.2 Inputs

These will be entered in text boxes on the screen:

* Username
* Password

3.1.3 Processing

The system will then check if the user has entered the correct information that is stored in the database.

3.1.4 Outputs

The user will be able to log into the system.

3.1.5 Error Handling

If the user enters the incorrect information, the system will display an error message saying incorrect username and password.

### 3.2 <Check GP/Nurse availability for a specific day>

3.2.1 Introduction

To be able to check all the GPs and nurses on duty on a specific day by entering there details and the day you wish to search for them.

3.2.2 Inputs

The details that will be entered into the text boxes on screen are:

* Dr/nurse name

3.2.3 Processing

The system will then check the database to see if the Dr/nurse exists.

3.2.4 Outputs

Returns the Dr/nurse information which was been searched.

3.2.5 Error Handling

If the system can’t find the Dr/nurse it will return an error message asking the user to check the details which have been entered.

### 3.3 <Register Patient>

3.3.1 Introduction

To be able to register a new patient by entering the patient’s details, each new patient registration needs to create a unique patient ID.

3.3.2 Inputs

The details that will be entered into the text boxes on screen are:

* Title
* First name
* Last name
* Date of Birth
* Address line 1
* Address line 2
* Address line 3
* County
* Post code
* County
* Email address
* Home number
* Telephone number

3.3.3 Processing

The system automatically generates a unique patient ID which will be created each time a new patient is added, the system will then save all the date to the database which the save button is clicked.

3.3.4 Outputs

N/A

3.3.5 Error Handling

The system checks if all the boxes are filled in, if not an error message is displayed.

### 3.4 <Book patient appointment>

3.4.1 Introduction

To be able to book an appointment for a patient

3.4.2 Inputs

The details that will be entered into the text boxes on screen are:

* Patient name
* Patient post code
* Dr/nurse name
* Time of booking

3.4.3 Processing

When all the patient information and Dr/nurse information is entered, the system will check if the time and Dr/nurse is available and if they are book the appointment.

3.4.4 Outputs

A message books saying the appointment is booked.

3.4.5 Error Handling

If the time or Dr/nurse is not available the system will display a messaging same that the Dr/nurse isn’t free, or if the time isn’t free the system will say that the time is not free by displaying an error message.

### 3.5 <Change patient appointment>

3.5.1 Introduction

To be able to change a patients appointment.

3.5.2 Inputs

The details that will be entered into the text boxes on screen are:

* Patient name
* Patient post code
* Time of booking
* New time of booking
* Dr/nurse name

3.5.3 Processing

The system will search for the patient, and change the old details for the new details and then save it to the database.

3.5.4 Outputs

Message box saying the data has been changed and saved.

3.5.5 Error Handling

If the system can’t save the appointment an error message will be displayed. An error message will also be displayed if the user enters any information incorrectly.

### 3.6. <Cancel a patients appointment>

3.6.1 Introduction

To be able to cancel a patients appointment.

3.6.2 Inputs

The details that will be entered into the text boxes on screen are:

* Patient name
* Patient post code
* Time of booking

3.6.3 Processing

The system will then find the patients details and delete them from the booked appointments.

3.6.4 Outputs

N/A

3.6.5 Error Handling

If the system can find the patient it will display a message asking the user to re enter the patient’s details.

### 3.7 <Extend prescriptions >

3.7.1 Introduction

To only allow the prescriptions to be extended for only a month at a time and only with the patient’s permission.

3.7.2 Inputs

The details that will be entered into the text boxes on screen are:

* Patient name
* Patient post code
* Patient prescription
* Prescription extension date

3.7.3 Processing

The system will check for the patient’s prescriptions using their inputted details, the system will then save the new prescription extension date to the database.

3.7.4 Outputs

The system will display the patient’s prescription along with the length of time it has been extended for.

3.7.5 Error Handling

If the prescription renewal date is more than 2 weeks, it will display an error message.

If the user details are incorrect, the system will display an error message.

### 3.8 <Print patient >

3.8.1 Introduction

To be able to check and print the results of the tests the patent did.

3.8.2 Inputs

The details that will be entered into the text boxes on screen are:

* Patient name
* Patient post code
* Selected results

3.8.3 Processing

The system searches from the patient and test results.

3.8.4 Outputs

The system then displays the selected result to print, and prints it.

3.8.5 Error Handling

If no result can be found due to the user entering incorrect information, the system will display an error message.

### 3.9 <Search for a patient >

3.9.1 Introduction

To be able to find a patient that can provide either by their name, date of birth and post code.

3.9.2 Inputs

The details that will be entered into the text boxes on screen are:

* Patient name
* Patient date of birth
* Patient post code

3.9.3 Processing

The system then searches the data base to see if the user exists.

3.9.4 Outputs

The system then displays the searched patient’s information on the screen.

3.9.5 Error Handling

If the system can’t find the patient due to incorrectly entered details, it will display an error message.

### 3.10 <Search for Dr/nurse on a specific day >

3.10.1 Introduction

To be able to check all the GPs and nurses on duty on a specific day.

3.10.2 Inputs

The details that will be entered into the text boxes on screen are:

* Dr/nurse details
* Day you wish to search

3.10.3 Processing

The system will search for the Dr/nurse on the day that has been entered by the user.

3.10.4 Outputs

The system will display all Dr/nurse to the screen on the day entered by the user.

3.10.5 Error Handling

If the system can’t find the Dr/nurse then it will display an error, and if the system cant find a Dr/nurse on the day specified it will display an error.

## System Requirements

1. To be able to login into the system
2. To be able to check the GP or nurse’s availability on a specific day;
3. To be able to check all the GPs and nurses on duty on a specific day;
4. To be able to register a new patient by entering the patients details, each new patient registration needs to create a unique patient ID
5. To be able to find a patient that can provide either by their name, date of birth and postcode.
6. To be able to book a patient for an appointment.
7. To be able to change a patients appointment.
8. To be able to cancel a patients appointment.
9. To only allow the prescriptions to be extended for only a month at a time and only with the patient’s permission.
10. To be able to check and print the results of the tests the patent did.

## 3.3 Use Cases

### 3.3.1 Use Case #1

### 3.3.2 Use Case #2

…

## 3.4 Classes / Objects

### 3.4.1 <Class / Object #1>

3.4.1.1 Attributes

3.4.1.2 Functions

<Reference to functional requirements and/or use cases>

### 3.4.2 <Class / Object #2>

…

## 3.5 Non-Functional Requirements

Non-functional requirements may exist for the following attributes. Often these requirements must be achieved at a system-wide level rather than at a unit level. State the requirements in the following sections in measurable terms (e.g., 95% of transaction shall be processed in less than a second, system downtime may not exceed 1 minute per day, > 30 day MTBF value, etc).

### 3.5.1 Performance

### 3.5.2 Reliability

The system

### 3.5.3 Availability

### 3.5.4 Security

### 3.5.5 Maintainability

### 3.5.6 Portability

## 3.6 Inverse Requirements

State any \*useful\* inverse requirements.

## 3.7 Design Constraints

Specify design constrains imposed by other standards, company policies, hardware limitation, etc. that will impact this software project.

## 3.8 Logical Database Requirements

Will a database be used? If so, what logical requirements exist for data formats, storage capabilities, data retention, data integrity, etc.

## 3.9 Other Requirements

Catchall section for any additional requirements.

# 4. ANALYSIS MODELS

List all analysis models used in developing specific requirements previously given in this SRS. Each model should include an introduction and a narrative description. Furthermore, each model should be traceable the SRS’s requirements.

## 4.1 Sequence Diagrams

## 4.3 Data Flow Diagrams (DFD)

## 4.2 State-Transition Diagrams (STD)

# 5. Change Management Process

Identify and describe the process that will be used to update the SRS, as needed, when project scope or requirements change. Who can submit changes and by what means, and how will these changes be approved.

# A. Appendices

Appendices may be used to provide additional (and hopefully helpful) information. If present, the SRS should explicitly state whether the information contained within an appendix is to be considered as a part of the SRS’s overall set of requirements.

*Example Appendices could include (initial) conceptual documents for the software project, marketing materials, minutes of meetings with the customer(s), etc.*

## A.1 Appendix 1

## A.2 Appendix 2