



# Kalafong Provincial Tertiary Hospital

## Gynaecological Patient Information management System:

### User Manual

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### **Abstract**

This document is the Software User Manual (SUM) for the Patient Information Management System project and was made according to the software engineering standard described in the tender proposal provided by Professor Snyman. The Software User Manual (SUM) instructs how to install and use the Patient Information Management System software. This project is part of the Software Engineering Project course (COS301) at the University of Pretoria.

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# **1 Introduction**

## **1.1 Change Log**

Document Title: Software User Manual  
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## **1.2 Intended readership**

This document covers the use for the following users of the PIMS system:

the system administrator  
the project administrators  
the medical staff  
the usability test subjects

## **1.3 Applicability**

This Software User Manual (SUM) applies to the PIMS software, version 0.1.

## **1.4 Purpose**

The purpose of the SUM is to assist the user in installing and using the PIMS software.

## **1.5 How to use this document**

How it is to be used:

- Chapter 2 - Overview of PIMS Software
- Chapter 3 - tutorials
- references of the complete PIMS software

### **1.5.1 Problem Reporting**

Since the Pentec team will be dissolved after completion of the PIMS project, the issue of problem reporting is left to the Administrator, Professor Snyman.

## **2 Overview**

The software is used by doctors and medical staff to create patient forms and document patient information and to query the forms for statistical information.

## **3 Tutorial**

### **3.1 Running the Software**

1. Website page
  - (a) Establish an internet connection
  - (b) Search for website in web browser
  - (c) Log into PIMS system with given authentication codes
2. Mobile Application
  - (a) Establish an internet connection
  - (b) Search for website in web browser
  - (c) Log into PIMS system with given authentication codes
3. Tablet or other
  - (a) Establish an internet connection
  - (b) Search for website in web browser
  - (c) Log into PIMS system with given authentication codes

...

### **3.2 Shutting down the website**

Contact your service provider(hosting site) to pull down the software

## 4 Operations

The login, forms, user and statistics operations are described in this chapter.

### 4.1 User

#### 4.1.1 add user

**Functional Description** This operation adds a user to the PENTEC-PIMS database.

#### Formal Description

- Syntax: add user (username,surname,password,staff type,department,email address,user right) as [Users] [A schema to save the details of all medical staff that can access the system]

- Parameters:

schema (Required when chosen) : Users Schema

pentec\_pims (Required) : This is the name of the database in mongoose that we are using

details (Required):All the above mentioned details in syntax are important to add a user

#### Examples

- add user John Doe, Medical Intern, User right 2, Gynaecologist
- add user url:http://kalafongpims.herokuapp.com/addUser
- URL : :http://kalafongpims.herokuapp.com as Medical Staff This is a medical research dataset PENTEC Software User Manual 0.1.0 14

#### Possible errors

- You do not have the login credentials
- A user with name [username]already exists
- You don't have the role of admin

#### Solutions

- Go to admin(Dr Snyman) and request he add you to the database of users.
- Register with your already given details. No duplicates allowed.
- Go to admin(Dr Snyman) and request he make you admin.

**Related operations** remove user

#### 4.1.2 edit profile

**Functional Description** This operation edits a users profile and saves it to the PENTEC-PIMS database.

#### Formal description

- Syntax: edit user (username,surname,password,confirm password,staff type,department,email address,user right) as [Users] [A schema to save the details of all medical staff that can access the system]
- Parameters:
  - schema (Required when chosen) : Users Schema
  - pentec\_pims (Required) : This is the name of the database in mongoose that we are using.
  - details (Required) :All the above mentioned details in syntax are important to complete edit profile.

#### Examples

- edit user John Doe, Medical Intern, User right 2, Gynaecologist
- edit user url:<http://kalafongpims.herokuapp.com/editProfile>
- URL : <http://kalafongpims.herokuapp.com> as Medical Staff This is a medical research dataset PENTEC Software User Manual 0.1.0 14

#### Possible errors

- You do not have the login creditials to log into the system
- Passwords don't match
- You don't have the role of admin
- You do not appear on the system

#### Solutions

- Go to admin(Dr Snyman) and request he add you to the database of users.
- Register with your already given details sent to your email. No duplicates allowed.
- Re-enter your password
- Go to admin(Dr Snyman) and request he make you admin.

#### Related operations add user

#### 4.1.3 password

**Functional description** This operation changes your password on the PENTEC-PIMS database.

#### Formal description



- Syntax: password (confirm password, password) as [Users] [A schema to save the details of all medical staff that can access the system]

- Parameters:

schema (Required when chosen) : Users Schema

pentec\_pims (Required) : This is the name of the database in mongoose that we are using.

details (Required) : All the above mentioned details in syntax are important to complete password.

### Examples

- password mysecretpassword, mysecretpassword
- add user url: <http://kalafongpims.herokuapp.com/editProfile>
- URL : <http://kalafongpims.herokuapp.com> as Medical Staff This is a medical research dataset PENTEC Software User Manual 0.1.0 14

### Possible errors

- You do not have the login credentials
- You don't have the role of admin
- Passwords dont match

### Solutions

- Go to admin(Dr Snyman) and request he add you to the database of users.
- Go to admin(Dr Snyman) and request he make you admin.
- Re-enter your password carefully.

### Related operations none

#### 4.1.4 list for

**Functional description** This operation list all the available forms in the PENTEC-PIMS database.

### Formal description

- Syntax: list form (form name) as [Forms] [A schema to save the details of all medical forms in the system]

- Parameters:

schema (Required when chosen) : Forms Schema

pentec\_pims (Required) : This is the name of the database in mongoose that we are using.

details (Required) : All the above mentioned details in syntax are important to complete list form.

### Examples

- list form Gynaecology Form
- list form url:http://kalafongpims.herokuapp.com/forms
- URL : :http://kalafongpims.herokuapp.com as Medical Staff This is a medical research dataset PENTEC Software User Manual 0.1.0 14

#### **Possible errors**

- You do not have the login credentials
- The form you are looking for does not exist

#### **Solutions**

- Go to admin(Dr Snyman) and request he add you to the database of users.
- Go to admin(Dr Snyman) and request he create the form.

#### **Related operations** none

#### **4.1.5 add form**

**Functional description** This operation allows you to add a new form using the form builder to the PENTEC-PIMS database.

#### **Formal description**

- Syntax: add form (data, form name) as [Forms] [A schema to save the details of all medical staff that can access the system]

- Parameters:

schema (Required when chosen) : Forms Schema

pentec\_pims (Required) : This is the name of the database in mongoose that we are using.

details (Required) :All the above mentioned details in syntax are important to complete add form.

#### **Examples**

- add form Checkout form, JSON Object
- add form url:http://kalafongpims.herokuapp.com/formbuilder
- URL : :http://kalafongpims.herokuapp.com as Medical Staff This is a medical research dataset PENTEC Software User Manual 0.1.0 14

#### **Possible errors**

- You cannot find the form you created

#### **Solutions**

- It should now be listed in the dropdownlist on the page forms

#### **Related operations** list form

#### 4.1.6 save form

**Functional description** This operation allows you to save a form to the PENTEC-PIMS database.

##### Formal description

- Syntax: save form (data, form name) as [Forms] [A schema to save the details of all forms created in the system]
- Parameters:
  - schema (Required when chosen) : Forms Schema
  - pentec\_pims (Required) : This is the name of the database in mongoose that we are using.
  - details (Required) :All the above mentioned details in syntax are important to complete save form.

##### Examples

- save form discharge form, JSON Object
- save form url:http://kalafongpims.herokuapp.com/formbuilder
- URL : :http://kalafongpims.herokuapp.com as Medical Staff This is a medical research dataset PENTEC Software User Manual 0.1.0 14

**Possible errors** none

**Solutions** none

**Related operations** list form, add form

#### 4.1.7 send notification

**Functional description** This operation allows you to notify a patient of their follow up via email.

##### Formal description

- Syntax: add notification (username, email, message, date) as [Users] [A schema to save the details of all medical staff that can access the system]
- Parameters:
  - schema (Required when chosen) : Users Schema
  - pentec\_pims (Required) : This is the name of the database in mongoose that we are using.
  - details (Required) :All the above mentioned details in syntax are important to complete send notification.

##### Examples

- add notification John Doe,john@gmail.com, "John Please come for your checkup",2015

- add notification url:http://kalafongpims.herokuapp.com/sendNotification
- URL : :http://kalafongpims.herokuapp.com as Medical Staff This is a medical research dataset PENTEC Software User Manual 0.1.0 14

**Possible errors**

- You cant find the users name
- User does not have an email address

**Solutions**

- Patient does not exist in the system
- Notification cannot be sent to user

**Related operations** remove user

#### 4.1.8 list department

**Functional description** This operation lists all the departments on the splash screen from the PENTEC-PIMS database.

**Formal description**

- Syntax: list department (name of department, link) as [Departments]  
[A schema to save the details of all departments in the system and display them on the splash screen]

- Parameters:

schema (Required when chosen) : Departments Schema

pentec\_pims (Required) : This is the name of the database in mongoose that we are using.

details (Required) :All the above mentioned details in syntax are important to complete list user.

**Examples**

- list department Gynaecology, www/d/
- list department url:http://kalafongpims.herokuapp.com/splash
- URL : :http://kalafongpims.herokuapp.com as Medical Staff This is a medical research dataset PENTEC Software User Manual 0.1.0 14

**Possible errors** None

**Solutions** None

**Related operations** none

#### 4.1.9 exit

**Functional description** This operation adds a user to the PENTEC-PIMS database.

##### Formal description

- Syntax: add user (none) as [none] [none]
- Parameters:
  - schema (Required when chosen) : Users Schema
  - pentec\_pims (Required) : This is the name of the database in mongoose that we are using.
  - details (Required) : All the above mentioned details in syntax are important to complete exit.

##### Examples

- exit [press logout button]
- exit url:http://kalafongpims.herokuapp.com/home
- URL : http://kalafongpims.herokuapp.com as Medical Staff This is a medical research dataset PENTEC Software User Manual 0.1.0 14

**Possible errors** none

**Solutions** none

**Related operations** login

## 4.2 Login

### 4.2.1 authenticate

**Functional Description** This function authenticates a user and logs them into the system.

##### Formal Description

- Syntax: authenticate([username], [password], [callback])
- Parameters:
  - username (Required): This is the username of the user, it will usually be the user's name or a unique number assigned to them.
  - password (Required): This is the password of the user and is used to authenticate the user.
  - callback (Optional): This is the callback function and is used to keep the processes synchronous.

##### Examples

- authenticate("John", 1234)
- authenticate("john", 1234, thisIsAFunction())

## Possible Errors & Solutions

- Problem: Your login does not exist.
- Solution: Contact supervisor.
- Problem: Your password is incorrect.
- Solution: Contact supervisor.
- Problem: You are trying to access an admin page but it takes you to a regular user page.
- Solution: Request supervisor to change your rank.

**Related operations** checkAdmin

### 4.2.2 check admin

**Functional Description** Determines if the user is an administrator.

#### Formal Description

- Syntax: checkAdmin([username], [password], [callback])
- Parameters:
  - username (Required): This is the username of the user, it will usually be the user's name or a unique number assigned to them.
  - password (Required): This is the password of the user and is used to authenticate the user.
  - callback (Optional): This is the callback function and is used to keep the processes synchronous.

#### Examples

- checkAdmin("John", 1234)
- checkAdmin("john", 1234, thisIsAFunction())

**Possible Errors & Solutions**

- Problem: You are trying to access an admin page but takes you to a regular user page.
- Solution: Request supervisor to change your rank.

**Related operations** authenticate

## 4.3 Statistics

### 4.3.1 get daterange

**Functional Description** This function allows the user to select a time period that he would like his data to reflect.

#### Formal Description /hfill

- Syntax: getDatarange([startDate], [endDate], [callback])
- Parameters:

startDate (Required) This is the start date that has been selected.  
 endDate (Required) This is the end date that has been selected.  
 callback (Optional) This is the callback function and is used to keep the processes synchronous.

#### Examples

- `getDatarange(startDate : "10/10/2014", endDate: "10/10/2015")`
- `getDatarange(startDate : "10/10/2014", endDate: "10/10/2015", callback)`

#### Possible Errors & Solutions

- Problem: No date selected
- Solution: Reselect the date on the date time picker and click apply then select other procedures and click query.
- Problem: No procedures in the dates selected
- Solution: Graph will show user there are no procedures in that period.

#### Related operations

- `get interval`
- `get graph`

#### 4.3.2 get interval

**Functional Description** This function gets the interval based data in the dropdownlist and certain selectors and uses it to query the database.

#### Formal Description /hfill

- Syntax: `getInterval([selectors], [callback])`
- Parameters:  
`interval [statistics],[selectors](Required)` These are the selectors put in place to customize the procedures that are selected.  
`callback (Required)` This is the callback function and is used to keep the processes synchronous.

#### Examples

- `getInterval(Weekly,Average Age,startDate : "10/10/2014", age: 25, endDate: "10/10/2015")`
- `getInterval(Yearly, Average Age,startDate : "10/10/2014", age: 25, endDate: "10/10/2015", callback)`

#### Possible Errors & Solutions

- Problem: Invalid selectors
- Solution: Choose a valid selector.
- Problem: No operations during that selector
- Solution: Graph will correctly depict the scenario.

#### Related operations

- `get datarange`
- `get graph`

### 4.3.3 get graph

**Functional Description** This function gets data selected from the input boxes and after querying the database returns them in a format which can be converted into a graph.

**Formal Description** /hfill

- Syntax: `getGraph([startDate],[endDate],[interval],[statistic],[callback])`

- Parameters:

`startDate` (Required) This is the start date that has been selected.

`endDate` (Required) This is the end date that has been selected.

`interval` (Required) This is the interval that has been selected.

`statistic` (Required) This is the statistic that has been selected.

`callback` (Optional) This is the callback function and is used to keep the processes synchronous.

### Examples

- `getGraph(startDate: "10/10/2014", procedure: "all", endDate: "10/10/2015", "Weekly", "Average Age", )`
- `getGraph(startDate: "10/10/2014", procedure: "all", endDate: "10/10/2015", callback)`

### Possible Errors & Solutions

- Problem: Data does not exist
- Solution: Graph shows the appropriate message.
- Problem: Invalid selectors
- Solution: Choose a valid selector.

### Related operations

- `get interval`
- `get datarange`