

# FABI Mobile User Manual

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**FABI**



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## Contents

<b>1 General Information</b>	<b>3</b>
1.1 Organization of this Manual . . . . .	3
1.2 System Overview . . . . .	3
1.3 Points of Contact . . . . .	3
1.4 Acronyms and Abbreviations . . . . .	4
1.5 System Configuration . . . . .	4
1.6 System Installation . . . . .	4
1.7 User Access Levels . . . . .	4
<b>2 Getting Started</b>	<b>5</b>
2.1 Web and Mobile Application . . . . .	5
2.1.1 Organization Administrator . . . . .	7
2.1.2 Organization's Members . . . . .	9
<b>3 Using the System</b>	<b>10</b>
3.1 The Organization . . . . .	10
3.1.1 Adding an organization member . . . . .	10
3.1.2 Viewing a member's details . . . . .	11
3.1.3 Searching for a member . . . . .	11
3.1.4 Deactivating a member's account . . . . .	11
3.1.5 Viewing an organization's profile . . . . .	12
3.1.6 Updating an organization's profile . . . . .	12
3.1.7 Viewing all submitted samples . . . . .	12
3.1.8 Logging out as an organization's administrator . . . . .	12
3.2 The Organization's Members . . . . .	13
3.2.1 Authenticating an organization's member . . . . .	13
3.2.2 Viewing their profile . . . . .	13
3.2.3 Updating their profile . . . . .	13
3.2.4 Viewing their submitted samples . . . . .	13
3.2.5 Logging out as an organization's member . . . . .	13
3.3 Sample Processing . . . . .	14
3.3.1 Submitting a sample . . . . .	14
3.3.2 Canceling a sample's processing . . . . .	14
3.3.3 Initiating a sample's processing . . . . .	14
3.3.4 Confirming a samples allocation . . . . .	14
3.3.5 Completing a process . . . . .	14
3.3.6 Sending a diagnosis report . . . . .	14
<b>4 Troubleshooting</b>	<b>15</b>

# 1 General Information

The purpose of this document is to serve as an in-depth explanation and analysis of the system. The primary functionality and functions provided by the FABI Mobile software system are explained and outlined in an easy-to-understand and comprehensible manner.

## 1.1 Organization of this Manual

This user manual consist of five sections: General Information, System Summary, Getting Started, Using the System, and Troubleshooting.

The **General Information** section explains in general terms the system and the purpose for which it is intended. The Points of Contact are also provided in this section.

The **System Summary** section provides a general overview of the system. The summary outlines the use of the system's hardware and software requirements, the system's configuration, as well as the user access levels.

The **Getting Started** section explains how to get both the web and mobile applications, as well as how to use them based on the user levels.

**Using the System** provides a detailed description of all the system's functions.

The **Troubleshooting** sections describes all the recovery and error correction procedures. including error conditions that may generated and corrective actions that may need to be taken.

## 1.2 System Overview

FABI Mobile is the primary product. It encapsulates a web and mobile application intended to drastically modernize FABI's existing system as well as to compliment the roll-out of their Diagnostic Clinic to the forestry and agriculture sector. Another aspect of this software solution is to provide a central means for allowing internal staff within FABI to manage and maintain their databases, staff, and associated organizations. An external management system has been put in place for industry organizations to manage the guests that are associated to them and can in turn make use of the Diagnostic Clinic facilities.

The functionality of FABI Mobile lies within two main areas. The first main area is the web application. The intention of the web application is to provide a centralized and automated means for which organizations and users within those organizations can submit forms to the Diagnostic Clinic as well as track the progress of the samples that they submit. The web application also provides the ability for internal FABI staff to submit request and deposit forms for certain cultures as well submit samples to the Diagnostic Clinic. The mobile application will provide the exact same information with the exception that FABI administrators will not use the mobile application, as the mobile application is only intended for organizations, their members, and the FABI internal staff.

## 1.3 Points of Contact

FABI Contact Details:

**Telephone:** +27 (12) 420-3937 or 3938

**FAX:** +27 (12) 420-3960

**Email:** madelein.vanheerden@fabiu.ac.za

**Postal Address:**

Forestry and Agricultural Biotechnology Institute (FABI)  
University of Pretoria  
Private bag X20  
Hatfield  
0028  
South Africa

**Physical address (also for courier deliveries pickups):**

Forestry and Agricultural Biotechnology Institute (FABI)  
University of Pretoria  
Lunnon Street Entrance  
Hatfield  
0083  
Pretoria  
South Africa

## 1.4 Acronyms and Abbreviations

**API:** Application Programming Interface.

**FABI:** Forestry and Agricultural Biotechnology Institute.

**HTTP:** HyperText Transfer Protocol.

**JSON:** JavaScript Object Notation.

**PDF:** Portable Document Format.

## 1.5 System Configuration

The web application will be run in a web browser and therefore any device may access the web application. There is no real constraints on these devices except that an Internet connection will be required to access the web application. The mobile application has been designed to run on both Android and IOS platforms. Again, these mobile devices will require an internet connection to use the mobile application. Offline local storage is provided by the mobile application. Once connected to the Internet, the mobile device will sync its local storage with the online databases. The Internal GPS system of the mobile devices will be used to capture the users GPS coordinates. These coordinates will also be extracted from the meta data of the images sent via the mobile application. Once download, the mobile application will need no other configuration.

## 1.6 System Installation

The web application will not require any installation because it can be accessed via any web browser. The mobile application will need to be downloaded from either the Android app store or the IOS app store depending on the mobile device being used. No other installations will be required for the use of this software system.

## 1.7 User Access Levels

With regards to the web application, all possible users will be given access, which requires them to login with their login credentials, however, their login credentials and user type will determine what they will be able to access within the web application. The same access procedure applies to the mobile application. Only registered administrators and FABI super users will be given access to the databases. As long as an organization has a registered account with FABI, the organization administrator will have access to both the mobile and web applications. Only registered members within the organization will be given access to the mobile and web applications. This system is not open to members of the general public outside of FABI or an organization.

## 2 Getting Started

### 2.1 Web and Mobile Application

**Note:** All images and descriptions below are based on the web application interface, however, all the same functionality will be provided by the mobile application. The mobile application also has the same interfaces and designs as the web application, but catered for a smaller screen size.

#### Home Page

You will be presented with the main page of the application. A navigation menu is provided at the top of the page with the following options:

1. **Home:** Navigates to the main home page.
2. **Services:** Navigates to a section providing information about the services offered.
3. **Organizations:** Navigates to a section providing the user with an option to send a request for their organization to be registered.
4. **Staff:**
5. **Contact:** Navigates to a section providing contact details and the ability to send a message to FABI.

To login, click the 'Login' button provided. This will redirect you to the login page whereby you can enter your login credentials.

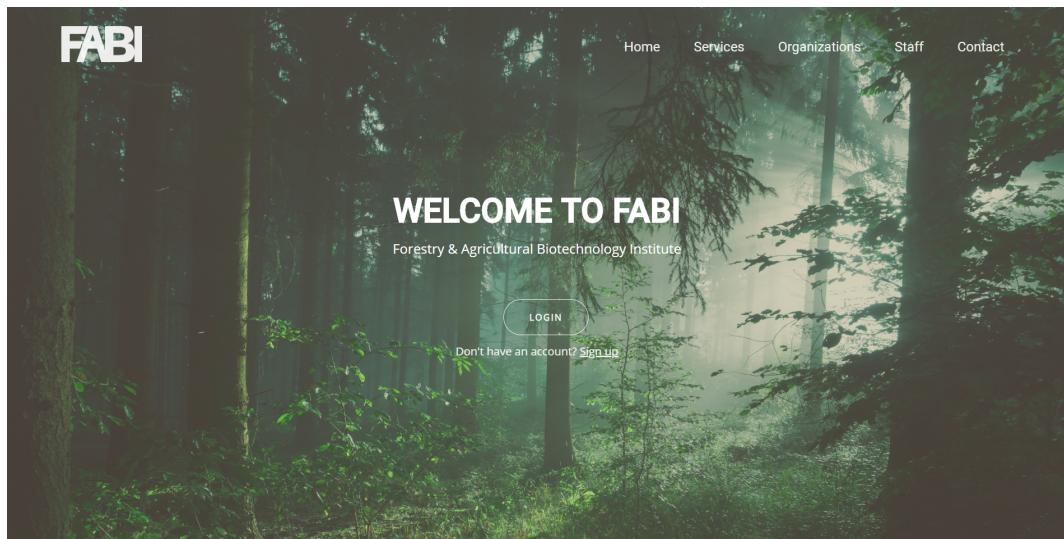


Figure 1: Web Application Main Page

## Logging In

You will be presented with the main page of the application. Click the 'login' button to move to the login page. Enter your login credentials .ie. your email and password in the fields provided and select your organization as well as your user type, then click the 'login' button.

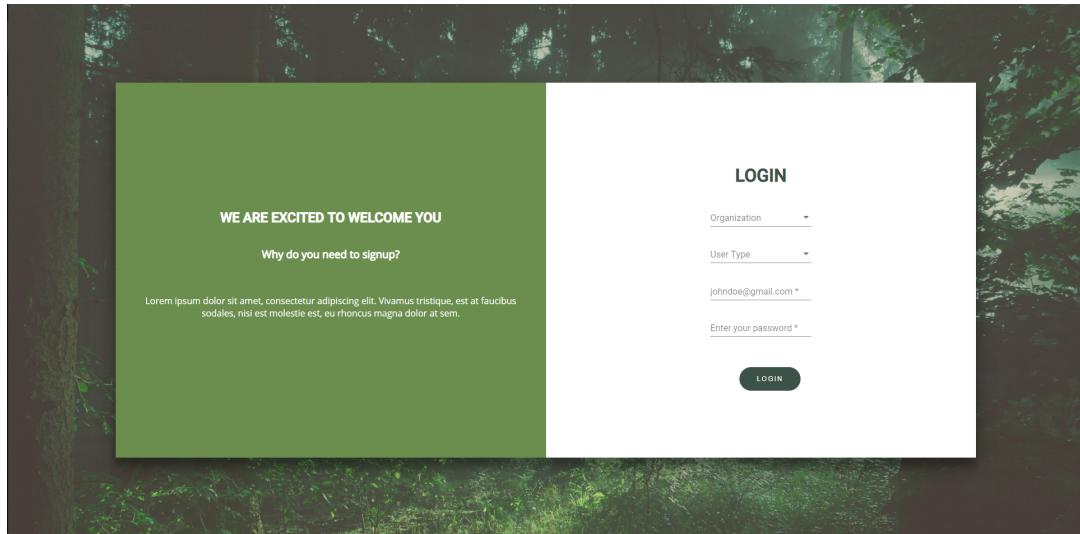


Figure 2: Web Application Login Page

### 2.1.1 Organization Administrator

#### Understanding the Dashboard

The below image depicts what the dashboard (the main page once logged in) looks like. The menu is provided on the left-hand side of the page and provides the following options:

1. **Home:** Navigates to the main home page (ie. the dashboard).
2. **Members:** Navigates to a page whereby the organization's members can be managed by the administrator(ie. added, updated, and removed).
3. **View Samples:** Navigates to a page whereby all of the organization's current and past samples can be viewed.
4. **Submit Sample:** Navigates to a page whereby you can fill out and submit a Sample Form
5. **Profile:** Navigates to your profile as the administrator. Here, you will be able to manage and update your personal information.
6. **Settings:** Navigates to a page that provides you with the ability to change settings for the web application.
7. **Logout:** This will log you out of the web application once selected. You will be returned to the main page of the FABI web application.

Three statistics are provided in the middle of the page towards the top. The first being the number of members currently in the organization, the second being the number of current of samples being processed, and the last being the percentage of samples that have been completely processed and returned to the clients.

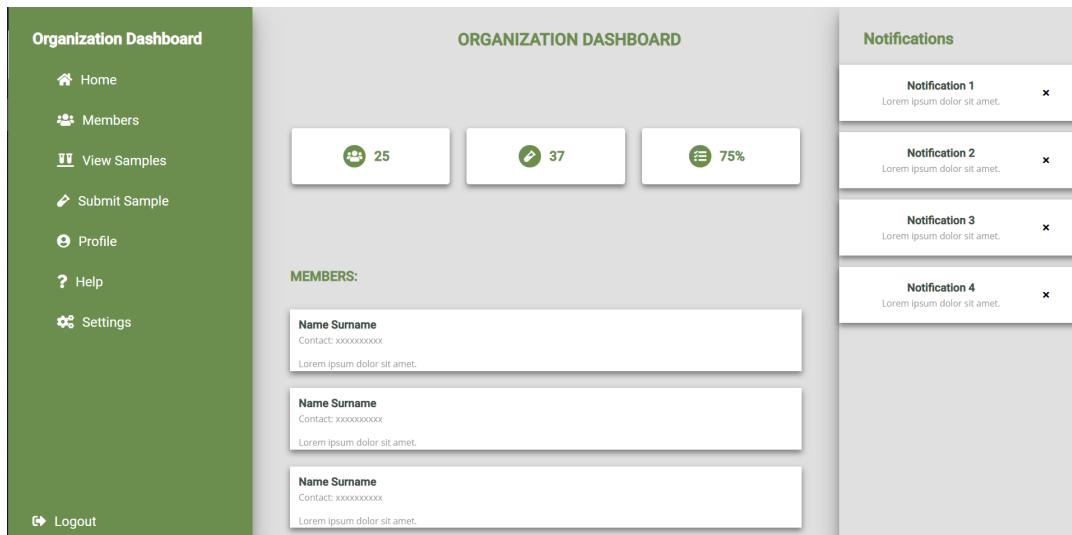


Figure 3: Web Application Dashboard

Towards the bottom of the page, a list containing the individual information of all the organization's members is provided.

On the right-hand side of the page is a notification section. All of your notifications will be here. This includes notifications about recently added organizations, new staff members, removed organizations, etc.

### **Exiting the System**

To exit the application, select to 'logout' via the menu provided. Once selected, you will then be logged out of the application. The web application can then be closed by closing the browser tab.

## 2.1.2 Organization's Members

### Understanding the Dashboard

The below image depicts what the dashboard (the main page once logged in) looks like. The menu is provided on the left-hand side of the page and provides the following options:

1. **Home:** Navigates to the main home page (ie. the dashboard).
2. **View Samples:** Navigates to a page whereby you can view all of your submitted samples.
3. **Submit Sample:** Navigates to a page whereby you can fill out and submit a Sample Form.
4. **Profile:** Navigates to your profile as the administrator. Here, you will be able to manage and update your personal information.
5. **Settings:** Navigates to a page that provides you with the ability to change settings for the web application.
6. **Logout:** This will log you out of the web application once selected. You will be returned to the main page of the FABI web application.

Two statistics are provided in the middle of the page towards the top. The first being the total number of samples currently being processed, and the second being the percentage of samples that have been completely processed and returned to the clients.

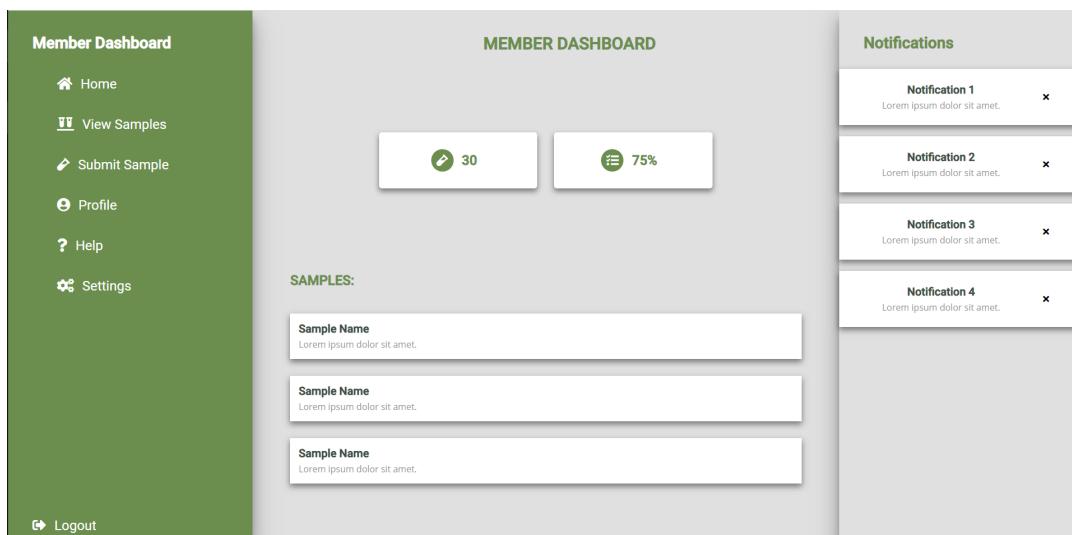


Figure 4: Web Application Dashboard

Towards the bottom of the page, a list of all your current samples and their individual information is provided.

On the right-hand side of the page is a notification section. All of your notifications will be here. This includes notifications about the processing status of your samples.

### Exiting the System

To exit the application, select to 'logout' via the menu provided. Once selected, you will then be logged out of the application. The web application can then be closed by closing the browser tab.

## 3 Using the System

### 3.1 The Organization

#### 3.1.1 Adding an organization member

This functionality is reserved for the administrator assigned to be in charge of the organization's account, and is provided by both the mobile and web applications. You (as the administrator) will navigate to the 'Members' option provided on their dashboard (home page). Selecting the option to 'Add Member' tab at the top of the page will present you with the necessary form by which to add a new member. All of the required information will need to be provided, and selecting 'Add Member' to add the new member. The web or mobile application will validate the form before submitting the form. If not all the necessary information has been provided, a message will be displayed indicating so. Otherwise, a request will be sent to the system containing the form information. The system will first search through the 'member' database to determine if the member already exists within the system or not. If the member does exist, a response message will be sent back to the mobile or web application indicating so. If the member is not found, the system will begin processing the form information sent through with the request. Once the new member's account/profile has been created and saved to the 'member' database, a response message will be sent to the web or mobile application indicating that the request was successful. In addition to this, an email will be sent to the new member containing a temporary login password that they can change via the 'profile' page provided by both the mobile and web applications.

The screenshot shows a 'Member Management' interface. On the left is a sidebar with a dark green background and white text, listing various menu items: Home, Members, View Samples, Submit Sample, Profile, Help, Settings, and Logout. At the top center are two buttons: 'Add Member' and 'View Members'. The main content area is titled 'ADD MEMBER' and contains five input fields: 'Name', 'Surname', 'Location', 'Email Address', and 'Phone Number'. Below these fields is a green 'ADD MEMBER' button.

Figure 5: Member Management: Adding a new member

### 3.1.2 Viewing a member's details

This functionality is reserved only for the organization's administrator, and is provided by both the mobile and web applications. You (as the administrator) will navigate to the 'Members' option provided by the side navigational menu on the dashboard (home page) and selecting the 'View Members' tab at the top of the table. A member's details can also be viewed by searching for the member via the search option provided on the page. A request will be sent to the system to request the information associated with the member. If no information is found (ie. the member does not exist within the system), a response message will be sent back to the web or mobile application indicating so. Otherwise, the found member's information will be sent in a response message back to the web or mobile application. The web or mobile application will then display this information for the you.

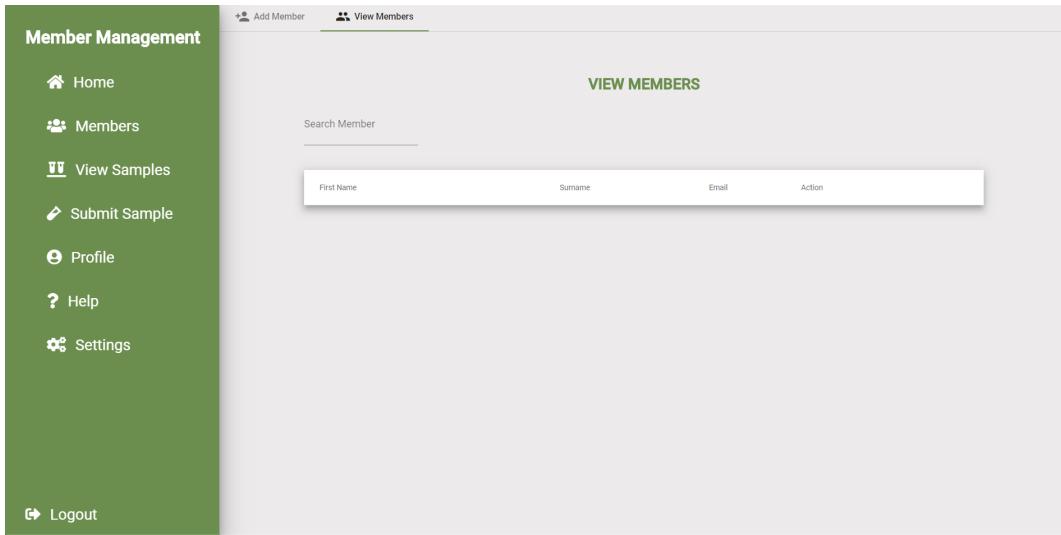


Figure 6: Member Management: Viewing a member's information

### 3.1.3 Searching for a member

This functionality is provided by both the mobile and web applications. You (as the user) will either select to search by filling in the search criteria in the field provided once navigated to the 'Members' option provided by the navigational menu on the dashboard (home page) and selecting the 'View Members' tab to view all the organization's members, or by navigating to the 'View Members' tab and using the search option provided. A member can be identified by their name, surname, email address, and/or phone number, meaning that any one of these can be used as the search criteria to find a user. An request will be sent to the system containing the search criteria. The system will then search through the member database for the member whose information matches that of the given search criteria. If the member is not found, a response message will be sent to the web application indicating that the member does not exists in the system. If the member is found, their information (excluding any sensitive information) will be sent with the response message to the web or mobile application. The web application will then display this information for you.

### 3.1.4 Deactivating a member's account

This functionality is reserved for the organization's administrator, and can be performed on both the web and mobile applications. You (as the administrator) can perform this action by either navigating to the 'Members' option provided by the side navigational menu on the dashboard (home page) and selecting to 'remove' the member, or by searching for the member and selecting the appropriate option to remove the member. The selection to remove a member will result in a request being sent to the system. The system has been designed to never fully delete a member from the system, but rather to deactivate their account. The system will perform the necessary session validation and then begin the processing of the request. The relevant member database will be searched through and if the member is not found, a response message will be sent back to either the mobile or web application indicating so. If the member is found, their account/profile within the database will be deactivated. The system will then send a success response to the web or mobile application indicating that the member has been 'removed' from the system.

### 3.1.5 Viewing an organization's profile

This functionality is reserved only for the organization's administrator, and is provided by both the mobile and web applications. The user will navigate to the 'Profile' page via the side navigational menu on the dashboard (home page). A request will be sent to the system to request the information associated with the organization. The found organization's information will be sent in a response message back to the web or mobile application. The web or mobile application will then display this information for you.

### 3.1.6 Updating an organization's profile

This functionality is provided by both the mobile and web applications, and is reserved for the organization's administrator. You (as the administrator) will select to update an organization's information by navigating to the 'Profile' page by the side navigation menu on the dashboard (home page). The necessary organization information can be edited and then selecting to 'save' this updated information will result in a request being sent to system to save the updated information. If all updates have been processed and saved successfully, a response message will be sent to the application indicating so.

### 3.1.7 Viewing all submitted samples

This functionality is reserved only for the organization's administrator, and is provided by both the mobile and web applications. You (as the administrator) will select the 'View Samples' option provided by the side navigational menu on the dashboard (home page). This will send a request to the system requesting all the submitted samples associated with the organization. If no samples are found, a response message will be sent back to the mobile or web application indicating so. Otherwise, this found information will be sent in a response message to the mobile or web application, and the information will be displayed for you.

### 3.1.8 Logging out as an organization's administrator

To log out of the mobile application and/or web application, you will need to navigate to the side navigational menu on the dashboard and select to 'logout'. The mobile application or web application will then revert back to the main page and the user will be required to log in again in order to gain access.

## 3.2 The Organization's Members

### 3.2.1 Authenticating an organization's member

This is an internal function call whenever a member of an organization tries to log into the system. When a member of an organization logs into either the web application or the mobile application (by clicking the 'login' button provided on the 'Login' interface) using their login credentials (ie. the email address and password), these details will be authenticated against the details in the associated user database. This process will involve sending the organization member's details to the system via a request. This request will contain the user's details. Once the system has received the request, it will extract the login details using an internal function. The system will then compare these details to details within the user database. If the credentials are correct, a success message will be sent back to the 'Login' activity (that originally called to authenticate the user), otherwise an unsuccessful message will be sent. If the credentials are correct, the system will also generate a session id for this user, as well as send through the user's user type in the form of a hashed sequence (this will allow the web application and/or mobile application to respond dynamically based on the user's user type). If the activity receives a success response, the user's dashboard will then be loaded. If an unsuccessful message is received, the error sent through with the unsuccessful response will be displayed for the user. The user will then have to try login again.

### 3.2.2 Viewing their profile

This functionality is provided by both the mobile application and the web application. You (as the user) will navigate to the 'Profile' page profile by an option on the side navigation menu on the dashboard (home page). This will open the 'profile' page and display your information.

### 3.2.3 Updating their profile

This functionality is provided by both the mobile application and the web application. You (as the user) will navigate to the 'Profile' page by an option on the side navigational menu on the dashboard (home page). This will open the 'profile' page and display your information. You information can be edited by simply 'clicking' on the individual fields that the information is displayed in. 'Clicking' the 'save' button will send a request to the system containing the updated information. The system will begin the processing the information and save the necessary changes to the 'member' database. A response message will then be sent back to the mobile or web application indicating whether the processing was successful or not.

### 3.2.4 Viewing their submitted samples

This functionality is provided by both the mobile and web applications. You (as the user) will navigate to the 'Samples' option provided by the side navigational menu on the dashboard (home page). This will send a request to the system requesting the sample forms associated with the you. If no sample forms are found to be associated with the you, a response will be sent back to the mobile or web application indicating so. Otherwise, the found information will be sent in a response message to the web or mobile application. This information will then be displayed for you.

### 3.2.5 Logging out as an organization's member

To log out of the mobile application and/or web application, you will need to navigate to the side navigational menu on the dashboard and select to 'logout'. The mobile application or web application will then revert back to the main page and the user will be required to log in again in order to gain access.

### **3.3 Sample Processing**

- 3.3.1 Submitting a sample**
- 3.3.2 Canceling a sample's processing**
- 3.3.3 Initiating a sample's processing**
- 3.3.4 Confirming a samples allocation**
- 3.3.5 Completing a process**
- 3.3.6 Sending a diagnosis report**

## 4 Troubleshooting

All forms to be submitted have been designed to provide error checking on the input fields. If an input field has not been filled out, the system will detect this and inform the user. No form will be submitted unless all the required information has been provided.

In terms of any other errors that may occur, all errors are handled internally so that an appropriate message can be displayed on the screen indicating what the error/problem is and how it could possibly be resolved.