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# **UAH Fit Vault Documentation**

***Release 1.0***

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Contents:



## USER GUIDE

### Table of Contents

- User Guide
  - Overview
  - How-To

## 1.1 Overview

Here you can find all the documentation you will need to know how to do all the basic tasks that can be performed through the UAH Fit Vault user interface.

## 1.2 How-To

### 1.2.1 Account Management

Account management is a part of the system. Accounts may be created, deleted or edited. Follow the below TOC tree to find details on each action for each account.

Contents:

### Account Creation

### Table of Contents

- Account Creation
  - Physician Account
  - Experiment Admin Account
  - Patient Account
  - System Admin Account

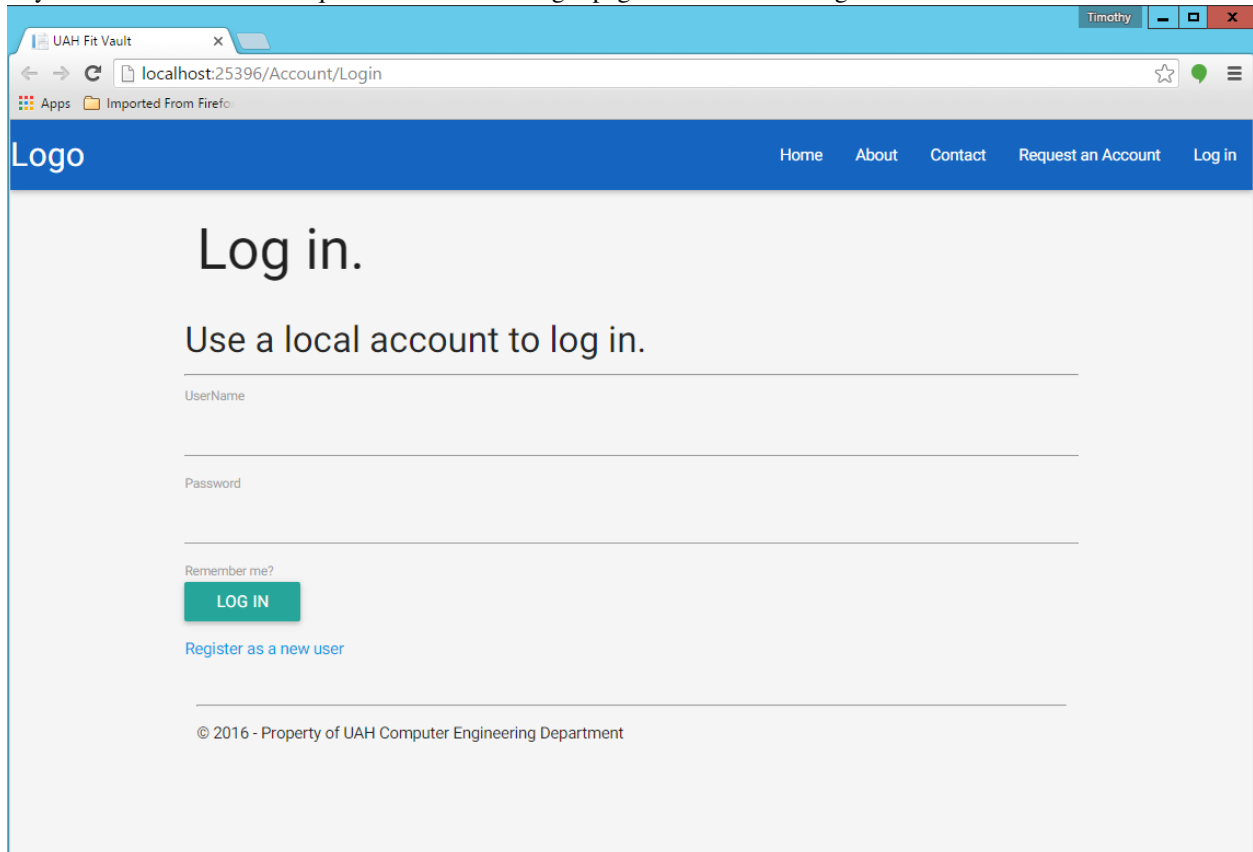
There are 4 types of accounts

- patient
- physician

- experiment admin
- system admin

## Physician Account

Physician accounts can be requested at the home/login page. Click on the “Register as a new user” button.

A screenshot of a web browser window showing the login page for 'UAH Fit Vault'. The browser's address bar shows 'localhost:25396/Account/Login'. The page has a blue header with the word 'Logo' on the left and navigation links 'Home', 'About', 'Contact', 'Request an Account', and 'Log in' on the right. The main content area is light gray and contains the text 'Log in.' followed by 'Use a local account to log in.' Below this are two input fields labeled 'UserName' and 'Password'. There is a 'Remember me?' checkbox and a green 'LOG IN' button. A link 'Register as a new user' is located below the login button. At the bottom of the page, it says '© 2016 - Property of UAH Computer Engineering Department'.

This will redirect you to a form to fill out for you new physician account.



UAH Fit Vault

localhost:25396/Account/RequestAccount

Logo

Home About Contact Request an Account Log in

# Request Account

Please select an Account Type for this Account

☐ Physician ☐ Experiment Administrator

First Name

Last Name

Email

Desired Username

Password

Confirm password

Address

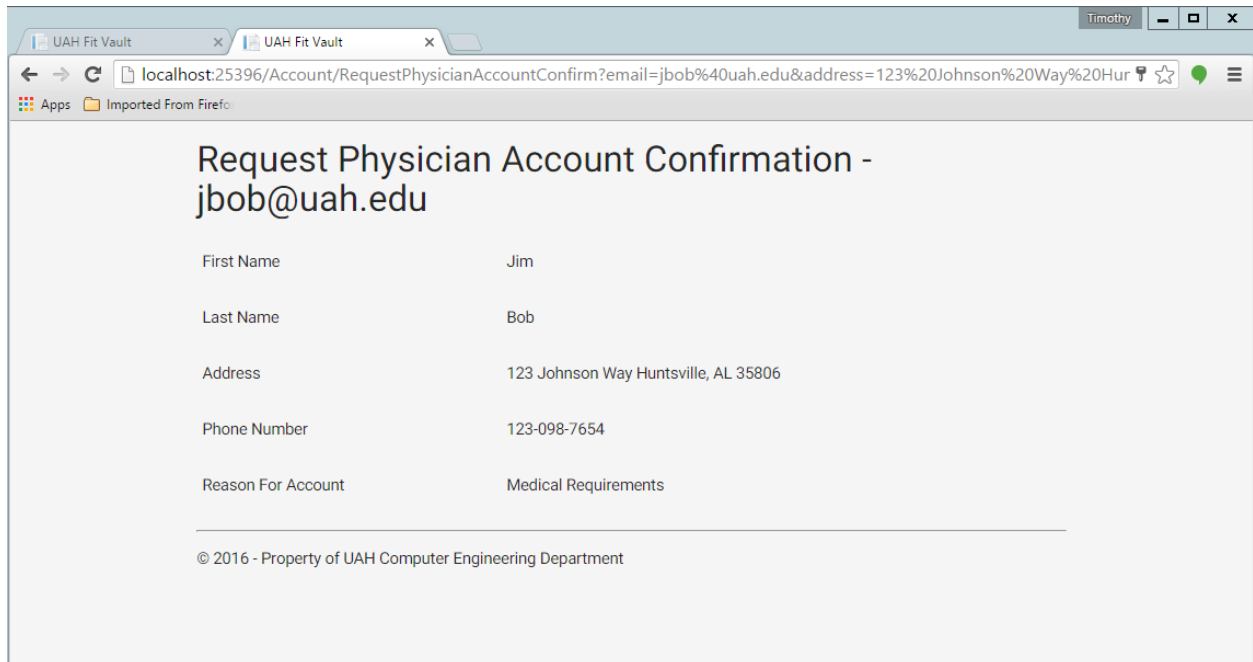
Phone Number

Reason For Account

REGISTER

Activate Windows  
Go to System in Control

Once you have filled this out with the appropriate information and selected the “Physician” radio button at the top, you are ready to submit your request. When you click submit you should be brought to a confirmation page.



You will not be able to login though until a system admin has approved your account.

### Experiment Admin Account

Experiment Admin accounts are created the same way as the physician accounts. Just make sure to select the “Experiment Administrator” radio button at the top of the request account page instead of the “Physician” radio button.

UAH Fit Vault

localhost:25396/Account/RequestAccount

Logo

Home About Contact Request an Account Log in

# Request Account

Please select an Account Type for this Account

☐ Physician ☐ Experiment Administrator

First Name

Last Name

Email

Desired Username

Password

Confirm password

Address

Phone Number

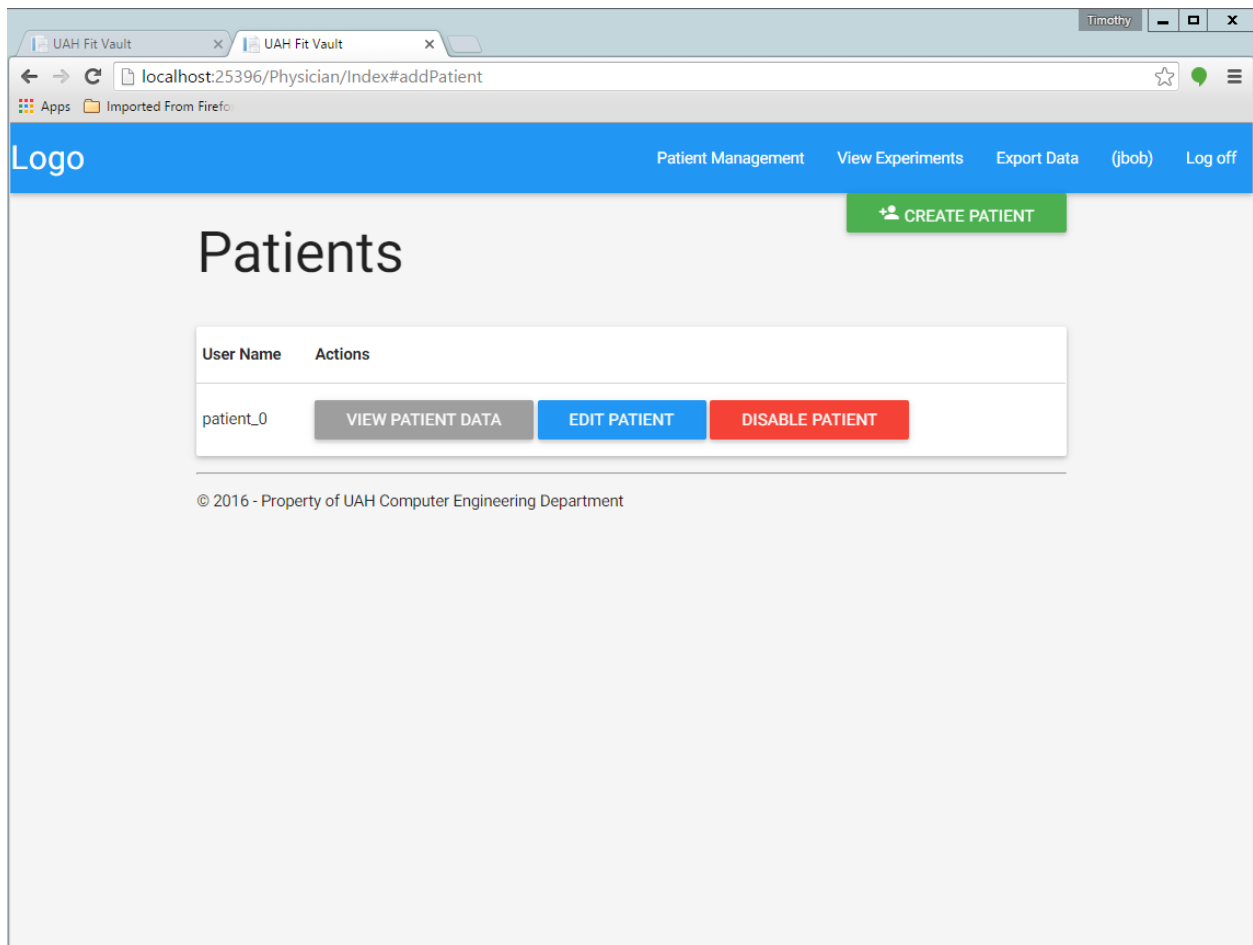
Reason For Account

REGISTER

Activate Windows  
Go to System in Control

## Patient Account

Patient accounts can only be created by their physician. From the physician account's home page click the "CREATE PATIENT" button at the top right of the screen.



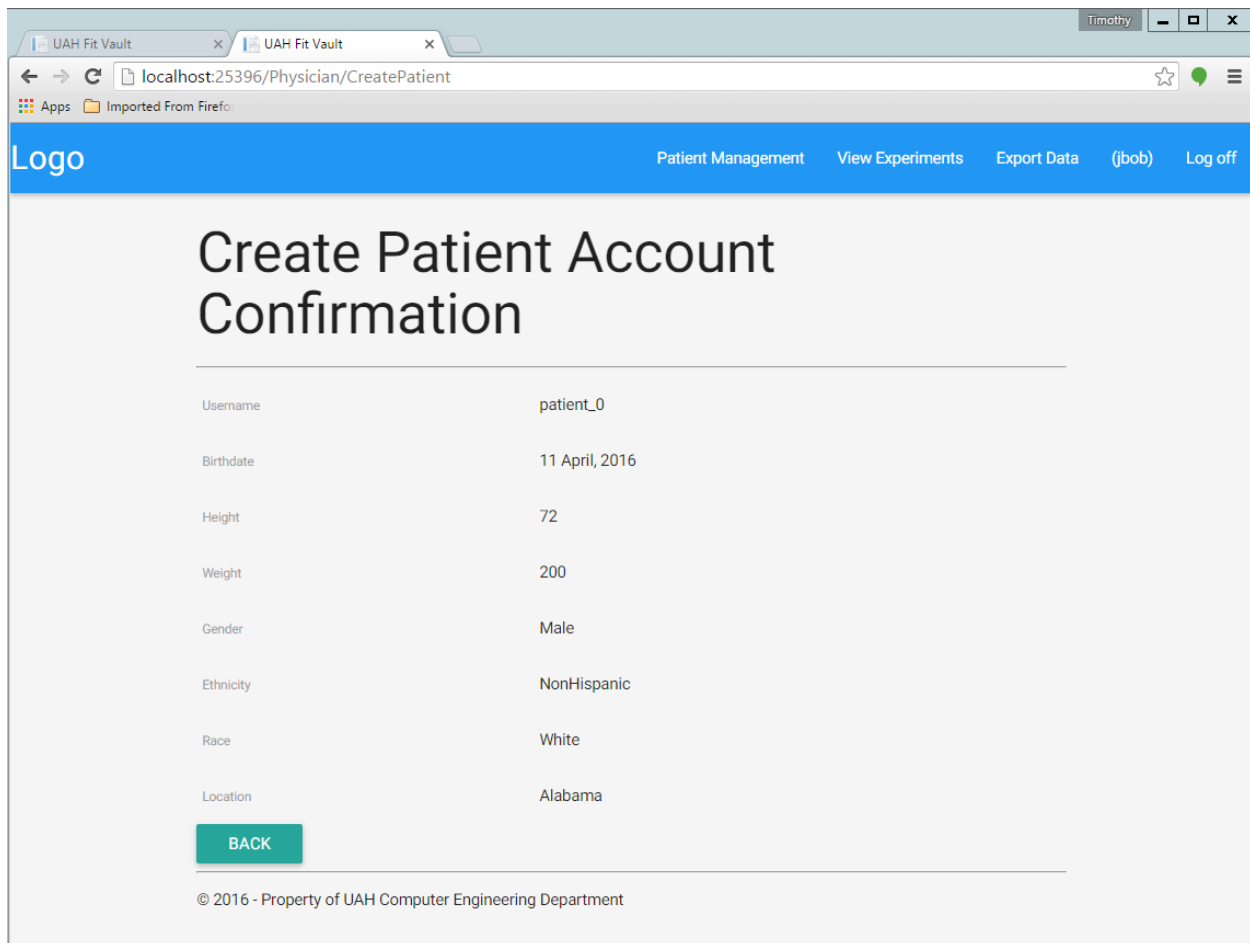
A popup form should come up with all the information needed to create a patient account.

The screenshot displays the UAH Fit Vault web application interface. A modal window titled "Patient Creation Form" is centered on the screen. The form contains the following fields:

- User Name:
- Password:
- Birthdate:
- Location:
- Weight (lbs):
- Height (inches):

The background shows the application's navigation bar with the following links: Patient Management, View Experiments, Export Data, (jbob), and Log off. The application is running on a local host at localhost:25396/Physician/Index.

After all the information has been filled out, you can click the submit button. If everything worked, you should get a confirmation page.



The screenshot shows a web browser window with two tabs labeled 'UAH Fit Vault'. The address bar shows 'localhost:25396/Physician/CreatePatient'. The page has a blue header with a 'Logo' on the left and navigation links 'Patient Management', 'View Experiments', 'Export Data', '(jbob)', and 'Log off' on the right. The main content area is titled 'Create Patient Account Confirmation'. Below the title is a table with the following data:

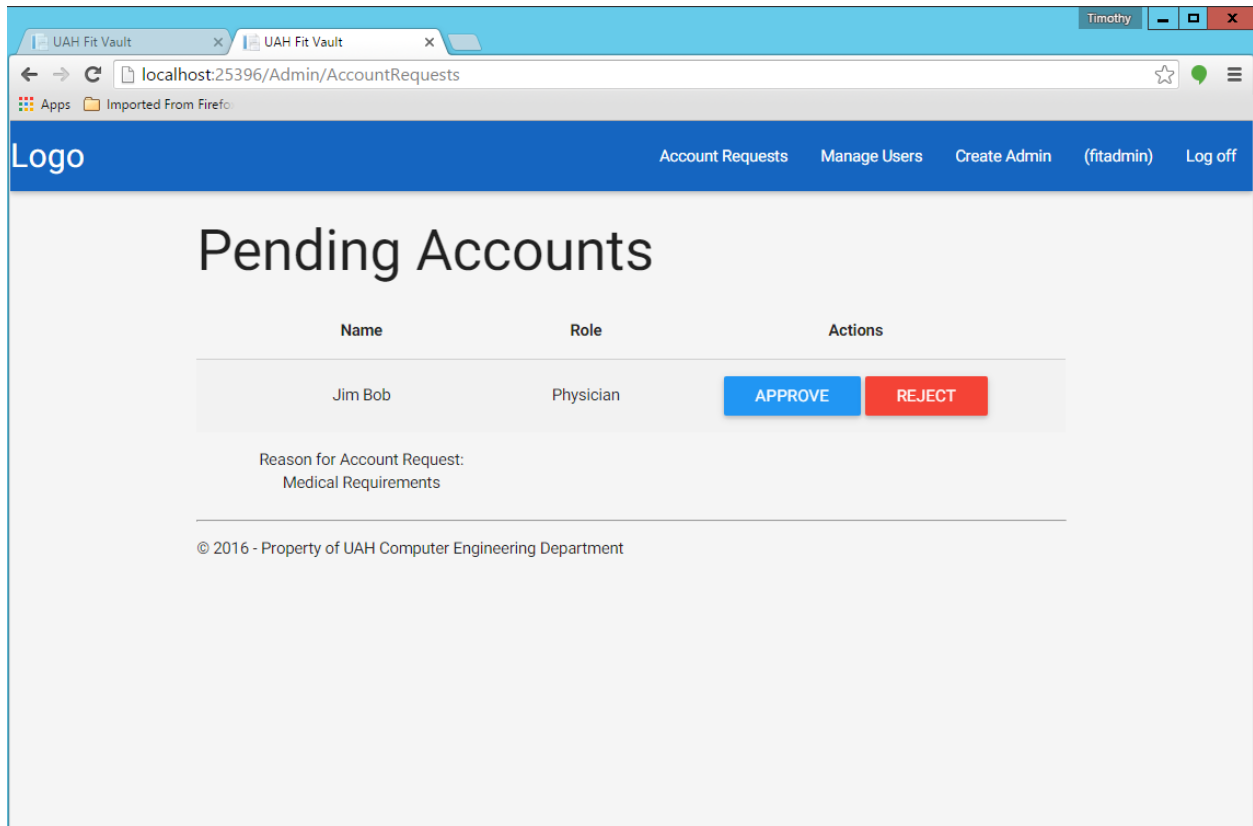
Username	patient_0
Birthdate	11 April, 2016
Height	72
Weight	200
Gender	Male
Ethnicity	NonHispanic
Race	White
Location	Alabama

Below the table is a green button labeled 'BACK'. At the bottom of the page, there is a copyright notice: '© 2016 - Property of UAH Computer Engineering Department'.

## System Admin Account

UAHFitVault comes with a system administrator pre-configured. The username is 'fitadmin' and the password is 'Password1!'. We recommend changing this after the installation before the server is made publicly available.

New System Admin accounts can be created by other System Admin accounts. From the System Admin account home page, click the "Create Admin" button at the top right corner of the screen.

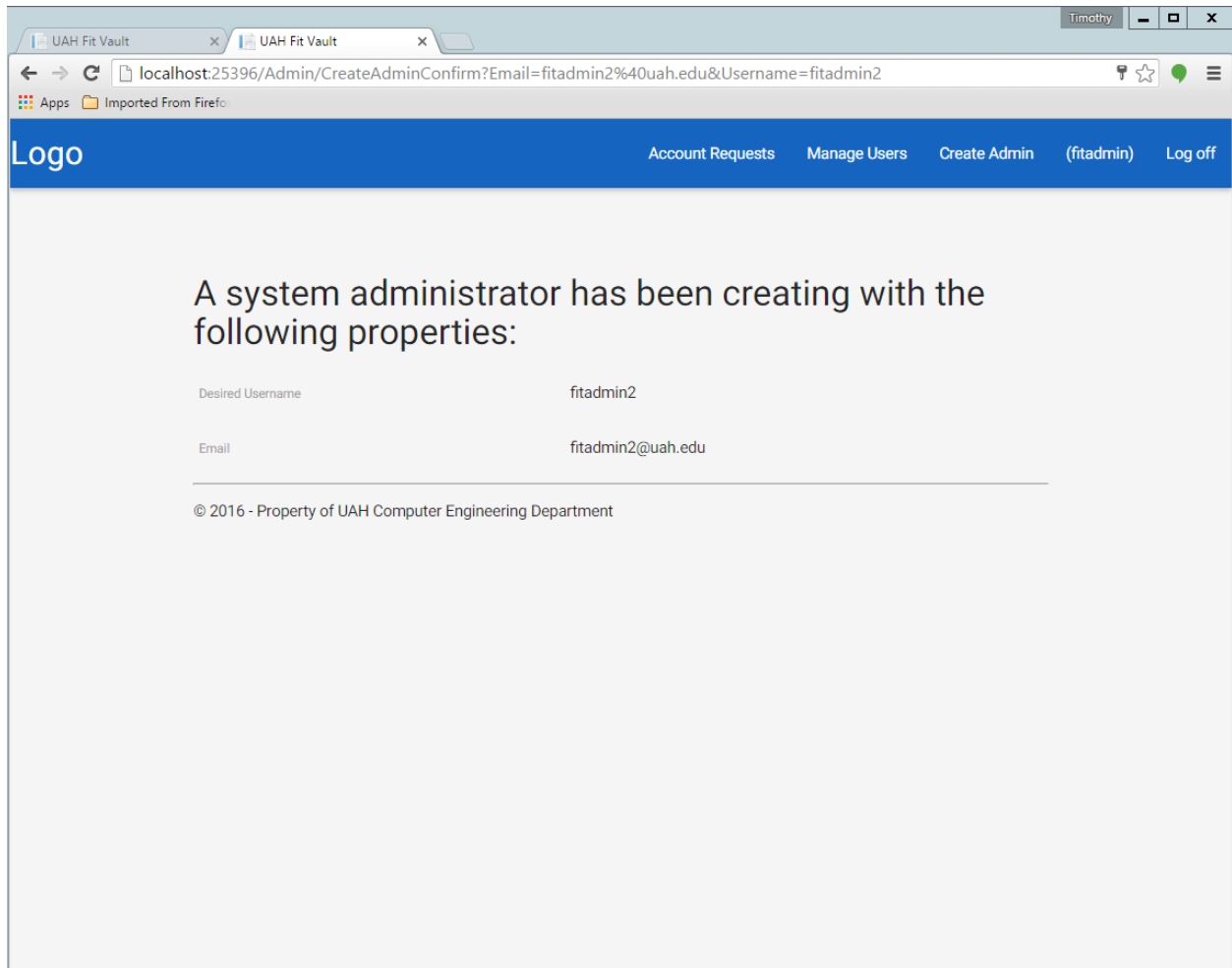


You will be presented with a form to fill out for the system admin account information.

The screenshot shows a web browser window with two tabs, both labeled 'UAH Fit Vault'. The address bar shows 'localhost:25396/Admin/CreateAdmin'. The browser's toolbar includes back, forward, and refresh buttons, along with a star icon for bookmarks and a green speech bubble icon. Below the toolbar, there are links for 'Apps' and 'Imported From Firefo...'. The page has a blue header bar with a 'Logo' on the left and navigation links on the right: 'Account Requests', 'Manage Users', 'Create Admin', '(fitadmin)', and 'Log off'. The main content area is light gray and features the title 'Create System Administrator' in a large, bold, black font. Below the title, there are four input fields with labels to their left: 'Desired Username', 'Password', 'Confirm password', and 'Email'. Each input field is represented by a horizontal line. Below these fields is a green button with the text 'CREATE' in white. At the bottom of the form, there is a copyright notice: '© 2016 - Property of UAH Computer Engineering Department'.

Once the form is filled out and you click the create button, you should get a confirmation page.





## Account Approval

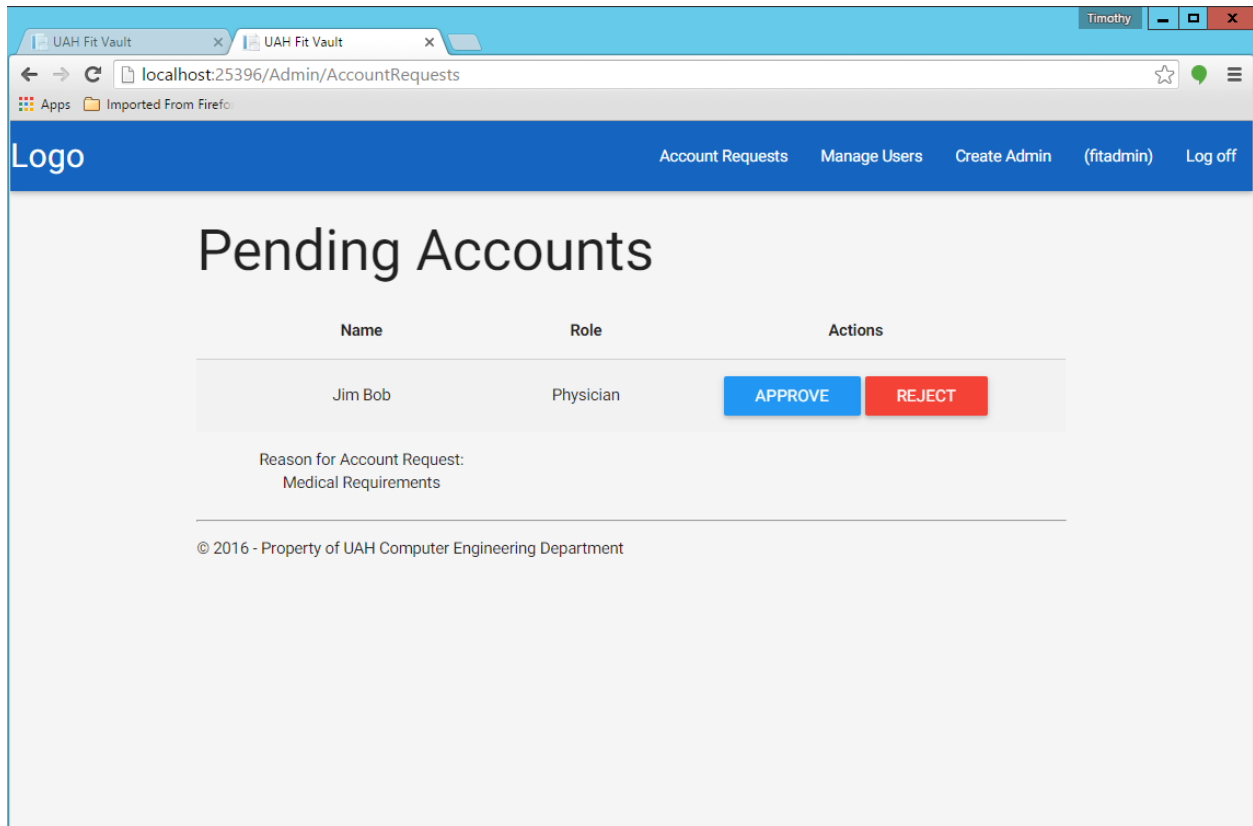
### Table of Contents

- [Account Approval](#)

There are 2 types of accounts that need approval:

- physician
- experiment admin

To approve an account, login with your system administrator credentials. Then, click on the “Account Requests” button at the top right of the page. This should bring you to a page that looks like this:



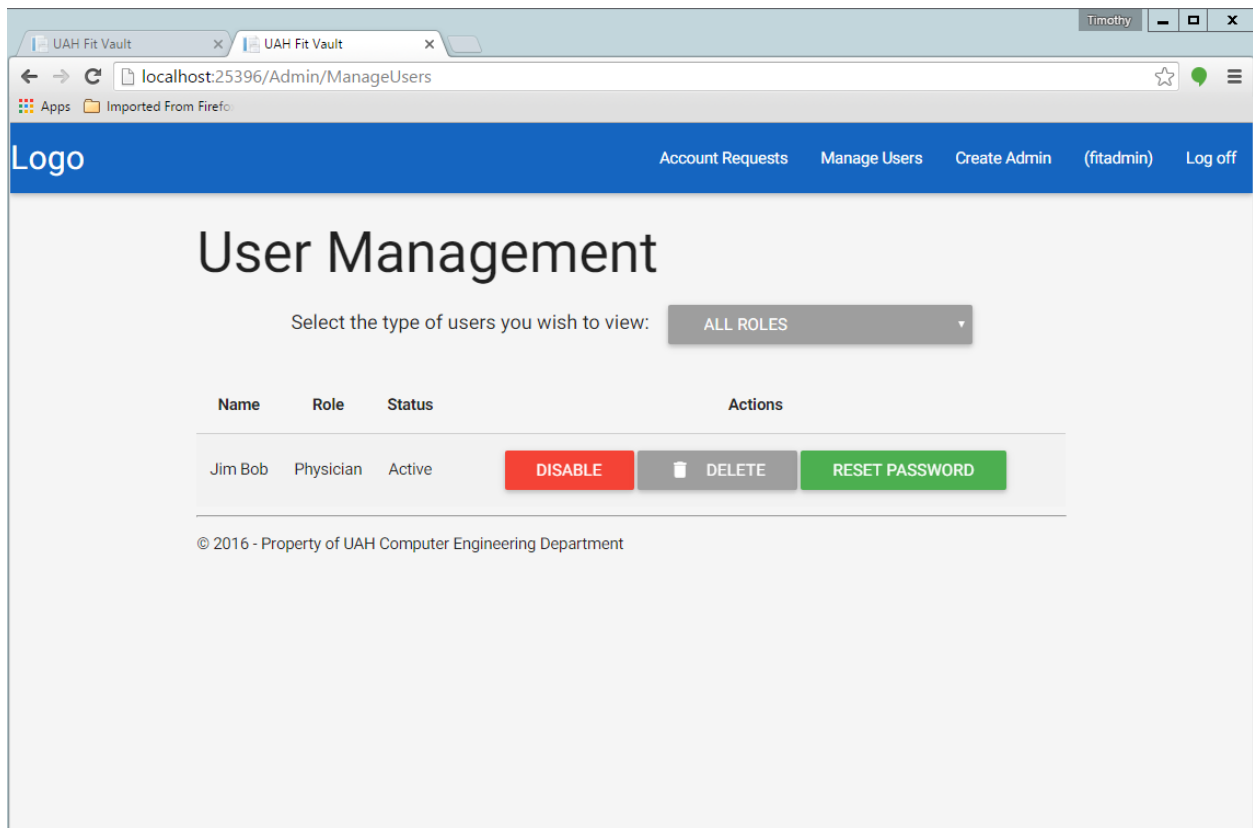
You can then click on the “APPROVE” or “REJECT” button for the corresponding account you wish to approve or reject.

## Account Deletion

### Table of Contents

- [Account Deletion](#)

Accounts can only be deleted by the System Administrator. Login as the system admin and click the “Manage Users” button at the top right corner of the screen. You should be taken to a page like the one below:



From here you can use the roles filter to help you find the account to delete. Just click the “Delete” button that corresponds to the account you wish to delete. If the delete worked the account should disappear from the list.

## Account Editing

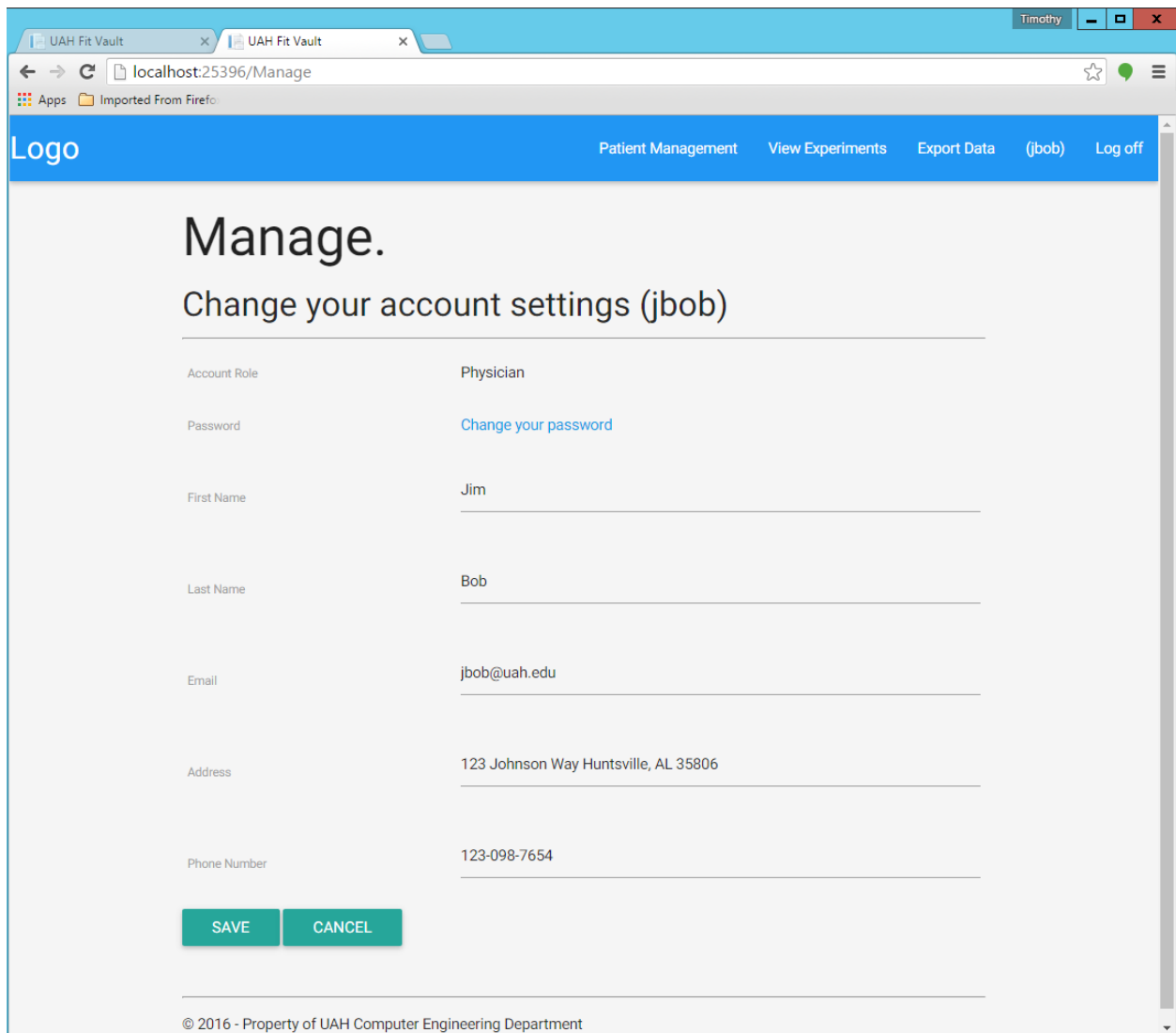
### Table of Contents

- Account Editing
  - Physician Account
  - Experiment Admin Account
  - Patient Account
    - \* Using Physician
    - \* Using Patient
  - System Admin Account

Users have the ability to edit their account information.

### Physician Account

To edit a physician account, you must be logged in as the physician. After login, click on the username at the top right corner of the screen. You should be taken to a page like below:



The screenshot shows a web browser window with two tabs labeled 'UAH Fit Vault'. The address bar shows 'localhost:25396/Manage'. The page has a blue header with a 'Logo' on the left and navigation links 'Patient Management', 'View Experiments', 'Export Data', '(jbob)', and 'Log off' on the right. The main content area is titled 'Manage.' and 'Change your account settings (jbob)'. It contains a form with the following fields and values:

Account Role	Physician
Password	<a href="#">Change your password</a>
First Name	Jim
Last Name	Bob
Email	jbob@uah.edu
Address	123 Johnson Way Huntsville, AL 35806
Phone Number	123-098-7654

At the bottom of the form are two buttons: 'SAVE' and 'CANCEL'. Below the buttons is a copyright notice: '© 2016 - Property of UAH Computer Engineering Department'.

After you edit the information you wish to edit, click the “save” button at the bottom. You should be taken to a confirmation page like this:

UAH Fit Vault

localhost:25396/Manage/UpdateUser

Logo Patient Management View Experiments Export Data (jbob) Log off

## Confirm Update User

Please confirm you wish to update your (jbob) settings to the following:

First Name	Jim
Last Name	Bobb
Address	123 Johnson Way Huntsville, AL 35806
Email	<a href="mailto:jbob@uah.edu">jbob@uah.edu</a>
Phone Number	123-098-7654

CONFIRM CANCEL

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Click “Confirm” and your changes will be saved.

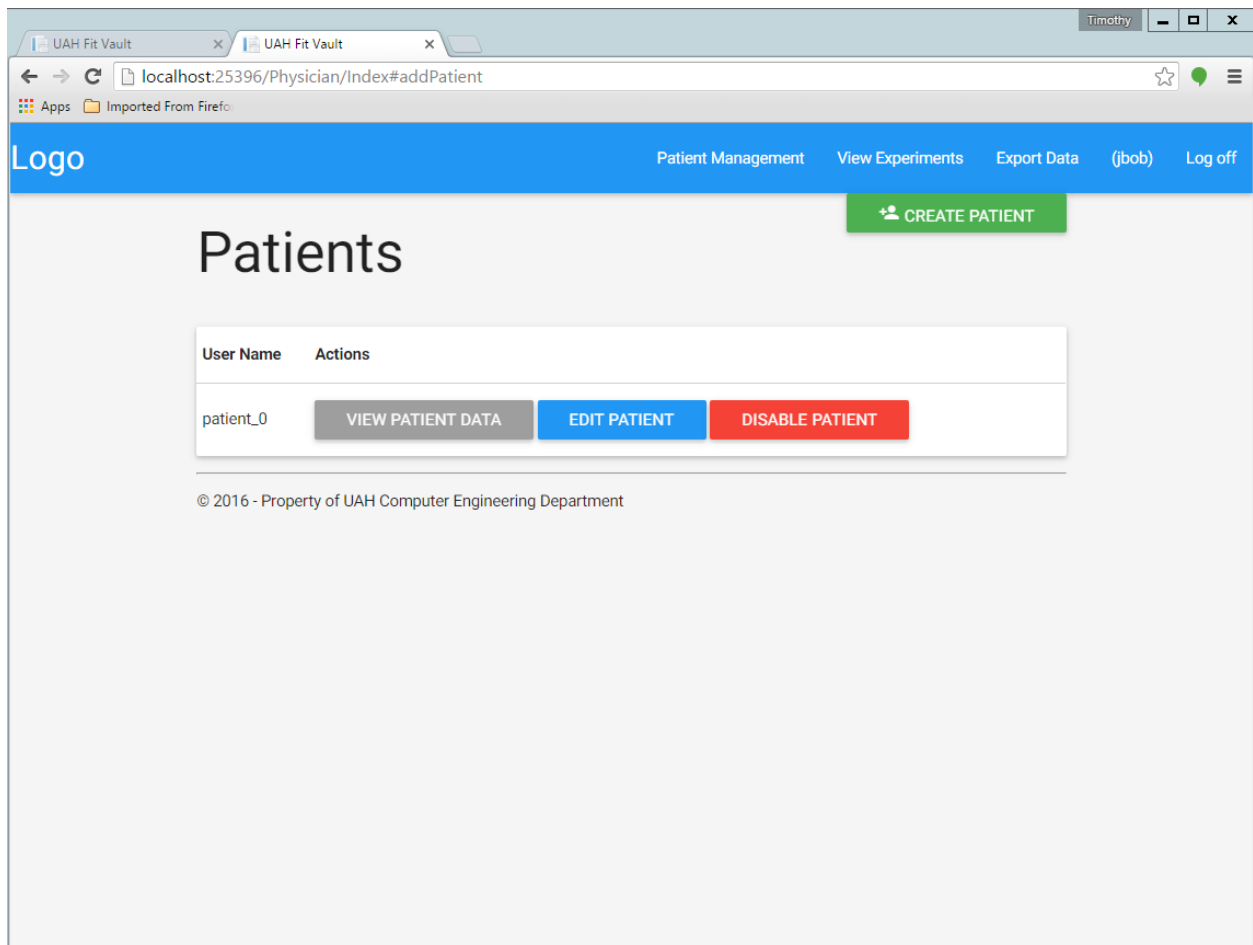
### Experiment Admin Account

Editing an Experiment Admin account is exactly the same as editing a *Physician* account.

### Patient Account

Patient accounts can be edited by either the patient or the patient’s physician.

**Using Physician** To edit it using a physician, login using the physician’s credentials then click on the “Patient Management” button at the top right corner of the page. You should then be taken to a page that looks like this:



Then click on the “EDIT PATIENT” button for the corresponding patient you want to edit. This will bring you to the following page:

The screenshot shows a web browser window with the URL `localhost:25396/Physician/EditPatient?username=patient_0`. The page has a blue header with a 'Logo' and navigation links: 'Patient Management', 'View Experiments', 'Export Data', '(jbob)', and 'Log off'. The main content area is titled 'Editing patient details for user: *patient\_0*'. It contains a 'Password' section with a 'RESET PASSWORD' button. Below this are input fields for 'Birthdate' (11 April, 2016), 'Weight (lbs)' (200), and 'Height (inches)' (72). There are also radio button groups for 'Gender' (Male selected, Female unselected), 'Race' (AmericanIndian, Asian, Black, Hawaiian, White selected, Other unselected), and 'Ethnicity' (Non-Hispanic selected, Hispanic unselected). A 'Location' dropdown menu is set to 'Alabama'. At the bottom of the form are 'UPDATE' and 'CANCEL' buttons. A footer note states '© 2016 - Property of UAH Computer Engineering Department'.

Use the form to edit any of the information you want to change. Then click on the “UPDATE” button.

**Using Patient** To edit it using a patient, login using the patient’s credentials then click on your patient user name at the top right corner of the page. You should be brought to a page like this:

The screenshot shows a web browser window with the URL `localhost:25396/Manage`. The page has a blue header with a 'Logo' and navigation links: 'View Data', 'Upload Data', 'Export Data', '(patient\_0)', and 'Log off'. The main content area is titled 'Manage. Change your account settings (patient\_0)'. Below the title is a form with the following fields:

- Account Role:** Patient
- Password:** Change your password (link)
- Birthdate:** 11 April, 2016
- Weight:** 200
- Height:** 72
- Gender:** ☒ Male, ☐ Female
- Race:** ☐ AmericanIndian, ☐ Asian, ☐ Black, ☐ Hawaiian, ☒ White, ☐ Other
- Ethnicity:** ☒ NonHispanic, ☐ Hispanic
- Location:** Alabama (dropdown menu)

At the bottom of the form are two buttons: 'SAVE' and 'CANCEL'. Below the form is a footer that reads: '© 2016 - Property of UAH Computer Engineering Department'.

Then fill out the form with any information you want to edit and click the “SAVE” button.

## System Admin Account

To edit a System Admin account login as the system admin; then, click on the username at the top right corner of the page. This should bring you to a page that looks like this:



You can then use the form to edit any information you need for the system admin account. Then click the “SAVE” button to save your changes.

## 1.2.2 Experiment Management

Contents:

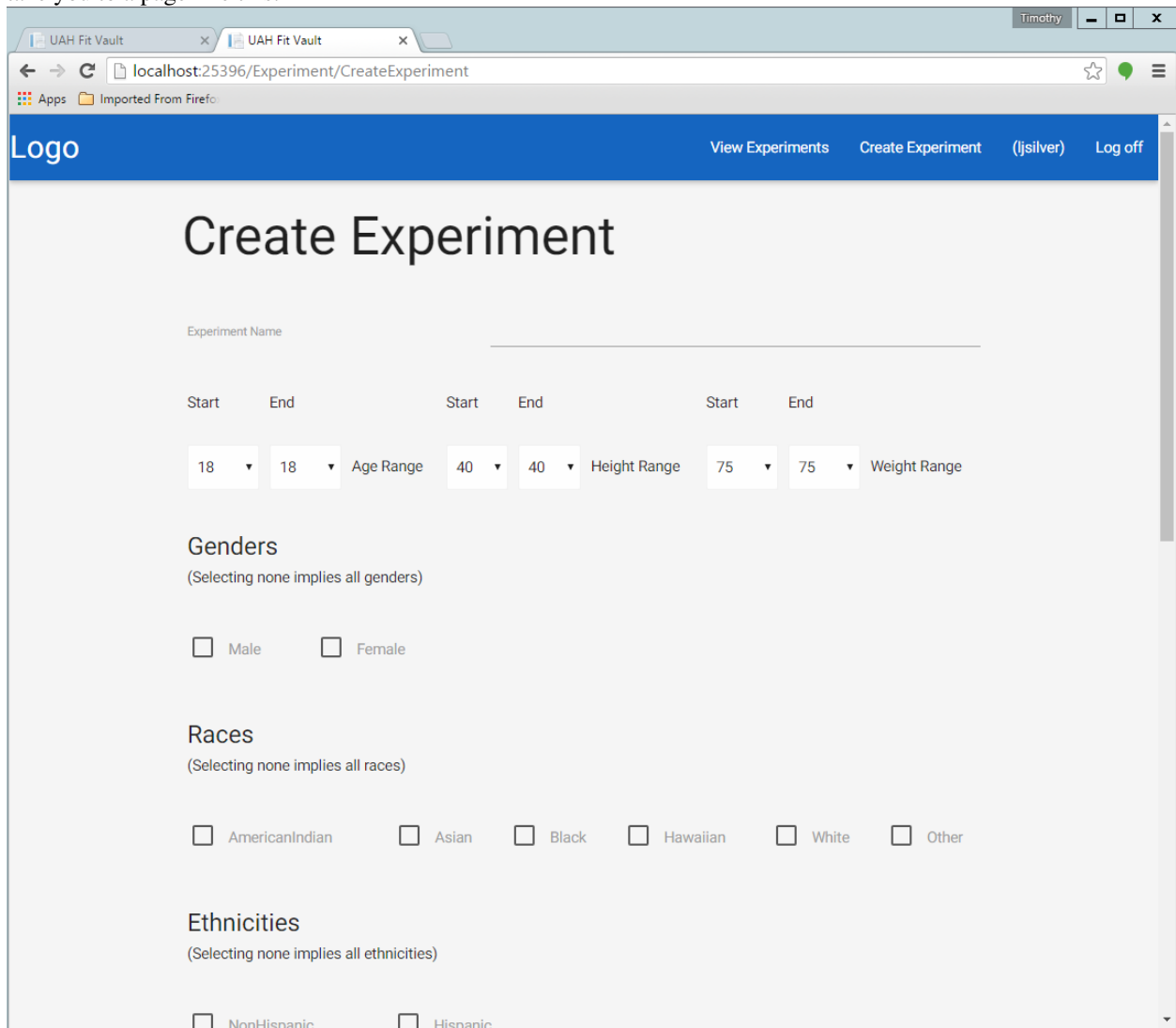
### Experiment Creation

#### Table of Contents

- [Experiment Creation](#)

Experiments can be created by an Experiment Admin. To create an experiment go to the home page and login with your experiment admin credentials. Click on the “Create Experiment” button at the top right of the screen. This should

take you to a page like this:



The screenshot shows a web browser window with two tabs labeled 'UAH Fit Vault'. The address bar shows 'localhost:25396/Experiment/CreateExperiment'. The browser's address bar also shows 'Apps' and 'Imported From Firefox'. The page has a blue header bar with a 'Logo' on the left and navigation links 'View Experiments', 'Create Experiment', '(ljsilver)', and 'Log off' on the right. The main content area is titled 'Create Experiment' and contains the following form fields:

- Experiment Name:** A text input field.
- Start/End Dates:** Three pairs of date pickers labeled 'Start' and 'End'.
- Age Range:** Two dropdown menus with values '18' and '18'.
- Height Range:** Two dropdown menus with values '40' and '40'.
- Weight Range:** Two dropdown menus with values '75' and '75'.
- Genders:** A section titled 'Genders' with the note '(Selecting none implies all genders)'. It contains two checkboxes: 'Male' and 'Female'.
- Races:** A section titled 'Races' with the note '(Selecting none implies all races)'. It contains six checkboxes: 'AmericanIndian', 'Asian', 'Black', 'Hawaiian', 'White', and 'Other'.
- Ethnicities:** A section titled 'Ethnicities' with the note '(Selecting none implies all ethnicities)'. It contains two checkboxes: 'NonHispanic' and 'Hispanic'.

UAH Fit Vault

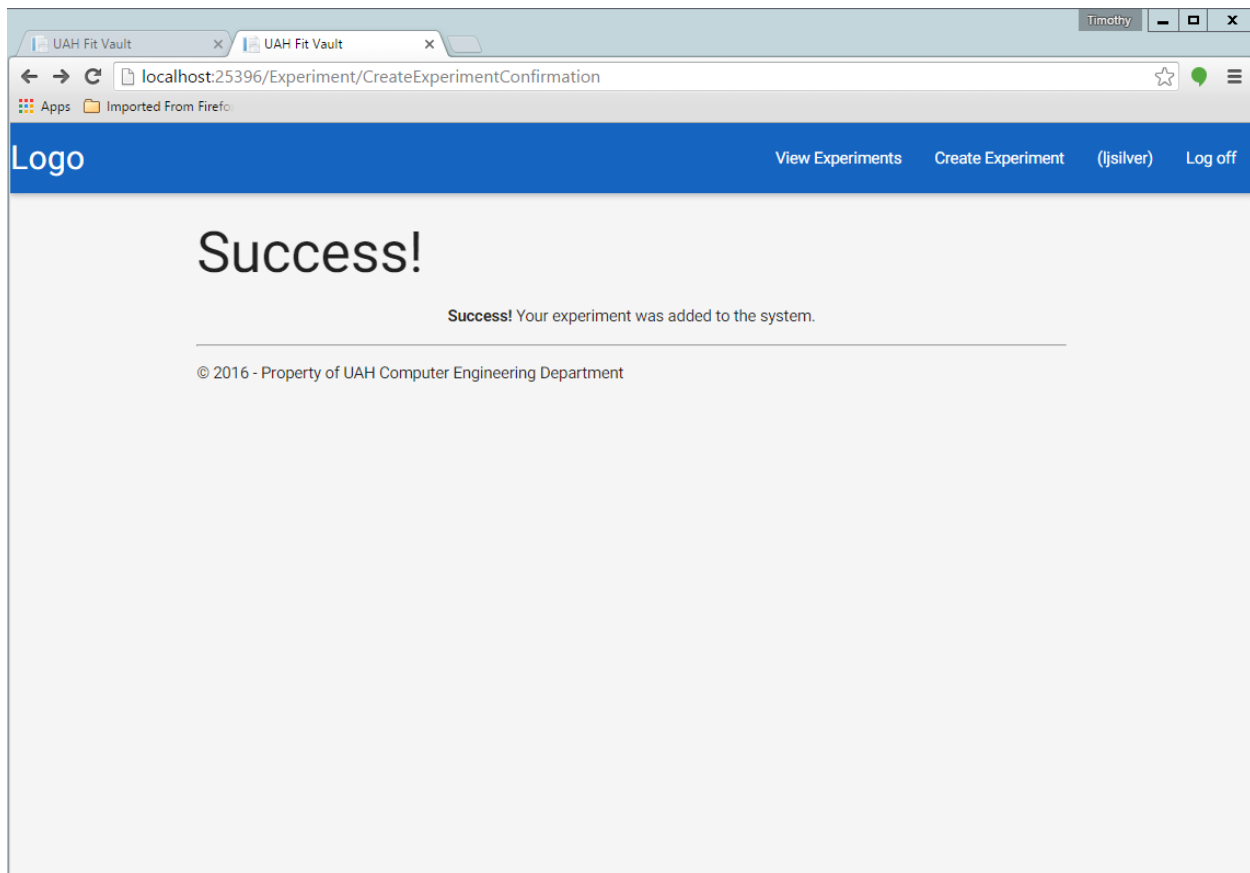
localhost:25396/Experiment/CreateExperiment

(Selecting none implies all locations)

<input type="checkbox"/> Alabama	<input type="checkbox"/> Alaska	<input type="checkbox"/> AmericanSamoa	<input type="checkbox"/> Arizona	<input type="checkbox"/> Arkansas
<input type="checkbox"/> California	<input type="checkbox"/> Colorado	<input type="checkbox"/> Connecticut	<input type="checkbox"/> DistrictOfColumbia	<input type="checkbox"/> Delaware
<input type="checkbox"/> Florida	<input type="checkbox"/> Georgia	<input type="checkbox"/> Guam	<input type="checkbox"/> Hawaii	<input type="checkbox"/> Idaho
<input type="checkbox"/> Illinois	<input type="checkbox"/> Indiana	<input type="checkbox"/> Iowa	<input type="checkbox"/> Kansas	<input type="checkbox"/> Kentucky
<input type="checkbox"/> Louisiana	<input type="checkbox"/> Maine	<input type="checkbox"/> Maryland	<input type="checkbox"/> Massachusetts	<input type="checkbox"/> Michigan
<input type="checkbox"/> Minnesota	<input type="checkbox"/> Mississippi	<input type="checkbox"/> Missouri	<input type="checkbox"/> Montana	<input type="checkbox"/> Nebraska
<input type="checkbox"/> Nevada	<input type="checkbox"/> NewHampshire	<input type="checkbox"/> NewJersey	<input type="checkbox"/> NewMexico	<input type="checkbox"/> NewYork
<input type="checkbox"/> NorthCarolina	<input type="checkbox"/> NorthMarianasIslands	<input type="checkbox"/> NorthDakota	<input type="checkbox"/> Ohio	<input type="checkbox"/> Oklahoma
<input type="checkbox"/> Oregon	<input type="checkbox"/> Pennsylvania	<input type="checkbox"/> PuertoRico	<input type="checkbox"/> RhodeIsland	<input type="checkbox"/> SouthCarolina
<input type="checkbox"/> SouthDakota	<input type="checkbox"/> Tennessee	<input type="checkbox"/> Texas	<input type="checkbox"/> Utah	<input type="checkbox"/> Vermont
<input type="checkbox"/> Virginia	<input type="checkbox"/> VirginIslands	<input type="checkbox"/> Washington	<input type="checkbox"/> WestVirginia	<input type="checkbox"/> Wisconsin
<input type="checkbox"/> Wyoming	<input type="checkbox"/> EuropeanUnion	<input type="checkbox"/> EasternEurope	<input type="checkbox"/> Africa	<input type="checkbox"/> SouthAmerica
<input type="checkbox"/> CentralAmerica	<input type="checkbox"/> Asia	<input type="checkbox"/> Oceania	<input type="checkbox"/> NorthAmerica	<input type="checkbox"/> Caribbean

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You can then fill out information that will filter out patients for your experiment. Once you have filled out the form completely to your liking, click the “SUBMIT” button at the bottom of the form. If everything worked right, you should be presented with a confirmation page like this:



### Experiment View

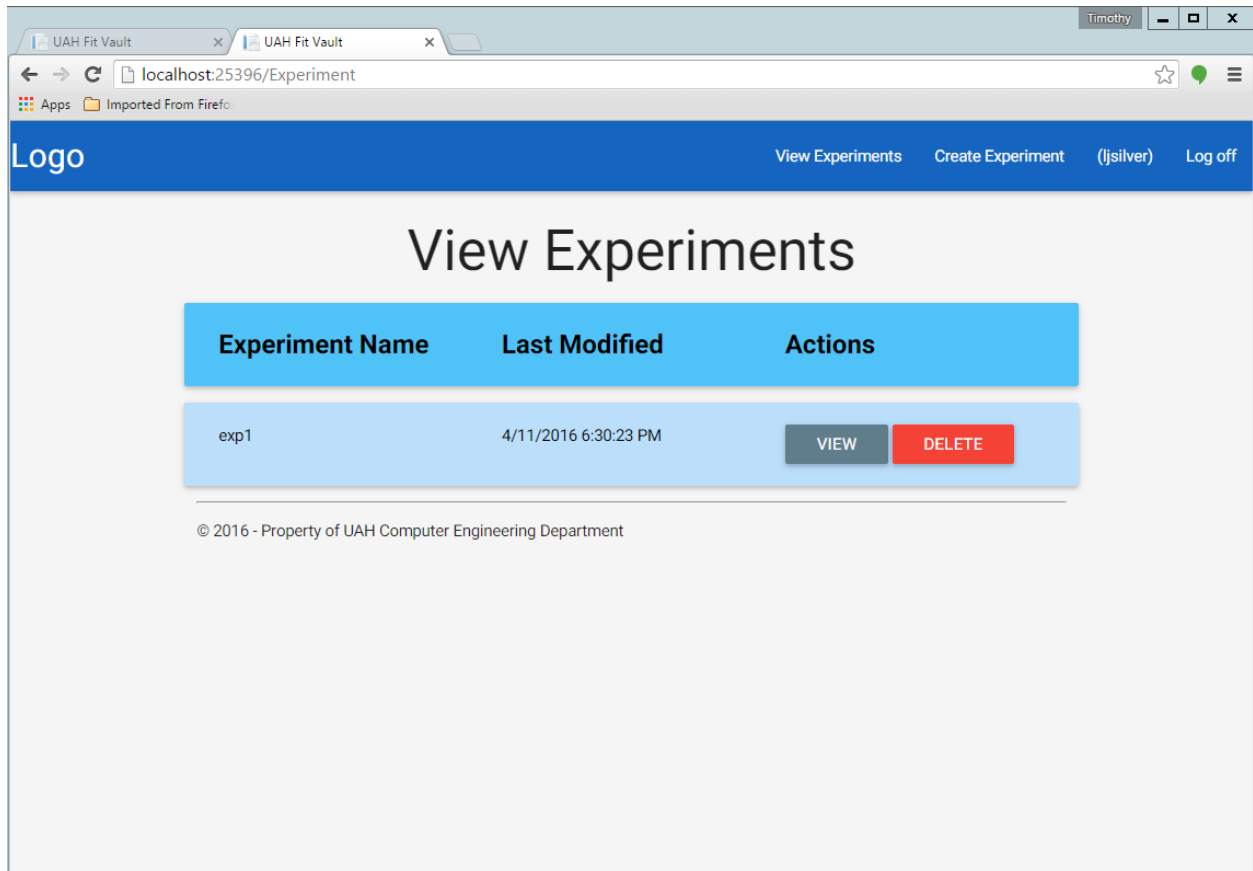
#### Table of Contents

- [Experiment View](#)
  - [Experiment Admin](#)
  - [Physicians](#)

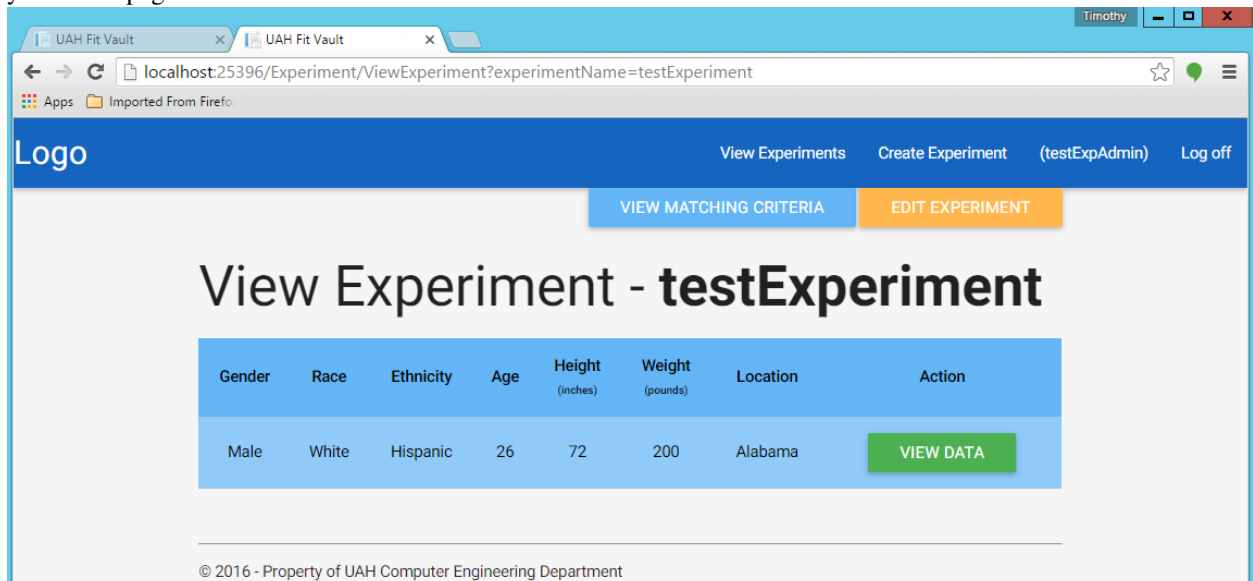
Both Physicians and Experiment Admins can view experiments.

### Experiment Admin

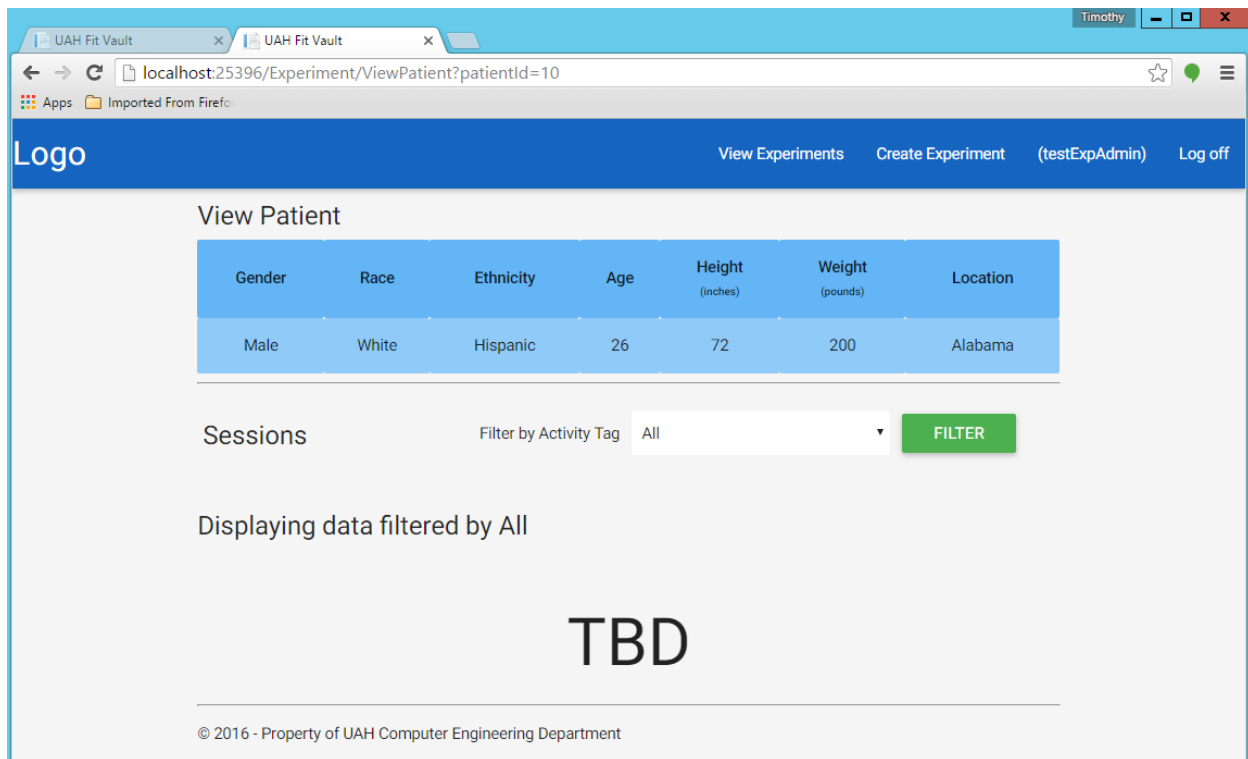
Once an experiment has been created, login with your experiment admin credentials and click on the “View Experiment” button at the top right corner of the page. You should be taken to a page that looks like this:



You can then click on the “VIEW” button of the corresponding experiment you want to view. Then this should take you to a page that looks like this:

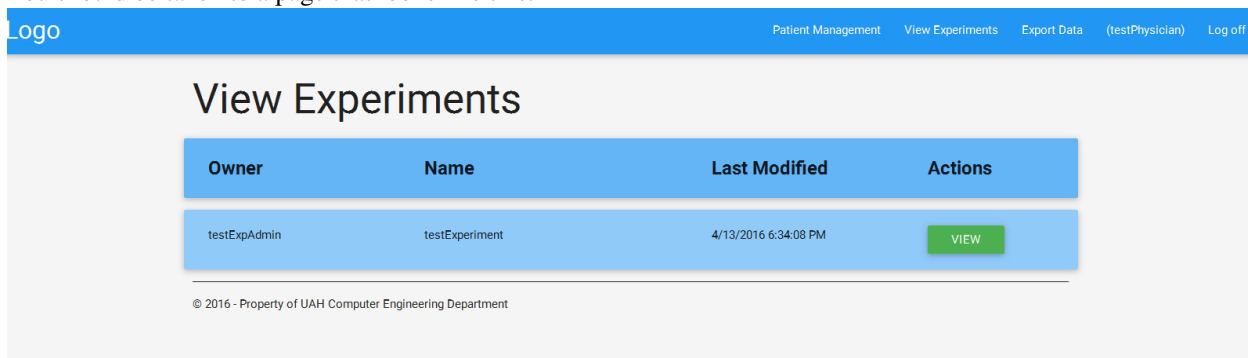


You can now view the data for all the patients that fit into the experiment:



## Physicians

Login with your physician credentials and click the “View Experiments” button at the top right corner of the page. You should be taken to a page that looks like this:



You can then click on the green “VIEW” button to the corresponding experiment you want to view. This should take you to a page that looks like this:

Logo
Patient Management
View Experiments
Export Data
(testPhysician)
Log off

VIEW MATCHING CRITERIA

## View Experiment - testExperiment

Gender	Race	Ethnicity	Age	Height (inches)	Weight (pounds)	Location	Action
Male	White	Hispanic	26	72	200	Alabama	VIEW DATA

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You can now view the data for all the patients that fit into the experiment:

Logo
Patient Management
View Experiments
Export Data
(testPhysician)
Log off

### View Patient

Gender	Race	Ethnicity	Age	Height (inches)	Weight (pounds)	Location
Male	White	Hispanic	26	72	200	Alabama

Sessions

Filter by Activity Tag

Displaying data filtered by All

## Patient Data

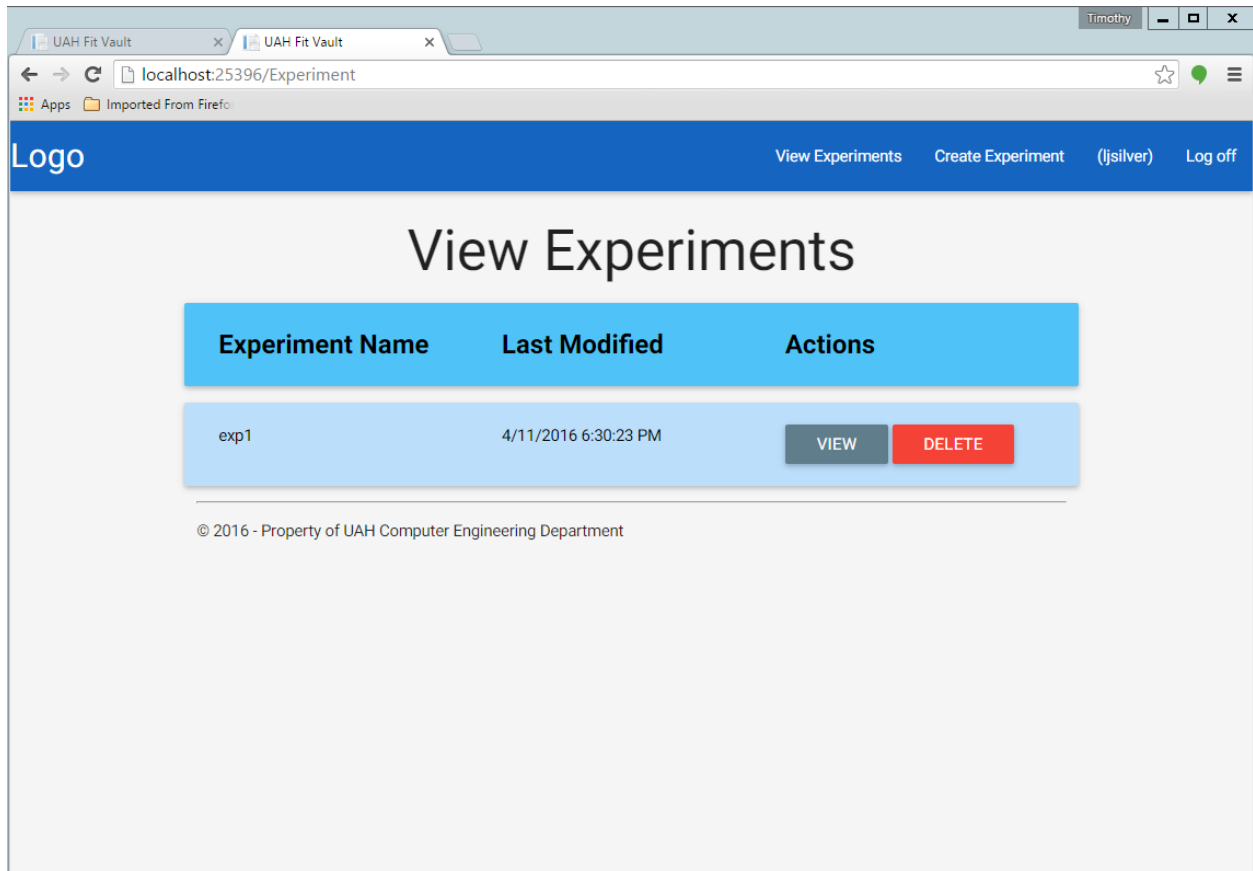
© 2016 - Property of UAH Computer Engineering Department

## Experiment Deletion

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- [Experiment Deletion](#)

Only an Experiment Admin can delete experiments. To do this, simply login with your Experiment Admin credentials, and click on the “View Experiments” button at the top right corner of the page. This should take you to a page that looks like this:



You can then click on the “DELETE” button of the corresponding experiment you want to delete.

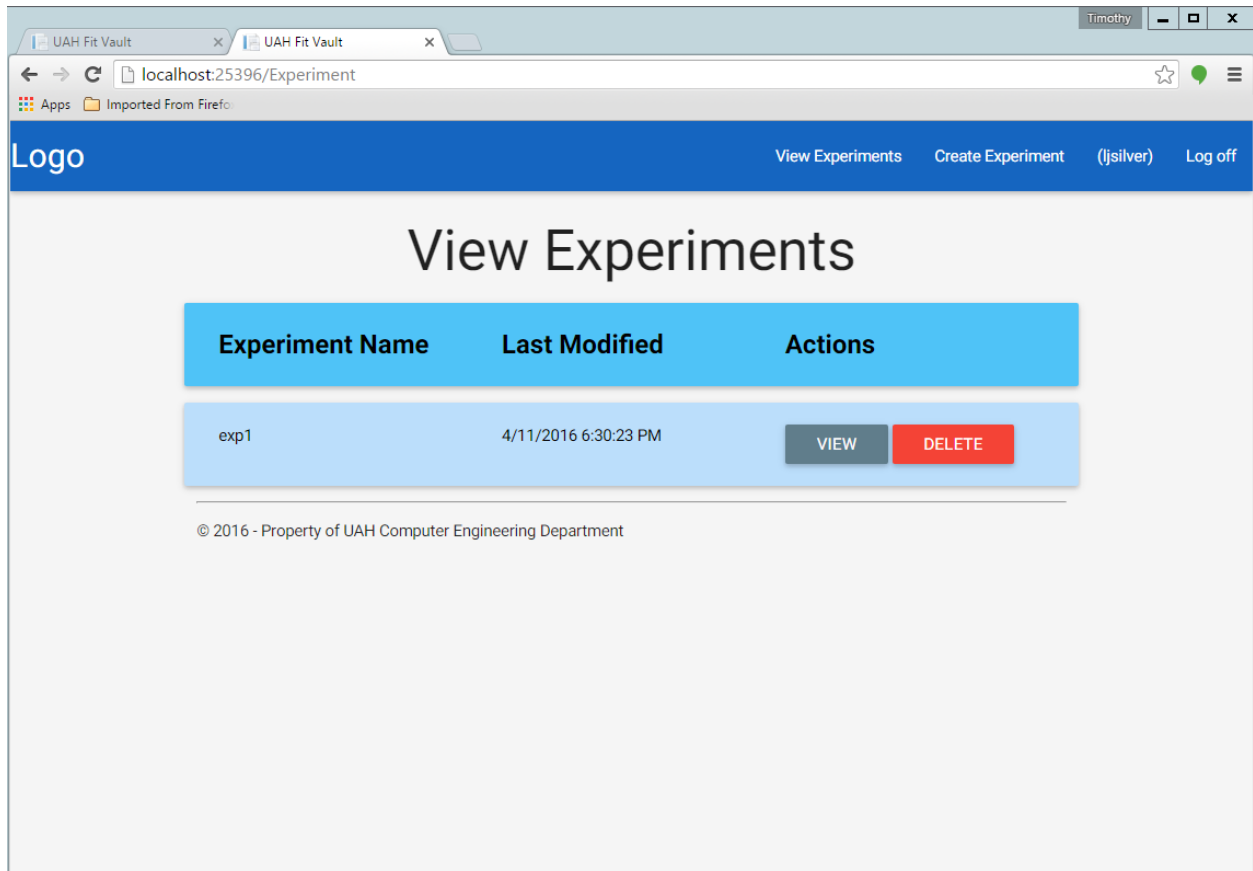
## Experiment Exportation

### Table of Contents

- [Experiment Exportation](#)

An Experiment Admin can export experiment data. Login as an experiment administrator. Then click on the “View Experiment” button.





You should then see existing experiments. Click on the “View” button for the experiment you want to export. You should see the following page:

UAH Fit Vault

View Experiments Create Experiment (testExpAdmin) Log off

VIEW MATCHING CRITERIA EDIT EXPERIMENT

## View Experiment - test\_experiment

Gender	Race	Ethnicity	Age	Height (inches)	Weight (pounds)	Location	Action
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA
Male	White	NonHispanic	62	72	200	Alabama	VIEW DATA

Next click on the “View Data” button for the account you want to download data from. You should see a page that looks like this:

The screenshot shows the UAH Fit Vault web application interface. At the top, there's a navigation bar with the UAH Fit Vault logo and links for 'View Experiments', 'Create Experiment', '(testExpAdmin)', and 'Log off'. Below this, the 'View Patient' section displays a table with patient information:

Gender	Race	Ethnicity	Age	Height (inches)	Weight (pounds)	Location
Male	White	NonHispanic	62	72	200	Alabama

Below the patient information, the 'Sessions' section is visible. It includes a 'Filter by Activity Tag' dropdown set to 'All' and a 'FILTER' button. The main content area displays a table of sessions, filtered by 'All'.

Displaying data filtered by All

Id	Name	Upload Date	Date Recorded	Actions
1558419e-0445-4009-a851-fa6684874642	2015_06_24__23_05_14_Summary.csv	4/21/2016 6:20:55 PM	6/24/2015	<a href="#">VIEW CHART</a> <a href="#">EXPORT</a>
1a675217-e74a-4c4a-a0ba-2612ea38c0bf	2015_06_24__23_05_14_Summary.csv	4/21/2016 6:19:22 PM	6/24/2015	<a href="#">VIEW CHART</a> <a href="#">EXPORT</a>
6f0e2918-340a-41a9-a94e-784cfa01ba49	bodometrics_2012-01-30T00-00-00_2016-01-18T04-51-00.csv	4/21/2016 6:21:54 PM	1/30/2012	<a href="#">VIEW CHART</a> <a href="#">EXPORT</a>
a83f5c18-25a6-4484-b1d2-c45f119554c2	HeartRate_2015_6_24.csv	4/21/2016 6:21:35 PM	6/24/2015	<a href="#">VIEW CHART</a> <a href="#">EXPORT</a>
c5b4496a-34f4-4613-a64b-7e70d941e6e6	2015_06_24__23_05_14_Summary.csv	4/21/2016 6:21:15 PM	6/24/2015	<a href="#">VIEW CHART</a> <a href="#">EXPORT</a>
fa12ea58-f2b2-4585-badb-03f07afd128	2015_06_24__23_05_14_Summary.csv	4/21/2016 6:19:59 PM	6/24/2015	<a href="#">VIEW CHART</a> <a href="#">EXPORT</a>

At the bottom of the page, there is a copyright notice: © 2016 - Property of UAH Computer Engineering Department.

You can then click on the “Export” button for the file you want to export. This will bring up your browser’s download wizard. Follow the prompts to download the file.

## 1.2.3 Patient Data Management

Patients have the ability to upload data to the system, view the data they have uploaded, and download that data from the system at any time.

Contents:

### Patient Data Upload

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- [Patient Data Upload](#)

A patient can upload data to the system from 3 types of devices:

- Zephyr
- Basis Peak
- Microsoft Band

To upload a file, login with your patient account credentials. Then, click on the “Upload Data” button at the top right of the page. This should take you to a screen like this:

Click the “BROWSE” button and follow the wizard to the file(s) you want to upload. Fill in the date of collection information and select the device type. At this point you can upload data by clicking the “SUBMIT” button.

Your Physician may also ask you to fill out activities (the second half of the Upload Data page). Activities must be set at the time of the data upload. To fill out an activity simply choose an activity type from the “Activity Type” dropdown, select the date the activity was performed, and select a start and end time for the activity.

You can input as many activities as you want. To add an activity click the green plus button to the right of the activity section of the page.

## Patient Data View

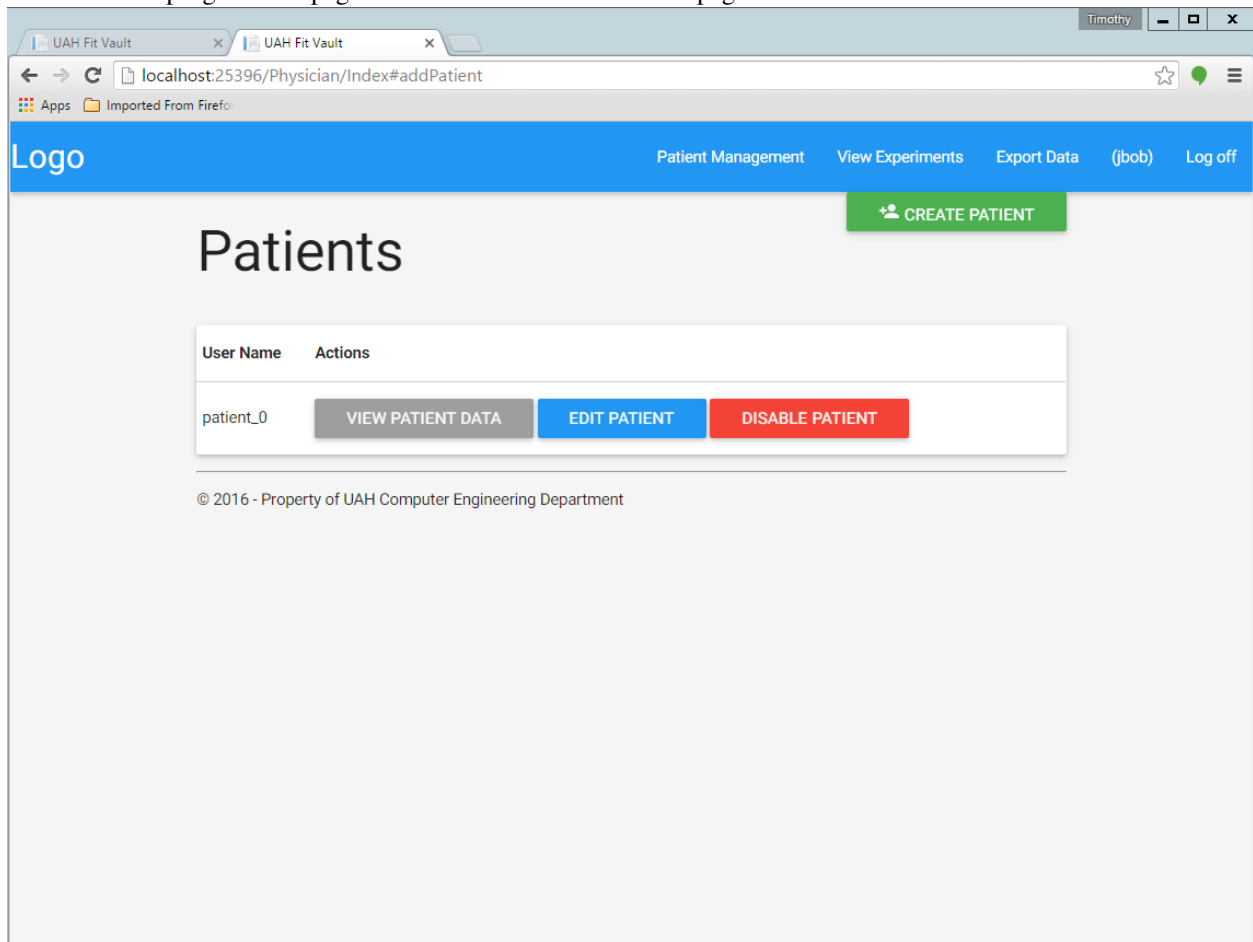
### Table of Contents

- Patient Data View
  - Physician
  - Patient

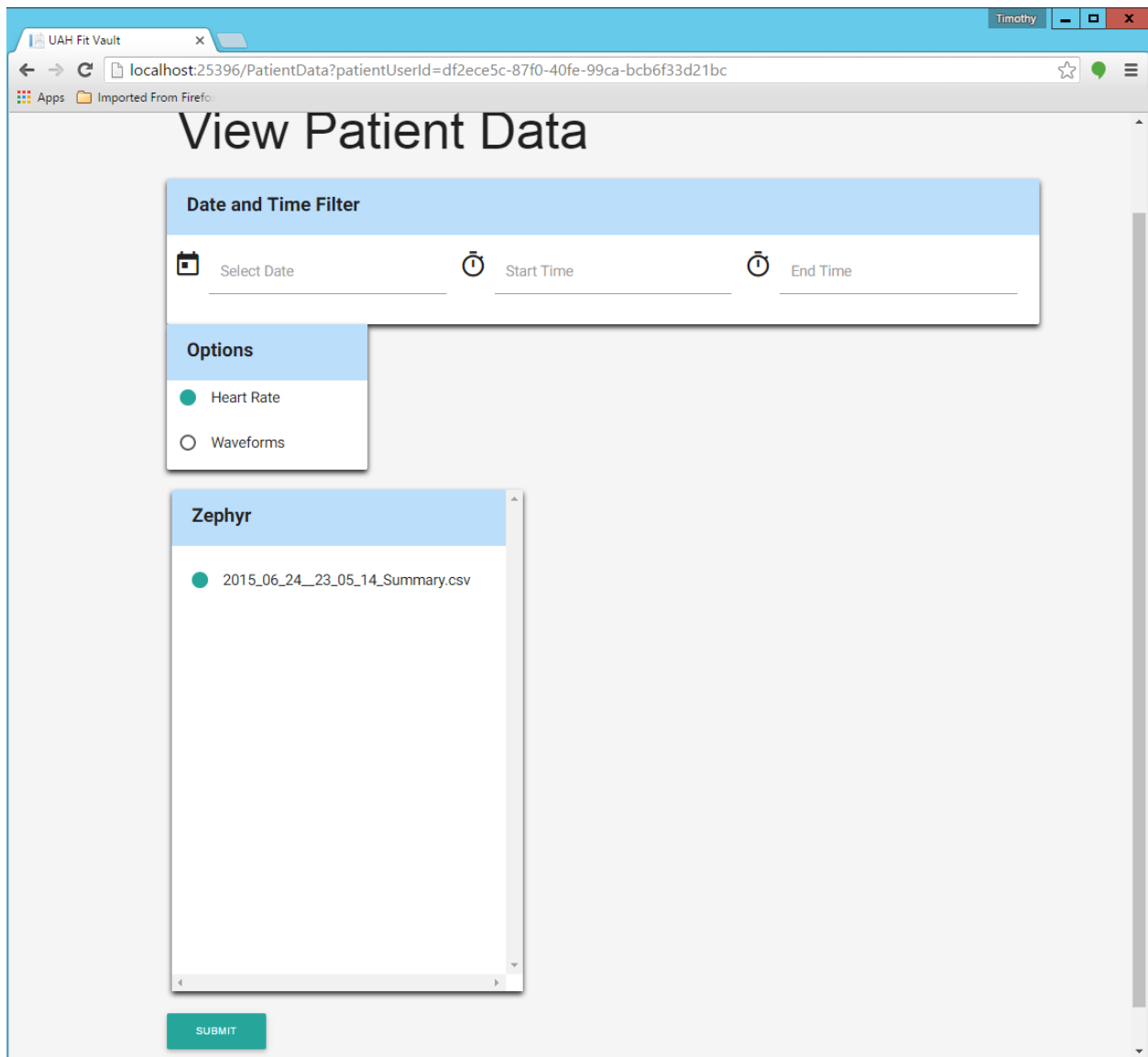
Both Physicians and Patients can view a patient’s data.

## Physician

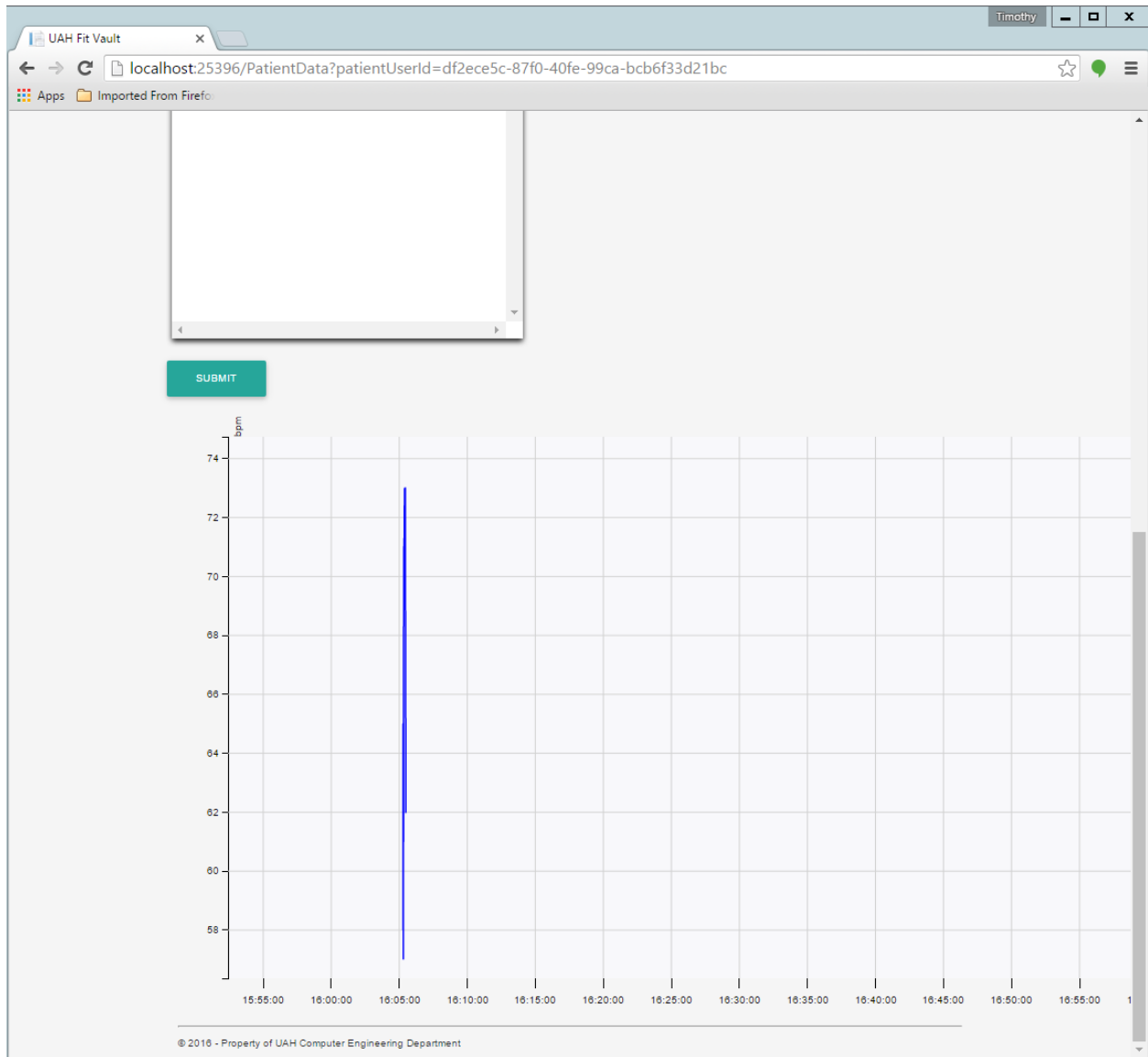
To view patient data as a physician, login with your physician account credentials. Click on the “Patient Management” button at the top right of the page. You should then be taken to a page that looks like this:



You can then click on the “VIEW PATIENT DATA” button for the corresponding patient who’s data you want to view. You will then be taken to a page that looks like this:

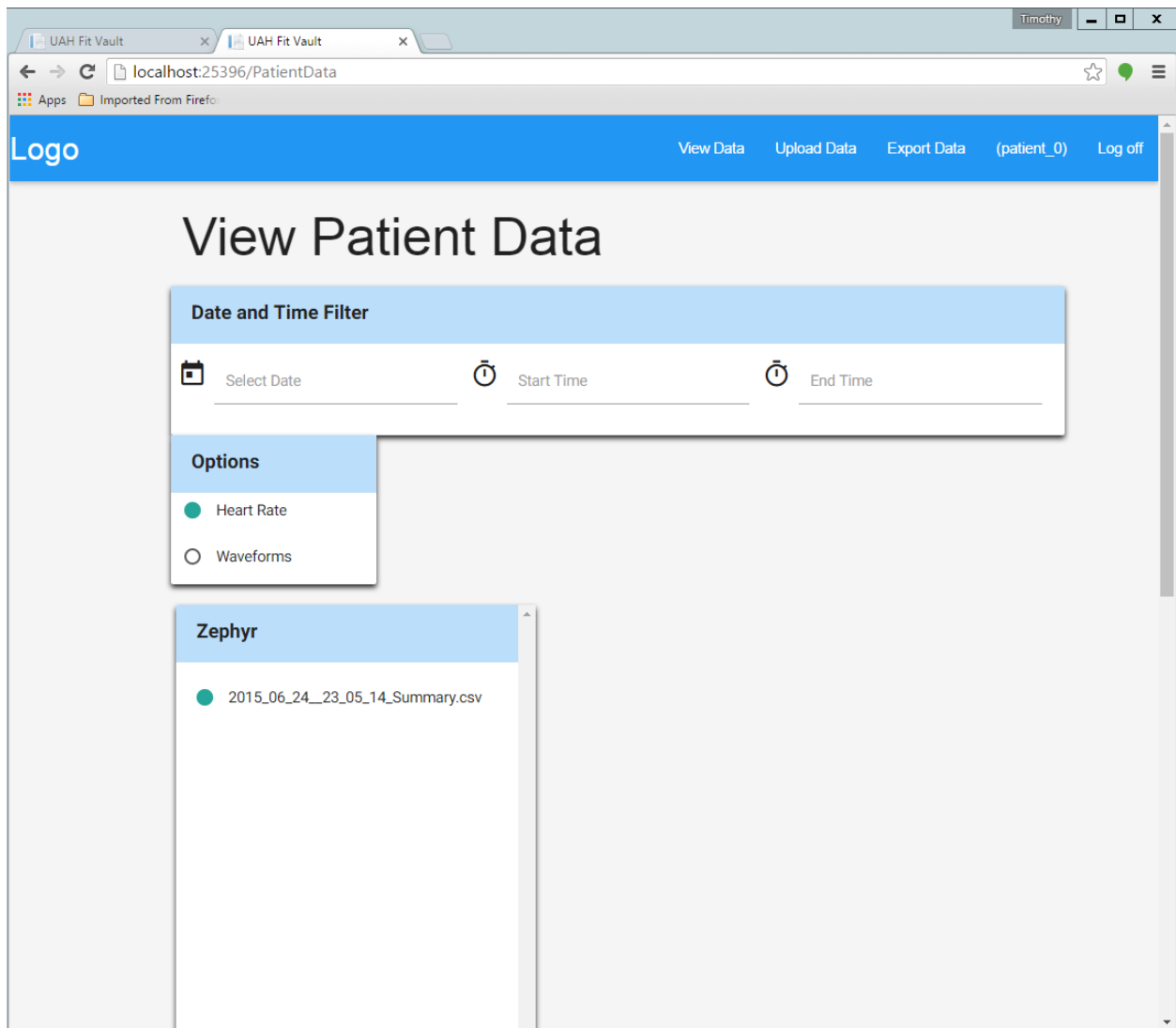


You can then select a date and a start time and end time. Then select the file you want to view. Click the “SUBMIT” button to display the data at the bottom of the page. It should look like this:



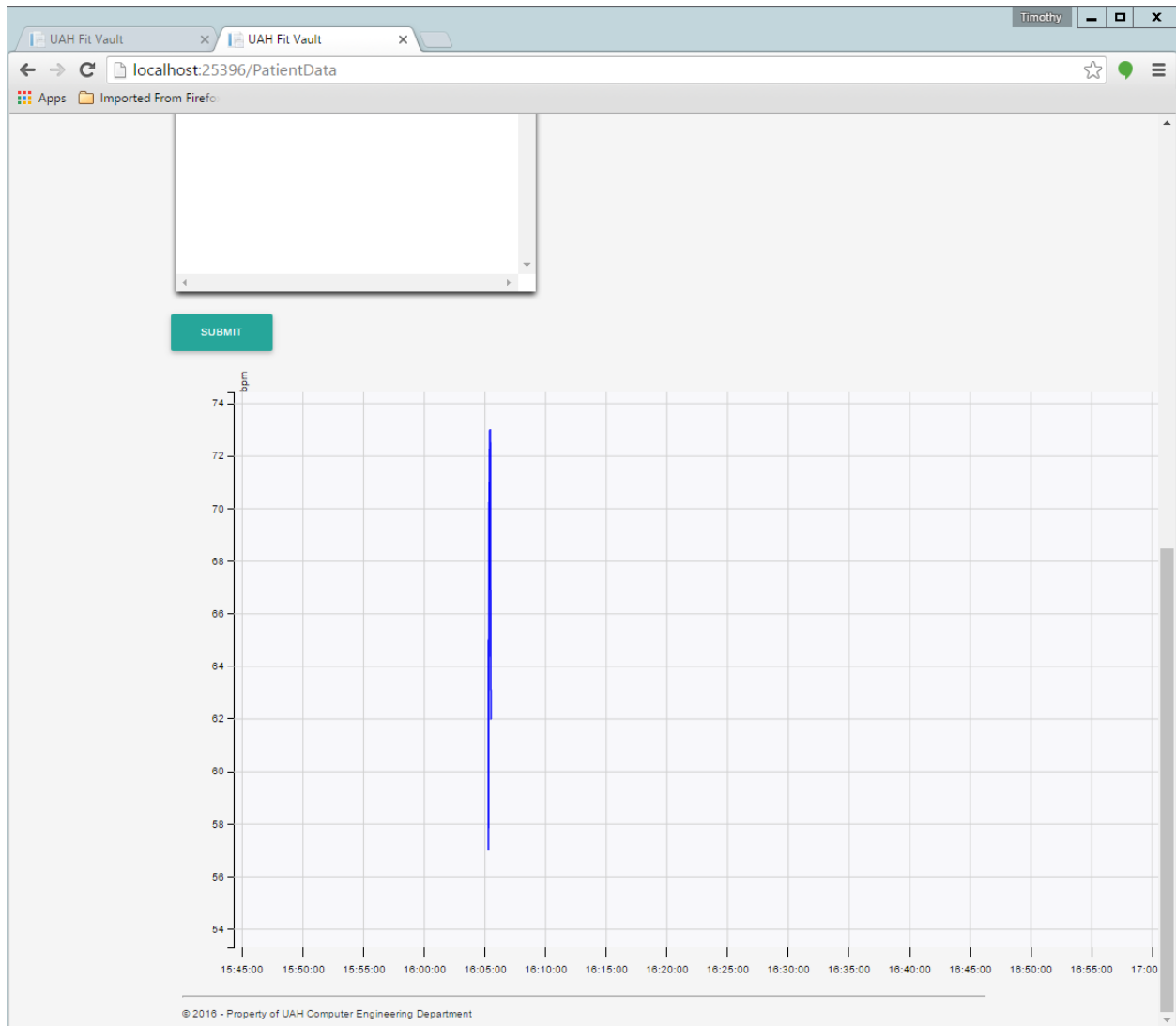
## Patient

To view patient data as a patient, login with your patient account credentials. You can then click the “View Data” button at the top right of the page. You should then be taken to a page that looks like this:



You can then select a date and a start time and end time. Then select the file you want to view. Click the “SUBMIT” button to display the data at the bottom of the page. It should look like this:





## Patient Data Download

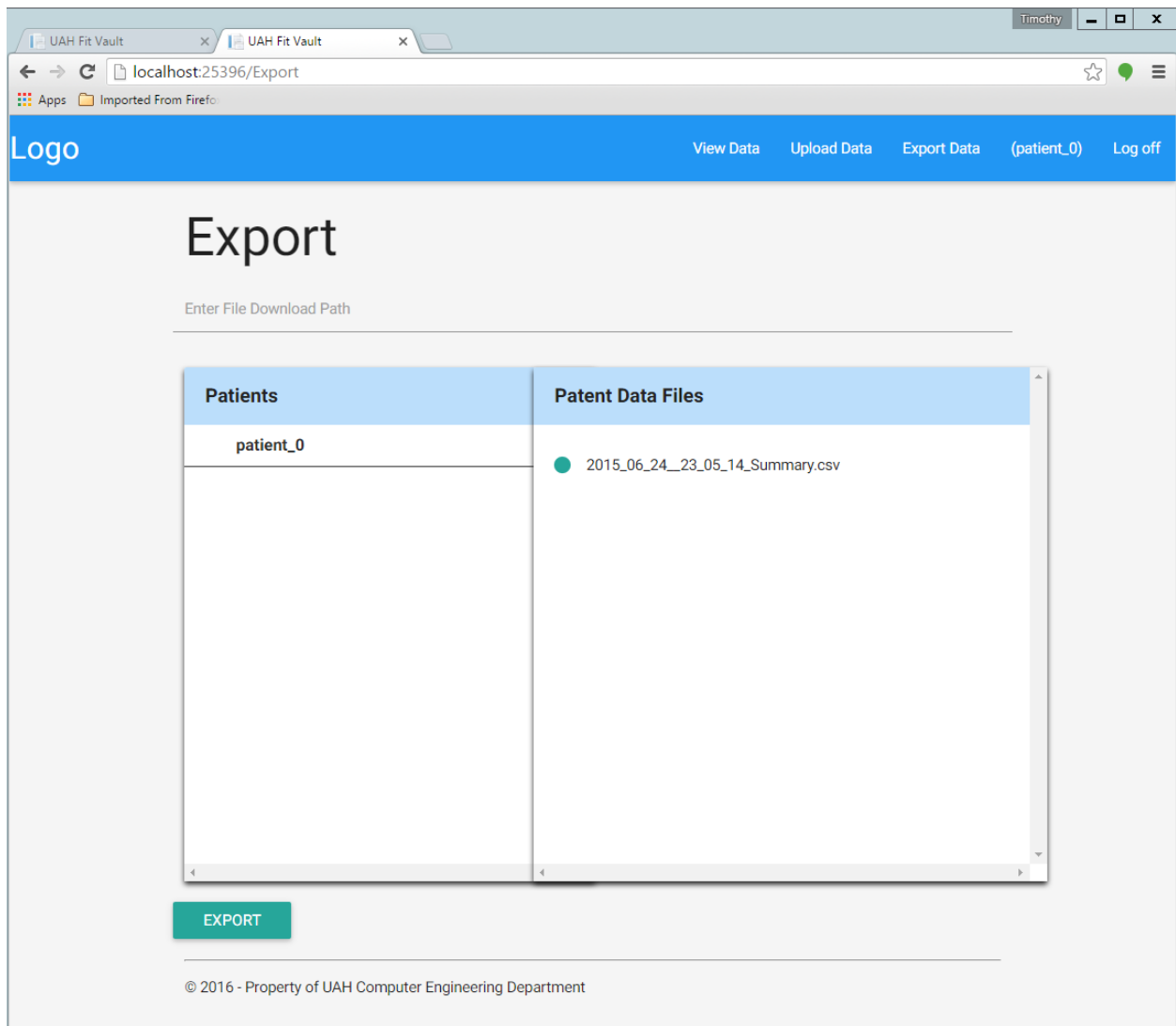
### Table of Contents

- [Patient Data Download](#)
- [Patient Account](#)

Patients have the ability to export any data they have uploaded.

### Patient Account

Login with your patient credentials. You should see an “Export Data” button at the top right of the page. Click on this button and you will be taken to a page that looks like this:



Click on your patient account in the “Patients” window, then click on the file you want to export in the “Patient Data Files” window. Then simply click the “EXPORT” button at the bottom of the page to start the download.

## UAHEALTH FIT VAULT SOFTWARE TEST DESCRIPTION

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- UAHealth Fit Vault Software Test Description
  - Sign Off
  - Scope
    - \* Identification
    - \* System Overview
    - \* Document Overview
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  - Test Descriptions

## 2.1 Sign Off

The sign off below indicates that the project has been accepted as is at the moment of signing. No further obligations are required by the development team. Please sign by your name and date:

Dr. Kulick:	_____	Date: _____
Dr. Milenkovic:	_____	Date: _____
James Duggan:	_____	Date: _____
Glen Riden:	_____	Date: _____
Ryan Wilkins:	_____	Date: _____

## 2.2 Scope

### 2.2.1 Identification

This document shall apply to the final release of the UAHealth Fit Vault Software.

### 2.2.2 System Overview

The UAHealth Fit Vault Software is designed to be a place for doctors, patients, and administrators to store patient's biometric data and run experiments on that data. This is the first deployment of this system. The software will be deployed on a server in the UAH lab for Dr. Malenkovich. At the end of the development period, the software will be deployed and ownership shall be transferred to Dr. Malenkovich.

## 2.2.3 Document Overview

This document is to describe the testing that will be performed on the UAHealth Fit Vault Software for customer acceptance. Test descriptions and all dependent information are included in this document.

## 2.3 Referenced Documents

None.

## 2.4 Test Descriptions

### 2.4.1 Pytest Tests

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- [Pytest Tests](#)
  - [Test Preparations](#)
    - \* [Hardware Preparations](#)
    - \* [Software Preparations](#)
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  - [Test Execution](#)
  - [Test Details](#)

### Test Preparations

#### Hardware Preparations

In order to run the Pytest tests, you must have a physical computer capable of running the latest distribution of Ubuntu. Follow the hardware requirements for this distribution. Ubuntu is not required to run the tests, but the hardware requirements for Ubuntu serve as a minimum requirement to run the Pytest tests.

The computer you use must have access to the UAHealth server in order to run the Pytest tests. The computer can be the same machine as the UAHealth server, but this is not required.

#### Software Preparations

Download the zip file of the github project here: [Github](#) and unzip it in your home directory.

You must have the latest Active Python 3.4 installed on this computer. It can be found here: [Python](#). The OS may be Windows 7/2012 or later. If you are using Windows 2012, add “C:\Python34” and “C:\Python34\Scripts” to your “Path” environment variable. You also need to install Firefox. It can be downloaded here: [Firefox](#).

After you download and install Firefox, follow instructions on [Mozilla](#) for setting the download automatic action.

The required python packages can be installed by navigating to the project folder and running:

```
pip install -r ./Tests/requirements.txt
```

## Other Preparations

## Test Execution

To run these tests, open a command prompt and navigate to the Tests folder (<project\_path>/med656/Tests). Then execute the following command:

```
py.test -v -s test_create_account.py test_edit_account.py test_experiment.py test_login.py test_password.py
test_security.py test_upload.py test_username.py test_export.py
```

The test report will be printed out to the screen. It will display all the tests that were run along with their pass/fail status.

## Test Details

Follow the table below to find details of the test automation.

### test\_create\_account module

These test cases are designed to test the ability to create and delete accounts

`test_create_account.test_create_experiment_admin` (*logoff*)

#### Requirements:

- 3.1.1.1.3.1: minimum information stored for experiment admin account
- 3.1.1.1.4.2: System Administrators shall be able to enable users
- 3.1.1.7: Experiment administrators create their own accounts
- 3.1.1.7.1: System Administrators shall verify the creation of a experiment admin account
- 3.1.6: The system shall provide account management.
- 3.1.6.1: The system shall allow account creation
- 3.1.6.1.1: The system shall force account approval for experiment admins
- 3.1.1.4: System requires a minimum security criteria
- 3.1.1.4.1: Password must be at least 10 characters
- 3.1.1.4.2: Password shall contain at least 1 upper and 1 lower case character
- 3.1.1.4.3: Password shall contain at least 1 number
- 3.1.1.4.4: Password shall contain at least 1 special character

#### Pre Conditions:

- logoff fixture

#### Input:

- user = 'awong'
- pwd = 'P@ssword10'
- email = 'awong@futuraama.com'
- first\_name = 'Amy'
- last\_name = 'Wong'

•address = '304 Wherever Street, New New York City, New New York'

•phone\_number = '123-456-7890'

Steps	Expected Result	Actual Result
request account	Request confirmed	
approve account	Admin can approve	
login	User can login	

test\_create\_account.test\_create\_patient (login\_tphysician)

**Requirements:**

- 3.1.1.1.1.1: minimum information stored for patient account
- 3.1.1.1.2.5: Physician user can add a patient to the system
- 3.1.1.3.1: Display patient ID to physician at the time of creation
- 3.1.1.7.2: Physicians shall create their patients accounts
- 3.1.6: The system shall provide account management.
- 3.1.6.1: The system shall allow account creation
- 3.1.6.1.2: Patients shall not need approval for account creation
- 3.1.1.4: System requires a minimum security criteria
- 3.1.1.4.1: Password must be at least 10 characters
- 3.1.1.4.2: Password shall contain at least 1 upper and 1 lower case character
- 3.1.1.4.3: Password shall contain at least 1 number
- 3.1.1.4.4: Password shall contain at least 1 special character

**Pre Conditions:**

•login\_tphysician fixture

**Input:**

- user = 'testPatientCreate\_<random number>'
- pwd = 'P@ssword10'
- byear = '1954'
- bmonth = 'March'
- bday = '3'
- loc = 'Alabama'
- wght = '200'
- hght = '72'
- gen = 'male'
- race = 'white'
- eth = 'non\_hispanic'
- physician = 'testPhysician'

Steps	Expected Result	Actual Result
create patient account	No error msgs	
login as patient	Patient can login	

`test_create_account.test_create_physician (logoff)`

**Requirements:**

- 3.1.1.1.2.1: minimum information stored for physician account
- 3.1.1.1.4.2: System Administrators shall be able to enable users
- 3.1.1.7: Physicians create their own accounts
- 3.1.1.7.1: System Administrators shall verify the creation of a physician account
- 3.1.6: The system shall provide account management.
- 3.1.6.1: The system shall allow account creation
- 3.1.6.1.1: The system shall force account approval for physicians
- 3.1.1.4: System requires a minimum security criteria
- 3.1.1.4.1: Password must be at least 10 characters
- 3.1.1.4.2: Password shall contain at least 1 upper and 1 lower case character
- 3.1.1.4.3: Password shall contain at least 1 number
- 3.1.1.4.4: Password shall contain at least 1 special character

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'hfarnsworth'
- pwd = 'P@ssword10'
- email = 'hfarnsworth@futurama.com'
- first\_name = 'Hubert'
- last\_name = 'Farnsworth'
- address = '304 Wherever Street, New New York City, New New York'
- phone\_number = '123-456-7890'

Steps	Expected Result	Actual Result
request account	Request confirmed	
approve account	Admin can approve	
login	User can login	

`test_create_account.test_create_system_admin (login_sysadmin)`

**Requirements:**

- 3.1.1.1.4.1: minimum information stored for experiment admin account
- 3.1.1.1.4.2: System Administrators shall be able to enable users
- 3.1.6: The system shall provide account management.
- 3.1.6.1: The system shall allow account creation
- 3.1.1.4: System requires a minimum security criteria
- 3.1.1.4.1: Password must be at least 10 characters
- 3.1.1.4.2: Password shall contain at least 1 upper and 1 lower case character
- 3.1.1.4.3: Password shall contain at least 1 number

- 3.1.1.4.4: Password shall contain at least 1 special character

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'Inibbler'
- pwd = 'P@ssword10'
- email = 'Inibbler@futuraama.com'

Steps	Expected Result	Actual Result
Login as fitadmin	Login Successful	
Create another system admin	No errors	
login as new system admin	User can login	

`test_create_account.test_delete_experiment_admin(logoff)`

**Requirements:**

- 3.1.6.3: System administrator can delete accounts
- 3.1.6: The system shall provide account management.

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'awong'
- username = 'Amy Wong'
- pwd = 'P@ssword10'

Steps	Expected Result	Actual Result
delete experiment admin account	No error msgs	
login as patient	User cannot login	

`test_create_account.test_delete_patient(logoff)`

**Requirements:**

- 3.1.1.1.2.6: Physicians can delete patients

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'pfry'
- pwd = 'P@ssword10'
- phy = 'testPhysician'
- phy\_pass = 'P@ssword10'

Steps	Expected Result	Actual Result
delete patient account	No error msgs	
login as patient	Patient cannot login	

`test_create_account.test_delete_physician(logoff)`

**Requirements:**



- 3.1.6.3: System administrator can delete accounts
- 3.1.6: The system shall provide account management.

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'hfarnsworth'
- username = 'Hubert Farnsworth'
- pwd = 'P@ssword10'

Steps	Expected Result	Actual Result
delete physician account	No error msgs	
login as patient	User cannot login	

**test\_edit\_account module**

These tests are here to verify that the accounts can have their information edited.

`test_edit_account.test_physician_can_edit_his_account` (*login\_tphysician*)

**Requirements:**

- 3.1.1.1.2.2: Physician can update his account
- 3.1.6.2: System shall allow users to edit their account

**Pre Conditions:**

- login\_tphysician fixture

**Input:**

Steps	Expected Result	Actual Result
Go to management page	No Errors	
Change the email address	No Errors	
Check the email address	Email has changed	

**test\_experiment module**

These test cases are designed to test the ability to create experiments

`test_experiment.test_create_experiment` (*login\_texpadmin*)

**Requirements:**

- 3.1.4: The system shall allow experiments to be created.
- 3.1.4.1.1: Experiment administrators shall have the ability to save the experiments that they have created.
- 3.1.4.3: The system shall provide Experiment Administrators with a query builder used to create experiments.

**Pre Conditions:**

- login\_texpadmin fixture

**Input:**

- expName = 'test experiment'

- startAge = '19'
- endAge = '24'
- startHght = '60'
- endHght = '72'
- startWght = '130'
- endWght = '200'
- genders = ['male']
- races = ['white']
- ethnicities = ['hispanic']
- locations = ['Alabama']

Steps	Expected Result	Actual Result
create experiment	no errors, see success! page	

`test_experiment.test_delete_experiment(login_texpadmin)`

**Requirements:**

- 3.1.4.4: The system shall allow Experiment Administrators to delete experiments.

**Pre Conditions:**

- login\_texpadmin fixture

**Input:**

- name = 'test experiment'

Steps	Expected Result	Actual Result
delete experiment	no errors, on delete confirmation page	

`test_experiment.test_view_experiment_exp_admin(login_texpadmin)`

**Requirements:**

- 3.1.4.2: Experiment results shall be viewable by experiment administrators and physicians.

**Pre Conditions:**

- login\_texpadmin fixture

**Input:**

- name = 'test experiment'

Steps	Expected Result	Actual Result
view the experiment	no errors, on view experiment page	

`test_experiment.test_view_experiment_physician(login_tphysician)`

**Requirements:**

- 3.1.4.2: Experiment results shall be viewable by experiment administrators and physicians.

**Pre Conditions:**

- login\_texpadmin fixture

**Input:**

- name = 'test experiment'

Steps	Expected Result	Actual Result
view the experiment	no errors, on view experiment page	

### test\_export module

These test cases are designed to test the ability to export data from the system

`test_export.test_export_data_by_patient` (*login\_tpatient, test\_patients*)

#### Requirements:

- 3.1.5: The system shall allow data exporting.
- 3.1.5.2: The system shall allow patients to export their data.
- 3.1.5.4: The system shall provide comma-separated values (.csv) file exports.

#### Pre Conditions:

- login\_tpatient fixture

#### Input:

Steps	Expected Result	Actual Result
go to export page	your username is visible	
click on your user	you can see an uploaded file	
click on the first available file	file gets highlighted	
fill in the download path	no errors	
click on the export button	download starts	
manually check for the file	files exist on the system	

#### NOTE:

This test does not work with the latest export changes that were made. It can be run manually for verification.

`test_export.test_export_data_by_physician` (*login\_tphysician, test\_patients*)

#### Requirements:

- 3.1.5: The system shall allow data exporting.
- 3.1.5.3: The system shall allow physicians to export the data of their patients.
- 3.1.5.4: The system shall provide comma-separated values (.csv) file exports.

#### Pre Conditions:

- login\_tphysician fixture

#### Input:

Steps	Expected Result	Actual Result
click on the export button	you see the patient	
click on the patient	you see files listed	
click on the first file	the file is highlighted	
fill in the download path	no errors	
click the export button	the download starts	
check for the file	the file exists	

#### NOTE:

This test does not work with the latest export changes that were made. It can be run manually for verification.

`test_export.test_export_experiment_results` (*login\_texpadmin*)

#### Requirements:

- 3.1.5: The system shall allow data exporting.
- 3.1.5.1: The system shall allow experiment results to be exported.
- 3.1.5.4: The system shall provide comma-separated values (.csv) file exports.

**Pre Conditions:**

- login\_texpadmin fixture

**Input:**

- exp\_name = 'test\_experiment'
- sage = '18'
- eage = '90'
- shght = '60'
- ehght = '80'
- swght = '100'
- ewght = '250'
- genders = []
- races = []
- eth = []
- loc = []

Steps	Expected Result	Actual Result
create experiemnt	no errors	
view the experiment	there are patients in the experiment	
view the data of a patient in the experiment	no errors	
click the export button	no errors	
manually check for the file	files have been downloaded	

## test\_login module

These tests are to verify that the accounts can be logged into

`test_login.test_login_bad_pass (logoff)`

**Requirements:**

- 3.1.1: System shall provide user authentication

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'testPhysician'
- password = '!nc0rrect'
- expected = 'Invalid login attempt.'

**Expected Results:**

User 'testPhysician' sees the home page after logging in

Steps	Expected Result	Actual Result
login	Invalid login	

`test_login.test_login_bad_user(logoff)`

**Requirements:**

- 3.1.1: System shall provide user authentication

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'fake'
- password = 'P@ssword10'
- expected = 'Invalid login attempt.'

**Expected Results:**

User 'testPhysician' sees the home page after logging in

Steps	Expected Result	Actual Result
login	Invalid login	

`test_login.test_login_experiment_admin(logoff)`

**Requirements:**

- 3.1.1: System shall provide user authentication
- 3.1.1.5: System shall allow user to log out of account

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'testExpAdmin'
- password = 'P@ssword10'

**Expected Results:**

User 'testPhysician' sees the home page after logging in

Steps	Expected Result	Actual Result
login	Login Success!	

`test_login.test_login_patient(logoff, test_patients)`

**Requirements:**

- 3.1.1: System shall provide user authentication
- 3.1.1.5: System shall allow user to log out of account

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'testPatient'
- password = 'P@ssword10'

**Expected Results:**

User 'testPhysician' sees the home page after logging in

Steps	Expected Result	Actual Result
login	Login Success!	

`test_login.test_login_physician(logoff)`

**Requirements:**

- 3.1.1: System shall provide user authentication
- 3.1.1.5: System shall allow user to log out of account

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'testPhysician'
- password = 'P@ssword10'

**Expected Results:**

User 'testPhysician' sees the home page after logging in

Steps	Expected Result	Actual Result
login	Login Success!	

`test_login.test_login_system_admin(logoff)`

**Requirements:**

- 3.1.1: System shall provide user authentication
- 3.1.1.5: System shall allow user to log out of account

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'fitadmin'
- password = 'Password1!'

**Expected Results:**

User 'testPhysician' sees the home page after logging in

Steps	Expected Result	Actual Result
login	Login Success!	

## test\_password module

These tests are to make sure password functionality meets the requirements

`test_password.test_password_case(logoff)`

**Requirements:**

- 3.1.1.4: System requires a minimum security criteria
- 3.1.1.4.2: Password shall contain at least 1 upper and 1 lower case character

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'pfry'
- pwd = 'p@ssword10'
- email = 'pfry@futurama.com'
- first\_name = 'Fry'
- last\_name = 'Phillip'
- address = '304 Wherever Street, New New York City, New New York'
- phone\_number = '123-456-7890'

Steps	Expected Result	Actual Result
request account	password case error	

`test_password.test_password_digit(logoff)`

**Requirements:**

- 3.1.1.4: System requires a minimum security criteria
- 3.1.1.4.3: Password shall contain at least 1 number

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'pfry'
- pwd = 'P@ssworddd'
- email = 'pfry@futurama.com'
- first\_name = 'Fry'
- last\_name = 'Phillip'
- address = '304 Wherever Street, New New York City, New New York'
- phone\_number = '123-456-7890'

Steps	Expected Result	Actual Result
request account	password digit error	

`test_password.test_password_length(logoff)`

**Requirements:**

- 3.1.1.4: System requires a minimum security criteria
- 3.1.1.4.1: Password must be at least 10 characters

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'pfry'
- pwd = 'P@ssword1'
- email = 'pfry@futurama.com'

- first\_name = 'Fry'
- last\_name = 'Phillip'
- address = '304 Wherever Street, New New York City, New New York'
- phone\_number = '123-456-7890'

Steps	Expected Result	Actual Result
request account	password length error	

`test_password.test_password_special_char(logoff)`

**Requirements:**

- 3.1.1.4: System requires a minimum security criteria
- 3.1.1.4.4: Password shall contain at least 1 special character

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'pfry'
- pwd = 'Password10'
- email = 'pfry@futurama.com'
- first\_name = 'Fry'
- last\_name = 'Phillip'
- address = '304 Wherever Street, New New York City, New New York'
- phone\_number = '123-456-7890'

Steps	Expected Result	Actual Result
request account	password digit error	

`test_password.test_reset_password(login_sysadmin)`

**Requirements:**

- 3.1.1.1.4.3: System Administrators can reset passwords

**Pre Conditions:**

- login\_sysadmin fixture

**Input:**

- user = 'testPhysician2'
- username = 'test physician2'
- pwd = 'Password1!'

Steps	Expected Result	Actual Result
Set users password to new password	No errors	
Login with the new password	User can login	

**test\_security module**

`test_security.test_experiment_creation_security(login_tpatient)`

**Requirements:**



- 3.1.4.1: Experiments shall only be created by experiment admins

#### Pre Conditions:

- login\_tpatient fixture

#### Input:

- physician = 'testPhysician'
- physicianpass = 'P@ssword10'
- admin = 'fitadmin'
- adminpass = 'Password1!'

Steps	Expected Result	Actual Result
look for the create experiment button	there is no create experiment button	
logoff and login as testPhysician	no errors	
look for the create experiment button	there is no create experiment button	
logoff and login as fitadmin	no errors	
look for the create experiment button	there is no create experiment button	

test\_security.test\_patient\_only\_sees\_his\_data(test\_patients)

#### Requirements:

- 3.1.1.1.2.4: Physician can only view his patients data

#### Pre Conditions:

- test\_patients fixture

#### Input:

- file = path.abspath('./Data/BasisPeak/bodymetrics\_2012-01-30T00-00-00\_2016-01-18T04-51-00.csv')
- fyear = '2015'
- fmonth = 'June'
- fdays = '23'
- tyear = '2015'
- tmonth = 'June'
- tdays = '23'
- device = 'basis'
- activities = []

Steps	Expected Result	Actual Result
login as the test patient 2	your at the home page	
upload a test data file	no errors	
logoff	back at the login screen	
login as test patient 1	your at the home page	
click the view data button	you see all the files that have been uploaded	
look for the file that was just uploaded	you do not see the file you uploaded in step 2	

test\_security.test\_physician\_to\_patient(logoff)

#### Requirements:

- 3.1.1.1.2.4: Physician can only view his patients data

#### Pre Conditions:

- logoff fixture

**Input:**

- physician = 'testPhysician3'
- phys\_pass = 'P@ssword10'
- phys\_email = 'testphysician3@uah.com'
- phys\_add = 'here'
- phys\_fname = 'test'
- phys\_lname = 'physicianthree'
- phys\_phone = '123-456-7890'
- patient = 'testPatient5'
- pat\_pass = 'P@ssword10'
- bday = 'April 1, 1987'
- loc = 'Alabama'
- wght = '123'
- hght = '123'
- gen = 'male'
- race = 'white'
- eth = 'non\_hispanic'
- test\_physician = 'testPhysician'
- test\_phys\_pass = 'P@ssword10'

Steps	Expected Result	Actual Result
create physician	no errors	
create patient for physician	no errors	
login as testPhysician	login success	
check for patient in management page	patient not listed	

test\_security.test\_system\_admin\_user\_management (login\_tpatient)

**Requirements:**

- 3.1.6.4: Only system admin can enable accounts
- 3.1.6.5: Only system admin can delete accounts

**Pre Conditions:**

- login\_tpatient fixture

**Input:**

- physician = 'testPhysician'
- physicianpass = 'P@ssword10'
- expadmin = 'testExpAdmin'
- expadminpass = 'P@ssword10'

Steps	Expected Result	Actual Result
look for the manage users button	manage users button does not exist	
logoff and login as the testPhysician	no errors	
look for the manage users button	manage users button does not exist	
logoff and login as the testExpAdmin	no errors	
look for the manage users button	manage users button does not exist	

## test\_upload module

`test_upload.test_basis_data_upload(login_tpatient)`

### Requirements:

- 3.2.4.2: System shall support Basis Peak data

### Pre Conditions:

- login\_tpatient fixture

### Input:

- activities = []
- file = path.abspath('./Data/BasisPeak/bodymetrics\_2012-01-30T00-00-00\_2016-01-18T04-51-00.csv')

Steps	Expected Result	Actual Result
upload file	no errors, and returned to /PatientData	

`test_upload.test_mband_data_upload(login_tpatient)`

### Requirements:

- 3.2.4.3: System shall support Microsoft Band data

### Pre Conditions:

- login\_tpatient fixture

### Input:

- activities = []
- file = path.abspath('./Data/MBand/')

Steps	Expected Result	Actual Result
upload file	no errors, and returned to /PatientData	

`test_upload.test_single_file_multi_activity(login_tpatient)`

### Requirements:

- 3.1.2: System shall process medical data
  - 3.1.2.1: System shall process one or more medical data file at a time
  - 3.1.2.2: System shall provide ability to assign activity
  - 3.1.2.3: There will be an interface to select data and activities
  - 3.1.2.5: System shall process CSV files

### Pre Conditions:

- login\_tpatient fixture

### Input:

- activities

```

-activity 1
    * 'type': 'Home Eating',
    * 'year': 2015,
    * 'month': 'June',
    * 'day': 24,
    * 'startTime': '11:00 PM',
    * 'endTime': '11:30 PM' },

```

```

-activity 2
    * 'type': 'Home Cooking',
    * 'year': 2015,
    * 'month': 'June',
    * 'day': 24,
    * 'startTime': '12:00 PM',
    * 'endTime': '12:30 PM'

```

```
•file = path.abspath('./Data/Zephyr/ZephyrTestData/2015_06_24__23_05_14_Accel.csv')
```

Steps	Expected Result	Actual Result
upload file	no errors, and returned to /PatientData	

`test_upload.test_single_file_no_activity(login_tpatient)`

**Requirements:**

- 3.1.2: System shall process medical data
- 3.1.2.1: System shall process one or more medical data file at a time
- 3.1.2.3: There will be an interface to select data and activities
- 3.1.2.5: System shall process CSV files

**Pre Conditions:**

- login\_tpatient fixture

**Input:**

- activities = []
- file = path.abspath('./Data/Zephyr/ZephyrTestData/2015\_06\_24\_\_23\_05\_14\_Accel.csv')

Steps	Expected Result	Actual Result
upload file	no errors, and returned to /PatientData	

`test_upload.test_single_file_one_activity(login_tpatient)`

**Requirements:**

- 3.1.2: System shall process medical data
- 3.1.2.1: System shall process one or more medical data file at a time
- 3.1.2.2: System shall provide ability to assign activity
- 3.1.2.3: There will be an interface to select data and activities
- 3.1.2.5: System shall process CSV files

**Pre Conditions:**

- login\_tpatient fixture

**Input:**

- activities = [{ 'type': 'Home Eating', 'year': 2015, 'month': 'June', 'day': 24, 'startTime': '11:00 PM', 'endTime': '11:30 PM' }]
- file = path.abspath('./Data/Zephyr/ZephyrTestData/2015\_06\_24\_\_23\_05\_14\_Accel.csv')

Steps	Expected Result	Actual Result
upload file	no errors, and returned to /PatientData	

`test_upload.test_zephyr_data_upload(login_tpatient)`

**Requirements:**

- 3.2.4.1: System shall support Zephyr data

**Pre Conditions:**

- login\_tpatient fixture

**Input:**

- activities = []
- file = path.abspath('./Data/Zephyr/ZephyrTestData/2015\_06\_24\_\_23\_05\_14\_BB.dat')

Steps	Expected Result	Actual Result
upload file	no errors, and returned to /PatientData	

## test\_username module

These tests are to make sure the username functions correctly

`test_username.test_username_cannot_be_copied(logoff)`

**Requirements:**

- 3.1.1.2: Usernames must be unique
- 3.1.1.3: The system shall assign unique ids to each created patient.
- 3.1.1.2.1: Users cannot change username to an already existing username

**Pre Conditions:**

- logoff fixture

**Input:**

- user = 'copy'
- pwd = 'P@ssword10'
- email = 'copy@copy.com'
- first\_name = 'Fry'
- last\_name = 'Phillip'
- address = '304 Wherever Street, New New York City, New New York'
- phone\_number = '123-456-7890'
- user\_2 = 'copy1'

•email\_2 = 'copy2@copy.com'

Steps	Expected Result	Actual Result
Request physician account	No errors	
Request same physician account	Username taken error	
Request different account	No errors	

## conftest module

```

conftest.login_sysadmin()
conftest.login_texpadmin()
conftest.login_tpatient()
conftest.login_tphysician()
conftest.logoff()
conftest.pre_existing_users(request)
conftest.pytest_addoption(parser)
conftest.test_patients()

```

## WebUI package

### Submodules

**WebUI.WebUI module** These are the web user interface utilities used to drive the web tests.

**class** WebUI.WebUI.**WebUI** (baseurl='http://localhost:25396/')

This class keeps track of the web session. It uses Firefox as the web driver. Its baseurl is the start page of the software. By default it is the localhost on port 25396.

**approve\_account** (user)

Logs in as the system admin and approves an account with the given username

**Parameters** username – Username of the account to approve

**Returns**

**check\_create\_patient** ()

Validates that the patient creation was successful

**Returns**

**check\_login** (user='', t=5)

This will verify you are logged in. It checks for the manage account link that only appears if you are logged in.

**Parameters**

- **t** – A timeout in seconds to wait for the management link to appear
- **user** – Check to see if this is the user that is logged in

**Returns**

**check\_logoff** (t=10)

This will check that there is no logged in user for the session

**Parameters** **t** – time in seconds to wait for the login button to appear. The default is 10.

**Returns**

**check\_request\_account** ()

Validates that the account request was successful

**Returns**

**confirm\_account\_info** (*email*='', *address*='', *phonenum*='')

This procedure will confirm account information of whatever information is provided.

**Parameters**

- **email** – the expected email address
- **address** – the expected home address
- **phonenum** – the expected phone number

**Returns**

**create\_admin** (*user*, *pwd*, *email*)

**create\_experiment** (*expName*, *startAge*, *endAge*, *startHght*, *endHght*, *startWght*, *endWght*, *genders*, *racess*, *ethnicities*, *locations*)

**create\_patient** (*phy*, *phy\_pass*, *user*, *pwd*, *byear*, *bmonth*, *bday*, *location*, *weight*, *height*, *gender*, *race*, *ethnicity*)

This will create a patient account. It expects the physician to be logged in when called.

**Parameters**

- **user** –
- **pwd** –

**Returns**

**delete\_account** (*user*)

This logs in as the system admin and deletes the specified user

**Parameters** **user** – username of the account to delete

**Returns**

**delete\_all\_accounts** ()

**delete\_experiment** (*name*)

**delete\_patient** (*phy*, *phy\_pass*, *user*)

This logs in as the physician and deletes the specified user

**Parameters**

- **phy** – name of the physician that the patient belongs to
- **phy\_pass** – password of the physician
- **user** – username of the account to delete

**Returns**

**driver** = <selenium.webdriver.firefox.webdriver.WebDriver (session="aad180c5-1dfe-4bf8-bb84-7f1001f62d07")>

**export\_data** (*path*)

**get\_page** ()

Helper procedure to return the current web pages source useful to validate responses on the page

### Returns

**go\_home ()**

Navigates the web session back to the base url

### Returns

**login (user, pwd)**

This will make sure you are logged in as the user specified. It will log you out if you are already logged in.

### Parameters

- **user** – Username to log in as
- **pwd** – Password for the given username

### Returns

**logout ()**

This will log the logged in user off.

### Returns

**request\_account (account\_type, user, pwd, email, first\_name, last\_name, address, phone\_number)**

This will fill out a request for an account. To request an account you must be logged out therefore this procedure will make sure you are logged out

### Parameters

- **account\_type** – The type of account to request. can either be Physician or Exp Admin
- **user** – The username of the new account
- **pwd** – The password of the new account
- **email** – The email address of the new account
- **first\_name** – The first name of the user
- **last\_name** – The last name of the user
- **address** – The home address of the user
- **phone\_number** – The phone number of the user

### Returns

**reset\_user\_password (user, new\_pwd)**

This procedure will make the system admin reset an accounts password

### Parameters

- **user** – username of the account to touch
- **new\_pwd** – the new password to give the account

### Returns

**set\_account\_info (pwd='', current\_pwd='', email='', address='', phonenumber='')**

This procedure will set the account info to any info provided if provided It assumes the user is already logged in

### Parameters

- **pwd** – the new password desired
- **current\_pwd** – the current password. needed to change passwords
- **email** – the new email address



- **address** – the new home address
- **phonenum** – the new phone number

#### Returns

**upload\_files** (*file, fyear, fmonth, fday, tyear, tmonth, tday, device, activities*)

This will upload files for a patient with the given activities

#### Parameters

- **file** – Relative paths to files to be uploaded
- **fyear** – The year the file started collecting
- **fmonth** – The month the file started collecting
- **fday** – The day the file started collecting
- **tyear** – The year the file stopped collecting
- **tmonth** – The month the file stopped collecting
- **tday** – The day the file stopped collecting
- **device** – The device the file came from. must be 'zephyr', 'basis', or 'band'
- **activities** – A list of dictionaries. dicts look like: {'type':'Home Eating', 'year':1920, 'month':'January', 'day':3, 'startTime': '11:00 AM', 'endTime': '11:30 AM' }

#### Returns

**view\_data** ()

**view\_experiment** (*name*)

### Module contents

## 2.4.2 Manual Tests

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  - Test Preparations
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    - \* Internet Access Verification Test
    - \* OS Test

### Test Preparations

#### Hardware Preparations

You need a computer with access to the UAHealth server.

#### Software Preparations

You need the latest Chrome or Firefox version installed on the computer.

#### Other Preparations

It is expected that you will have run the automated tests before executing these tests. Some of the users and data depend on the automation have run correctly.

### Test Details

#### Multiple File Upload Test

##### Requirements:

- 3.1.2.1: The system shall process multiple files at the same time

##### Pre Conditions:

- You must be logged in as the testPatient user using these credentials
- Username: 'testPatient'
- Password: 'P@ssword10'
- You must have access to the data files in the project folder here: ./med656/Tests/Data

##### Input:

##### Test Procedure:

Steps	Expected Result	Actual Result
click the 'Upload Data' link in top right corner of page	Taken to the upload page	
click the 'BROWSE' button	Windows file select wizard opens	
navigate to ./med656/Tests/Data/Zephyr/ZephyrTestData/	Files are visible	
highlight the ...Accel.csv and ...BB.csv files by holding ctrl and clicking	Files are highlighted	
click the 'chose' button on the wizard	File names are in the upload page now	
fill in date 6-24-2015 for both from date and to date	Dates are visible on the page	
click on zephyr radio button	Radio button is highlighted	
click "SUBMIT" button	No errors are displayed	

## User Privacy Test

### Requirements:

- 3.1.1.1.1.2: The system shall prevent any personal identifiable information from being available for a Patient

### Pre Conditions:

- The user must be logged off
- A physician named 'testPhysician' must be created
- To check if this user is created login as user 'fitadmin' password 'Password1!'
- Click the 'Manage Accounts' button at the top of the page
- Select 'Physicians' from the Roles dropdown and look for 'testPhysician'
- If physician 'testPhysician' does not exist
  - Follow the steps here ([Physician Account](#)) to create a physician account with the following information
  - first name = test
  - last name = test
  - username = testPhysician
  - password = 'P@ssword10'
  - email = testphysician@test.com
  - address = here
  - phone number = 123-456-7890
  - reason = test

### Input:

- user = 'testPatientPrivacy'
- password = 'P@ssword10'

### Test Procedure:

Steps	Expected Result	Actual Result
login as 'testPhysician' with password 'P@ssword10'	Login Success!	
click 'create patient' button	Taken to the create patient page	
verify that none of the information requested is personally identifiable	None of the info is personally identifiable	

## Physician Graph View

### Requirements:

- 3.1.1.1.2.3: The system shall allow the physician user to view their patient's data graphically.
- 3.1.7: The system shall provide a user interface for displaying medical data in the system.
- 3.1.7.16: The system shall display summary heart rate data on a chart from the Zephyr and BasisPeak.
- 3.1.7.16.1: The chart showing summary heart rate data from the Zephyr and BasisPeak will also show heart rate data from the Microsoft Band.

**Pre Conditions:**

- The user must be logged off
- A physician named 'testPhysician' must be created
- To check if this user is created login as user 'fitadmin' password 'Password1!'
- Click the 'Manage Accounts' button at the top of the page
- Select 'Physicians' from the Roles dropdown and look for 'testPhysician'
- If physician 'testPhysician' does not exist
  - Follow the steps here [Physician Account](#) to create a physician account with the following information
    - first name = test
    - last name = test
    - username = testPhysician
    - password = 'P@ssword10'
    - email = [testphysician@test.com](mailto:testphysician@test.com)
    - address = here
    - phone number = 123-456-7890
    - reason = test
- 'testPhysician' must have a patient 'testPatientGraphView'
  - If patient 'testPatient' does not exist
    - Follow the steps here [Patient Account](#) to create patient 'testPatientGraphView' with to following information
      - user = 'testPatient'
      - pwd = 'P@ssword10'
      - birthday = '3 March, 1954'
      - location = 'Alabama'
      - weight = '200'
      - height = '72'
      - gender = 'male'
      - race = 'white'
      - ethnicity = 'non\_hispanic'

**Input:**

- user = 'testPatientPrivacy'
- password = 'P@ssword10'

**Test Procedure:**

Steps	Expected Result	Actual Result
Login as 'testPatient' with password 'P@ssword10'	Login Success!	
Follow user guide instructions <a href="#">here</a> to upload the following files from this folder <project directory>/med656/Tests/Data/: - BasisPeak/bodymetrics_simple.csv - Zephyr/ZephyrTestData/2015_06_24__23_05_14_Summary.cvs - Band/data.csv	There are no errors while uploading data	
Logout and log back in as 'testPhysician' with password 'P@ssword10'	Login Success!	
Follow instructions <a href="#">here</a> to view the 'testPatient' data that was just uploaded.	The summary heart rate graph can be seen for the Zephyr, BasisPeak, and Band	

### Database Verification Test

#### Requirements:

- 3.1.3: The system shall connect to a database
- 3.2.2: The system shall use a SQL database

#### Pre Conditions

#### Inputs

#### Test Procedure

Steps	Expected Result	Actual Result
Login locally or remote in to the UAHealt Fit Vault server desktop	you are at the windows desktop	
Open Microsoft SQL Database Manager	you can see the uahfitvault database	

### Internet Access Verification Test

#### Requirements:

- 3.2.3: The system shall be connected to a network with internet access

#### Pre Conditions

#### Inputs

#### Test Procedure

Steps	Expected Result	Actual Result
Login to the machine the system is running on	You are at the Windows Desktop	
Open a command prompt	You are presented with the Windows prompt	
Execute "ping www.google.com"	Pings respond with 100% pass	

### OS Test

#### Requirements:

- 3.2.1: The system shall run on Windows Server Operating System

**Pre Conditions:****Input:****Test Procedure:**

Steps	Expected Result	Actual Result
Login to the machine the system is running on	You are at the Windows Desktop	
Open a command prompt	You are presented with the Windows prompt	
Execute "systeminfo"	The 'OS Name:' is 'Microsoft Windows Server'	

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