ClinicFlow

User Manual

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1 Introduction

1.1 What is ClinicFlow?

ClinicFlow is a tool which allows clinics to: keep a record of patient activity data, generate statistics on past data, and simulate clinic environments to predict future performance.

1.2 Objective of User Manual

This manual provides an overview and guide for the core functionalities included in this product. If you have not yet created an account, please refer to section 4.

For all other inqueries, please refer to section 6. Troubleshooting. If this guide does not answer your questions, feel free to contact us: Section 6.2

1.3 Background

This tool was first developed for use at the Joseph Brant Hospital pre-operative clinic. Its functionality has since been expanded to allow the changing of clinic properties, including staff, procedures, and addition of constraints.

It was initially intended to be able to generate the schedules for the clinics, but this feature was abandoned during development for being too difficult to implement during the time allotted of the project.

1.4 Roadmap

We hope to allow this product to be implemented in any clinic environment. To do this, we have taken steps to abstract away the specific clinic we are dealing with, instead opting for a variable clinic model which can be adapted to the specific clinic using this product.

2 Legal / Copyright Info

ClinicFlow is owned and managed by the ClinicFlow team of McMaster University (See 6.2: Contact Us). The source code is available on github, and this product is licensed under GPLv3. The full text of which is available at:

https://www.gnu.org/licenses/gpl-3.0.en.html

3 System Requirements

ClinicFlow is a web application. It requires an operating system and browser supporting:

- HTML5

- CSS3

- Javascript

Compatible browsers include:

- Microsoft Internet Explorer 10+

- Microsoft Edge

- Google Chrome

- Mozilla Firefox

- Safari

It is accessed by loging onto the Clinic Flow website, located at : *website not available*. Upon connecting to the website, the user will at the login screen and will be prompted to login before continuing.

To host ClinicFlow on your own server, you would need:
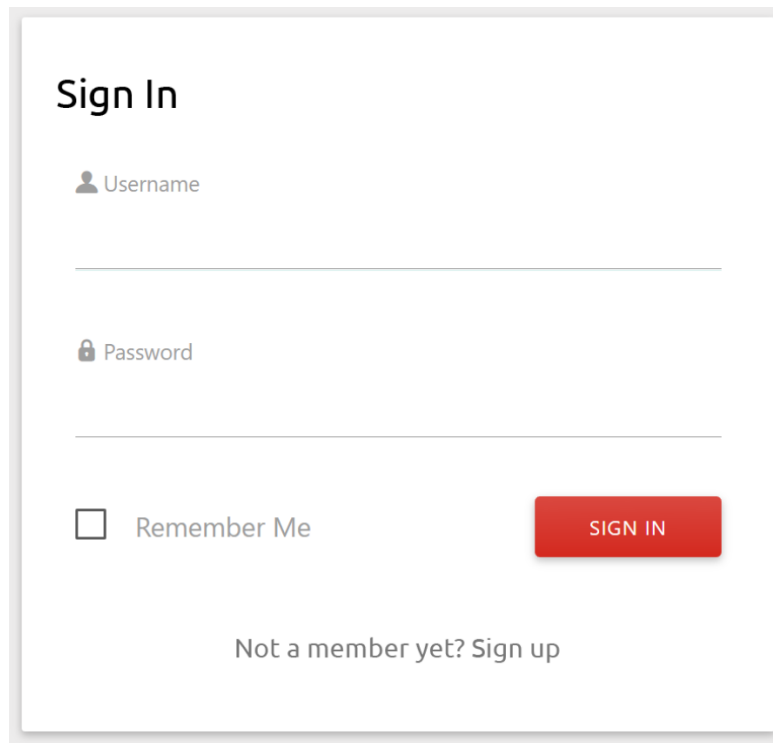
- MongoDB

- Django framework

4 Account

When first accessing the application, the login screen is presented. From here one can either enter an existing an account, or create a new one.

4.1 Login

The login screen consists of a Username and Password field. Both are required to login and use the application.
If you do not have an account, please refer to the Registration section (4.2)
To Sign In:

1. Enter your username into the "Username" box

2. Enter your password into the "Password" box

3. Check the "Remeber Me" button if you wish to no enter the login credentials next time

4. Click on "Sign in"

Figure 1: Sign in page

4.2   Registration

All users must register in order to use ClinicFlow. Registration is simple, and requires only a username and password.

If you already have an account, please refer to Login (4.1)

To Sign Up:

1. Enter a desired username into the Username field (must be unique)

2. Enter a desired password into the Password field. It must meet the following requirements:

   - Between 8 and 20 characters
   - Contain at least 1 number and 1 symbol

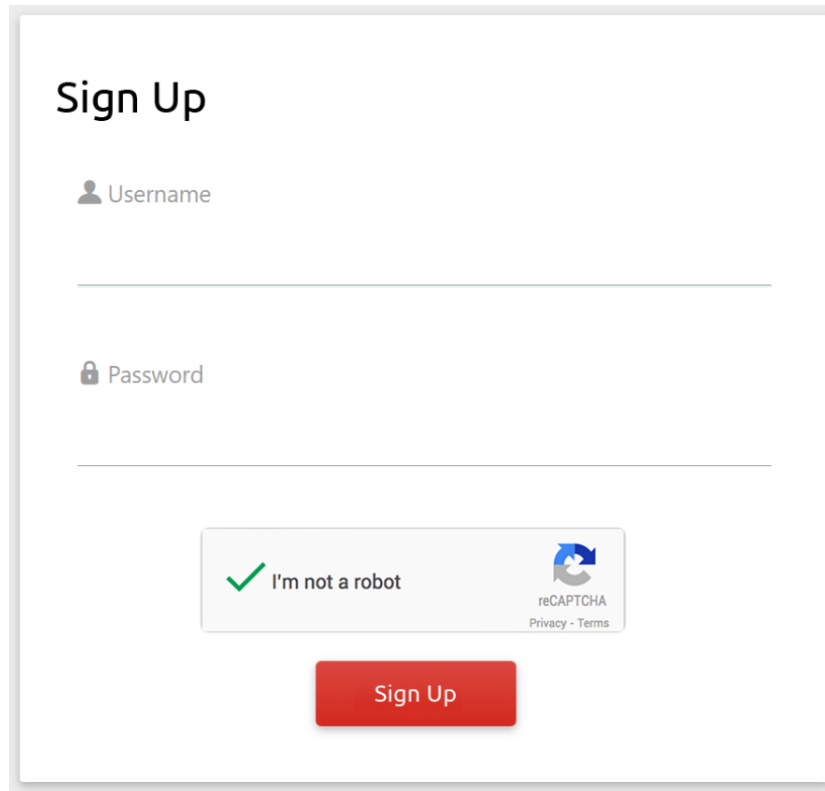3. Click the "I am not a robot" checkbox.

4. Click "Sign up"

Figure 2: Sign up page

5 Schedules

5.1 Schedule

Upon logging in, the user will be presented the schedules selection screen. From here they can either select the schedule they wish to use, or create a new schedule.

If no schedule is associated with this account, one must be created (See 5.1.1)
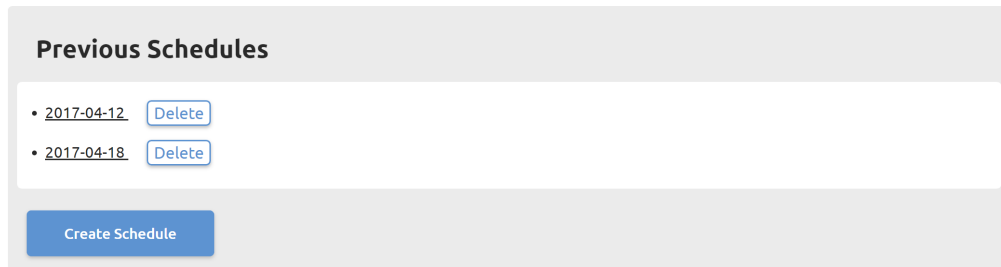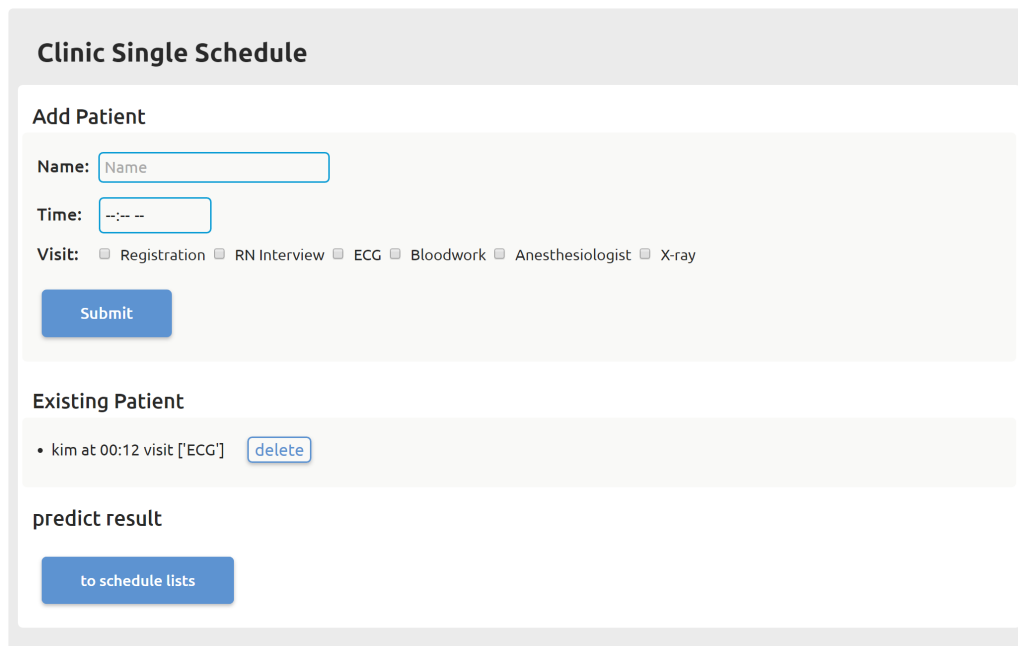
Figure 3: Viewing all previously created schedules

5.1.1 Create Schedule

To use this application, a schedule must be created it's constraints set up. To create a schedule, one must be on the "Previous Schedules screen" (See figure 3)

To create a schedule:

1. Click the "Create Schedule" button

2. Enter the available providers

3. Enter schedule date

4. Go back to the Previous Schedules screen and select your newly created schedule

5. Click into the schedule to add patients and generate simulations

Figure 4: Adding patients to the schedule

5.2 Overview

This screen will show statistic about the current status of the clinic based on actual passport data.

Note: Passport data must be set up in order to use this screen (See 5.3)

5.2.1 Select Date Range

The selects the time range for which statistics will be calculated.
In order to change:

1. Click on the arrow beside the date at the top

2. Select the FROM date on the left

3. Select the TO date on the right

4. Click apply to filter the passport data to within that range

Figure 5: Overview of Clinic

5.3   New Passport

This section allow the user to add new passports. This data is used to provide summary statistics of the clinic environment, as well as help build a model of the clinic for simulation purposes.

Note: In order to add new passport, the schedule must have a set of constraints associated with it (See 5.5)
To add a passport:

1. Click the "Add New Passport" button

2. Enter the passport information, including reason for visit, scheduled arrival time, and required procedures

3. Click "Add Passport"

To remove a patient:

1. Click the "X" button beside the patient name in the list

2. Click "Apply"

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Figure 6: Overview of Clinic

5.4 Simulate

This section of the application allows the user to simulate a model clinic environment.

If no schedule/rule set has been created, the user must create one first (See 5.4.2)
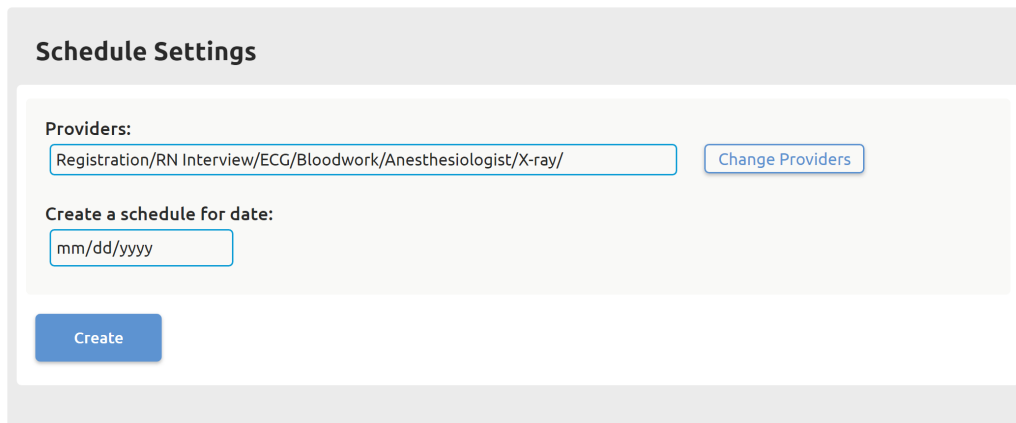
5.4.1 Simulation Selection

This screen shows a list of stored simulation models.

To select a simulation, click on the name of simulation.

5.4.2 Create Model

This function allow the user to create a new simulation model. This is required in order to run simulations.
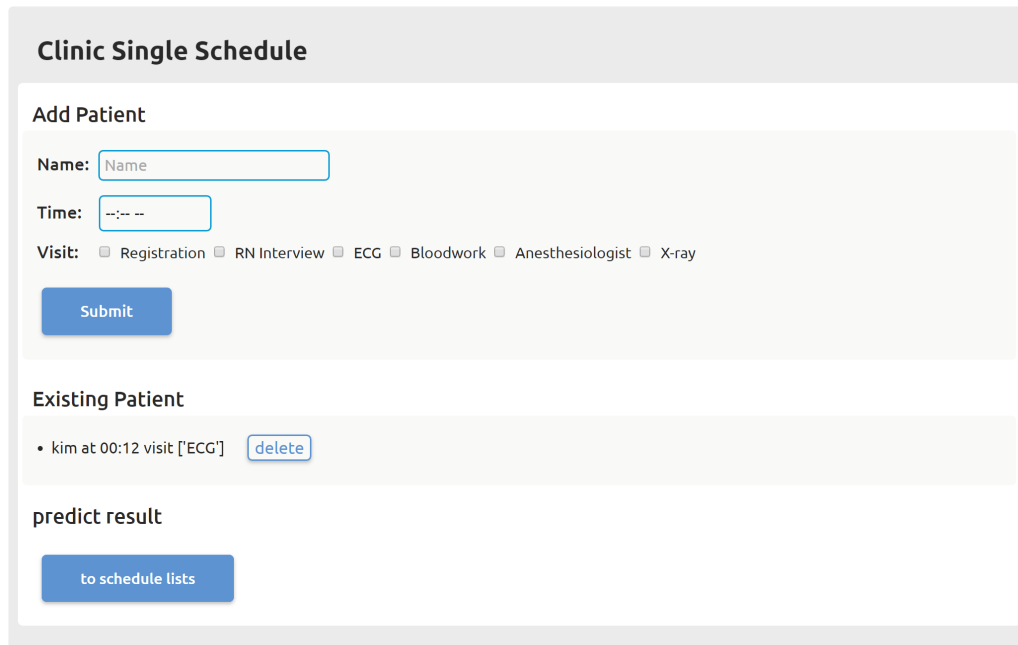
Figure 7: Creating simulation

To create a simulation model:

1. Click "Create Model"

2. Click "Use constraint info" (skip to 5) or Fill in details (steps 3-4)

3. Enter patients to simulate

   (a) Click "Add patient"

   (b) Enter name, arrival time, and required procedures

4. Enter constraints to adhere to

   (a) Enter providers, staff, and prerequisites

5. Click "Create"

Figure 8: Add Patients to Simulation

5.4.3 Results

This screen shows statistics from the last simulation. If no simulation has been performed, only the simulation selection screen will be visible.

In order to simulate a model, click on the "Simulate" button beside the model in the list.

The results screen shows statistics such as mean procedure time, waiting time, total clinic operation time.

5.5 Constraints

This section allows the user to change the constraints for the current clinic.

All 3 sections must have their properties set in order to use the passport feature, as well as to use constraint info in a simulation model.

5.5.1 Change Providers / prerequisites / staff

This section allow the user to set the list of providers available in the clinic.

In order to add a provider:

1. Click the "+" button under "Providers" to add an additional provider.

2. Enter the name of the provider in the new text box

3. Click Apply to save the list of providers

In order to set the prerequisites:

1. Click the "+" button under "Prerequisites" to add a prerequisite

2. Enter the before procedure

3. Enter the after procedure

4. Click "Apply' to save the list of prerequisites

In order to set the staff:

1. Click the "+" button under "Staff" to add a staff member

2. Enter their name

3. Enter the procedures they can provide

4. Enter their start, end, and break times.

5. Click "Apply" to save the list of staff

5.6 Settings

This section allows the user to change setting related to their account

5.6.1   Change Password

The user can change the password for their account:

1. Click on "Change Password"

2. Enter current password

3. Enter current password again

4. Enter new password

5. Click "Apply"

5.6.2   Change Clinic Name

The user can change the name of any clinic associated with their account To do this:

1. Click "Change clinic name"

2. Select clinic whose name to change

3. Enter new name for clinic

4. Click "Apply"

6   Troubleshooting

6.1   FAQ

This section provides information on commonly asked questions regarding the operation of product.

1. Why do I not see a list of clinics?

   - You must be signed in, and have at least 1 clinic create in order to see the list of clinics. See 4.1, 5.1.1.

2. Why do I not see a passport?

   - You must enter the clinic constraints and patient data in order to see the passport and statistics. See 5.5, 5.3

6.2   Contact Us

If you have any further questions contact us at:

- huw7@mcmaster.ca

- vasiliem@mcmcaster.ca

- knopfk@mcmaster.ca

- yum27@mcmaster.ca

- li544@mcmaster.ca

7   Definitions

- Account: An entity identified by username and password credentials. Contains clinics.

- Clinic: An entity consisting of a passport and constraints.

- Passport: A spreadsheet of past clinic data, including patient arrival time, procedure duration, and departure time.

- Constraints: Rules regarding clinic behavior, used in simulation