

Example Run

The following description and screenshots demonstrate all functionalities of the GUI-based MVC design of the health clinic application. The features include:

1. Starting the application
2. Load a clinic specifications text file
3. Clear out all records in memory
4. Quit application
5. Register a new patient and enter a visit record
6. Display information about a selected patient
7. Assign a patient to a room
8. Assign a staff member to a patient
9. Unassign a staff member from a patient
10. Send a patient home, approved by a physician

1. Starting the Application

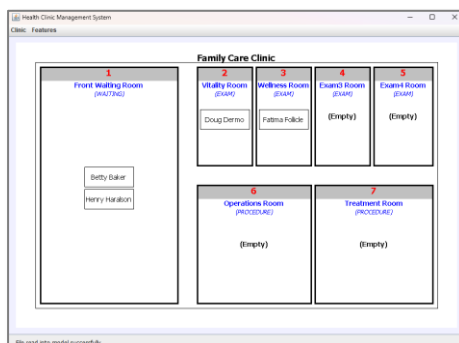
Executing the following command starts the application.

```
C:\Users\Morris\eclipse-workspace\milestone4\res>java -jar clinic.jar
```



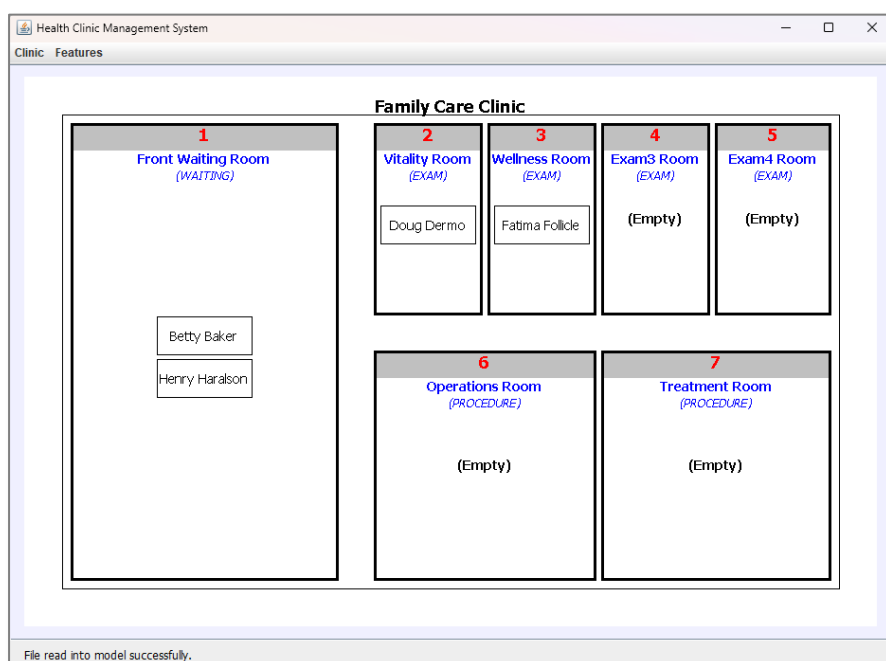
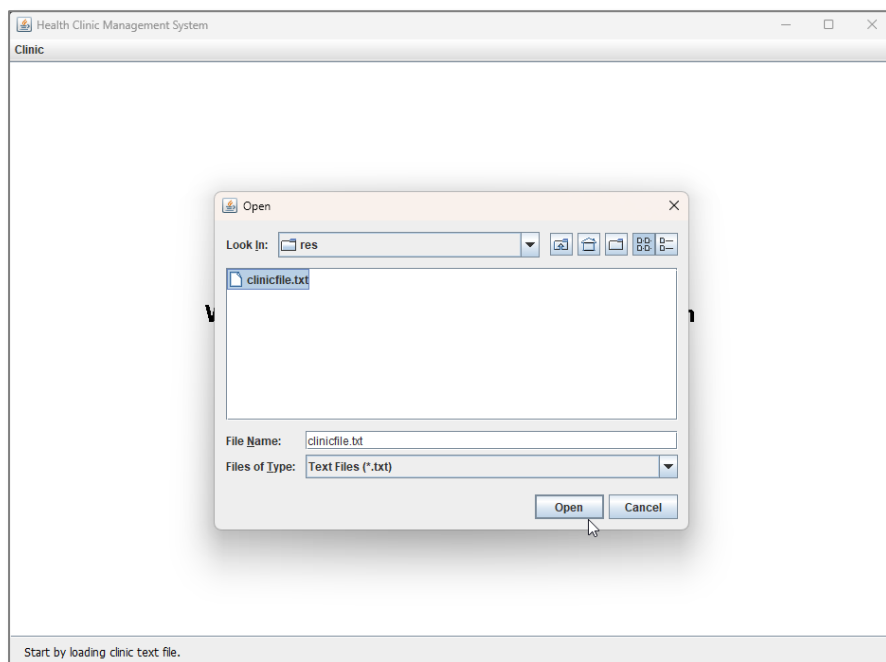
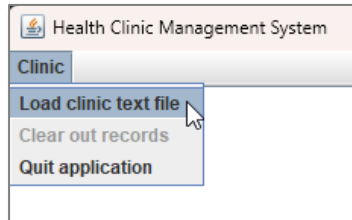
Including a clinic specification text file in the command-line argument starts the application directly with the specification loaded into the model.

```
C:\Users\Morris\eclipse-workspace\milestone4\res>java -jar clinic.jar clinicfile.txt
```



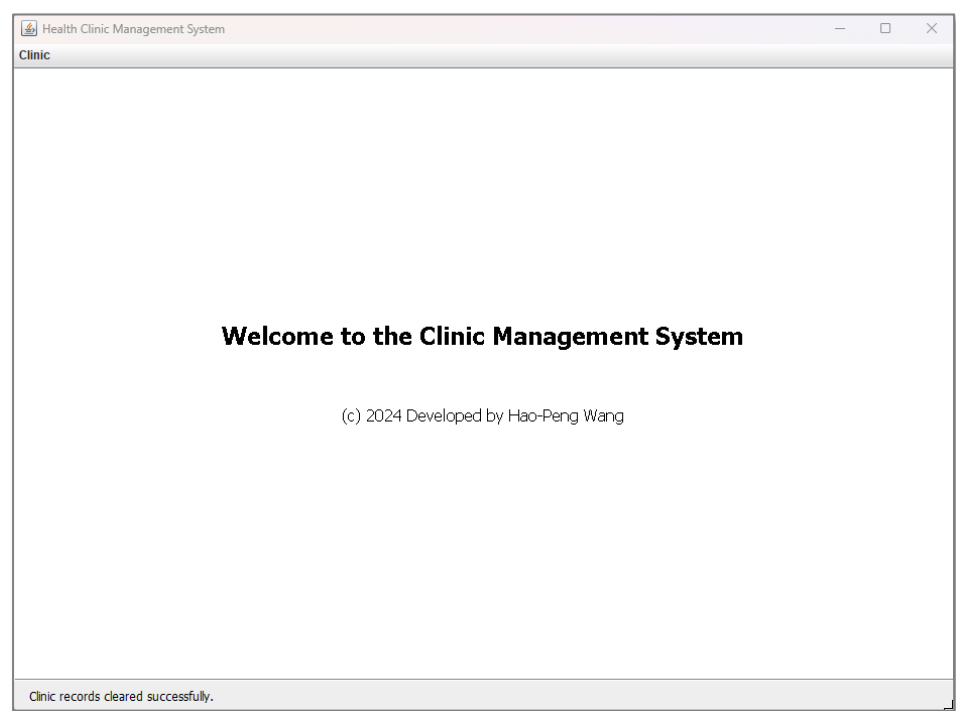
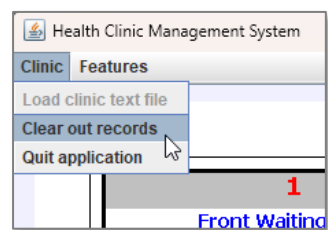
2. Load a Clinic Specifications Text File

The system shows a file chooser dialog for the user to select the clinic specification text file. After the specifications are loaded into the model successfully, the clinic image is displayed, and the Features menu shows up with available functions.



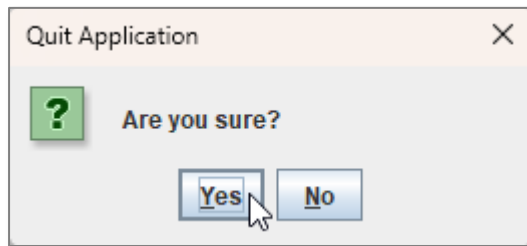
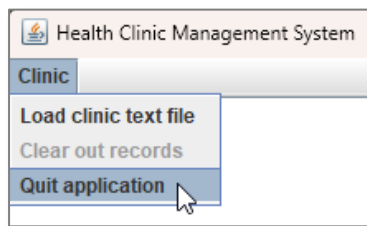
3. Clear Out All Records in Memory

It clears out all the records and returns to the start screen with the initial state. The clinic image disappears as the data in the model is cleared, and the Features menu is also removed from the menu bar.



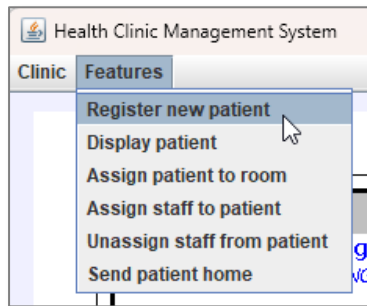
4. Quit Application

Replying YES to the dialog quits the application.



5. Register a New Patient and Enter a Visit Record

It shows a new window that awaits the user to enter the required data for a new patient and lists all existing patients (read-only) for reference.

A screenshot of the 'Register New Patient' window. It features a 'List of Existing Patients' table at the top, followed by an 'Enter New Patient Data' section with input fields for personal and medical information, and a bottom section with 'Register', 'Reset', and 'Cancel' buttons.

| ID | Name | Date Of Birth | Room |
|----|-------------------|---------------|------|
| 1 | Arthur Alfredsson | 1981/01/01 | |
| 2 | Betty Baker | 1982/02/02 | 1 |
| 3 | Clive Cardiac | 1983/03/03 | |
| 4 | Doug Dermo | 1984/04/04 | 2 |
| 5 | Elise Enzyme | 1985/05/05 | |
| 6 | Fatima Follicle | 1986/06/06 | 3 |
| 7 | Greg Gastric | 1987/07/07 | |
| 8 | Henry Haralson | 1988/08/08 | 1 |

| | |
|--|---|
| Enter New Patient Data | |
| First Name: | <input type="text" value="John"/> |
| Last Name: | <input type="text" value="Doe"/> |
| Date of Birth: | <input type="text" value="1989/09/09"/> |
| Visit Date: | <input type="text" value="2024/12/08"/> |
| Visit Time: | <input type="text" value="15:00"/> |
| Body Temp (°C): | <input type="text" value="36.9"/> |
| Chief Complaint: | <input type="text" value="Headaches"/> |
| <input type="button" value="Register"/> <input type="button" value="Reset"/> <input type="button" value="Cancel"/> | |

Clicking on the Register button will register a new patient, and this patient will be in the waiting room by default. Clicking on the Reset button clears all the input fields, and clicking on the Cancel button closes this registration window.

Register New Patient

List of Existing Patients

| ID | Name | Date Of Birth | Room |
|----|-------------------|---------------|------|
| 1 | Arthur Alfredsson | 1981/01/01 | |
| 2 | Betty Baker | 1982/02/02 | 1 |
| 3 | Clive Cardiac | 1983/03/03 | |
| 4 | Doug Dermo | 1984/04/04 | 2 |
| 5 | Elise Enzyme | 1985/05/05 | |
| 6 | Fatima Follicle | 1986/06/06 | 3 |
| 7 | Greg Gastric | 1987/07/07 | |
| 8 | Henry Haralson | 1988/08/08 | 1 |
| 9 | John Doe | 1989/09/09 | 1 |

Registration Complete

Patient registered successfully.
Patient: John Doe, 1989/09/09
Visit: 2024/12/08 15:00, 36.9°C, Headaches

OK

First Name:

Last Name:

Date of Birth:

1989/09/09

Visit Date:

2024/12/08

Visit Time:

15:00

Body Temp (°C):

36.9

Chief Complaint:

Headaches

Register

Reset

Cancel

Health Clinic Management System

Clinic Features

Family Care Clinic

1

Front Waiting Room
(WAITING)

Betty Baker

Henry Haralson

John Doe

2

Vitality Room
(EXAM)

Doug Dermo

3

Wellness Room
(EXAM)

Fatima Follicle

4

Exam3 Room
(EXAM)

(Empty)

5

Exam4 Room
(EXAM)

(Empty)

6

Operations Room
(PROCEDURE)

(Empty)

7

Treatment Room
(PROCEDURE)

(Empty)

Patient registered successfully.

Attempting to register a new patient with unreasonable data (for example, an invalid visit date or unreasonable body temperature) will fail with a warning dialog and a warning message in the status bar.

Register New Patient

List of Existing Patients

| ID | Name | Date Of Birth | Room |
|----|-------------------|---------------|------|
| 1 | Arthur Alfredsson | 1981/01/01 | |
| 2 | Betty Baker | 1982/02/02 | 1 |
| 3 | Clive Cardiac | 1983/03/03 | |
| 4 | Doug Dermo | 1984/04/04 | 2 |
| 5 | Elise Enzyme | 1985/05/05 | |
| 6 | Fatima Follicle | 1986/06/06 | 3 |
| 7 | Greg Gastric | 1987/07/07 | |
| 8 | Henry Haralson | 1988/08/08 | 1 |
| 9 | John Doe | 1989/09/09 | 1 |

Enter New Patient Data

Registration Error

X

Error registering patient: Unreasonable body temperature.

OK

First Name

Last Name

Date of Birth:

1990/01/01

Visit Date:

2024/12/08

Visit Time:

15:00

Body Temp (°C):

50

Chief Complaint:

Headaches

Register

Reset

Cancel

Error registering patient: Unreasonable body temperature.

6. Display Information About a Selected Patient

It shows a new window that displays a list of all existing patients (not only the patients currently in the clinic) for the user to choose one from the list to display detailed information about this patient in the form below.

Health Clinic Management System

Clinic

Features

- Register new patient
- Display patient
- Assign patient to room
- Assign staff to patient
- Unassign staff from patient
- Send patient home

Display Patient

List of Existing Patients

| ID | Name | Date Of Birth | Room |
|----|-------------------|---------------|------|
| 1 | Arthur Alfredsson | 1981/01/01 | |
| 2 | Betty Baker | 1982/02/02 | 1 |
| 3 | Clive Cardiac | 1983/03/03 | |
| 4 | Doug Dermo | 1984/04/04 | 2 |
| 5 | Elise Enzyme | 1985/05/05 | |
| 6 | Fatima Follicle | 1986/06/06 | 3 |
| 7 | Greg Gastric | 1987/07/07 | |
| 8 | Henry Haralson | 1988/08/08 | 1 |
| 9 | John Doe | 1989/09/09 | 1 |

Patient Information

Name:

Betty Baker

Date of Birth:

1982/02/02

In Clinic?

Yes, in room 1/Front Waiting Room

Currently assigned staff:

N/A

Ever assigned staff:

N/A

| Visit Date/Time | Body Temp(°C) | Chief Complaints |
|------------------|---------------|------------------|
| 2022/02/02 10:00 | 37.1 | Chest pain |
| 2024/11/01 10:00 | 37.1 | Chest pain |

Done

Display Patient

List of Existing Patients

| ID | Name | Date Of Birth | Room |
|----|-------------------|---------------|------|
| 1 | Arthur Alfredsson | 1981/01/01 | |
| 2 | Betty Baker | 1982/02/02 | 1 |
| 3 | Clive Cardiac | 1983/03/03 | |
| 4 | Doug Dermo | 1984/04/04 | 2 |
| 5 | Elise Enzyme | 1985/05/05 | |
| 6 | Fatima Follicle | 1986/06/06 | 3 |
| 7 | Greg Gastric | 1987/07/07 | |
| 8 | Henry Haralson | 1988/08/08 | 1 |
| 9 | John Doe | 1989/09/09 | 1 |

Patient Information

Name:

Fatima Follicle

Date of Birth:

1986/06/06

In Clinic?

Yes, in room 3/Wellness Room

Currently assigned staff:

N/A

Ever assigned staff:

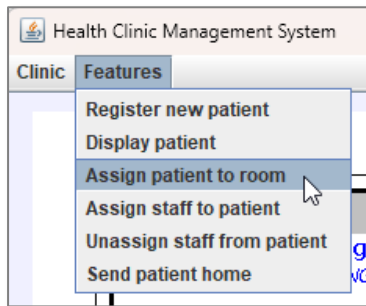
N/A

| Visit Date/Time | Body Temp(°C) | Chief Complaints |
|------------------|---------------|------------------|
| 2022/06/06 10:00 | 37.1 | Chest pain |
| 2023/06/06 10:00 | 37.1 | Chest pain |
| 2024/06/06 10:00 | 37.1 | Chest pain |

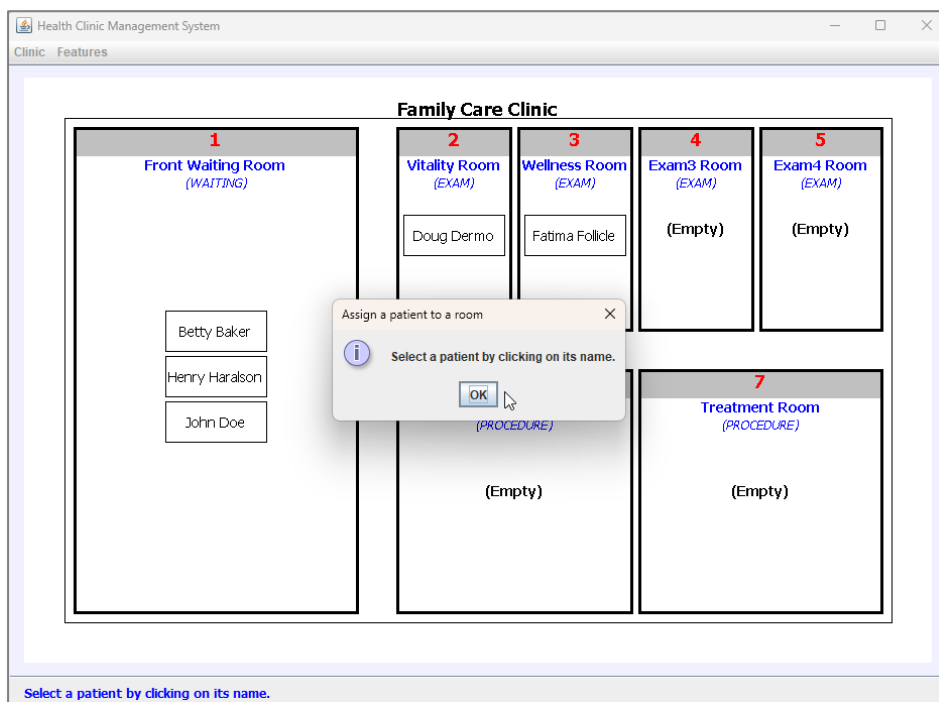
Done

7. Assign a Patient to a Room

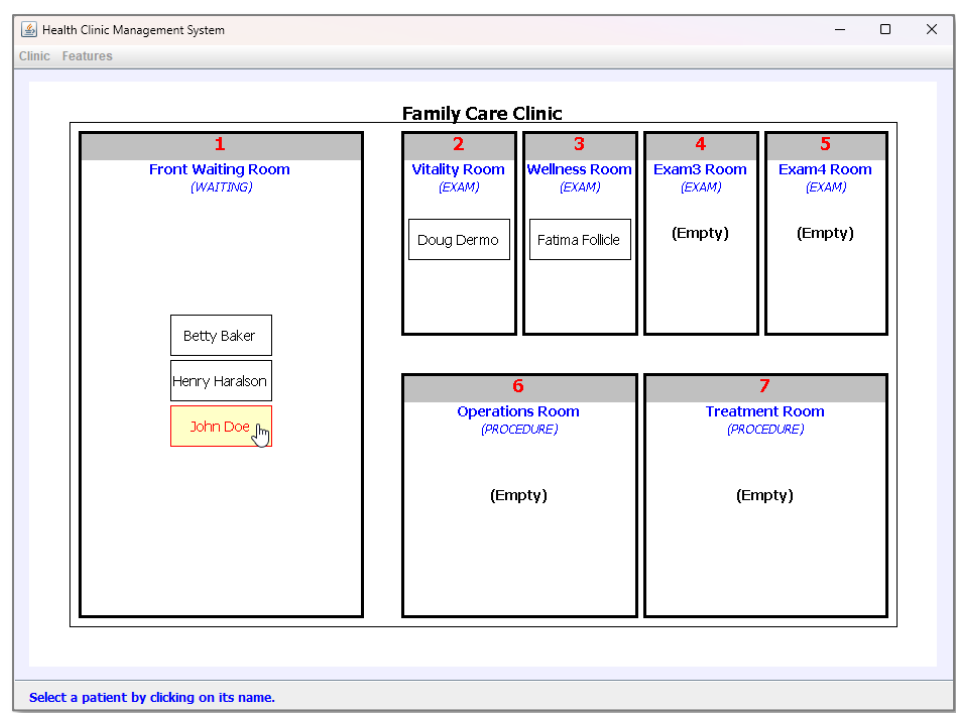
Assigning a patient to a room is performed in the main window, and it does not display a new window.



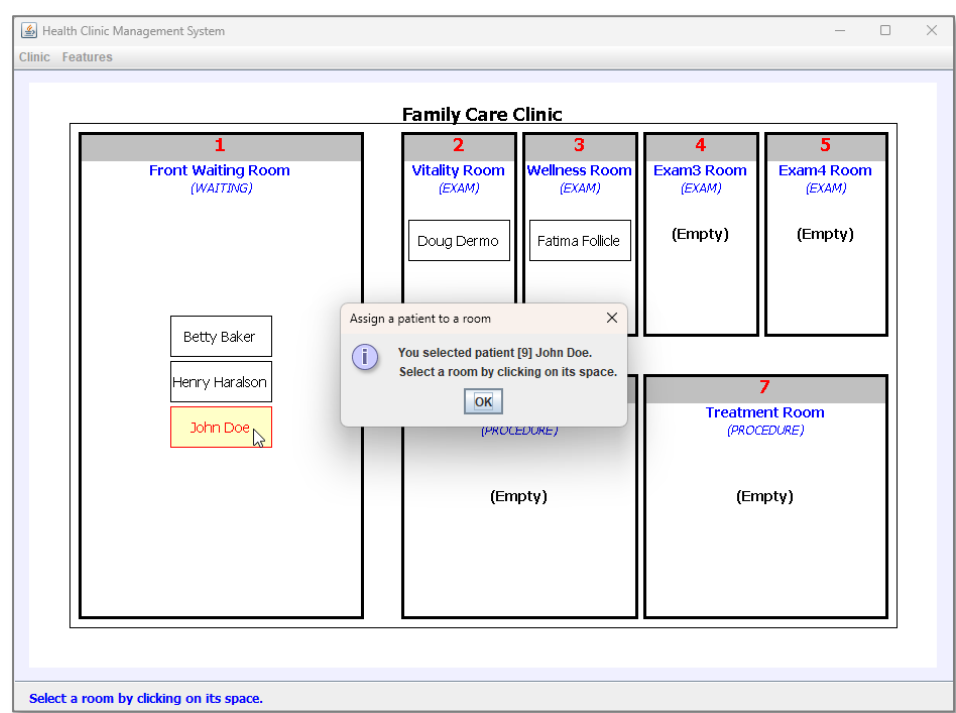
The system first prompts the user to select a patient by directly clicking on the patient's name in the clinic image.



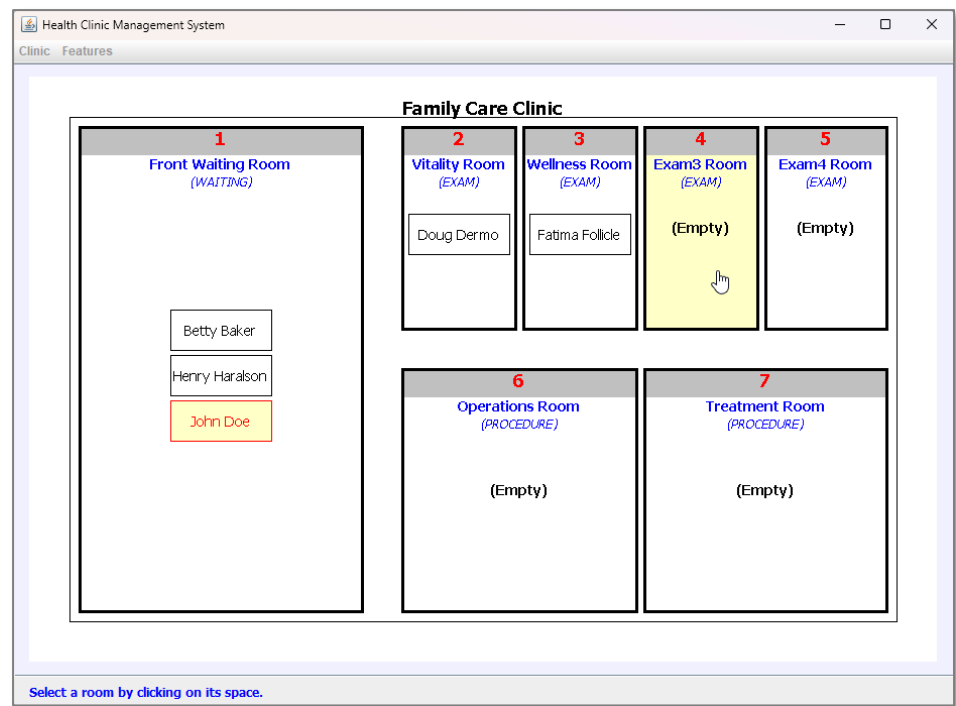
The patients will be highlighted when hovered over, indicating selection upon a mouse click.



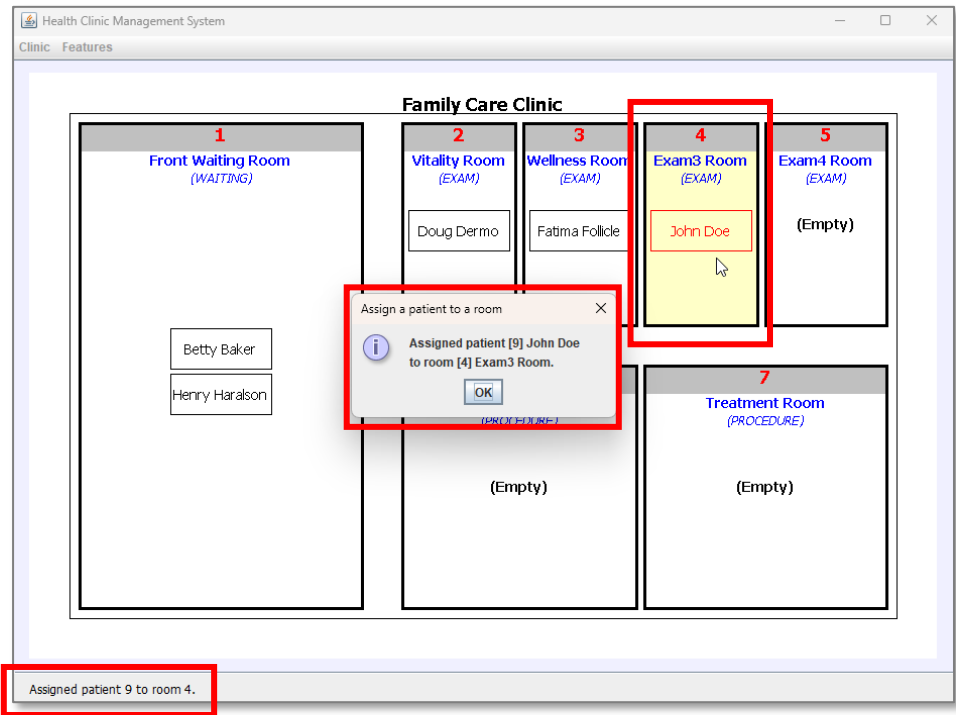
After a patient has been selected, the system prompts the user to select a room by directly clicking on the room's space in the clinic image.



The rooms will be highlighted when hovered over, indicating selection upon a mouse click.

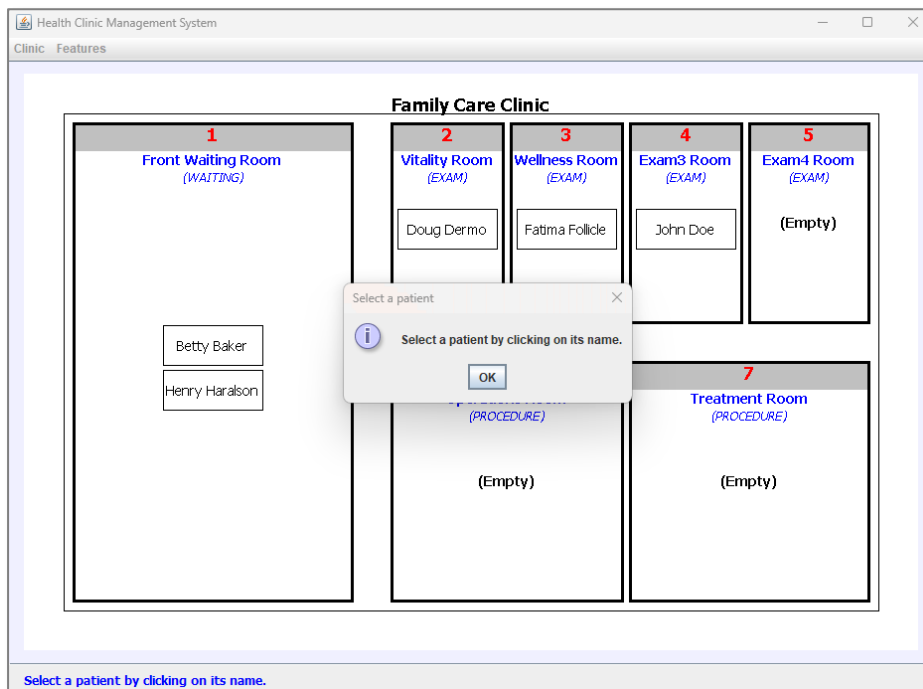
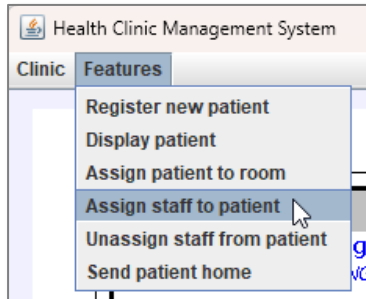


After a room is selected, the system displays the assignment result with an information dialog and a message in the status bar. The clinic map is also updated with the selected patient moving to the selected room.

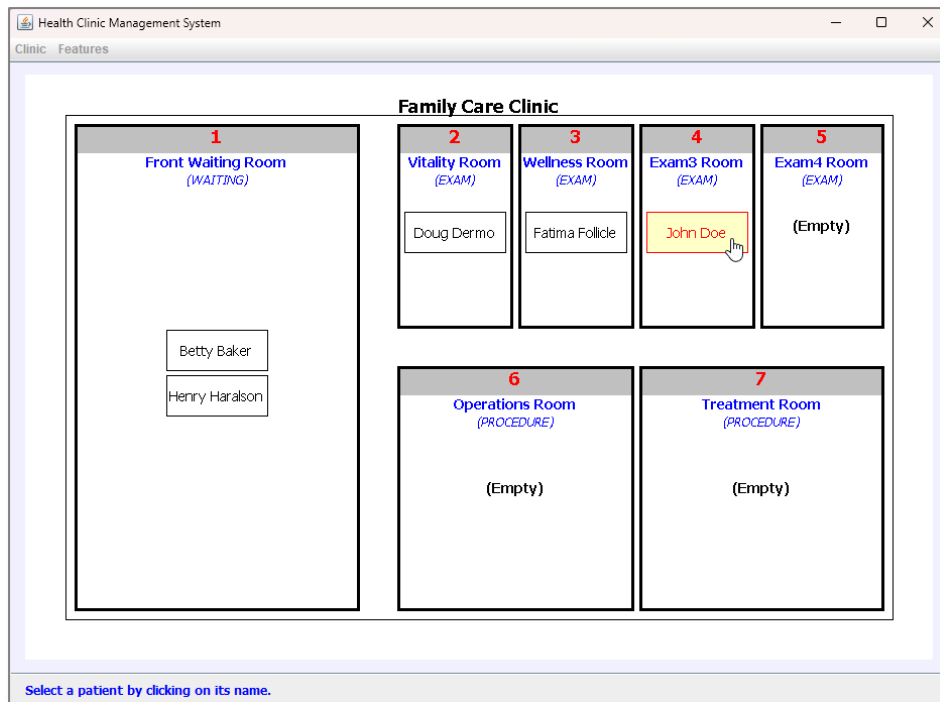


8. Assign a Staff Member to a Patient

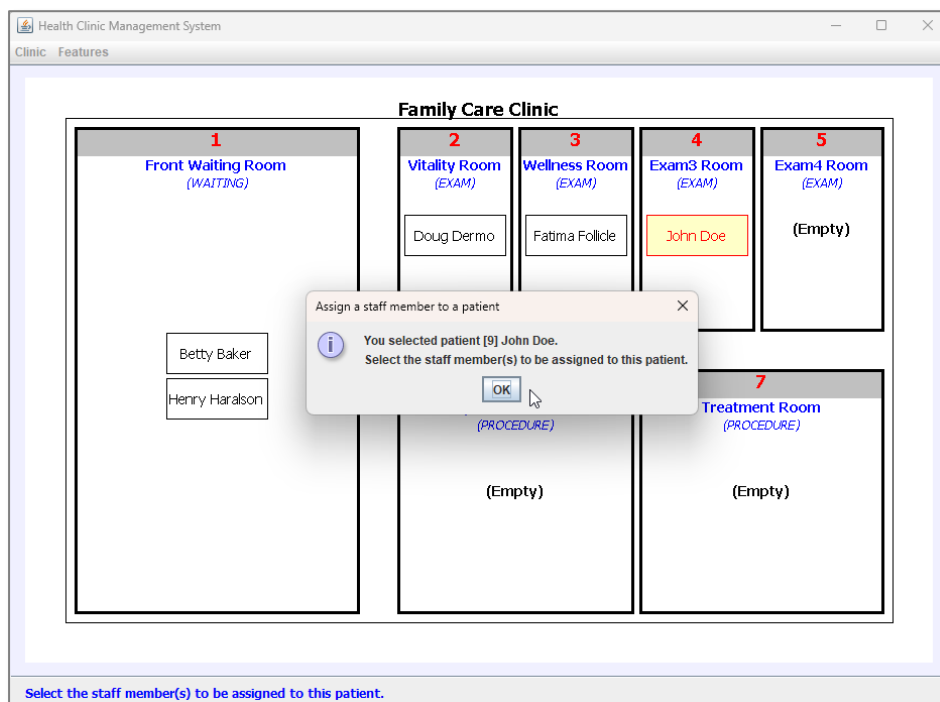
Assigning a staff member to a patient is performed by selecting a patient in the main window with a mouse click, and then choosing one or multiple staff members in a new window.



The patients will be highlighted when hovered over, indicating selection upon a mouse click.



After a patient has been selected, the system prompts the user to select one or multiple staff members to be assigned to the patient in the next displayed window.



The user selects the staff members to be assigned by checking on the checkboxes of corresponding candidates.

The screenshot shows a window titled "Assign Staff to Patient". It contains a table with the following columns: ID, Name, Job Title, and Assigned Patients. The table lists seven staff members. The first two rows are selected, indicated by checked checkboxes in the first column.

| | ID | Name | Job Title | Assigned Patients |
|-------------------------------------|----|-----------------------|-----------|-------------------|
| <input checked="" type="checkbox"/> | 1 | Dr. Amy Adams | Physician | |
| <input checked="" type="checkbox"/> | 2 | Dr. Benny Beatrice | Physician | |
| <input type="checkbox"/> | 3 | Dr. Camila Crisis | Physician | |
| <input type="checkbox"/> | 4 | Dr. Denise Davidson | Physician | |
| <input checked="" type="checkbox"/> | 5 | Nurse Emily Emerson | Nurse | |
| <input type="checkbox"/> | 6 | Nurse Fiona Francis | Nurse | |
| <input type="checkbox"/> | 7 | Nurse George Gertrude | Nurse | |

Below the table are three buttons: Assign, Reset, and Cancel.

Clicking on the Assign button will assign selected staff members to the patient. Clicking on the Reset button clears all selections, and clicking on the Cancel button closes this window.

This screenshot shows the same "Assign Staff to Patient" window, but with a "Success" dialog box overlaid in the center. The dialog box contains an information icon, the text "Staff member(s):", a list of the selected staff members, and a confirmation message. An "OK" button is at the bottom of the dialog box.

Success

Staff member(s):
[1] Dr. Amy Adams
[2] Dr. Benny Beatrice
[5] Nurse Emily Emerson
successfully assigned to patient [9] John Doe.

OK

The results of several assignments are presented below. Multiple staff members may be assigned to a single patient, and a single staff member may be assigned to multiple patients.

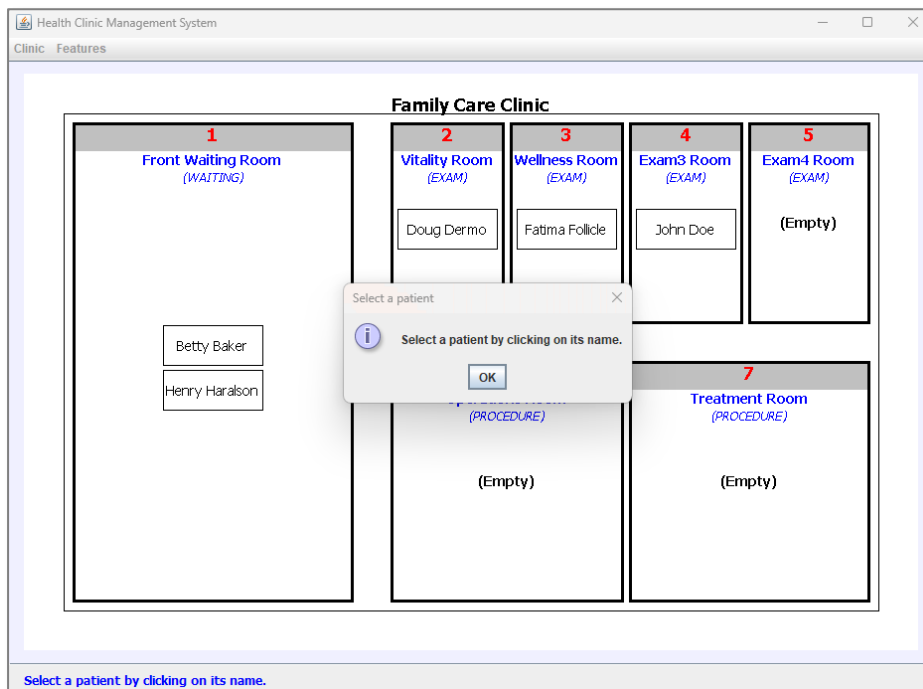
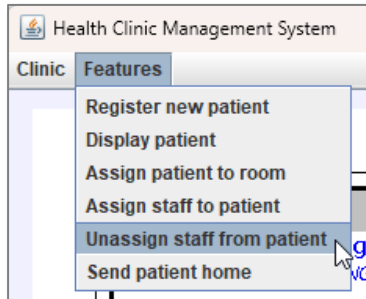
This screenshot shows the "Assign Staff to Patient" window after several assignments. The "Assigned Patients" column now contains text indicating which patients each staff member is assigned to. For example, Dr. Amy Adams is assigned to patients 4 and 9.

| | ID | Name | Job Title | Assigned Patients |
|--------------------------|----|-----------------------|-----------|---------------------------------|
| <input type="checkbox"/> | 1 | Dr. Amy Adams | Physician | 4/Doug Dermo, 9/John Doe |
| <input type="checkbox"/> | 2 | Dr. Benny Beatrice | Physician | 9/John Doe |
| <input type="checkbox"/> | 3 | Dr. Camila Crisis | Physician | 4/Doug Dermo, 6/Fatima Follicle |
| <input type="checkbox"/> | 4 | Dr. Denise Davidson | Physician | |
| <input type="checkbox"/> | 5 | Nurse Emily Emerson | Nurse | 9/John Doe |
| <input type="checkbox"/> | 6 | Nurse Fiona Francis | Nurse | 6/Fatima Follicle |
| <input type="checkbox"/> | 7 | Nurse George Gertrude | Nurse | |

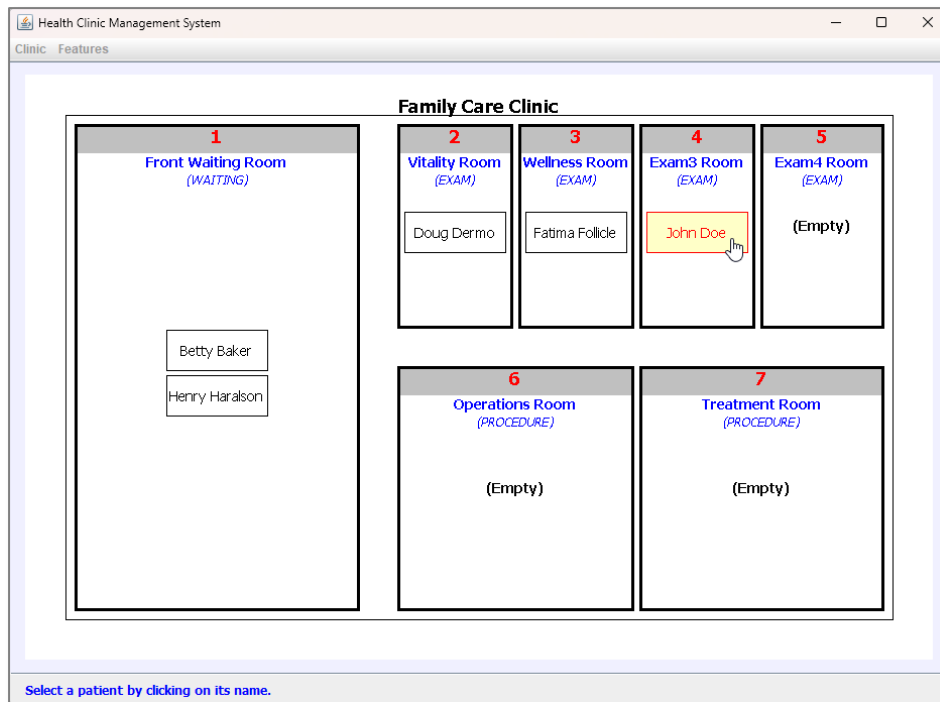
Below the table are three buttons: Assign, Reset, and Cancel.

9. Unassign a Staff Member From a Patient

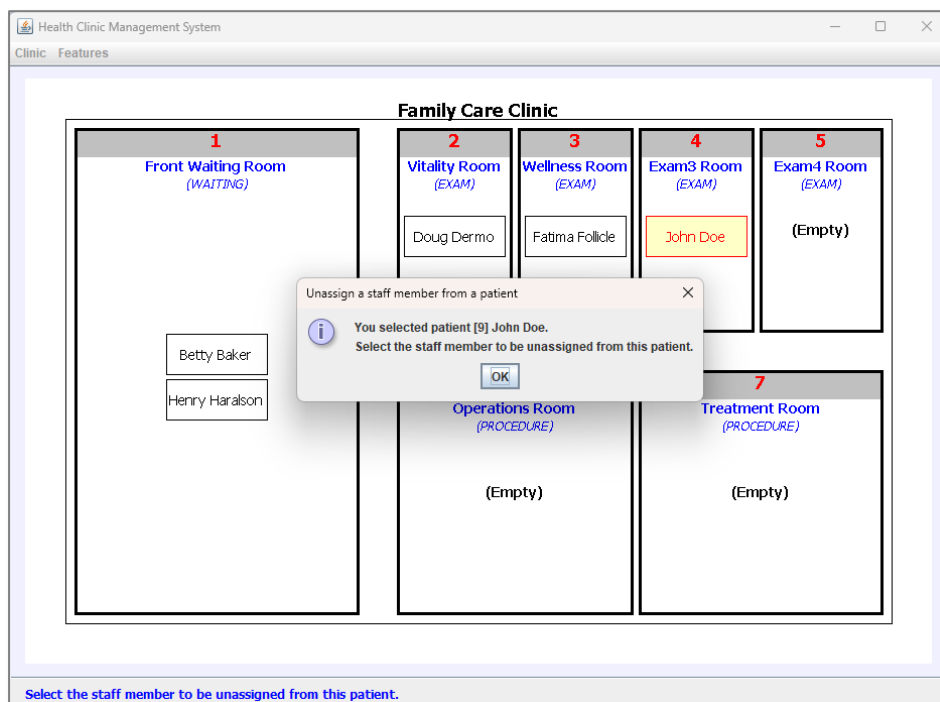
Unassigning a staff member from a patient is performed by selecting a patient in the main window with a mouse click, and then choosing the staff member to be unassigned in a new window.



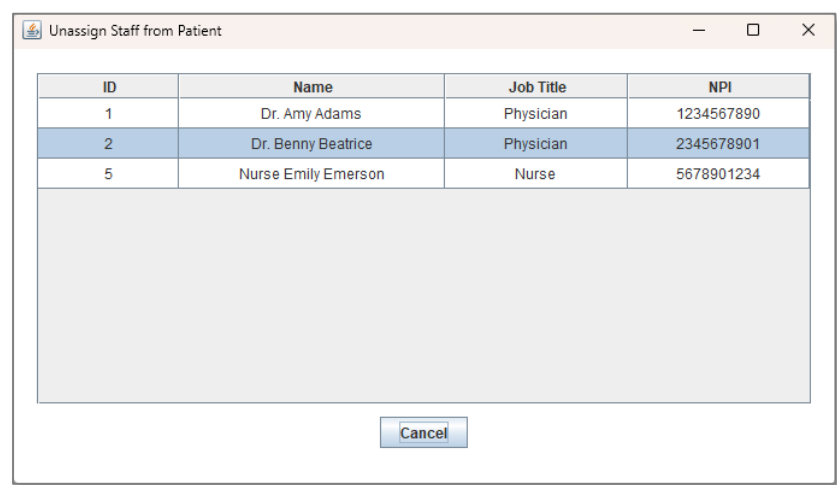
The patients will be highlighted when hovered over, indicating selection upon a mouse click.



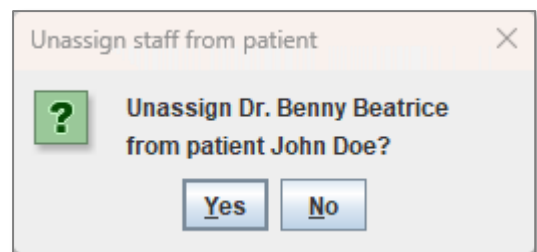
After a patient has been selected, the system prompts the user to select the staff member to be unassigned from the patient in the next displayed window.



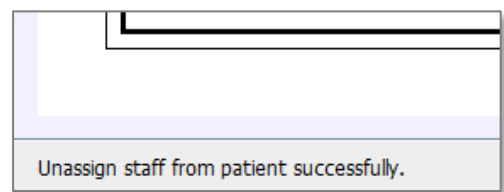
A new window displays a list of staff members currently assigned to this patient. The user can select one from this list by directly clicking on the row of the corresponding member.



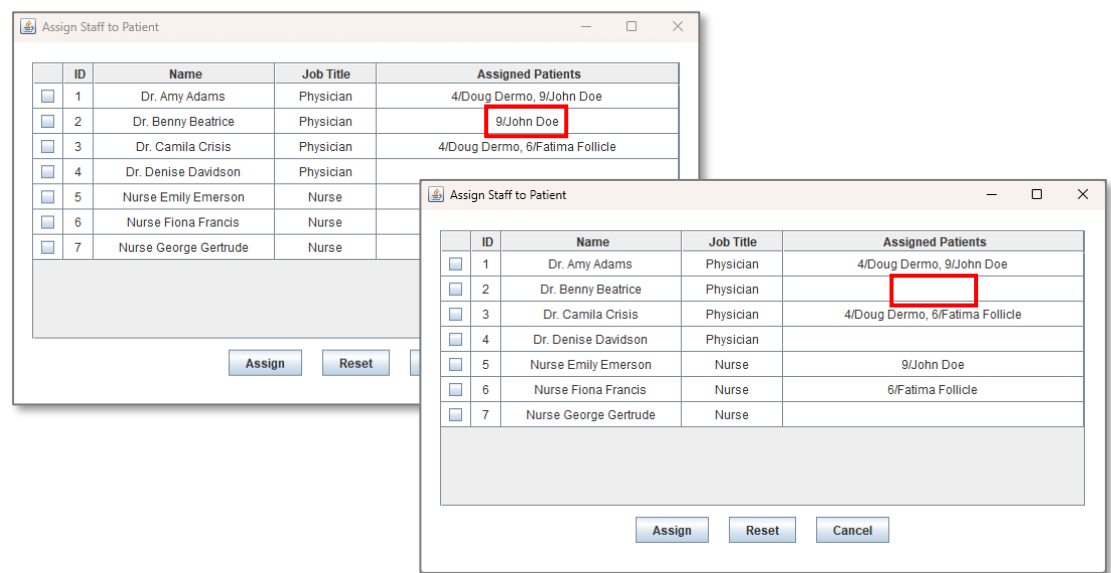
A dialog pops up for the user to confirm the choice.



The system shows a message in the status bar indicating the operation is successful.

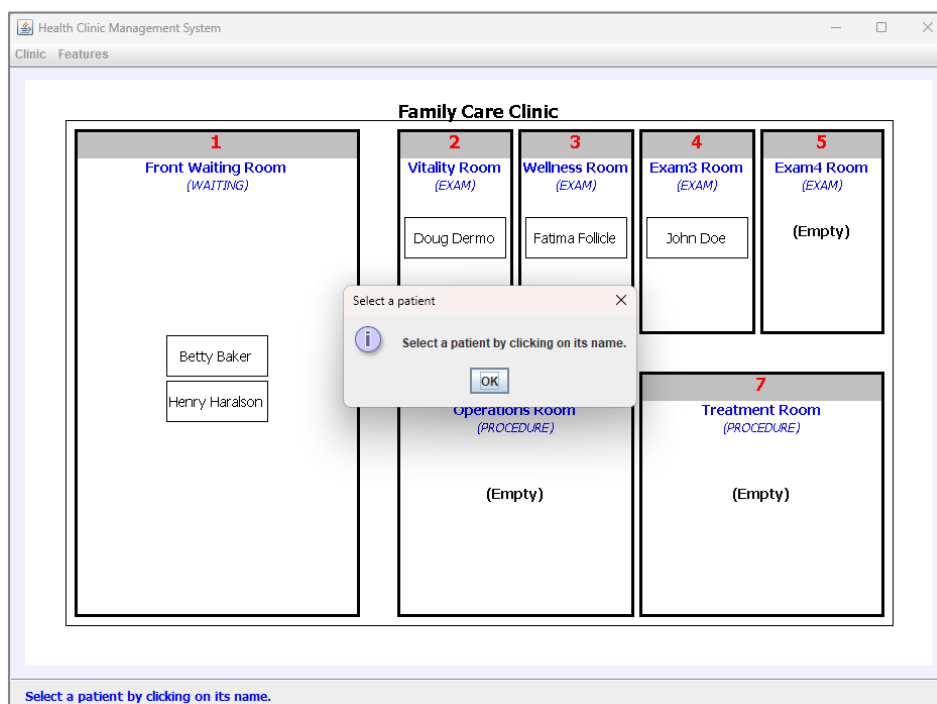
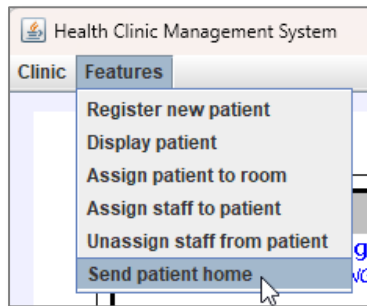


Comparing the results before and after the operation we can find the staff member (Dr. Benny Beatrice) is indeed unassigned from the patient (John Doe).

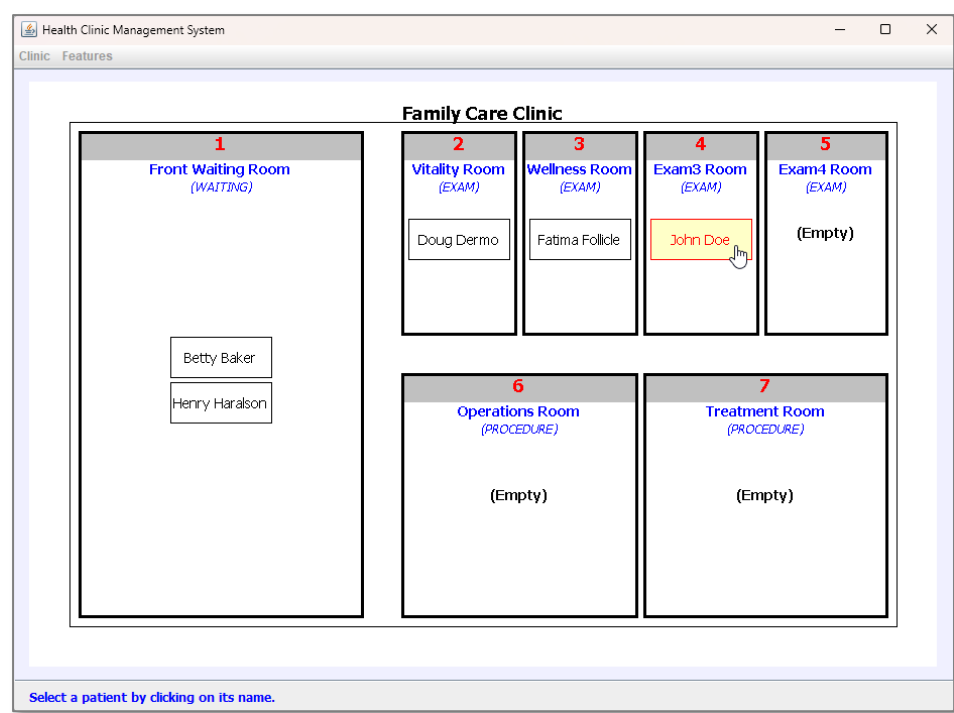


10. Send a Patient Home, Approved by a Physician

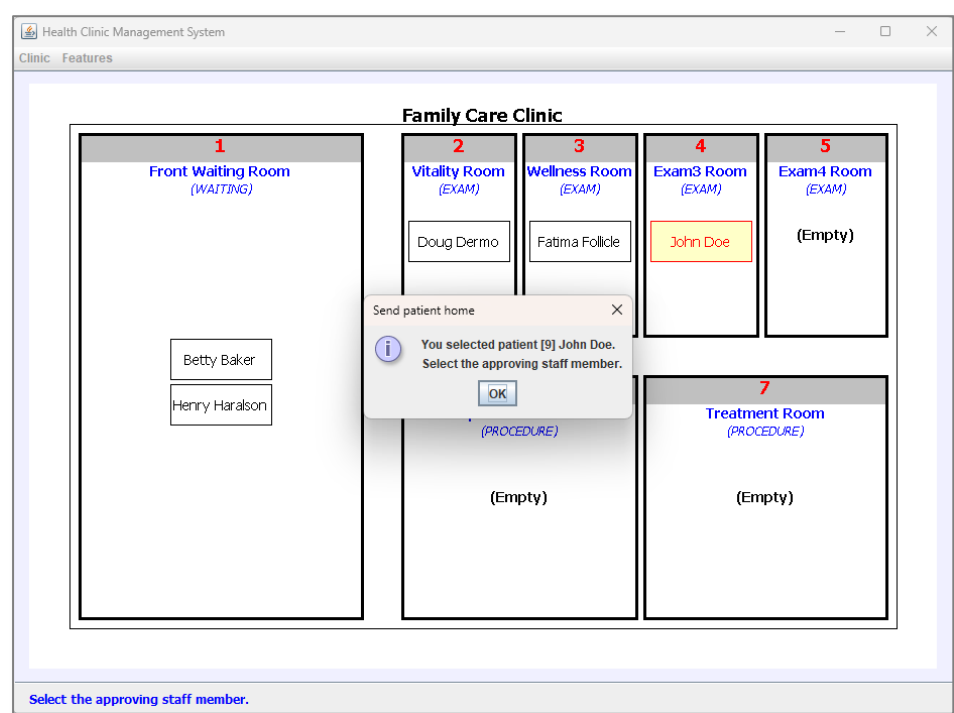
Sending a patient home is performed by selecting a patient in the main window with a mouse click, and then choosing one or multiple staff members in a new window



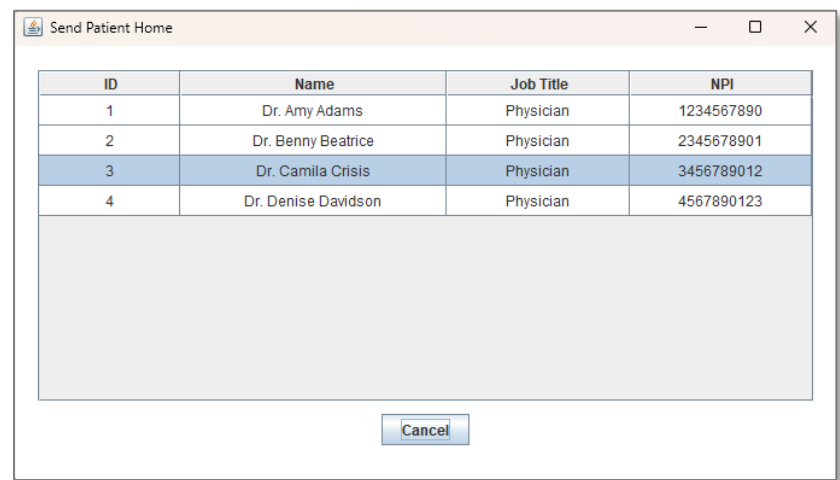
The patients will be highlighted when hovered over, indicating selection upon a mouse click.



After a patient has been selected, the system prompts the user to select the approving staff member in the next displayed window.



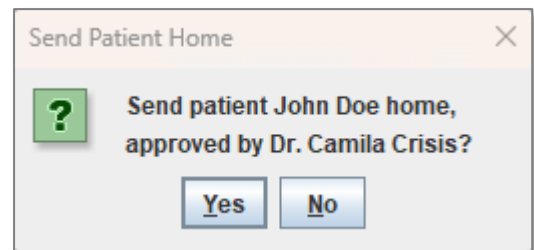
A new window displays a list of all active physicians. The user can select the approving staff member from this list by directly clicking on the row of the corresponding physician.



The 'Send Patient Home' window displays a table with four columns: ID, Name, Job Title, and NPI. The table lists four physicians, with the third row (Dr. Camila Crisis) highlighted in blue. A 'Cancel' button is located at the bottom of the window.

| ID | Name | Job Title | NPI |
|----|---------------------|-----------|------------|
| 1 | Dr. Amy Adams | Physician | 1234567890 |
| 2 | Dr. Benny Beatrice | Physician | 2345678901 |
| 3 | Dr. Camila Crisis | Physician | 3456789012 |
| 4 | Dr. Denise Davidson | Physician | 4567890123 |

A dialog pops up for the user to confirm the choice.



The patient is sent home successfully. Comparing the results before and after the operation we can find the patient (John Doe) is removed from the clinic image.

