CLOSTRIDIUM DIFFICILE INFECTION CONTROL SYSTEM

User Manual

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1. Objective / System Overview:

CDIFF infection control is a cloud-based solution developed to monitor and streamline the treatment process of Clostridium Difficile Infection. The solution has departments, teams, staff, roles, tasks and patients and those are coordinated via the workflows. Admin is the key role that drives the solution by registering patients, defining the maintenance tasks, assigning them to various departments/teams. For each defined maintenance task, there is a responsible team that performs and logs the timing, monitoring team that gets alerted in case of delays, etc. The lab, radiology and any other defined department will have a dashboard to display any instructional messages.

i. Technology Needed to Utilize the Content and Services of CDIFF Infection Control:

The website works on Google Chrome, Mozilla, Internet Explorer, Safari and Opera browsers.

ii. Authorized use permission:

Usage of CDIFF is limited to the staff who has been registered as staff by the Administrator.

2. Launching Website/Installing mobile application:

i. Launching Website:

Using any browser, Type http://www.cdiffcontrol.org/ on the address bar and hit enter. Note that all browsers are supported.

ii. Launching mobile application:

Installing the CDIFF Infection Control App from Android Play Store is straight forward

Step1: Go to 'Play store' in Android mobile.

Step2: Search 'CDIFF', You will find the application which is free to install.

3. Login process

As mentioned earlier in this document, there is no registration process in CDIFF solution as the staff members are registered by Administration of the program. Once registered, staff members will get their login credentials.
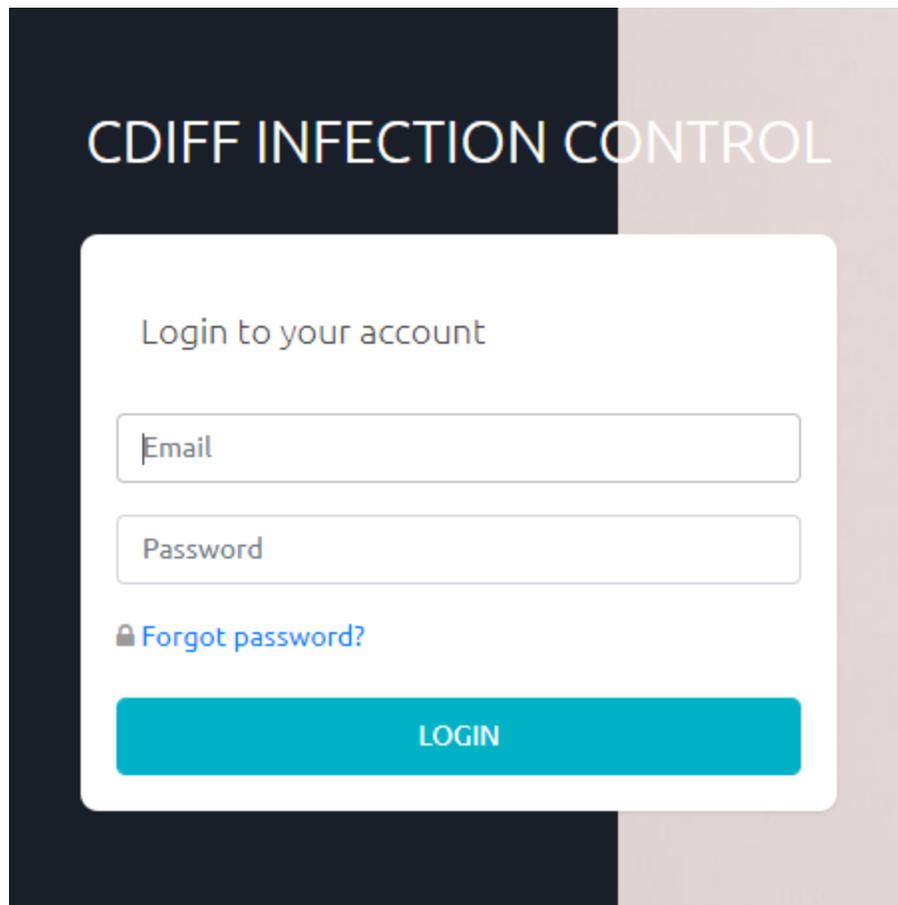
4. Roles

i. Admin:

Admin is the key role assigned to a person to drive the entire core functionality. Admin controls the creation of maintenance tasks, assigning them to performing team [creates a new team in case the right one is not found] and monitoring team. The frequency of the maintenance tasks to be performed is also configured and the system tracks whether or not it is performed. The monitoring team of the respective task is alerted in case not. When a patient is confirmed with CDIFF INFECTION, the patient is then registered in this program and is assigned a room. The monitoring process is triggered when the button 'Begin Treatment' is clicked by the admin and tracks all the tasks.

    a. Create a patient / Import patient from EMR

    b. Create Departments/teams

    c. Create/register staff members and assign them to departments/teams.

    d. Create tasks to be performed by teams and assign them the performing team, monitoring team, task dependencies, frequencies, etc.

    e. Check reports and perform review meetings based on results.
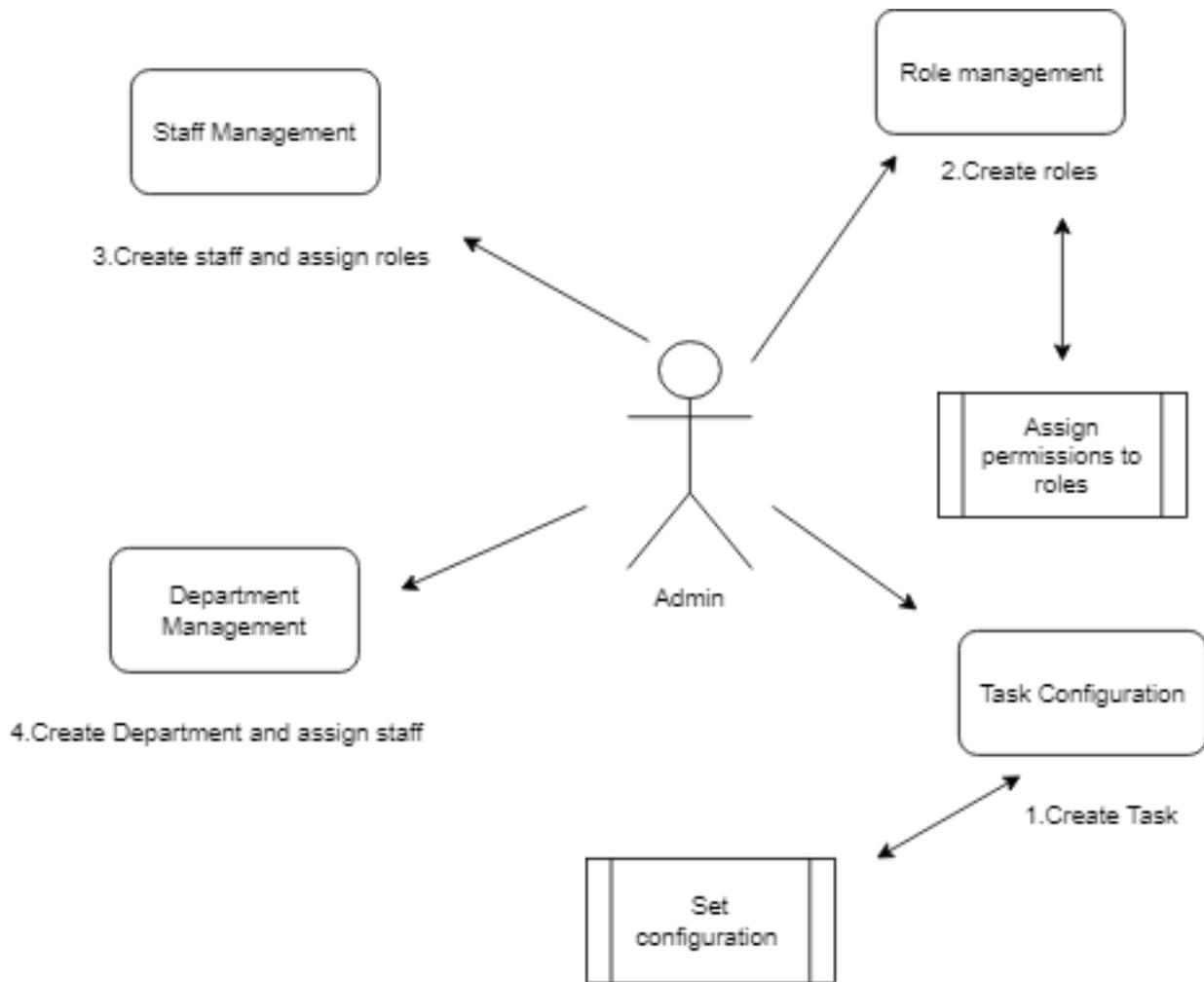
Flow chart for the admin management

i. Staff:

    a. Perform and track personal hygiene tasks.

    b. Perform all the patient/room related tasks assigned to their team based on the order and frequency.

    c. Send Lab/Radiology order instructions for a patient.

ii. Department Staff:

    a. Dashboard with alerts of overdue tasks.

    b. Send text message reminders to the staff on the performing team.

    c. Order instructions list for Lab and Radiology department staff.

5. Overview of various screens

In the home page you can see different modules such as:

> 1. Patient Management
> 2. Task Management
> 3. Staff Management
> 4. Team Management
> 5. Department Management
> 6. Roles
> 7. Notifications
> 8. Settings

I.   Patient management

- **Add patients**

The first step in the infection control program is to register/add the patient in the system by gathering below basic information from the patient and then assigns a room.

All Patients   **Add Patient**

Basic Information

| First Name | Middle Name | Last Name | Phone No. |

| Age | - Gender - | Enter Patient Email | Enter Insurance number |

| Address | Select Date | Admitting Physician | Authorized Person |

Description

Submit   Cancel

- **All Patients:**

After giving all the required information click on the submit button, it will redirect you to the patient list where you can view all the patient details which you had given.

👤 Patient Mgmt   ☰ Task Mgmt   👥 Staff Mgmt   ⬡ Team Mgmt   ⬡ Department Mgmt   ⬡ Roles   🕐 Settings   🔔   ⚙

🏠 / Patients

All Patients   Add Patient

Search:

Patients ID	Name	Email	Number	Insurance	Room	Action
KU Z636882348191025534	Prashanth Shenkesi 24/M	prashanthshneksi@gmail.com	+1 (145) 352-3535		101	♻ Start Treatment
KU C636882238871969327	arun k 78/M	arun123@gmail.com	+1 (888) 876-7686	123456	101	♻ Treatment started Discharge 03/15/2019 10:48:20
KU Q636881640093082713	sankesi prash 25/M	test@gmail.com	+1 (276) 771-5678	324414	101	♻ Treatment started Discharge 03/14/2019 18:10:27
KU Q636881640093082713	sankesi prash 25/M	test@gmail.com	+1 (276) 771-5678	324414	101	♻ Treatment started Discharge 03/14/2019 18:10:27
KU O636881574114812769	Prashanth Shenkesi 26/M	prashanthshneksi@gmail.com	+1 (312) 748-1334	68387531	123	♻ Treatment started Discharge 03/14/2019 16:20:42

Activate Windows
Go to Settings to activate Windows.

Patient Details that display in the list:

- Patient ID: Displays Unique ID for every patient
- Name: It displays all the patient names
- Email: Email of the patient
- Number: It displays all the numbers of the patients
- Insurance: It displays all the insurance numbers for the patients.
- Room: It displays the room details which allocated to patient

- **Search:** You can directly search the patient you want from the above table by giving any one of the required field details of the patient.

- **Import Patient:** Importing patients from the existing patient directory list. You can directly get the details automatically by using this module.

- **Action**: In the action, admin can perform **3 operations** such as:

    a. **Assign Room**: Admin can assign a room to the patient.

    b. **Start Treatment**: After Assigning the room admin will click the button on start treatment which triggers the schedule of maintenance tasks and their monitoring/reporting.

    c. **Discharge**: Admin can discharge the patient.

II.   Task Management:

This section allows admin to create/manage a maintenance task and assign the performing and monitoring teams respectively.

- **Add Task**

During the initial setup, admin is responsible to create all the desired maintenance tasks in the system with the field values as shown in below picture and assign the task to a team to perform the activity and a team to monitor it. This screen also lets the admin to create tasks dependencies and set the frequency of the task.

Field description:

- **Task name:** A meaningful name for the maintenance task.

- **Responsibility:** Select the responsible team from the drop-down list. The selected team is expected to perform the task.

- **Monitoring:** Select the Monitoring team from the drop-down list. The current shift member of selected monitoring team will receive a notification about the delayed task through notifications.

- **Frequency:** The frequency of the respective maintenance task. Example: daily, weekly, as needed etc.

- **Dependent/Completed After:** This helps to configure task dependencies. If a particular maintenance task has to follow other task/tasks, this is the place to set them. The staff member

when tries to perform this task, system checks the status of the selected dependent tasks and alerts accordingly.

Example for dependency:
If you want to perform the task named B, and if task B is configured to be dependent on task A, then the system checks for the status of Task A before the task B can begin.

Can't change the status before completing
Cooling blanket,Continuous passive motion machine for knee

OK
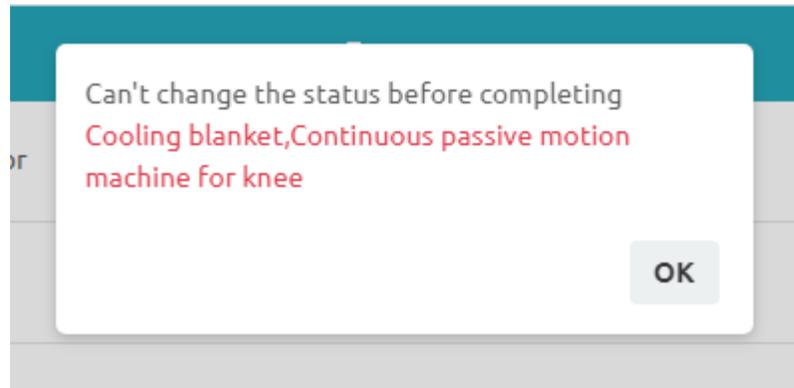
Example for dependency

- **Choose time duration:** The time duration which takes to complete the task

- **Daily room cleaning product:** Details need to enter.

- **Daily Isolation room cleaning product:** Details need to enter.

- **Discharge room cleaning product:** Discharge room cleaning product.

- **Location:** Place of the location where the task is done.

- **Total Description:** Complete description if required.

- **Submit:** Click on Submit button after giving the required information.

- **Cancel:** Click on Cancel button if you decide not to submit.

- **All**: After giving the entire required information click on the submit button, it will redirect you to the task list where you can view all the tasks details which you had given.

Search:

Task Name	Responsibility	Frequency	Monitoring	Duration	Action
Automated external defibrillator	CSD	As Needed	CSD	00:05:00	✏️ 🗑️
Bathroom	EVS2	Daily and Discharge	EVS2	02:00:00	✏️ 🗑️
Bed / chair alarm	EVS2	Daily and Discharge	Nursing rfvtfg	03:00:00	✏️ 🗑️
Beds (remains in room)	EVS2	Daily and Discharge	EVS2	04:00:00	✏️ 🗑️
Bedside and over-bed table	EVS2	Daily and Discharge	EVS2	04:30:00	✏️ 🗑️
Blood pressure cuffs in room	Nursing rfvtfg	Daily and Discharge	Nursing rfvtfg	05:00:00	✏️ 🗑️

- **Action**:

In the Action module, you can perform 2 operations such as:

1)**Edit task:** Where you can edit the task details.
2)**Delete task:** Here you can delete the task.

- **Search:**

Search helps when the list is big and a specific task need to be edited/deleted.

III.   Staff Management:

It is the staff directory where all the staff details are stored.

- **Add Staff**

The standard way to create/add a staff member to the system.

Basic Information

First Name	MiddleName	Last Name	Phone
ratnakar@gmail.com	-Gender- ▼	•••	Confirm Password
Date of Birth	○ Team ○ Department	▼	- Select Role - ▼

Select staff photo

Address

Staff description

Activate Windows
Go to Settings to activate Windows.

Basic Information which required for the staff:

- First Name
- Middle Name
- Last Name
- Phone
- Email
- Gender:
- Password
- Confirm Password
- Date of Birth

- **Team/Department:**

You need to select only one from the given 2 radio buttons which means a member should be either in the staff or department.

- Select Role:
- Photo
- Address
- Staff Description
- Submit
- Cancel.

- **All Staff:**

Default view that lists all the staff members with basic details.

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All Staff   Add Staff

Ratnakar
Role : DOCTOR

✉ ratnakar@gmail.com   📞 123

Hyd

user

sravya
Role : DOCTOR

✉ sravya@gmail.com
📞 80997678909

kphb

user

dskj
Role : DOCTOR

✉ deedjn@gama.com
📞 +1 (987) 689-0876

swaws

IV. Team Management:

Certain staff members are grouped into a team.

- **Add Teams**

1. Team Name
2. Team Image
3. Team Description

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Basic Information

Team Name

Drag and drop a profile image here or click

Team Description

Add   Cancel

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Teams:

After creating a team, you can perform the below tasks

- Add team members.
- Edit team
- Delete team
- View Team members.

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Teams   Add Team

About the image ⊕ ✎ 🗑

About the image ⊕ ✎ 🗑

About the image ⊕ ✎ 🗑

EVS2

EVS Description

View Team Members

CSD

CSD Description

View Team Members

Nursing rfvtfg

Nursing Description

View Team Members

V.   Department Management:

Admin also can create various departments as needed and each department is then assigned staff member(s) who can then access the department's dashboard.

- **Add Department**

Departments   Add Department

Basic Information

Department Name

Drag and drop a profile image here or click

Please type what you want...

Add   Cancel

Department Name, description and Image [optional] are needed to create a department.

- **Departments:**

After creating a Department, you can see the departments that you have created and can perform the below tasks.

Departments	Add Department

About the image

Radiology fdf

Test

[View Department Members]

About the image

Cardiology dcd

Descriptddion

[View Department Members]

Test

Desc

[View Department Members]

- Add department members.
- Edit department
- Delete department
- View department members.

VI. Roles:

Role is access to set of modules that can be assigned to a user/staff member. The user when logged in to the system is limited to set of modules/actions based on the role assigned. Here in the roles section, admin can create/modify a role any time and the users experience the changes automatically.

For example, if we create a role called the doctor then we can give access for2 modules like where he works on

1)Staff ->Home
2)Staff ->Patient Orders

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⌂ / Task Status

Create Role

| DOCTOR |
| None selected ▾ |

NOTE: Don't use any special characters

☐ Admin -> Patient Mgmt
☐ Admin -> Task Mgmt
☐ Admin -> Staff Mgmt
☐ Admin -> Team Mgmt
☐ Admin -> Department Mgmt
☐ Admin -> Roles
☐ Staff -> Home
☐ Staff -> Patient Orders
☐ Lab -> Home
☐ Admin -> Settings

[Submit] [Cancel]

Edit Role

DOCTOR		Save
Nurse		Save
TEST1	▾	Save

Note: Admin need to check thoroughly while creating and assigning the roles to various staff members. Admin need to confirm whether the staff belongs particular department or not.

Configuration for role:

Edit Role

DOCTOR	2 selected ▾	Save
Nurse	3 selected ▾	Save
TEST1	Admin -> Task Mgmt ▾	Save

In the Configuration part, you can add or remove the department access to the particular staff at any time and after editing was complete you need to save them.

6. How it works:

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A. Performing maintenance tasks and record timing:

This section explains the process to track the timing and performance of the tasks by the staff members. Every staff member from the performing team of a particular task is expected to begin the task when entering the patient room, perform the task and mark it as complete. The system tracks the time taken to perform the task along with the details of the staff member. The frequency checks and status is run background always and the notifications are issued to monitoring team.

i.   Login:

1. Admin/Staff can login by using their existing official ID credentials

<div align="center">OR</div>

2. Admin/Staff can login by using their login credentials which were provided by the admin.

ii.   Staff Home page:

In the home page, we can see 4 modules in general. And additional modules will be added to staff by the admin based on the need.

iii.   Module description:

A. Search patient:

- After login - The staff needs to check the patient which is assigned to him by entering patient details like room number or patient name/mobile/Email id in the search bar.

- You will see the tasks list which needs to perform for the patient.
- In the task list, you will find the task status details in the top of the table.

a) Status
b) Task name
c) Frequency
d) Responsibility
e) Monitoring
f) Location
g) Daily room exchange
 h) Daily Isolation room cleaning product
I) Discharge Room Cleaning product.

Daily Room Cleaning Product	Daily Isolation Room Cleaning Product	Discharge Room Cleaning Product
Disinfectant wipes	N/A	N/A
Dimension 11	Dispatch disinfectant	Dispatch disinfectant

Status	Task Name	Frequency	Responsibility	Monitoring	Location	Da
NEW ▼	Automated external defibrillator	As Needed	CSD	CSD	usa	Dis
IN PROGRESS ▼ 03/15/2019 19:10:26	Bathroom	Daily and Discharge	EVS2	EVS2		Di

a) Status

Shows the status of the task. there are 3 status descriptions for any task.

- **New:** This means the task is in yet to begin. If delayed, monitoring team is alerted.

- **Begin task:** When changed to 'Begin' the system notes the time and the status is changed to 'IN PROGRESS'.

- **Completed:** After the task is performed the status need to change from **IN PROGRESS to Completed.**

b) Task name:
- It displays the name and of the task.

c)Frequency:
- For every particular task, there will be a frequency which is set by the admin.
- It defines how frequently the task has to be performed.

d) Responsibility:
- It displays the name of the responsible team, that need to perform the task.

E) Monitoring:
- This displays the name of the monitoring team who gets alerted in case of delays.

F) Location:
- It shows where the task needs to be performed, it displays the place.

G) Daily Room Cleaning Product.

H) Daily Isolation Room Cleaning Product.

I)Discharge room cleaning product.

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B. Condition to perform a task:

- Some tasks could be dependent on other tasks performance status. Admin sets the dependencies during the initial setup.
- For example, let's assume there are 2 tasks named 'Task A' and 'Task B'. If the task B is dependent on task A then you need to perform 'Task A' first and then 'Task B'.
- If a particular task had dependency and the task is not performed, a pop-up message will be displayed when user tries to begin the task.

Pop-up message example:
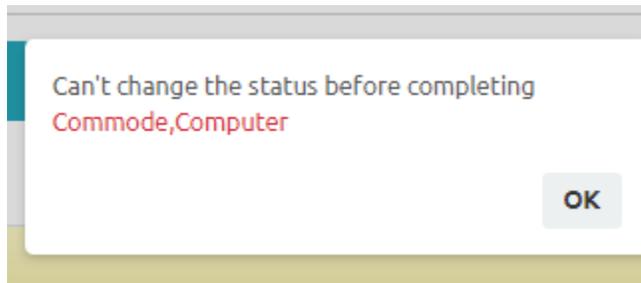
- After looking at the above example it is clear that there is a dependency where you need to perform commode, computer tasks and before trying to perform the intended task.

C. New Patient Orders

- After selecting the particular patient, you will find all the task list in the table
- When the staff needs to instruct lab on a particular order or send a note in general, it can be accomplished via the orders screen.
- The button named '**new patient orders'** is located on the top right of the screen for the same.

- Select the department to where you wanted to send an order.
  Example: Radiology, cardiology.
- Provide the require description in the text box and click on submit order.
- Your order will be directly assigned to the department staff that you have selected.
- You can track the ordered task status by using tab named patient order.

D. Patient Orders:

CDIFF INFECTION CONTROL   👤 Home   ≣ Patient Orders   🔔   ⚙️

Patient Orders

Patient Id	Patient Name	Ordertype	Task Name	Created By	Description	Status	Action
KU Q636881640093082713	sankesi prash			Prashanth Shenkesi	xray	CANCELLED	Cancel
KU O636881574114812769	Prashanth Shenkesi			Prashanth Shenkesi	test	NEW	Cancel
KU Q636881640093082713	sankesi prash			Prashanth Shenkesi	leg scaN	CANCELLED	Cancel
KU Q636881640093082713	sankesi prash			Prashanth Shenkesi	xray	CANCELLED	Cancel
KU Q636881640093082713	sankesi prash			Prashanth Shenkesi	aaaaa	CANCELLED	Cancel

- Patient orders tab can be found on the top right corner of the home page.
- It displays all the new task ordered details.

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- It shows the list of order details with the detailed information for every particular order.
- **Status:** Status of the ordered task.
- **Action:** The standard way to cancel an order.

B. Performing personal Hygiene [by caregivers]:

Personal Hygiene tab is a designated section to track and record the time spent on any/all of the defined tasks. Once administrator configures the tasks, they are automatically assigned to all the staff members. They can login, select a patient, look at the tasks and mark them begin or complete. The program automatically calculates the time spent on each task and reports accordingly.

Steps to follow:

➢ Search for the patient by using patient name/Room number.

➢ Click on *Personal Hygiene* Tab.

CDIFF INFECTION CONTROL

Welcome, Smith f Jones

Patient Monitoring

| Room Number ▼ | 124 ▼ | Search |

Create Patient Order

Patient ID : KUK636959967949207693

| Task(s) for Patient | **Personal Hygiene** |

Name : zztest patient | Female | 21 years

Email : zztest@testemail.com

Phone : +1 (313) 421-1527

Insurance ID :

Room No : 124

Address :

Admitting Physician : JacobDoc R

Authorized Person :

| Search by task name | EVS ▼ | *Last Refreshed* : 07/03/2019 07:14:50 |

Search by responsibility team
All
EVS
CSD
Nursing
Unit secretary
Dialysis
EKG technician
Respiratory care
Transport
Pharmacy
Radiology Team
Doctors
T_evs

Status	Task Name	Frequency	Location	Daily Room Cl...	...g Product	Discharge Room Cleaning Product
NEW ▼	Hand Wash	As Needed **Responsibility** : EVS **Monitoring** : Nursing	Hospital	the		IT
NEW ▼	Saftey Precautions	Daily and Discharge **Responsibility** : EVS **Monitoring** : Nursing	afafs	afasf		edf

Activate Windows
Go to Settings to activate Windows.

➢ If the list is big, you can search for a specific task.

➢ For the task chosen, select one of the 4 statuses from the dropdown list.

1. ***New:*** This is the initial stage of task which means the staff need to begin a task.
2. ***Begin Task:*** Clicking on Begin Task the status of the task will be changed In progress.
3. ***In Progress:*** It tells that task is under progress.
4. ***Completed:*** Once the task is performed, staff can change its status from In Progress to Completed. Upon completion, duration is calculated and displayed for information purpose.
5. ***Reset:*** Any accidental updates can be reverted by clicking on reset option.
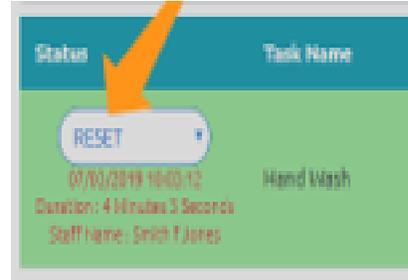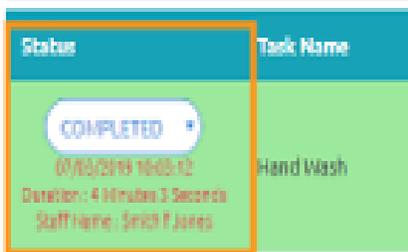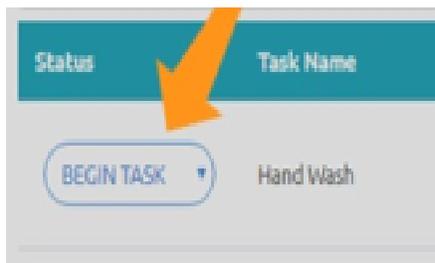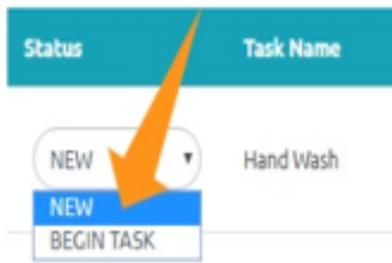
7. Work Flow

I.   How to create staff

Step1: Go to Main menu

Step2: Click on staff management button.

Step3: Click on Add Staff

Step4: Provide details of the staff in required fields

Step5: Click on submit button

II.   How to create a role:

Step1: Go to Main menu

Step2: Click on Roles

Step3: Enter the Role Name

Step4: Select the radio buttons of which role is required.

Step5: Click on submit button.

III.   How to assign a role:

Step1: Go to Main menu

Step2: Click on Roles

Step3: Go to Edit Role

Step4: Select the radio buttons which consist of different roles

IV.   How to create department:

Step1: Go to Main menu

Step2: Click on Department Management
Step3: Click on Add department

Step4: Provide the required information and click on Add button

V. How to create team

Step1: Go to Main menu

Step2: Click on Team Management

Step3: Click on Add department

Step4: Provide the required information and click on Add button

VI. How to add staff to the department

Step1: Go to Main menu

Step2: Click on Department Management

Step3: Click on Add department

Step4: After providing staff details click on radio button called Staff

Step5: Now select team type from the drop-down list and click on Add button.

VII. How to add staff to team

Step1: Go to Main menu

Step2: Click on Staff Management

Step3: Click on Add Staff

Step4: After providing staff details click on radio button called Staff

Step5: Now select team type from the drop-down list.

VIII. How to add task

Step1: Go to Main menu

Step2: Click on Task Management

Step3: Click on Add Task

Step4: Provide all the required fields
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Step5: Click on Add task

IX.   Notifications

Step1: Go to Main menu

Step2: Click on Notifications Icon.

Here you can see all the notifications for the recent activities or upcoming tasks which need to perform.

8. Notifications

- It displays all the recent activities done by the users.
- Also, it reminds users of the task to be performed.