
Use Case UC1: Access Hospital Management System (HMS)

Scope: Internal HMS

Level: subfunction-level

Primary Actor: Doctor

Preconditions: Doctor has turned their computer on

Main Success Scenario:

1. Doctor opens HMS program on their computer
2. System shows a login interface
3. Doctor provides the correct user id and password
4. System validates the login credentials
5. System approves login attempt
6. System requests authenticator code
7. Doctor provides authenticator code
8. System validates authenticator code
9. System shows the user interface of the HMS

Special Requirements:

- Hardware that can display the web-based user interface
- Internet Connection
- Mouse and keyboard or touch input
- Physical two step verification authenticator
- Maximum of 5 login attempts and 5 authenticator attempts

Frequency of Occurrence: Roughly 2 to 4 times per day, for each doctor

Use Case UC2: Support Appointment

Scope: Internal HMS

Level: user-goal

Primary Actor: Doctor

Preconditions: Accessed HMS

Main Success Scenario:

1. Patient arrives to the appointment
2. System shows the patient that is currently scheduled
3. Doctor selects the patient
4. System validates access rights of the doctor
5. System provides patient information in user interface
6. Doctor views the patient information
7. Doctor adds new information to the patient information
8. System modifies the information of the patient
9. System updates the patient information in the user interface
10. Doctor finalizes the appointment with the patient

Special Requirements:

- Hardware that can display the web-based user interface
- Internet Connection
- Mouse and keyboard or touch input

Frequency of Occurrence: Roughly 20 times per day, for each doctor

Use Case UC3: Review Lab Results

Scope: Internal HMS

Level: user-goal

Primary Actor: Doctor

Preconditions: Accessed HMS

Main Success Scenario:

1. Doctor selects a patient out of the list of patients
2. System validates access rights of the doctor
3. System provides patient information in user interface
4. Doctor selects the lab results tab
5. System provides lab information of patient
6. Doctor reviews the lab information
7. Doctor requests a lab test out of the prespecified options
8. Doctor adds a text message and urgency level
9. Doctor submits the lab request
10. System sends the lab request to the research lab

Special Requirements:

Frequency of Occurrence: Daily, for each doctor

Use Case UC4: Manage Lab Tests

Scope: Internal HMS

Level: user-goal

Primary Actor: Lab researcher

Preconditions: Accessed HMS

Main Success Scenario:

1. Lab researcher views test requests in user interface
2. System provides overview of the requests with test type, doctor name and status
3. Lab researcher selects a request
4. System provides an overview of the request and the message of the doctor
5. Lab researcher reviews request and message
6. Lab researcher adds or modifies test results to the request
7. System modifies the lab results

Special Requirements:

- Hardware that can display the web-based user interface
- Internet Connection
- Mouse and keyboard or touch input

Frequency of Occurrence: Up to 50 times per day, for each lab researcher

Use Case UC5: Support Urgent Lab Test

Scope: Internal HMS

Level: user-goal

Primary Actor: Lab researcher

Preconditions: Accessed HMS

Main Success Scenario:

1. System notifies lab researchers of urgent request through sound
2. Lab researcher accesses lab request
3. System provides doctor name, test type and doctor message
4. Lab researcher reviews the information
5. Lab researcher selects 'start test' in user interface
6. System notifies the doctor that made the request that test is pending
7. Lab researcher performs the tests
8. Lab researcher enters the lab results into the system
9. Lab researchers reviews and submits the results
10. System sends the lab results to the doctor that made the request

Special Requirements:

- Hardware that can display the web-based user interface
- Internet Connection
- Mouse and keyboard or touch input

Frequency of Occurrence: Weekly, for each doctor

Use Case UC6: Schedule appointment

Scope: Internal HMS

Level: user-goal

Primary Actor: Receptionist

Preconditions: Accessed HMS

Main Success Scenario:

1. Patient arrives at receptionist and provides patient number
2. Receptionist enters patient number into appointment user interface
3. System provides available time slots
4. Receptionist reviews available time slots
5. Receptionist checks whether patient is available
6. Patient confirms the time slot
7. Receptionist assigns the patient to the time slot in the user interface
8. System provides availability of rooms and doctors
9. Receptionist reviews doctor availability
10. Receptionist asks patient for confirmation of doctor assignment
11. Patient confirms the assignment
12. Receptionist assigns doctor and room to the time slot in the user interface
13. System assigns doctor, room and time slot to the patient

Special Requirements:

- Hardware that can display the web-based user interface
- Internet Connection
- Mouse and keyboard or touch input

Frequency of Occurrence: Up to 100 times per day, for each receptionist

Use Case UC7: Manage Patient Measurements

Scope: Internal HMS

Level: user-goal

Primary Actor: Nurse

Preconditions: Accessed HMS

Main Success Scenario:

1. Nurse provides patient id
2. System validates access rights of nurse
3. System provides limited access to measurement information
4. Nurse reviews measurement information
5. Nurse measures medical information of patient
6. Nurse submits measurements to the system
7. System adds the measurements to the medical record of the patient

Special Requirements:

- Hardware that can display the web-based user interface
- Internet Connection
- Mouse and keyboard or touch input

Frequency of Occurrence: Up to 100 times per day, for each nurse

Use Case UC8: Provide Prescribed Medication

Scope: External Pharmacy System

Level: user-goal

Primary Actor: Pharmacist (external)

Preconditions: Accessed HMS

Main Success Scenario:

1. Patient arrives at pharmacy desk
2. Pharmacist requests patient credentials
3. Patient provides credentials
4. Pharmacist enters credential into user interface
5. System shows prescribed medication with dosages
6. Pharmacist reviews prescription
7. Pharmacist provides prescribed medication to patient
8. Pharmacist confirms that the medication is provided in the user interface
9. System updates the status of the prescription to complete

Special Requirements:

- Hardware that can display the web-based user interface
- Internet Connection
- Mouse and keyboard or touch input

Frequency of Occurrence: Daily, for each external pharmacy connected to UHOPE

Use Case UC9: Manage Appointments

Scope: Patient Web Portal

Level: user-goal

Primary Actor: Patient

Preconditions: Accessed Patient Web Portal

Main Success Scenario:

1. Patient logs in through the web portal
2. System provide the selection menu
3. Patient selects 'appointments'
4. System provides overview of past appointments and a calendar
5. Patient reviews past appointments
6. Patient selects a day on the calendar

7. System shows the available time slots of that day, including the available doctor
8. Patient selects a doctor and time slot combination
9. System validates availability of doctor and room during that time slot
10. System notifies patient that the appointment is available
11. Patient requests appointment
12. System **schedules** the room, patient and doctor in the time slot
13. System provides confirmation of the scheduled appointment to patient

Special Requirements:

- Hardware that can display the web-based user interface
- Internet Connection
- Mouse and keyboard or touch input

Frequency of Occurrence: Weekly, monthly or yearly, for each patient

Use Case UC10: Manage Personal Medical Data

Scope: Patient Web Portal

Level: user-goal

Primary Actor: Patient

Preconditions: Accessed Patient Web Portal

Main Success Scenario:

1. Patient logs in through the web portal
2. System provide the selection menu
3. Patient selects 'patient information'
4. System provides medical records with test results and measurements
5. Patient reviews the medical records
6. Patient selects the **privacy** icon in the user interface
7. System shows list of **actors** that have **access** to the patient information
8. Patient reviews actors with access
9. Patient **removes** access to their information for one specific actor
10. System updates the **access rights** of the actor
11. System provides an updated overview of actors with access

Special Requirements:

- Hardware that can display the web-based user interface
- Internet Connection
- Mouse and keyboard or touch input
- Checkmarks before each actor in privacy menu

Frequency of Occurrence: Weekly, for each patient that uses patient web portal

Use Case UC11: Prescribe Medication

Scope: Internal HMS

Level: user-goal

Primary Actor: Doctor

Preconditions: Accessed HMS

Main Success Scenario:

1. Doctor selects the patient in the user interface
2. System validates access rights of the doctor
3. System provides patient information in user interface
4. Doctor views the patient information
5. Doctor selects the medication prescription menu
6. System shows the medication prescription history of the patient
7. System shows prescription selection menu
8. Doctor selects a medication for a new prescription
9. Doctor confirms the selected pharmacy
10. System sends a **confirmation** to the doctor
11. System sends the prescription to the selected pharmacy

Special Requirements:

- Hardware that can display the web-based user interface
- Internet Connection
- Mouse and keyboard or touch input

Frequency of Occurrence: Roughly 10 times per day, for each doctor

Static Conceptual Model

