Use Case Description

A smart monitoring IV/drip system use case is described as follows:

Monitor and Control IV/Drip is the name of the use case.

The primary actor is a healthcare provider.

The goal is to precisely monitor and manage the drip rate and amount of medication administered to the patient.

Preconditions:

• IV fluids and/or medicines have been prescribed for the patient.

• The patient's smart monitoring IV/drip system has been set up and configured.

The Basic Flow:

1. The healthcare provider enters their credentials into the smart monitoring IV/drip system.

2. The healthcare professional chooses a patient from a list of available patients to monitor and regulate.

3. The system displays the current drip rate and medication quantity settings for the patient.

4. As needed, the healthcare professional can alter the drip rate and/or medication quantity.

5. The system validates the updated settings and provides a message of confirmation.

6. The healthcare provider starts the drip by pressing the "start" button on the system. 7. The system continuously monitors the patient's vital signs and the amount of medicine being delivered. 8. If the system detects any deviations from the set parameters, such as changes in the drip rate or volume of medicine, an alarm is triggered and the healthcare provider is notified.

9. In response to the alarm, the healthcare professional can take necessary action, such as altering the settings or delivering more medicine.

10. When the drip has finished, the healthcare provider presses the system's "stop" button.

11. The device records the overall amount of medicine administered as well as any alerts that occur throughout the drip.

12. The healthcare practitioner logs out of the system

Alternative Flows:

• If the system detects a critical deviation from the specified parameters, such as a dangerously high or low drip rate, it instantly stops the drip and activates a critical alarm, encouraging the healthcare professional to take quick action.

Postconditions:

• The smart monitoring IV/drip system correctly monitored and managed the patient's IV fluids and medicines, and the system documented the total amount of medicine provided as well as any alerts generated throughout the drip.

* The healthcare provider has left the system.

This use case description covers the primary procedures involved in utilizing the smart monitoring IV/drip system to correctly monitor and regulate the flow of IV fluids and medicines to a patient. The use case underlines the significance of constant monitoring and correct tracking of patient vital signs and drug administration to guarantee patient safety and effective treatment.