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| **Use Case** | Complete Appointment | | |
| **Scenario** | Doctor completes the appointment with the patient. | | |
| **Triggering Event** | Doctor completes the appointment with the patient, so appointment status is updated to completed. | | |
| **Brief Description** | This use case describes the process of doctor completing the appointment with patient. | | |
| **Actors** | Doctor, Pharmacist | | |
| **Related Use Case** | Create Appointment Result | Because doctor needs to input their diagnosis and patient symptoms. | |
| Create Prescription | Because doctor needs to create a prescription after completes the appointment. | |
| Edit Appointment Result (Optional) | Because if doctor makes any changes related to future diagnosis / symptoms, they need to change the appointment results. | |
| Schedule Next Appointment (Optional) | Because doctor can decide whether the patients need another appointment or not. | |
| **Stakeholders** |  | | |
| **Preconditions** | 1. Doctor has an incomplete appointment. | | |
| **Postconditions** | 1. Appointment job status updated to completed. 2. Consultation fee will be updated to patient’s bills. 3. A prescription, and its fee will be updated to patient’s bills. 4. The appointment result will be added. 5. Scheduling the next appointment with the current patients. | | |
| **Flow of Activities** | **Actor** | | **System** |
| 1. Doctor sees their appointment list that are not done. | | * 1. System retrieves the appointment list. |
|  | 1. After done with the appointment, doctor will set the appointment into completed. | | * 1. System change the current appointment status into completed. |
|  | 3. Doctor will create the prescription to patient. | | 3. System create “preparing medicine” job for pharmacist. |
|  | 4. Doctor choose next appointment schedule | | 4.1 Systems retrieve appointment schedules that available.  4.2 Systems set up new appointment schedule. |
|  | 5. Doctor input appointment results | | 5.1 System save appointment results into patient list and update all the bills. |
| **Exception Conditions** | 1. If there are no current appointments that needs to be done, then doctor will not do the appointment.   4. If doctor choose appointment from the schedule that conflict, then display error message and choose another schedule that are not conflict.  5. If doctor made a mistake while diagnosing on input appointment results, then doctor can edit appointment results in the future. | | |

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| **Use Case** | Completing the use of the bed | | |
| **Scenario** | Ending the usage of the bed from currents patients. | | |
| **Triggering Event** | When patients are discharged from the hospital. | | |
| **Brief Description** | This use case describes the process of completing the use of patient’s bed when they discharged from hospital. | | |
| **Actors** | Nurses, Administration Staff, Additional Staff (Cleaning Service) | | |
| **Related Use Case** | View Bed Patient Details | Because the “ending bed usage” its only available when we clicked the view of Bed Patient Details. | |
| **Stakeholders** |  | | |
| **Preconditions** | 1. When patients already decided by doctor to go home. 2. Cleaning service is available to cleaning the bed. | | |
| **Postconditions** | 1. Current patients’ bills are generated, including all the bills that patients have while in hospital. 2. Cleaning service is making and finish the “make bed” job. 3. Bed status is updated to available once the cleaning service is already done making the bed. | | |
| **Flow of Activities** | **Actor** | | **System** |
| 1. Admin staff ends the bed usage of current patients by click the “end bed” button. | | * 1. System retrieves and showing the patients data that being clicked from the patients bed.   2. System generates the patients bill, including room, consultation, and another fee.   3. System set current bed status to “unavailable” for a moment.   4. System add job “making the bed” to cleaning services. |
|  | 1. Cleaning services called and do their job to make the bed. | | 2.2 When the job finished, the status of the bed changed to available. |
| **Exception Conditions** | 1. When admin staff ends the bed usage that didn’t have patient on it / available, so it will display error message.    1. When patients want to extend the bed usage, so they told nurse or admin staff to extends. 2. When cleaning services are not available at the moment, so have to wait for another minute until previous job is done. | | |

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| **Use Case** | Create Certificate | | |
| **Scenario** | Create Certificate (Death / Birth) by fill out a form with patient-related attributes. | | |
| **Triggering Event** | When admin staff or nurses wants to create certificate (Death / Birth). | | |
| **Brief Description** | This use case describes the process of creating certificate for a patient. | | |
| **Actors** | Nurse, Administration Staff, and Doctor. | | |
| **Related Use Case** | View Certificate List | Because in order to create certificate, user have to open certificate list page first. | |
| **Stakeholders** |  | | |
| **Preconditions** | 1. Patients didn’t have certificate for either it’s birth or death. | | |
| **Postconditions** | 1. Certificate is created and updated as legitimate when the doctor approved, and available for download or print. | | |
| **Flow of Activities** | **Actor** | | **System** |
| 1. Nurses or admin staff open the certificate list, and open create new certificate button. | | 1.1 System open up the certificate list page. |
|  | 1. Nurses or admin staff choose certificate type. | | 2.1 System retrieve certificate types |
|  | 3. The actor choose wants to fill in the form manually or automatically by searching patients. | | 3.1 System retrieve patients data and automatically fill in the forms. |
|  | 4. Submit the certificate. | | 4.1 System create a request to the last doctor who handled the patient to approve the certificate. |
|  | 5. Doctor see the request and can approve the certificate request based on certain conditions by adding a signature image on the certificate. | | 5.1 System sends a notification to doctor to approve the certificate.  5.2 Send notifications to admin staff and nurse that certificate is ready to published as legitimated. |
| **Exception Conditions** | 3.1 If patients not found,  4. If any required fields in the form are missing or filled incorrectly, then showing validation error message.  5. If doctor disapprove the certificate request, then send notifications back to admin or staff to revision. | | |

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| **Use Case** | Move patients to another bed or room | | | |
| **Scenario** | When nurse or admin staff wants to move patients to another bed or room. | | | |
| **Triggering Event** | A request from patients or in certain urgency to move patients to another bed or room. | | | |
| **Brief Description** | This use case describes the process of moving patients to other available beds or rooms based on certain urgency. | | | |
| **Actors** | Nurse, Administration Staff, Patients | | | |
| **Related Use Case** | Assign Patients Bed / Room | Because this is the main use case in this description. | | |
|  | View Registered Patients | Because we have to know current patients data and update it with the new room / bed. | | |
|  | View Bed | Because we want to move patient to another bed | | |
|  | View Room | Because we want to move patient to another room | | |
| **Stakeholders** |  | | | |
| **Preconditions** | 1. The new beds or rooms are available. 2. Current patients are assigned to bed / rooms. | | | |
| **Postconditions** | 1. The patients is successfully moved to another bed or room with their data updated too in the systems. 2. The availability of the previous and new bed / room is updated in the systems. 3. A job for the nurse is added to handle the patient’s move. 4. A job for cleaning services is added to make the bed for new and old bed / room. | | | |
| **Flow of Activities** | **Actor** | | **System** | |
| 1. Admin staff or nurse check the availability of beds/rooms and select the available one. | | * 1. System retrieves all beds and rooms in the hospital. | |
|  | 1. Nurses initiate the process of moving patients into new bed / rooms, and ensure their comfort and necessary care in the new bed / room. | | * 1. Old beds/rooms are set to “unavailable” at the moment.   2. New beds/rooms are set to “filled”.   3. System added “making the bed” for cleaning services to clean the old bed/rooms. | |
|  | 1. Cleaning services making the old bed. | | * 1. When done, system update the old bed/rooms to “available” again.   2. System updates the patient information based on the new beds/rooms. | |
| **Exception Conditions** | 1. If there are no available beds or rooms, then patient cannot be moved until there are available beds / rooms.   2.1 If there are no cleaning services at the moment, then we must wait until its become available. | | | |
| **Use Case** | Use Ambulance | | | |
| **Scenario** | Ambulance used to pick up patients that have critical condition and requires immediate medical emergency care. | | | |
| **Triggering Event** | A patients required immediate medical emergency care and needs a safe transportation. | | | |
| **Brief Description** | This use case describes the process of using an available ambulance. | | | |
| **Actors** | Administration Staff, Additional Staff (Driver) | | | |
| **Related Use Case** | View Ambulance | Because we have to open ambulance view first before we can use the ambulance. | | |
|  | Assign patients beds / rooms | Because when patient arrived, nurse have to assign the patients into emergency room. | | |
|  | Register patients | Because all patients in the hospital must be registered first, so we need to register them when arrived in the hospital. | | |
| **Stakeholders** |  | | | |
| **Preconditions** | 1. Any Ambulance is marked as available. 2. Beds are available in the emergency room for picked-up patients. | | | |
| **Postconditions** | 1. The status of ambulance is updated as “used” in the system. 2. Assigning a job for driver to pick up the patients. 3. Patient is safely transported into desired destination. | | | |
| **Flow of Activities** | **Actor** | | | **System** |
| 1. Admin staff open up the view ambulance page. | | | * 1. System retrieves the ambulance data. |
|  | 1. Admin staff select the chosen ambulance and fill in the form | | | * 1. System check the available ambulance.   2. System retrieves and check if there are beds available in the emergency room.   3. System save the patient details for temporary.   4. System give job notification “pick up” to driver. |
|  | 1. Driver go into the pick up location, and bring it back safely to the hospitals. | | | * 1. System make current ambulance status to used. |
|  | 1. Admin Staff registered the patients based on the form before. | | | * 1. System save the patient details and make it registered.   2. System make current ambulance status to available. |
|  | 1. Nurse assigning patients beds in Emergency Room. | | | * 1. System adds pick up fee into the bills, and room information to patients details. |
| **Exception Conditions** | 2.4 If there are no available beds in the emergency room, then patients must wait or move patient to another room.  2.5 If current ambulance is already used or unusable, then validate and prompt user to use another ambulance | | | |