Systems Analysis and Design

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Teamwork ver.1

Group 6

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Date 2017/ 4 / 26

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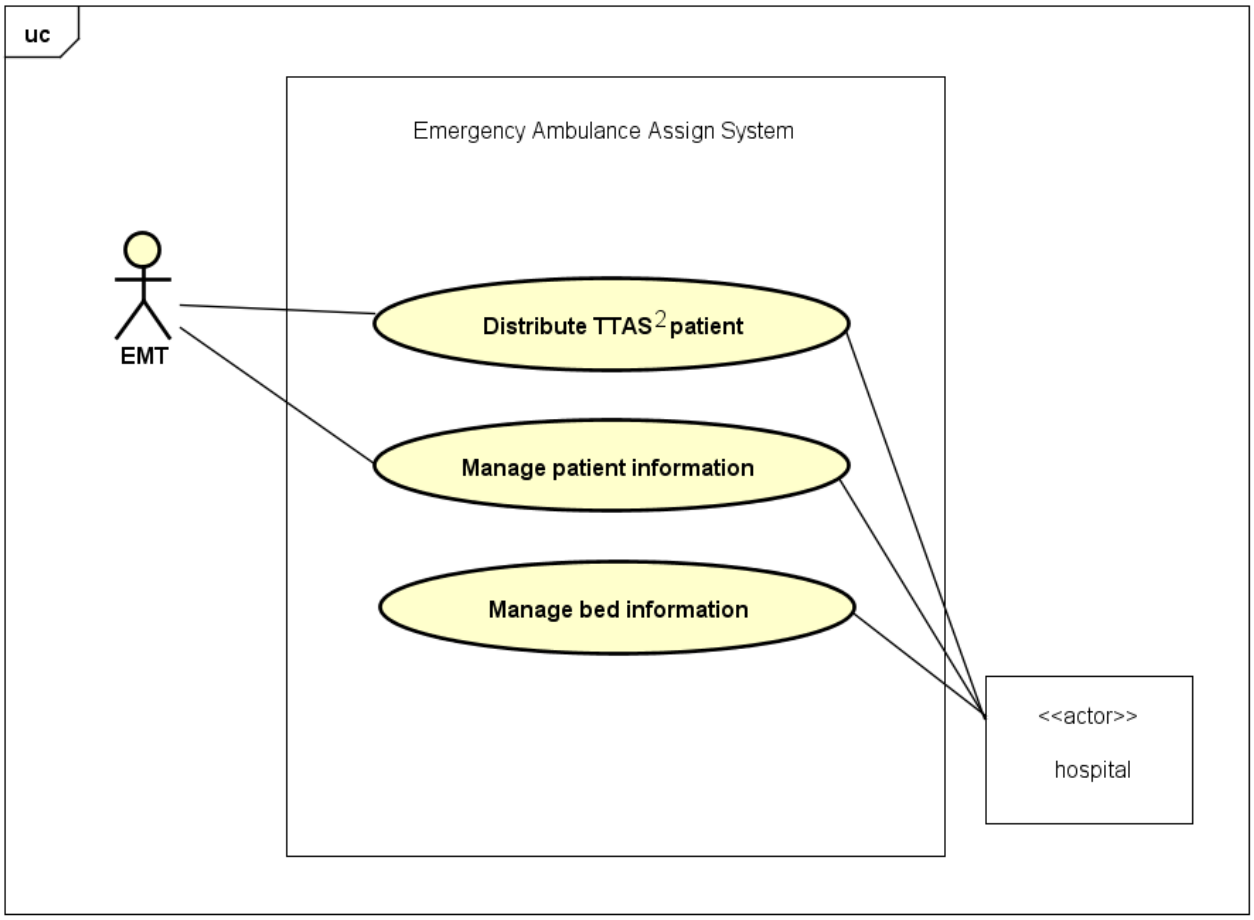
Emergency Ambulance Dispatch System

1. Describe the project in text.

When an ambulance takes a patient to a hospital, the traditional way is using the two-way radio to contact the ambulance and the nearby hospitals, then ask if there are remaining beds and enough emergency medical resources. To strive for the golden window, we designed a system to shorten the time to search the hospital. When the ambulance received the patient, the EMT[1] can enter the injury level. And then the system position automatically, calculate the distance between the ambulance and the hospital, and search the hospital's remaining beds. After finding the hospital, the EMT can import the detail patient information and inform the hospital necessary medical resources. When the ambulance arrives, the hospital can carry out emergency treatment immediately.

2. Draw a use-case diagram of the project.

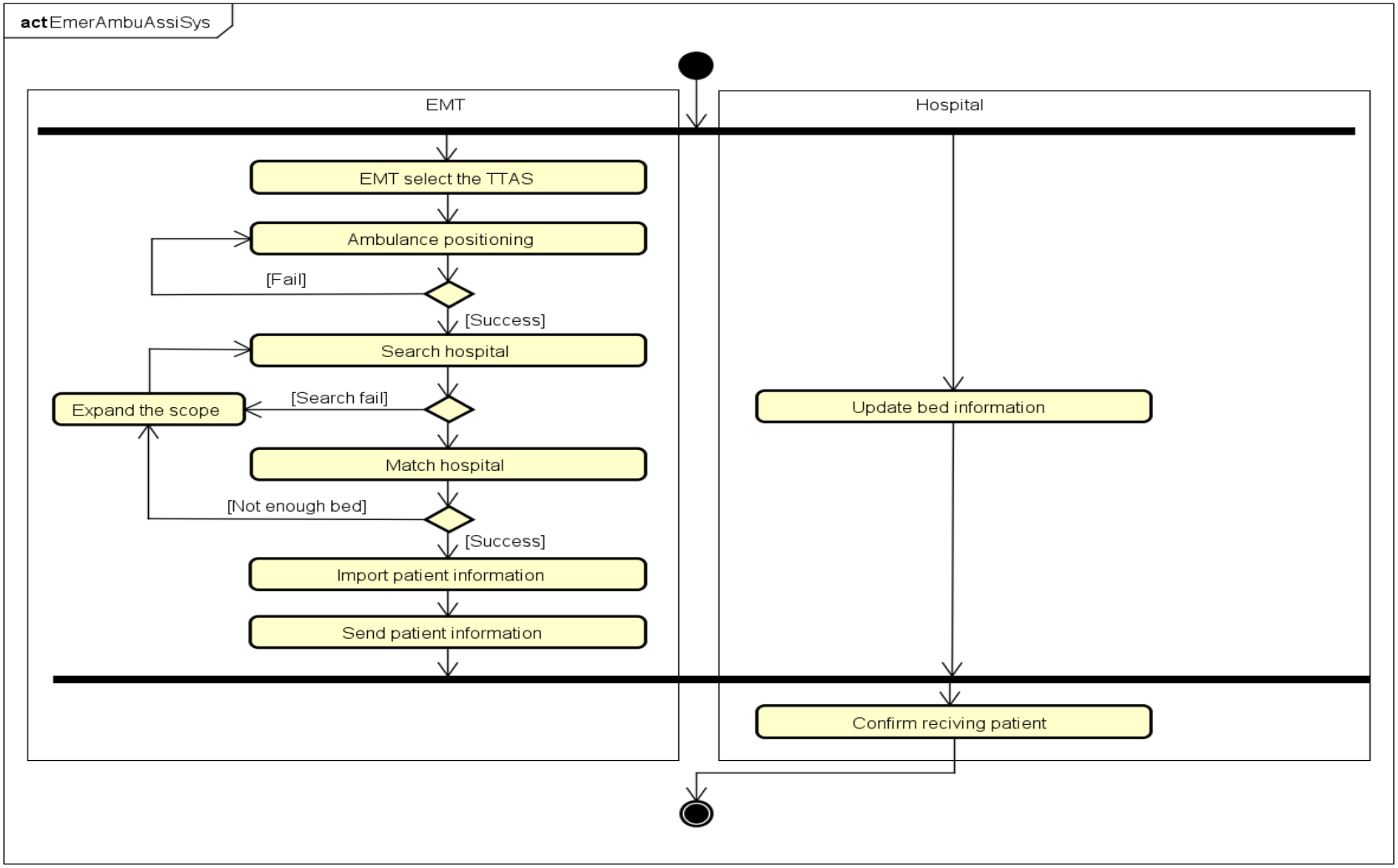


[1] Emergency Medical Technician
[2] Taiwan Triage and Acuity Scale

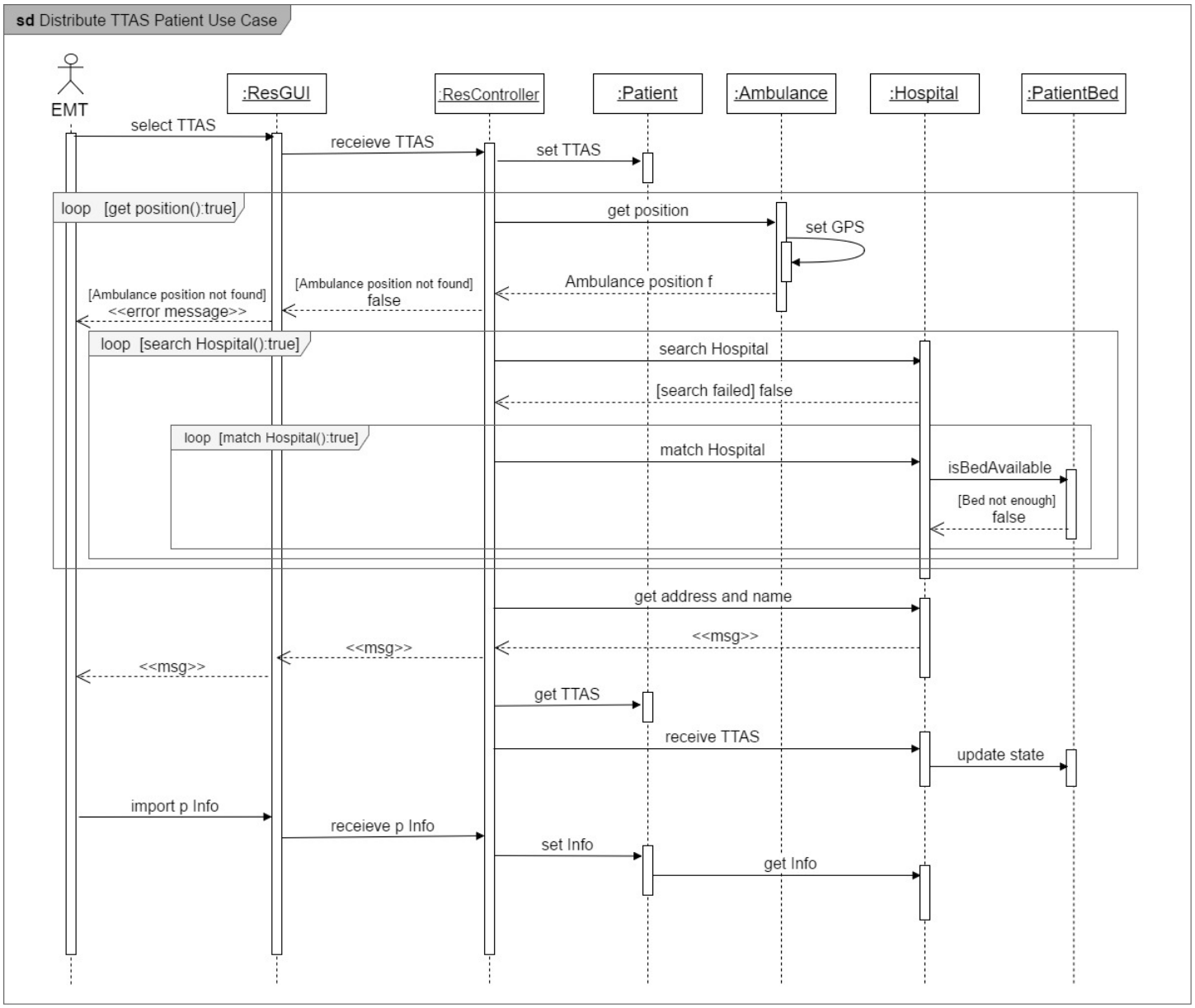
3. Create a use-case description and describe the normal flow of events, subflows, alternate/Exception flows for one of the most important functions of the project.

Use Case Name: Distribute TTAS patient	ID: 3	Importance Level: High
Primary Action: EMT	Use Case Type: Detail, Essential	
Stakeholders and interests: EMT – want to select the TTAS and assign patient to hospital. Hospital – receive the TTAS information and process		
Brief Description: After select the TTAS, the system will automatically carry out the hospital configuration.		
Trigger: EMT select the TTAS Type: External		
Relationships: Association: EMT, Hospital Include: Extend: Generalization:		
Normal Flow of Events: 1. EMT select the TTAS 2. Ambulance positioning S-1 Position failed 3. Search the nearby hospital position S-2 Search failed 4. Match eligible hospital S-3 Nearby hospital patient bed not enough 5. Inform hospital position to EMT.		
Sub Flows: S-1 Position failed 1. Return error message to EMT and return to step2. S-2 Search failed 1. Expand search scope return step3. S-3 Nearby hospital patient bed not enough. 1. Expand search the other match eligible hospital and return to step3.		
Alternate: Ambulance cannot arrive on time.		

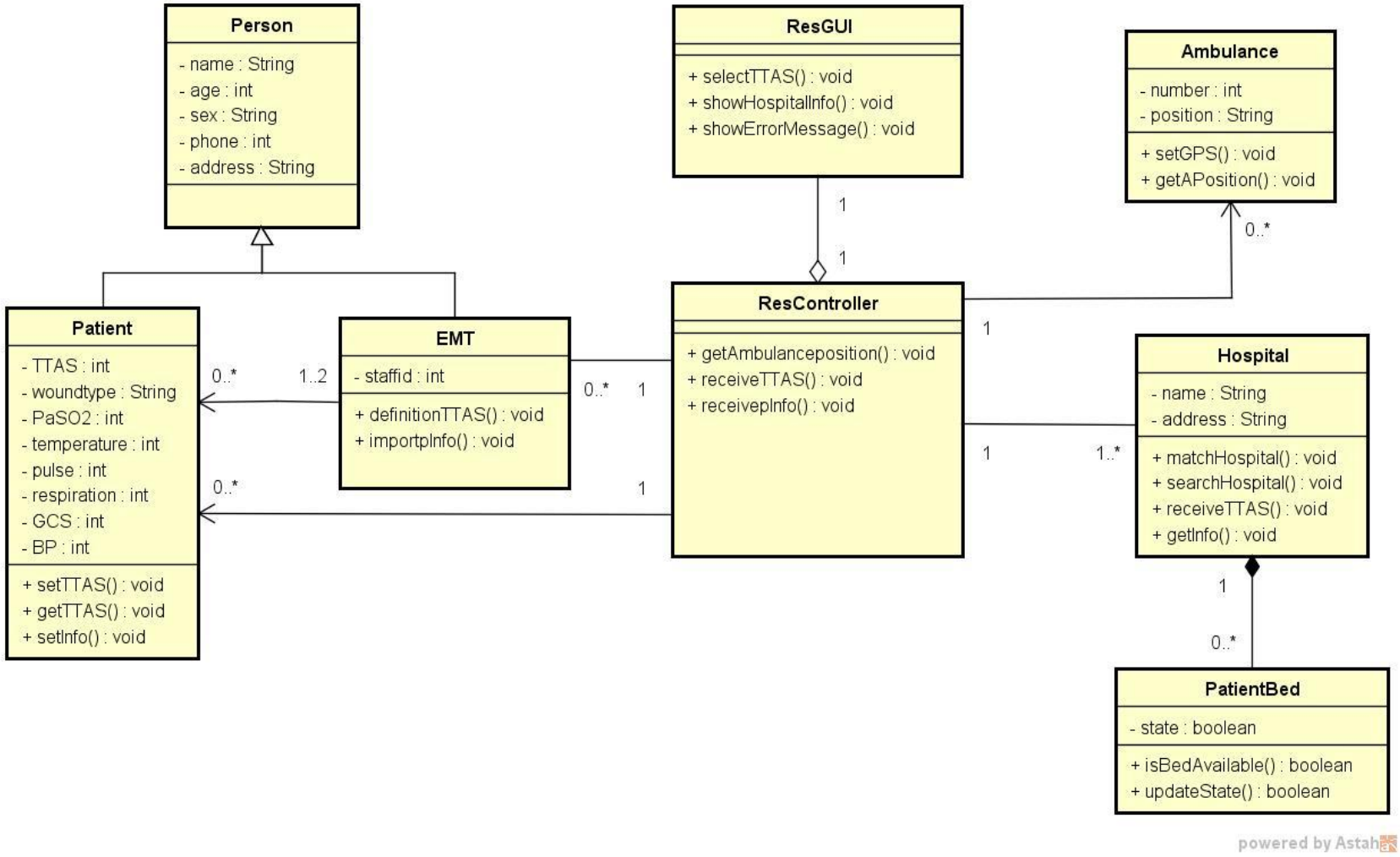
4. Draw an activity diagram to depict the use case you described for question 2 or some aspects of the system.



5. Draw a detailed sequence diagram based on the use case you described for question 2, or some aspects of the system.

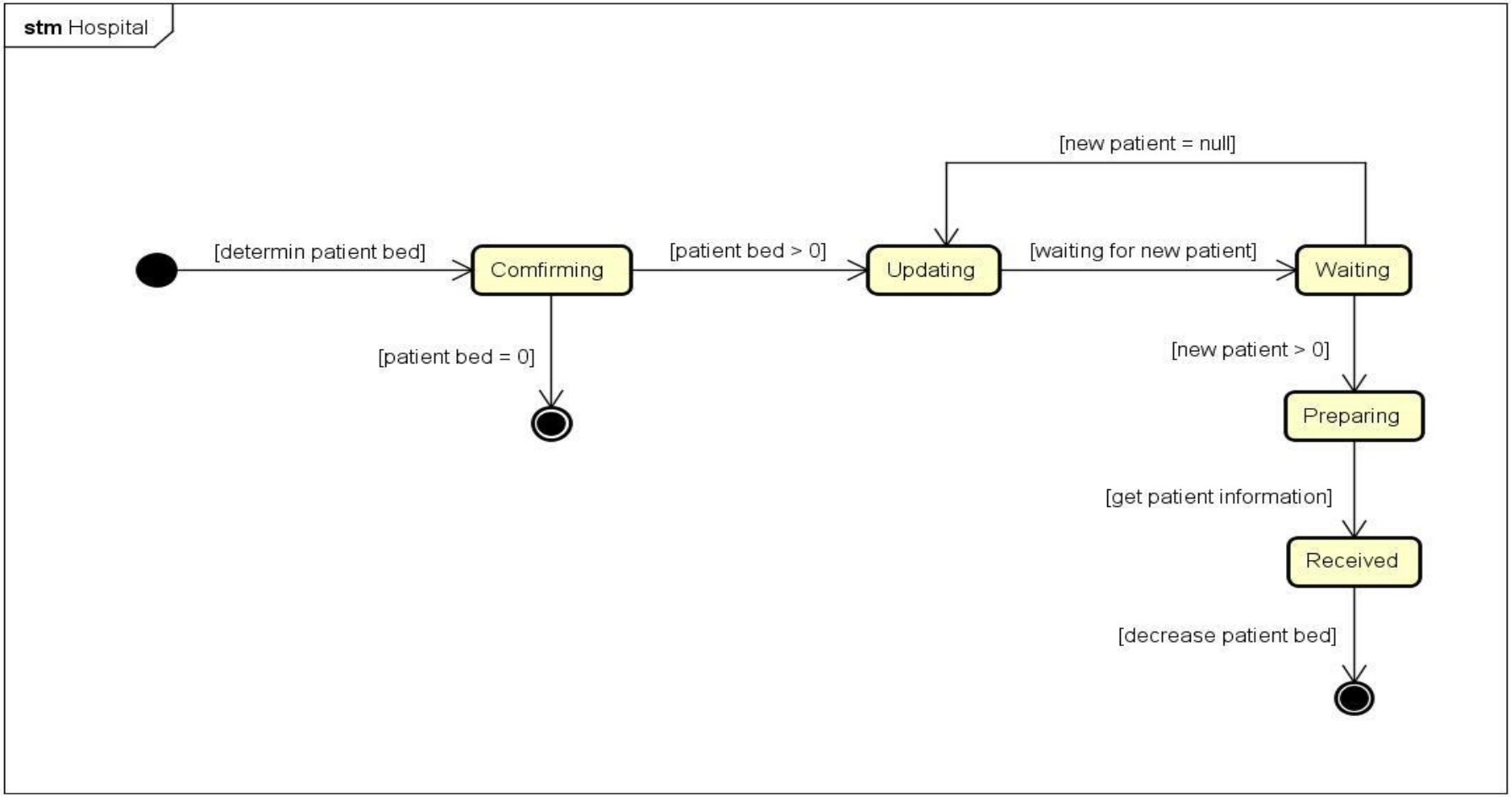


6. Based on the sequence diagram you have finished, please draw a class diagram with necessary attributes and operations in each class.



7. Draw a behavior state machine to depict an important class or the system as it goes through the whole process.

The hospital to confirm the patient bed information, if there are remaining beds, the hospital bed information will be updated to the system and standby, if there is no remaining bed is over; if received the new patient requirements, the preparation of the corresponding emergency medical equipment, the patient arrived at the hospital, decrease bed and the end.



Teamwork Responsibility

ID	Name	Percentage	Responsibility
B10323018	Kevin	100%	Discuss (highly proactive) Describe the project, class diagram and behavior state machine
B10223034	Rita	95%	Discuss (medium proactive) Use-case description
B10223035	Emma	93%	Discuss (medium proactive) Behavior state machine
B10323019	Althee	100%	Discuss (highly proactive) Use-case diagram, sequence diagram and Activity diagram
A10523008	Sam	100%	Discuss (highly proactive) Describe the project, class diagram
A10523023	Jerome	100%	Discuss (highly proactive) Describe the project, class diagram
A10523031	Asrock	93%	Discuss (medium proactive) Activity diagram
A10523049	Peggy	95%	Discuss (medium proactive) Use-case diagram