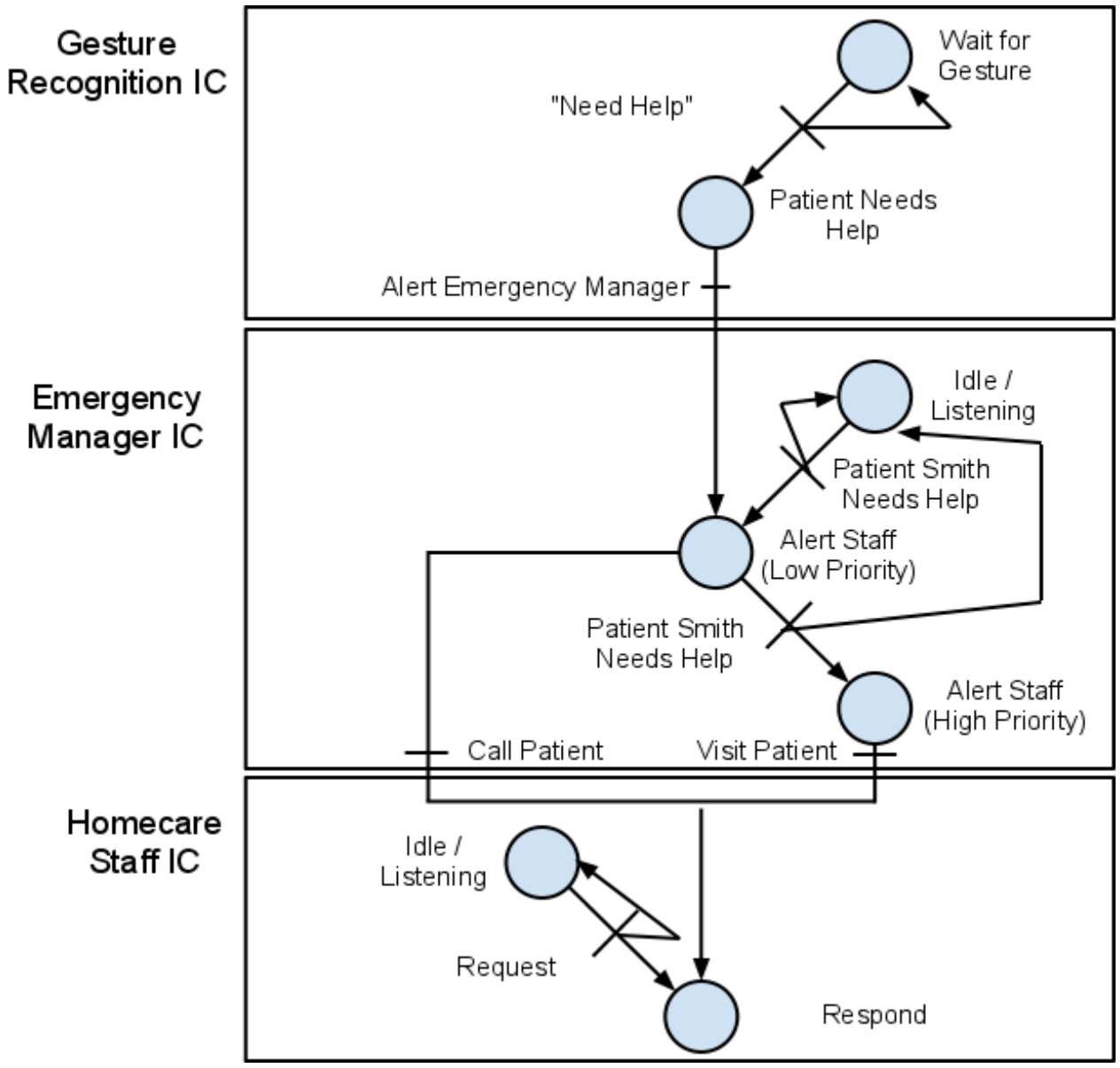
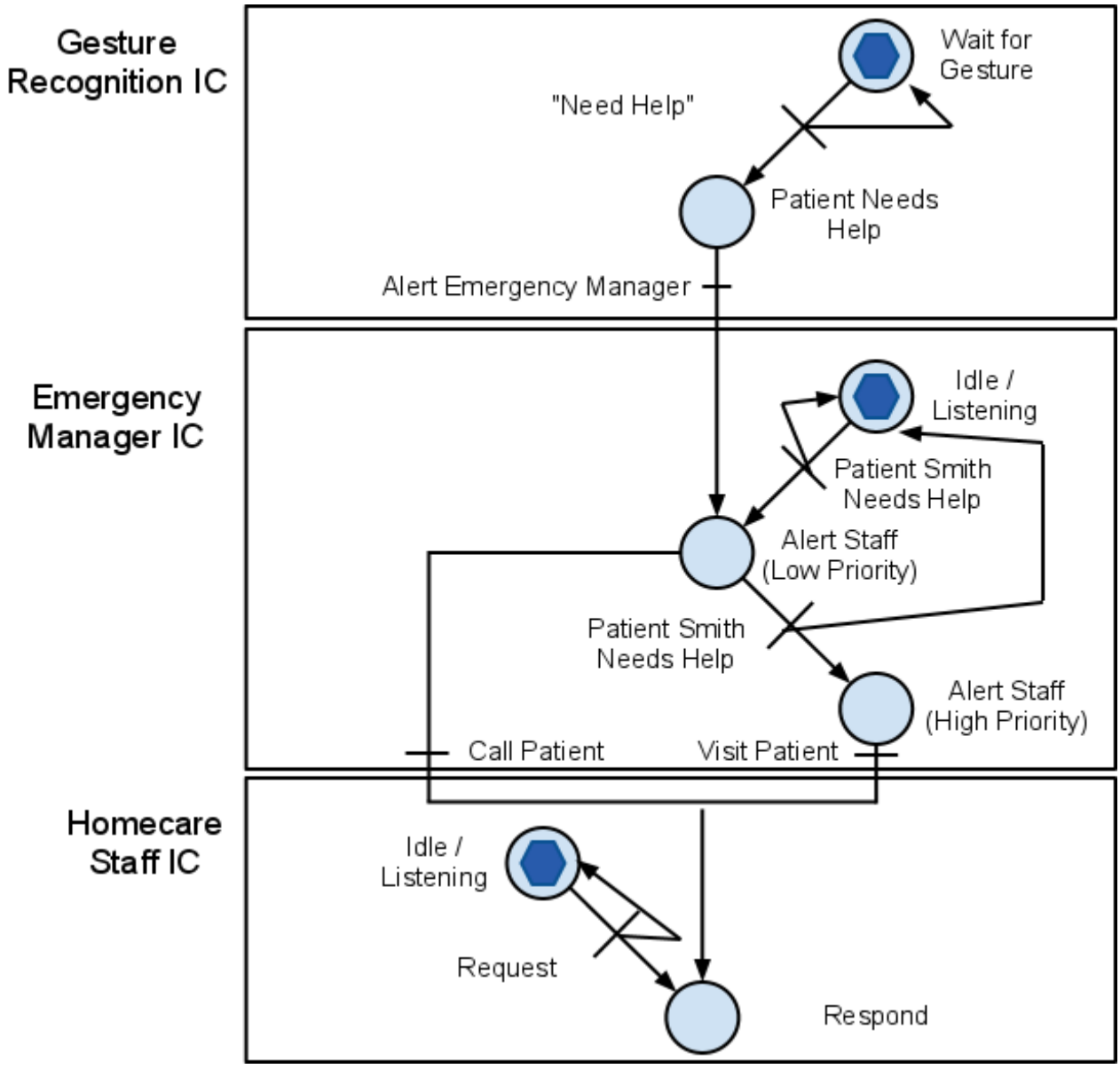
CS 2310 - Exercise 3
Dave Wilkinson

a)

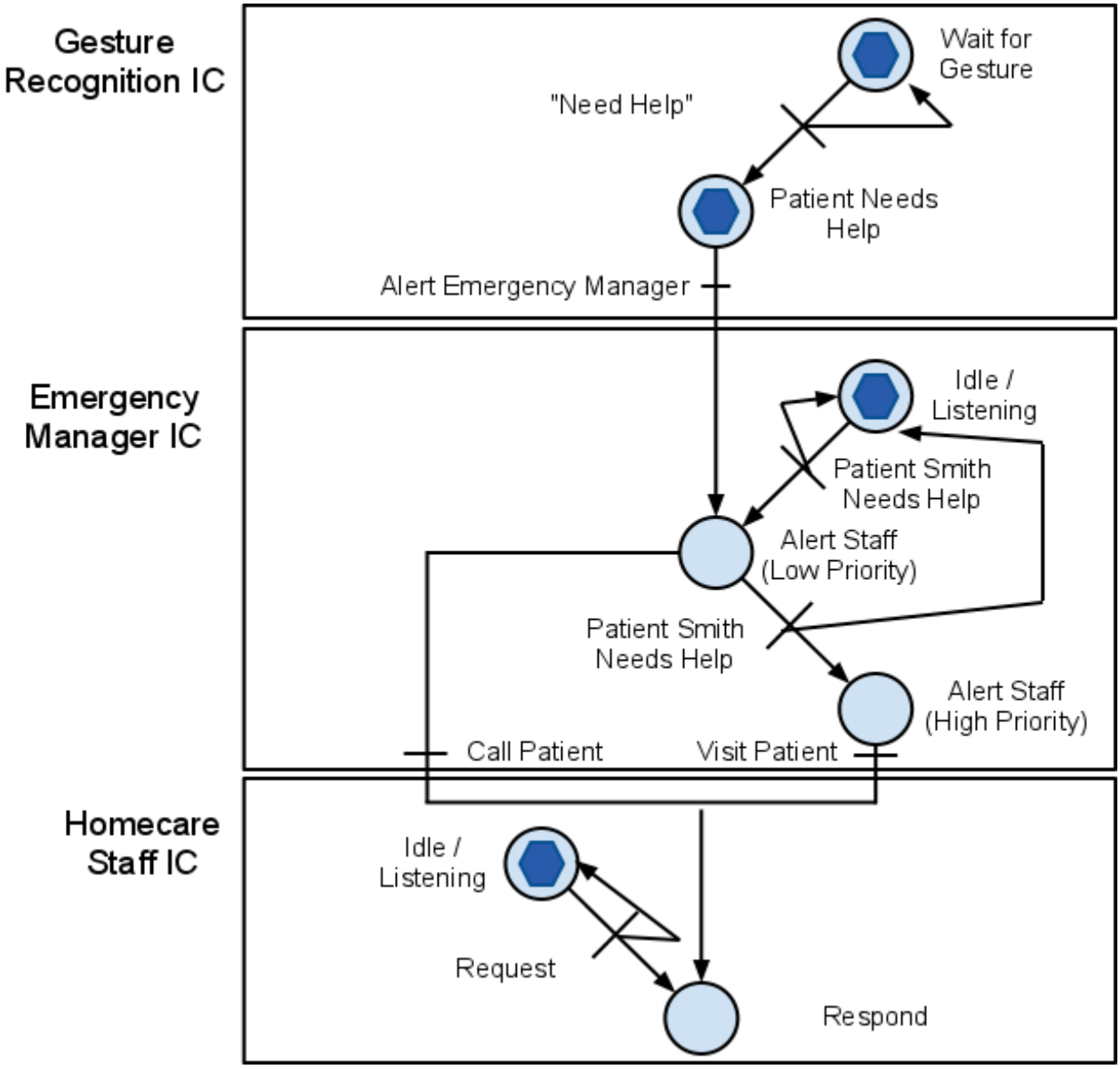


b)
1) Initial state: Notice that the different ICs start with a token since they all run independently and concurrently.



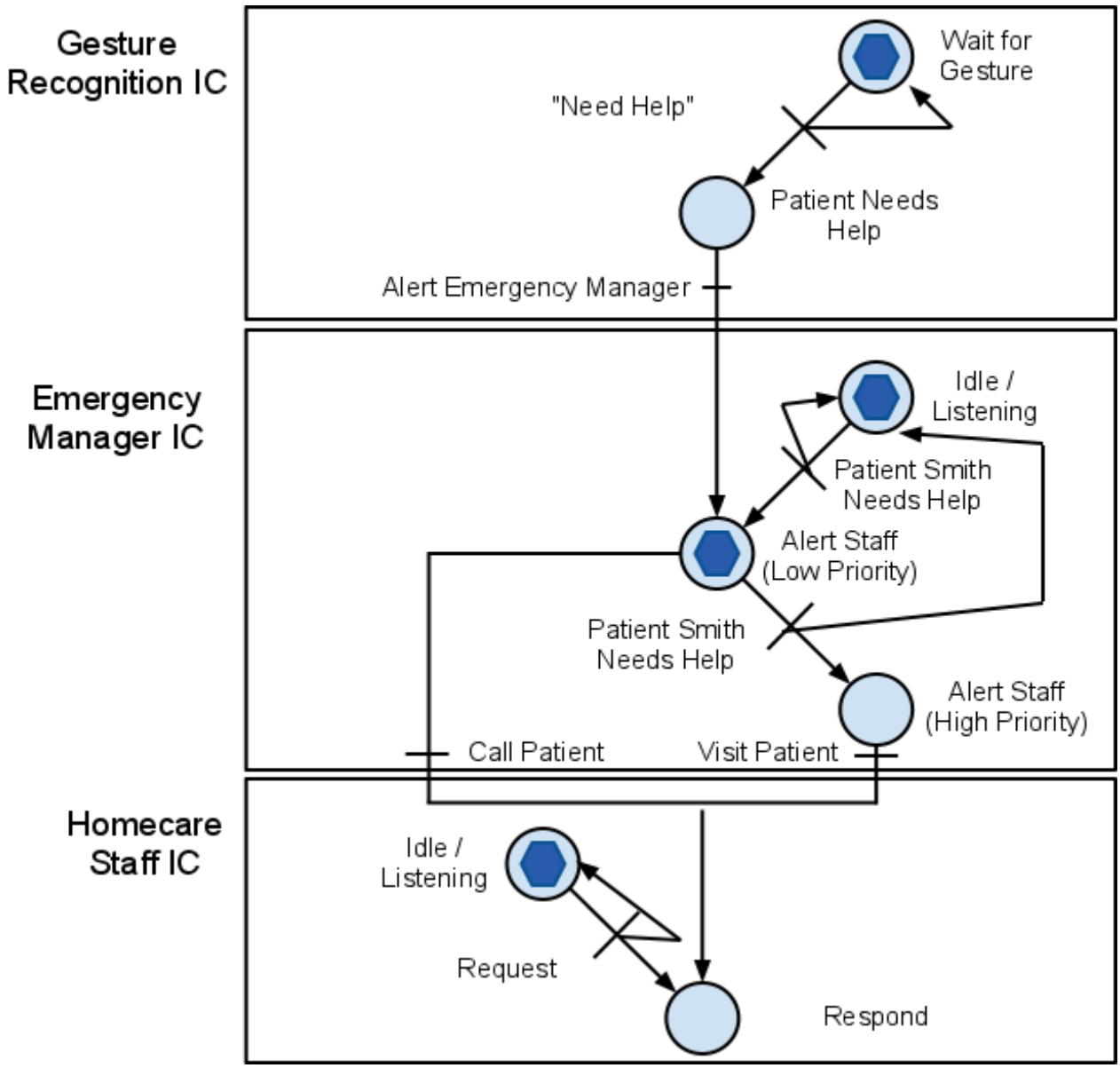
2) Patient Smith needs help and issues a gesture via the camera interfact. The alert for help is received.

Notice that another gesture can be received while the previous gesture is being analysed and responded to. This assures that concurrency is achieved and that important gestures are not dropped.



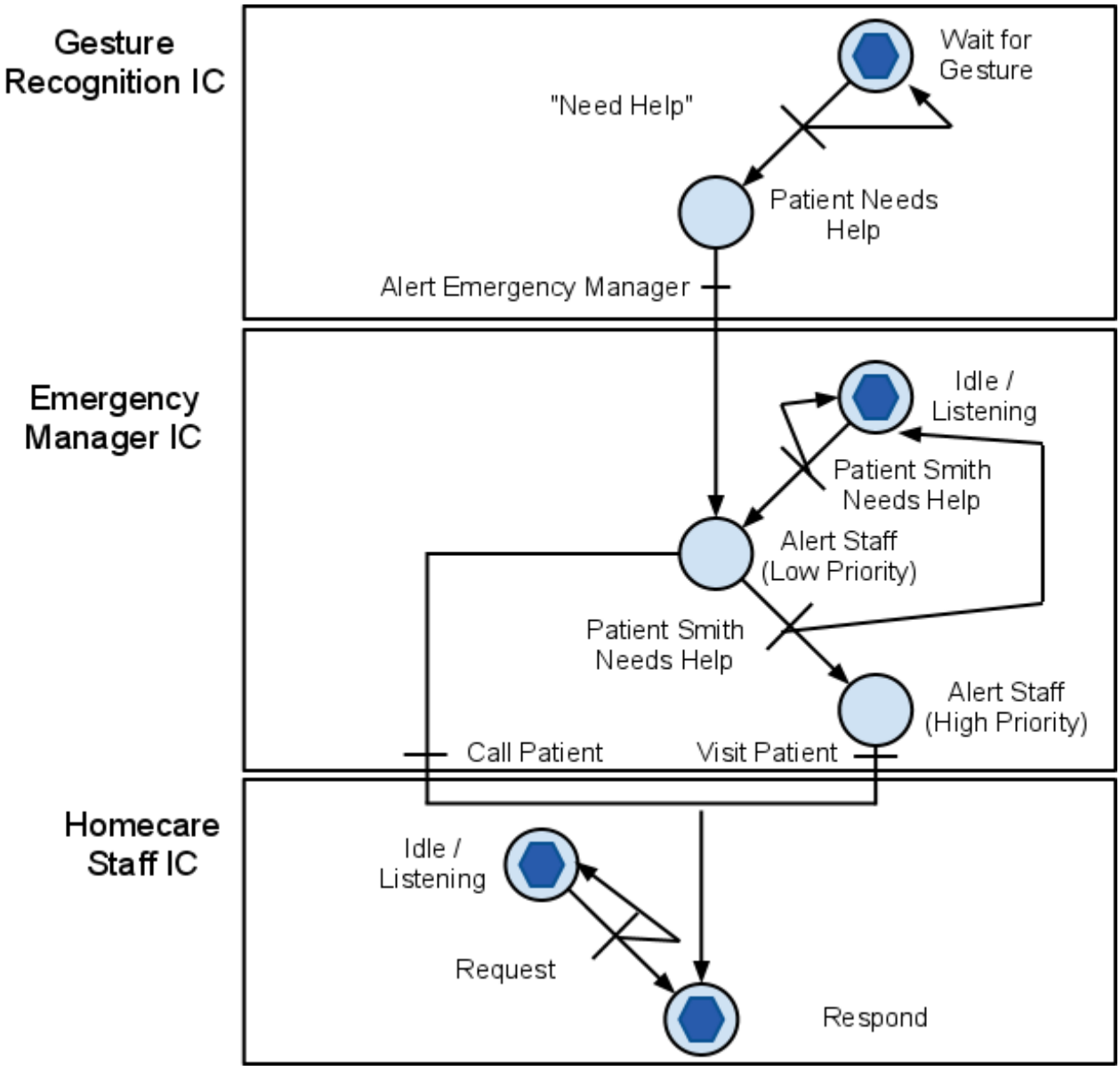
3) The Emergency Manager IC is alerted, and responds. When in this state, the UI component will display a notification (perhaps also alerting a specific worker to oversee the delegation to the homecare staff center)

Again, the idle state of this IC also remains active.

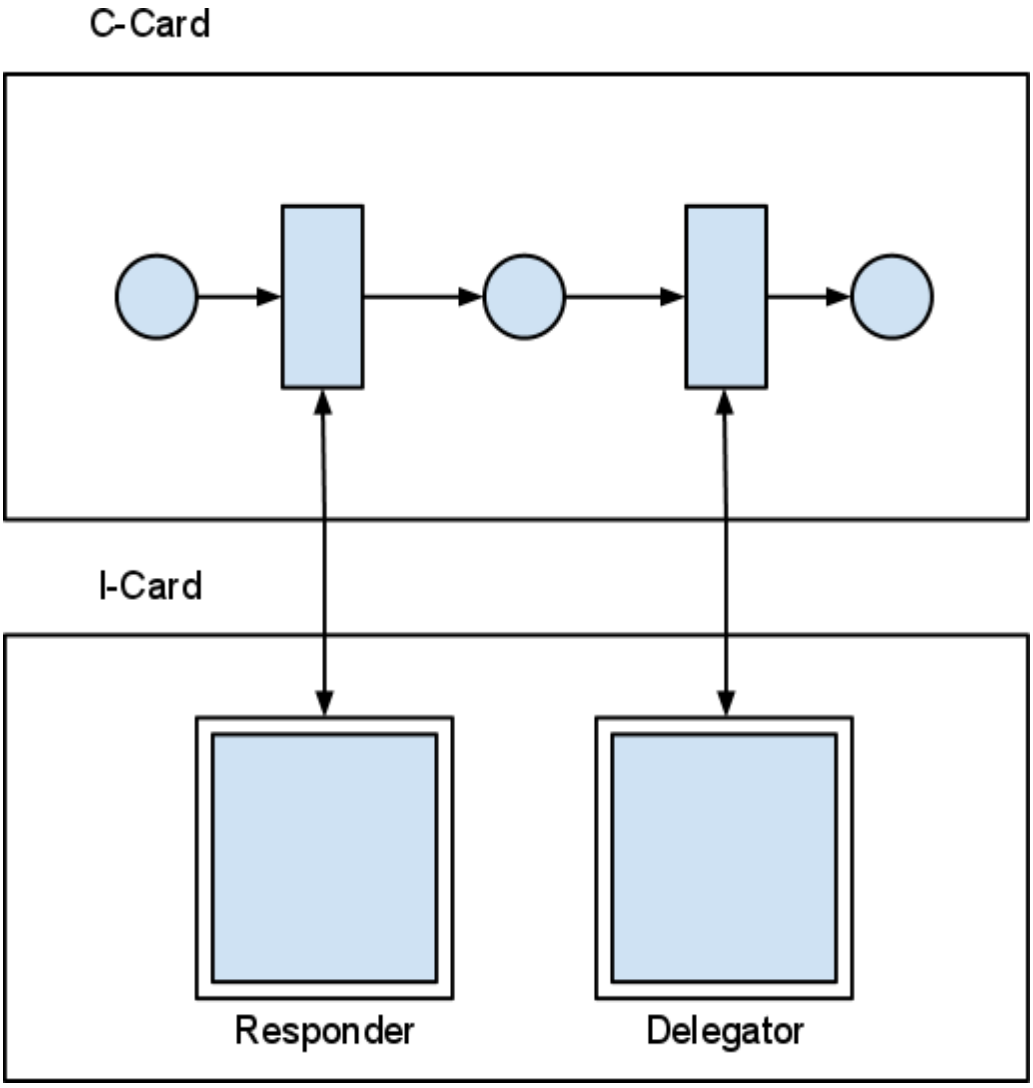


4) The homecare center can now devote it's attention to the response that the emergency center issues. The response will be issued on the UI and will alert a stand-by nurse via email, instant message/SMS message, or phone call. They will then call Patient Smith and inquire about their condition.

The homecare IC still remains in the idle/listening state so that it can concurrently handle other alerts as best as possible.



c) I have placed super components for both transitions of the normal Emergency IC to reflect the different decisions for the exact response to an alert and where that alert may go.



In this petri-net expansion of the C-card, we see that each super component has 3 ‘solutions’ that each state transition (choosing the response to the alert, and then choosing who will receive it) may choose among.