

State Transition Diagrams : Problems

1. You need to develop a web based application in such a way that user can search other users and after getting search complete, the user can send the friend request to other users. If the request is accepted then both users are added to friend list of each other. If one user does not accept the friend. The second user can send friend request. The user can also block each other. Draw a state transition diagram for the above application.
2. Draw a state transition diagram for Hotel Reservation Process. The hotel reservation management system is concern reserving the rooms for the customers for lodging and boarding in the hotel. The customer requests for the room in the hotel reception counter. If the room is not available the customer will be intimated about it and he will be put on the waiting list for the room availability. If the room gets available then it will be confirmed to the customer for use. The waiting list room count decremented by one. Initially, after the customer request if the room is available then it will be confirmed to the customer by decrementing the available room count and customer can use it directly. After a stay in the hotel customer clears the payment and the room will become available to the other customer if any, else increment room count.
3. Draw a state transition diagram for Airport check -in process The ticket reservation verification is done for the passenger at the entry level at airport. If there is any issue about the reservation then the passenger will be sent to the travel agency for resolving the query. If the ticket is valid then according to the preferences of the passenger's ticket boarding pass get printed and given to the passenger. At the same time the passenger's baggage also checked and its receipt is given to the passenger. The passenger after completing this check -in can proceed for the tour. The passenger's details also forwarded to the travel agency for record.
4. Every company having customers maintains customer accounts and supports a complete life cycle of the account from its creation until it is closed. There are differences in what the stages (states) are in the account's life cycle, and what are conditions or events causing account to change its state. For the user account to be created, it has to meet some initial requirements. For

example, user id (used as a login name) must be unique, at least for the existing accounts. After account was created, it might need to be verified. Verification depends on the company and could include e-mail, phone, and/or address verification. If account was not verified during some predefined period of time, that account could be moved to the suspended accounts. New, active, or suspended accounts could be cancelled at any time by client's request. Note, the precondition for this usually includes payment of any outstanding balances, and might require some separate account state or substate to handle this case. User account might be suspended for security reasons, manually or automatically. For example, website intrusion detection system locks user account for predefined period of time, if there were several unsuccessful login attempts using incorrect account password. After account lock times out, account is activated back automatically. Some user accounts could be inactive for a long period of time. Company policy or business rules could require moving such dormant for a year or two accounts to the suspended state. Create a state transition diagram for the given situation.