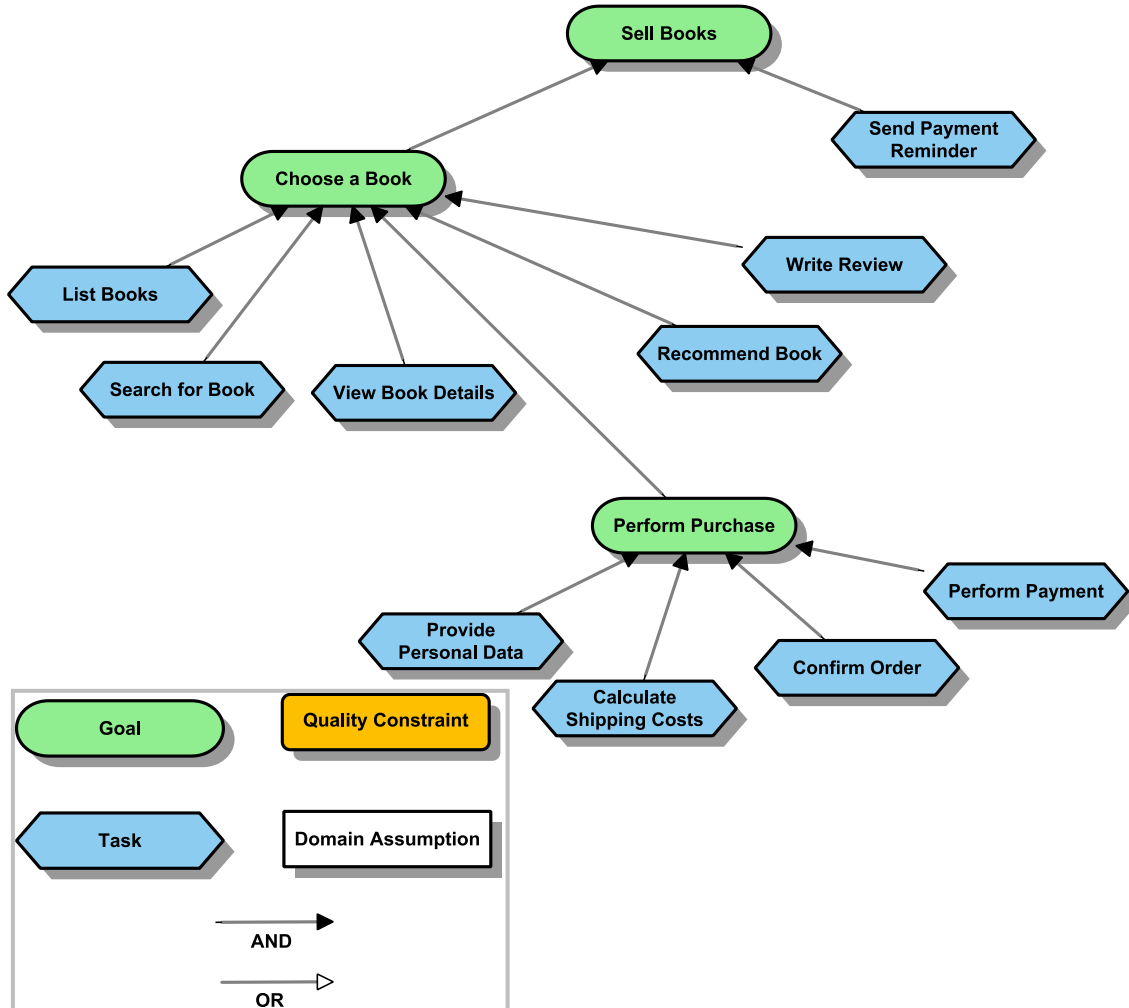


1) Consider the goal model below, representing an e-commerce system, and the behaviour described in the following text.



Description of the expected behaviour:

The Saravá Bookstore intends to develop a web-based e-commerce system, where it can sell the books in its inventory. Accessing the website, users will see a listing of available books. If the user finds the desired book in the listing, she will be able to view the book details directly from the listing. If the book was not found on the listing, the user can use a search mechanism, as many times as warranted, until the book is found – then, the book details can be viewed.

Once the desired book is found and its details are viewed, the user has 3 options: either she buy the book, send a book recommendation, or write a book review.

In order to perform the purchase, the user must follow the following procedure: first it is required to provide personal data, then calculate shipping costs, confirm order, and lastly perform the payment. However, the shipping costs calculation is not always performed, as the user may choose to have the book delivered on a physical store. To make a purchase, no kind of registering or login is required.

Regardless of user interaction, the system shall send e-mails at 12-hours intervals for those users whose payment have not been approved yet

2) Based on the content of the previous question, create a statechart that represents the expected behaviour of the system. This statechart should not contain anything less nor beyond what is specified in the previous question.

When creating this statechart, the use of states, transitions, and events is mandatory. The use of super-states, orthogonal states, conditions, variables, actions, and default states is optional.

3) Consider the additional behaviour presented in the following text.

Some tasks of the system are more critical than others. Considering that “Confirm Order” is a very important task, the stakeholders decided the following: every time a failure occurs during the confirmation, the system must try to perform the confirmation again, at 5 seconds intervals, until the confirmation is performed successfully.

Another important task of the system is the sending of payment reminders. The stakeholders specified that this sending must be performed successfully in at least 88% of the cases – otherwise, the system administrator must receive a notification e-mail.

4) Using pencil or pen with a different colour from the one you used to draw the statechart, modify the statechart in order to include the additional behaviour described in the previous question. If you need to remove any element, scribble over it, instead of erasing it.