

Statechart Derivation with Adaptation

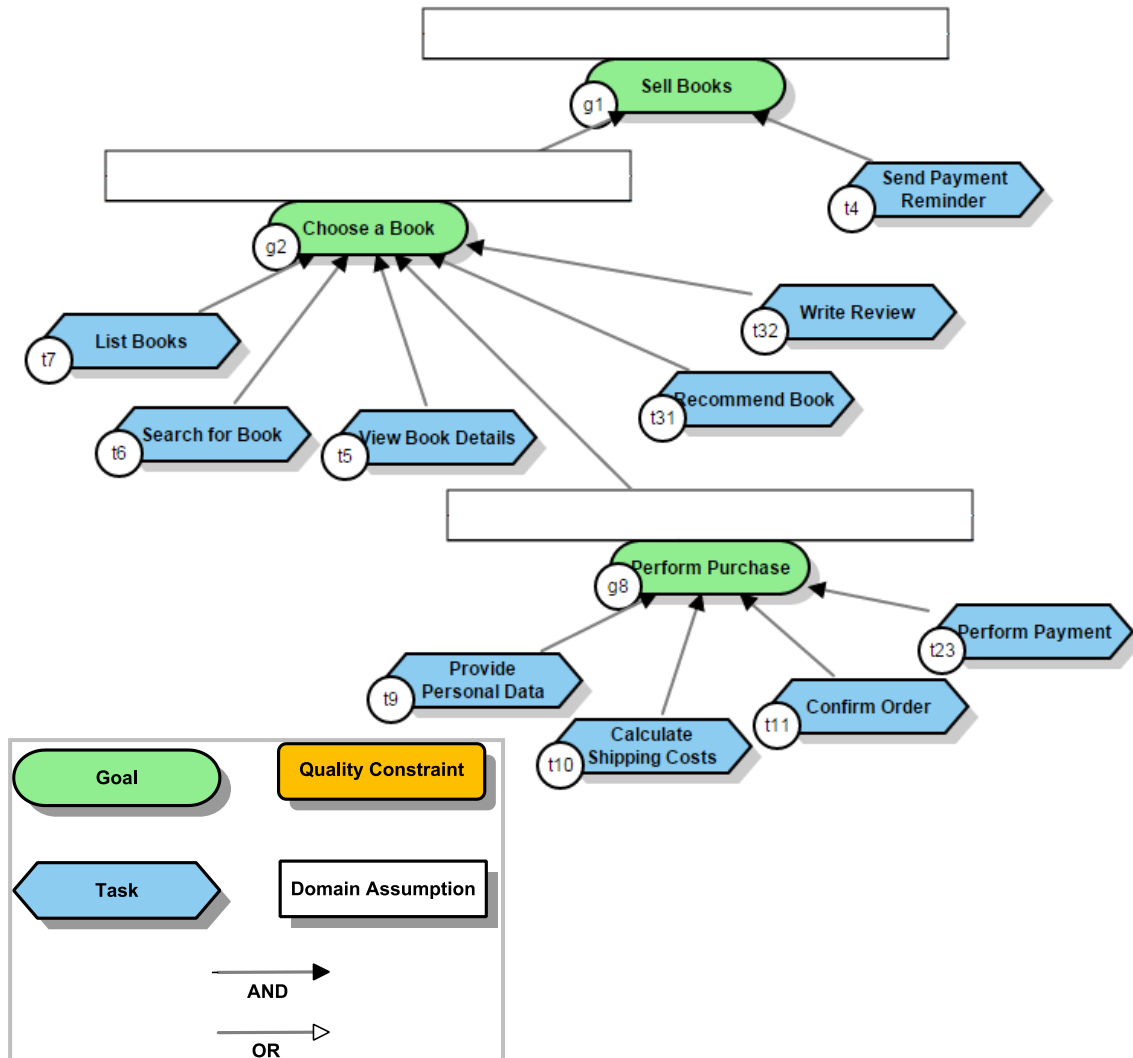
Experiment

Group: MULAS

Date:

Student: _____

- 1) Write in the goal model below the flow expressions for an e-commerce system, according to 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.

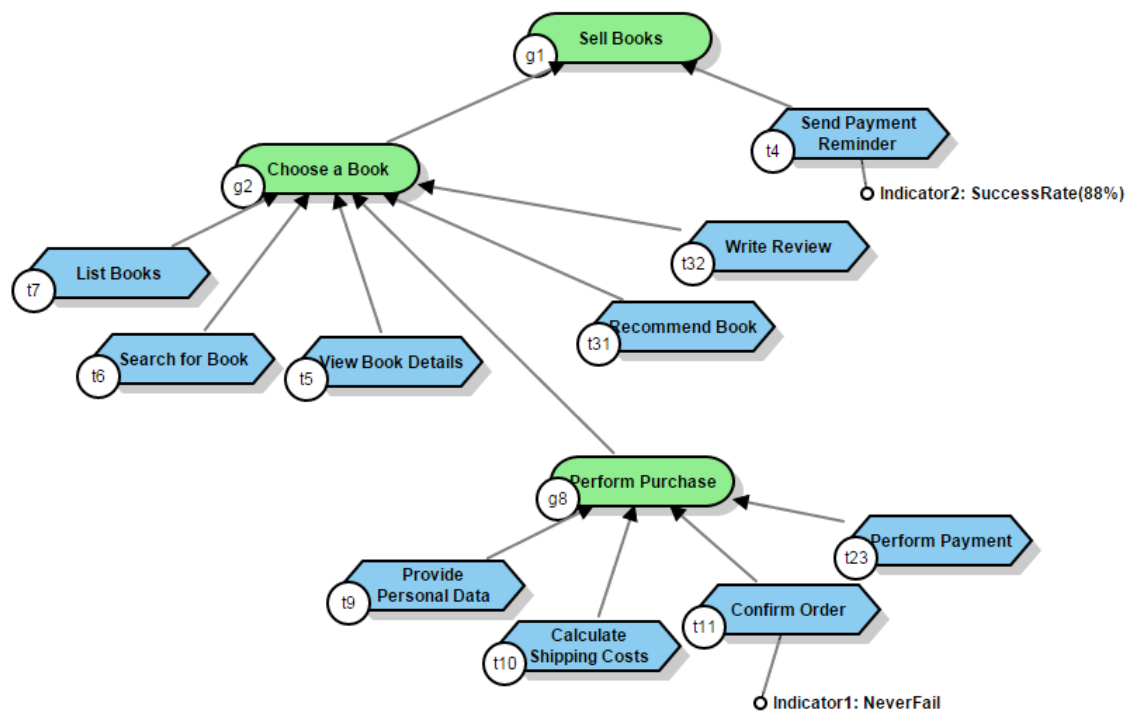
Once the desired book is found and its details are viewed, the user has 3 options: either she buy the book, send a book recommendation, or write a book review.

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 flow expressions you wrote in 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 by those expressions – if needed be, update the expressions in the previous question, but remember to always follow the behaviour described in question 1.
- 3) Include on your statechart the events for every one of its transitions.

In order to answer the following questions, consider the indicators included to the goal model below.



Indicator	Adaptation Strategies
Indicator1: NeverFail	Retry(t11, 5s);
Indicator2: SuccessRate(88%)	Notify("SysAdmin");

- 4) Write in the table below the monitoring points for this system (start and end), considering its indicators and its behaviour.

Indicator	Monitoring Points	
	Start	End
Indicator1: NeverFail		
Indicator2: SuccessRate(88%)		

- 5) Using pencil or pen with a different colour, include in your statechart the necessary monitoring actions.
- 6) Based on the adaptation strategies specified in the first table on this page, include in your statechart the elements required in order to enact these strategies. Then again, use pencil or pen with a different colour.