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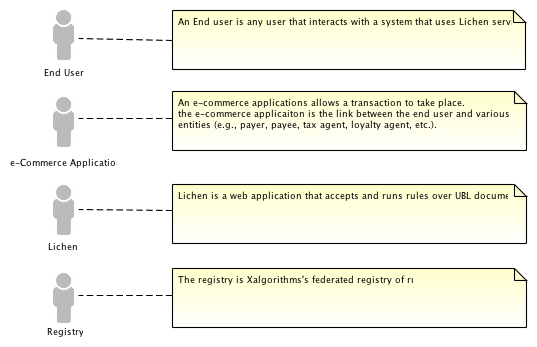
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# Diagram :



This diagram contains the following elements :

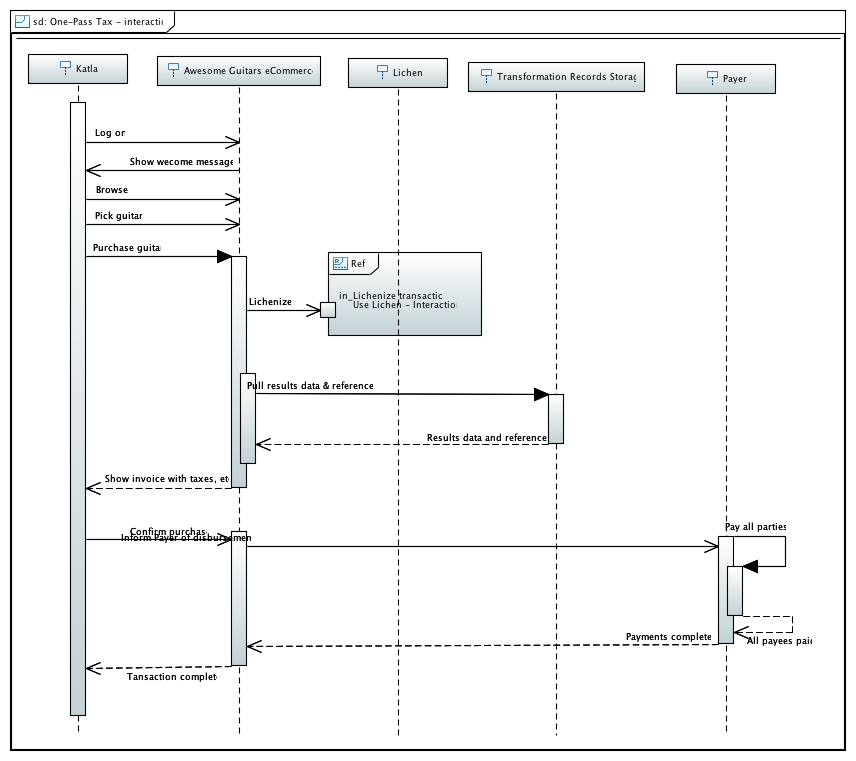
# Diagram : Actors



This diagram contains the following elements :

* Comment Lichen is a web application that accepts and runs rules over UBL documents .
* Actor End User
* Comment The registry is Xalgorithms's federated registry of rules.
* Comment An End user is any user that interacts with a system that uses Lichen services.
* Comment An e-commerce applications allows a transaction to take place.
  the e-commerce applicaiton is the link between the end user and various other entities (e.g., payer, payee, tax agent, loyalty agent, etc.).
* Actor Registry
* Actor e-Commerce Application
* Actor Lichen

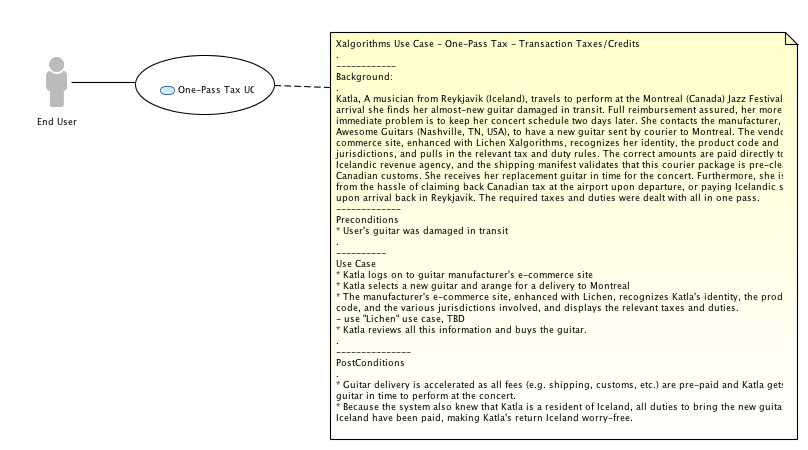
# Diagram : One-Pass Tax - Sequence



This diagram contains the following elements :

* Lifeline Payer
* Action Execution Specification Pay all parties
* Lifeline Lichen
* Behavior Execution Specification BehaviorExecSpec6
* Behavior Execution Specification BehaviorExecSpec3
* Behavior Execution Specification Buy guitar
* Behavior Execution Specification BehaviorExecSpec7
* Interaction Use InteractionUse
* Lifeline Awesome Guitars eCommerce
* Behavior Execution Specification BehaviorExecSpec5
* Lifeline Transformation Records Storage
* Lifeline Katla
* Behavior Execution Specification BehaviorExecSpec

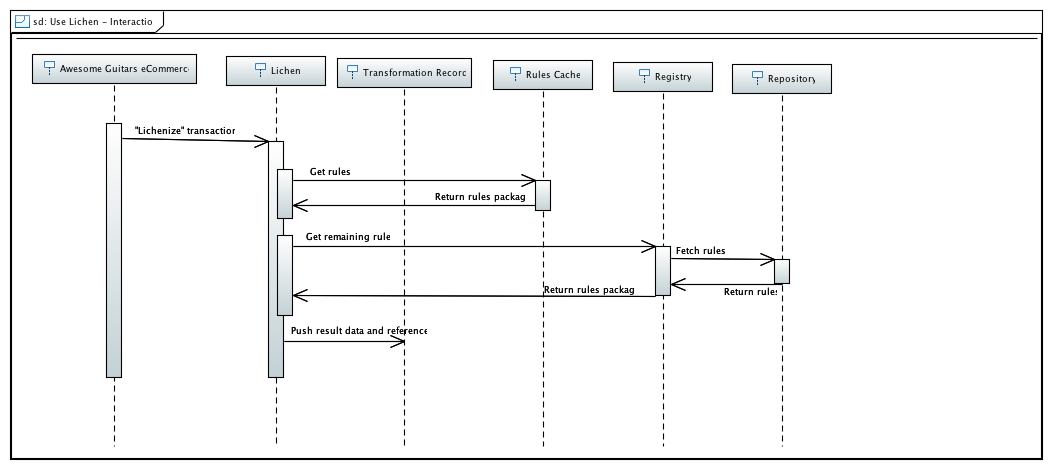
# Diagram : One-Pass Tax - Use Case



This diagram contains the following elements :

* Comment Xalgorithms Use Case - One-Pass Tax - Transaction Taxes/Credits
  .
  ------------
  Background:
  .
  Katla, A musician from Reykjavík (Iceland), travels to perform at the Montreal (Canada) Jazz Festival. On arrival she finds her almost-new guitar damaged in transit. Full reimbursement assured, her more immediate problem is to keep her concert schedule two days later. She contacts the manufacturer, Awesome Guitars (Nashville, TN, USA), to have a new guitar sent by courier to Montreal. The vendor's e-commerce site, enhanced with Lichen Xalgorithms, recognizes her identity, the product code and jurisdictions, and pulls in the relevant tax and duty rules. The correct amounts are paid directly to the Icelandic revenue agency, and the shipping manifest validates that this courier package is pre-cleared for Canadian customs. She receives her replacement guitar in time for the concert. Furthermore, she is free from the hassle of claiming back Canadian tax at the airport upon departure, or paying Icelandic sales tax upon arrival back in Reykjavík. The required taxes and duties were dealt with all in one pass.
  -------------
  Preconditions
  \* User's guitar was damaged in transit
  .
  ----------
  Use Case
  \* Katla logs on to guitar manufacturer's e-commerce site
  \* Katla selects a new guitar and arange for a delivery to Montreal
  \* The manufacturer's e-commerce site, enhanced with Lichen, recognizes Katla's identity, the product code, and the various jurisdictions involved, and displays the relevant taxes and duties.
  - use "Lichen" use case, TBD
  \* Katla reviews all this information and buys the guitar.
  .
  ---------------
  PostConditions
  .
  \* Guitar delivery is accelerated as all fees (e.g. shipping, customs, etc.) are pre-paid and Katla gets the guitar in time to perform at the concert.
  \* Because the system also knew that Katla is a resident of Iceland, all duties to bring the new guitar into Iceland have been paid, making Katla's return Iceland worry-free.
* Actor End User
* Use Case One-Pass Tax UC

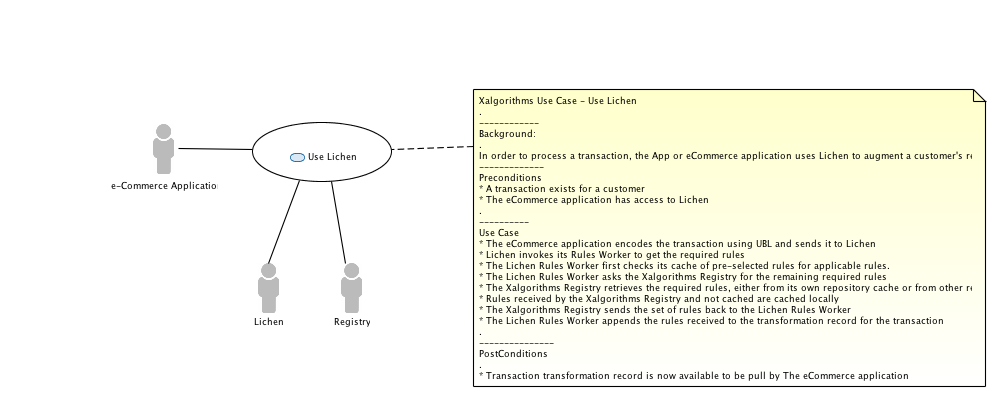
# Diagram : Use Lichen - Sequence



This diagram contains the following elements :

* Lifeline Rules Cache
* Lifeline Registry
* Behavior Execution Specification BehaviorExecSpec2
* Behavior Execution Specification BehaviorExecSpec
* Behavior Execution Specification BehaviorExecSpec
* Behavior Execution Specification BehaviorExecSpec0
* Behavior Execution Specification BehaviorExecSpec0
* Lifeline Lichen
* Lifeline Repository
* Lifeline Awesome Guitars eCommerce
* Behavior Execution Specification BehaviorExecSpec3
* Behavior Execution Specification BehaviorExecSpec1
* Lifeline Transformation Records

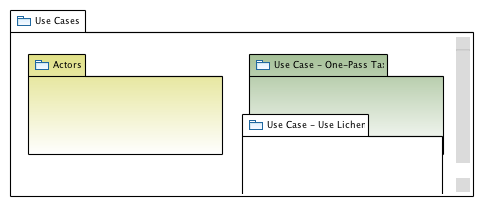
# Diagram : Use Lichen UC



This diagram contains the following elements :

* Use Case Use Lichen
* Actor Registry
* Actor Lichen
* Actor e-Commerce Application
* Comment Xalgorithms Use Case - Use Lichen
  .
  ------------
  Background:
  .
  In order to process a transaction, the App or eCommerce application uses Lichen to augment a customer's request.
  -------------
  Preconditions
  \* A transaction exists for a customer
  \* The eCommerce application has access to Lichen
  .
  ----------
  Use Case
  \* The eCommerce application encodes the transaction using UBL and sends it to Lichen
  \* Lichen invokes its Rules Worker to get the required rules
  \* The Lichen Rules Worker first checks its cache of pre-selected rules for applicable rules.
  \* The Lichen Rules Worker asks the Xalgorithms Registry for the remaining required rules
  \* The Xalgorithms Registry retrieves the required rules, either from its own repository cache or from other repositories
  \* Rules received by the Xalgorithms Registry and not cached are cached locally
  \* The Xalgorithms Registry sends the set of rules back to the Lichen Rules Worker
  \* The Lichen Rules Worker appends the rules received to the transformation record for the transaction
  .
  ---------------
  PostConditions
  .
  \* Transaction transformation record is now available to be pull by The eCommerce application

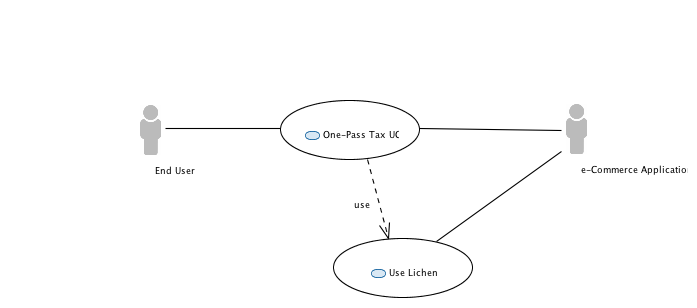
# Diagram : XA-Models



This diagram contains the following elements :

* Package Actors
* Package Use Case - One-Pass Tax
* Package Use Cases
* Package Use Case - Use Lichen

# Diagram : Xalgorithms Use Cases



This diagram contains the following elements :

* Actor End User
* Use Case Use Lichen
* Use Case One-Pass Tax UC
* Actor e-Commerce Application