

The Lichen Mobile User Sequence



21 November 2016

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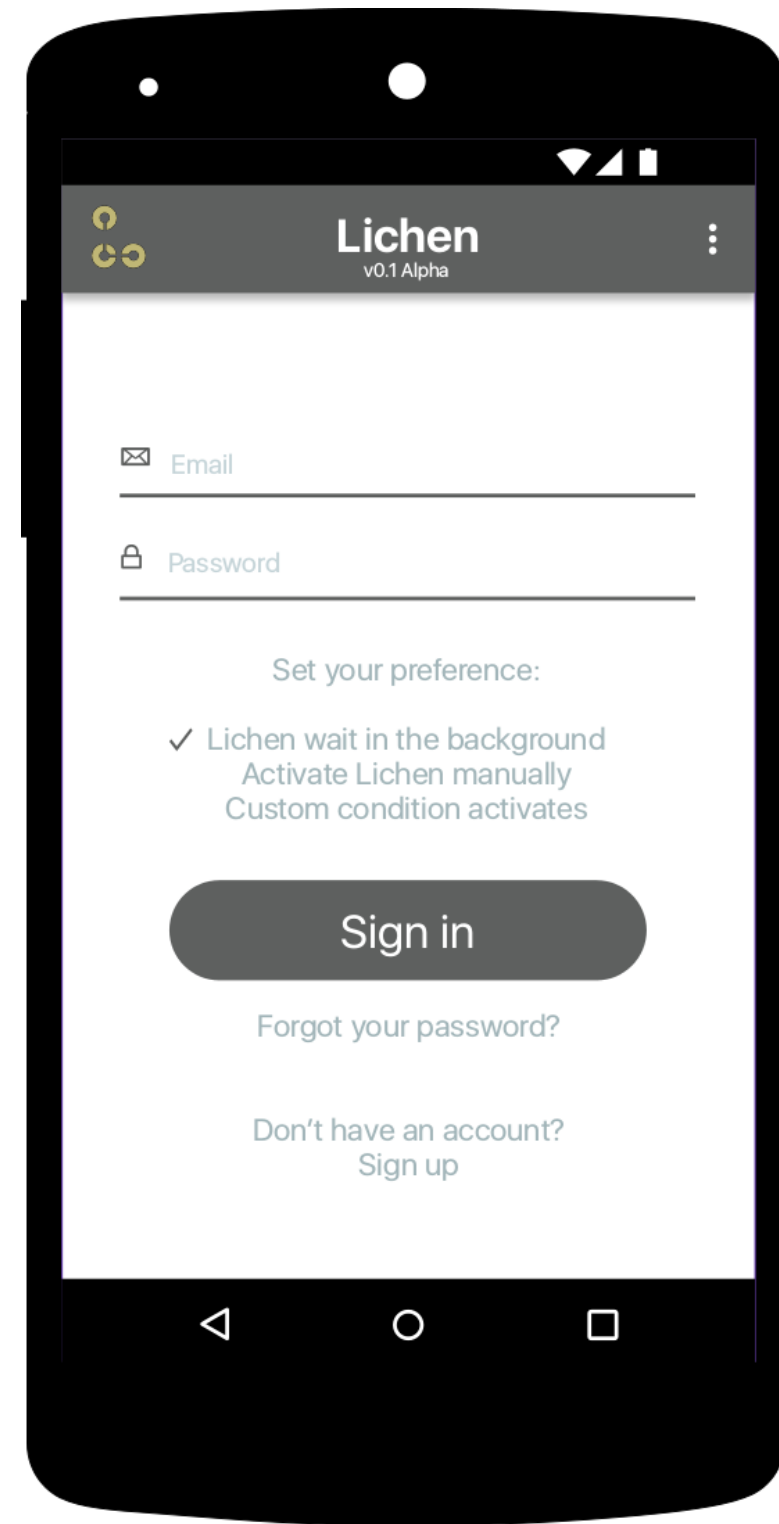
Lichen User Interface Sequences

Following is a draft sketch of the Lichen user experience.



Activate Lichen

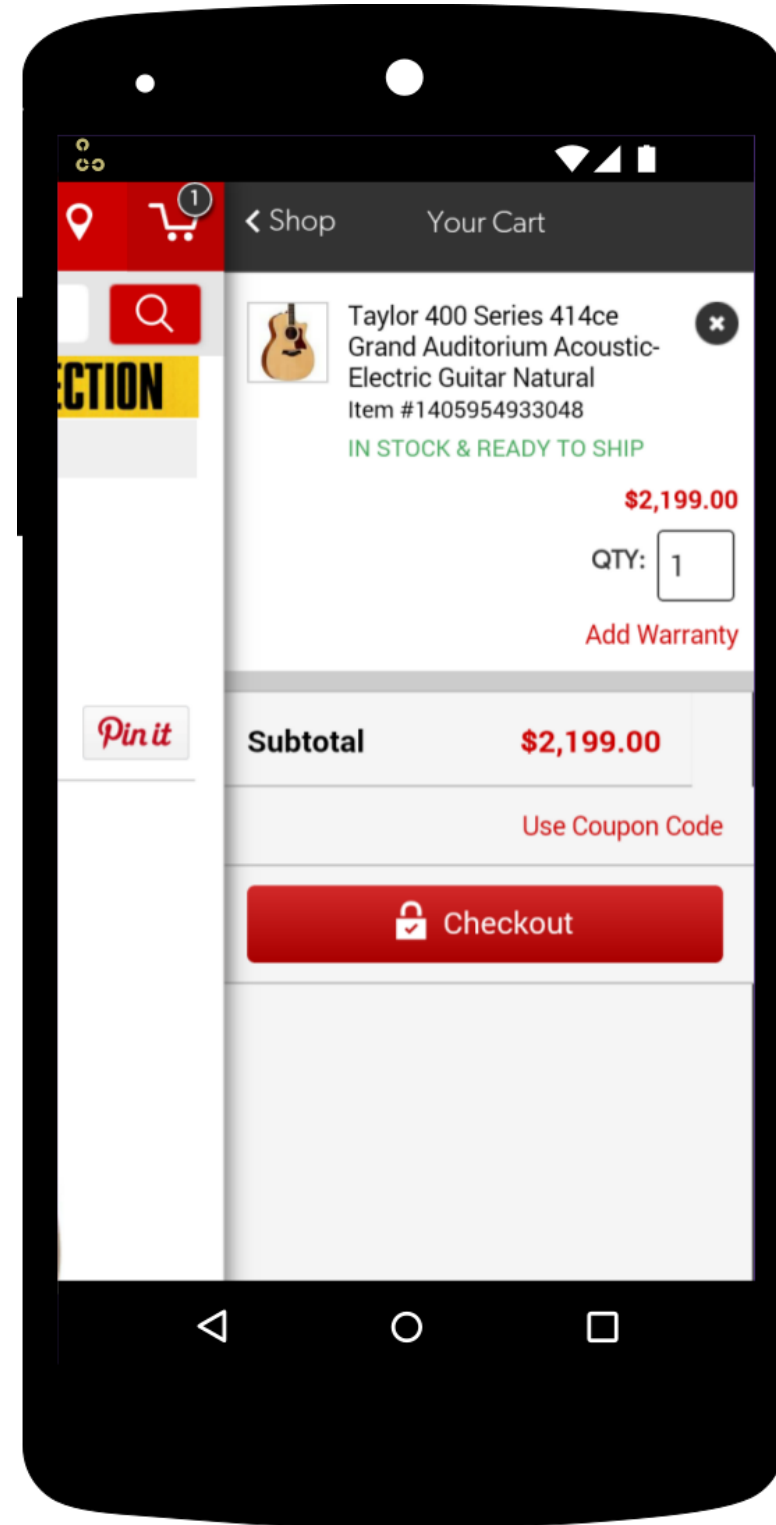
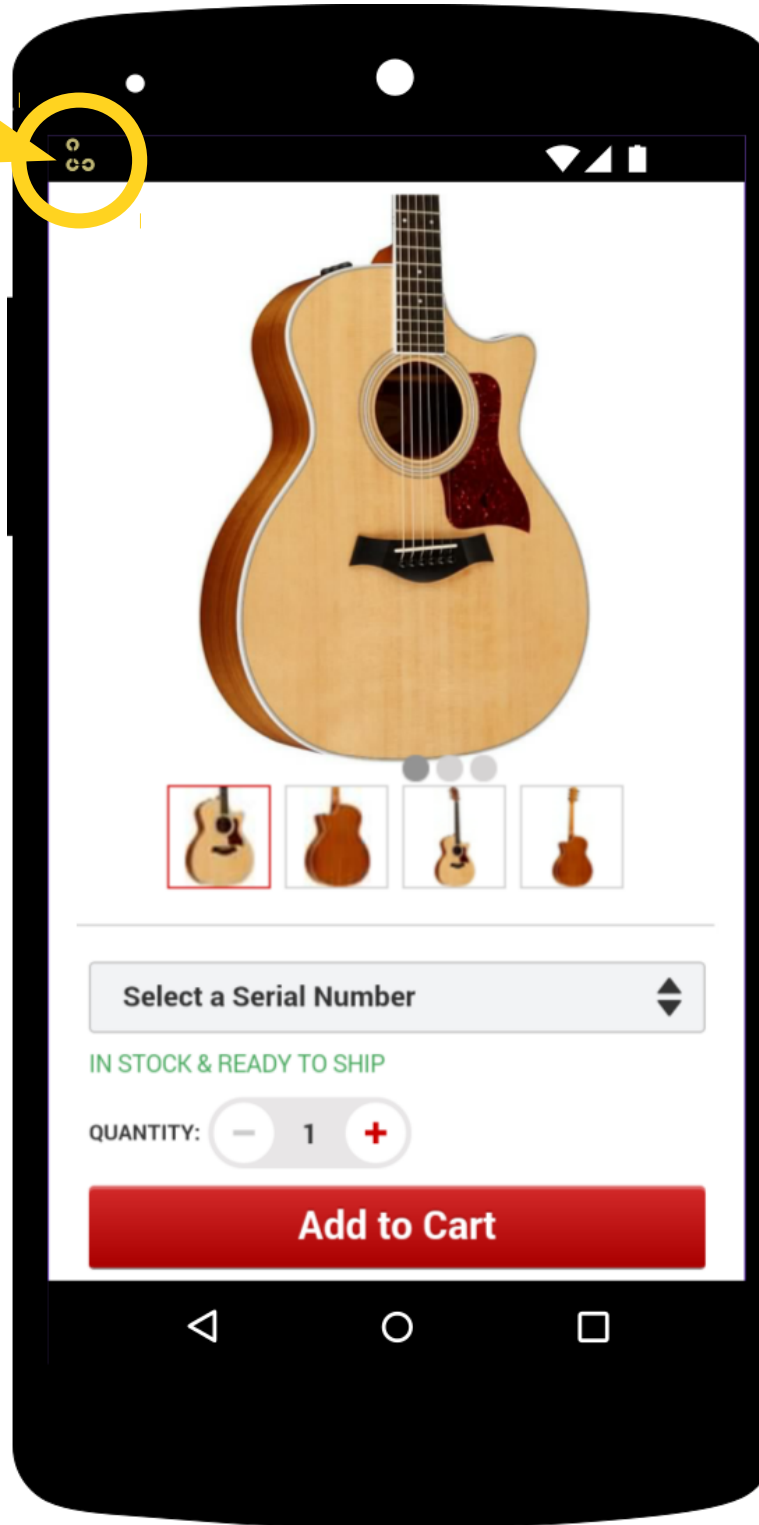
- User preferences:
 - “Lichen waits in background”;
 - “Activate Lichen manually”;
 - “Custom condition activates”.



Lichen is activated

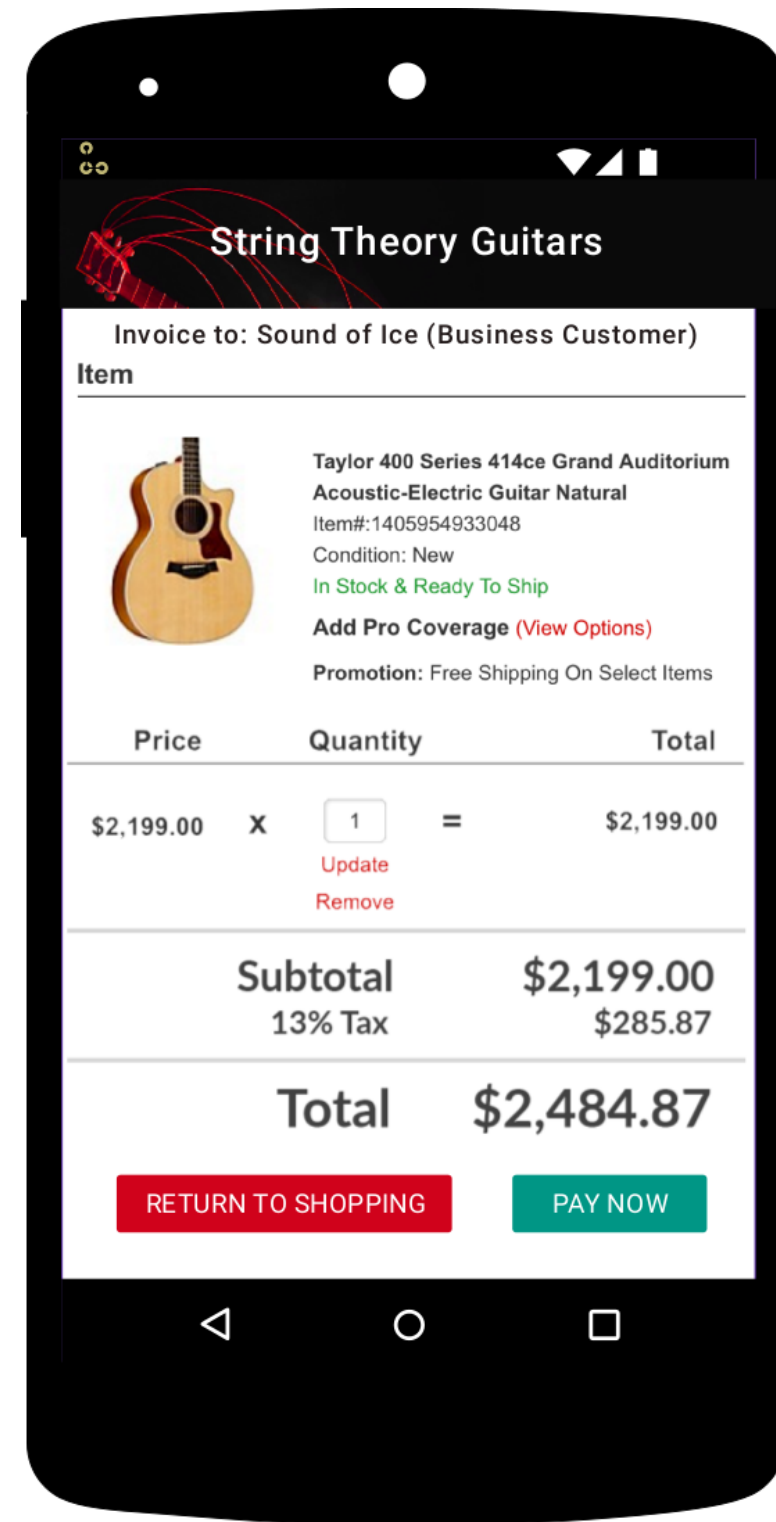


- Proceed to commerce site
- Lichen waits in background.
- Add items to shopping cart



When Purchase Order of Commerce Site Shows, Lichen Goes Into Action

- Lichen detects that an active purchase order is being displayed (based on a list of common 'shopping cart' / e-commerce / invoice-automation solutions)... **and jumps into action.**
- Lichen copies some essential data from this purchase order and from the device (e.g. user based in Iceland is purchasing from a device that is currently located in California)



Internal Data Sources

#1

Originating app
has an api

#2

Lichen uses api
data to find rules



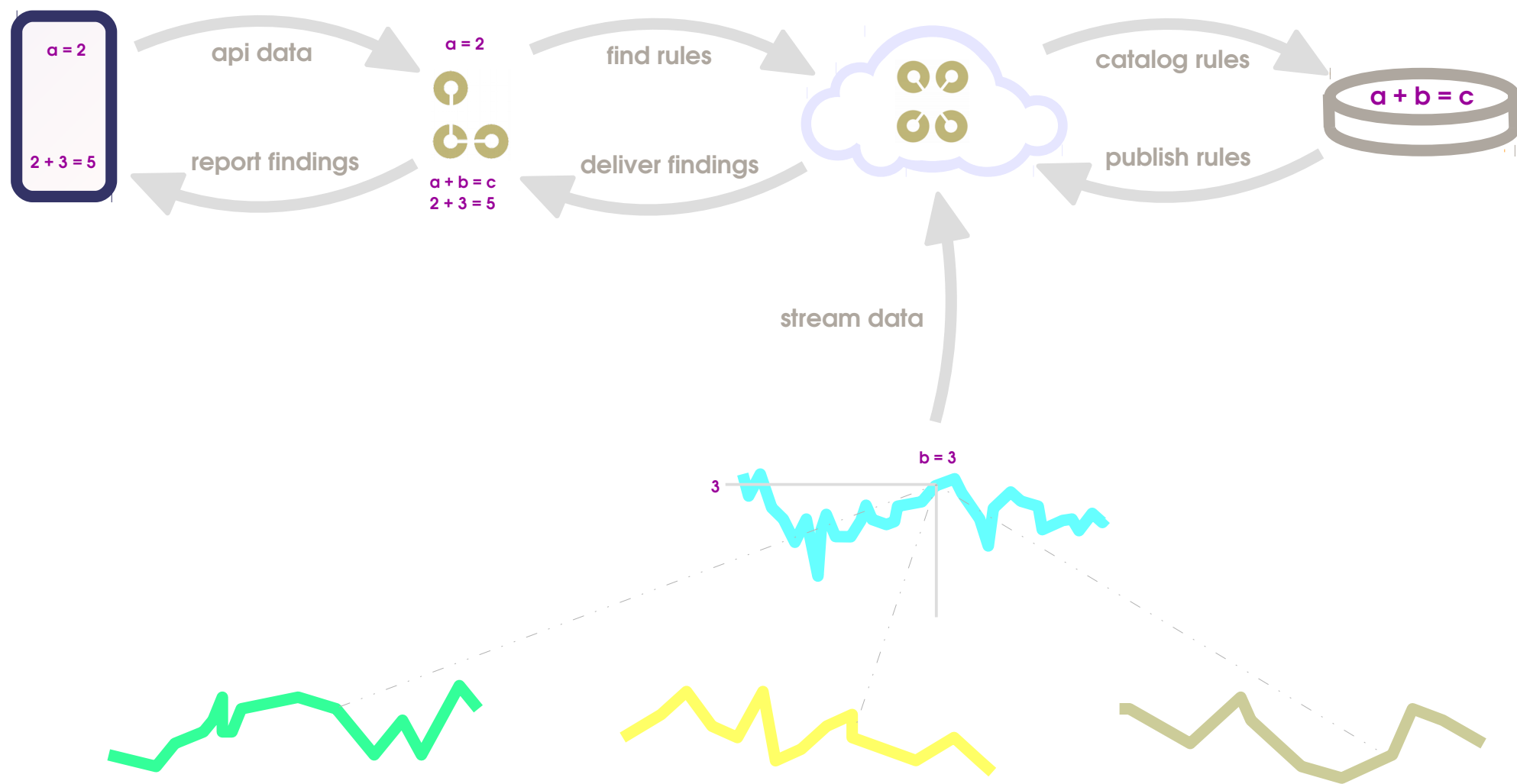
#4

User & app see
▲data + rules

#3

Lichen puts
rules to data

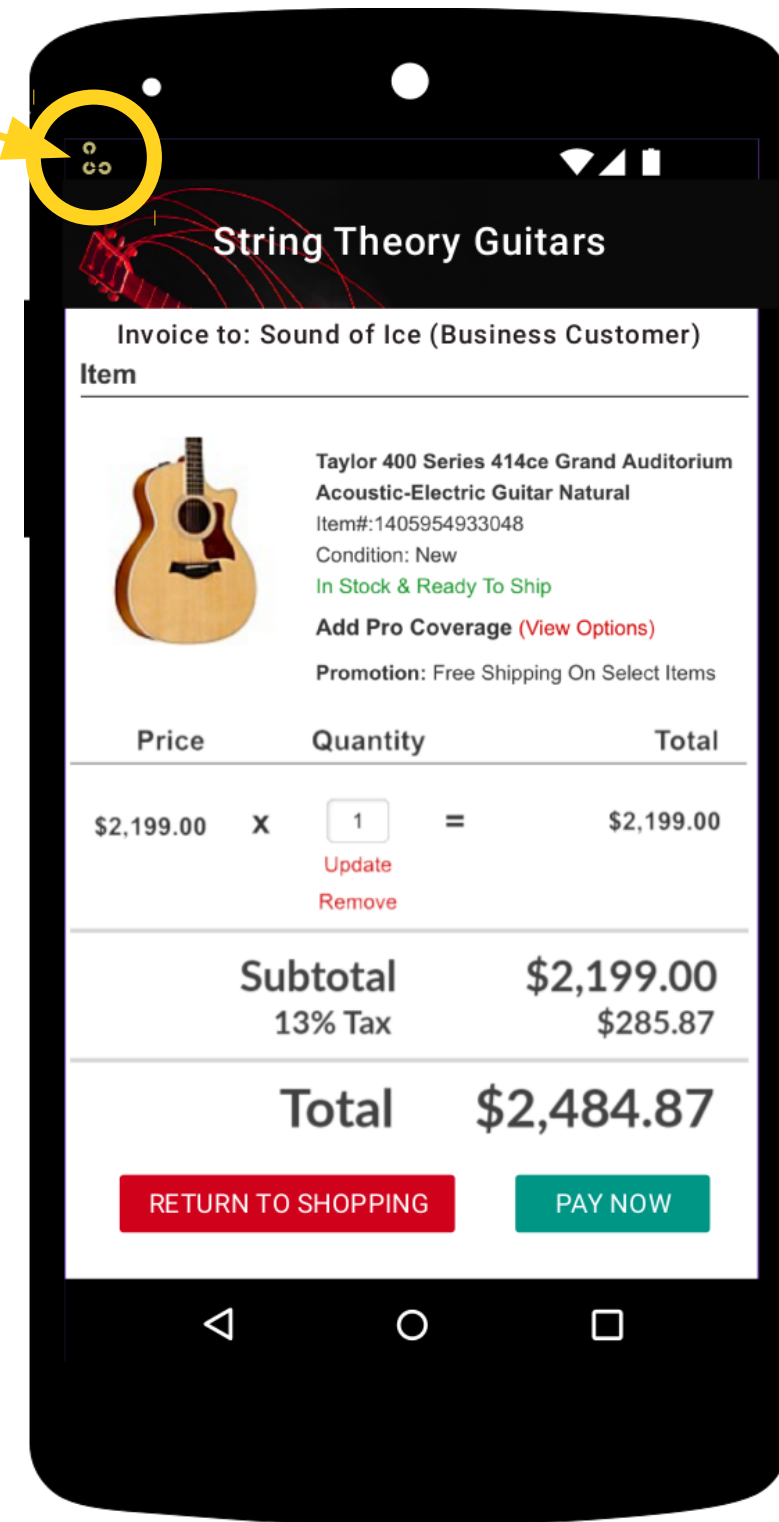
Internal & External Synthesis Data Sources



User is Prompted to Check the Lichenized Purchase Order

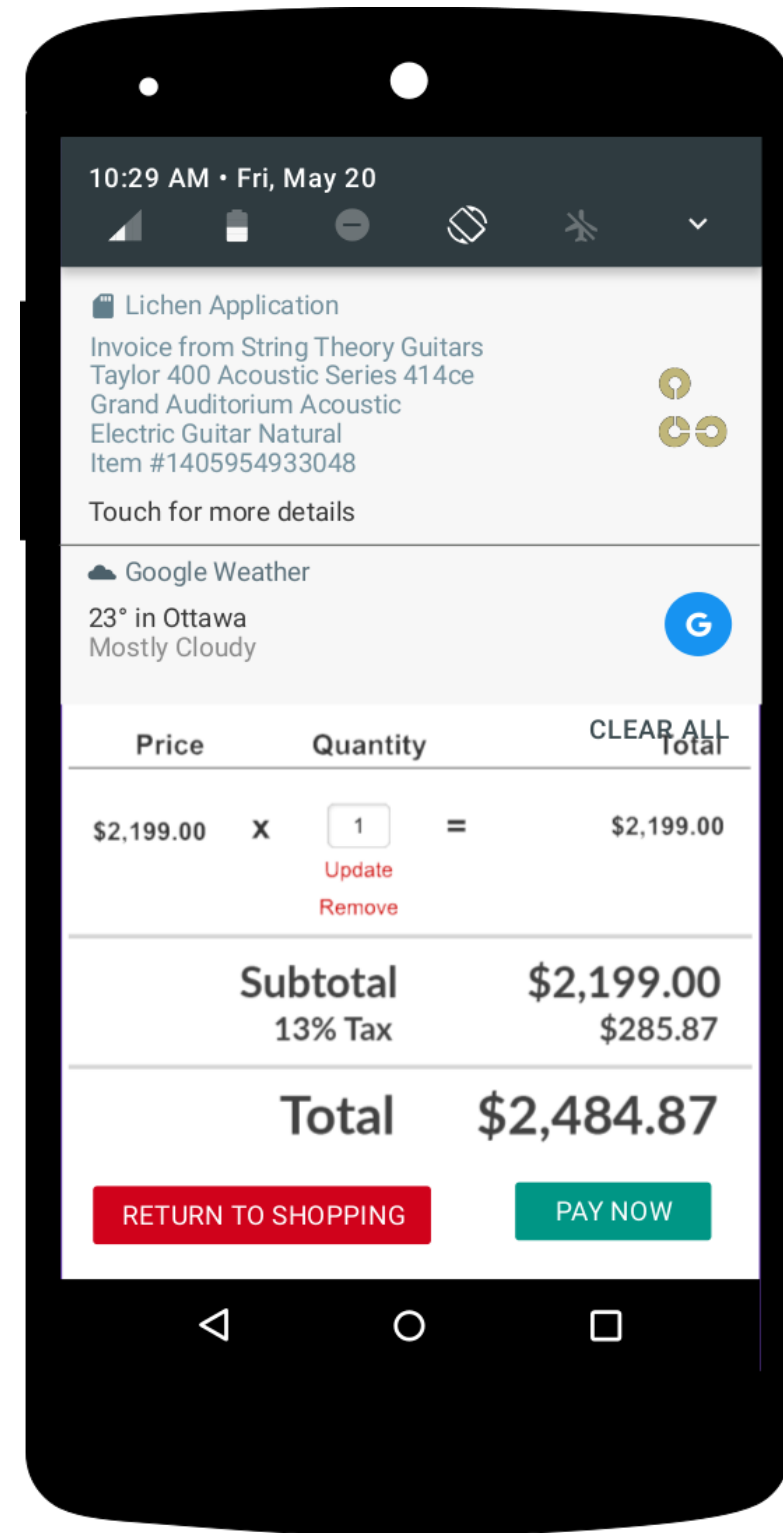
- Only 2 seconds have passed. The user is still looking at the purchase order.
- The update icon & audio notification tells the user that the adjusted invoice has arrived.

Animated
Lichen
icon



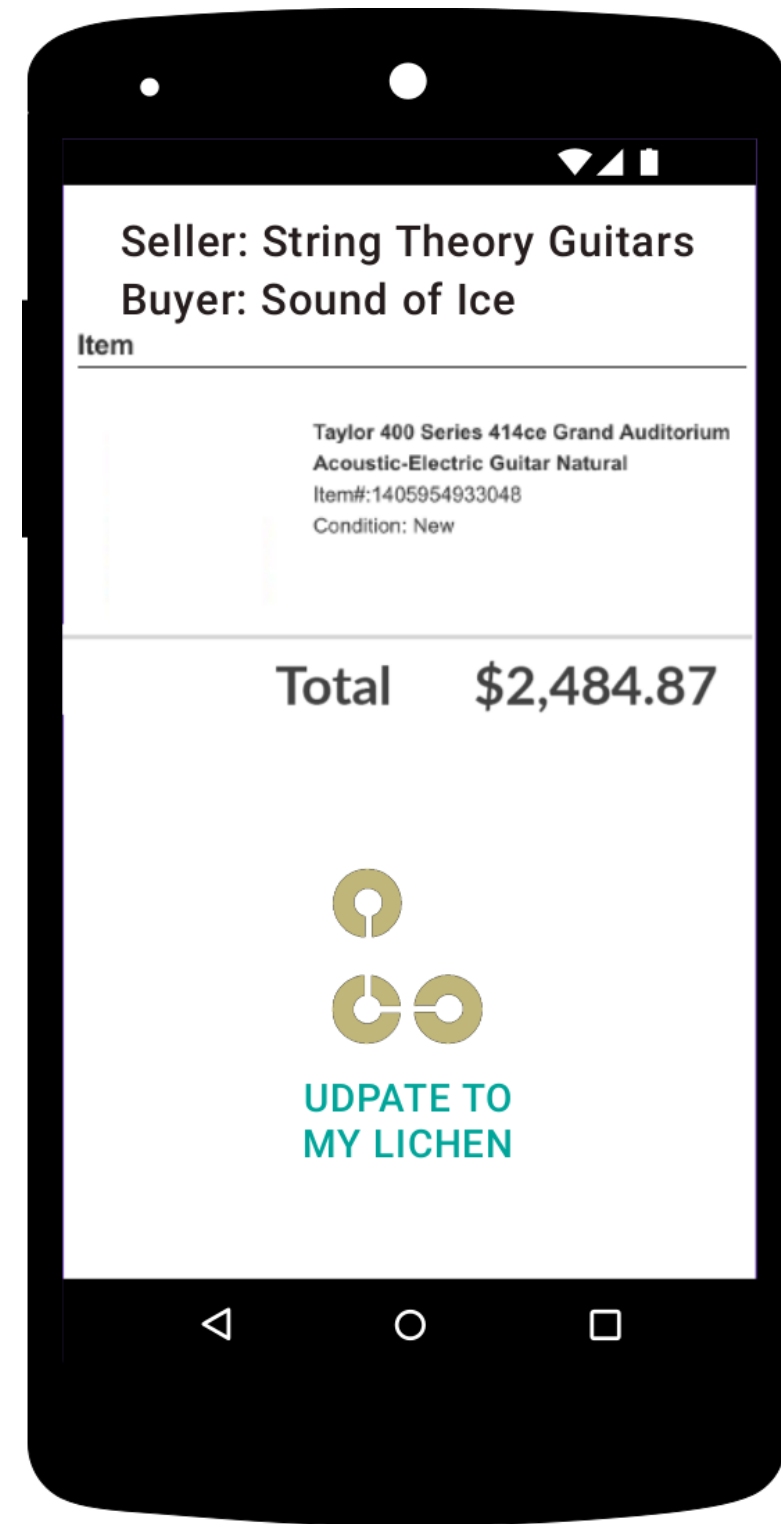
User Pulls Down Notifications

- Notifications drop down overtop of the seller's purchase order
 - User sees that one of the updates is the rules-enhanced purchase order for the current purchase activity by “Sound of Ice” with “String Theory Guitars”
 - User touches the Lichen notice to open it



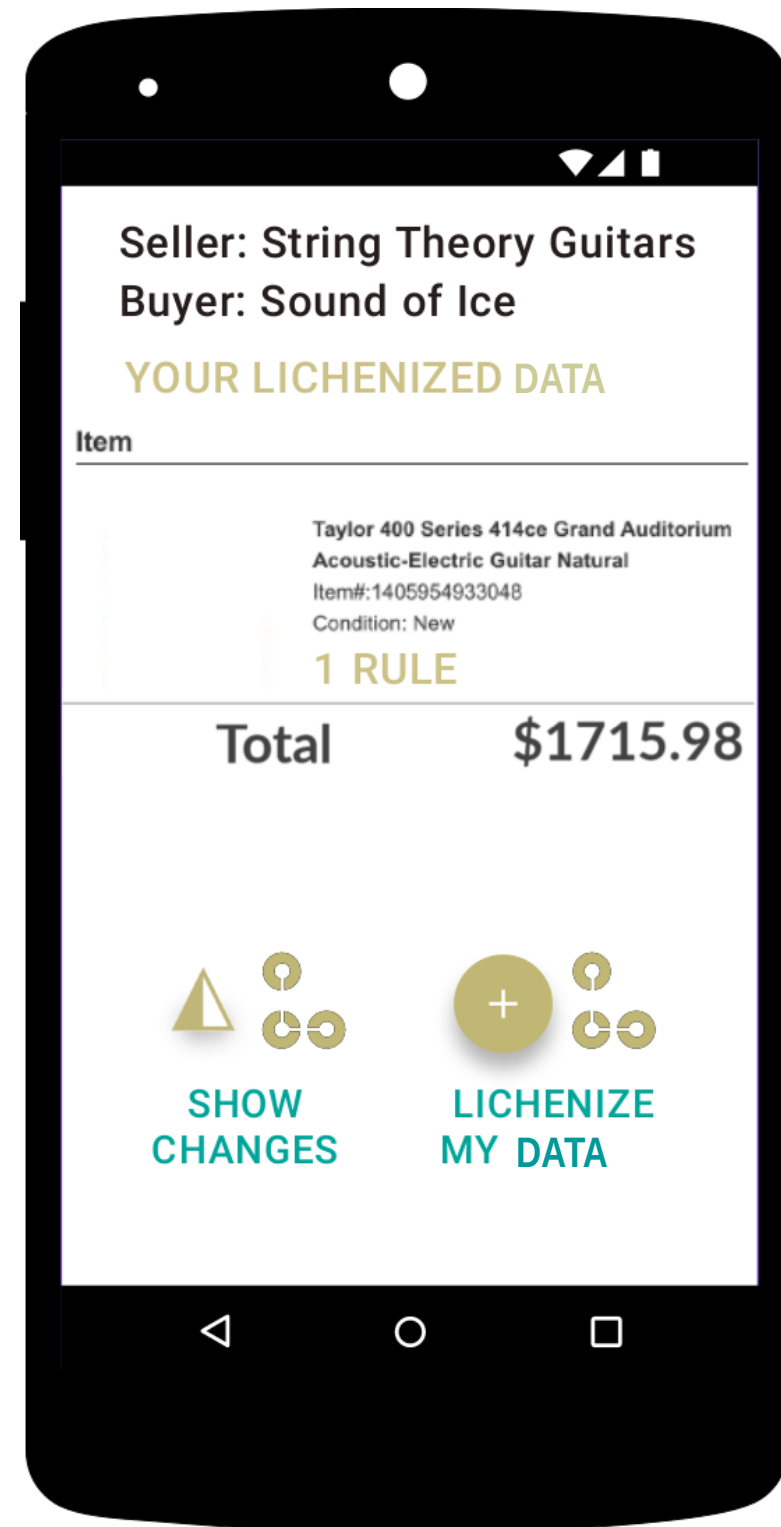
User Sees Original Invoice Data

- To confirm that Lichen is using the data from the purchase underway, it first displays the purchase order data as it was obtained from the original
- User is presented with the button "Update to my Lichen"
- Touch it to find out what Lichen found.



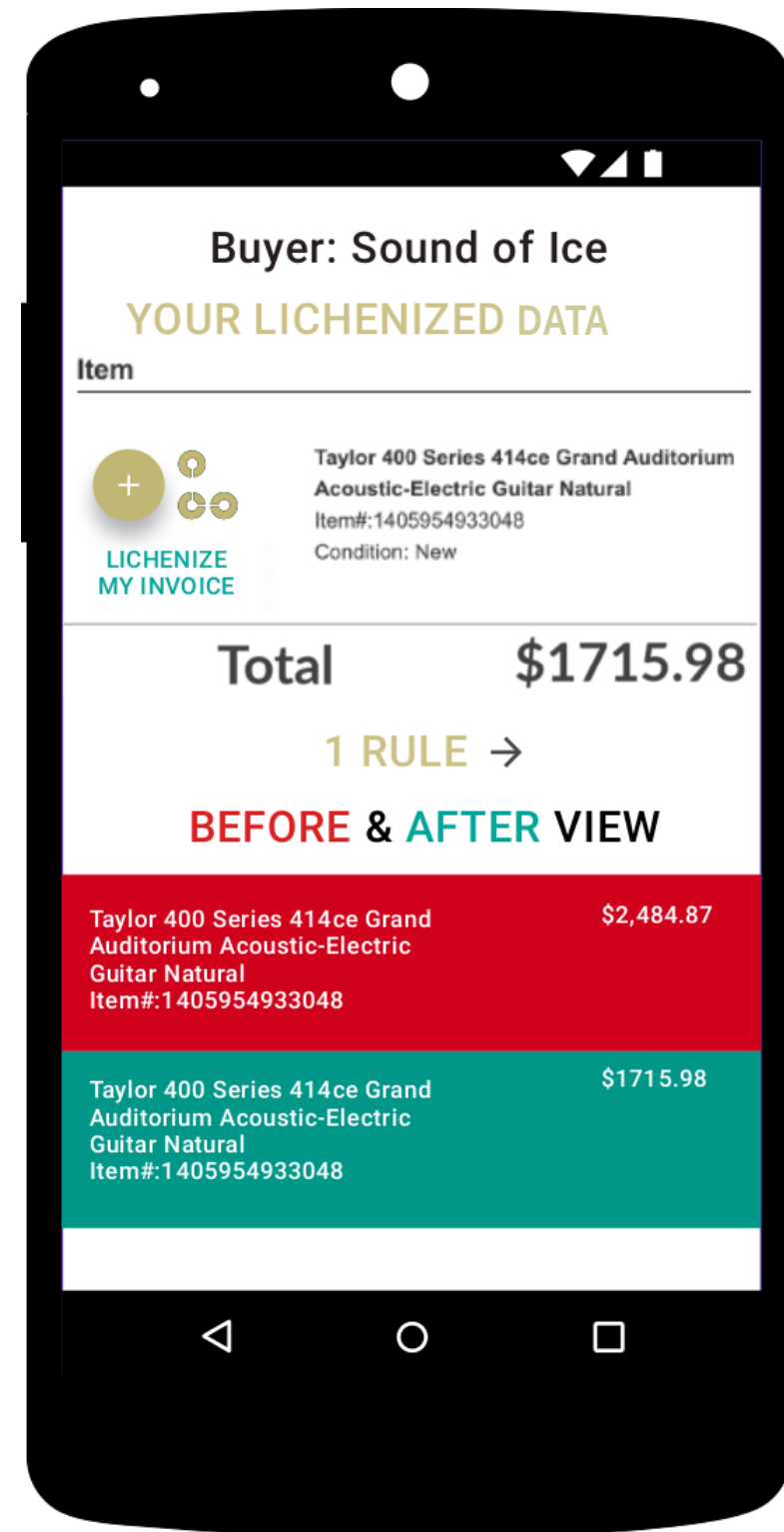
Then User Sees “Lichenized” Purchase Order

- Modified purchase order data
- Notice “n Rules” communicates how many rules were applied
- User can touch “n Rules” to find out why the purchase order data was changed. (Illustrated in next frame.)
- Below are two Lichen options:
 - Show changes
 - Lichenize my purchase order
- If the underlying e-commerce or e-payment system meets Lichen's API and IT security requirements, the user can use “Lichenize this” to have it modify data imported into the active transaction (e.g. the purchase of a guitar)



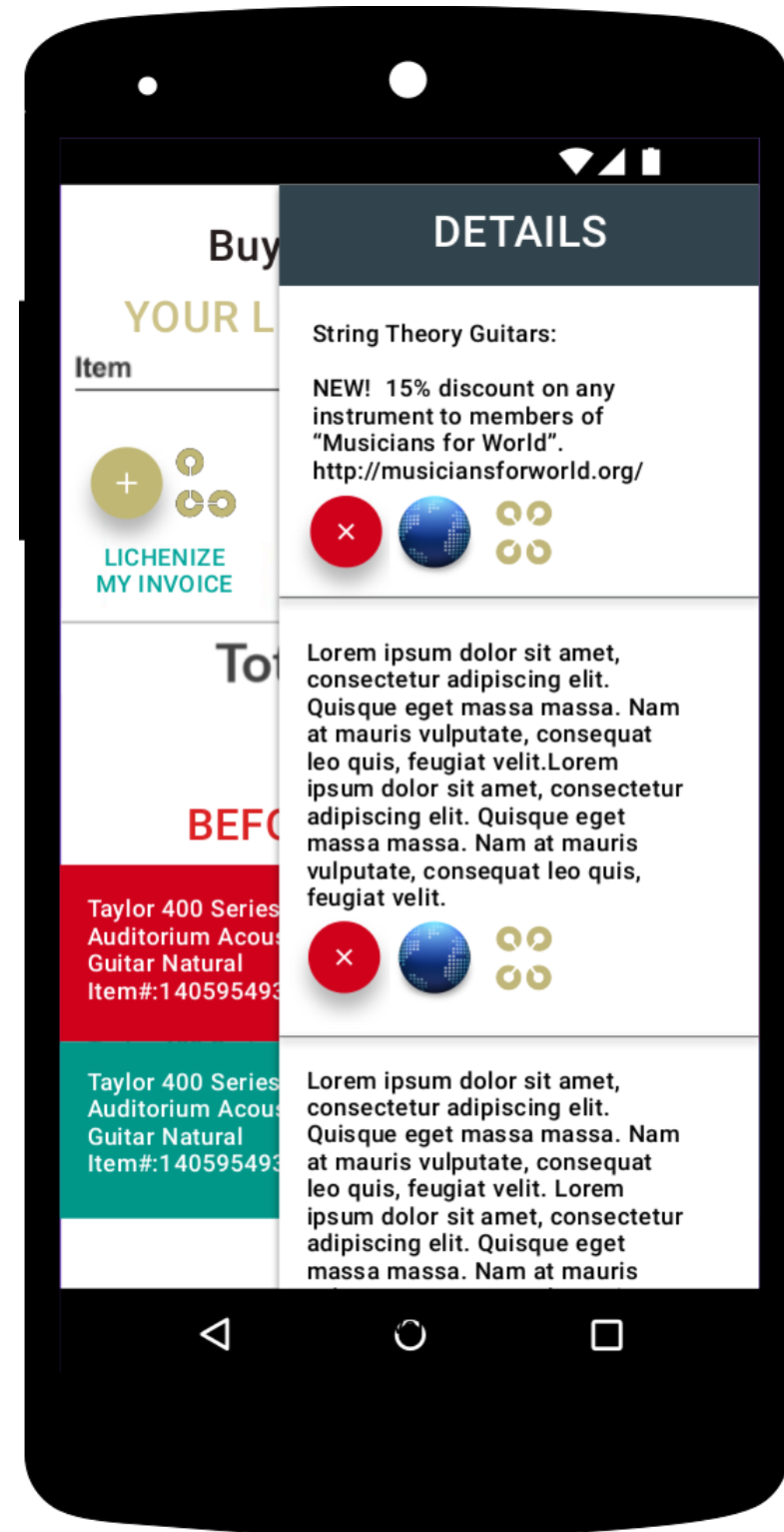
User Touches "Show Changes" to See "Before & After"

- There could be multiple rules, so Lichen would list each of the deltas
- Each change is illustrated, but the reasons are not yet visible.
- User can touch either "n Rules" or the green area to find out why the purchase order data was changed. (Illustrated in next frame.)
- If users touches "buyer" or "seller", s/he can see what data about them was discovered and used by Lichen (Not illustrated here.)
- If user touches the item description, s/he can see what data about each item was discovered and used by Lichen (Not illustrated here.)

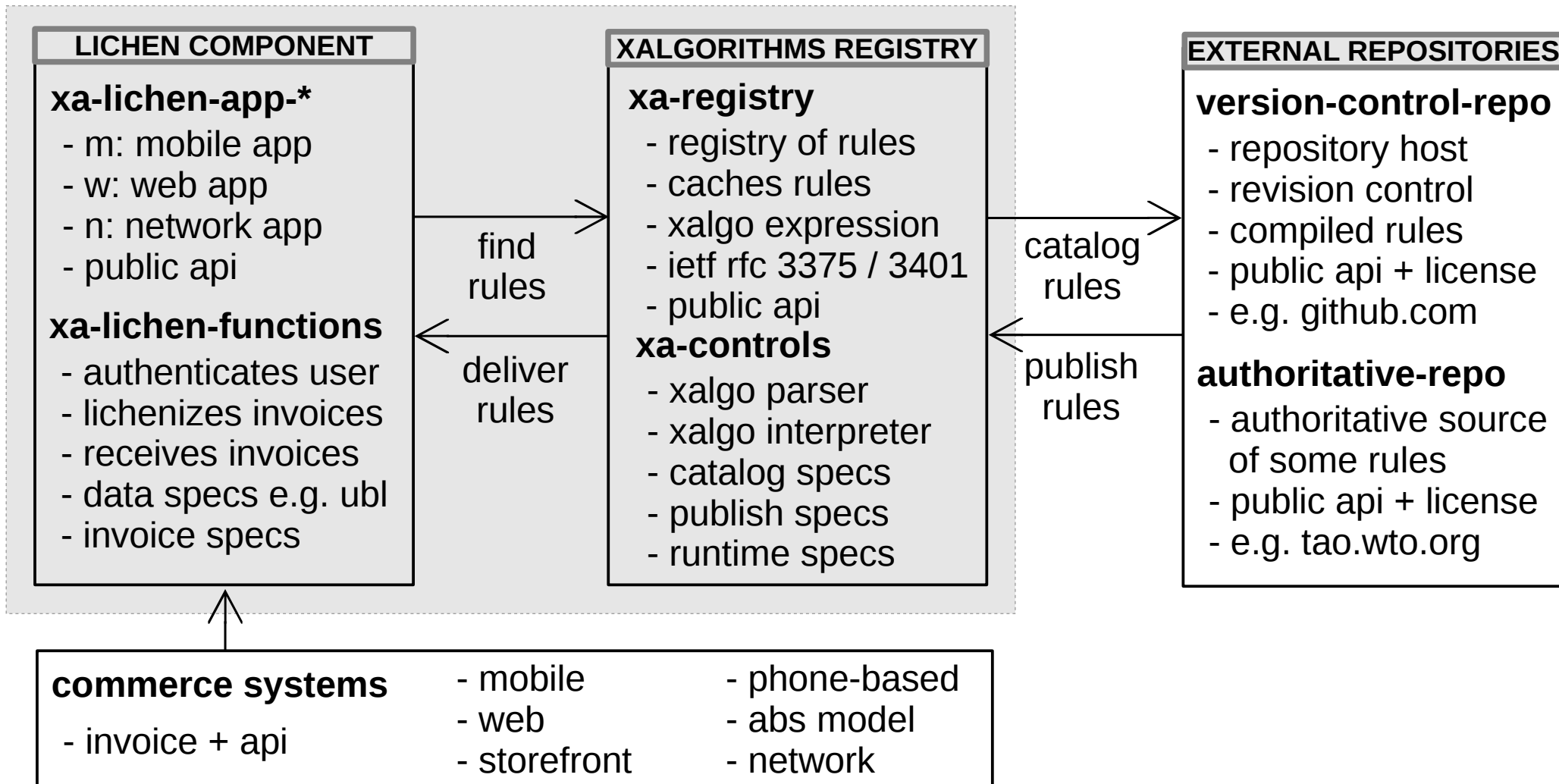


Tap "n Rules" or Green Area to See Active "Rule Iota"

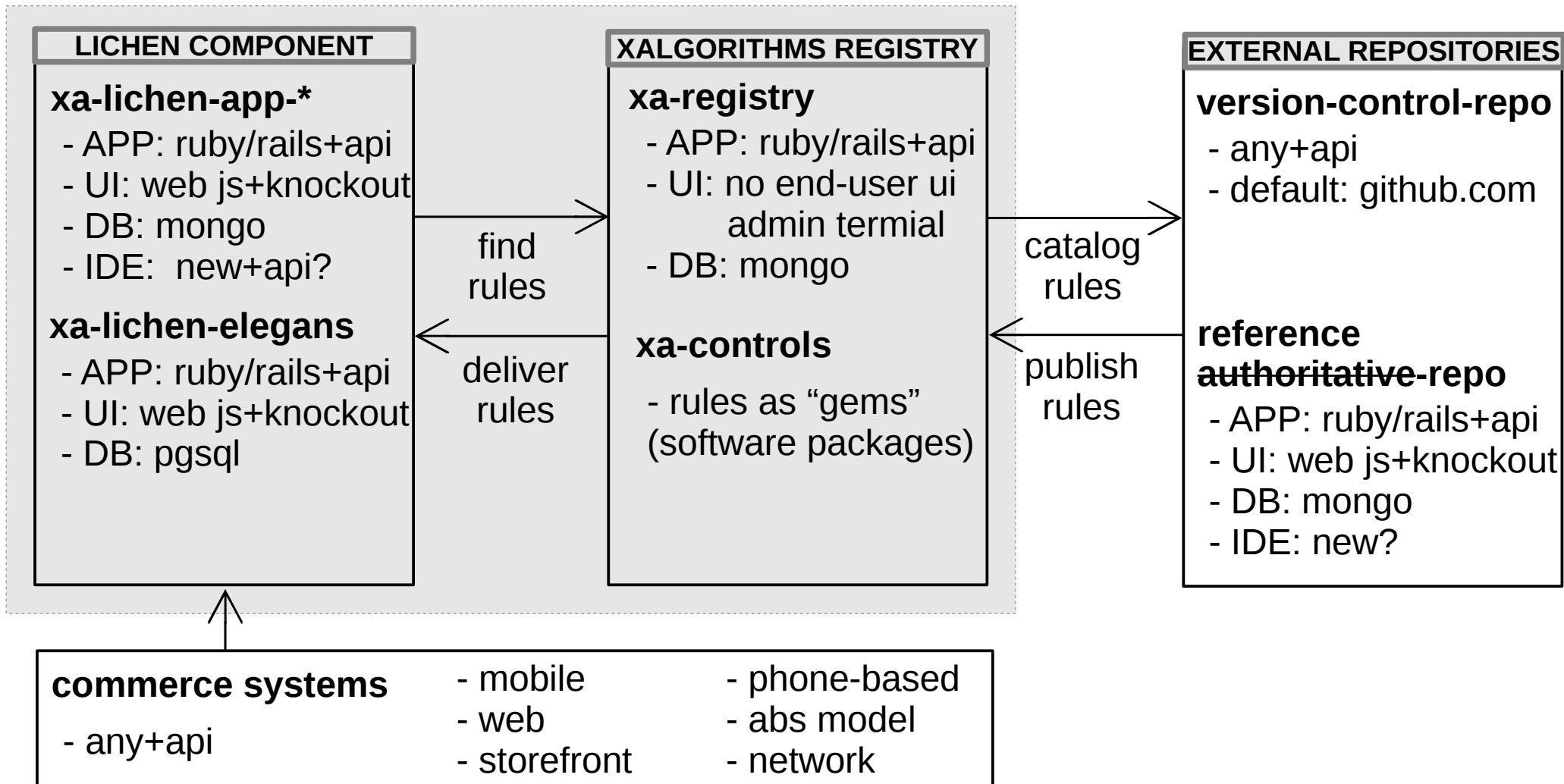
- By tapping a changed item, the "Details" of the change are revealed by a panel that slides into 2/3rds view from the right.
- An "iota" of information from the rule owner can be a maximum 240 characters summarizing the reason for the change.
- Name of the rule's "authority" entity. (This could be the user's own name, for a self-administered rule.)
- Each rule iota comes with three icons:
 - Remove this rule
 - Show web info about this rule
 - Show xalgo tech about this rule



Xalgorithms Functional Structure (Internet of Rules)



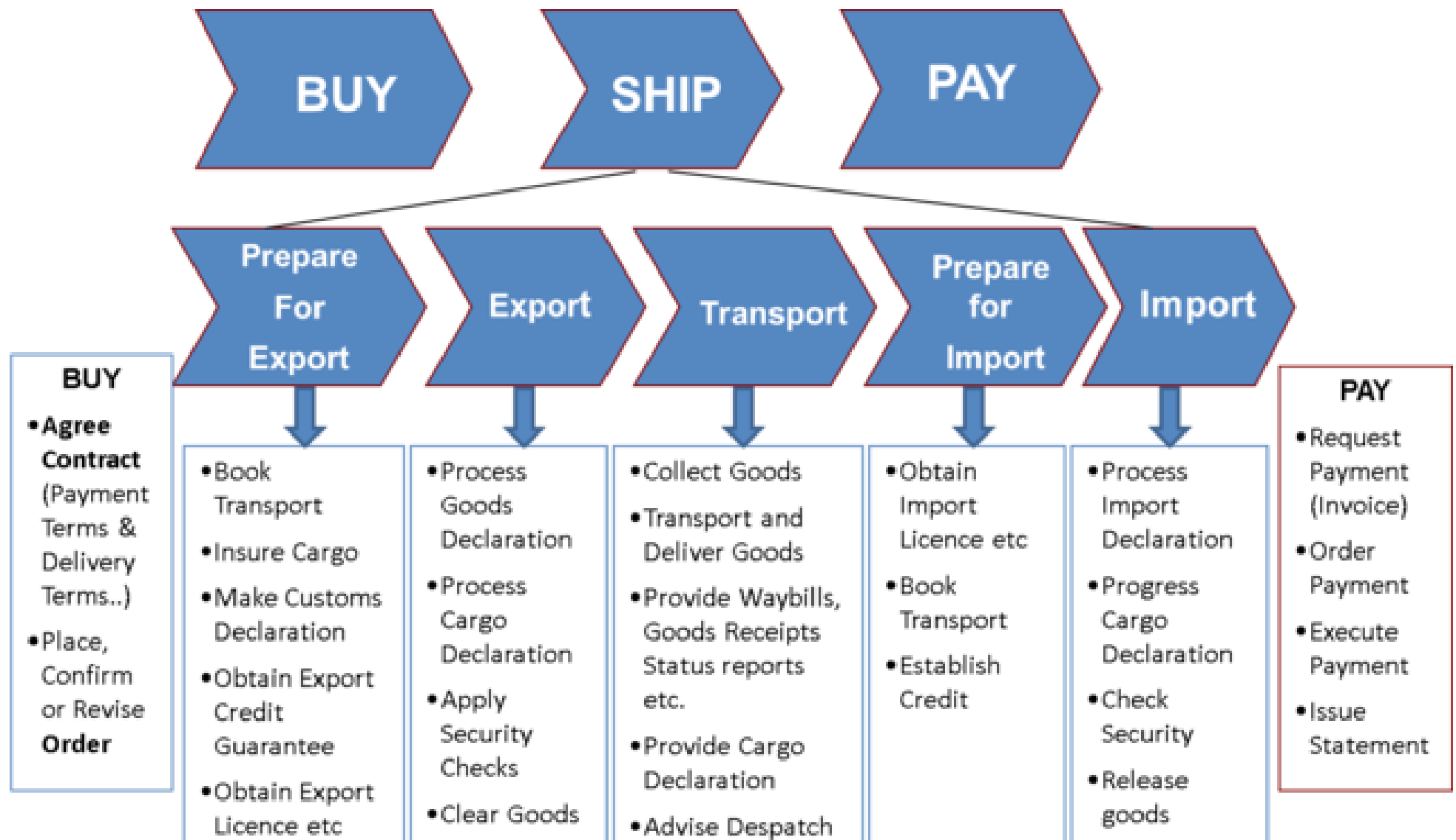
Xalgorithms Deployment Environment



Xalgorithms Lichen in relation to the International Supply Chain Reference Model (ISCRM)

UN/CEFACT. (2016) "Buy-Ship-Pay"

Retrieved September 18, 2016, from <http://tfig.unece.org/contents/buy-ship-pay-model.htm>



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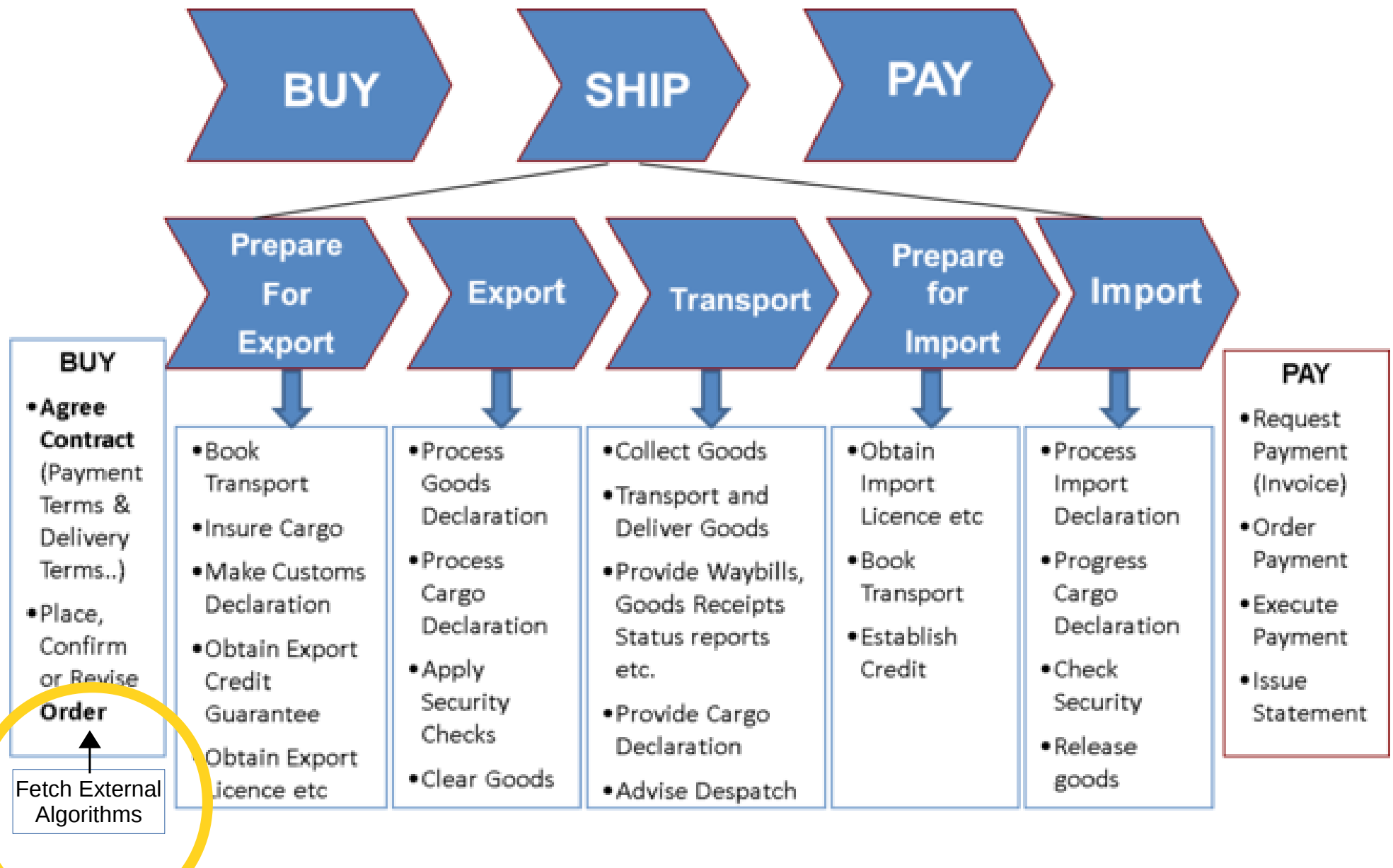
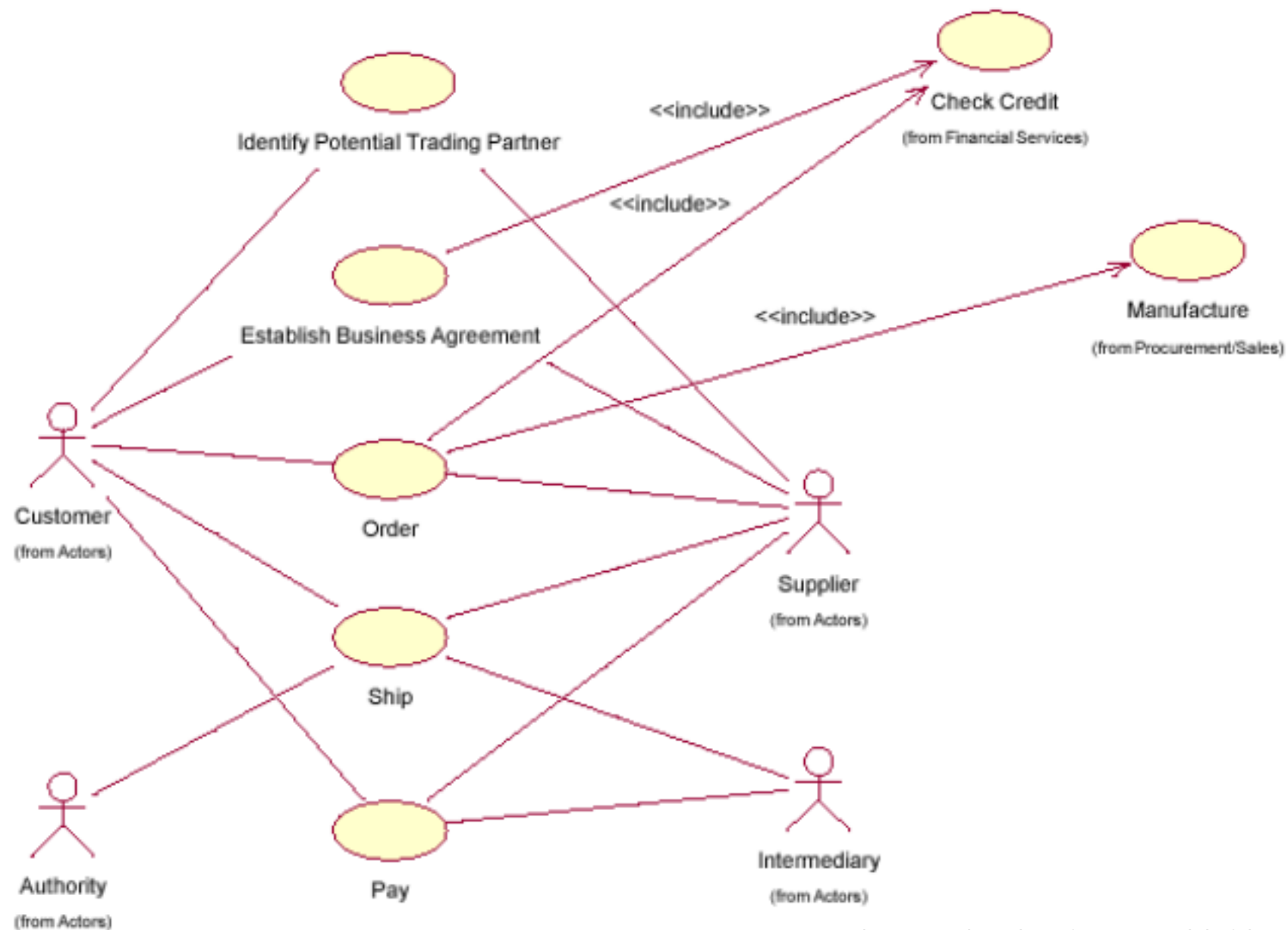


Fig.1 Use Case Diagram: Purchase and Supply Internationally



Source: UN/CEFACT. (2003). Reference Model of the International Supply Chain, with special reference to Trade Facilitation and Trade Security. United Nations Centre for Trade Facilitation and Electronic Business, International Trade Procedures and Business Process Analysis Group
Retrieved from http://tfig.unece.org/pdf_files/A9RAD2A.pdf

Figure1. Purchase and Supply Internationally

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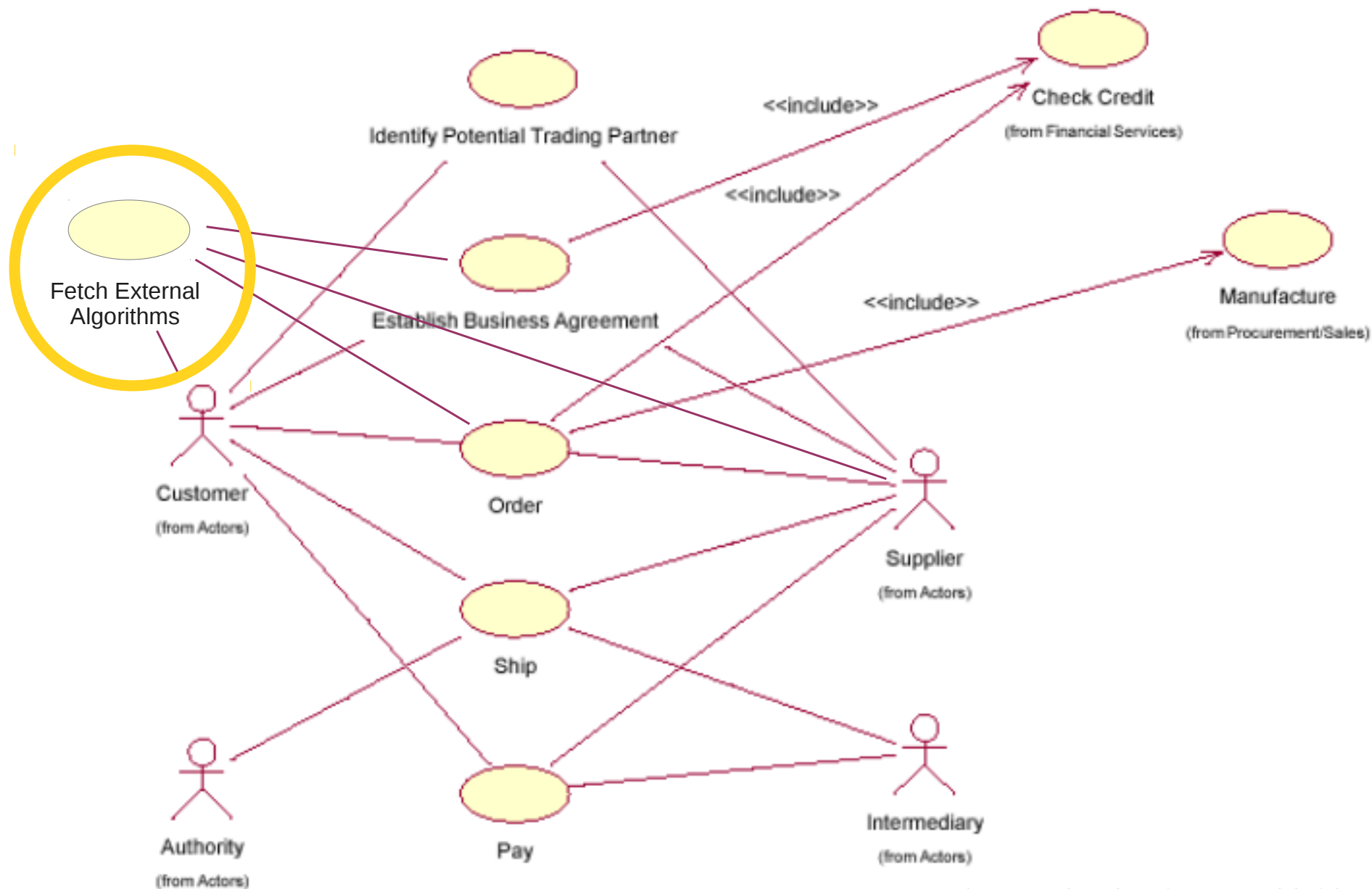
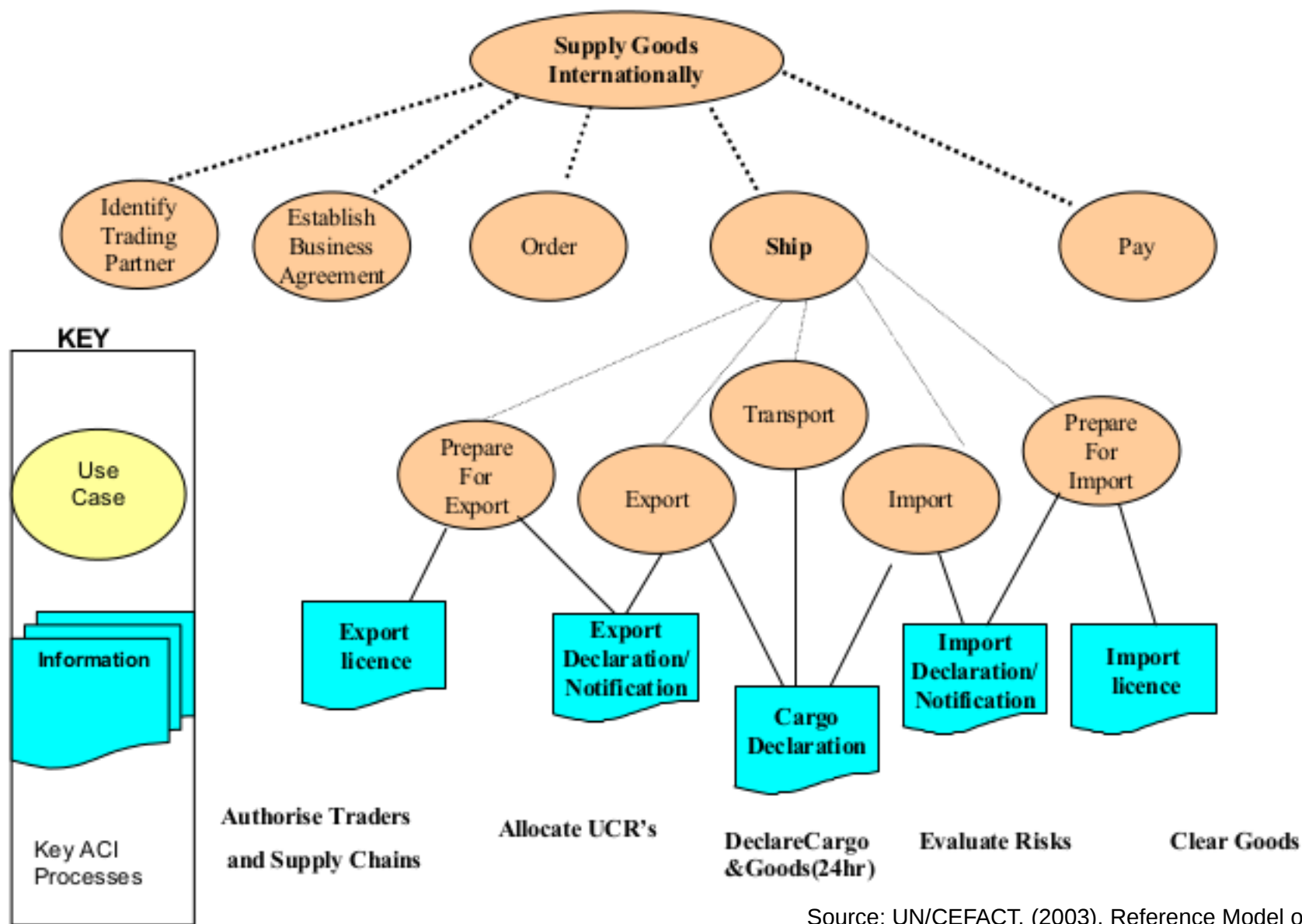


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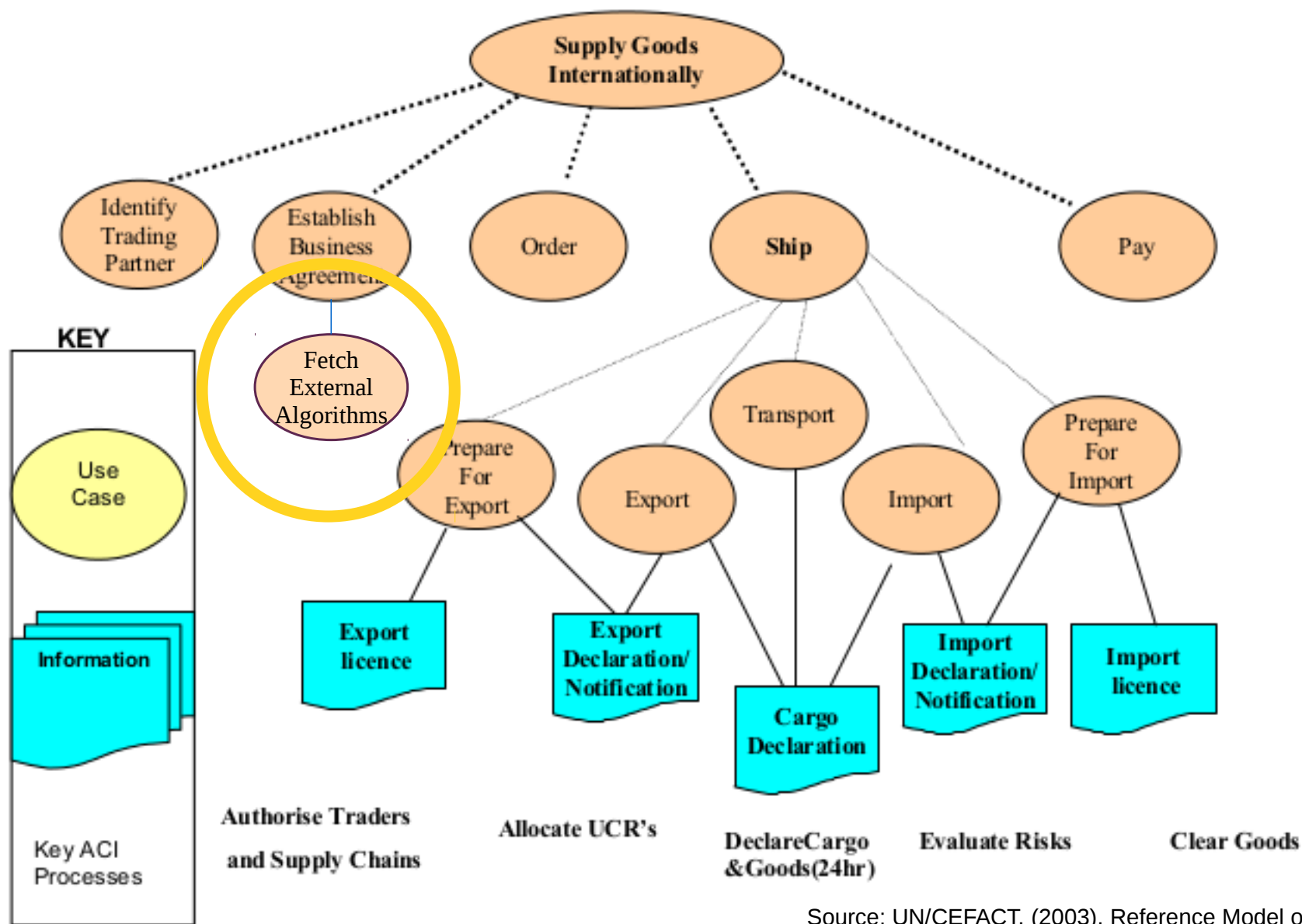
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Fig. 5 ACI and the ISC Reference Model



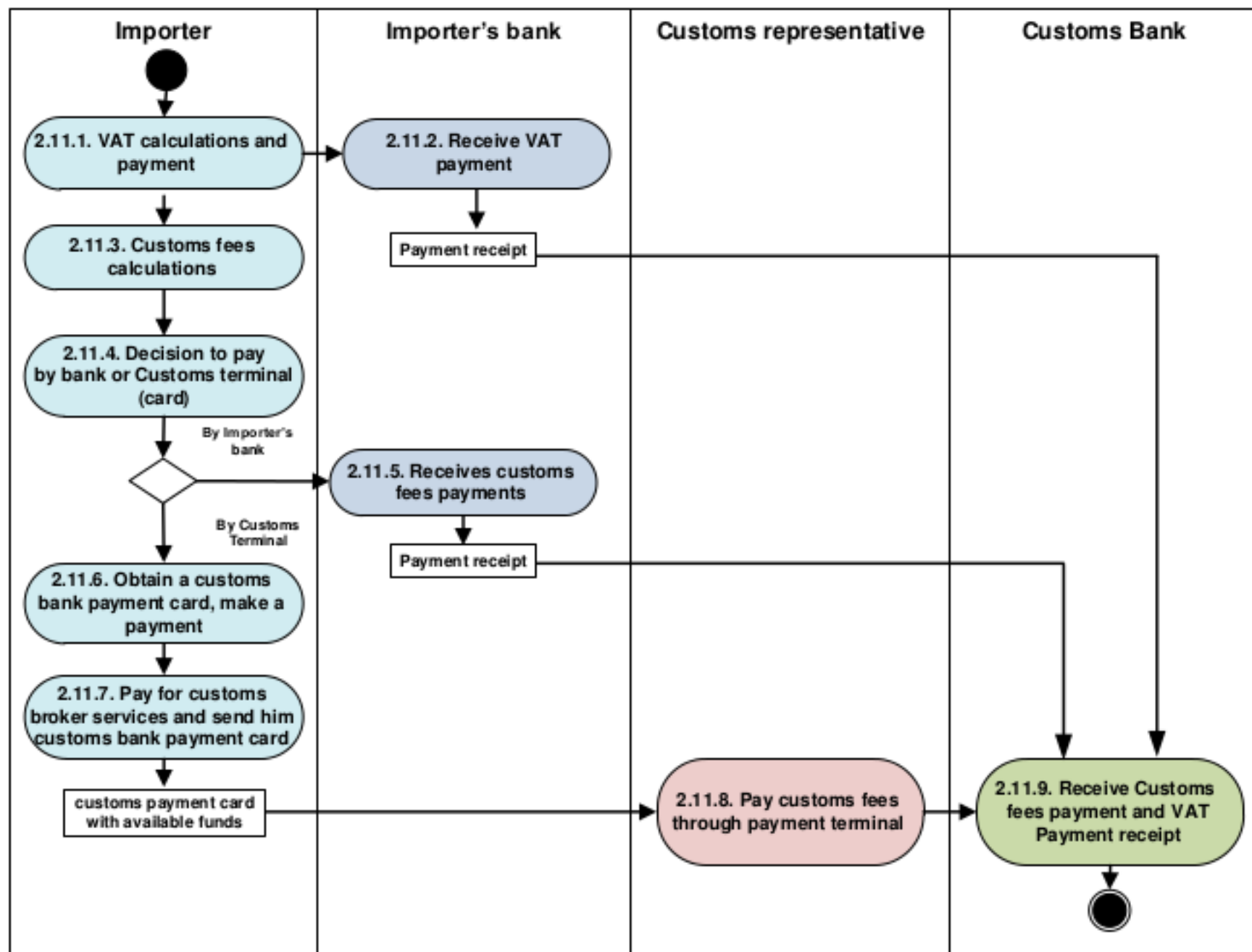
Source: UN/CEFACT. (2003). Reference Model of the International Supply Chain, with special reference to Trade Facilitation and Trade Security. United Nations Centre for Trade Facilitation and Electronic Business, International Trade Procedures and Business Process Analysis Group
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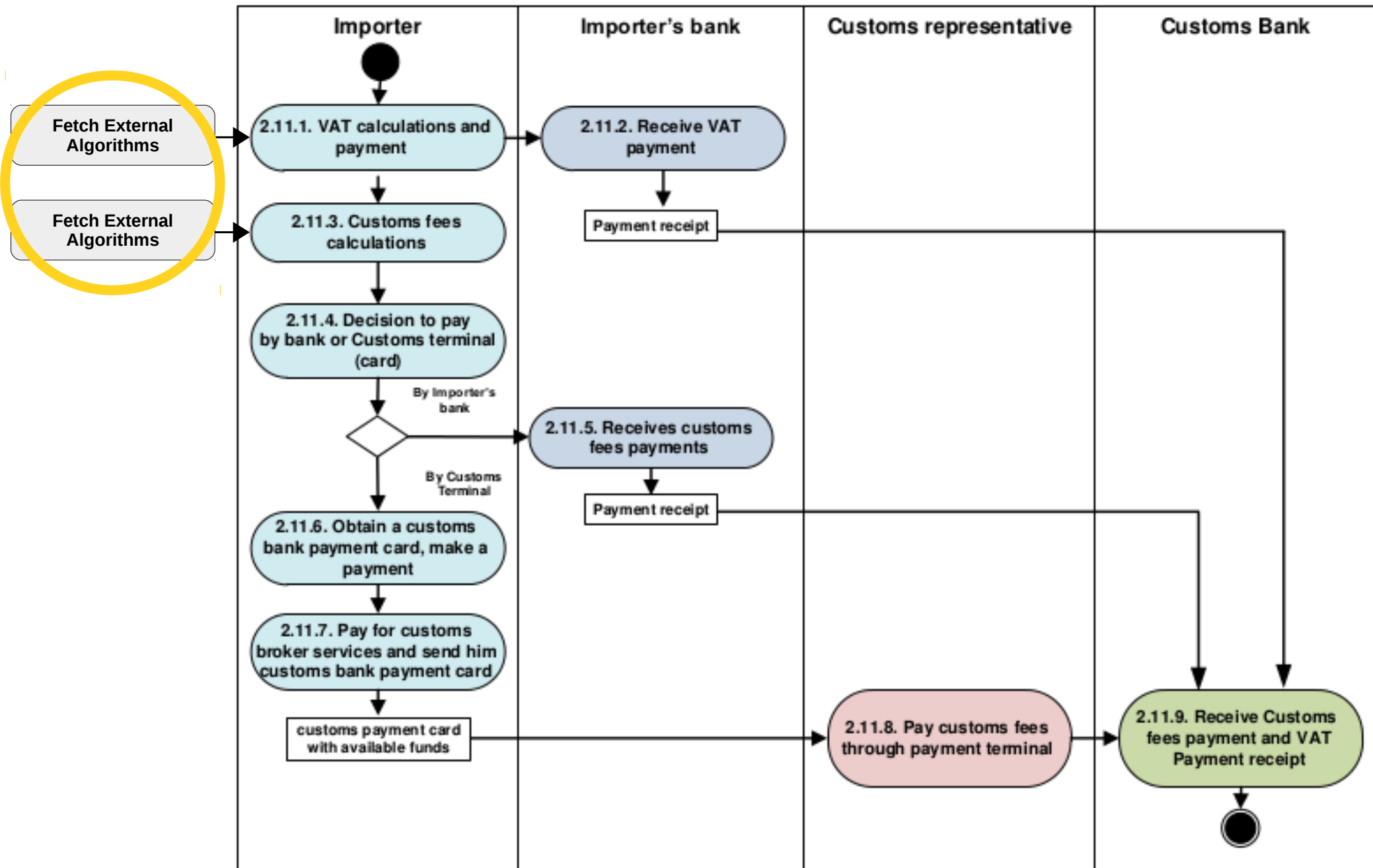
Figure 2. 14: Activity Diagram of Trade Procedure 2.11. “Payment of Customs Fees and Taxes”



Source: UN/ESCAP. (2015). Business Process Analysis of Trade Procedures in Selected Central Asian Countries. United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) Publications Office.

<http://www.unescap.org/sites/default/files/Analysis%20of%20Trade%20Procedures%20in%20Central%20Asia%20as%20of%2021%20Sept%202015.pdf>

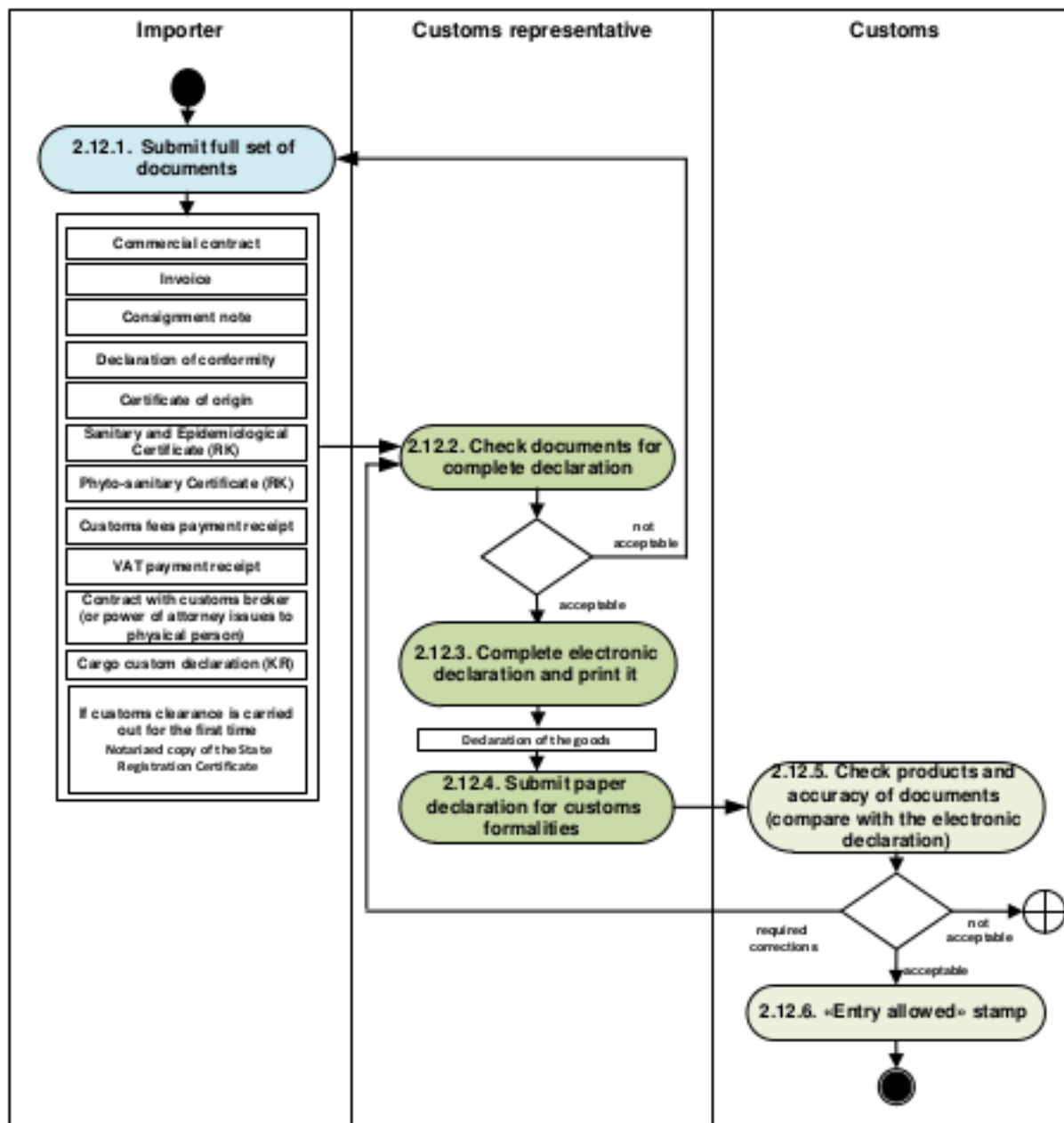
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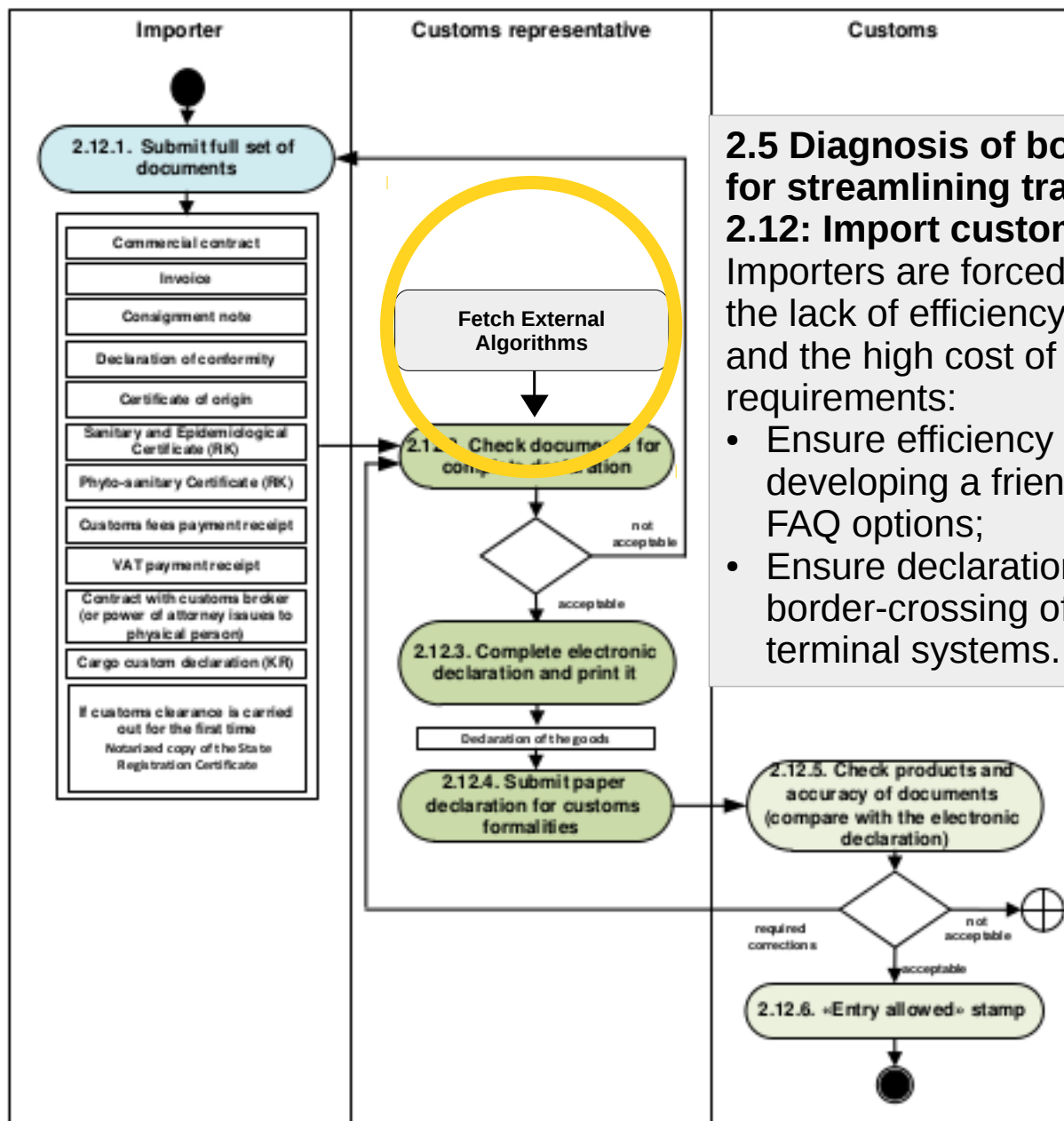
Figure 2. 15: Activity diagram of trade procedure 2.12 “Import Customs Clearance”



Source: UN/ESCAP. (2015). Business Process Analysis of Trade Procedures in Selected Central Asian Countries. United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) Publications Office.

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Figure 2. 15: Activity diagram of trade procedure 2.12 “Import Customs Clearance”

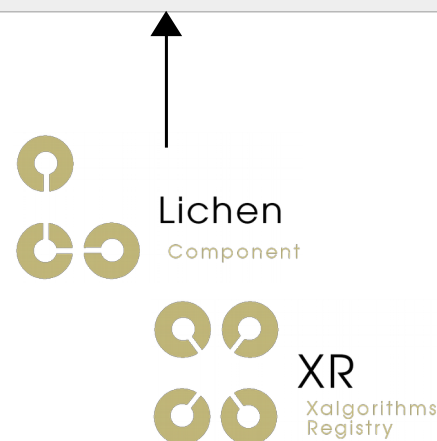


2.5 Diagnosis of bottlenecks and recommendations for streamlining trade processes (p42, 48)

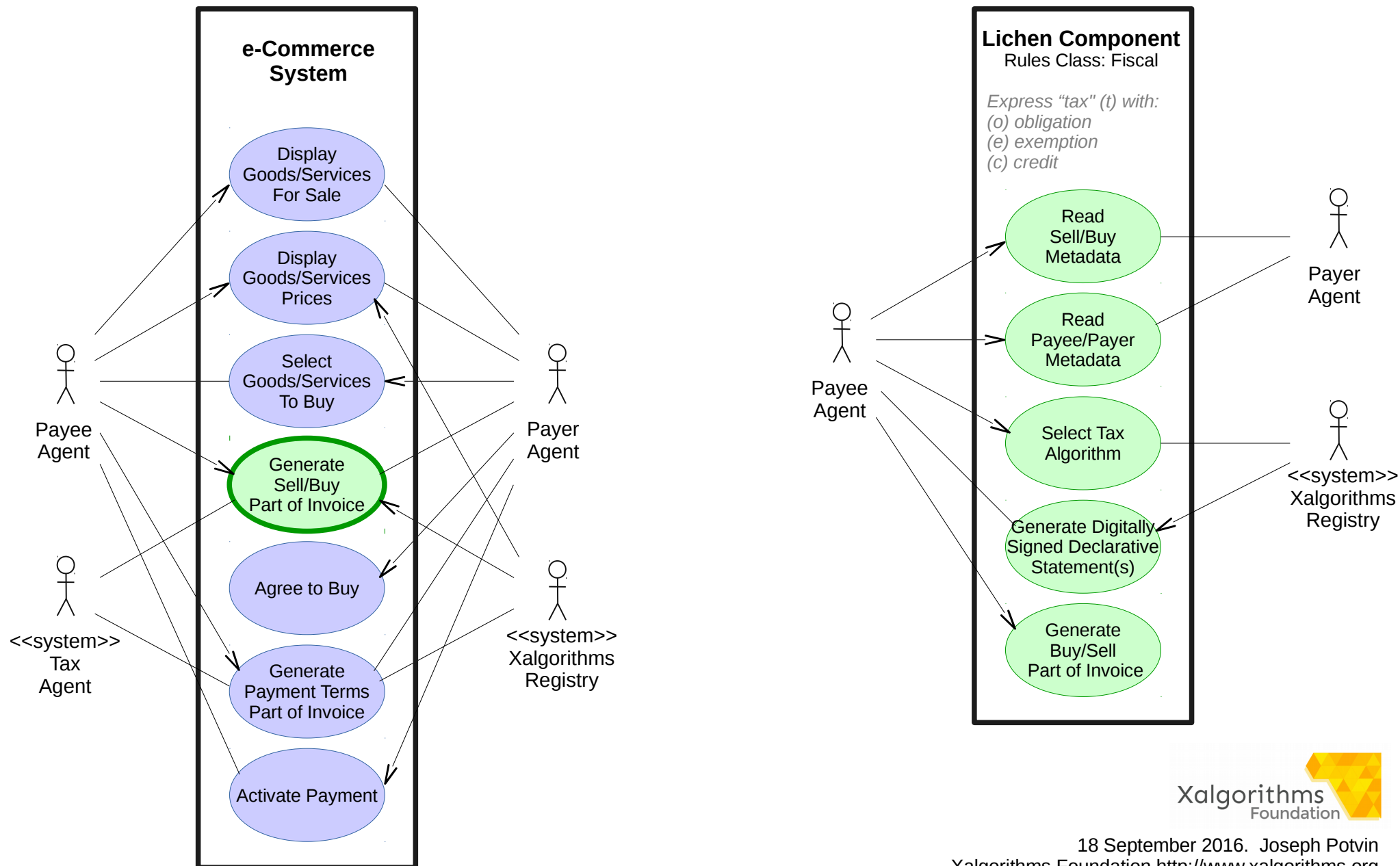
2.12: Import customs clearance

Importers are forced to recruit a customs broker due to the lack of efficiency of electronic declaration system and the high cost of dedicated software. List of requirements:

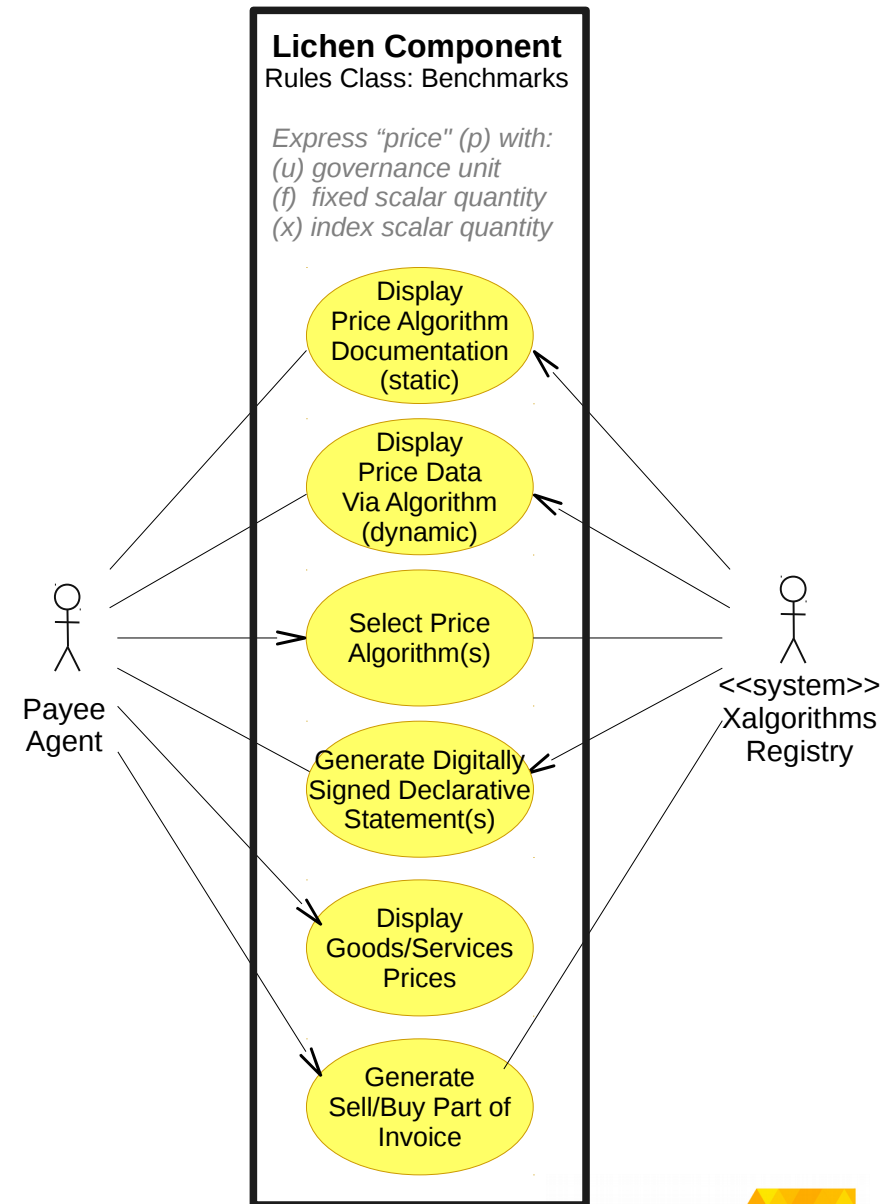
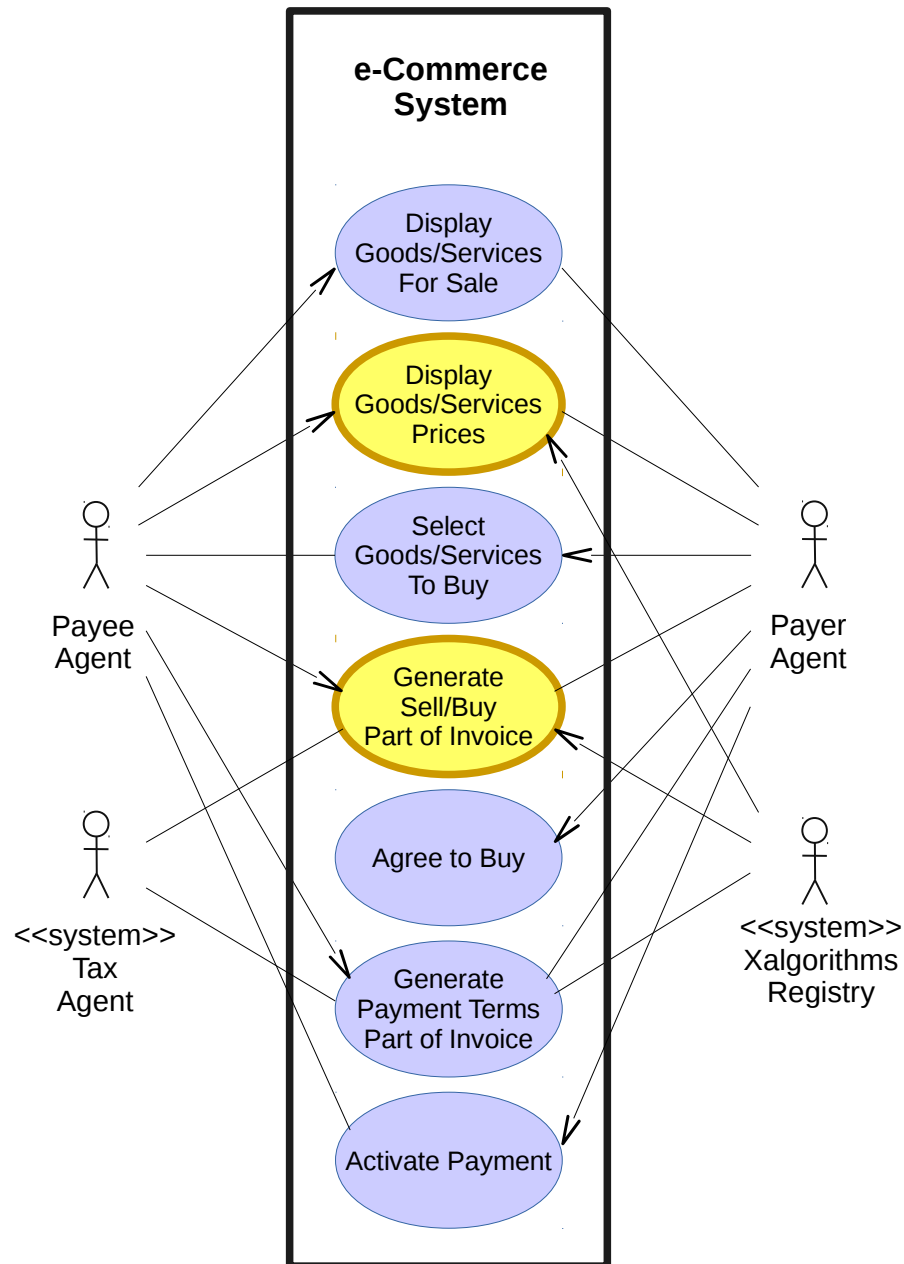
- Ensure efficiency of web declarant portal by developing a friendly and easy usable system with FAQ options;
- Ensure declaration formalities options immediately in border-crossing offices equipped with computer and terminal systems.



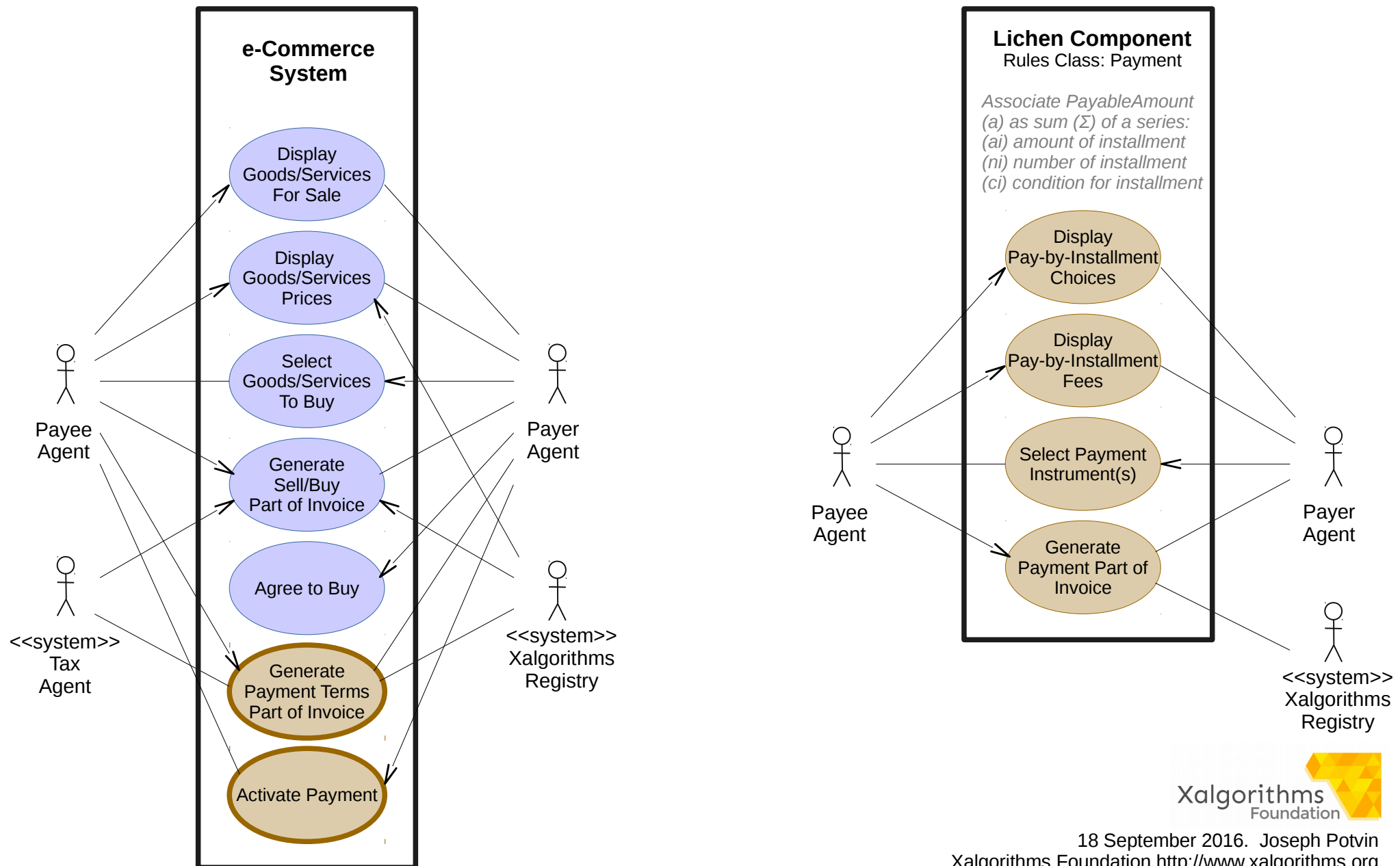
Use Case: Automated Tax/Duty Assessment



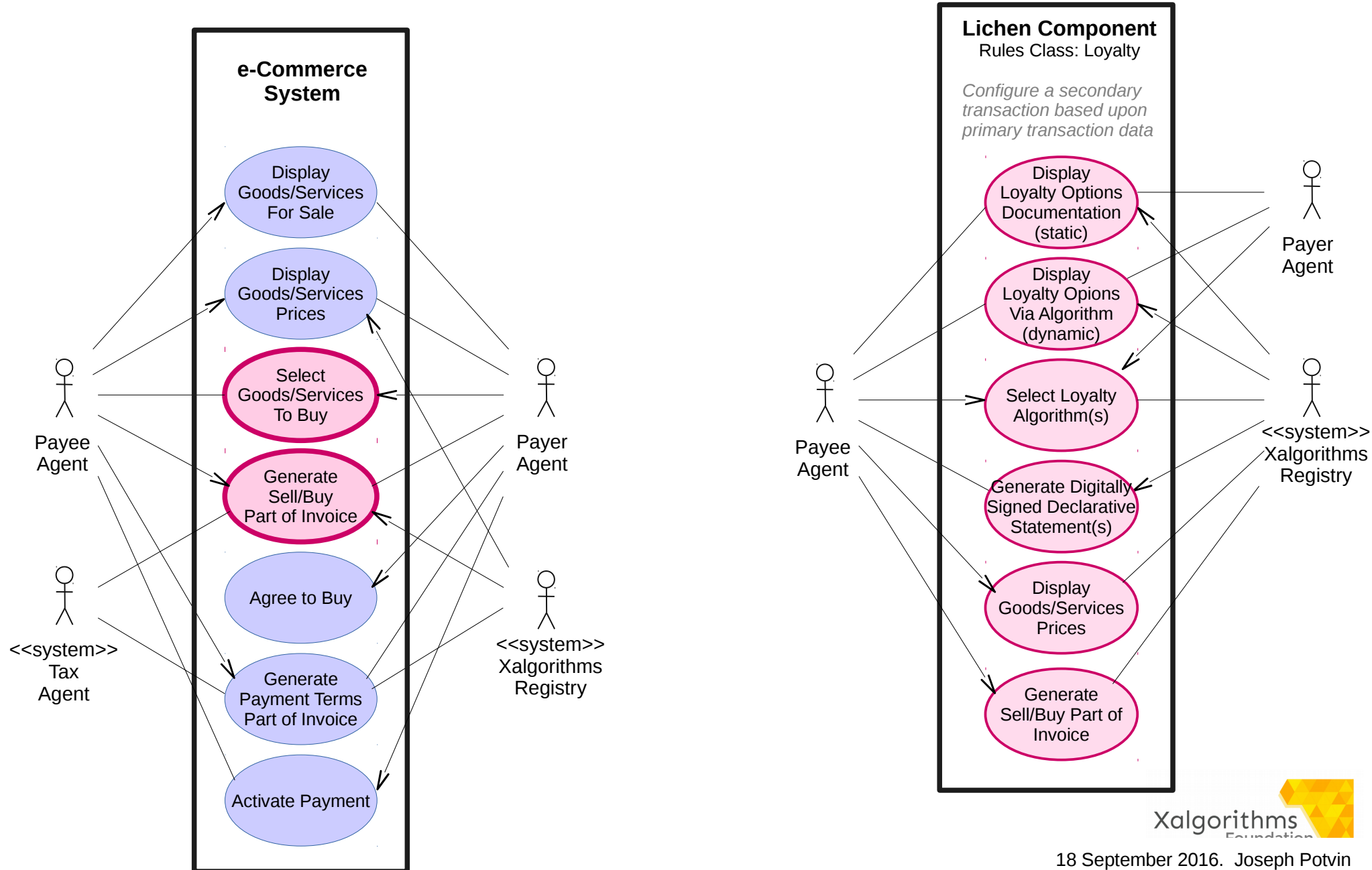
Use Case: Automated Price Benchmarking



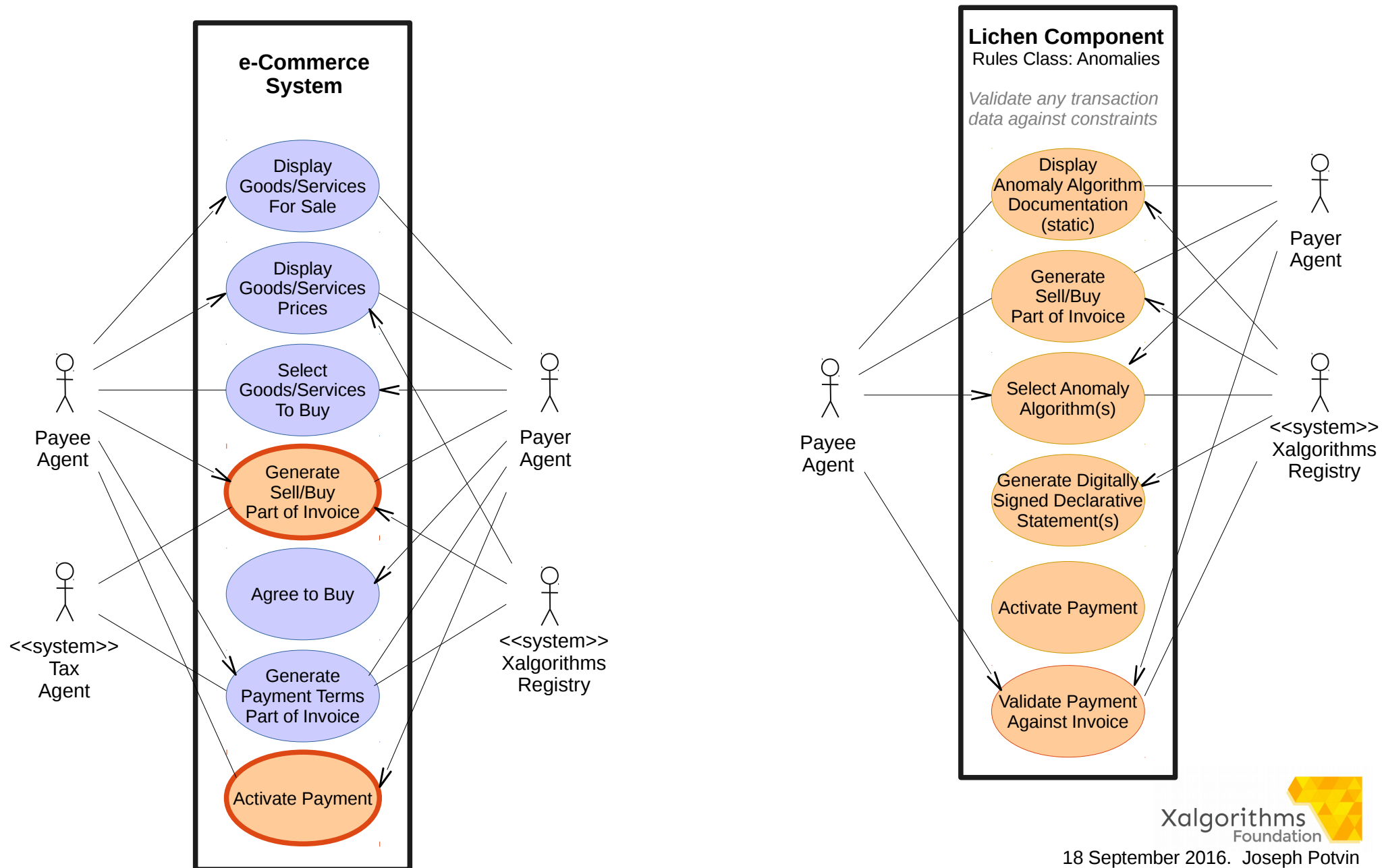
Use Case: Conditional Payment-by-Installment



Use Case: Automated Loyalty Programs



Use Case: Automated Notification of Anomalies



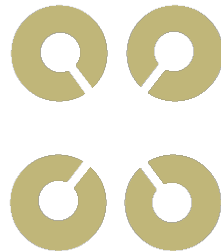


Xalgorithms
Alliance

We Invite Your Participation in the Xalgorithms Alpha Program

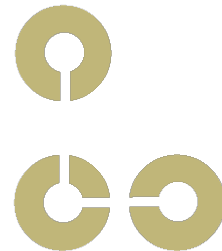
From 1 November 2016 to 31 March 2017

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XR

Xalgorithms
Registry



Lichen

Component

<https://www.xalgorithms.org>

<https://github.com/Xalgorithms>

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