

Legal Use Cases

for Blockchain & Smart Contracts

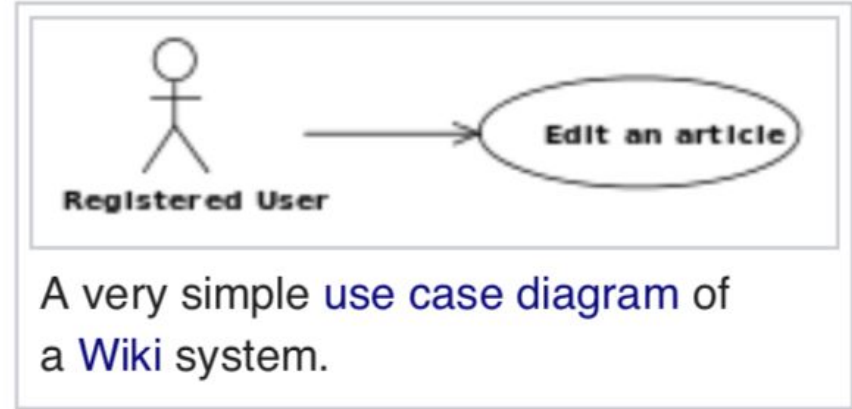
***Presented at The Osgoode Certificate in
Blockchains, Smart Contracts and the Law Program***

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MIT Media Lab
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November 28, 2018



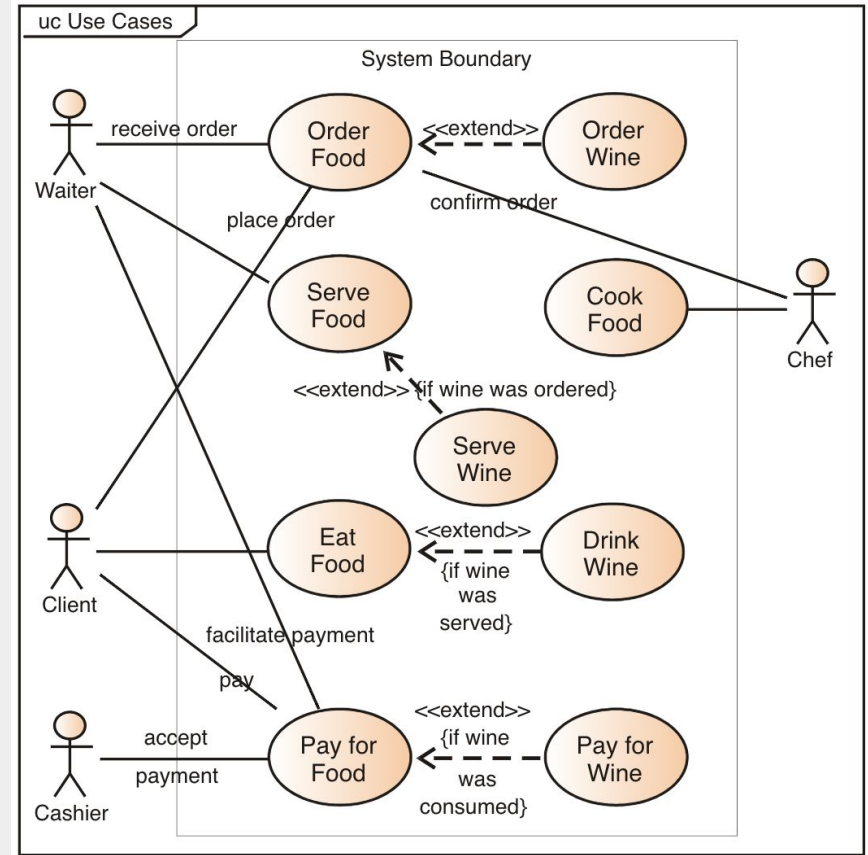
What is a Use Case?

A Very Simple Use Case



What is a Use Case?

A Simple Use Case



What is a Use Case?

Actor



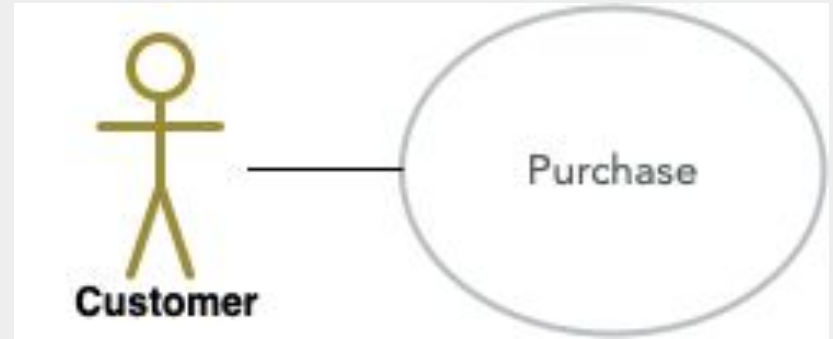
What is a Use Case?

Action



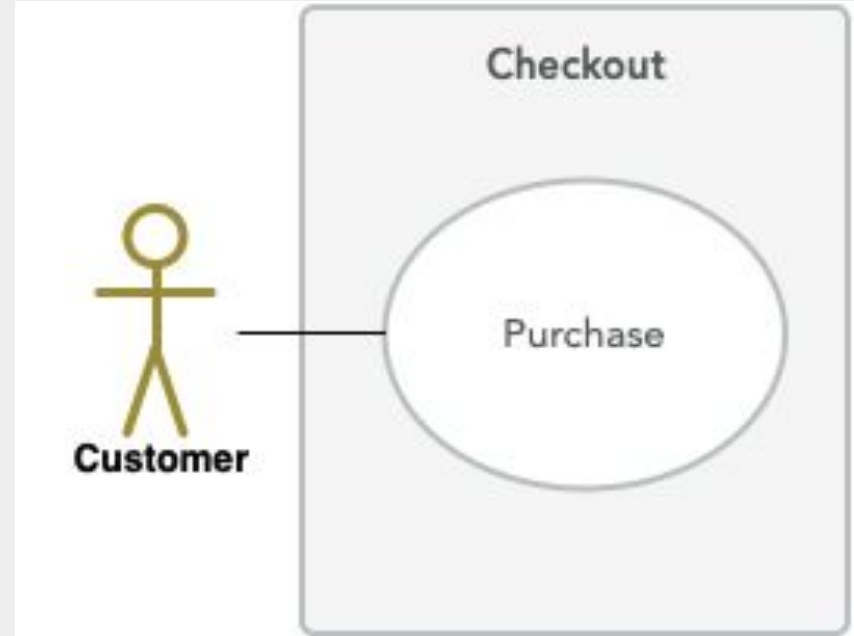
What is a Use Case?

Actor + Action



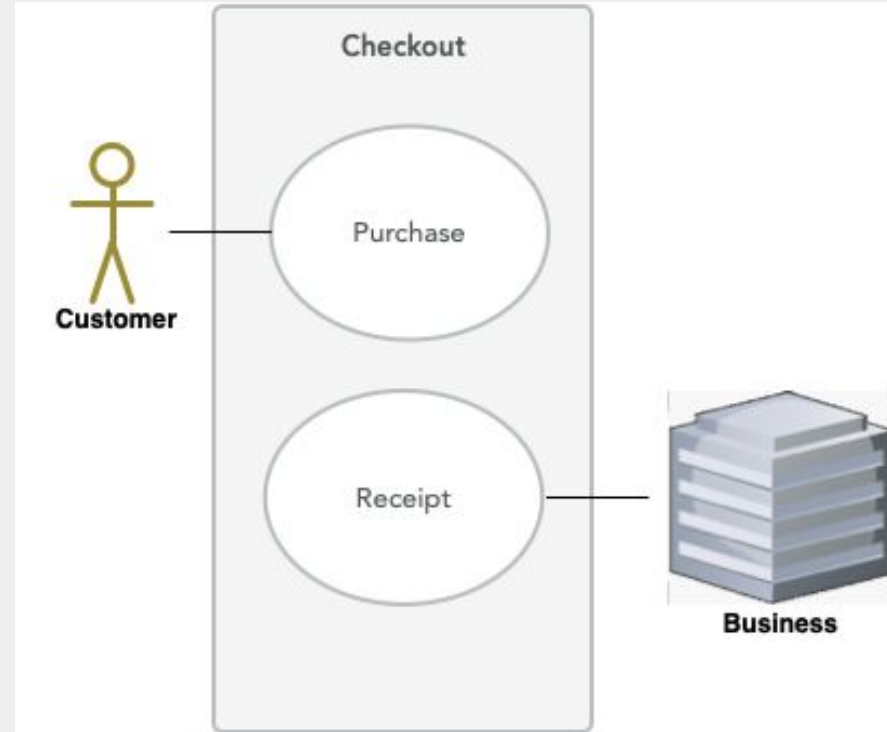
What is a Use Case?

System Boundary



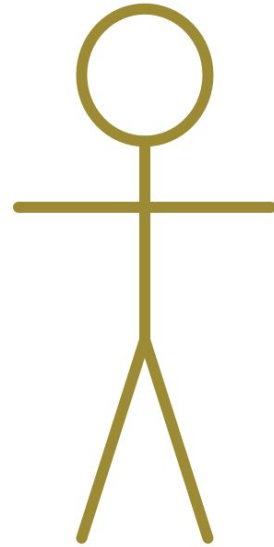
What is a Use Case?

Multiple Actors + Actions



What is a Use Case?

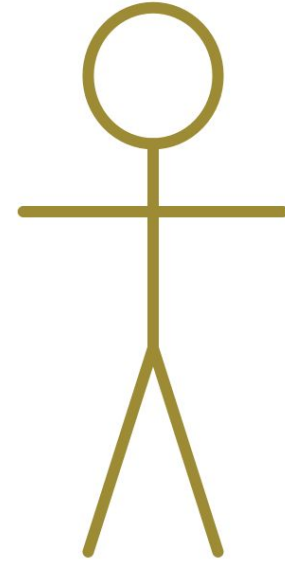
Who is the Actor?



Customer
Consumer
User

What is a Use Case?

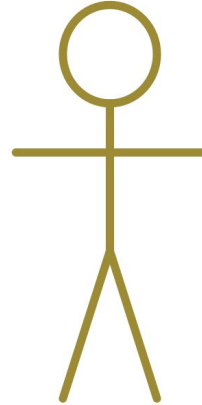
Who is the Actor?



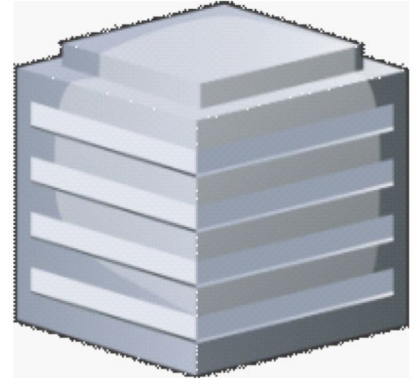
B: Customer
L: Consumer
T: User

What is a Use Case?

Who are the Actors?



B: Customer
L: Consumer
T: User

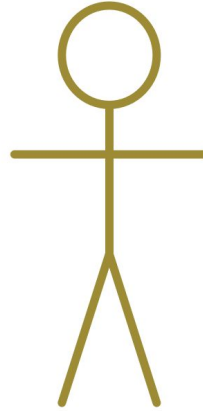


B: Bookstore
L: Merchant
T: Platform

What is a Legal Use Case?

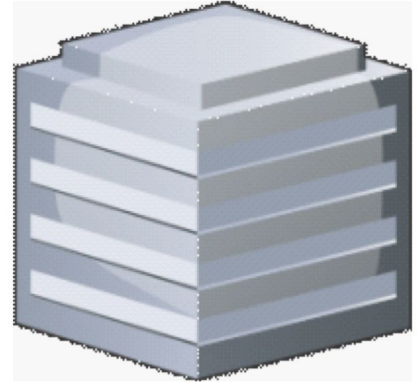
Who are the Parties?

BOB



B: Customer
L: Consumer
T: User

ACME Inc



B: Bookstore
L: Merchant
T: Platform

What is a Legal Use Case?

Predictable Legal Outcomes

Blockchain Signature Mock Trial

* Basic open source prototype of
Blockchain Digital Signature:



<https://mitmedialab.github.io/TrustCoreID>

What is a Legal Use Case?

Predictable Legal Outcomes

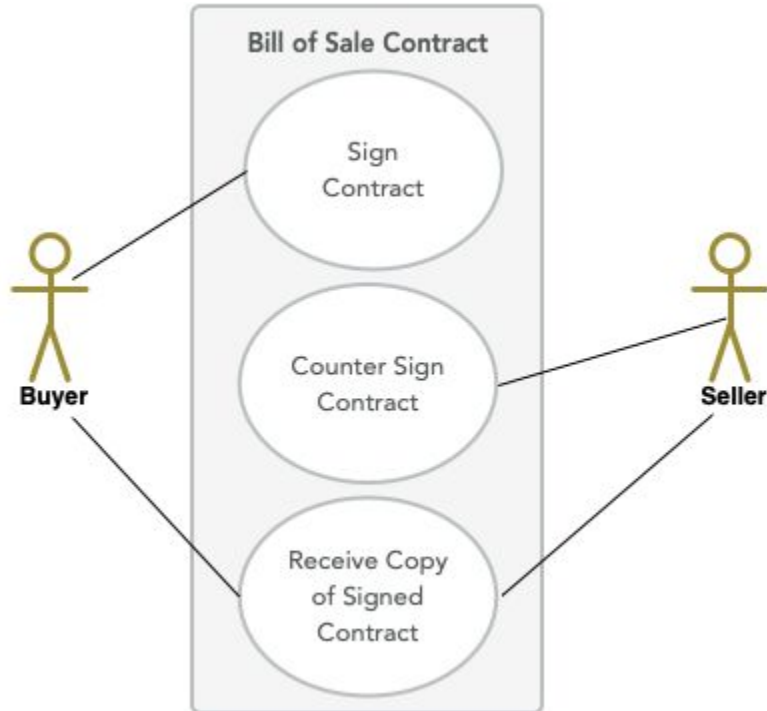
Blockchain Signature Mock Trial

* Mock Trial approach to test legal assumptions:



<https://www.notion.so/Blockchain-Based-Digital-Signatures-Admissibility-and-Enforceability-74f6b861f3d44b0c9ef96bc40d436ee2>

Blockchain Legal Signature Use Case



Blockchain Signature Mock Trial

Blockchain Digital Signature on Bill of Sale:

- Buyer and Seller have Bitcoin or Ethereum Addresses
- Buyer and Seller agree to private purchase and sale of a car
- Parties sign Bill of Sale using digital signatures with Blockchain keys
- Dispute;
 - 1. Buyer transfer money but doesn't get car or gets lemon **OR**
 - 2. Seller delivers car but doesn't receive agreed payment
- Describe admissibility and enforceability issues on this contract

What is a Legal Use Case?

Predictable Legal Outcome

Blockchain Signature Mock Trial

Questions surfaced by the Mock Trial include whether:

- * the parties have access to anybody who is qualified and has standing to lay a foundation for admissibility through first hand or expert testimony*
- * the cryptographic and other verifiable data is correctly aligned to the specific activity and records necessary to legally attribute the technical signature processes to a given legal party (ie: can we prove which person in fact executed the digital signature?)*
- * the purported signatory in fact had the requisite legal intent to sign (ie to authenticate, be bound by, assent to, attest, consent, acknowledge, agree, authorize, etc) the contract or other record in question*
- * the right evidence was created and properly maintained sufficiently to prove a valid chain of custody occurred*

What is a Legal Use Case?

Predictable Legal Outcomes

A: Identify People and Systems:

- *B: Roles + Relationships*
- *L: Parties + Transactions*
- *T: Actors + Actions*

B: Identify the Legal Dynamics:

- *Rights + Responsibilities*
- *Causes of Action + Defenses*
- *Recourse + Remedies*

What is a Legal Use Case?

Predictable Legal Outcomes

***Critical Take-Away:
Provably linking
parties to relevant
actions is critical
for legal attribution***

What is a Blockchain?

Attribution

Attribution Under the [UETA](#):

(a) An electronic record or electronic signature is attributable to a person if it was the act of the person. The act of the person may be shown in any manner, including a showing of the efficacy of any security procedure applied to determine the person to which the electronic record or electronic signature was attributable.

(b) The effect of an electronic record or electronic signature attributed to a person under subsection (a) is determined from the context and surrounding circumstances at the time of its creation, execution, or adoption, including the parties' agreement, if any, and otherwise as provided by law.

What is a Blockchain?

Attribution

Attribution Under [ULCA](#):

"The Uniform Act does not say how to show who signed an electronic document. Attribution is left to ordinary methods of proof, just as it is for documents on paper. The person who wishes to rely on any signature takes the risk that the signature is invalid, and this rule does not change for an electronic signature."

References

Relevant Links

What is a UML Use Case?

- https://en.wikipedia.org/wiki/Use_case
- https://en.wikipedia.org/wiki/Use_case_diagram

Blockchain for Lawyers?

- <https://computationallaw.org/blockchain-briefing-450aa4fb8d7c>

What is a BLT Swimlane Diagram?

- <https://mitmedialab.github.io/law.MIT.edu/Diagrams>

Why Blockchain Stands Out & An Introduction to Smart Contracts

Blockchain for Lawyers

The Blockchain Briefing

Applause from Jonathan Askin, John Muller, and 3 others



Dazza Greenwood
Consultancy & Research
May 24, 2017 · 3 min read

Blockchain Briefing

High Level Links about Blockchain Technology— Especially for Legal Professionals

Blockchain Working Demo

Thanks to [Anders Brownworth](#) for creating this [open source demo](#) and supporting reuse by CIVICS.com as a law + technology teaching tool.

What is a “[Hash](#)”?

What is a “[Block](#)”?

What is a “[Blockchain](#)”?

What does “[Distributed](#)” mean?

<https://github.com/mitmedialab/BlockchainBriefingBook>




Smart Contracts for Lawyers

LegalHackathon.org

- [RChain](#)
- [Monax](#)
- [Open Law](#)
- [Accord Project](#)

View On GitHub

LegalHackathon.org



Date
October 28, 2018
9am - 9pm

Venue
MIT Media Lab
20 Ames Street
Third Floor, Open Atrium
Cambridge MA 02139

Register
LegalHackathon.org

Explore and develop creative solutions for ownership/control/exchange of property rights to music and other digital media from the artist/creator vantage point in the music and media industry context.

Three Tracks

- the **learning track** for lectures, panels & tutorials;
- the **discussion track** for small group focused conversations;
- the **hacking track** for team-based rapid project development

law.MIT.edu
Computational Law Research and Development at MIT

MIT Connection Science
enhancing cultural intelligence through technology

LEGAL HACKERS

OPEN MUSIC

ENDOR

<http://legalhackathon.org/#resources>

Fireside Chat: Sovereignty in a Blockchain World

Sovereign Identity

Future Sovereignty

[Live](#) [CL+B FEST](#) [Learning](#) [Blockchain](#) [Blog](#) [Collaboration](#)

law.MIT.edu

Computational Law Research and Development at MIT

Core Identity Blockchain Project

<http://law.mit.edu/blog/core-identity-blockchain-project>

<https://hackmd.io/VyTJbddPQleaIDZZWCWZxg>