



# Electronic Health Record Sharing (EHR)

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By Zhenzhen Tan

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## Opportunity: healthcare 😊

## Motivation: U.S healthcare ☹️

- Nearly \$250 billion in processing system with broken links
- Patient often has different accounts with multiple clinics/hospitals
  - 1 in 3 patients are sent to specialist each year
  - 70% of specialists indicate that medical information is not frequently shared
    - 25-50% referring physician don't know if their patient visits specialists
  - Patient centric healthcare ecosystem
- 3 of every 10 tests are reordered because the results cannot be found
- 86% of primary care physicians have altered the quality of health data
  - Preventable medical errors is No.3 killer in U.S

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## Goal of The System:

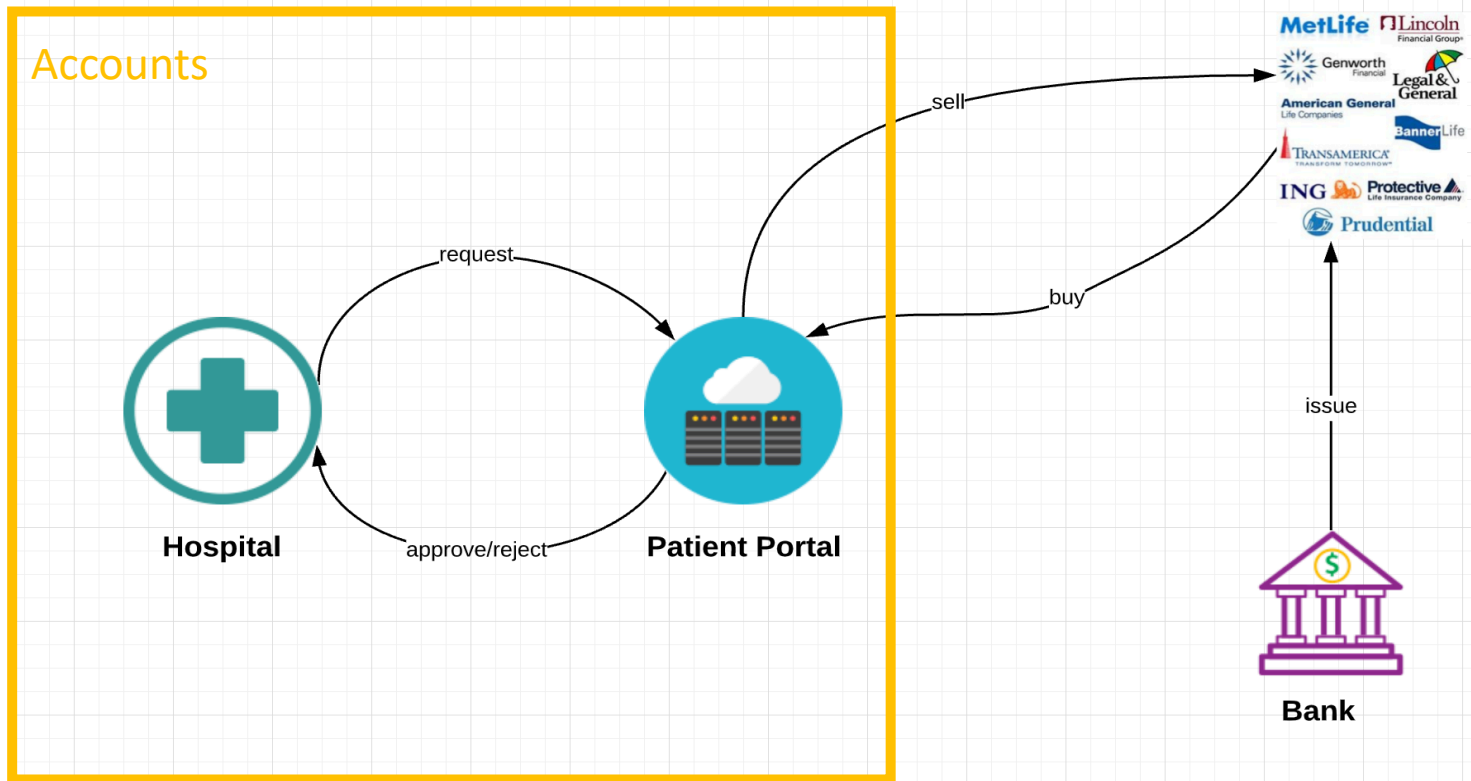
- Functional
  - Patient should be able to access **all** his/her medical records
  - Patient should be able to **approve/reject** EHR sharing requests
  - Doctors should be able to create patient records
  - Doctors should be able to send request to patient to share patient's record
  - Doctors should be able to share approved patient records
  - Doctors only have access to those permissioned records

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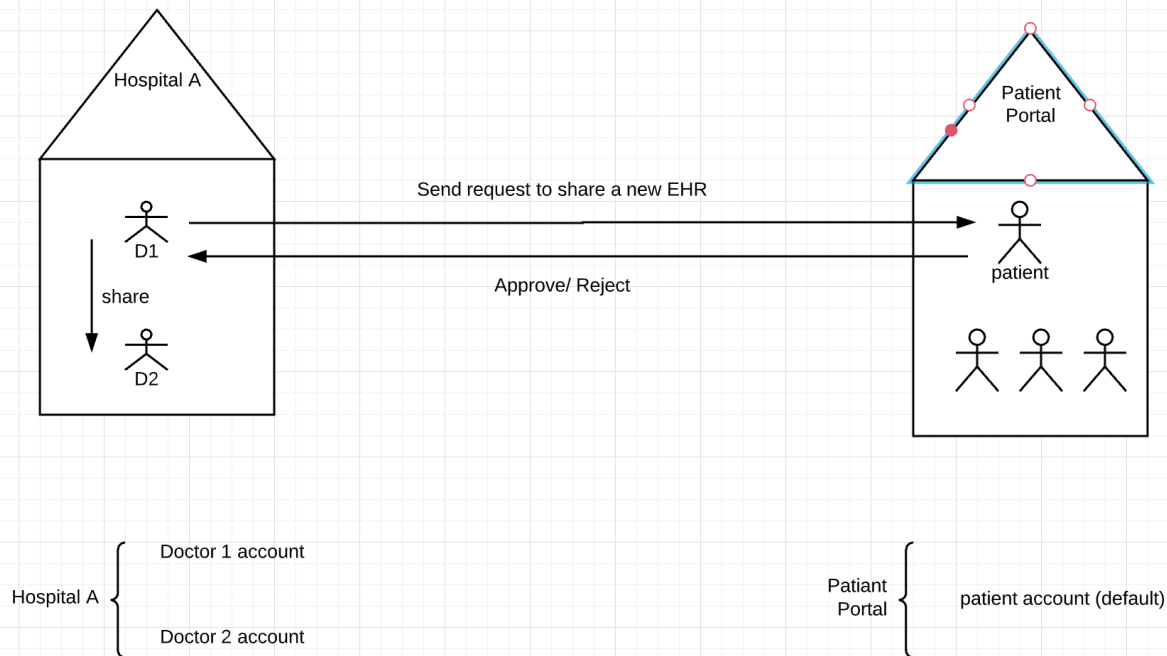
## Goal of The System

- Non-Functional
  - Our system should be highly reliable, EHR cannot be lost
  - Our system should be highly available
  - Consistency can take a hit. If the patient doesn't see a record for a while, it should be fine.
  - Some latency is acceptable

# User Case Flow



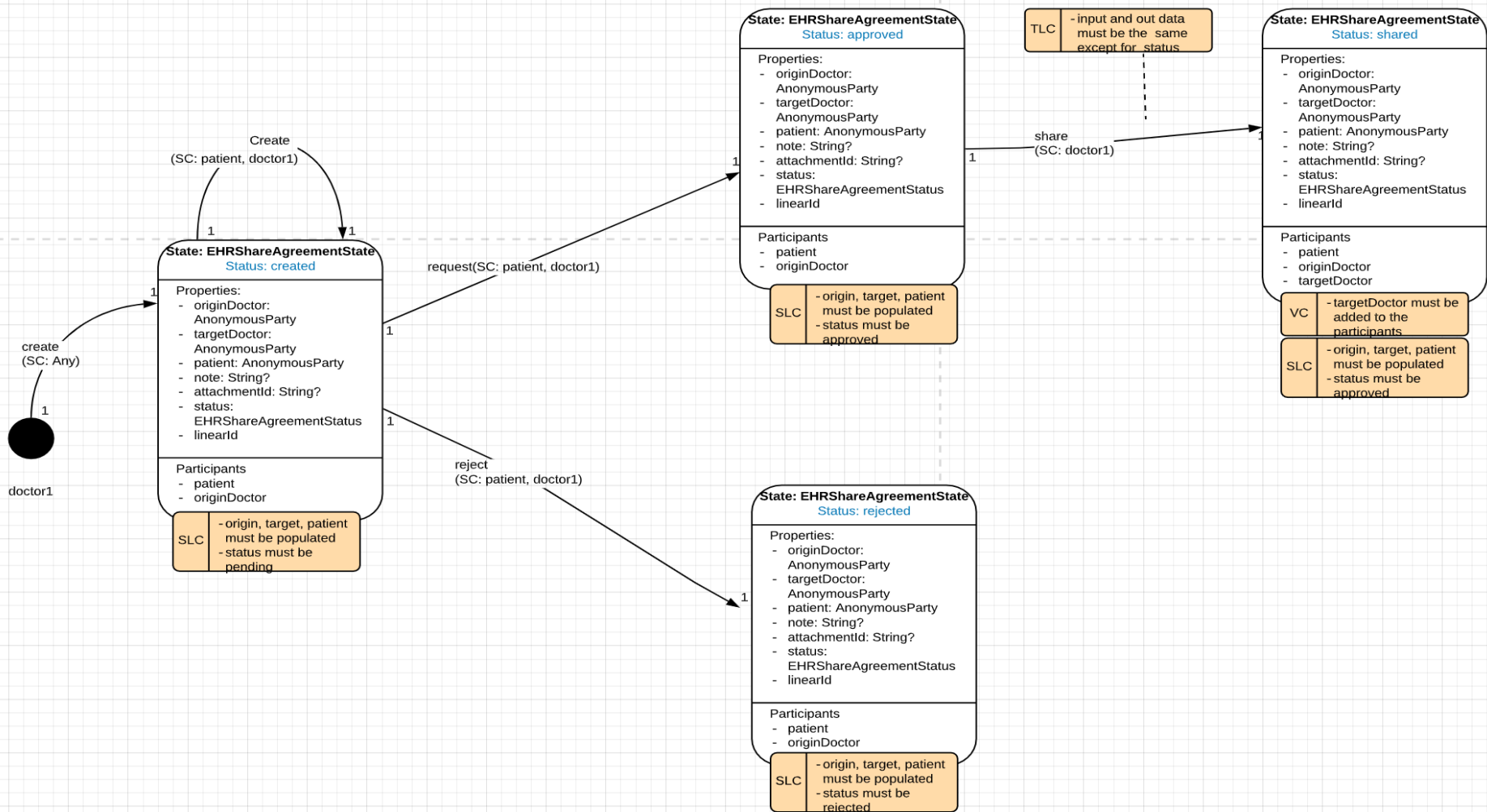
# User Case Flow



## What data to put on the ledger?

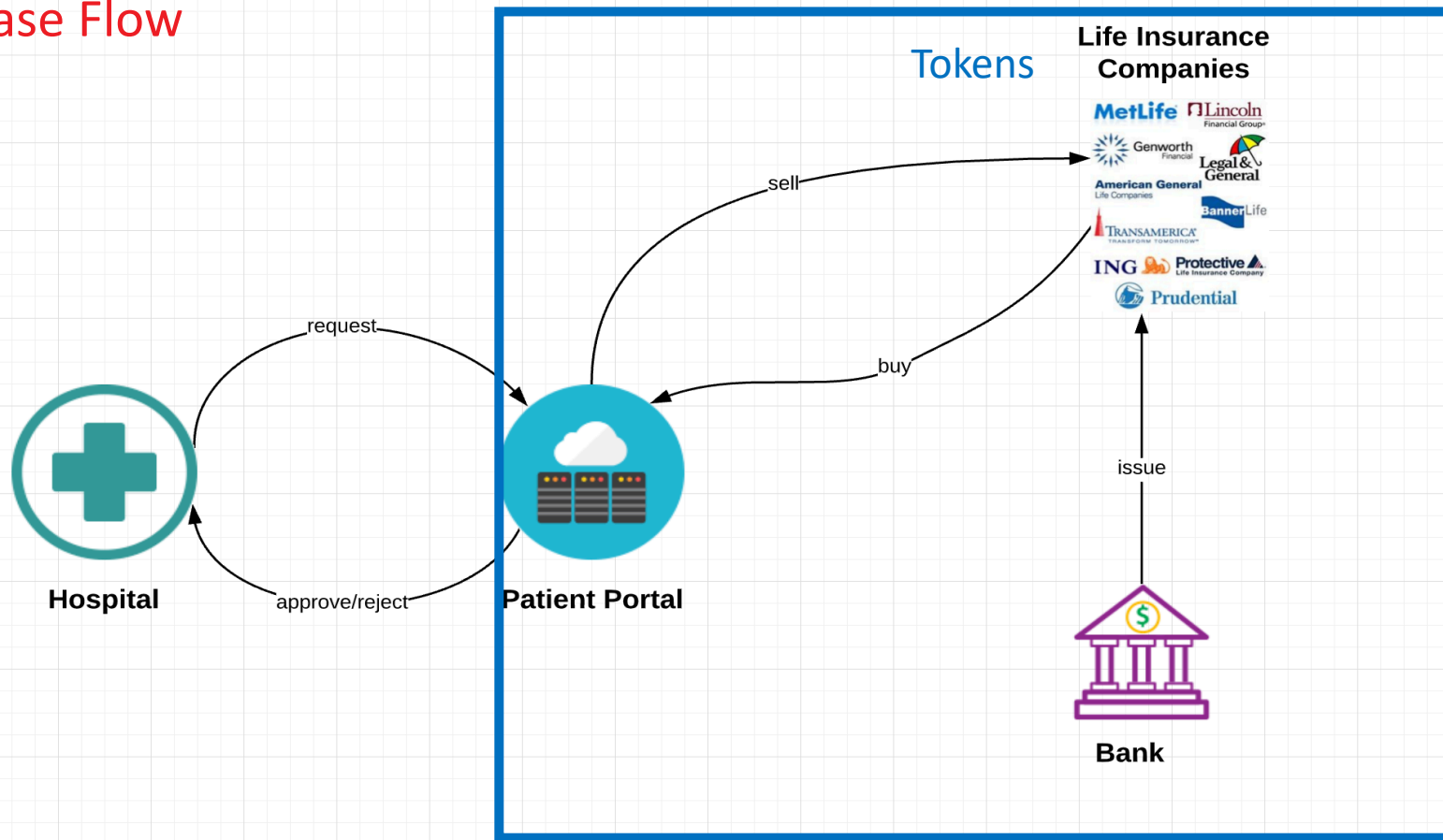
### EHRShareAgreementState

- originDoctor
- targetDoctor
- patient
- note
- attachmentId
- status : pending, approved, rejected, shared
- participants
- linearId

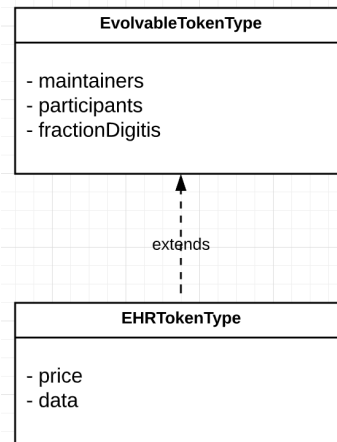
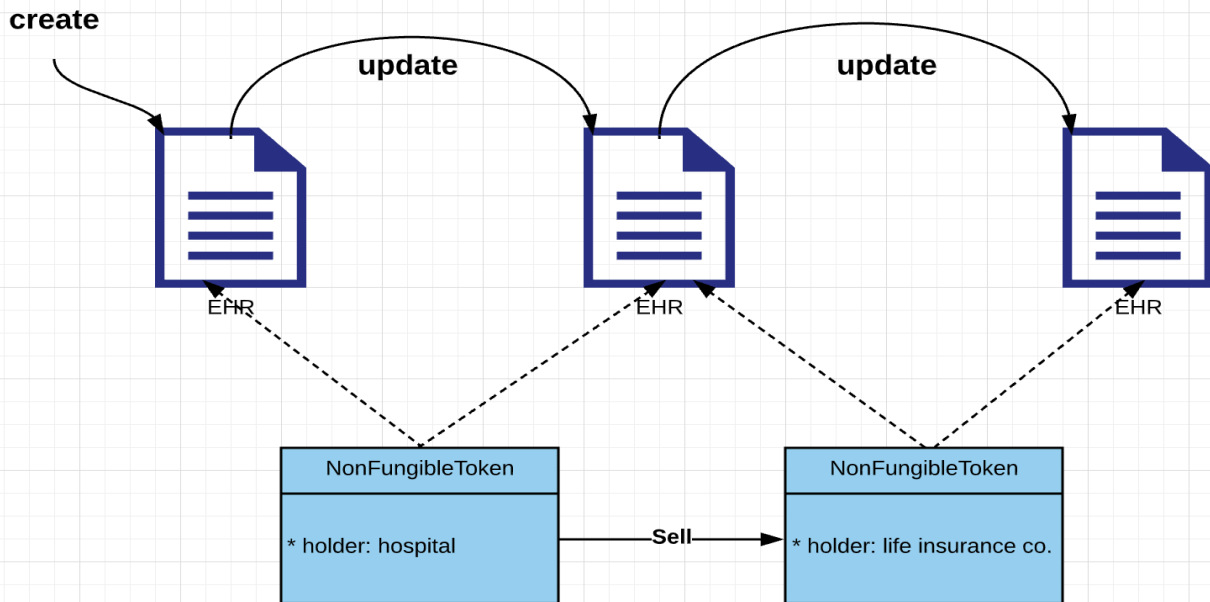




# User Case Flow



# User Case Flow -Token



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## Citations:

<sup>1</sup> Sherman W. Reducing Medical Waste. *JAMA*. 2007;297(23):2583–2584.  
doi:10.1001/jama.297.23.2583-b

<sup>2</sup> <https://getreferralmd.com/2016/08/30-healthcare-statistics-keep-hospital-executives-night/>

<sup>3</sup> <https://www.npr.org/sections/health-shots/2016/05/03/476636183/death-certificates-undercount-toll-of-medical-errors>

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Repo:

<https://github.com/zhenzhen-tan/EHRCordapp>

- master (UI in clients/src/main/resources/angular/my-app)
- account-3
- token



**r3.**

Demo

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# Thank you

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New York  
11 West 42nd Street, 8th Floor  
New York, NY 10036

Singapore  
18 Robinson Road, Level #14-02  
Singapore, 048547

London  
2 London Wall Place,  
London, EC2Y 5AU

Hong Kong  
Bonham Strand, 7F Office 18-121  
Hong Kong

Brazil  
Av. Angélica, 2529 - Bela Vista  
6th Floor  
São Paulo - SP, 01153-000, Brazil