Parshvanath Charitable Trust's
A. P. SHAH INSTITUTE OF TECHNOLOGY, THANE
(All Programs Accredited by NBA)
Department of Information Technology

Electronic Health Records Using Blockchain (Healthchain)

Group No. __

Sanjana Nalawade 17104056
Sitanshu Mathukia 18204004
Kunal Jadhav 17104026

Prof. Kiran Despande

Contents

Introduction

- Blockchain technology has the potential to transform health care by placing the patient at the center of the health system and increasing the security, privacy, and interoperability of health data.
- This technology could provide a new model for health information exchange (HIE) by making electronic health records (EHRs) more efficient and secure.
- EHRs contain critical and highly sensitive private information for diagnosis and treatment in healthcare.
- These data are a valuable source of healthcare intelligence.
- The sharing of healthcare data is an essential step toward making the healthcare system smarter and improving the quality of healthcare service.

Introduction

- What is Electronic Health Record (EHR)
  - Record of care you receive from your doctors or medical facilities
  - It is created and updated by Health care providers
  - It includes Health issues, Medications, and Treatments
- If you visit many Health care providers you may have many EHR

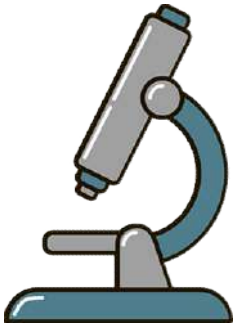
Hospital

Dental Clinic

Physiotherapy Clinic

Doctor

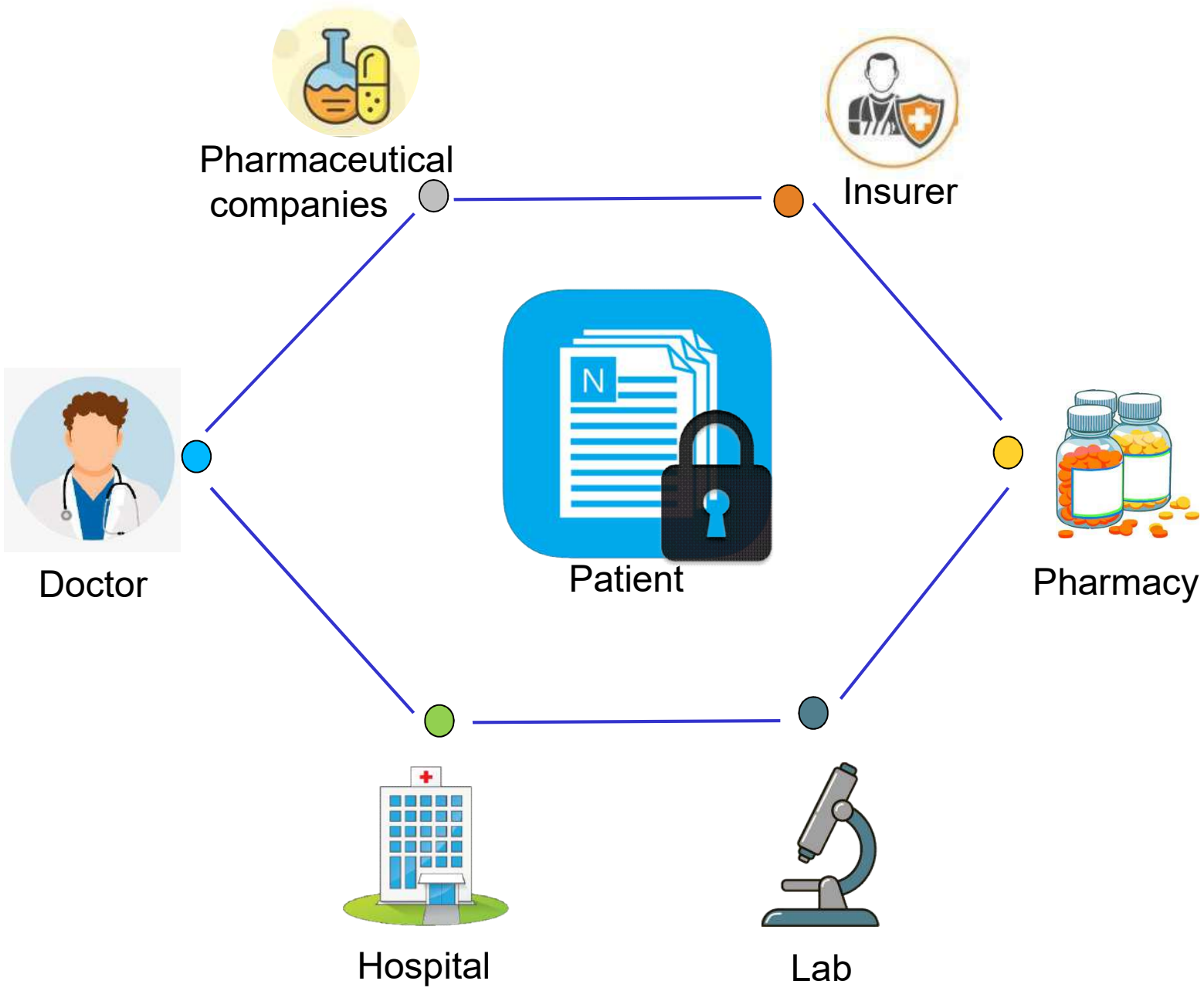
Hospital

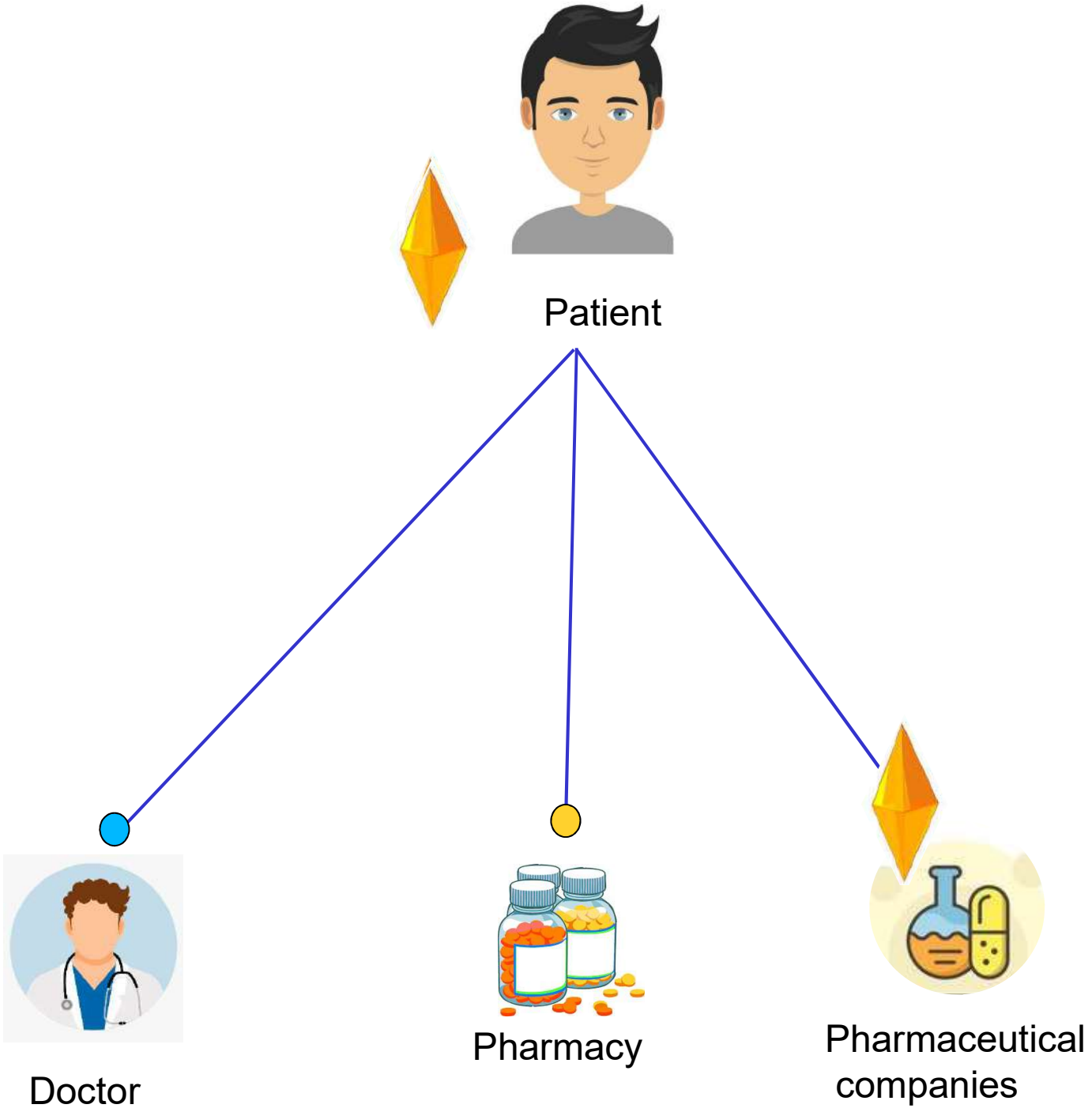


Lab

Pharmacy

Insurer


Pharmaceutical companies
Insurer
Doctor
Patient
Pharmacy
Hospital
Lab


Patient
Doctor
Pharmacy
Pharmaceutical companies

Objective

- **Collaboration Among Healthcare Organization :** Blockchain makes this possible by giving the healthcare industry one consistent, standard database of real-time patient data to work with.

- **Safe Data Exchanges :** Blockchain makes the data safe and also provides comprehensive data sharing options, allowing patients to unlock only the data that their healthcare providers need and keeping rest of the data private and secure.

- **Valuable Insights for Better Care** One of the complications of EHRs is the huge amount of data that is created every day. It can be a very tedious task for doctors to go through this vast data every time and might also lead to missing important data in between.

- **Complete Healthcare services** which included appointment scheduling , video calling, storing of electronic health records

Problem Definition

- Blockchain have been an interesting research area for a long time and the benefits it provides have been used by a number of various industries

.

- Similarly, the healthcare sector stands to benefit immensely from the Blockchain technology due to security, privacy, confidentiality and decentralization.

- The aim of our proposed idea is firstly to implement Blockchain technology for EHR, secondly to provide secure storage of electronic records by defining granular access rules for the users of the proposed idea and thirdly to provide data for research and development.

Technological Stack

Front- End


Html


CSS


JavaScript


Angular

Back-end

Ethereum 

Solidity 

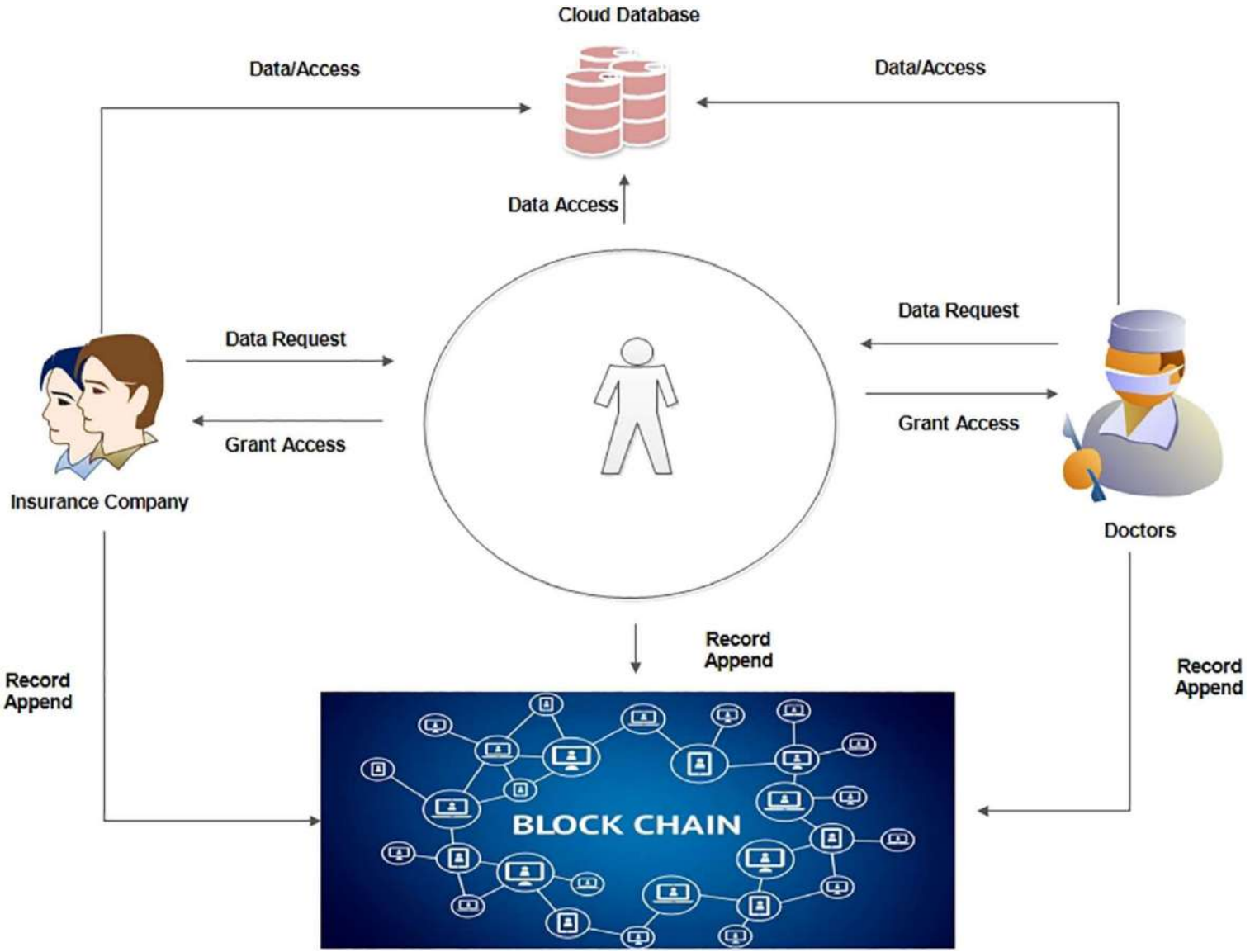
MetaMask 

Hyperledger – Fabric 

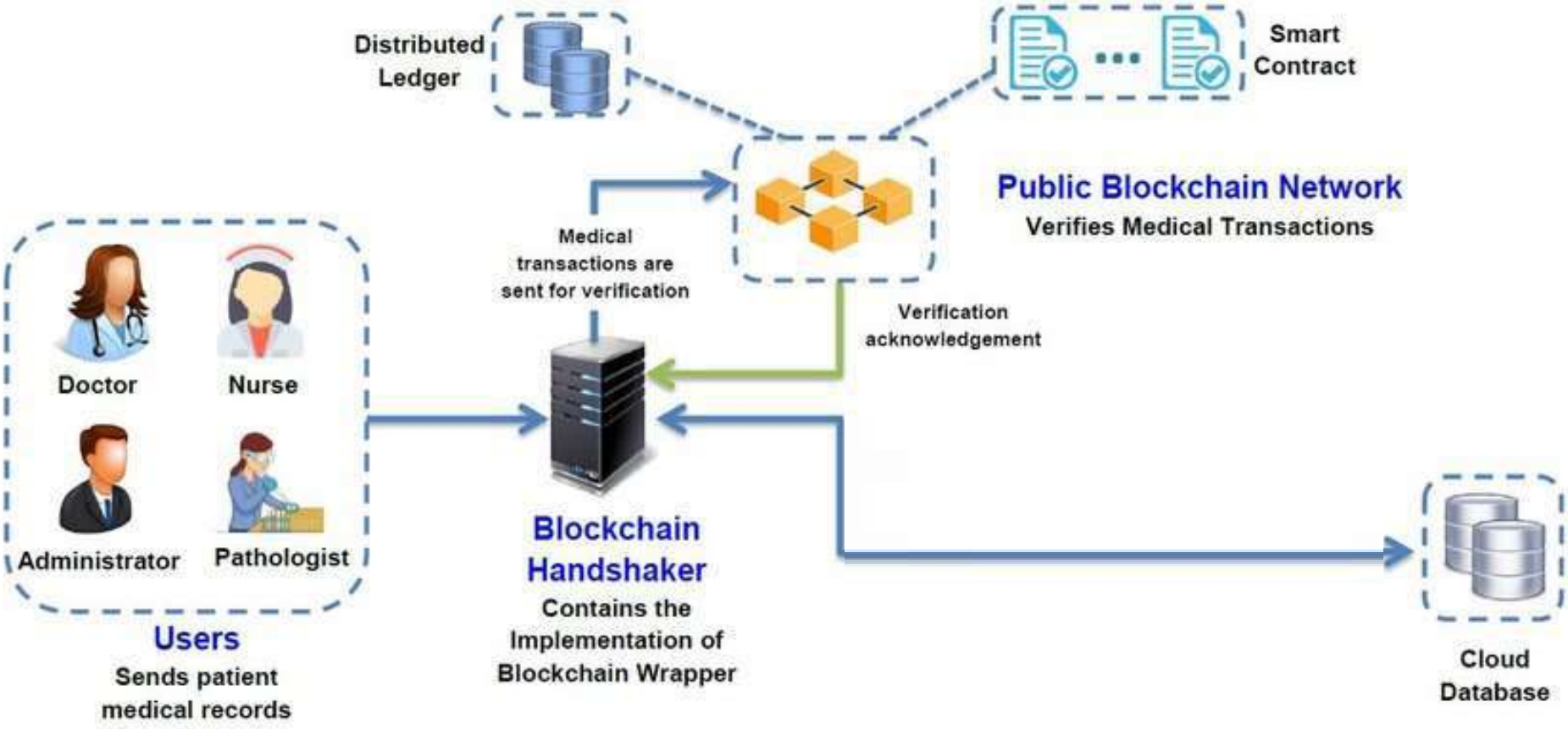
Web RTC (Video conference) 

GCP 

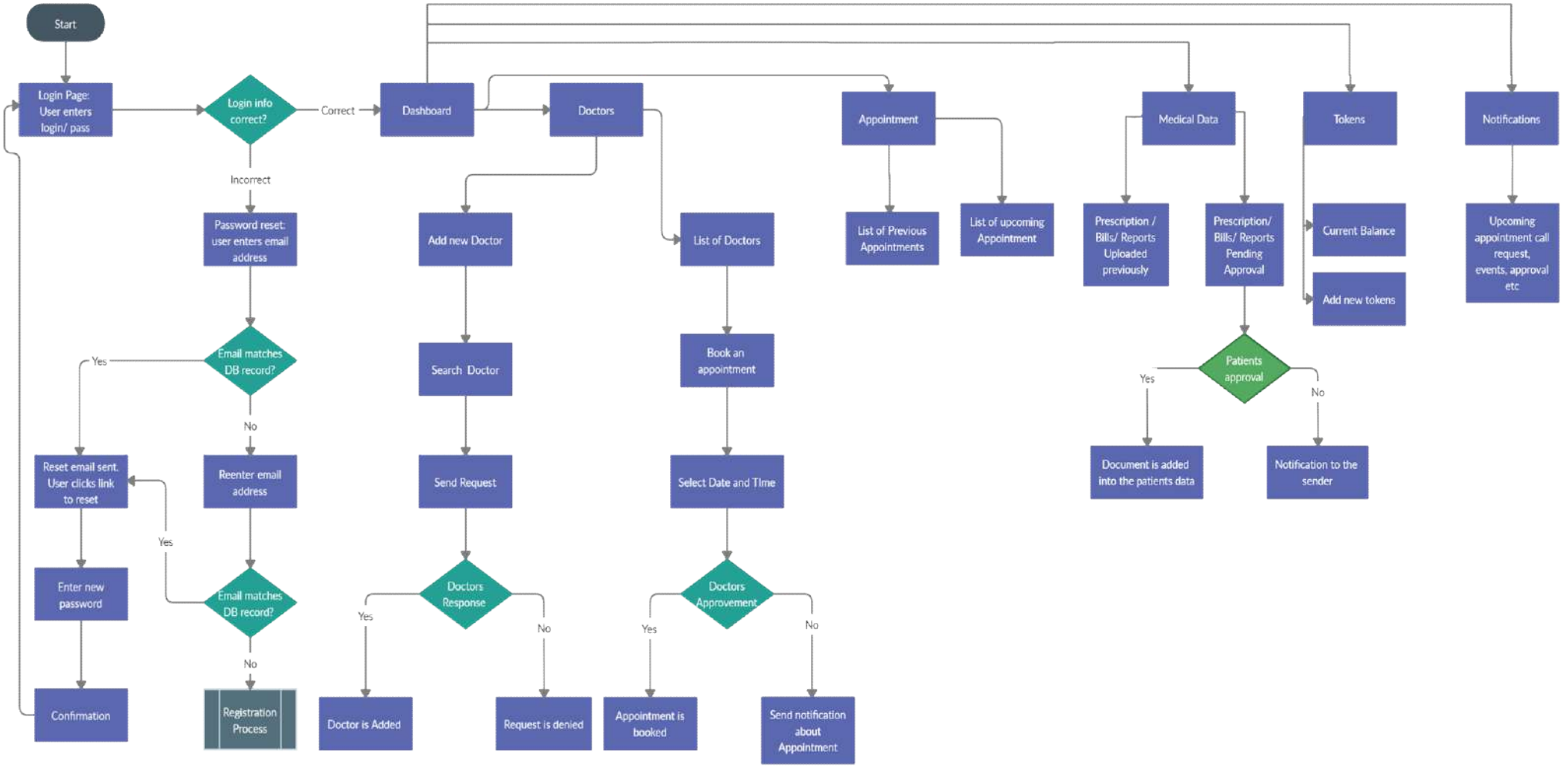
Proposed System Architecture



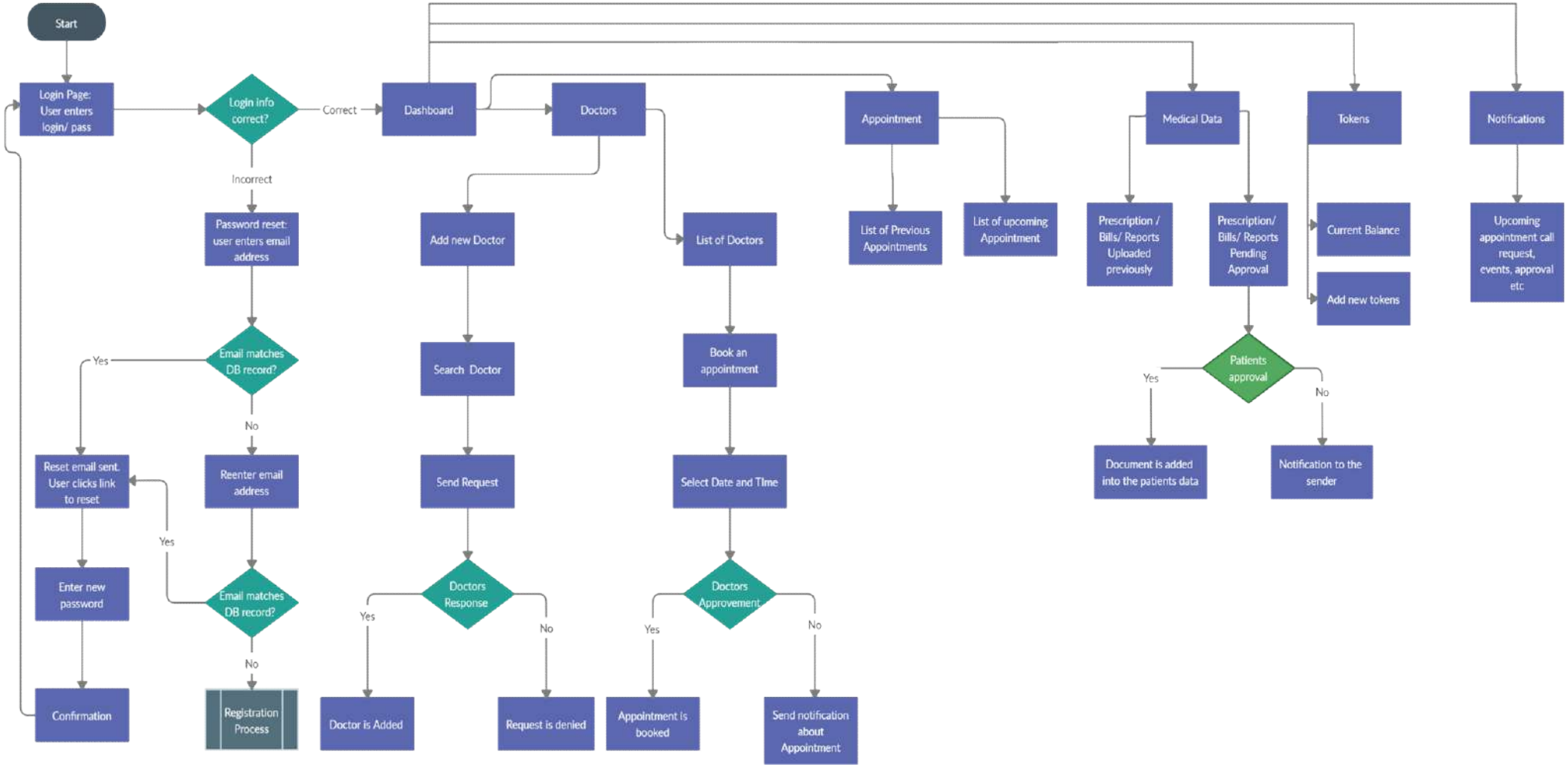
Proposed System Architecture



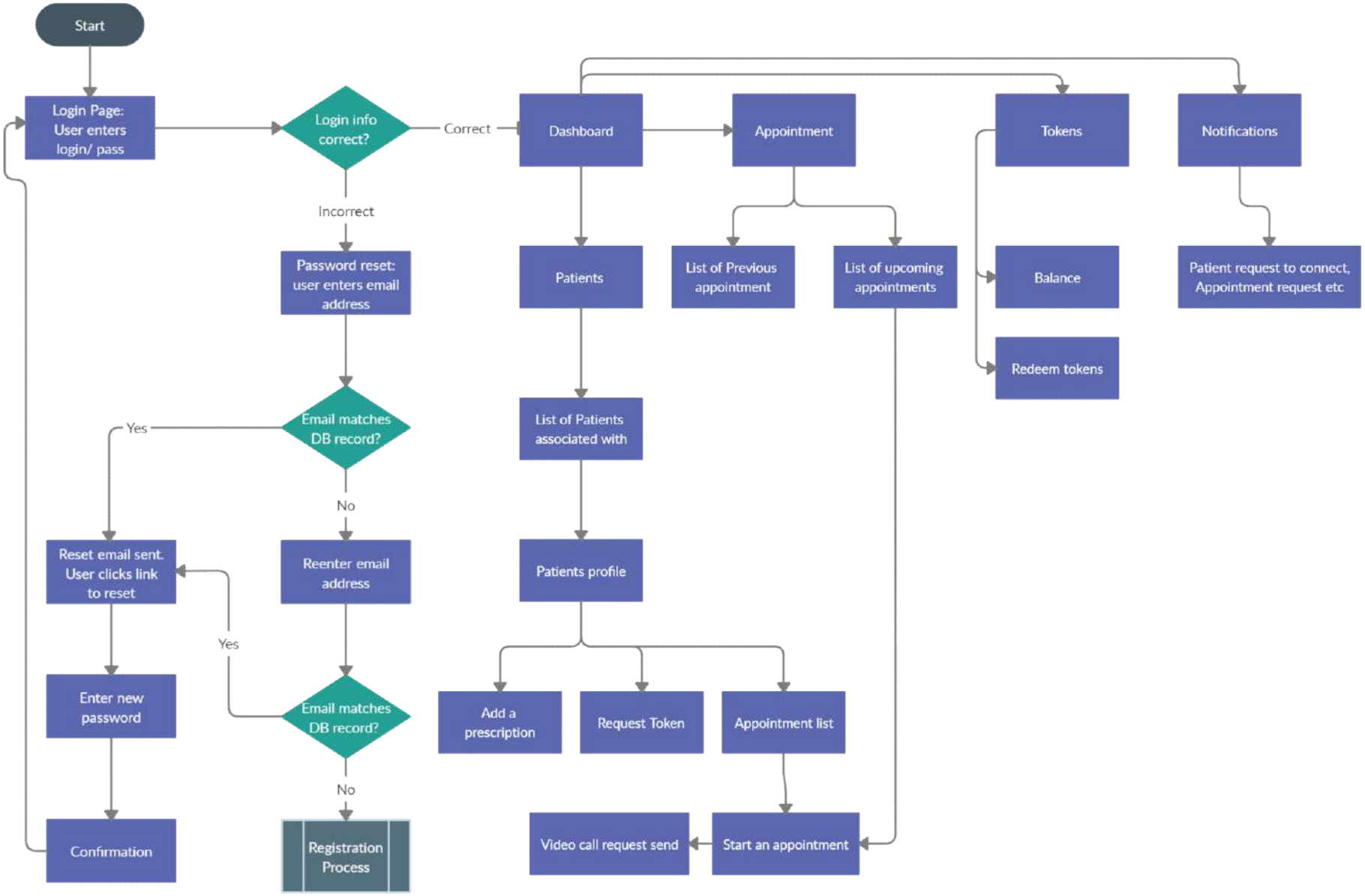
Workflow for Patient



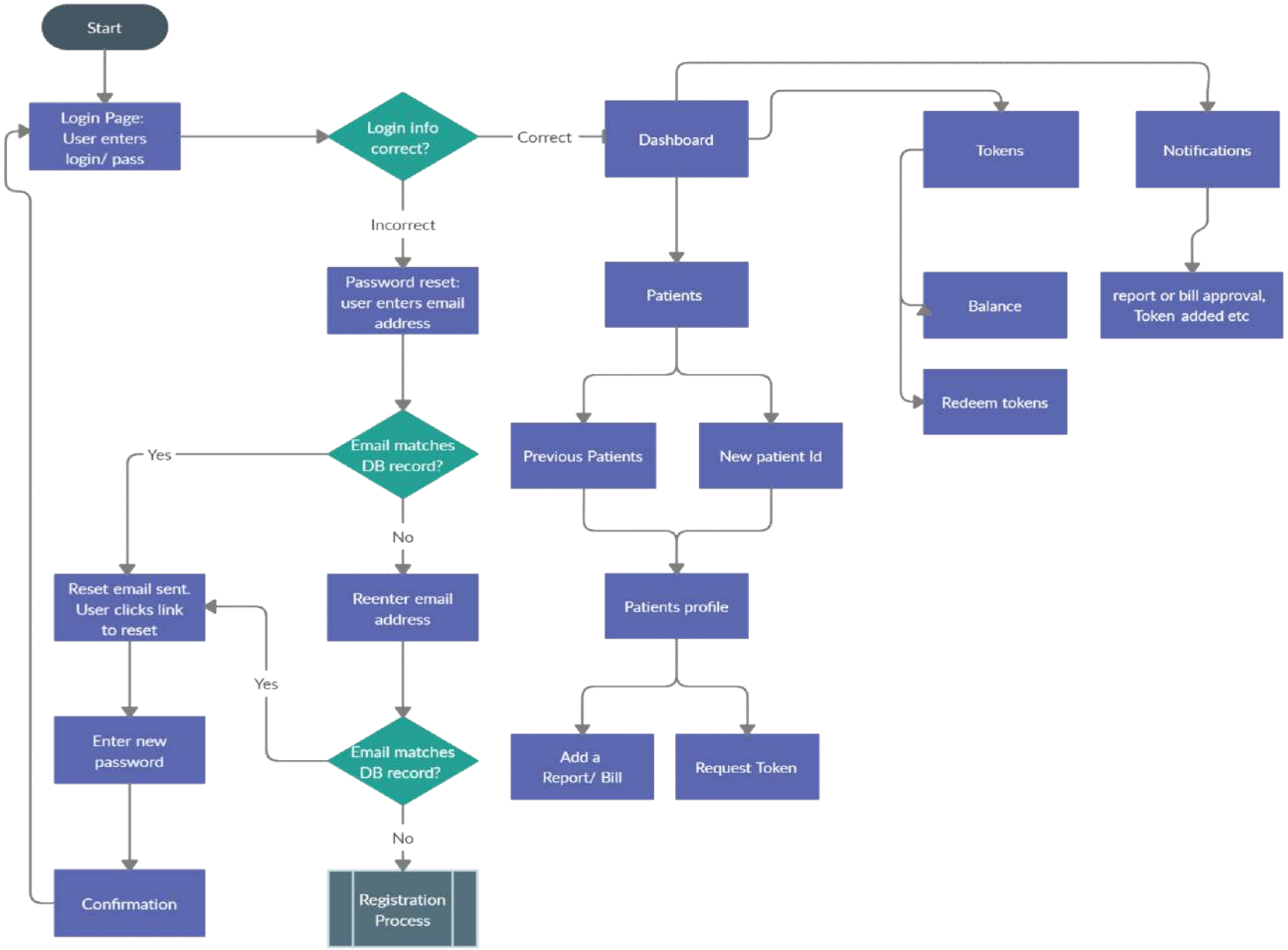
Workflow for Patient



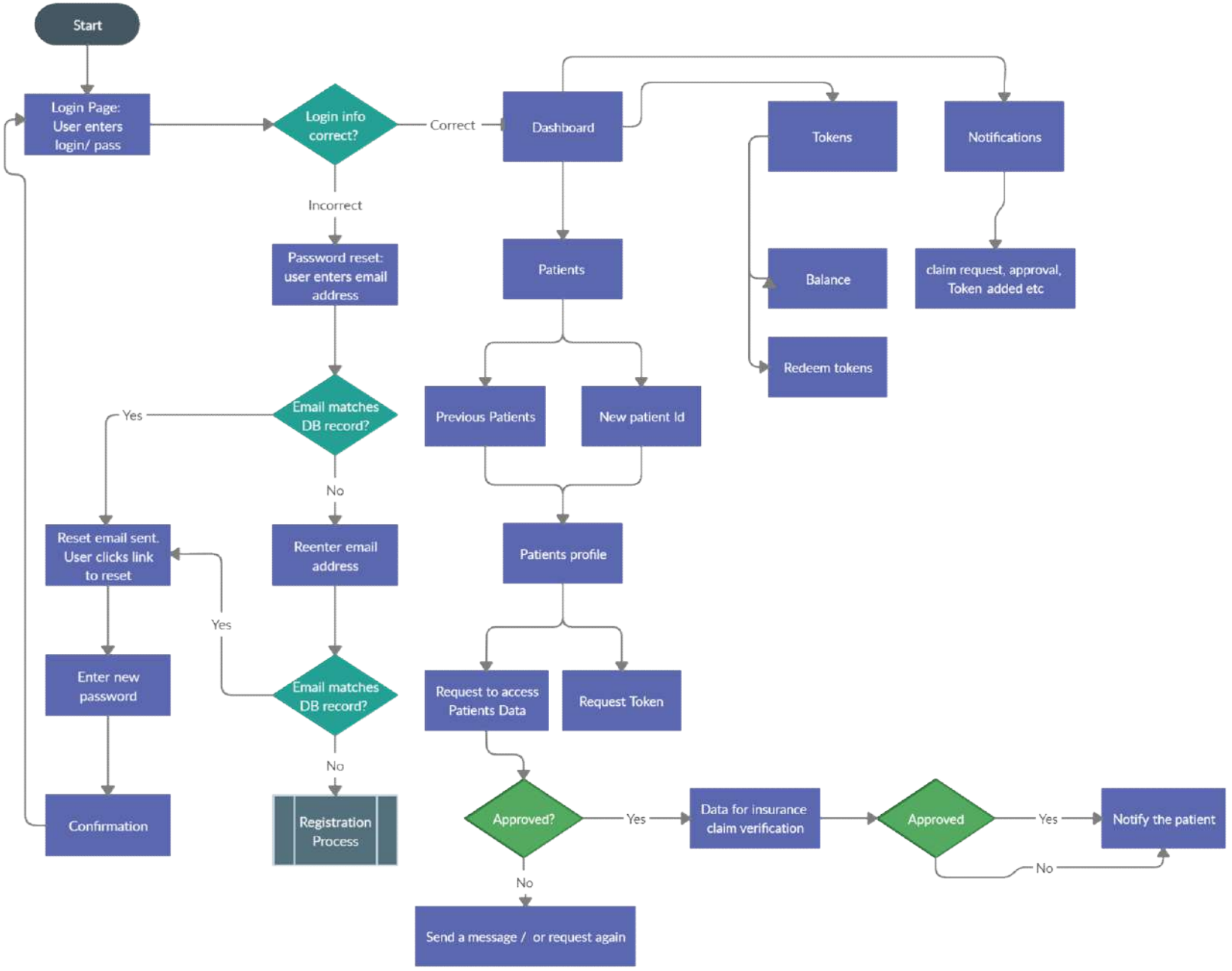
Workflow for Doctor



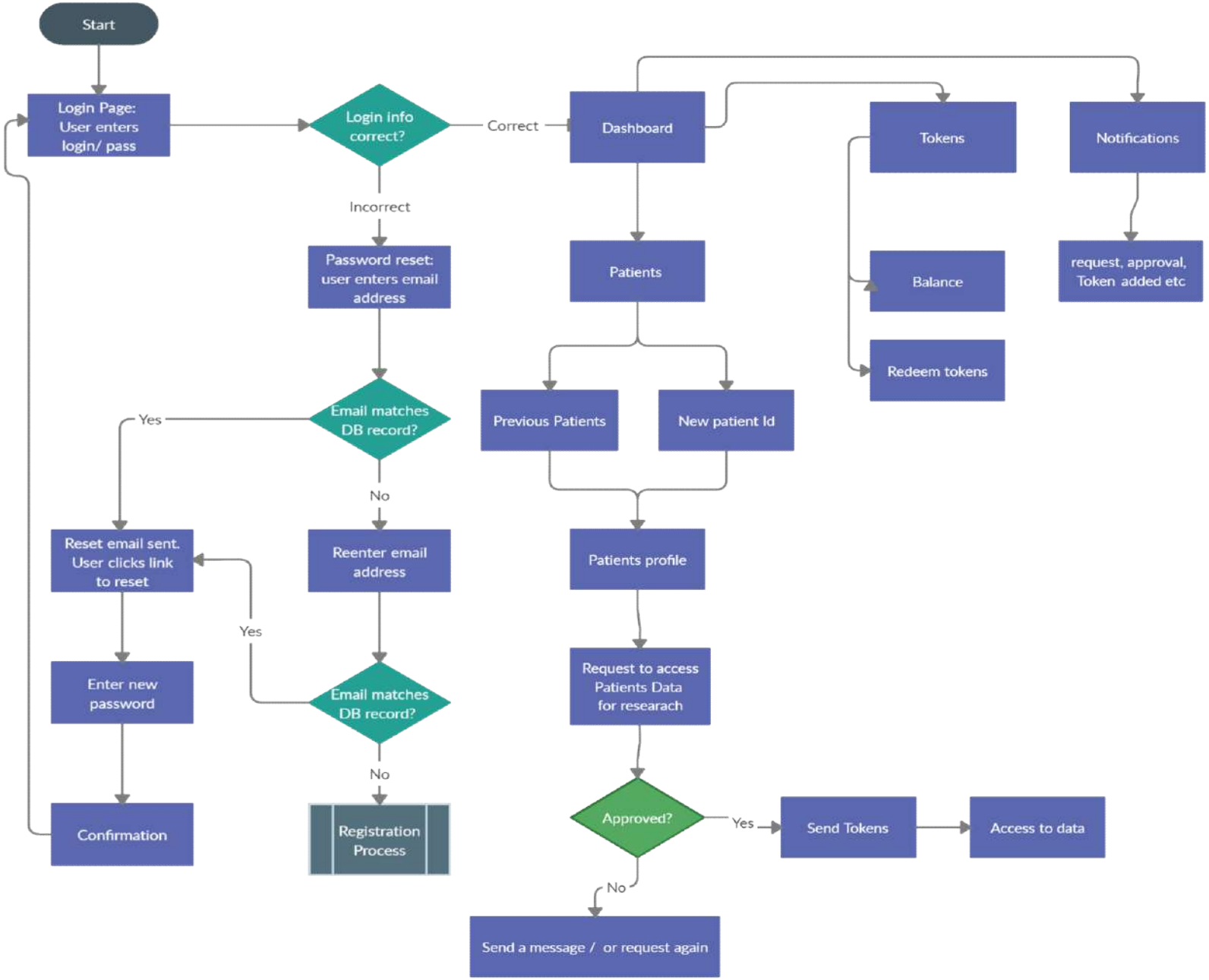
Workflow for Labs and Pharmacy



Workflow for Insurer



Workflow for Pharmaceutical Companies



Thank You...!!