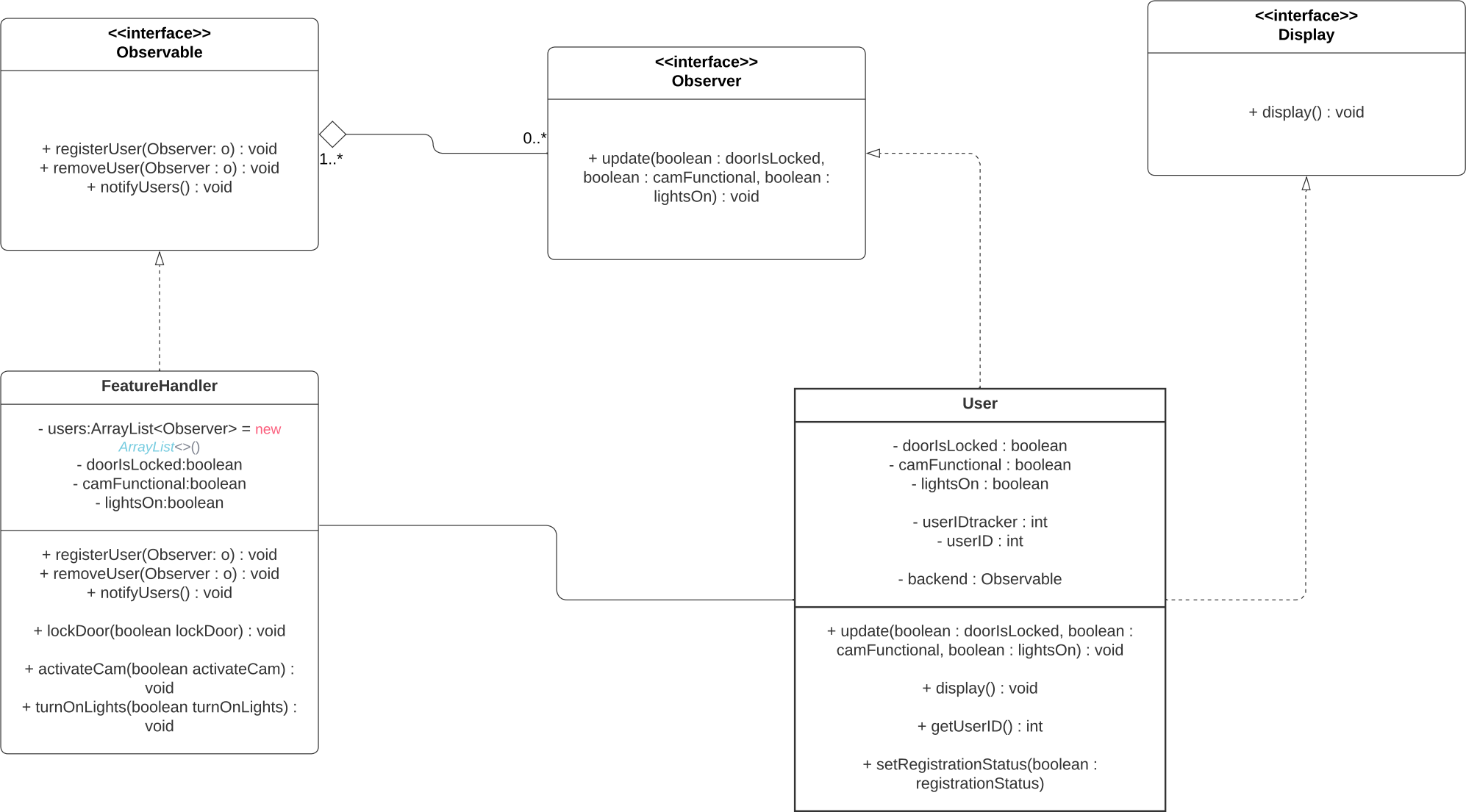Home Security System Mobile Application User Stories –

1. As a user, I want to be able to create/delete accounts through the mobile application.

2. As a user, I want to be able to lock/unlock the door through the mobile application.

3. As a user, I want to be able to turn lights on/off through the mobile application.

4. As a user, I want to be able to turn my security cameras on/off through the mobile application.
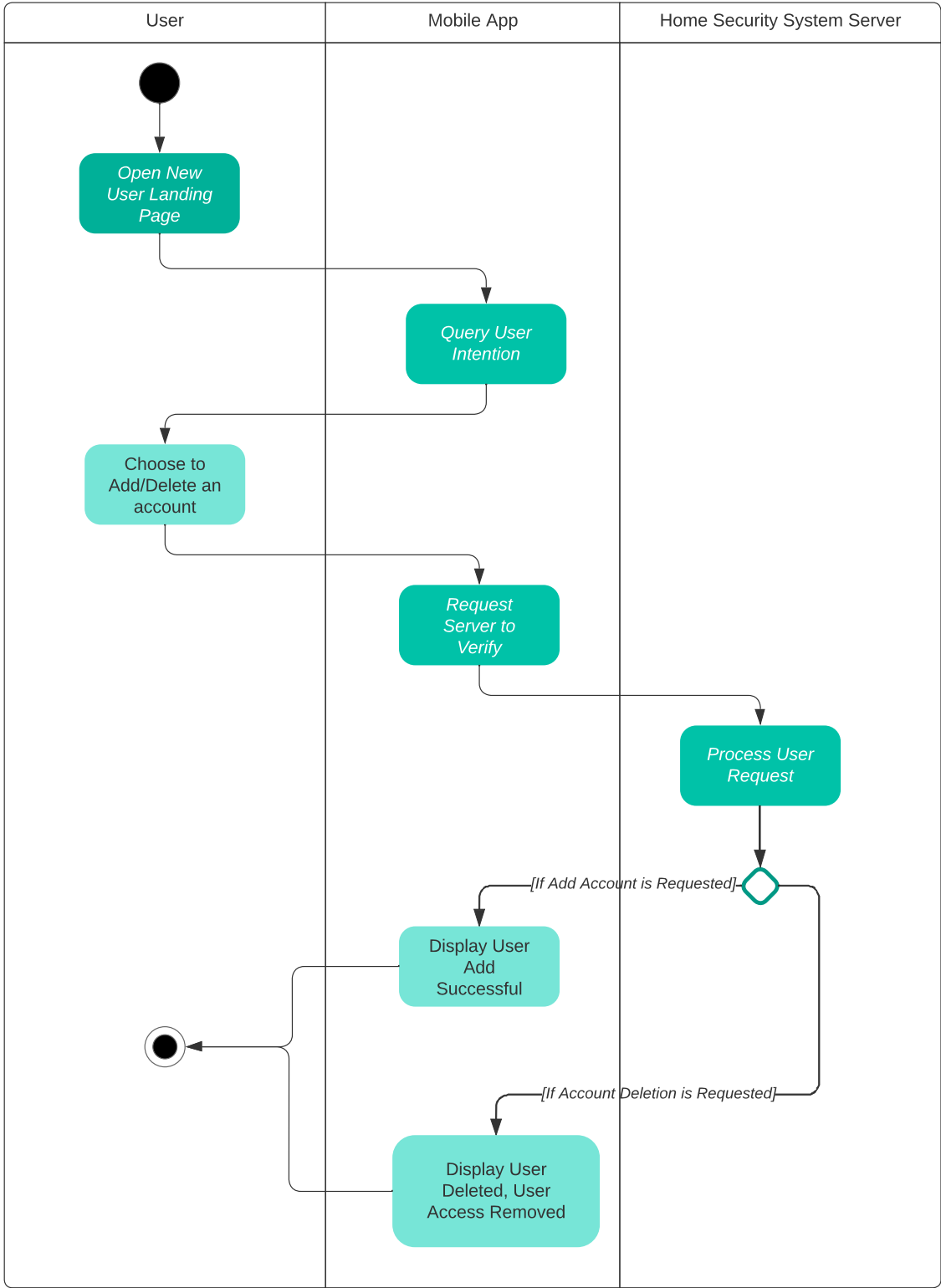
Home Security System Mobile Application Class Diagram with Observer DP

Patrick Tung | April 16, 2022

<<interface>>
Observable

+ registerUser(Observer: o) : void
+ removeUser(Observer : o) : void
+ notifyUsers() : void

<<interface>>
Observer

+ update(boolean : doorIsLocked, boolean : camFunctional, boolean : lightsOn) : void

<<interface>>
Display

+ display() : void

1..* 0..*

FeatureHandler

- users:ArrayList<Observer> = new ArrayList<>()
- doorIsLocked:boolean
- camFunctional:boolean
- lightsOn:boolean

+ registerUser(Observer: o) : void
+ removeUser(Observer : o) : void
+ notifyUsers() : void

+ lockDoor(boolean lockDoor) : void

+ activateCam(boolean activateCam) : void
+ turnOnLights(boolean turnOnLights) : void

User

- doorIsLocked : boolean
- camFunctional : boolean
- lightsOn : boolean

- userIDtracker : int
- userID : int

- backend : Observable

+ update(boolean : doorIsLocked, boolean : camFunctional, boolean : lightsOn) : void

+ display() : void

+ getUserID() : int

+ setRegistrationStatus(boolean : registrationStatus)

Mobile App User Account Access Activity Diagram

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User	Mobile App	Home Security System Server

- Open New User Landing Page
- Query User Intention
- Choose to Add/Delete an account
- Request Server to Verify
- Process User Request
- [If Add Account is Requested]
- Display User Add Successful
- [If Account Deletion is Requested]
- Display User Deleted, User Access Removed

Mobile App Door Control Activity Diagram

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User	Mobile App	Home Security System Server

- Lock/Unlock
- Deliver User Instructions To Server
- Send Lock/Unlock Signal to door
- [Door Locked]
- Display Unlock Success
- Door Not Locked
- Display Lock Success
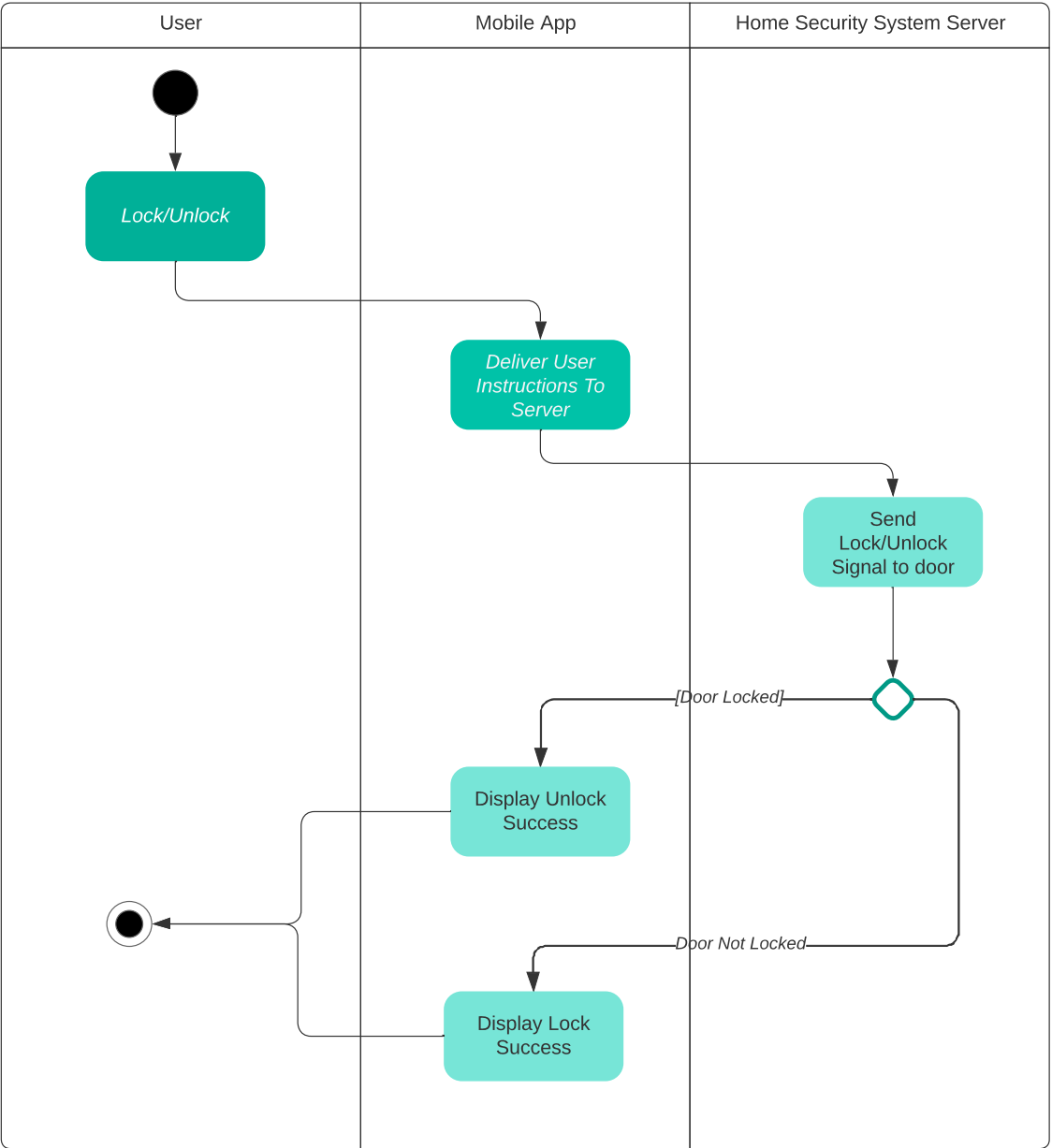
Mobile App View Security Footage Activity Diagram

Patrick Tung | April 16, 2022

User	Mobile App	Home Security System Server

- View Recorded Security Footage
- Query For Footage Under User Account
- Fetch Video From Door Cam
- Camera Functional
- Display Security Footage
- Camera Not Functional
- Display Door Cam state
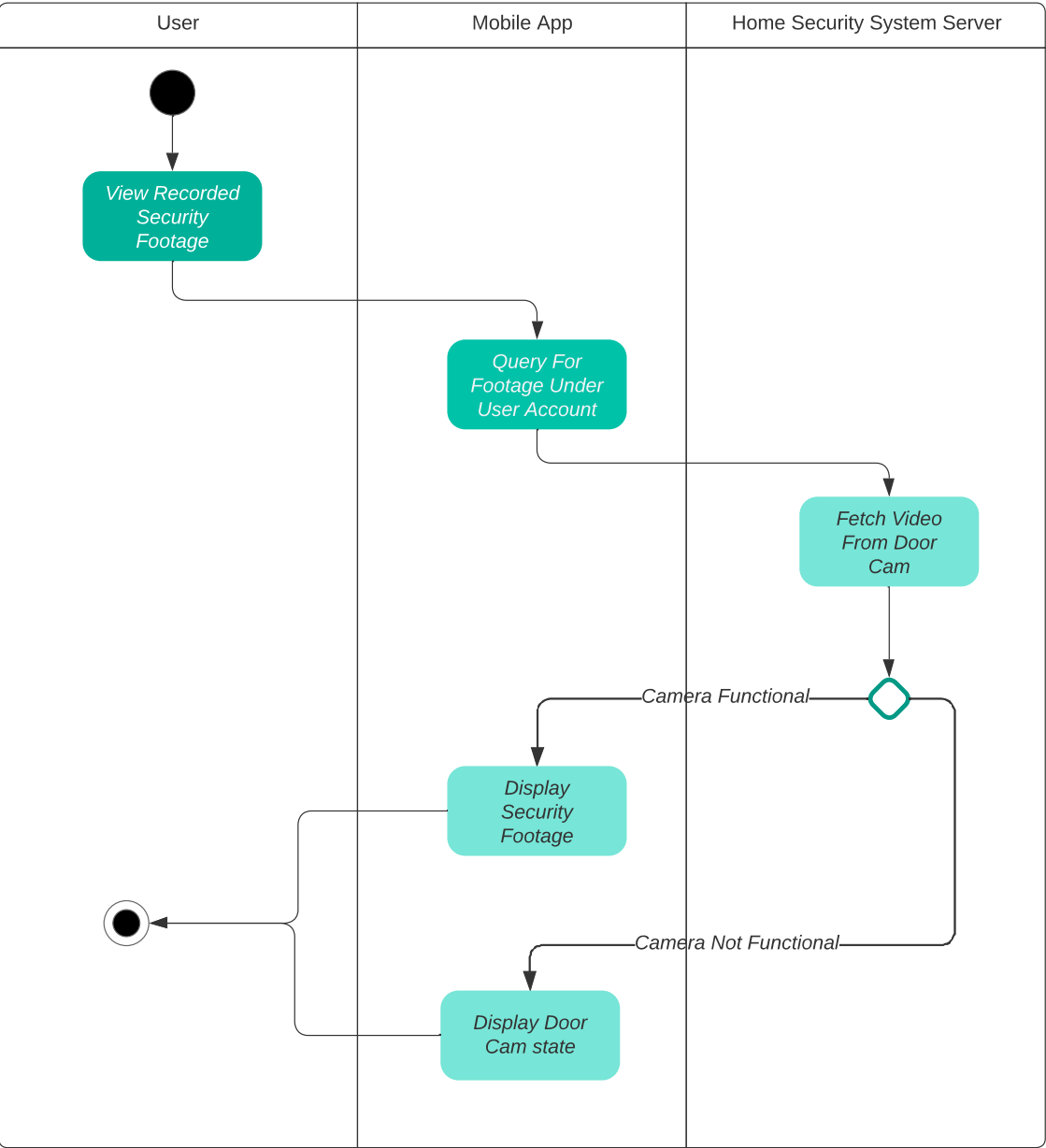
Home Security System Mobile App Sequence Diagram

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Mobile Application

Home Security System Server

Door

Actor

Open App

Display Landing Page & Registration

Register Account

Verify Credentials

Alternative

[if valid]

Account Credentials Valid

Display User Homepage

[else]

Account Credentials Invalid

Display Registration Failure

View Security Footage

Query For Footage Under User Account

Fetch Video From Door Cam State

Alternative

[if door cam is on]

Push Camera Feed To Server

Push Camera Feed To App

Display Security Footage

[if door cam is off]

Cam not active

Display Door Cam State

Lock/Unlock Door

Deliver User Instructions To Server

Send Lock/Unlock Signal To Door Lock

Alternative

[if door is locked]

Lock Successful

Report Door Lock Status

Display Door Lock Status

[if door is not locked]

Report Door Lock Status

Unlock Successful

Display Door Lock Status