Q.I IoT Platform Development Project

July – August 2018

Qualcomm Institute, UCSD

Team. E

INDEX

[I. Introduce 3](#_Toc521771927)

[II. System Reference 4](#_Toc521771928)

[III. System Architecture 4](#_Toc521771929)

[IV. ER Diagram 5](#_Toc521771930)

[V. Sequence Diagram / Flowchart 6](#_Toc521771931)

[1. User Management Procedure 6](#_Toc521771932)

[1.1. Sign up 6](#_Toc521771933)

[1.2. Sign in 11](#_Toc521771934)

[1.3. Sign out 13](#_Toc521771935)

[1.4. User password change 16](#_Toc521771936)

[1.5. Forgotten password update 19](#_Toc521771937)

[1.6. ID cancellation 23](#_Toc521771938)

[2. Sensor Management Procedure 26](#_Toc521771939)

[2.1. Sensor registration / association 26](#_Toc521771940)

[2.2. Sensor deregistraion / dissociation 28](#_Toc521771941)

[2.3. Sensor list view 31](#_Toc521771942)

[3. Data Management Procedure 34](#_Toc521771943)

[3.1. Real-time air quality data transfer 34](#_Toc521771944)

[3.2. Real-time heart-related data transfer 38](#_Toc521771945)

[4. Data Monitoring Procedure 41](#_Toc521771946)

[4.1. Real-time air quality data view 41](#_Toc521771947)

[4.2. Real-time heart-related data view 45](#_Toc521771948)

[4.3. Historical air quality data view 48](#_Toc521771949)

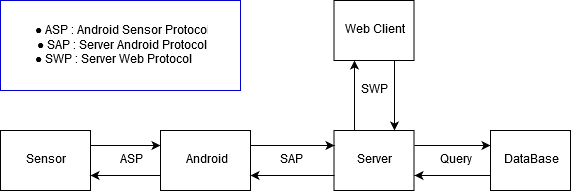
[4.4. Historical heart-related data view 51](#_Toc521771950)

# Introduce

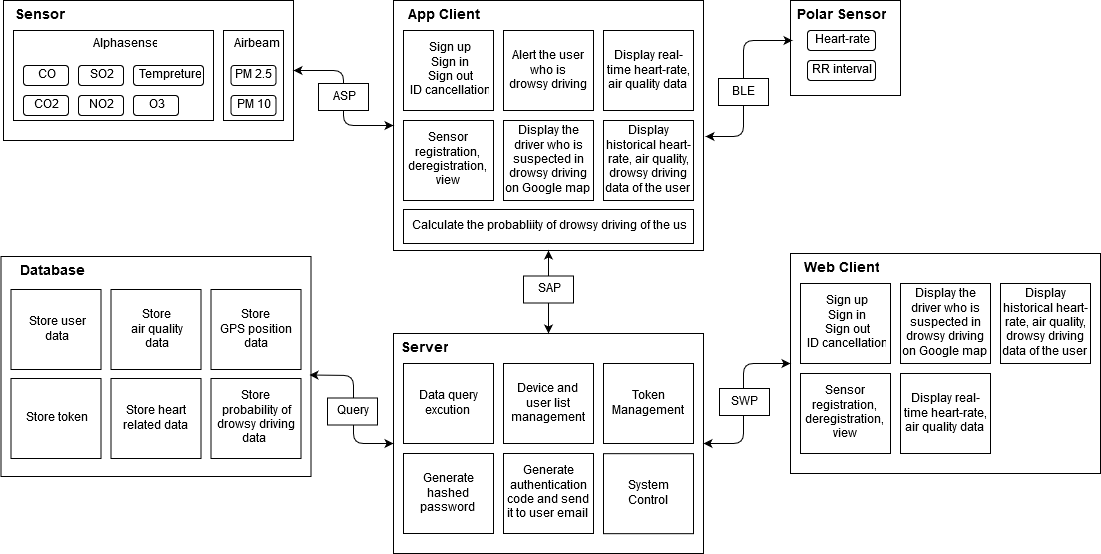
Team Member

* Dongsoo Jang (Jade)
  + Keimyung University
  + Team Leader
  + App part
* Yeonjun Kim (John)
  + Dong-Eui University
  + App Part
* Jinwon Cheon
  + Kookmin University
  + Sensor Part
* Hyoeun Kim (Ella)
  + Choseon University
  + Web/Server Part

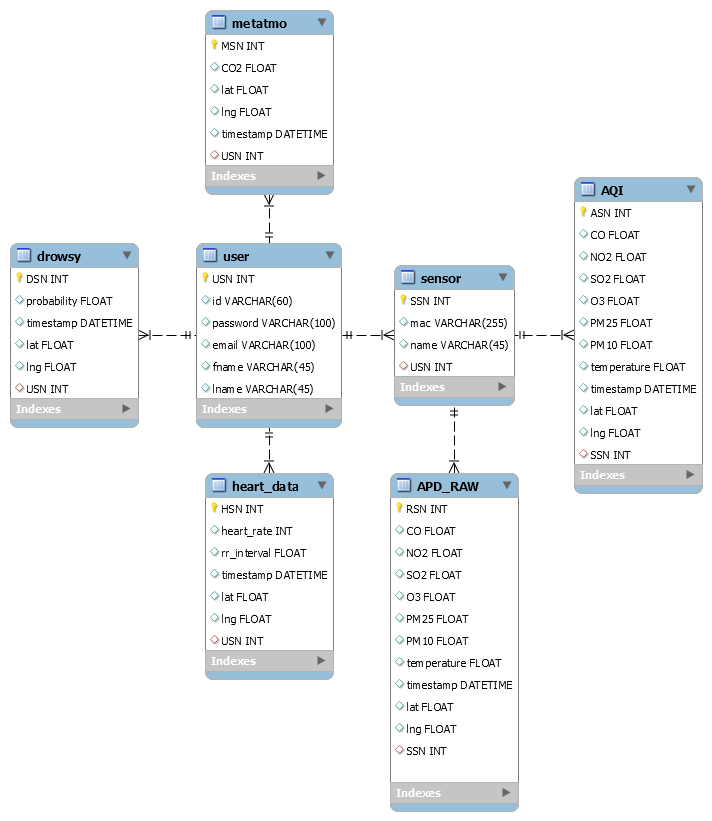
# System Reference



# System Architecture



# ER Diagram



# Sequence Diagram / Flowchart

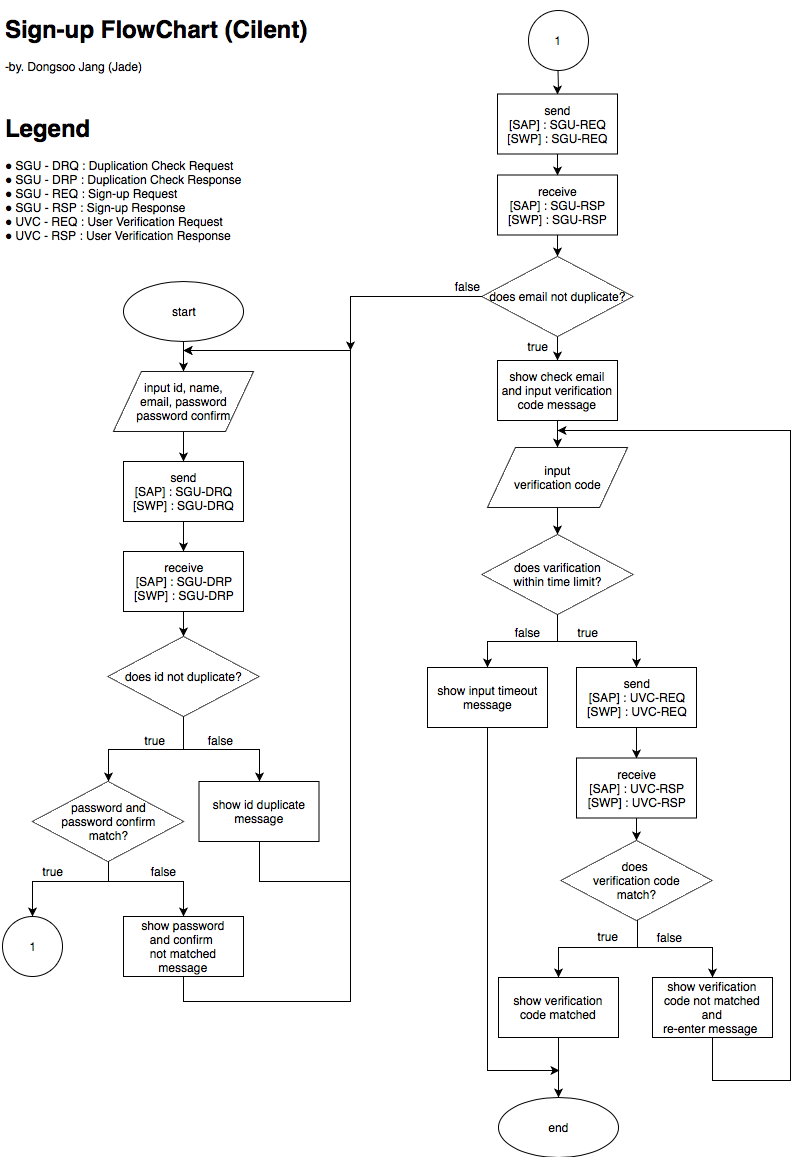
## User Management Procedure

### Sign up

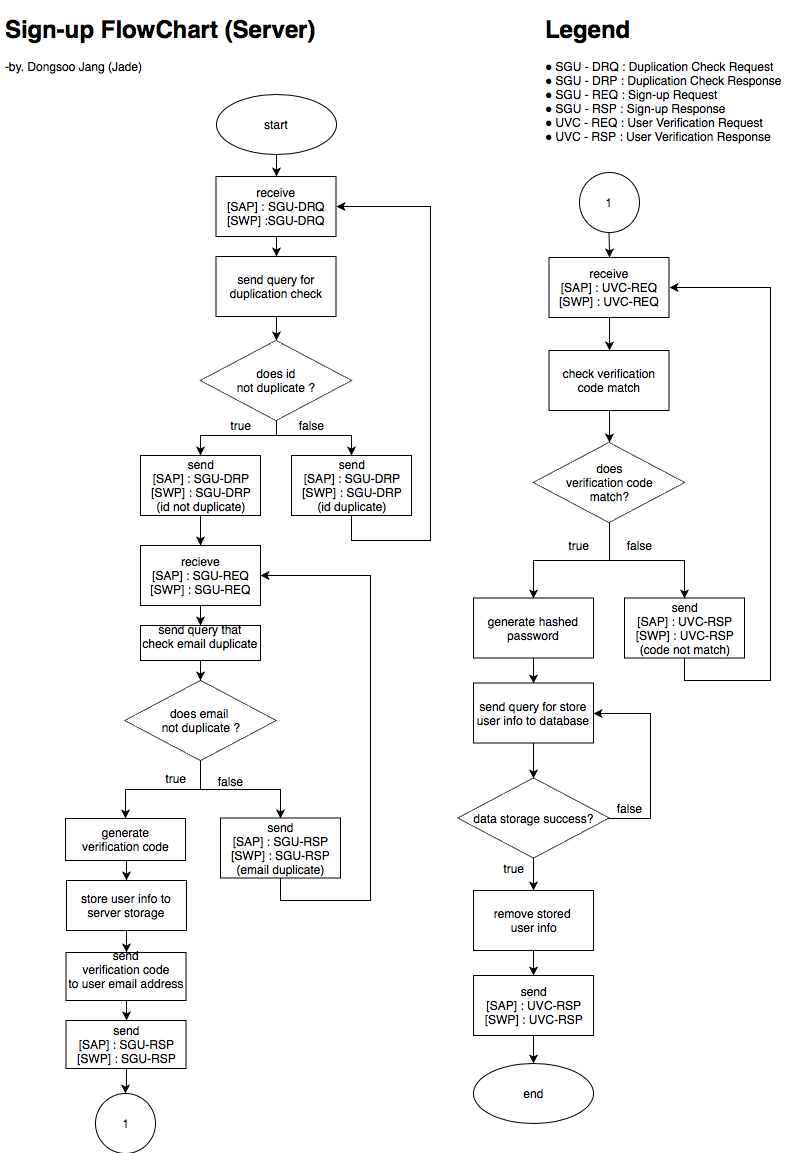
* Sequence Diagram



* Flowchart
  + Client

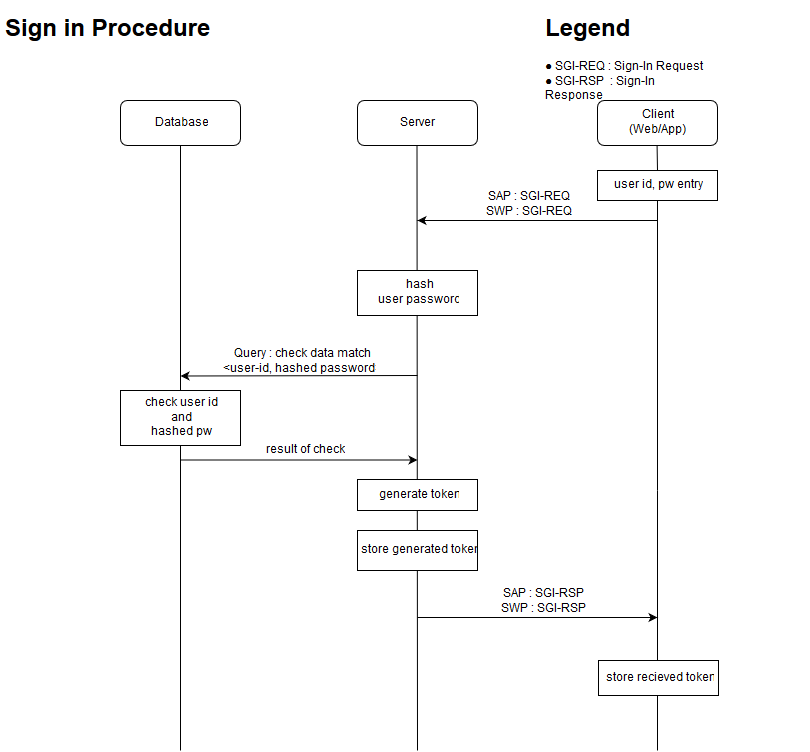


* + Server

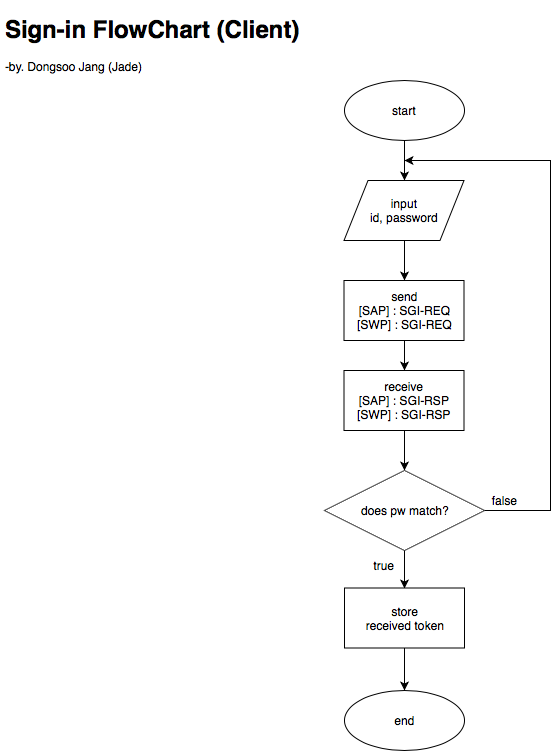


### Sign in

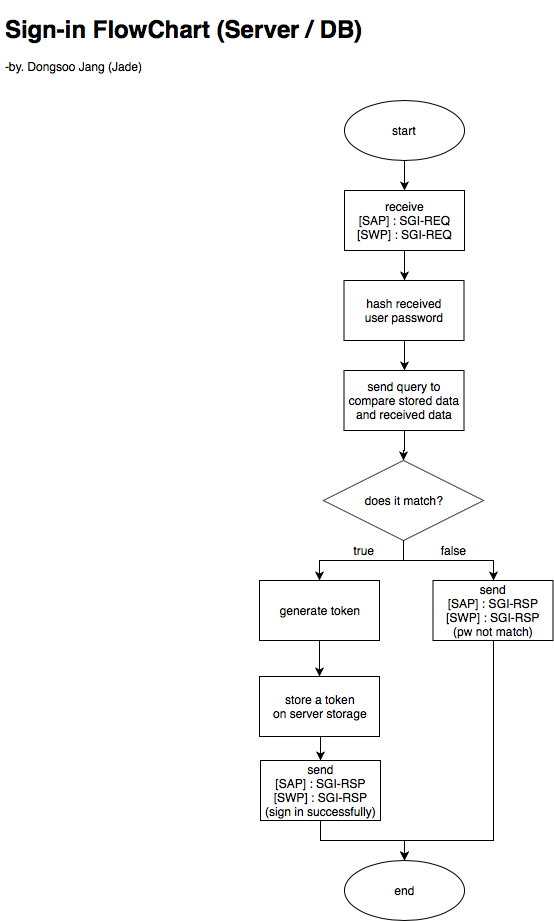
* Sequence Diagram



* Flowchart
  + Client

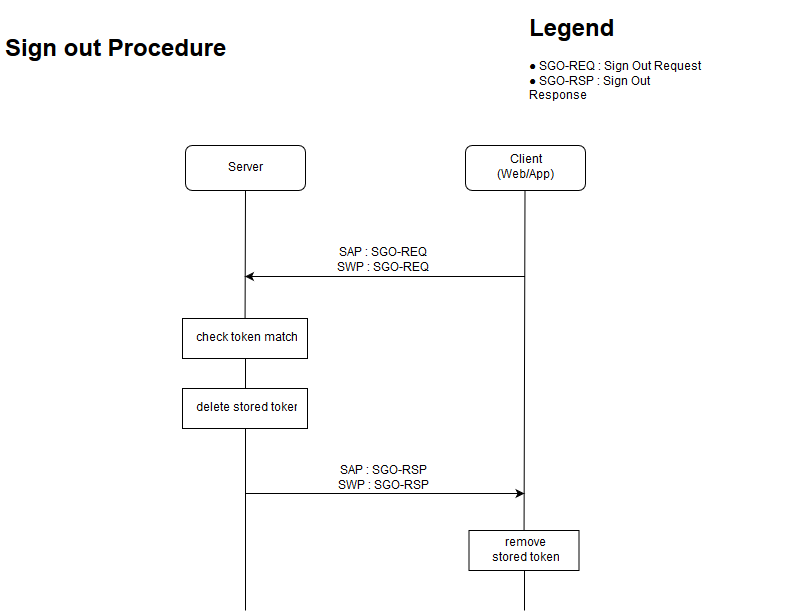


* + Server

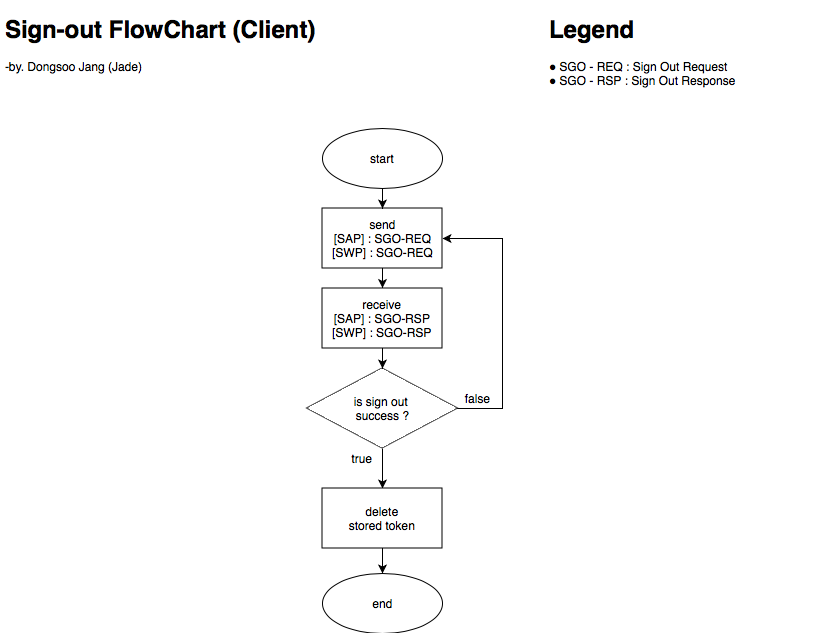


### Sign out

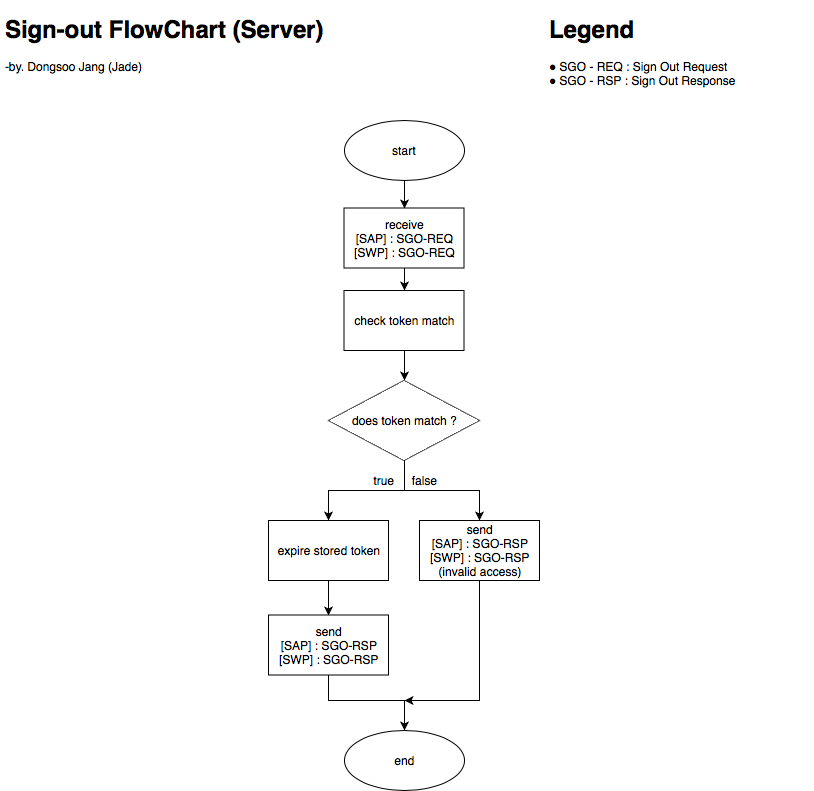
* Sequence Diagram



* Flowchart
  + Client

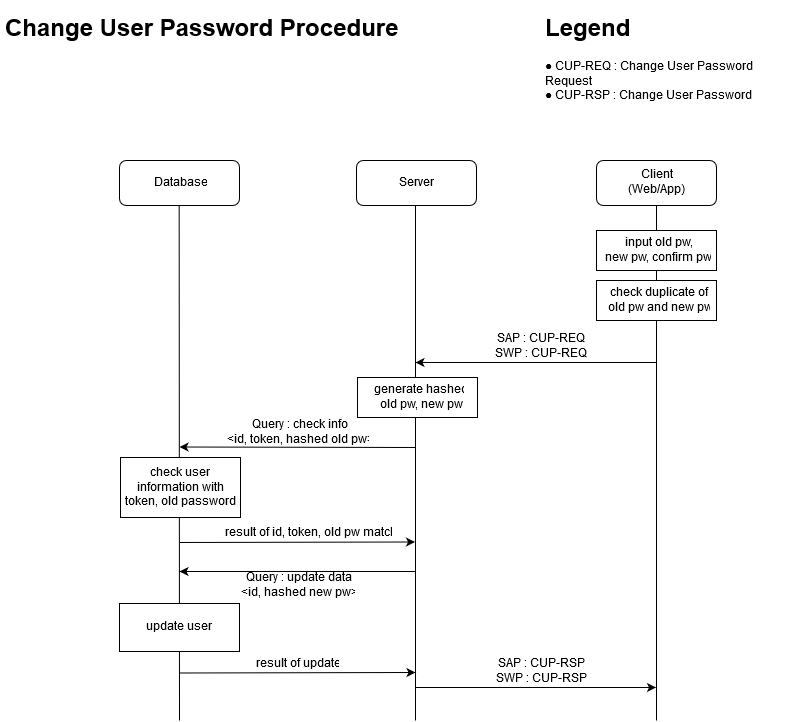


* + Server

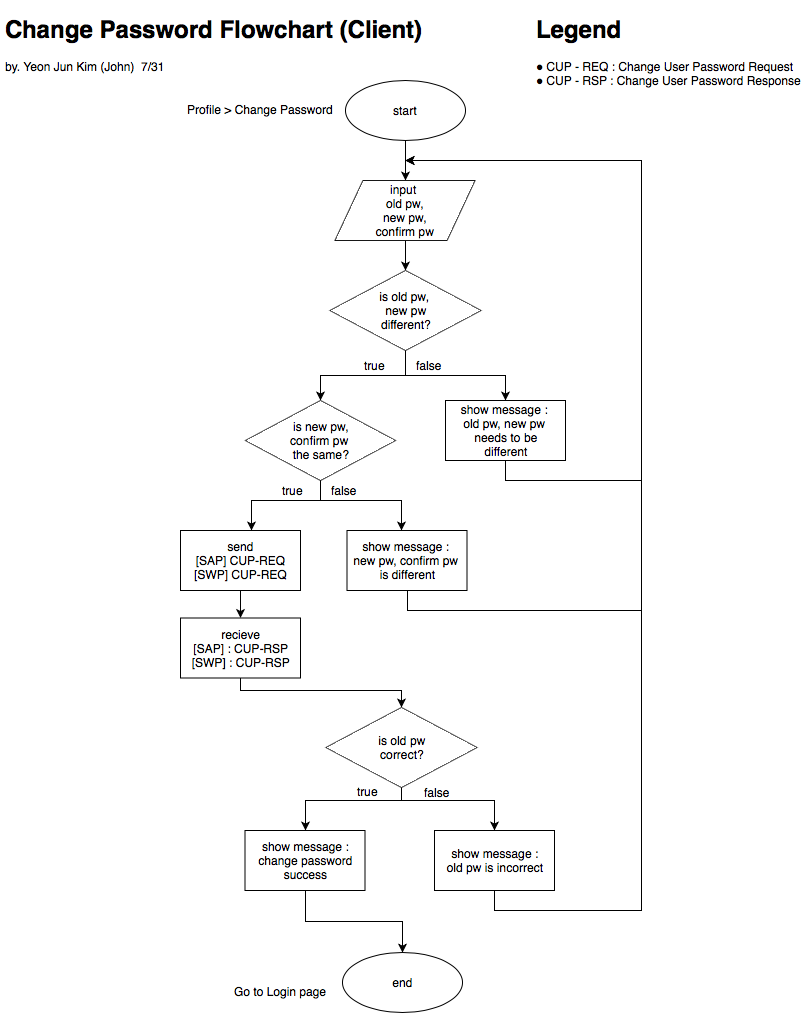


### User password change

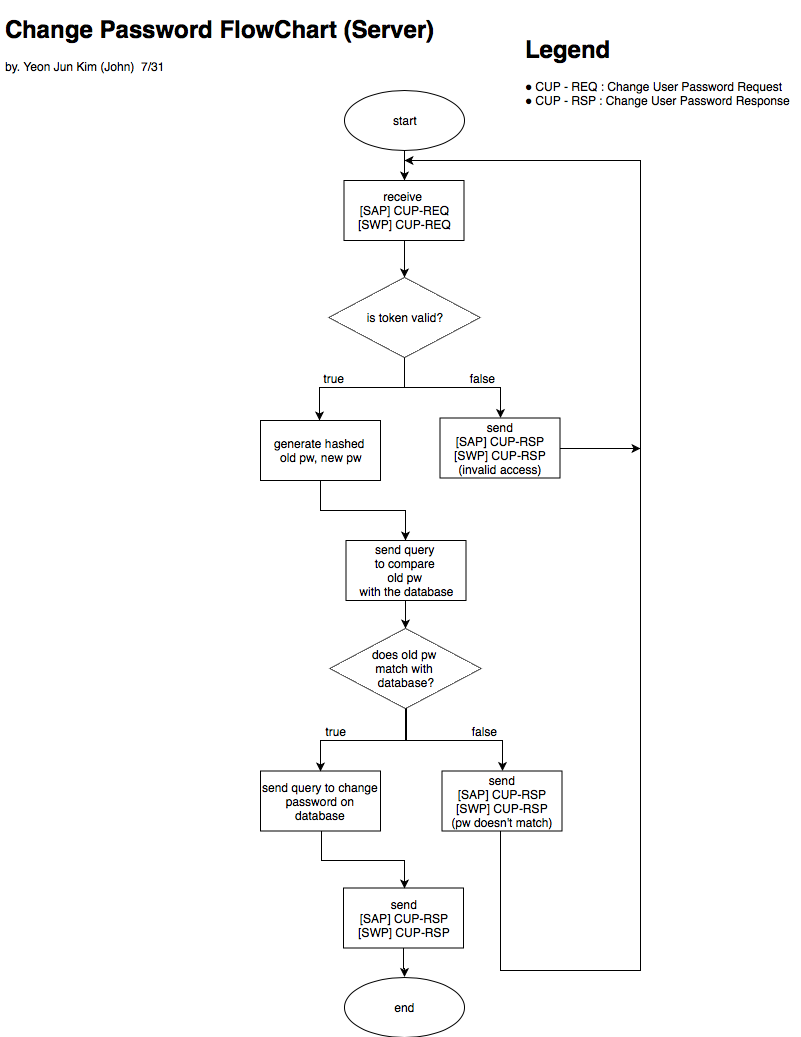
* Sequence Diagram



* Flowchart
  + Client

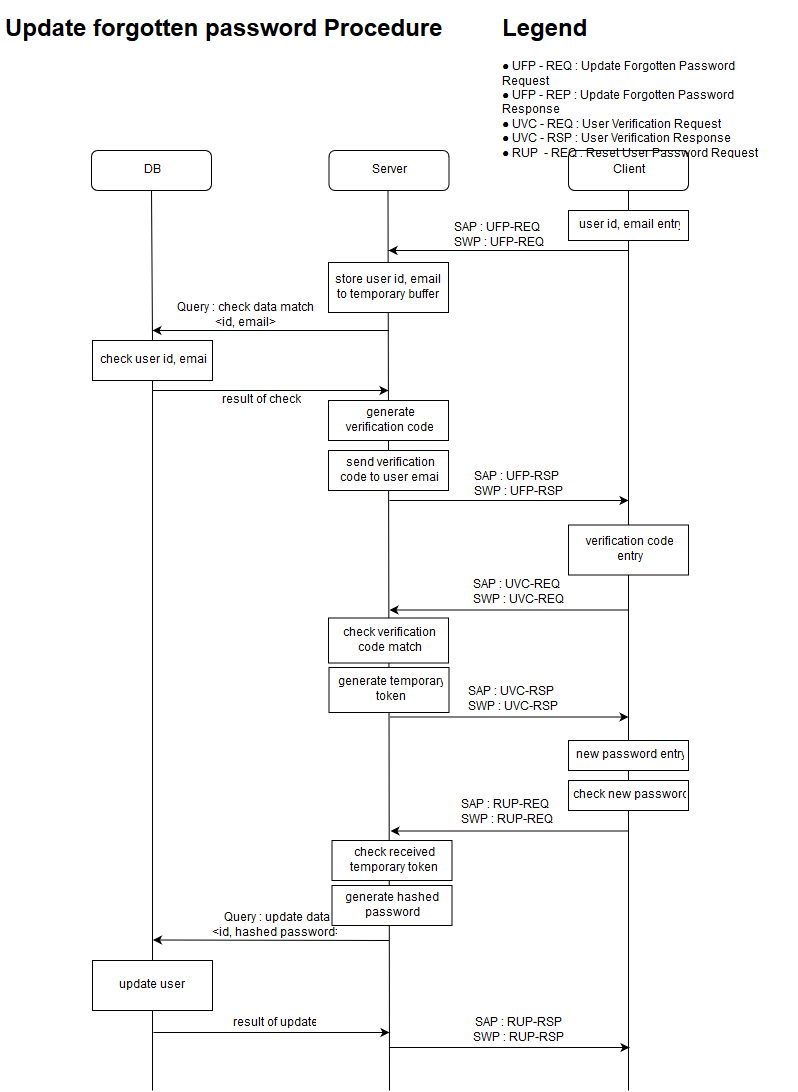


* + Server

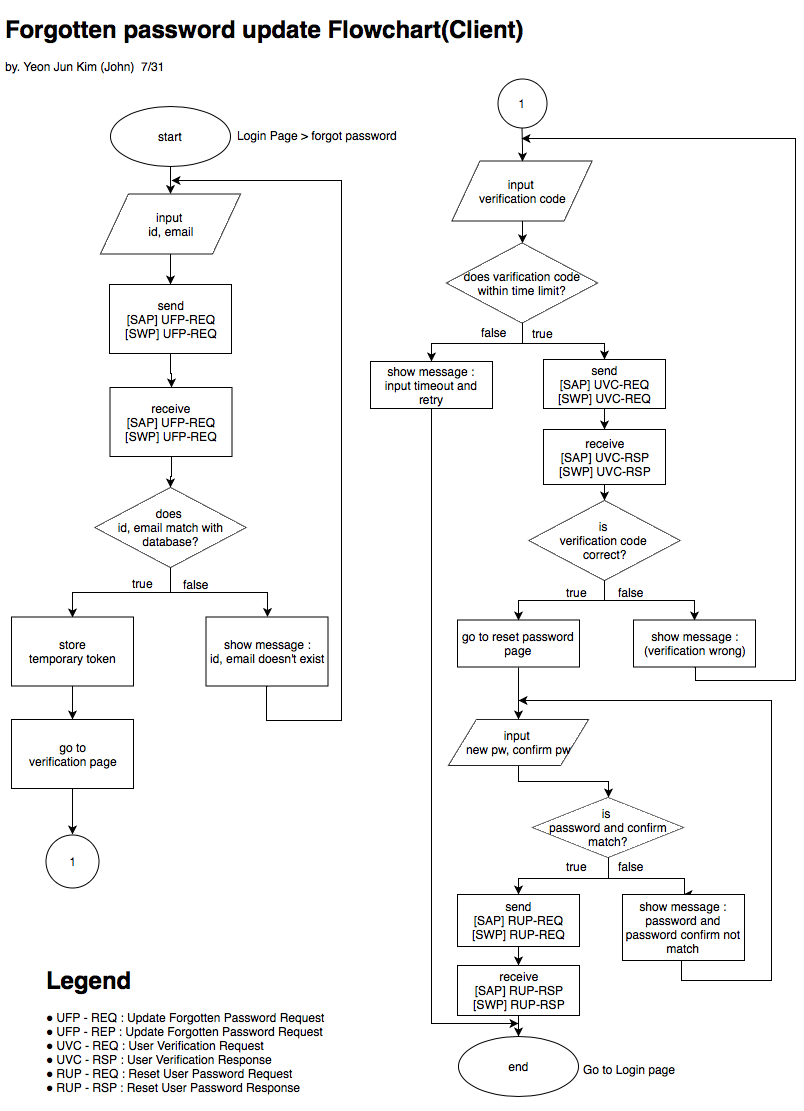


### Forgotten password update

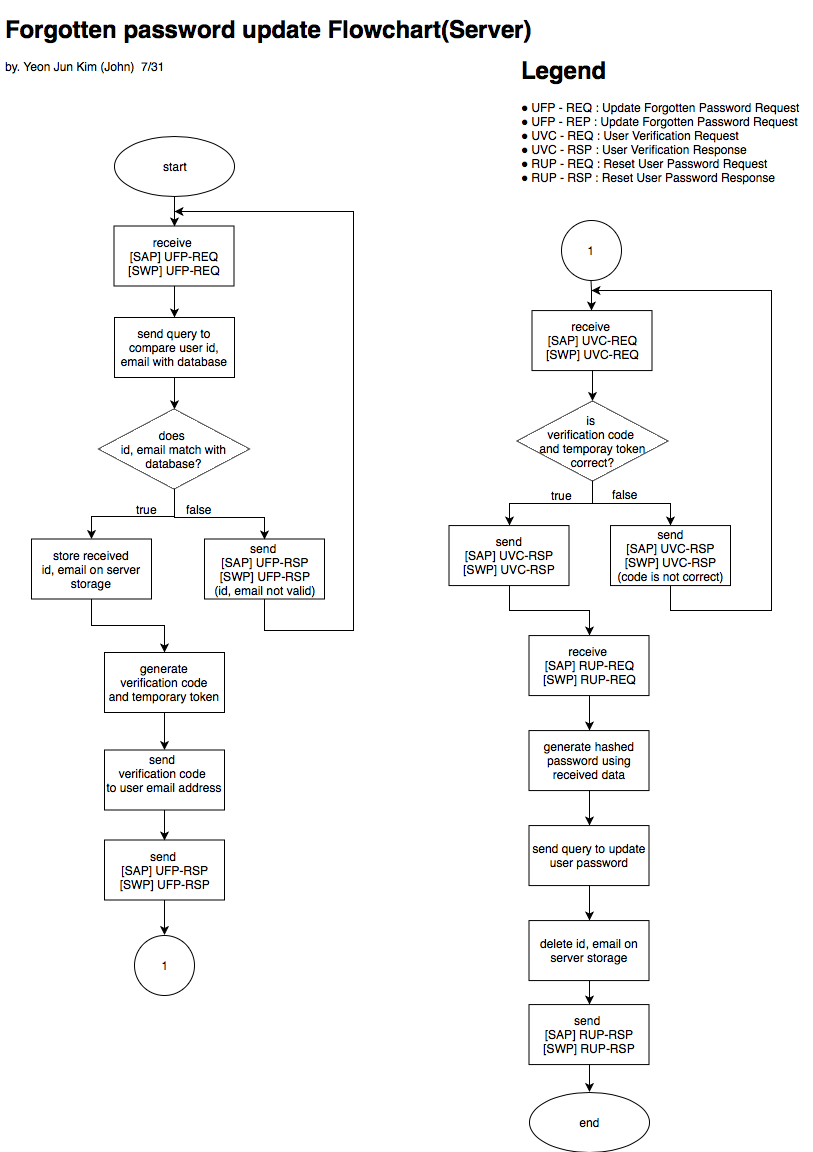
* Sequence Diagram



* Flowchart
  + Client

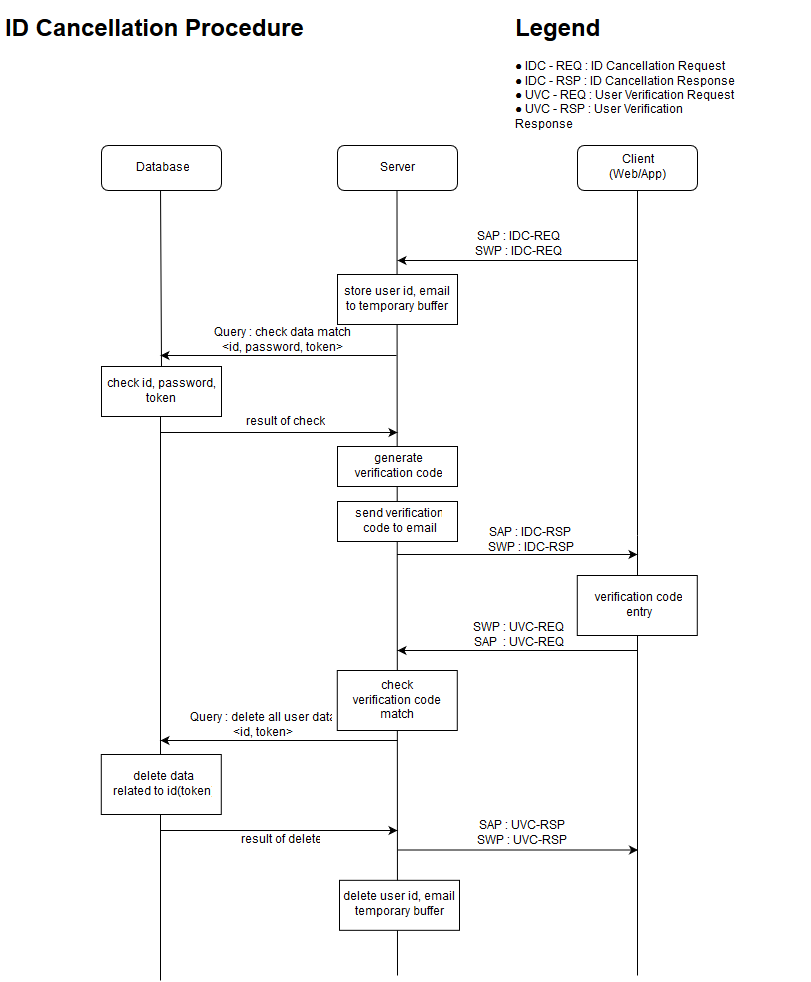


* + Server

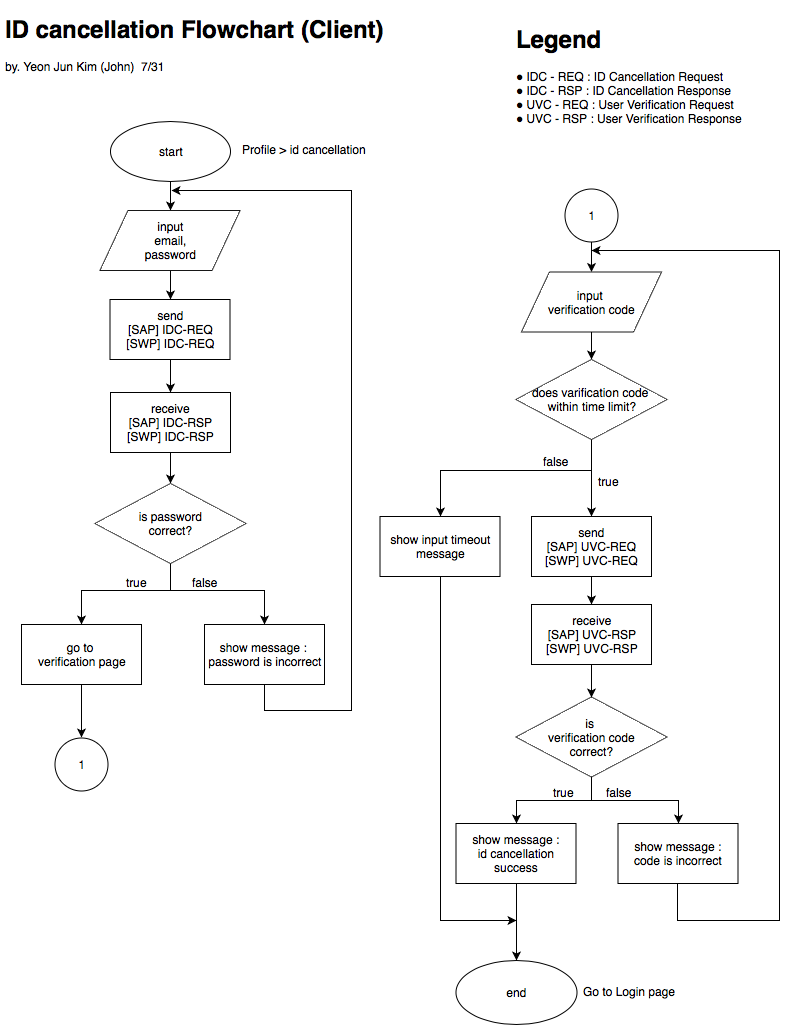


### ID cancellation

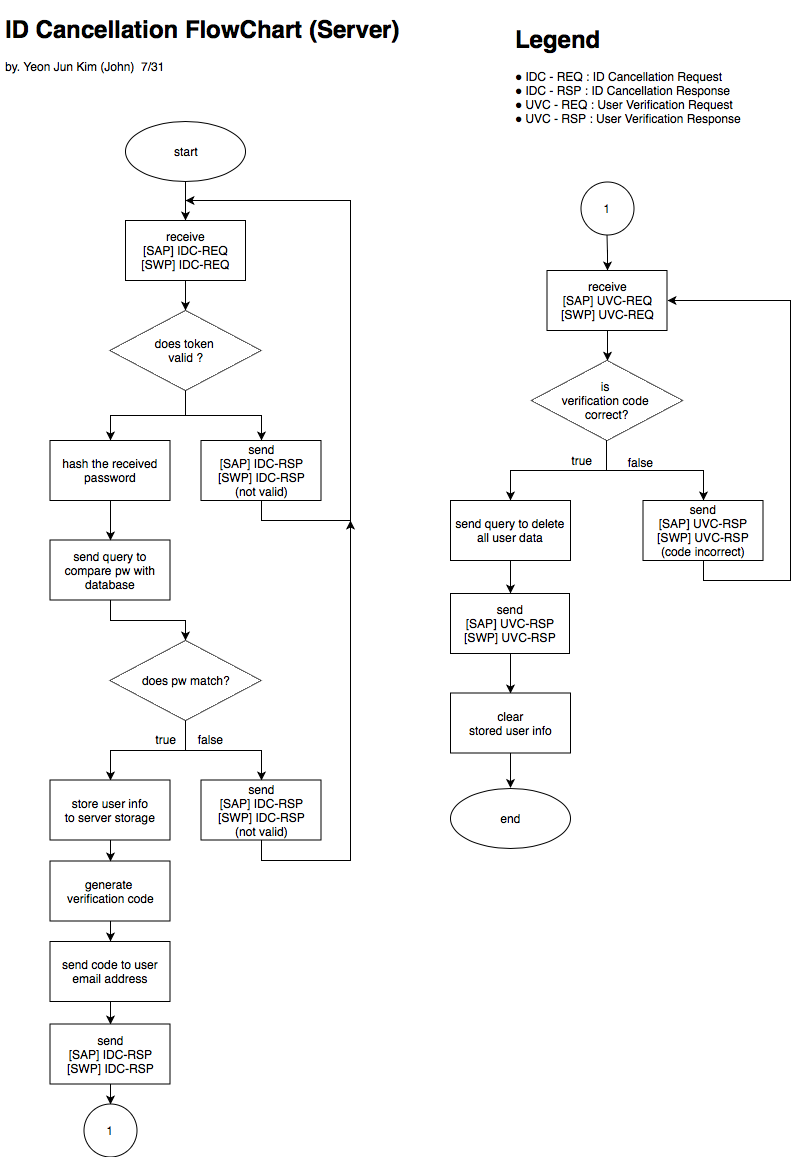
* Sequence Diagram



* Flowchart
  + Client



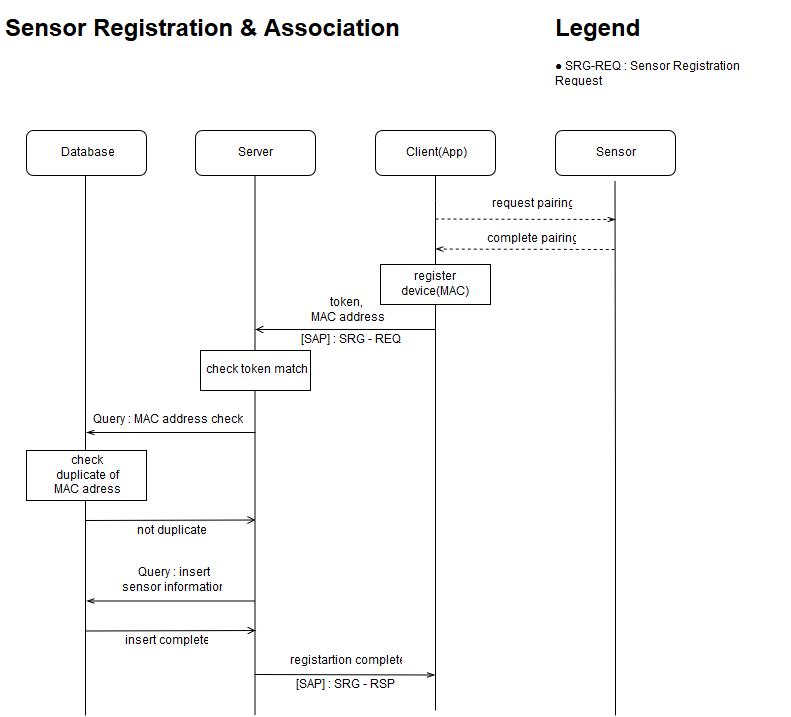
* + Server



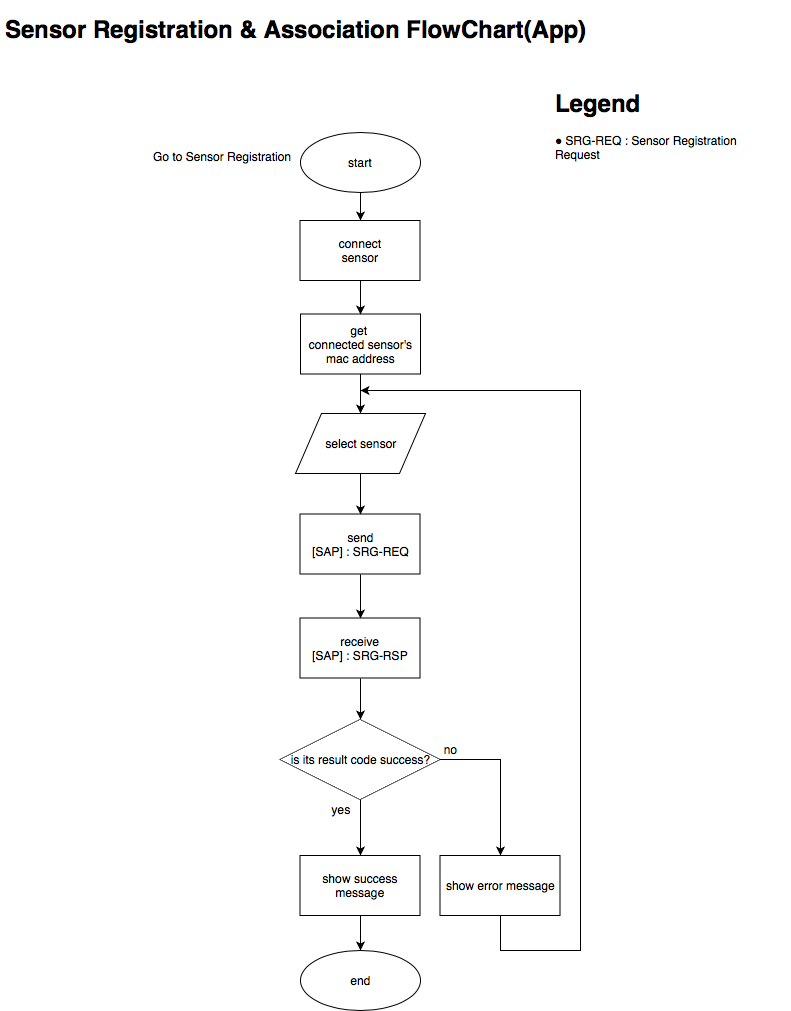
## Sensor Management Procedure

### Sensor registration / association

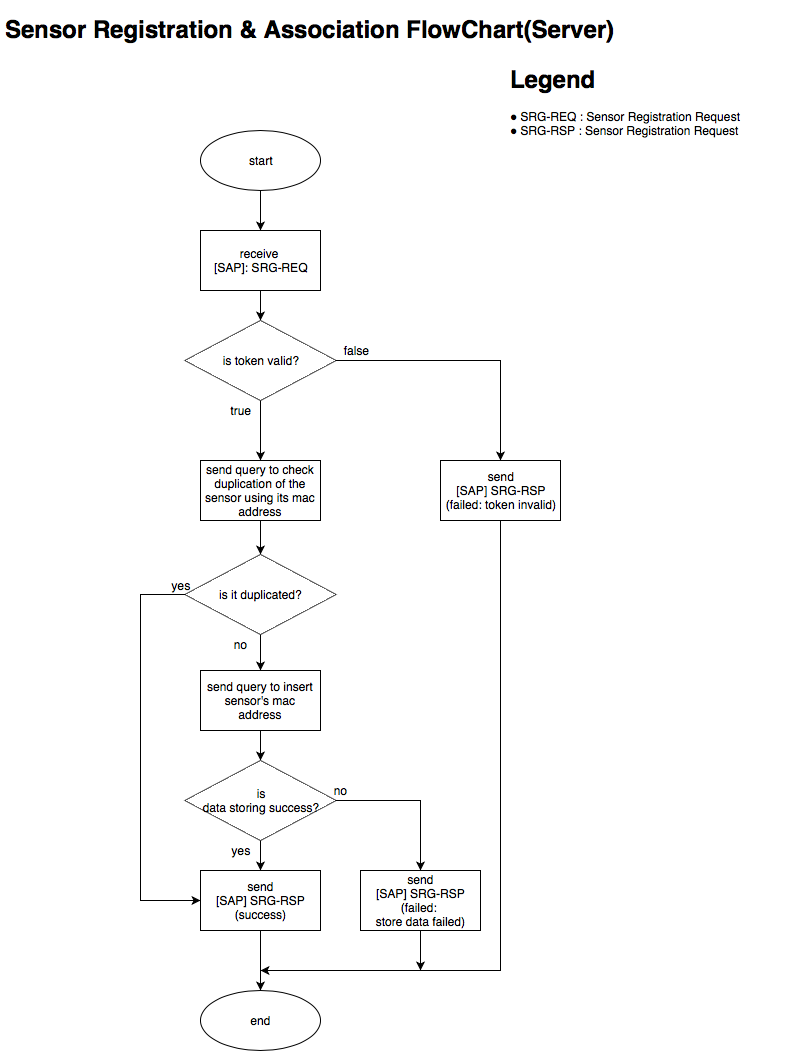
* Sequence Diagram



* Flowchart
  + App

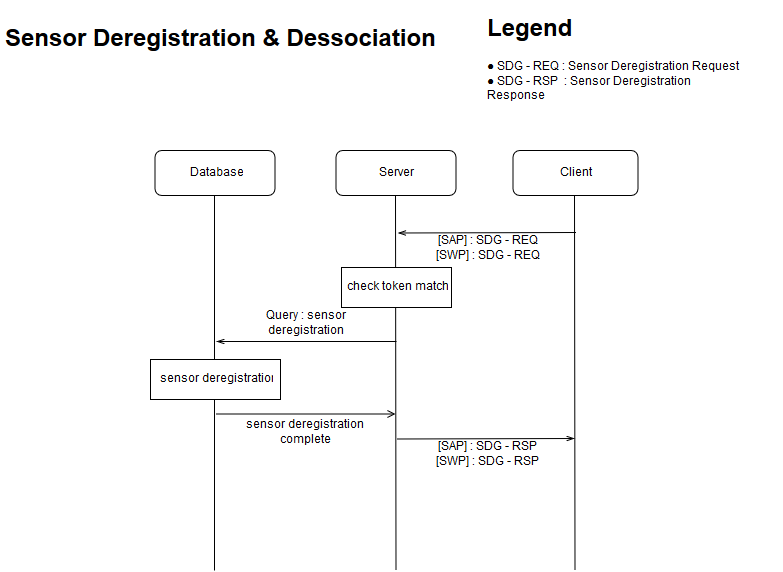


* + Server

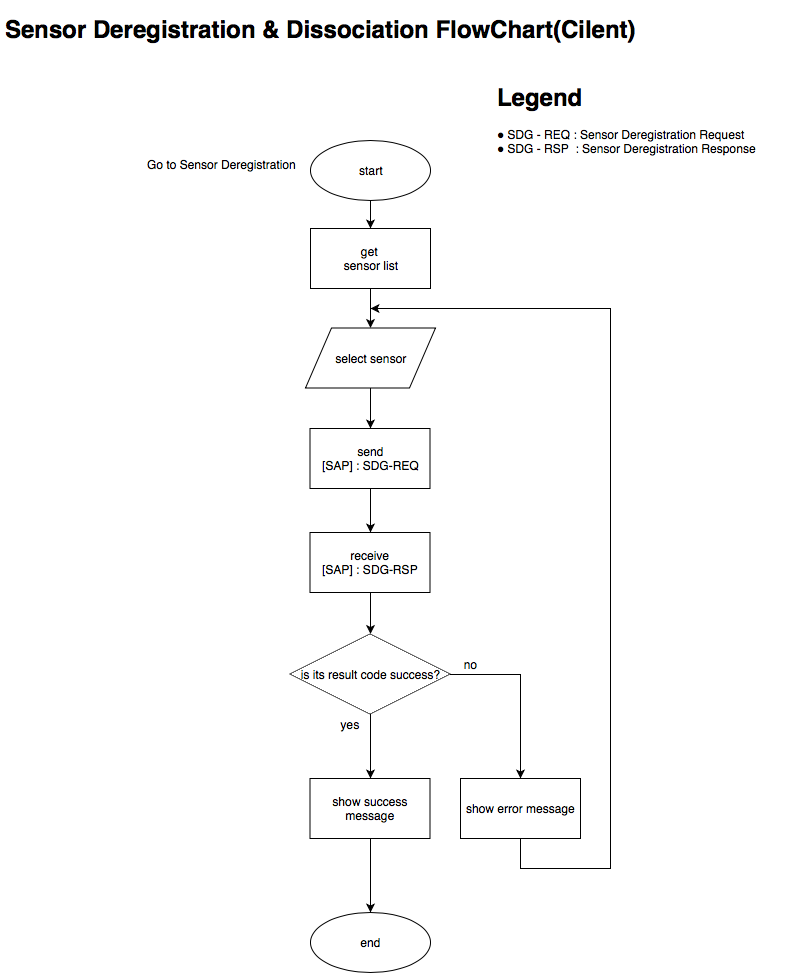


### Sensor deregistraion / dissociation

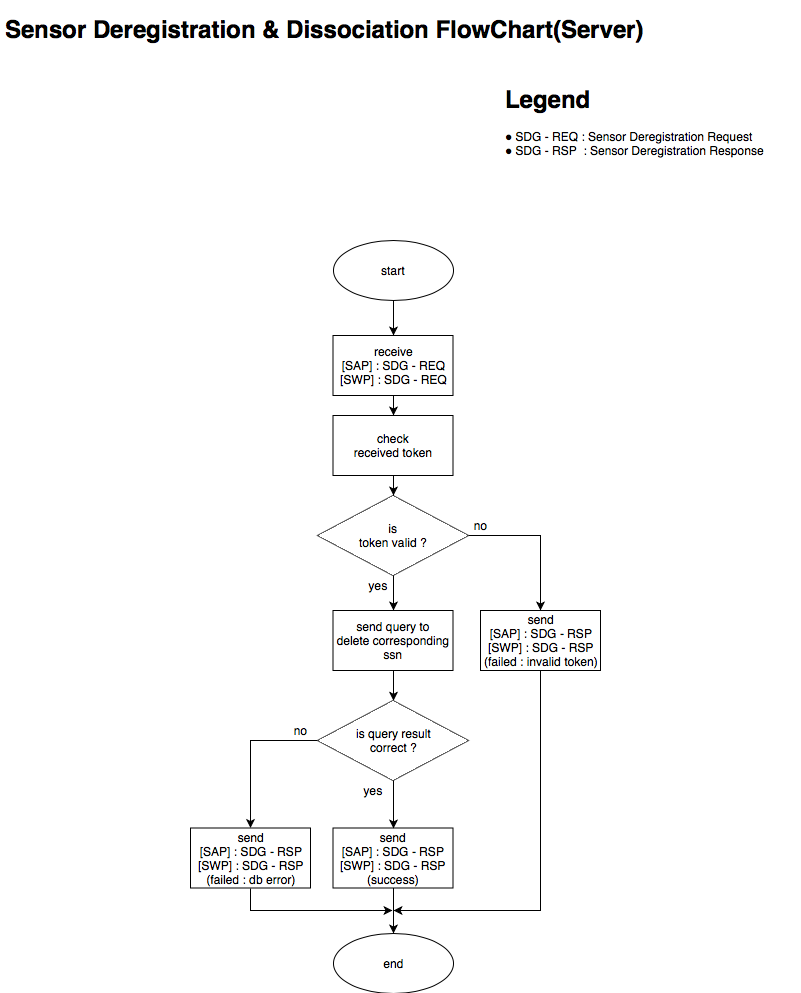
* Sequence Diagram



* Flowchart
  + Client

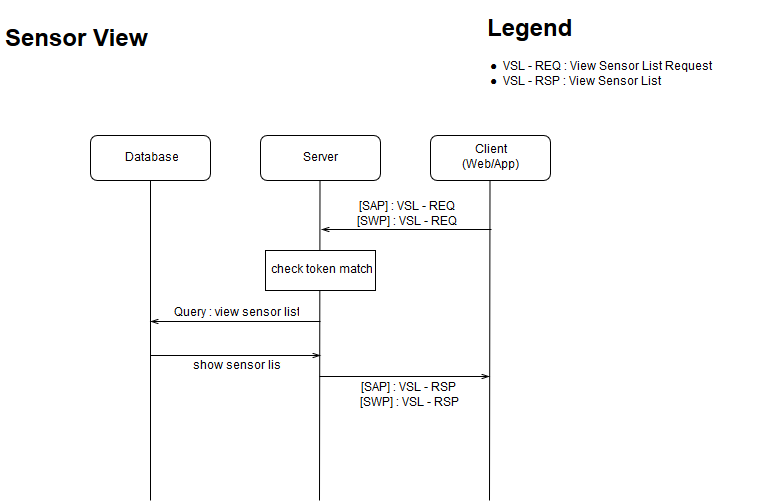


* + Server

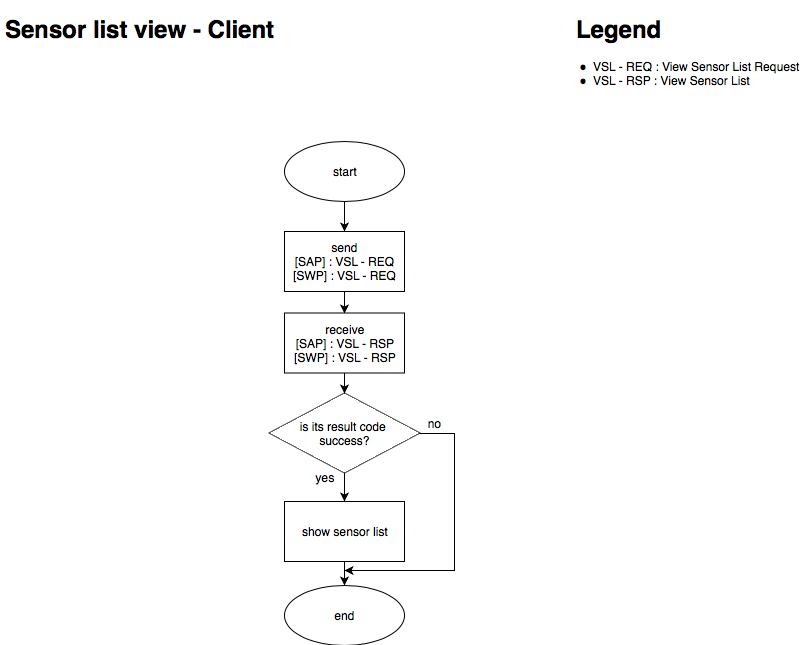


### Sensor list view

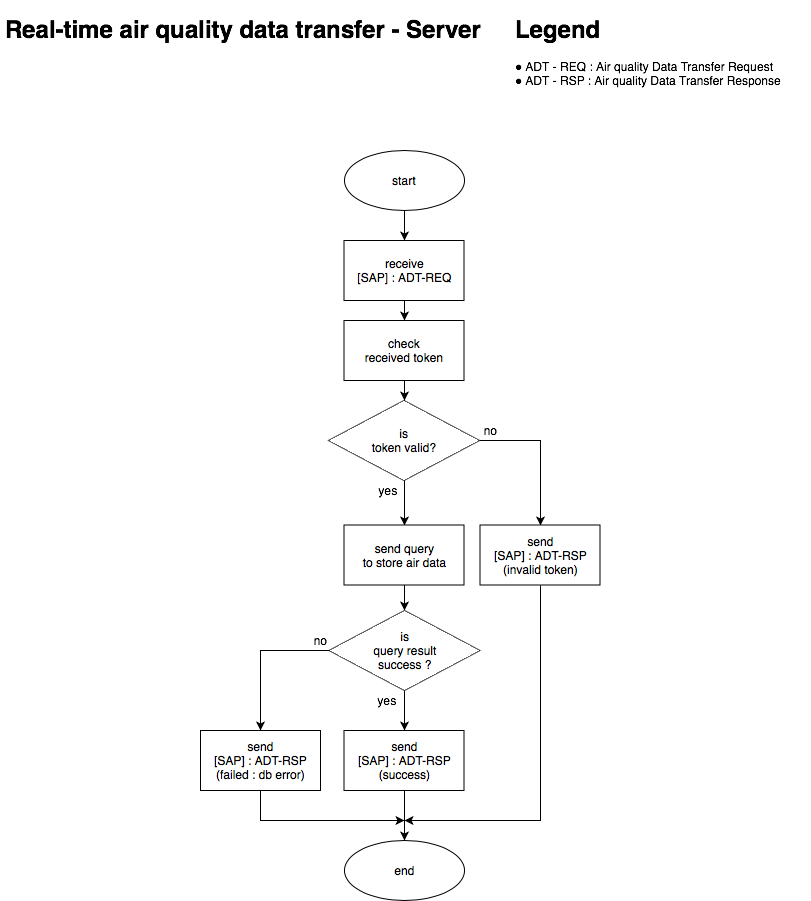
* Sequence Diagram



* Flowchart
  + Client



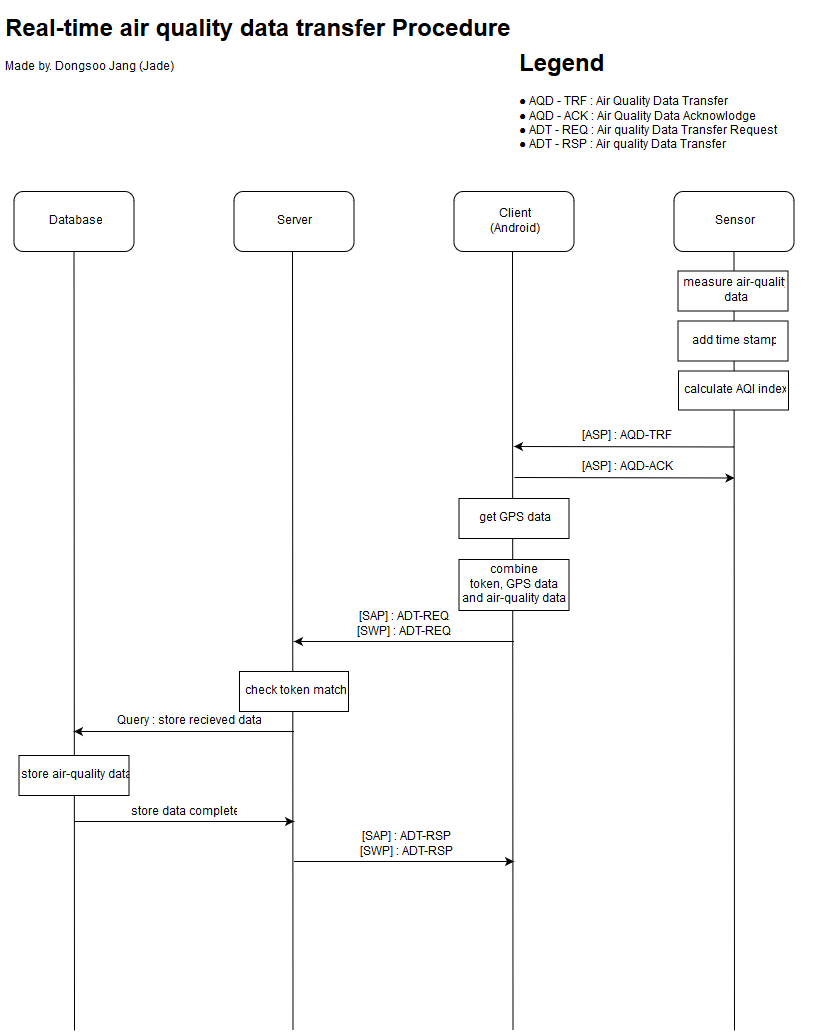
* + Server



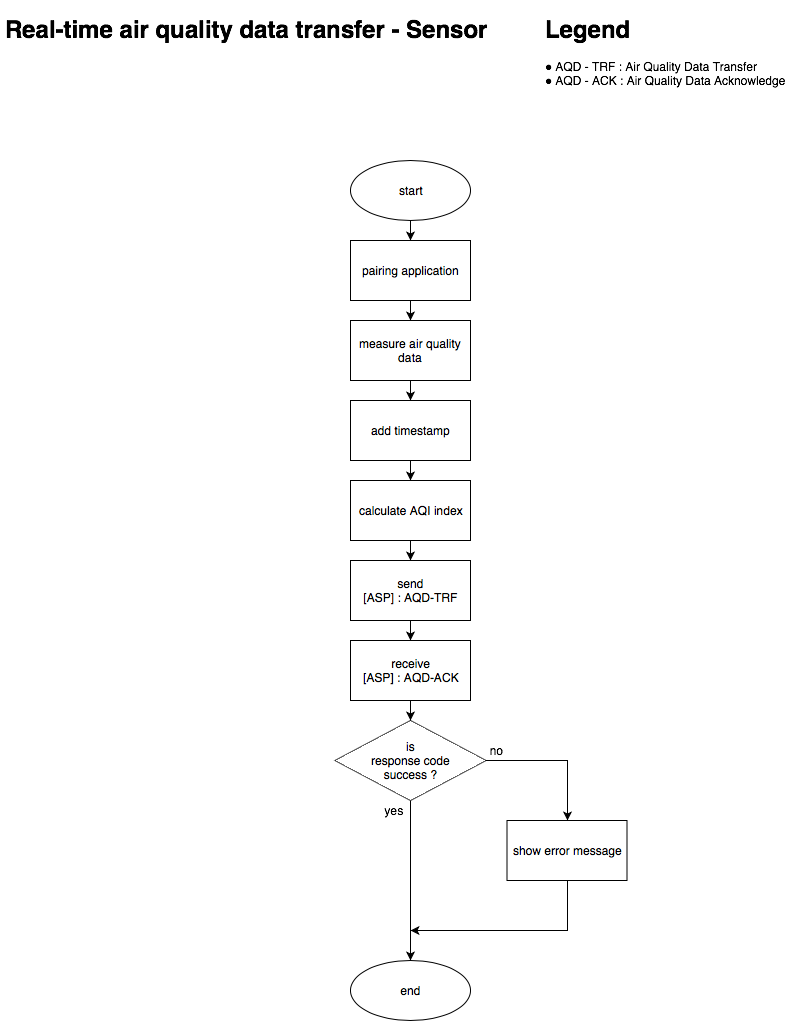
## Data Management Procedure

### Real-time air quality data transfer

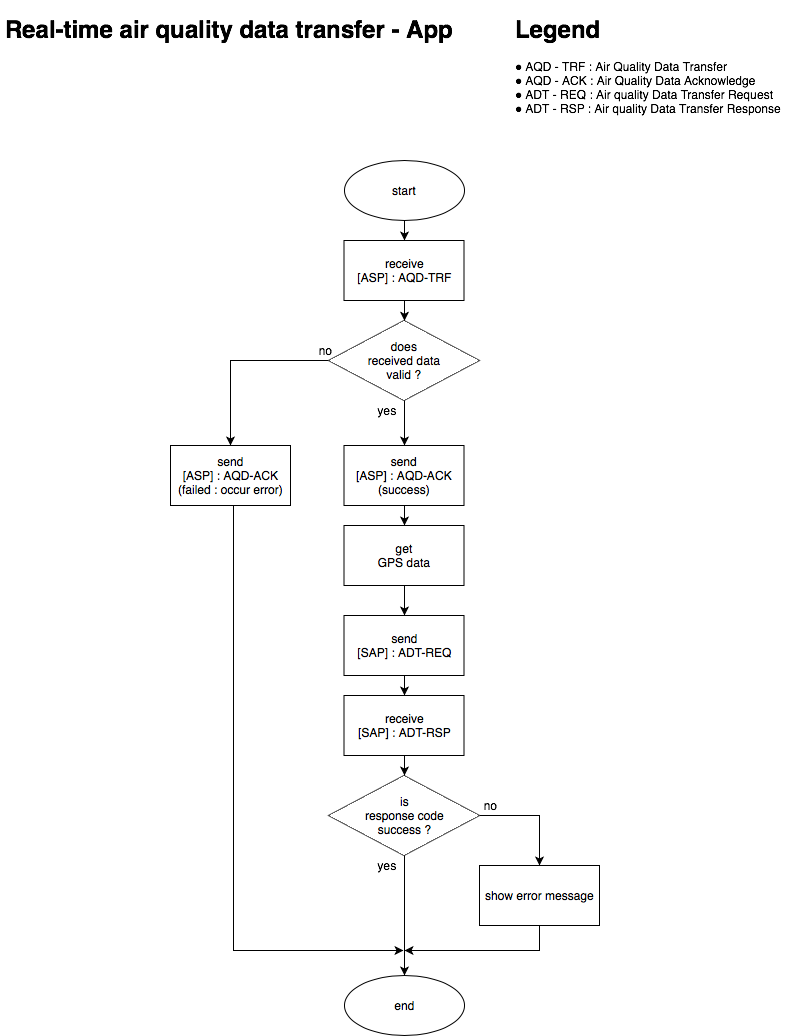
* Sequence Diagram



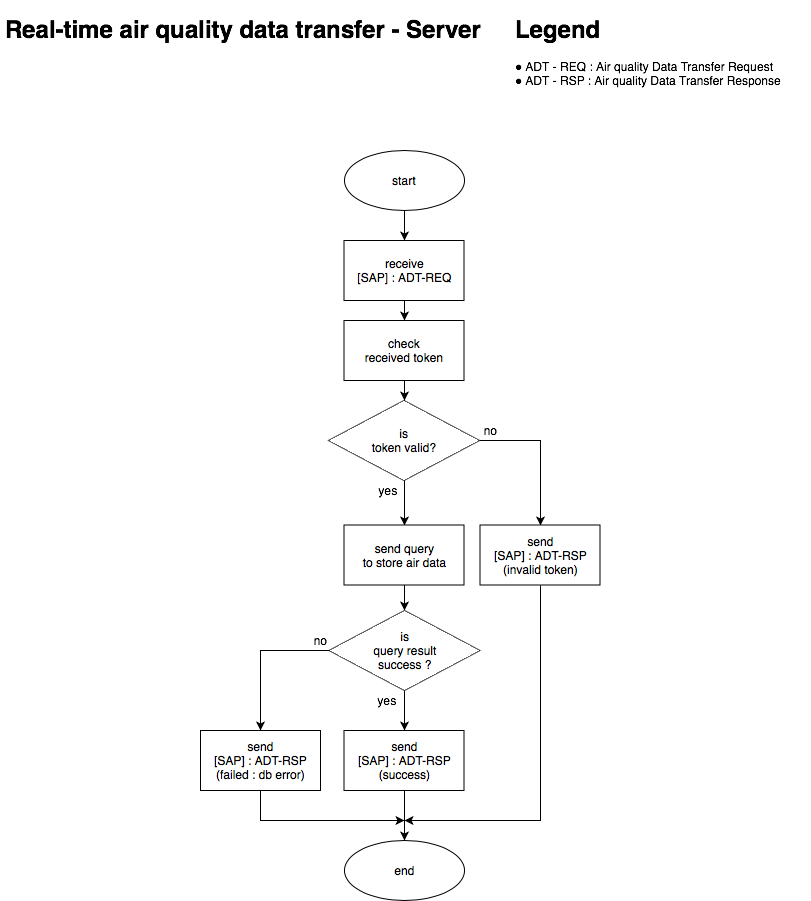
* Flowchart
  + Sensor



* + App

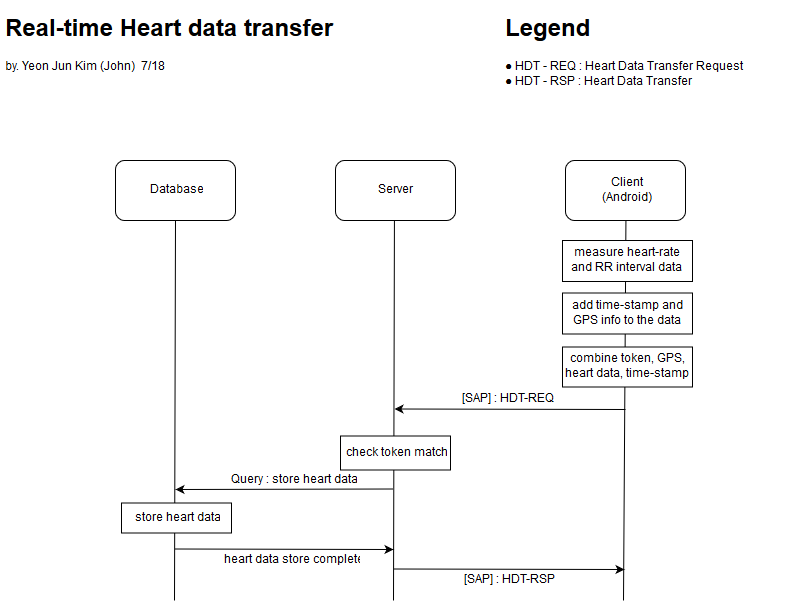


* + Server

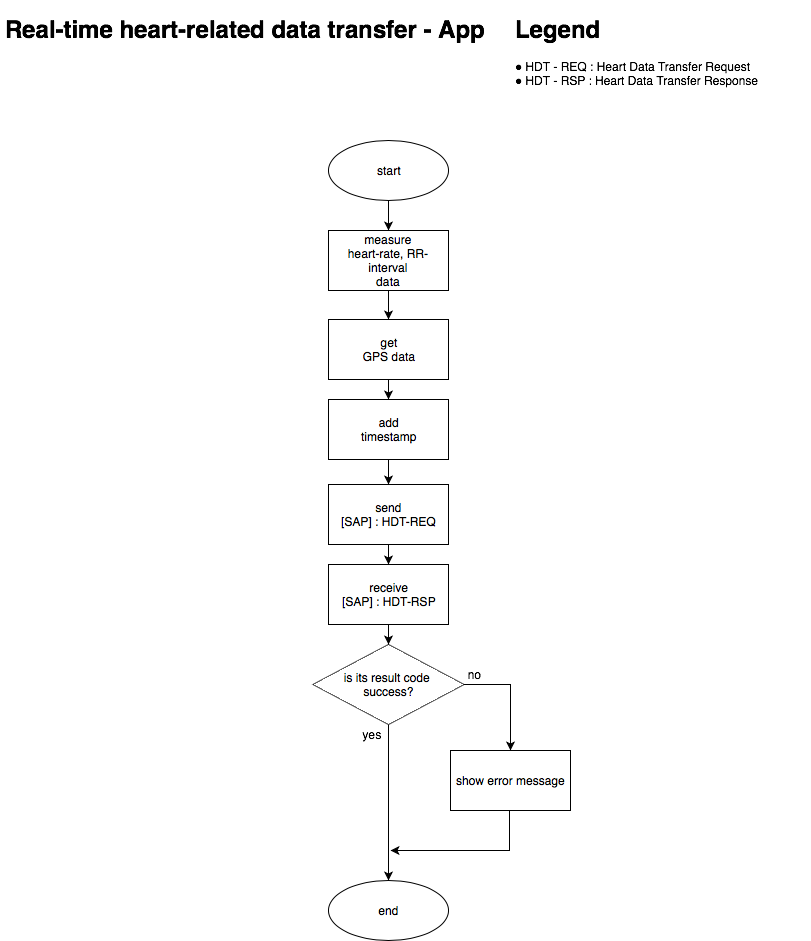


### Real-time heart-related data transfer

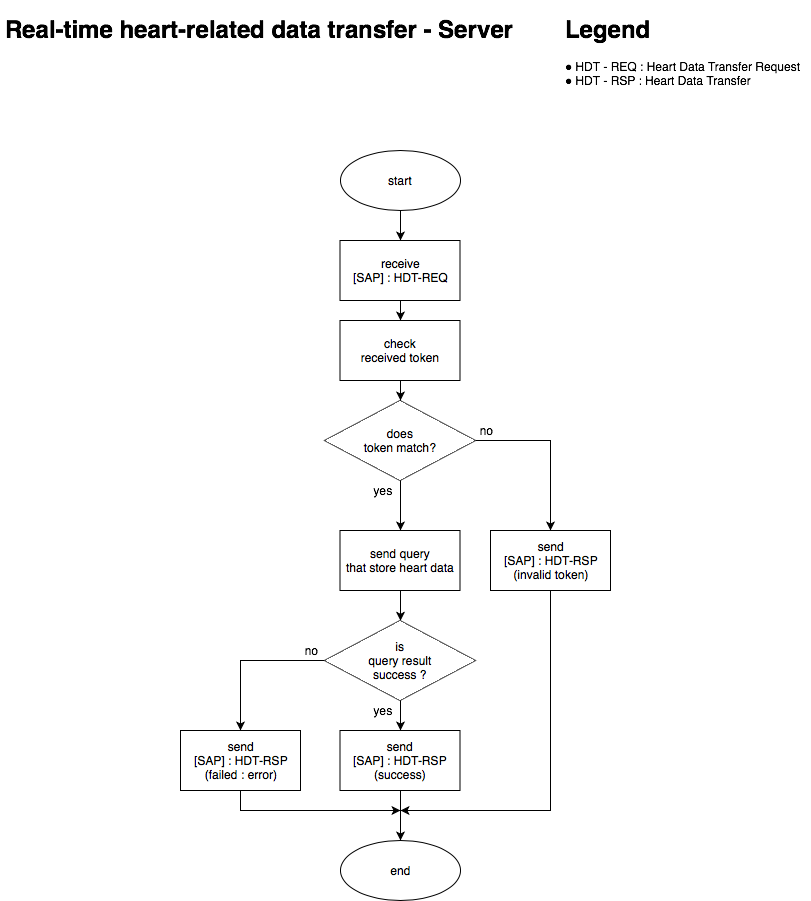
* Sequence Diagram



* Flowchart
  + App



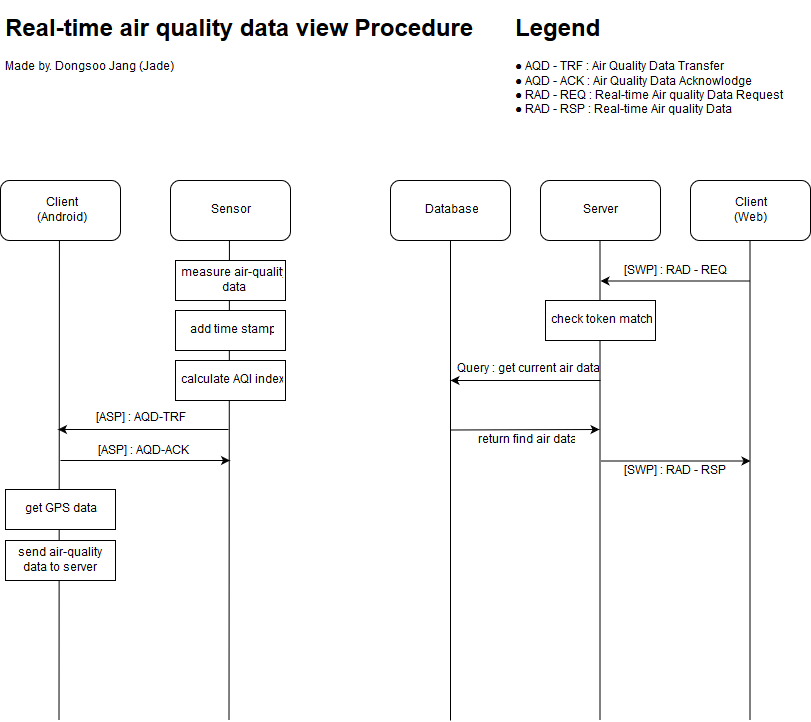
* + Server



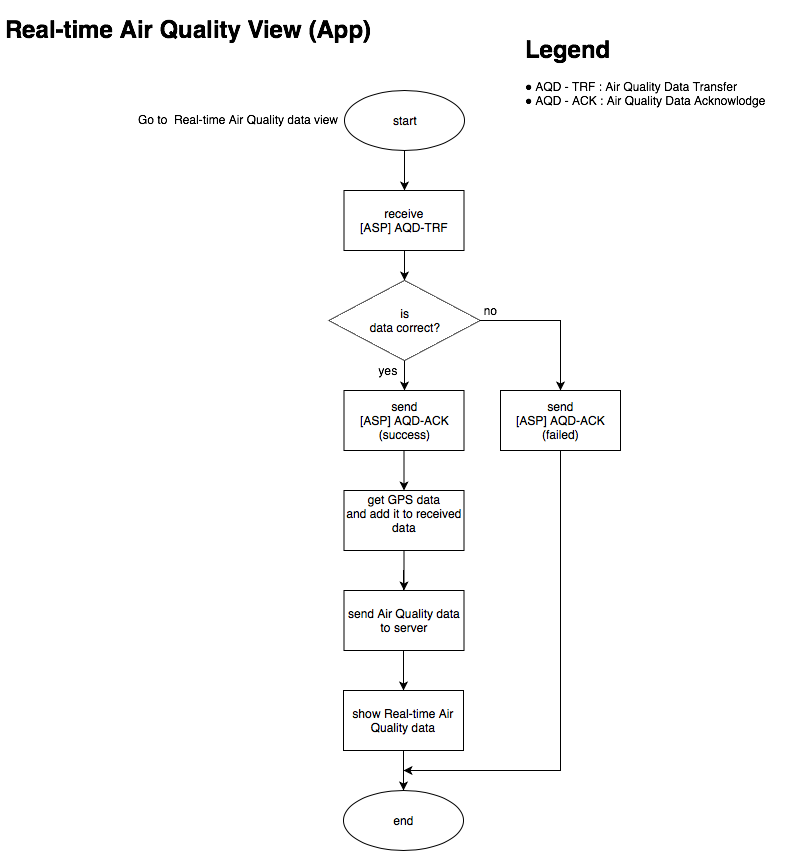
## Data Monitoring Procedure

### Real-time air quality data view

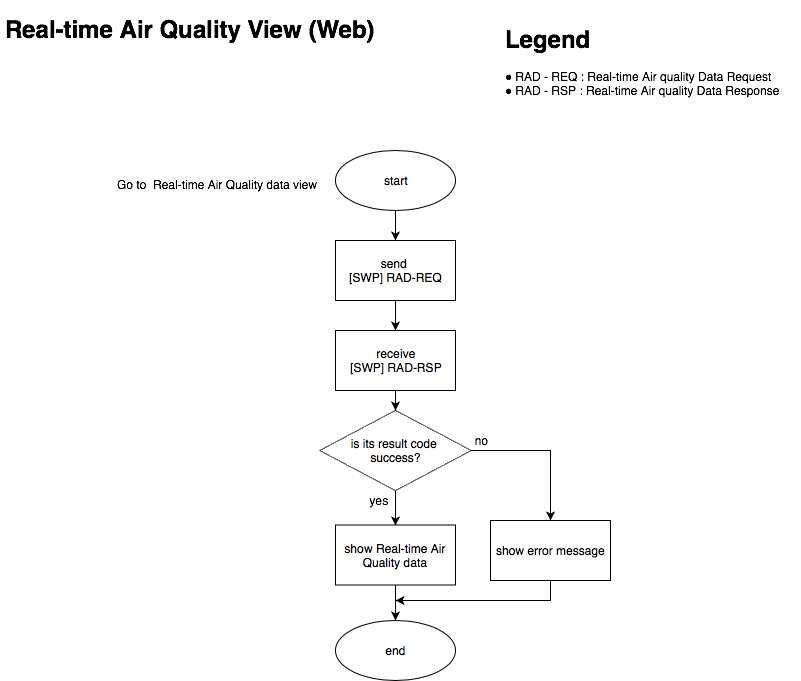
* Sequence Diagram



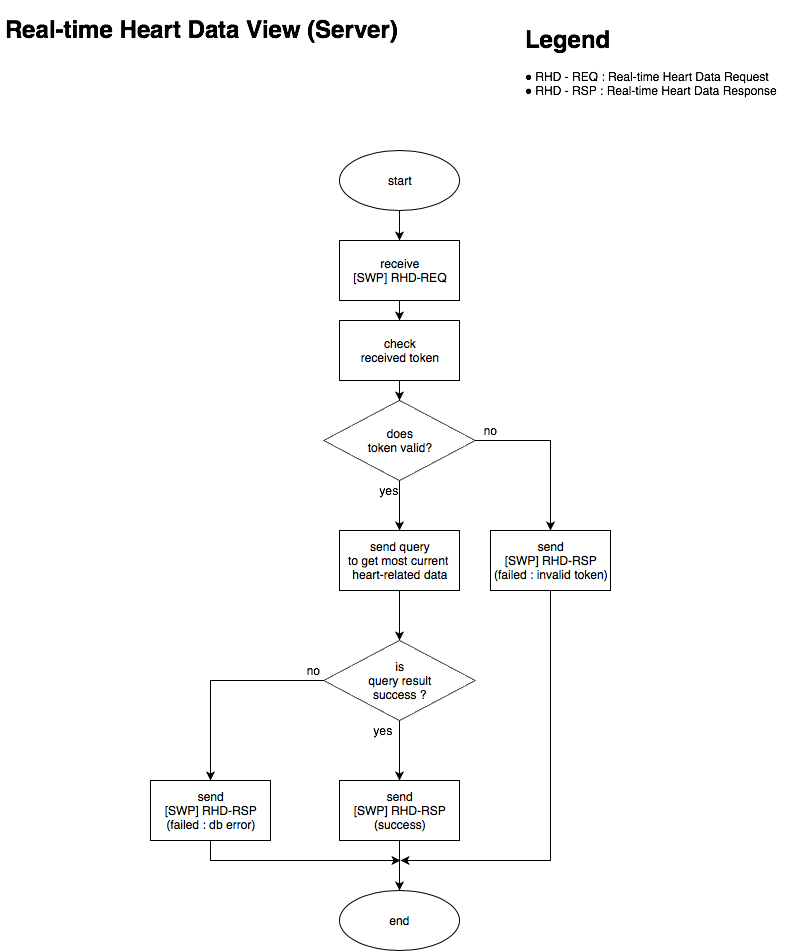
* Flowchart
  + App



* + Web

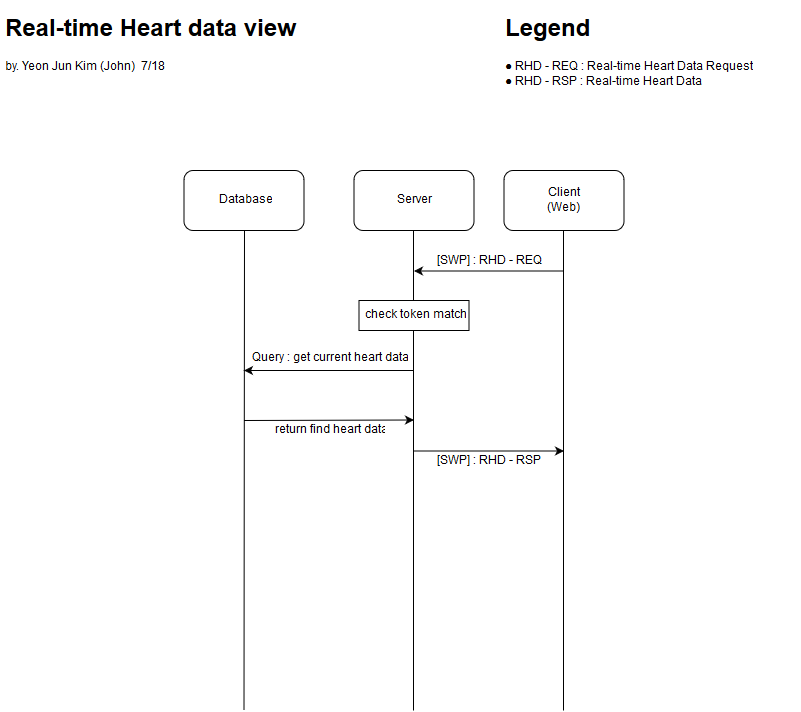


* + Server

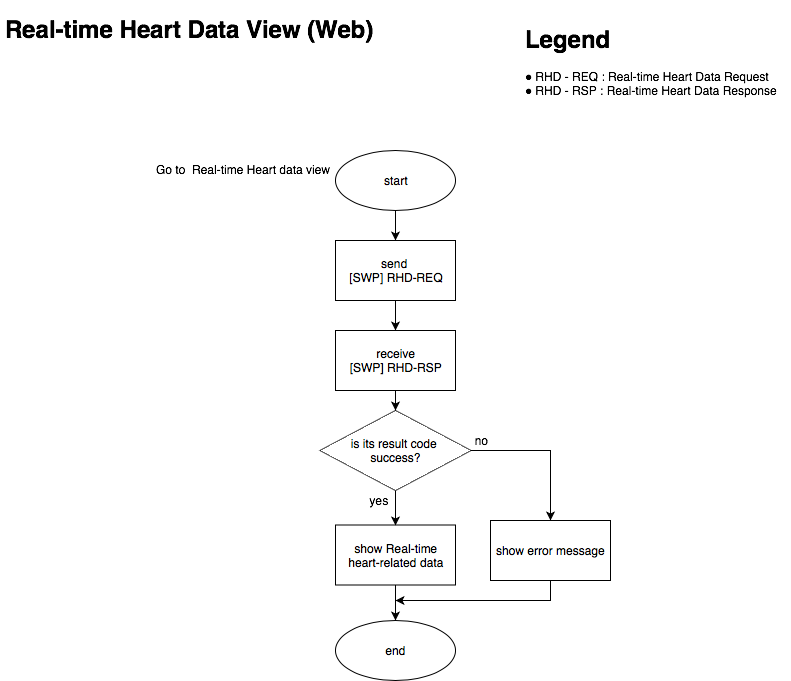


### Real-time heart-related data view

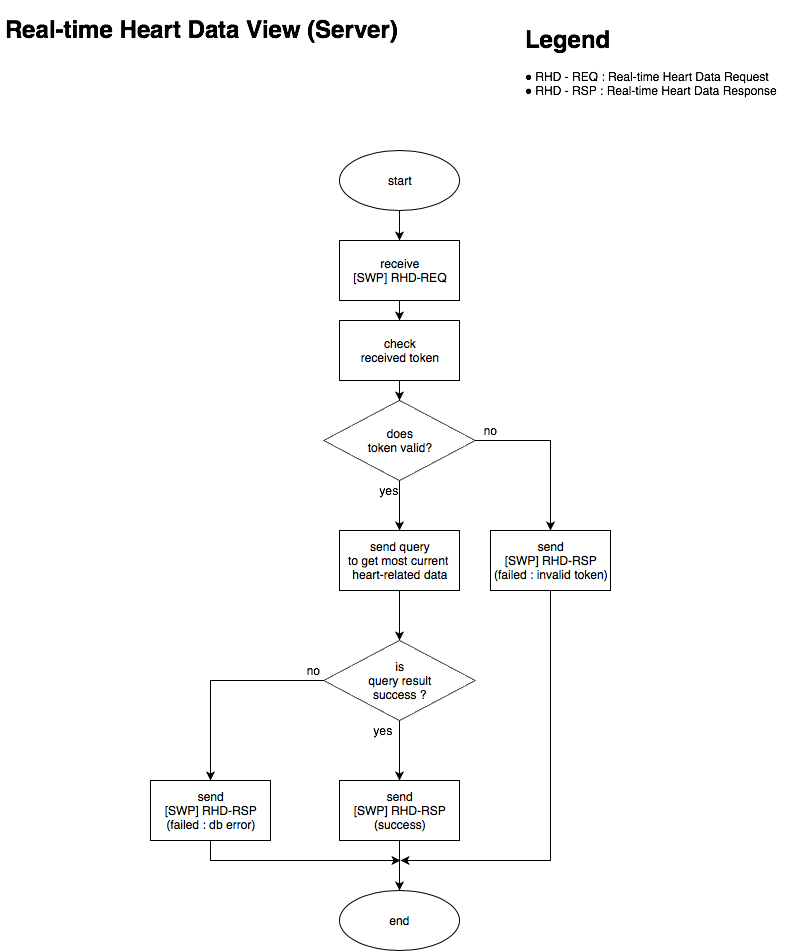
* Sequence Diagram



* Flowchart
  + Web

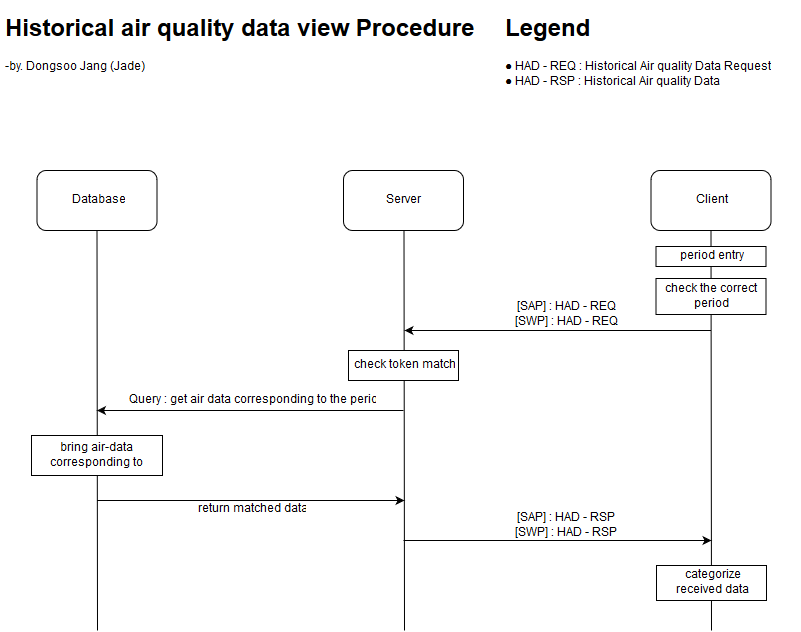


* + Server

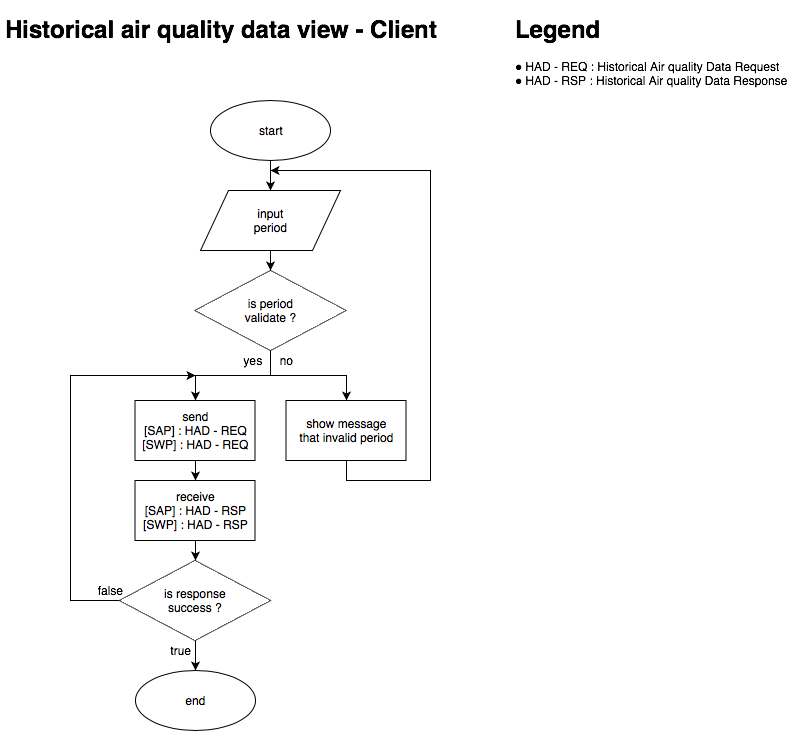


### Historical air quality data view

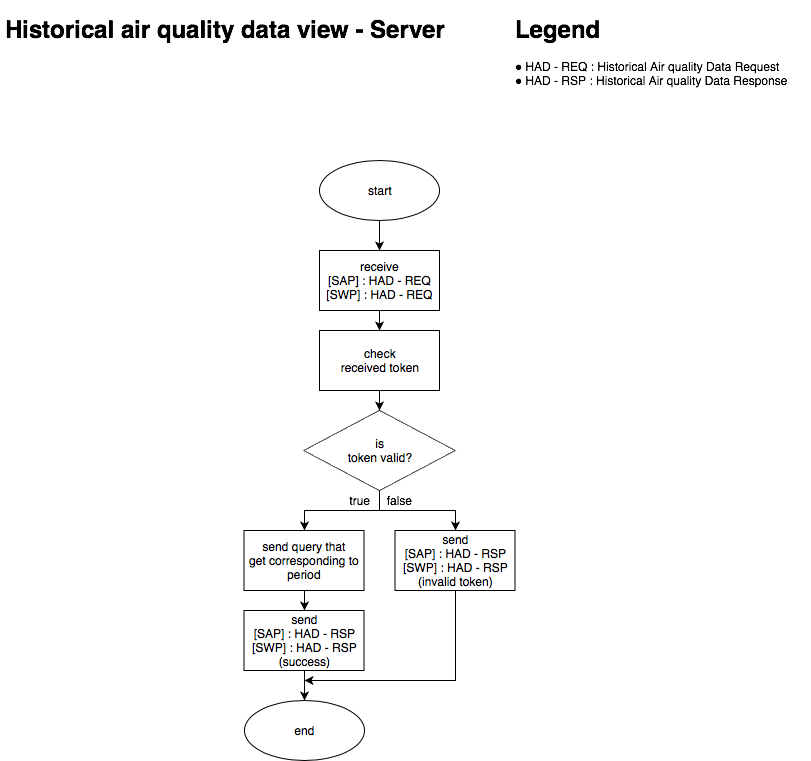
* Sequence Diagram



* Flowchart
  + Client

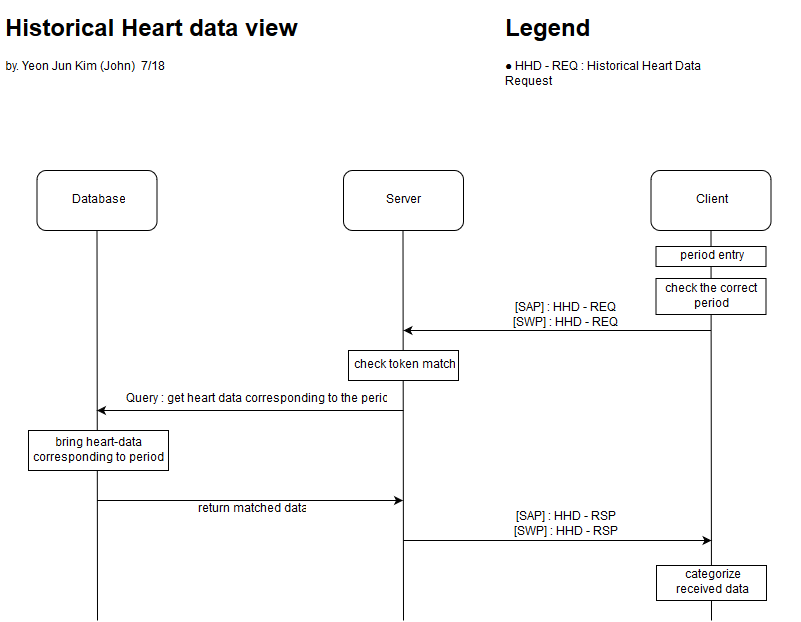


* + Server

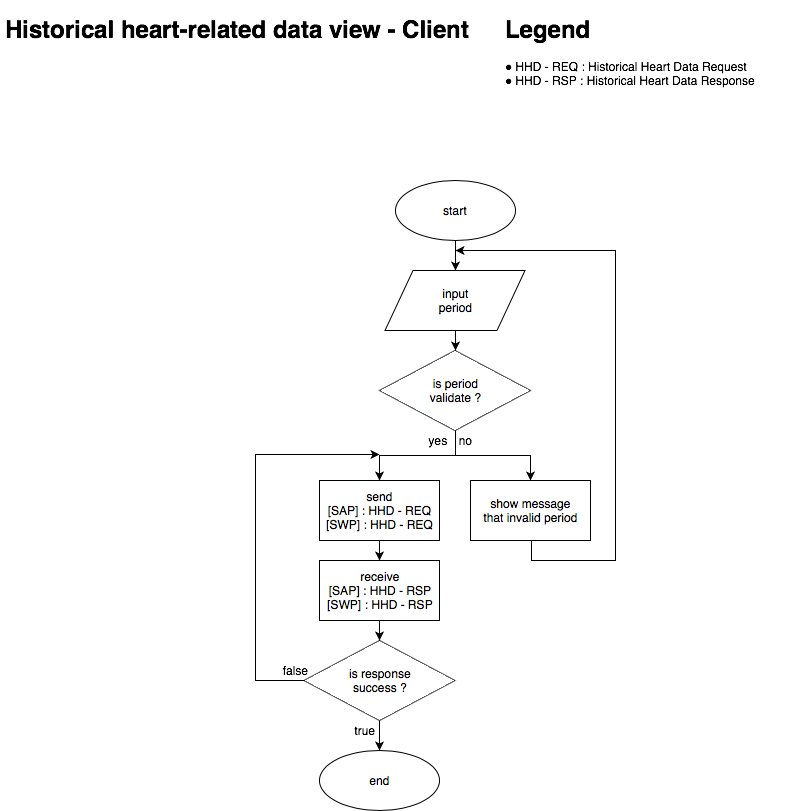


### Historical heart-related data view

* Sequence Diagram



* Flowchart
  + Client



* + Server

