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# I. Flowchart / Block Diagram

## 1. User Management

### 1.1 Doctor Sign-Up Procedure

#### a. Flow Chart

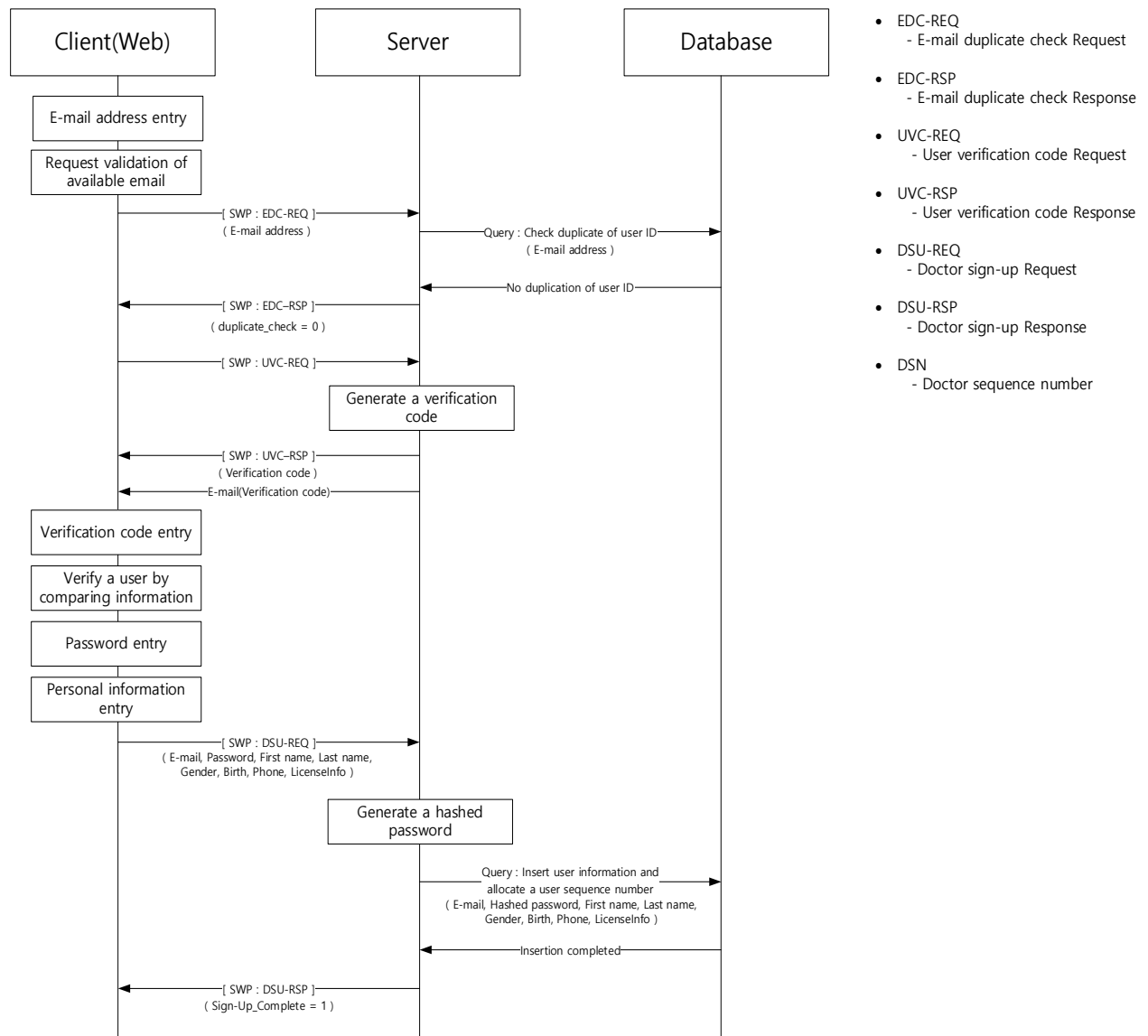


Figure 1. Doctor Sign-up procedure

## b. Block Diagram

### - Web Client

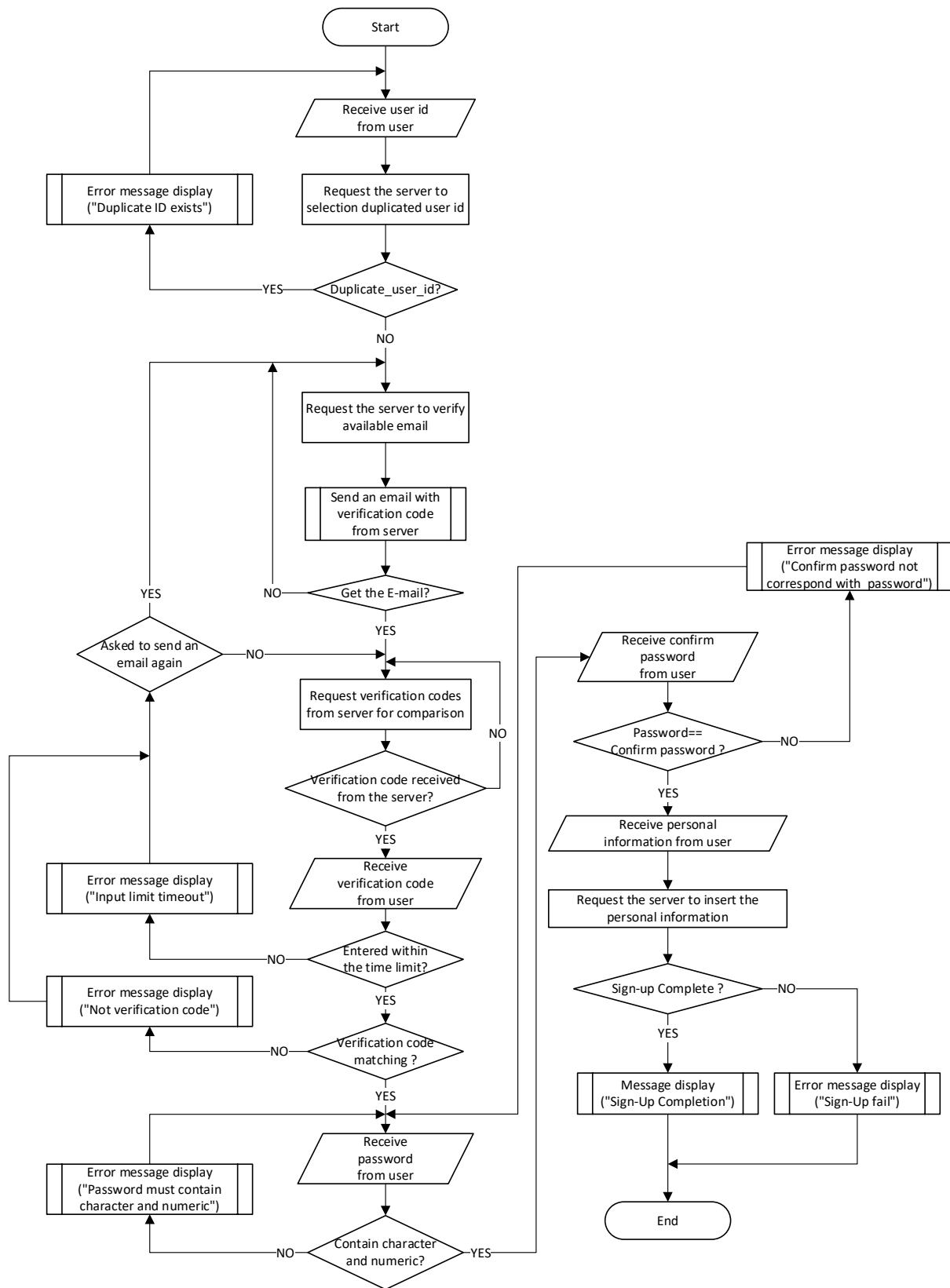


Figure 2. Doctor Sign-Up Procedure for Web Client

- Server

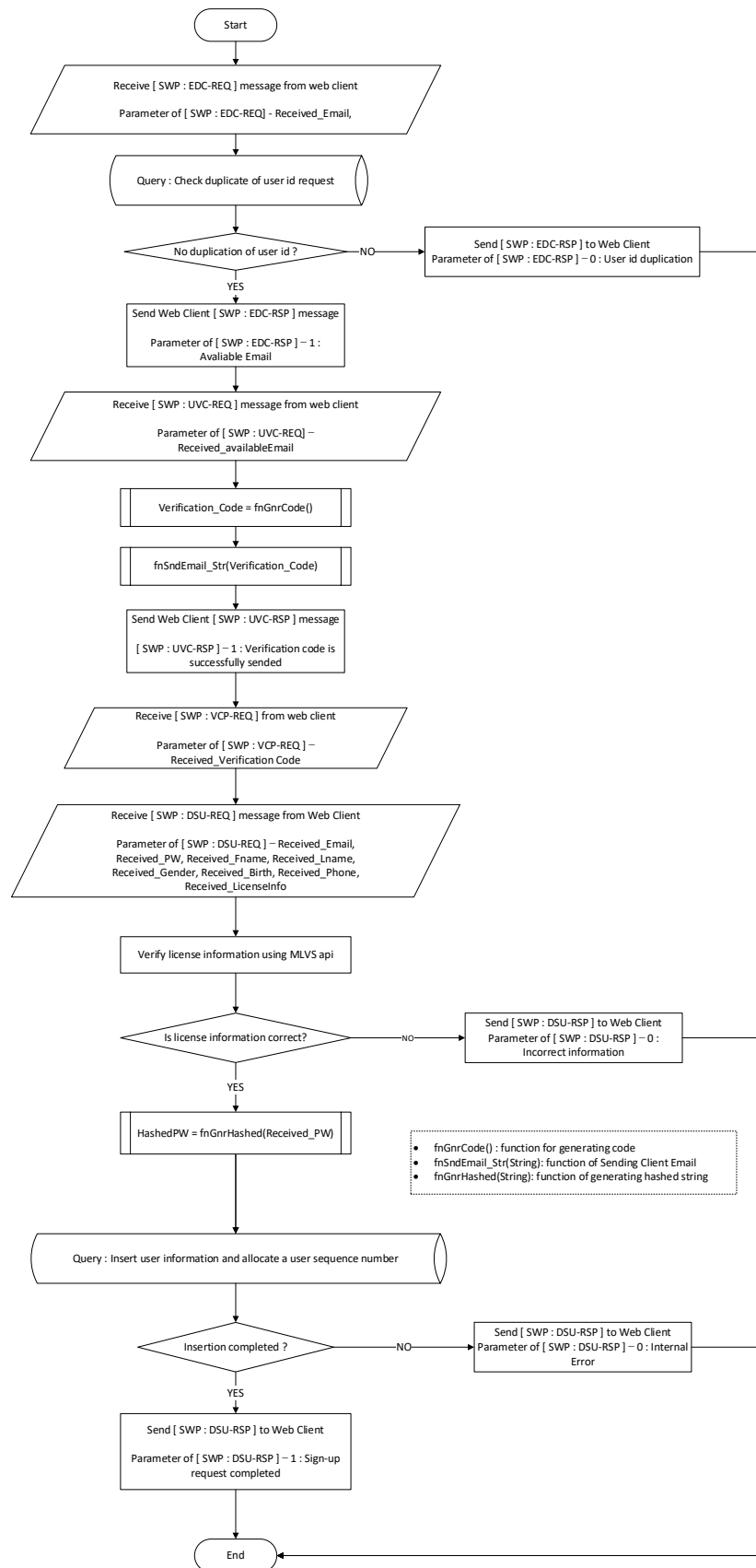


Figure 3. Doctor Sign-up Procedure for Server

# 1.2 User Sign-Up Procedure

## a. Flow Chart

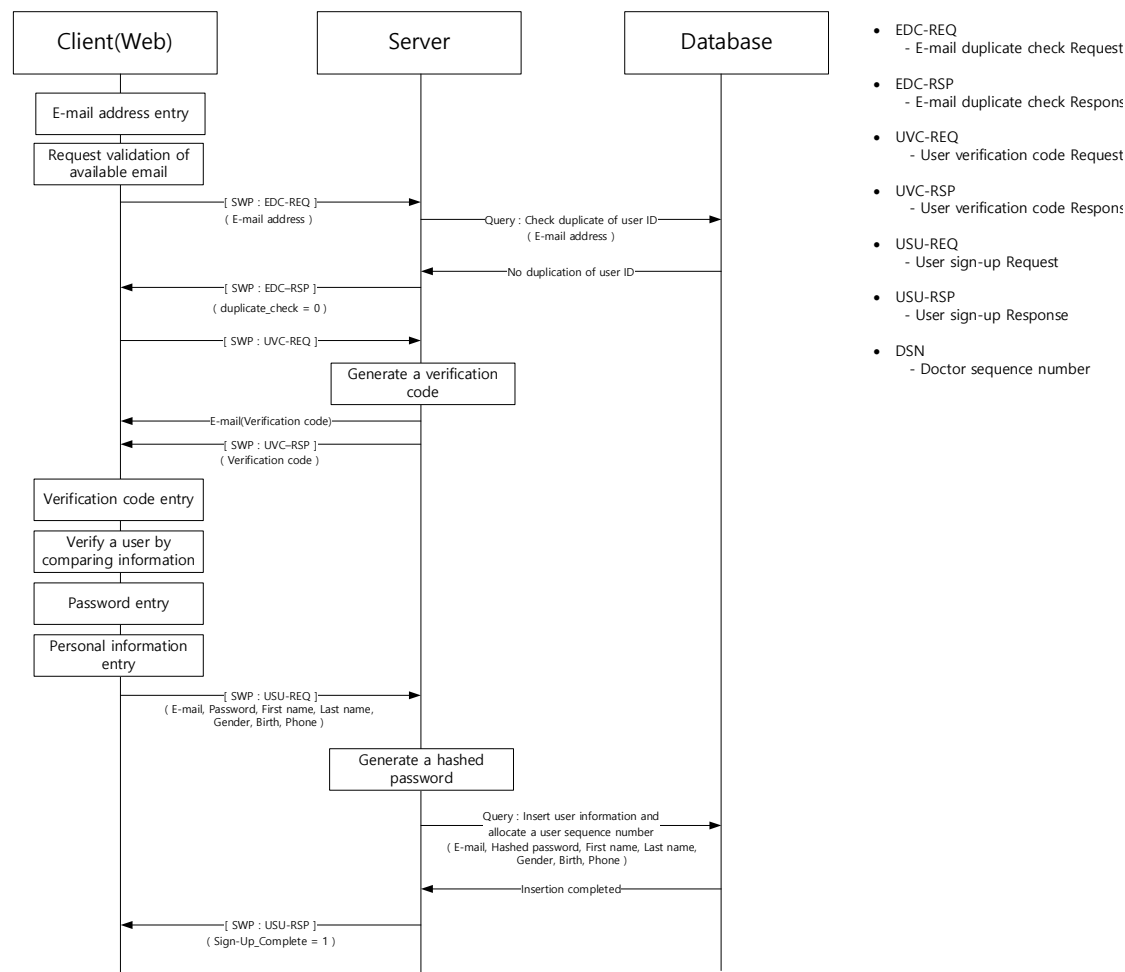


Figure 4. User Sign-Up Procedure

## b. Block Diagram

### - App Client

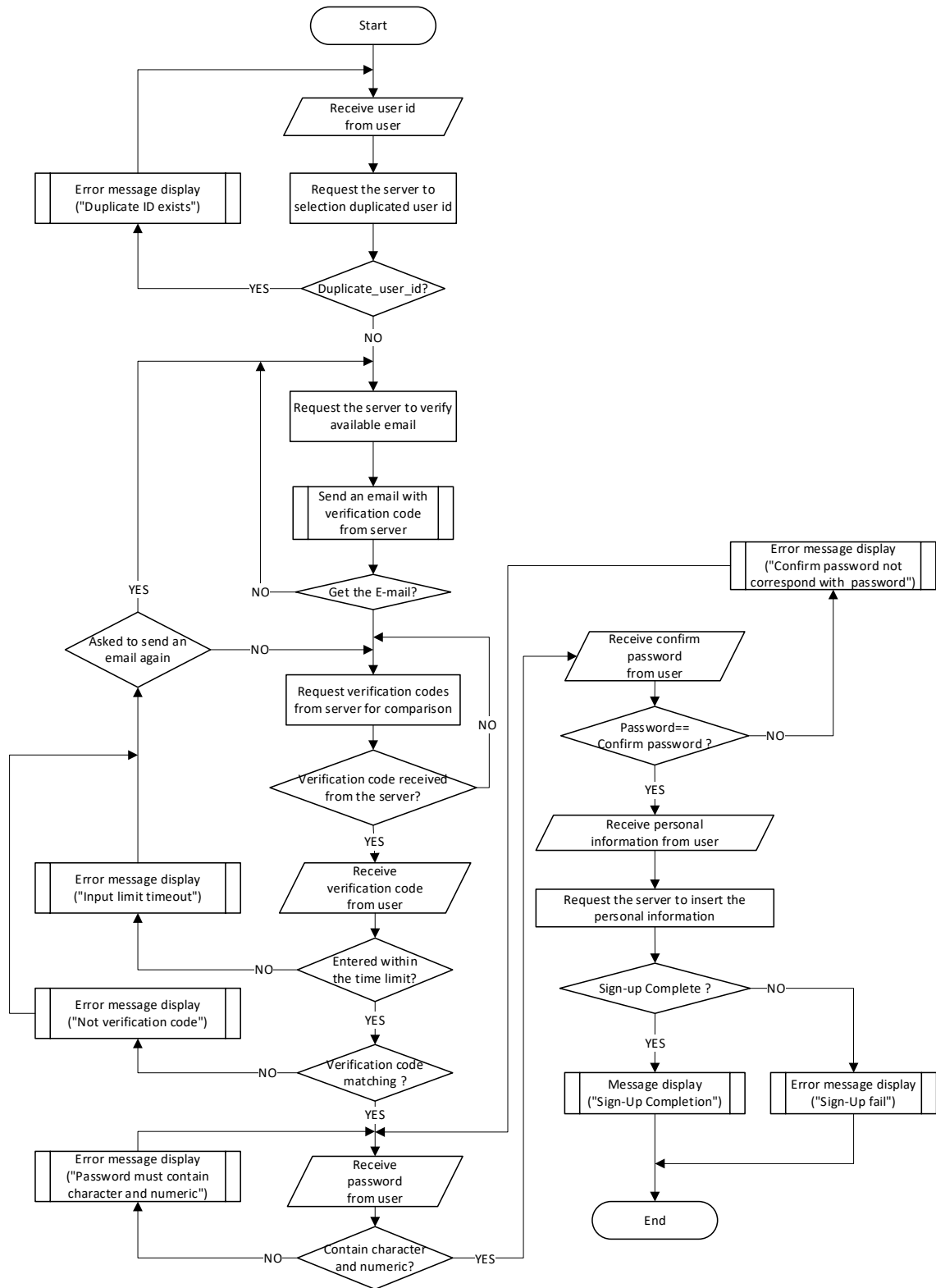
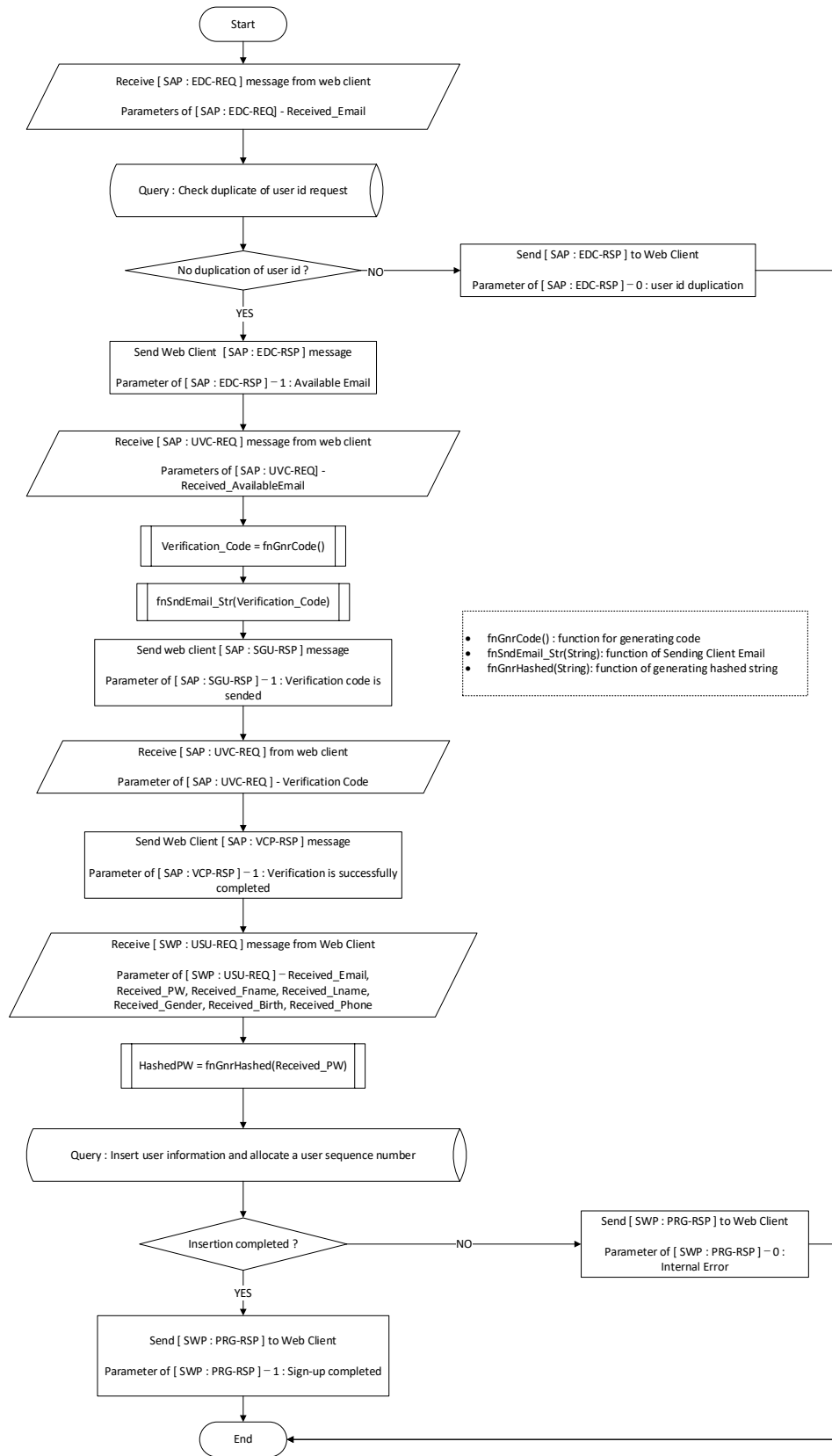


Figure 5. User Sign-Up Procedure for App Client

## - Server



**Figure 6. User Sign-up procedure for Server**

### 1.3 Sign-In Procedure

a. Flow Chart

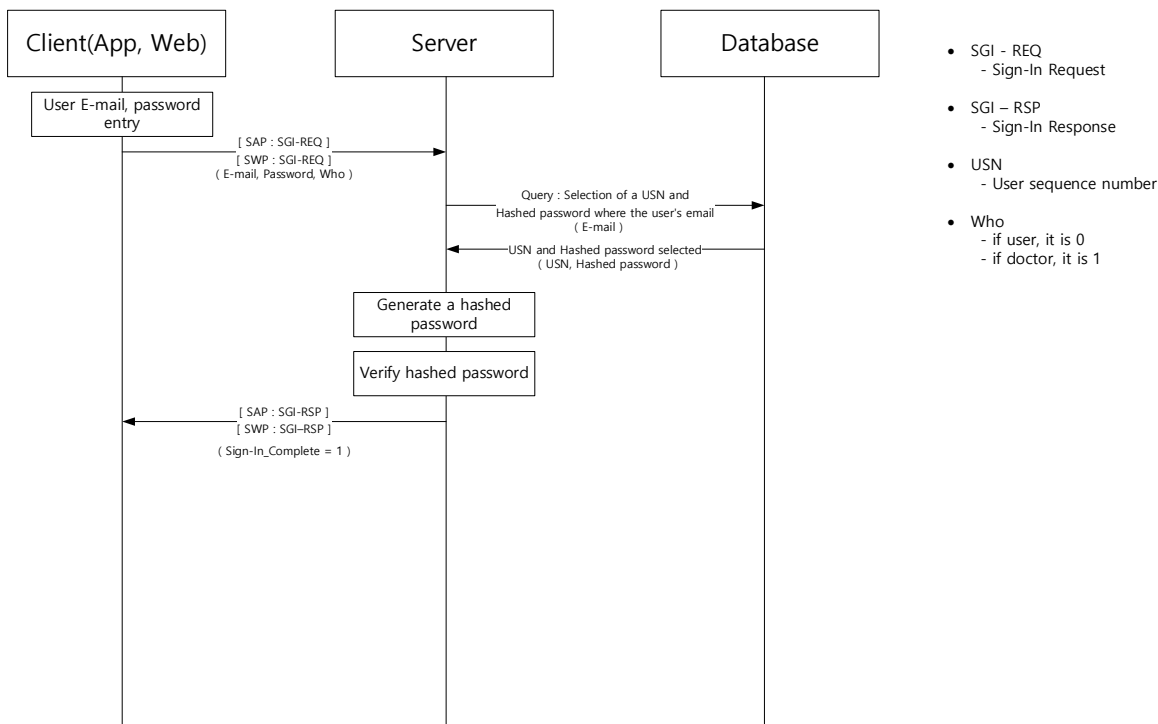


Figure 7. Sign-In Procedure

b. Block Diagram

- App Client

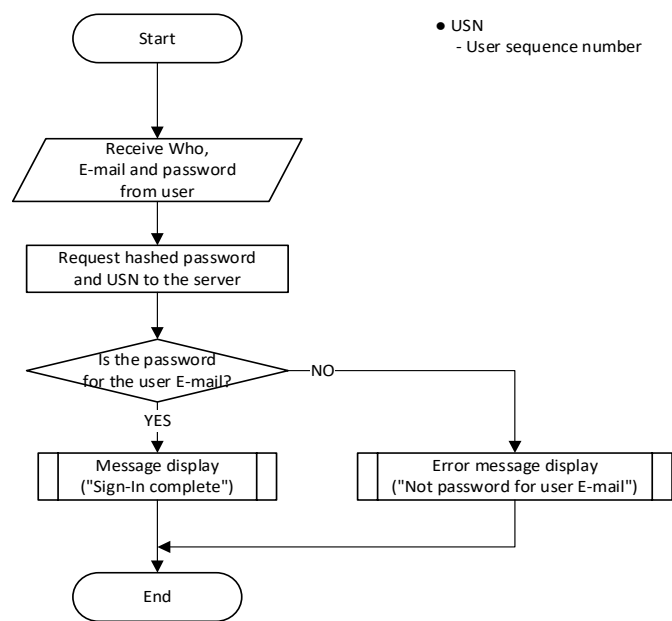


Figure 8. Sign-In Procedure for App Client



- Web Client

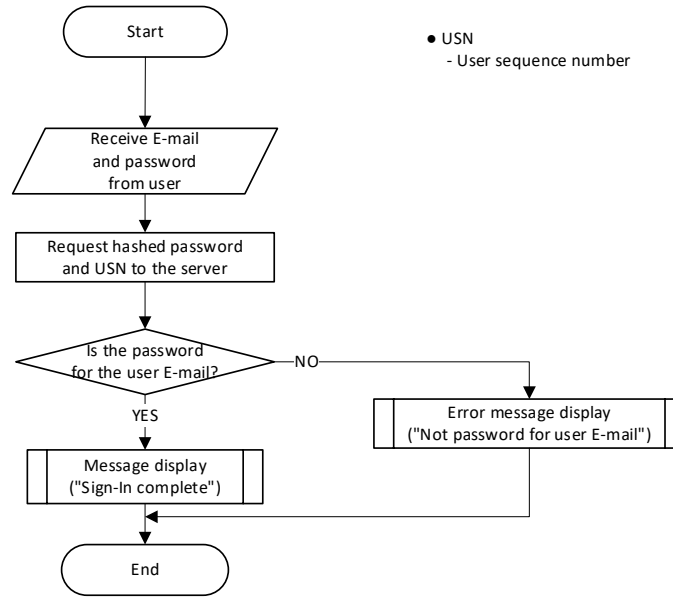


Figure 9. Sign-In Procedure for Web Client

- Server with App

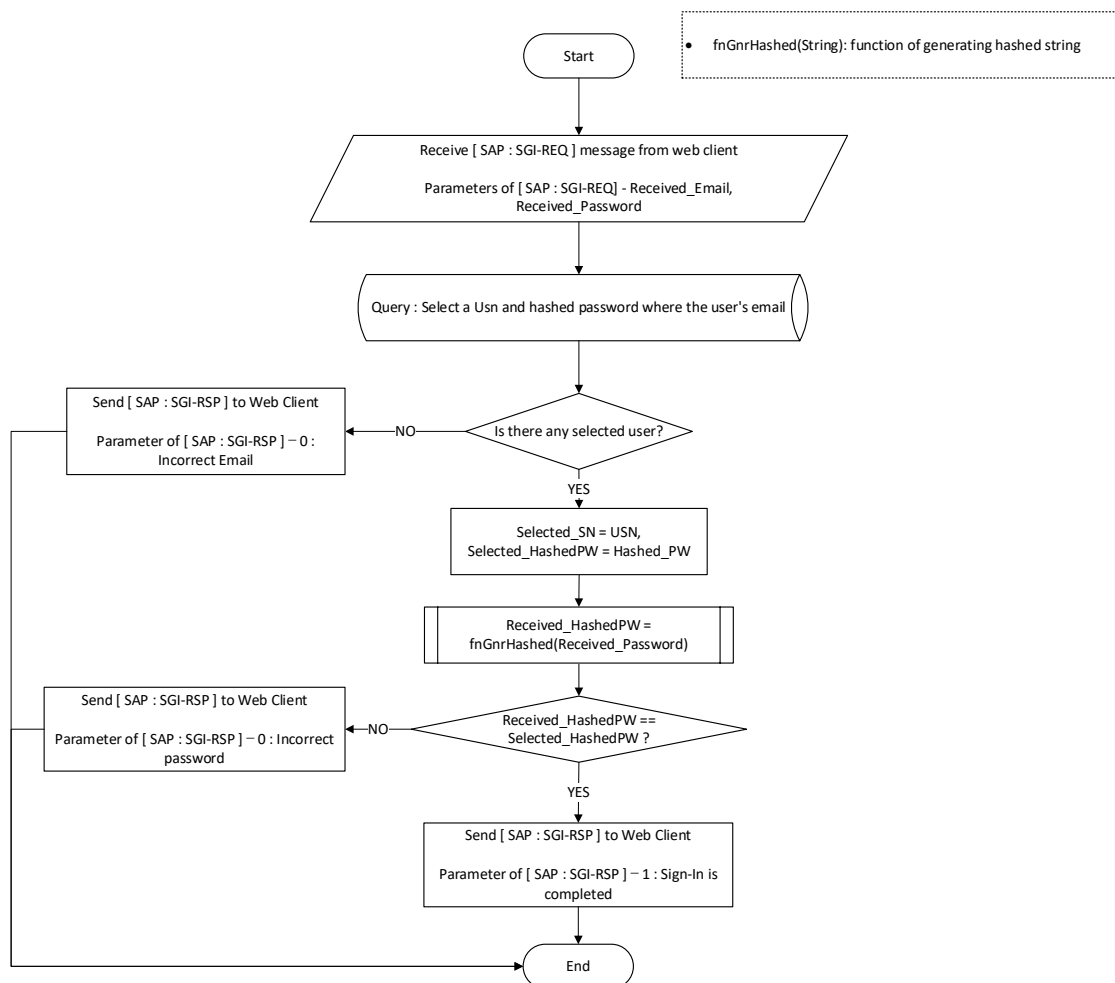


Figure 10. Sign-In Procedure for Server with App

- Server with Web

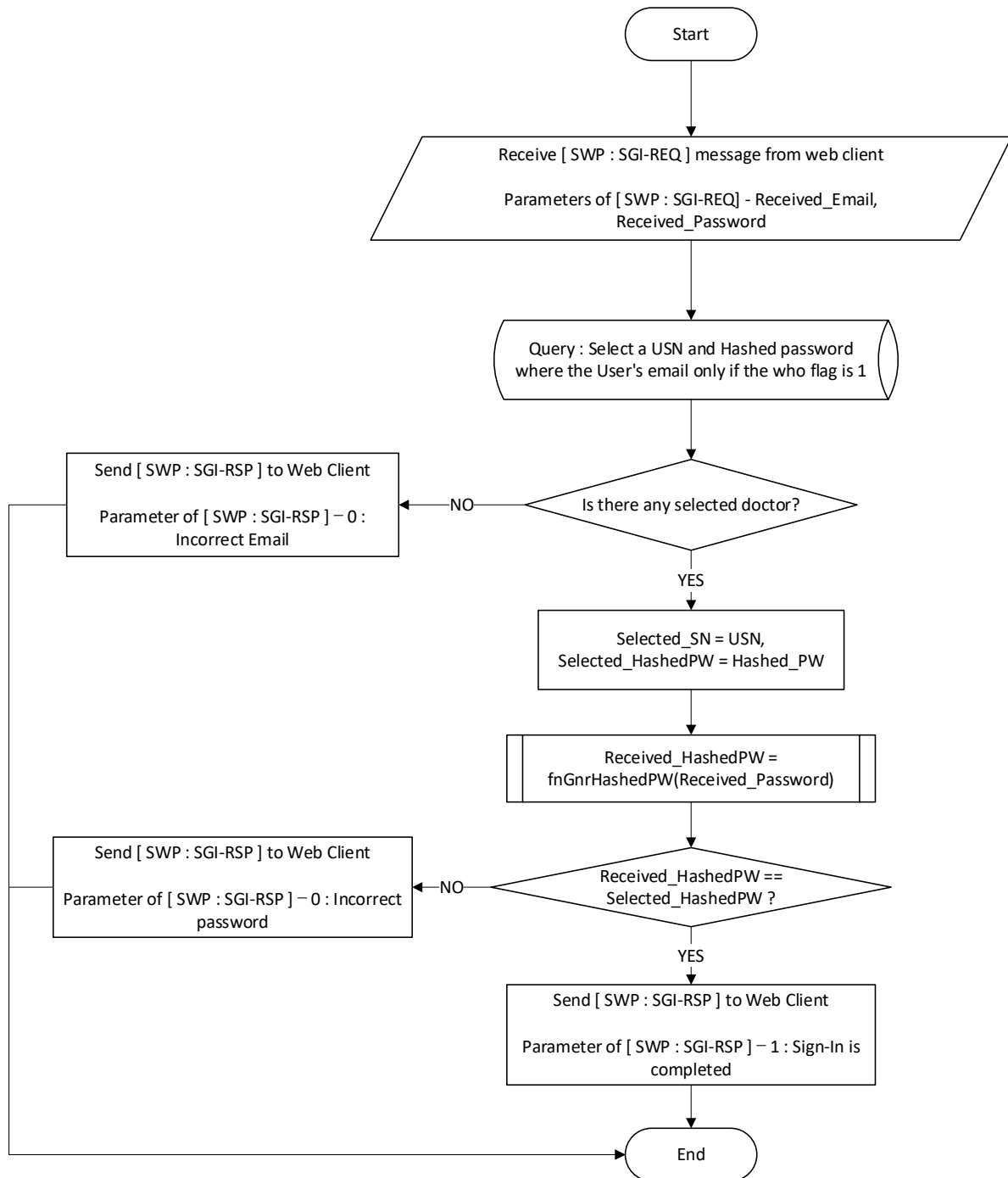


Figure 11 Sign-In Procedure for Server with Web

1.4 Sign-Out Procedure

a. Flow Chart

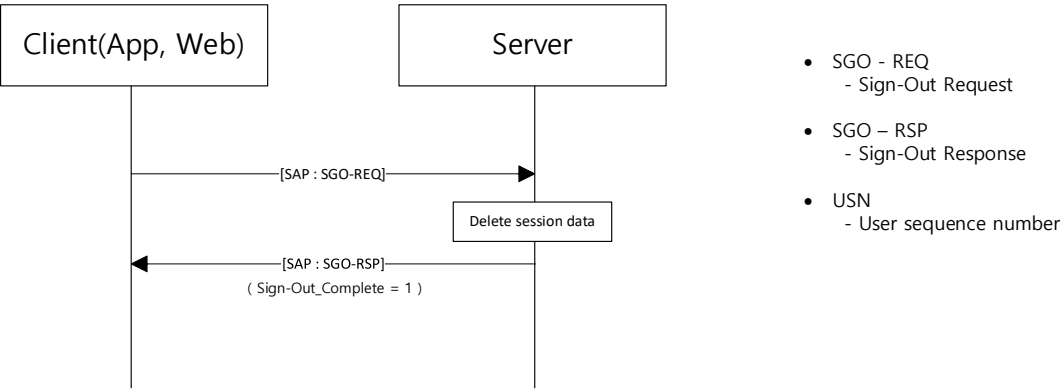


Figure 12 Sign-Out Procedure

b. Block Diagram

- Client

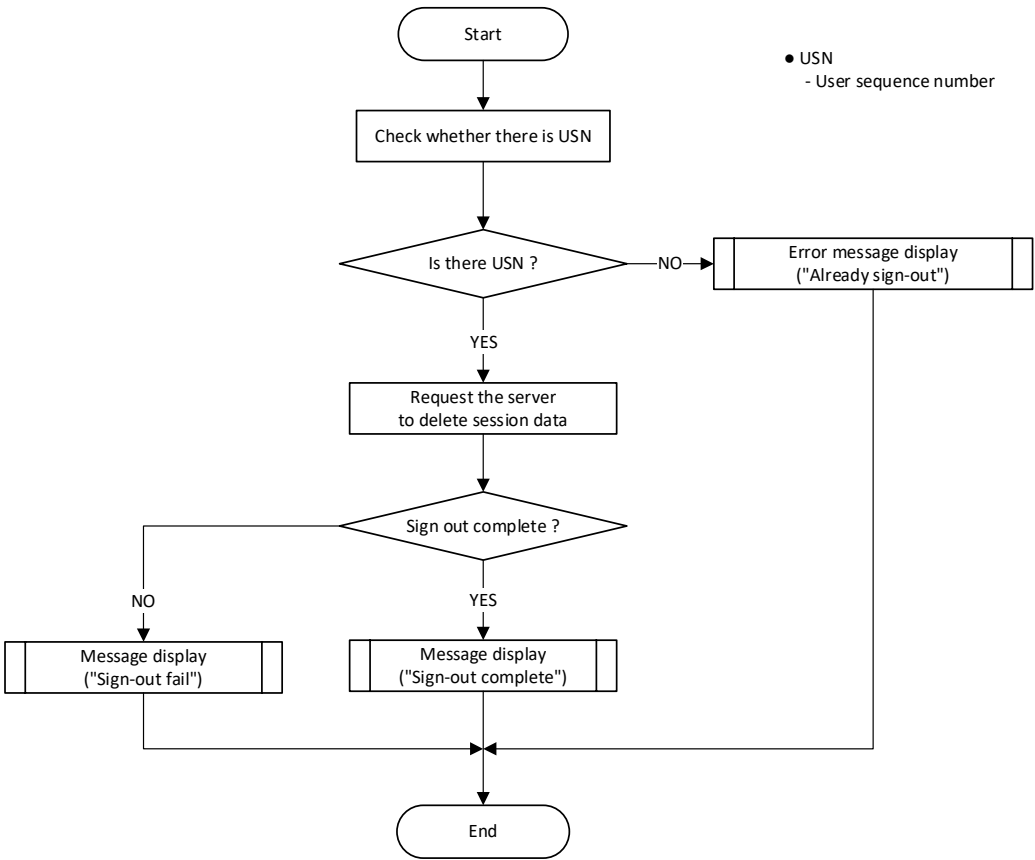


Figure 13 Sign-Out Procedure for App and Web Client

- Server

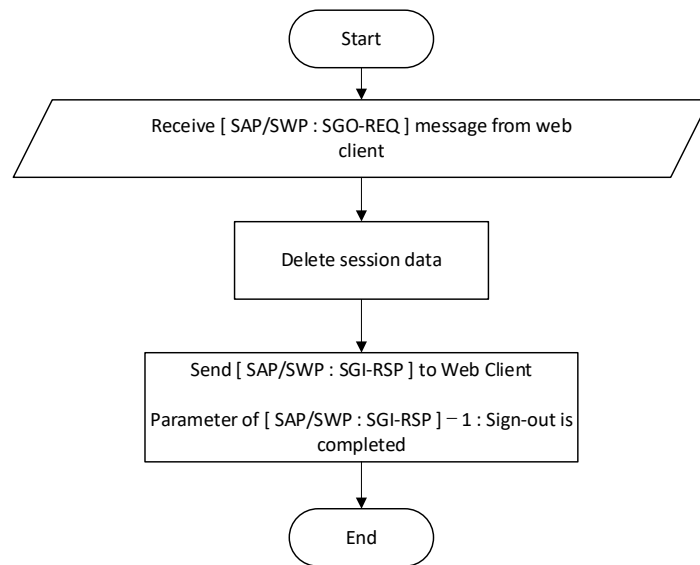


Figure 14. Sign-out Procedure for Server

## 1.5 Password Change Procedure

### a. Flow Chart

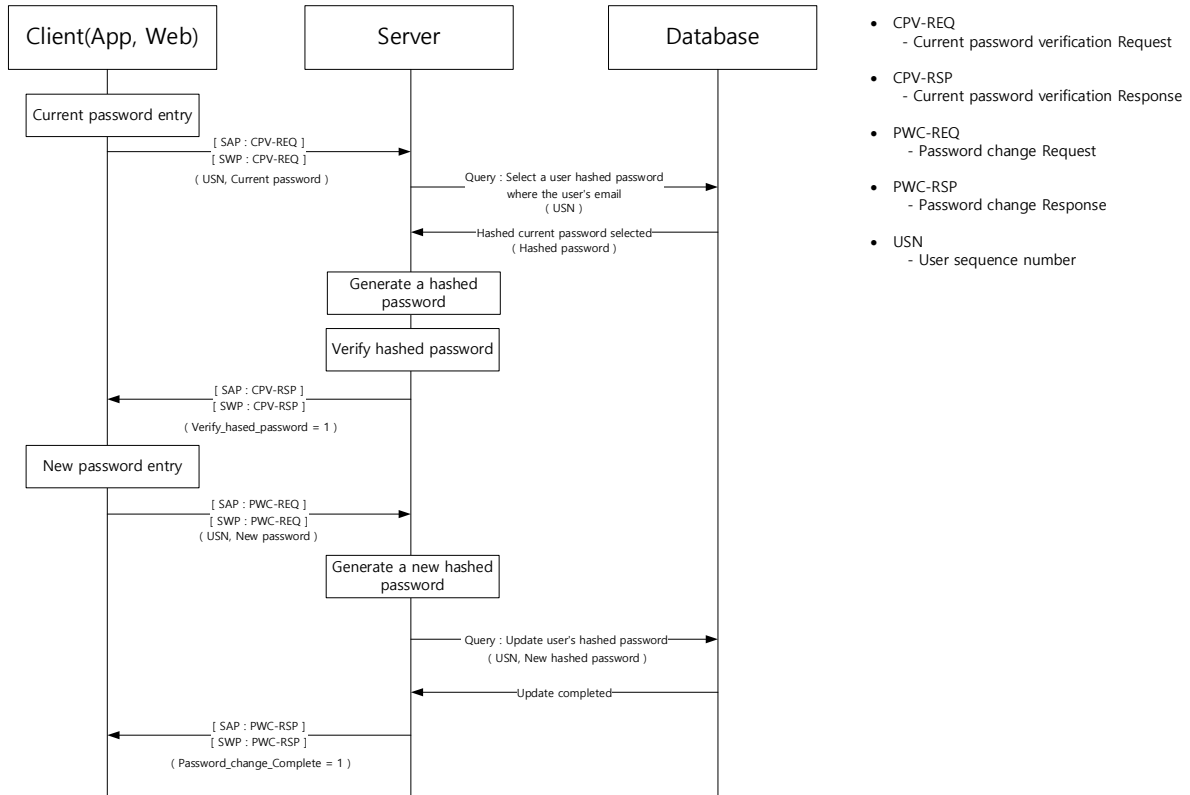


Figure 15. Password Change Procedure

## b. Block Diagram

### - Client

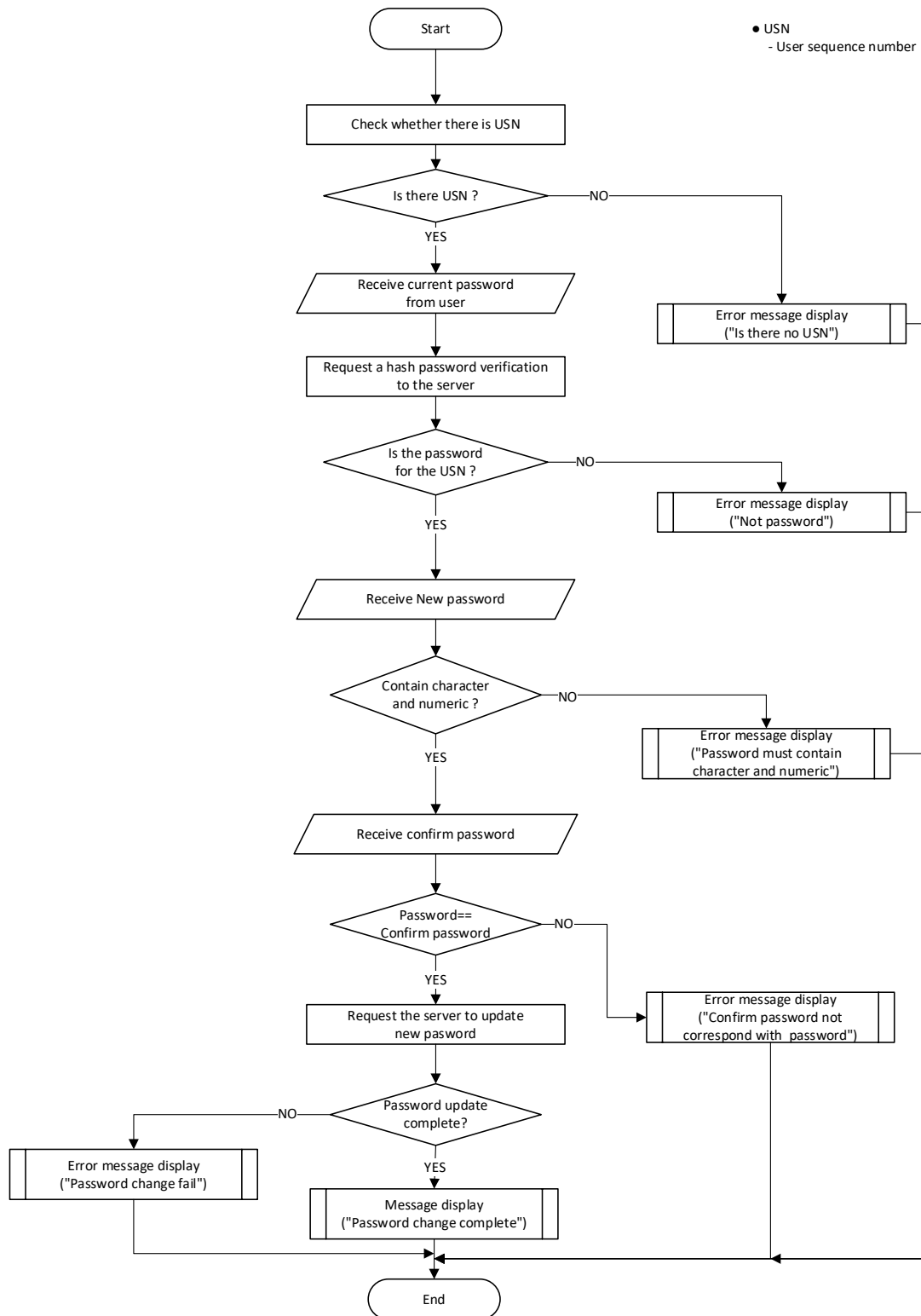


Figure 16. Password Change Procedure for App and Web Client

- Server

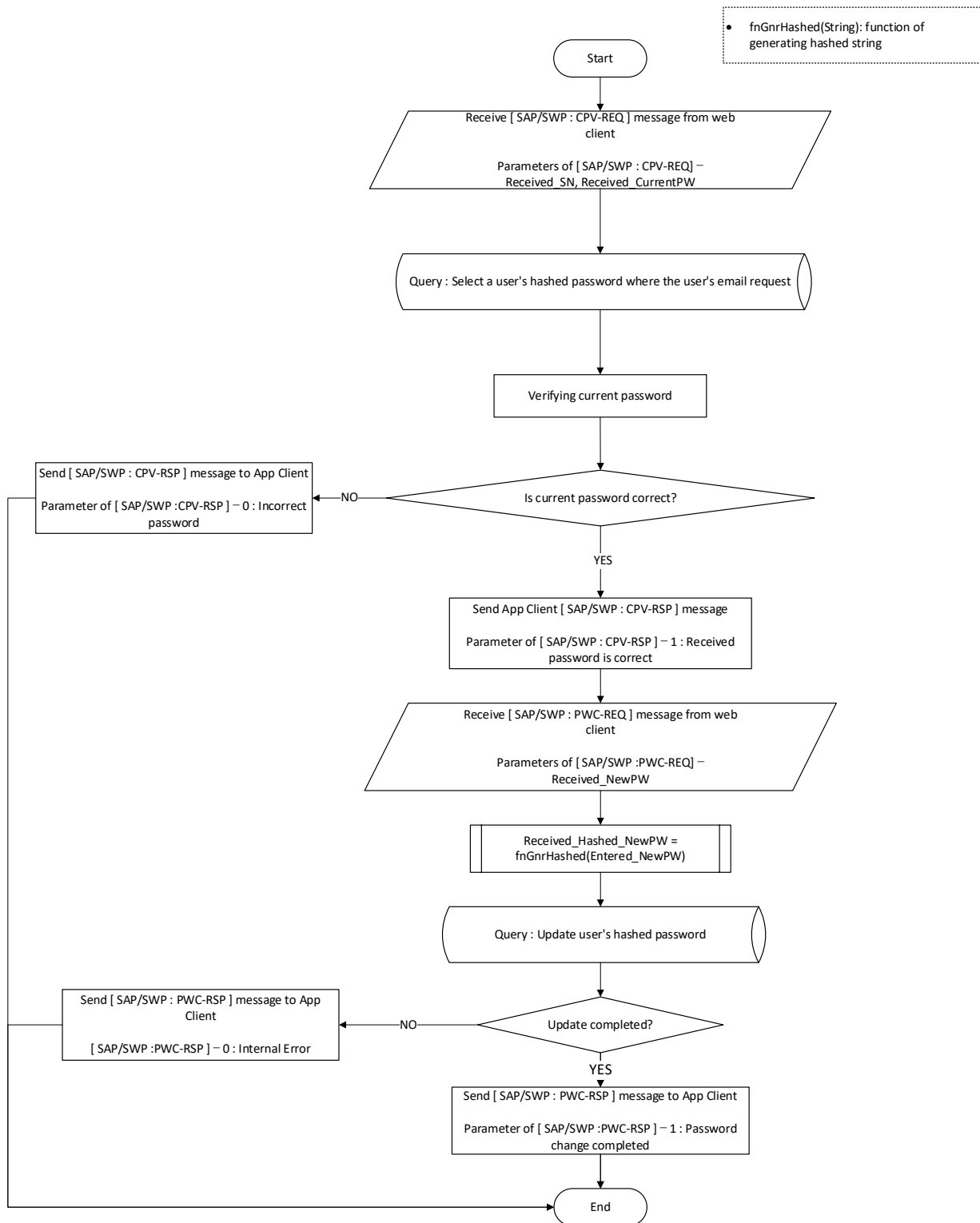


Figure 17. Password Change Procedure for Server

# 1.6 Forgotten Password Update Procedure

## a. Flow Chart

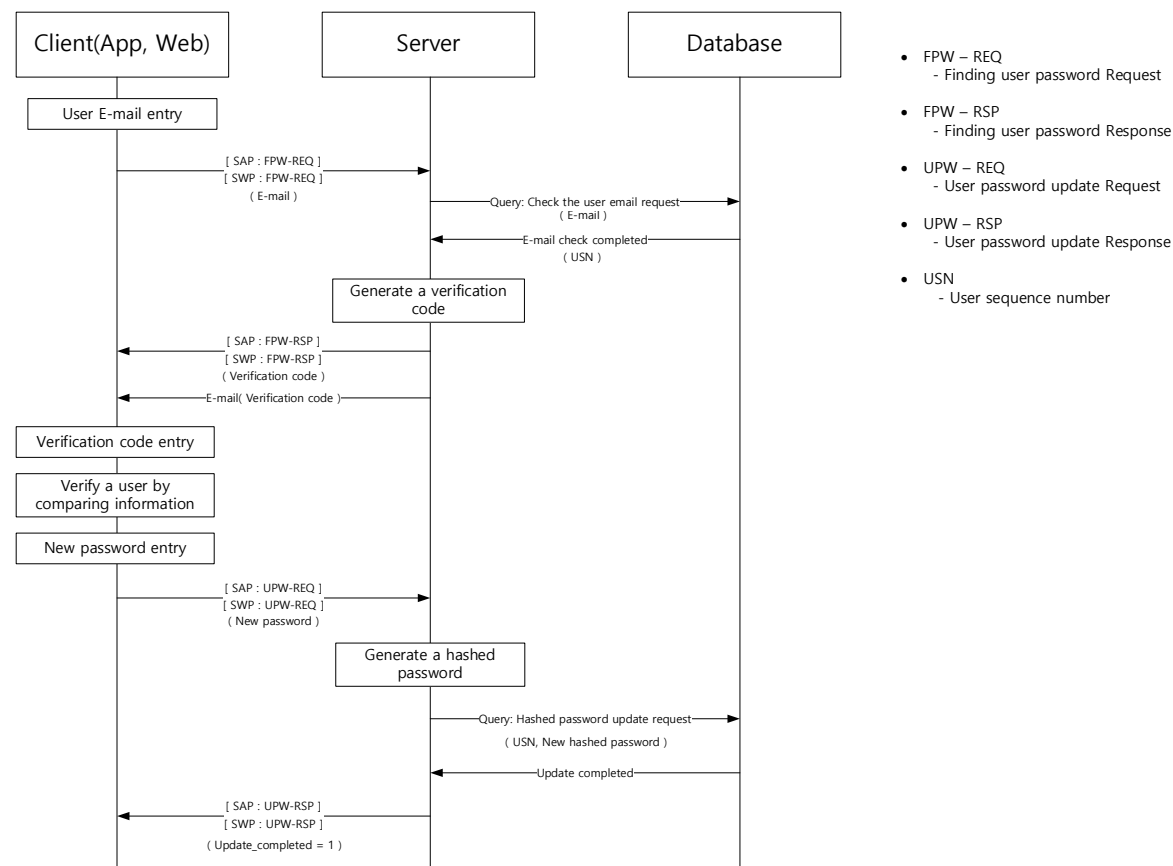


Figure 18. Forgotten Password Update Procedure

b. Block diagram

- Client

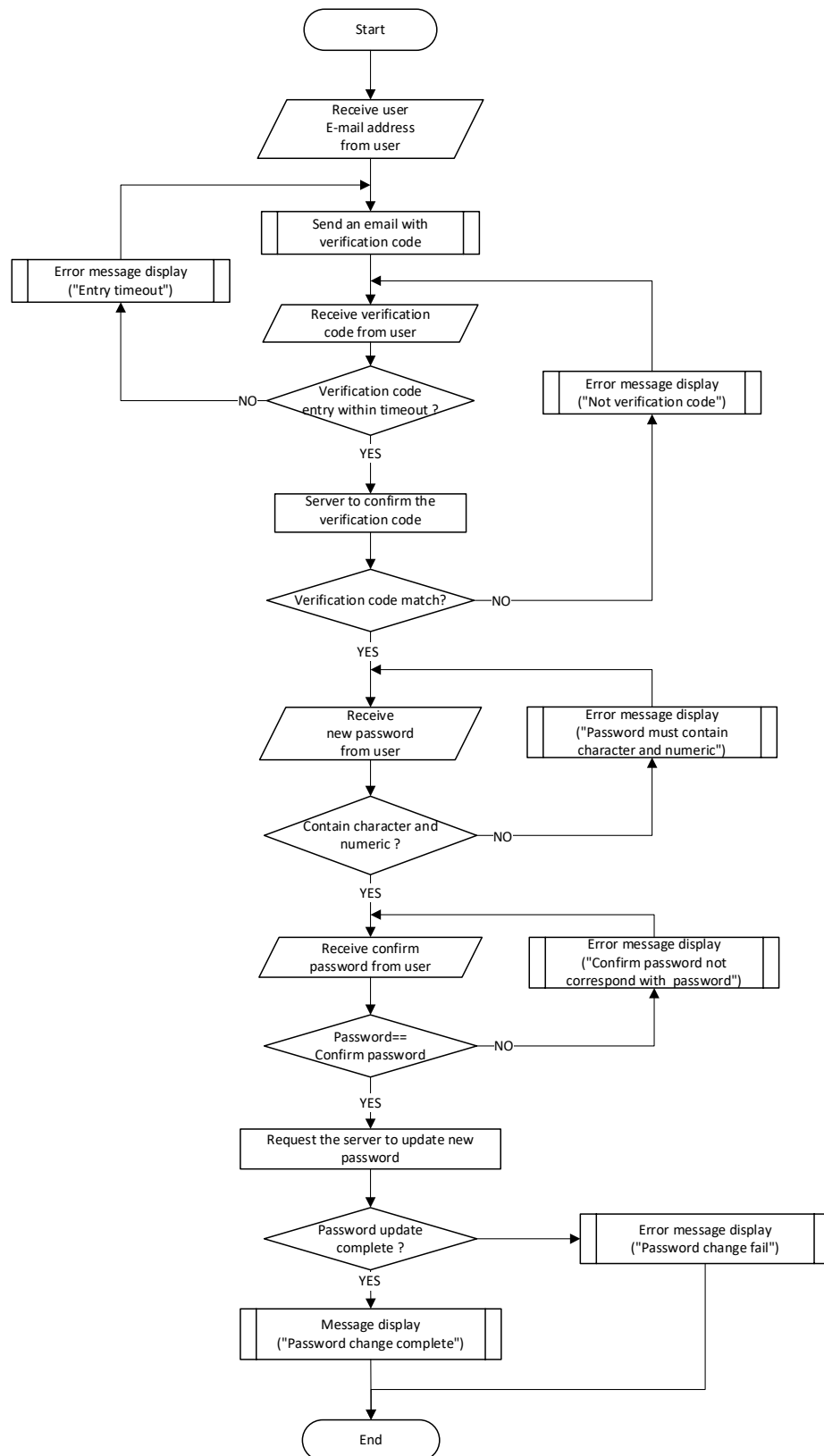


Figure 19. Forgotten Password Update Procedure for App and Web Client



- Server

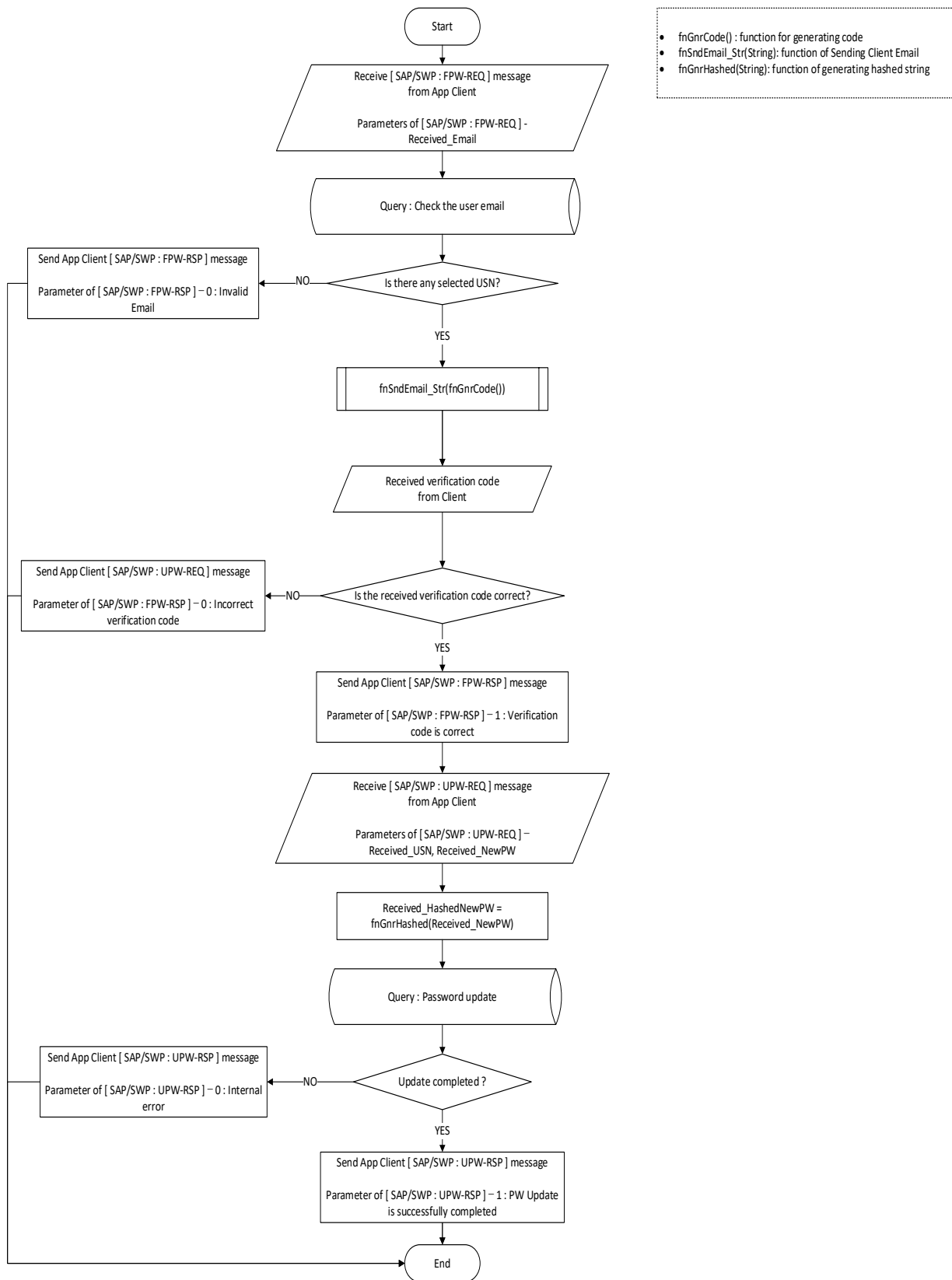


Figure 20. Forgotten password update procedure for Server

# 1.7 ID Cancellation Procedure

## a. Flow Chart

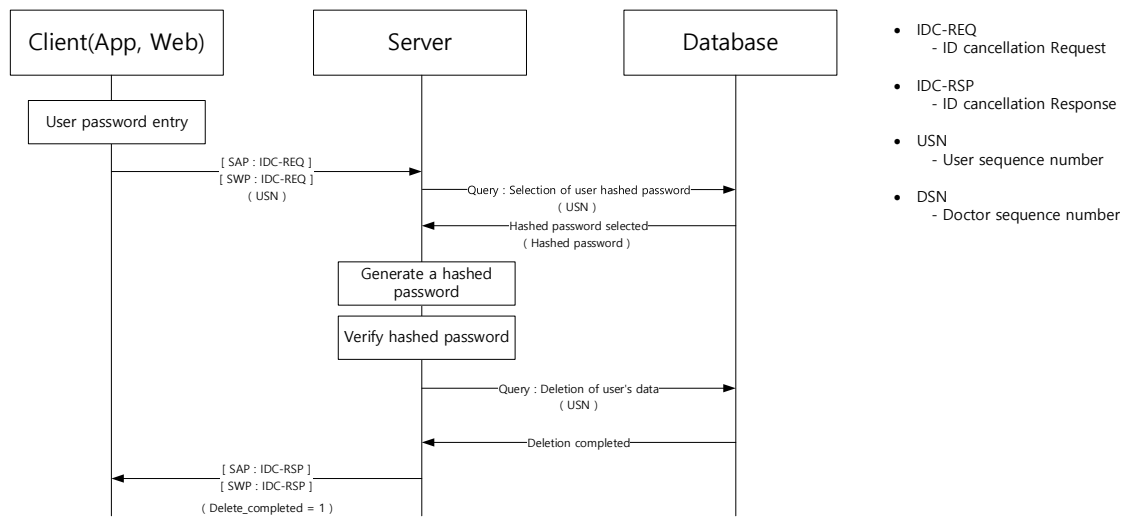


Figure 21. ID Cancellation Procedure

## b. Block Diagram

### - Client

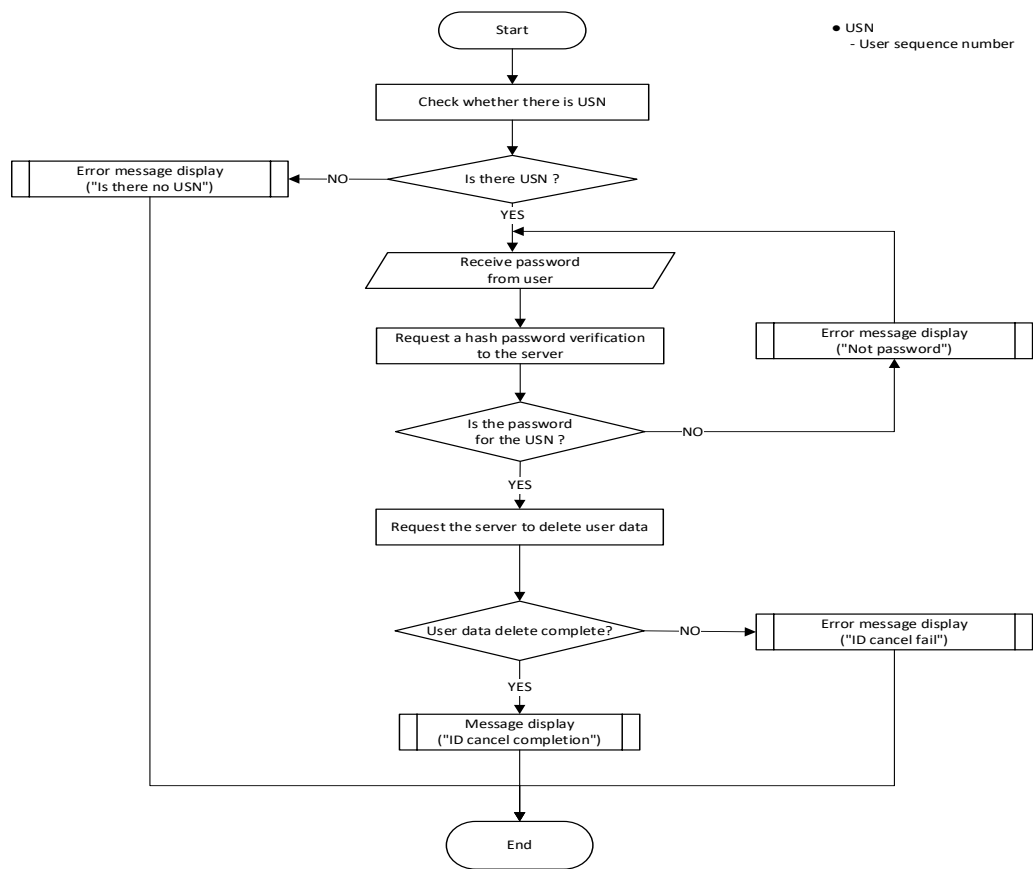


Figure 22. ID Cancellation Procedure for App and Web Client

## - Server

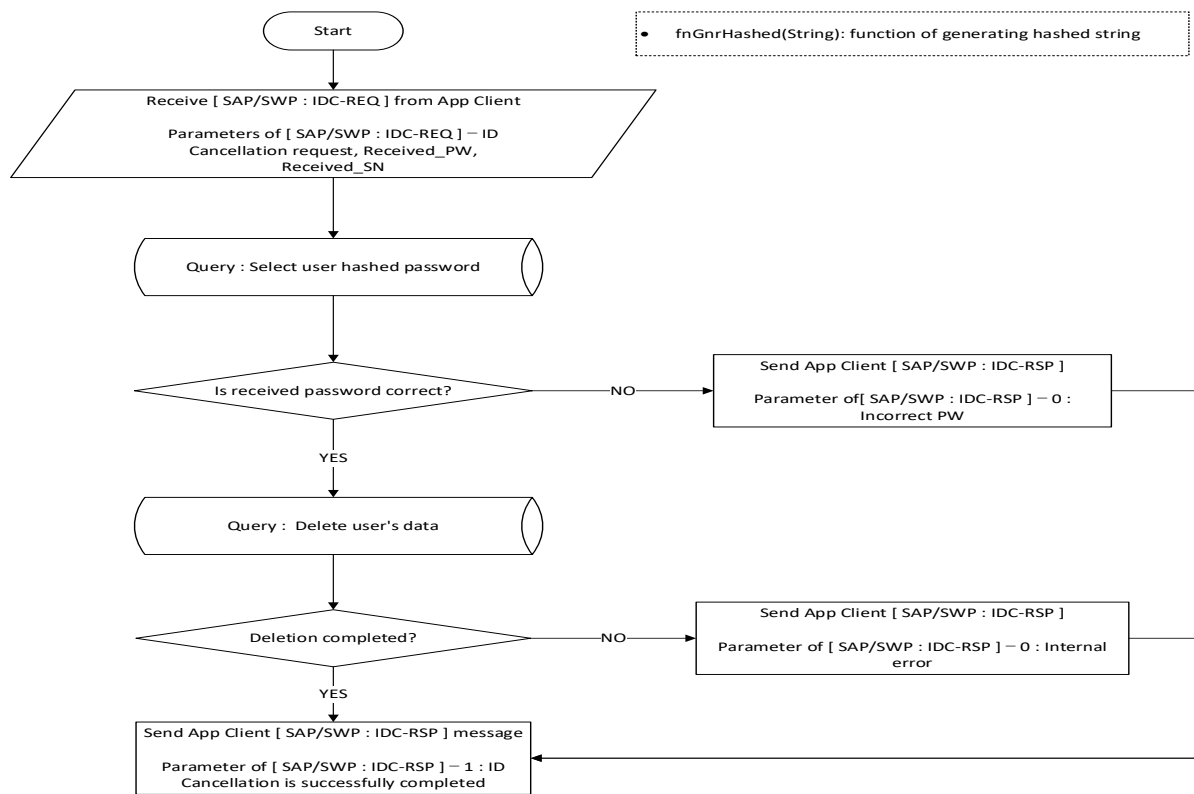


Figure 23. ID Cancellation Procedure for server

## 1.8 User Information Update Procedure

### a. Flow Chart

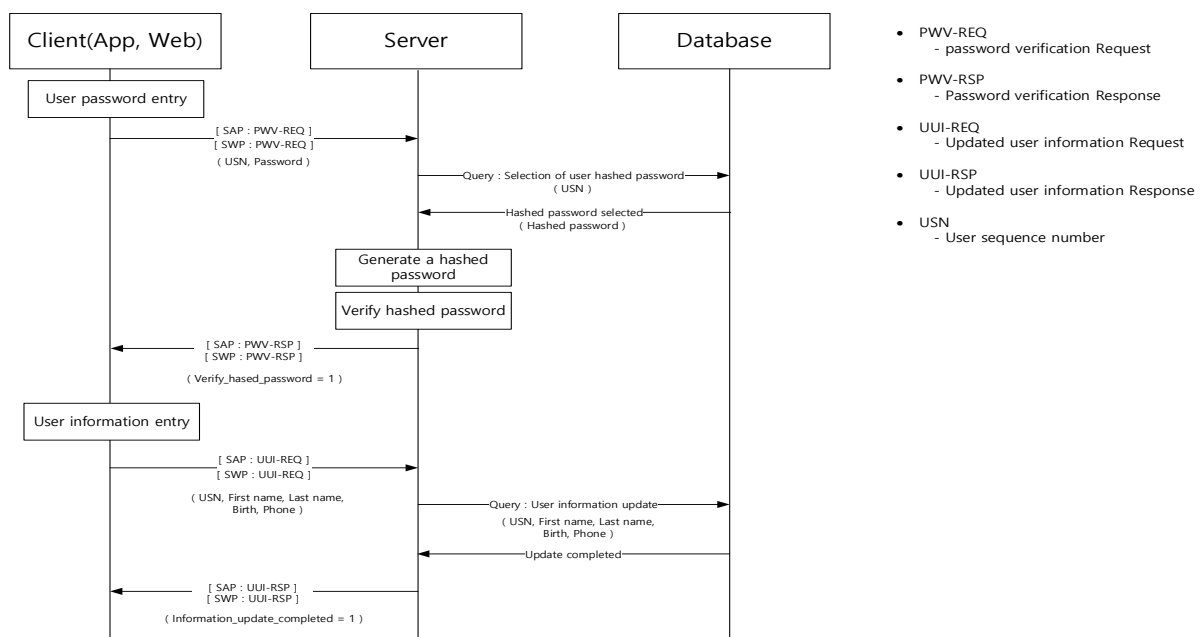


Figure 24. User Information Update Procedure

## b. Block Diagram

### - Client

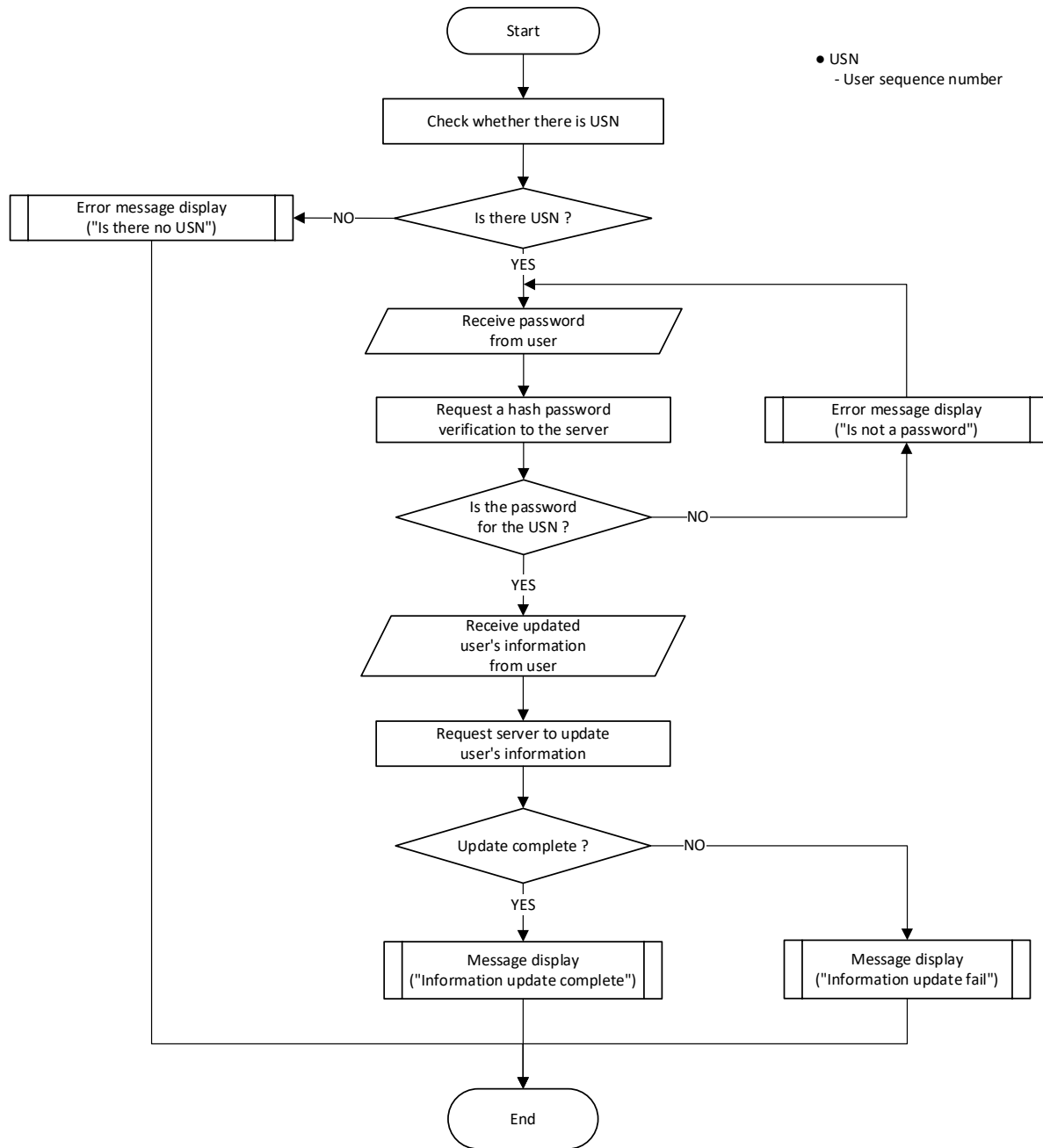
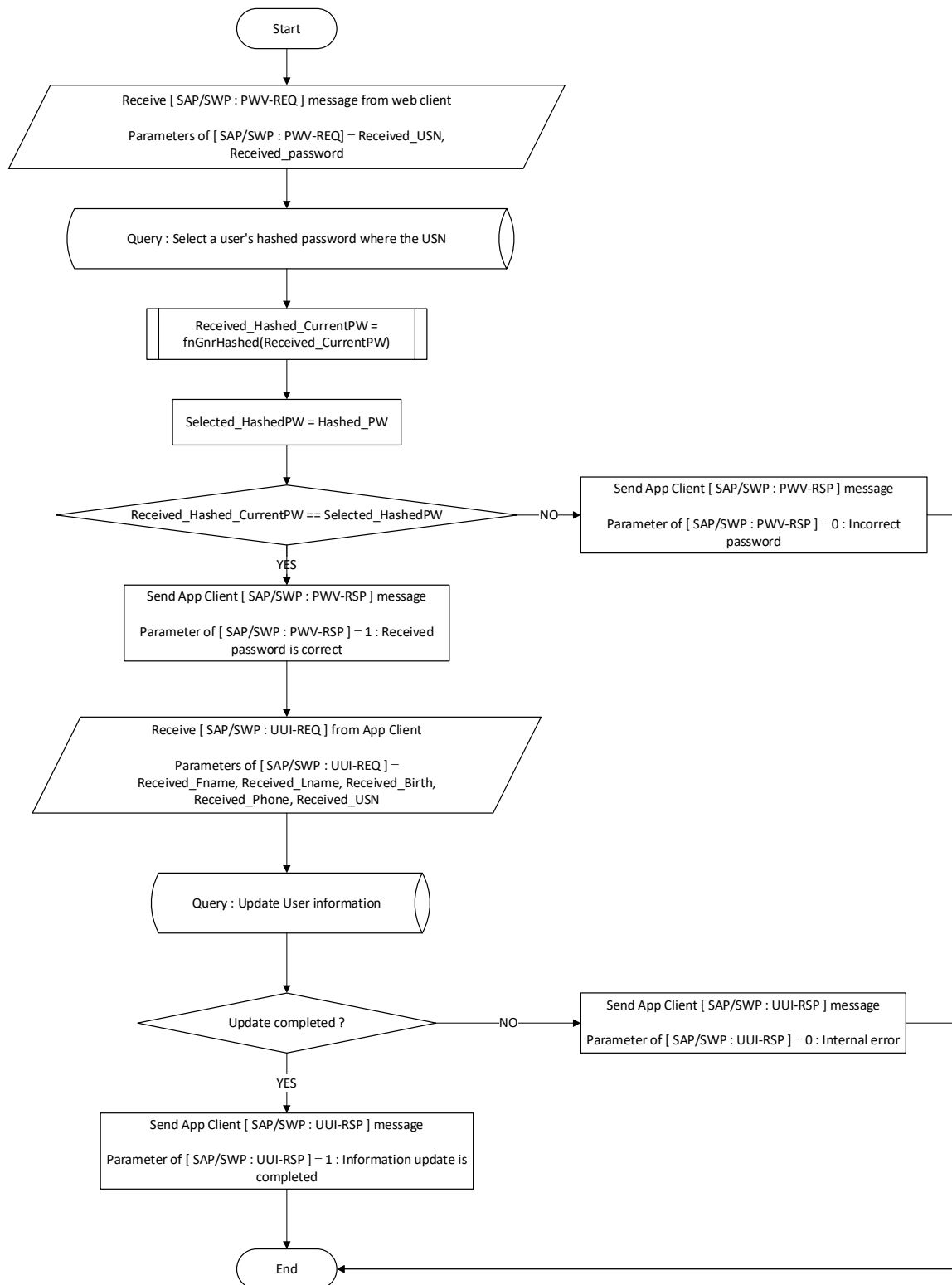


Figure 25. User Information Update Procedure for App and Web Client

- **Server**



**Figure 26. User information update procedure for server**

# 1.9 Request for connection procedure

## a. Flow Chart

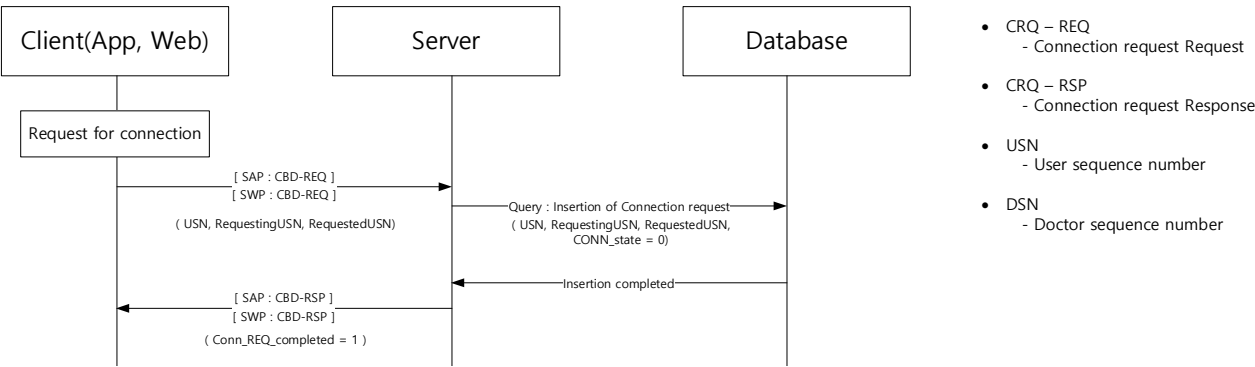


Figure 27. Request for connection procedure

## b. Block Diagram

### - App Client

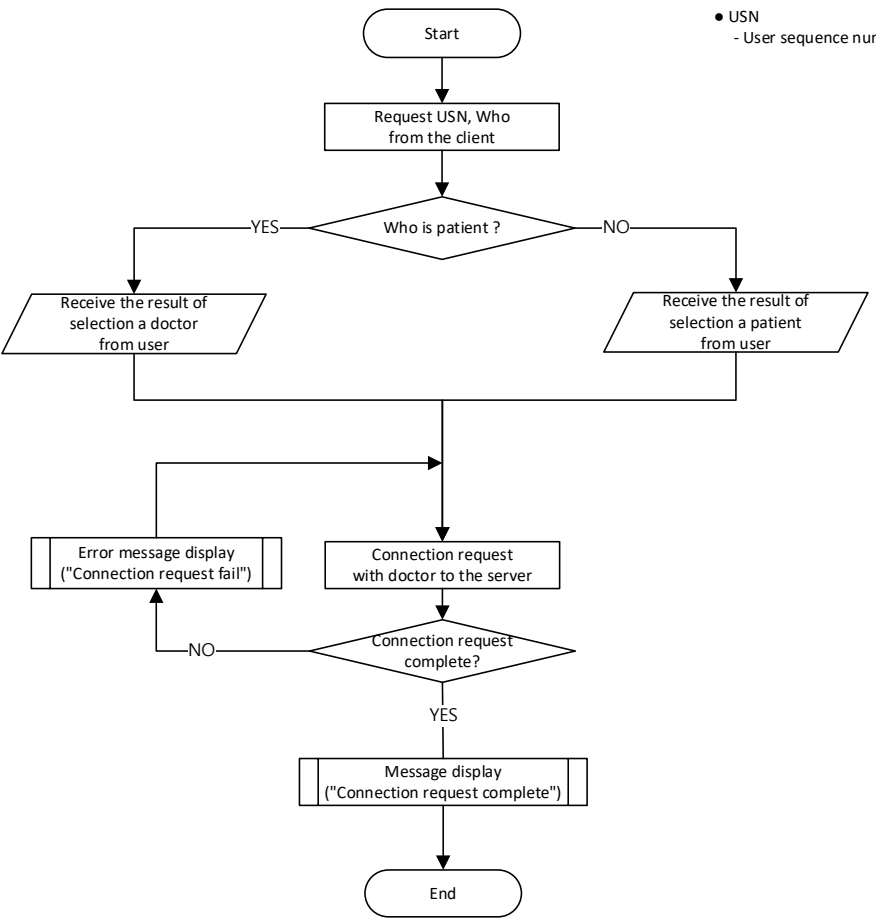


Figure 28. Request for Connection Procedure for App Client

- Web Client

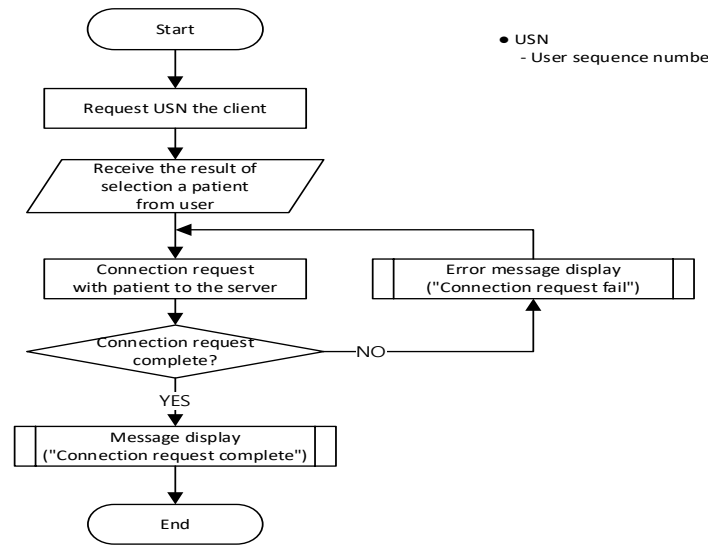


Figure 29. Request for Connection Procedure for Web Client

- Server

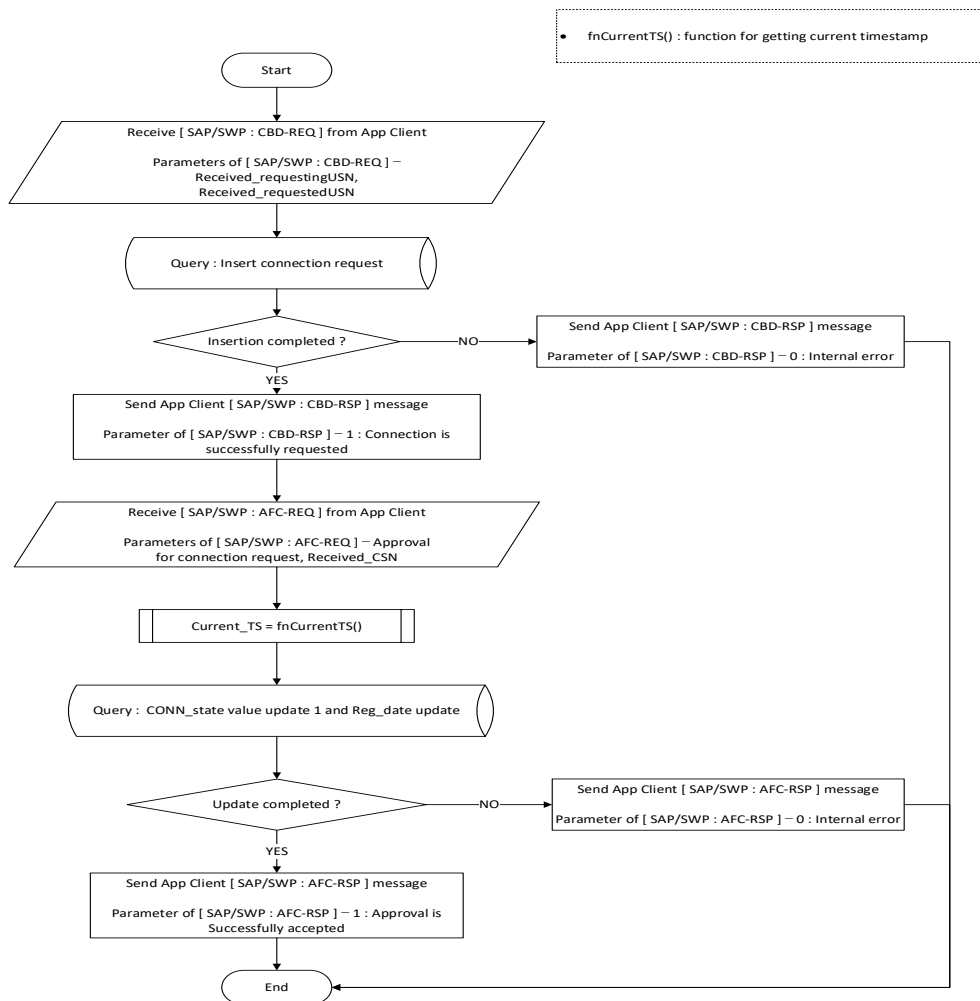


Figure 30. Request for connection procedure for server

# 1.10 Disconnection with patient procedure

## a. Flow Chart

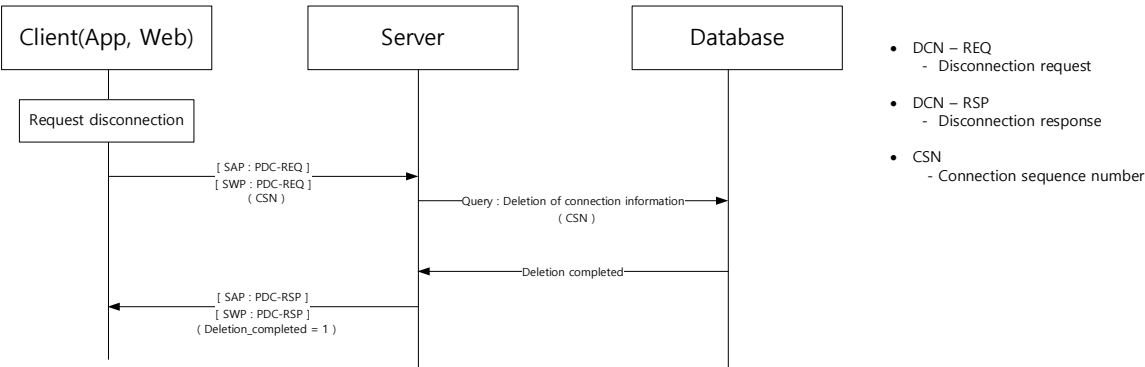


Figure 31. Disconnection Procedure

## b. Block Diagram

### - App Client

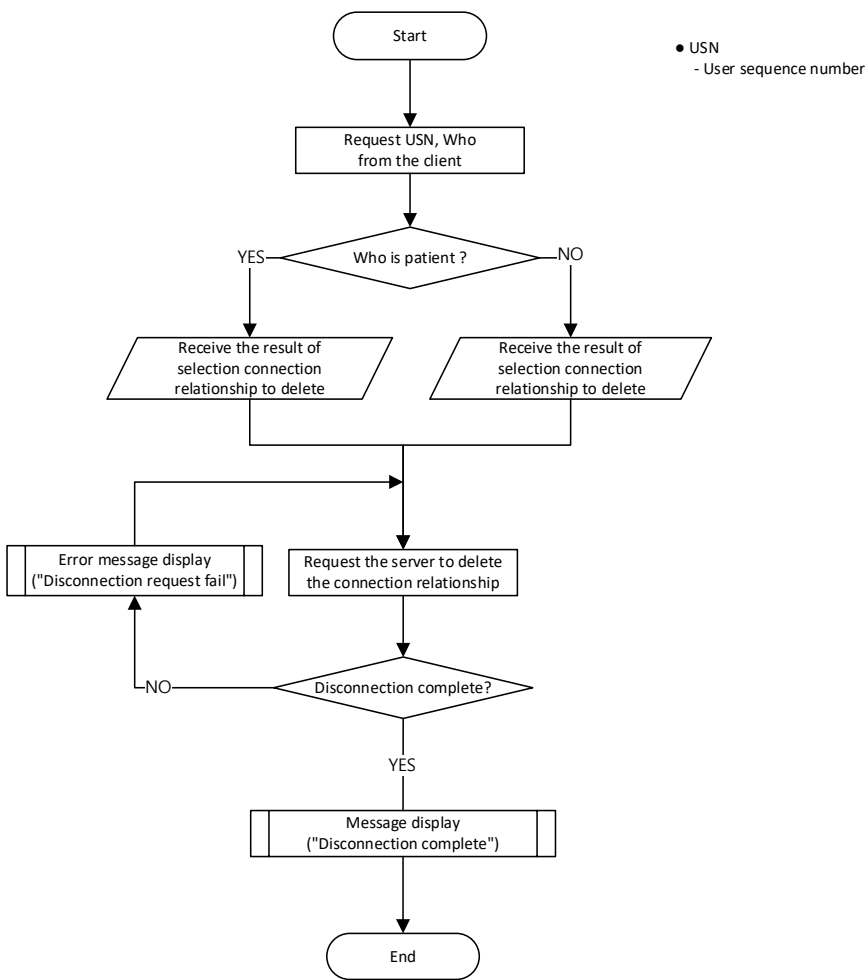


Figure 32. Disconnection Procedure for App Client



- Web Client

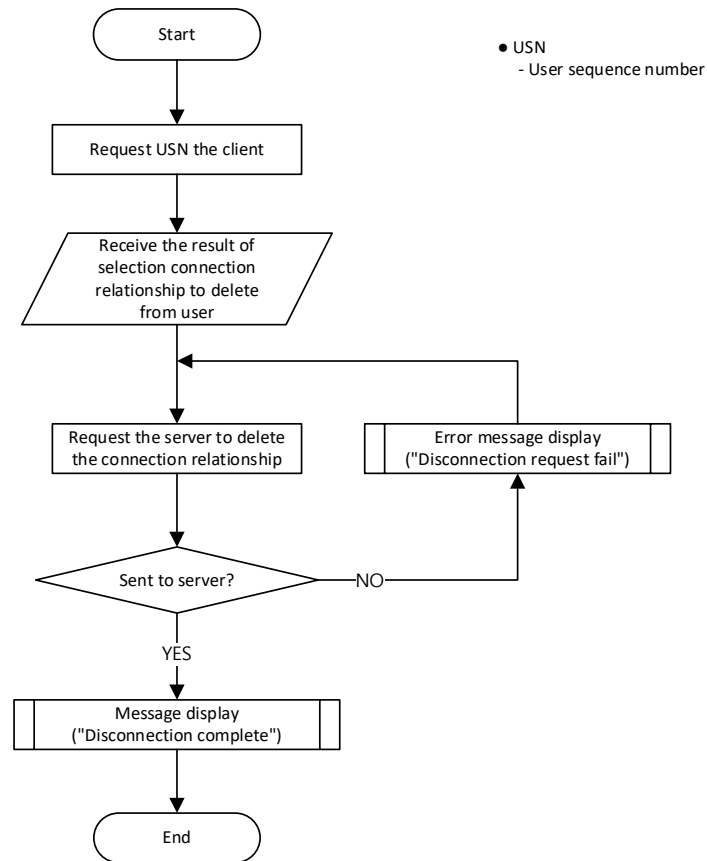


Figure 33. Disconnection Procedure for Web Client

- Server

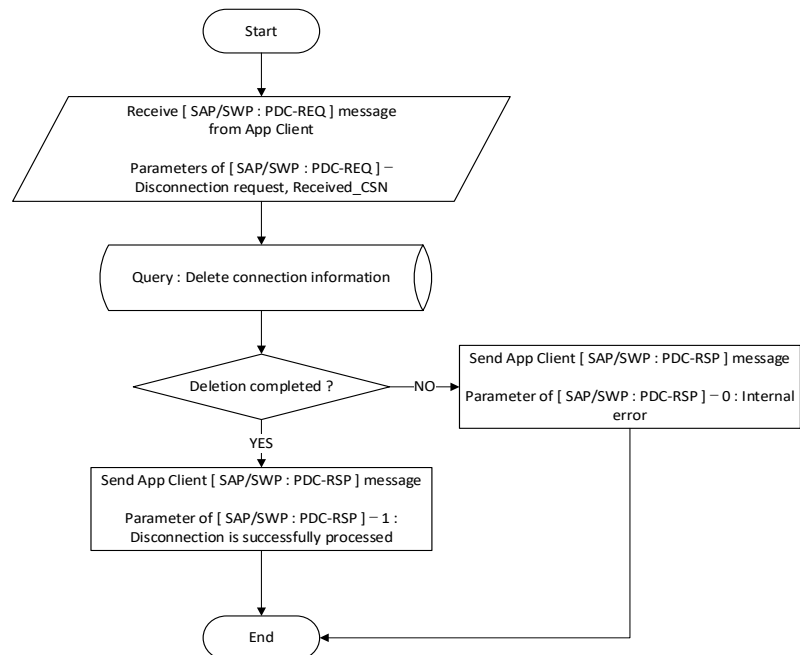


Figure 34. Disconnection procedure for server

## 1.11 Acceptance for connection request

### a. Flow Chart

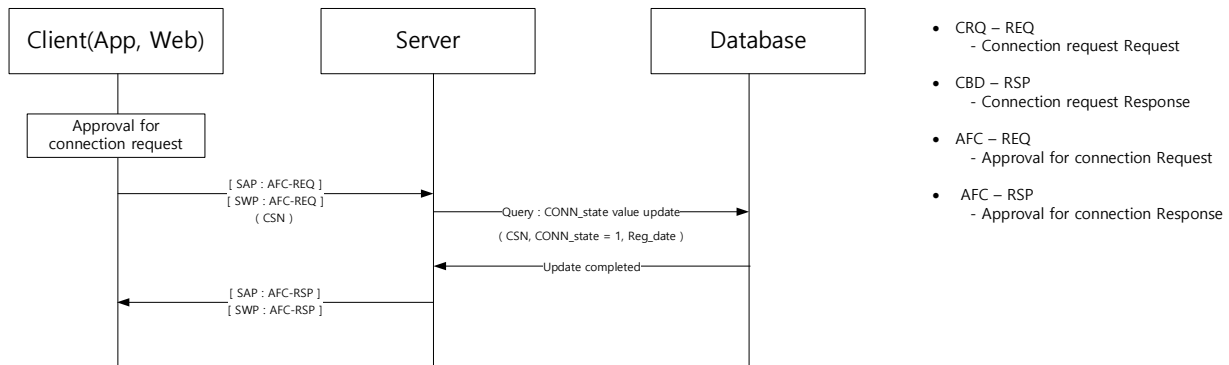


Figure 35. Acceptance for connection request

### b. Block Diagram

#### - App Client

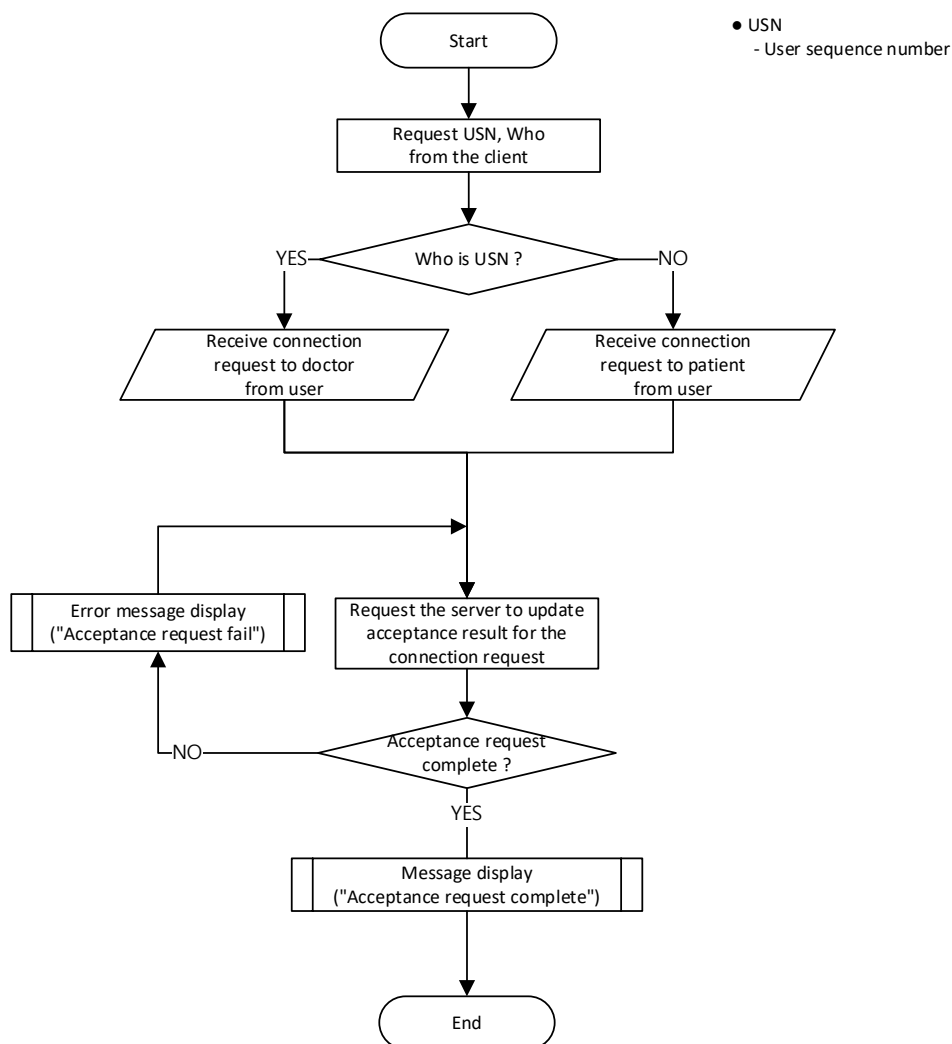


Figure 36. Connection Request Acceptance Procedure for App Client

- Web Client

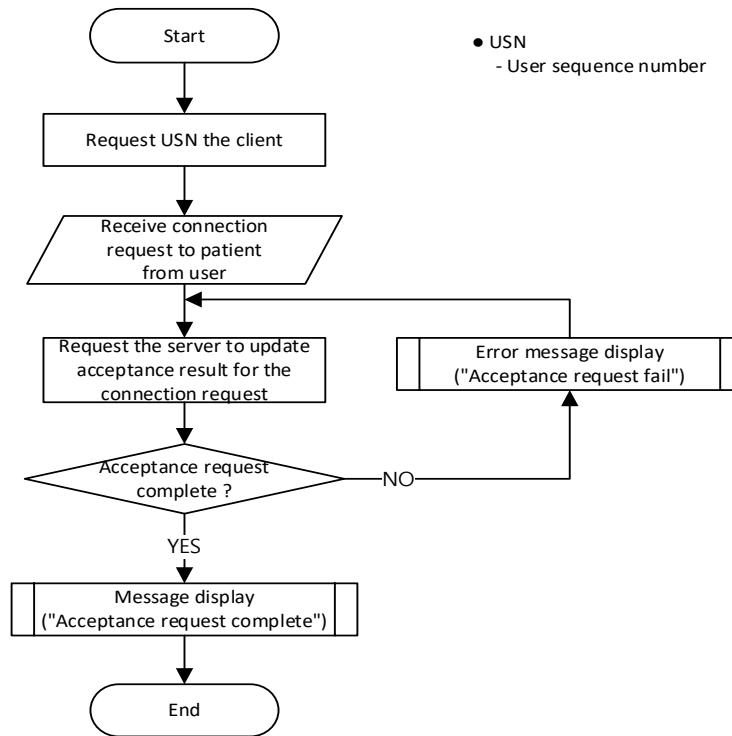


Figure 37. Connection Request Acceptance Procedure for Web Client

- Server

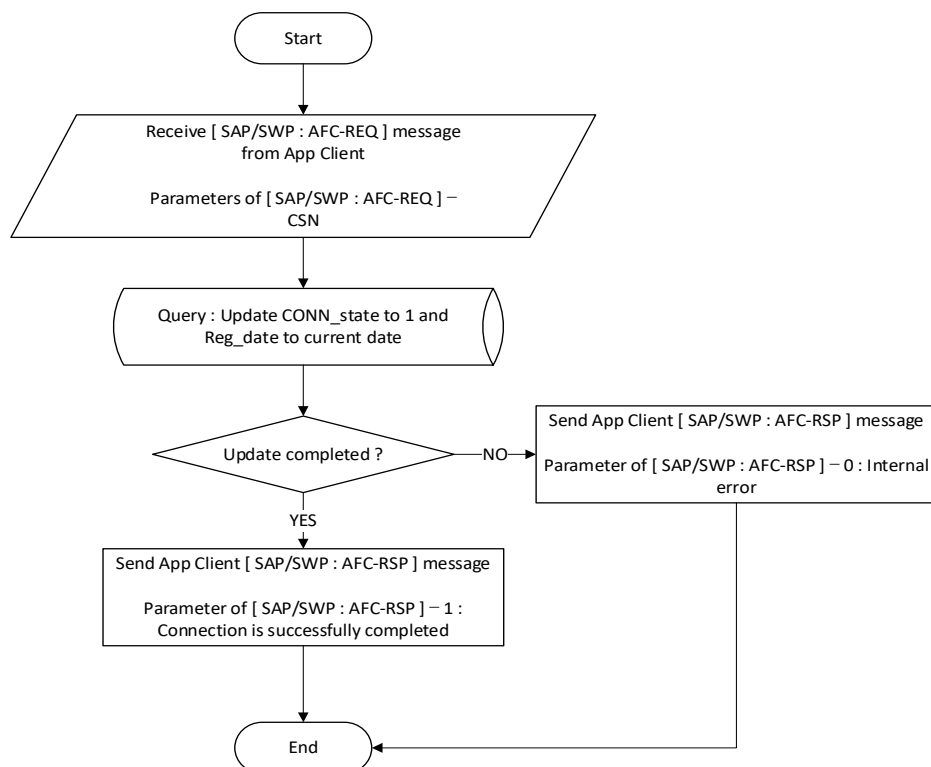


Figure 38. Connection Request Acceptance Procedure for server

## 2. Data Management

### 2.1 Real-time air quality data Transfer procedure

#### a. Flow Chart

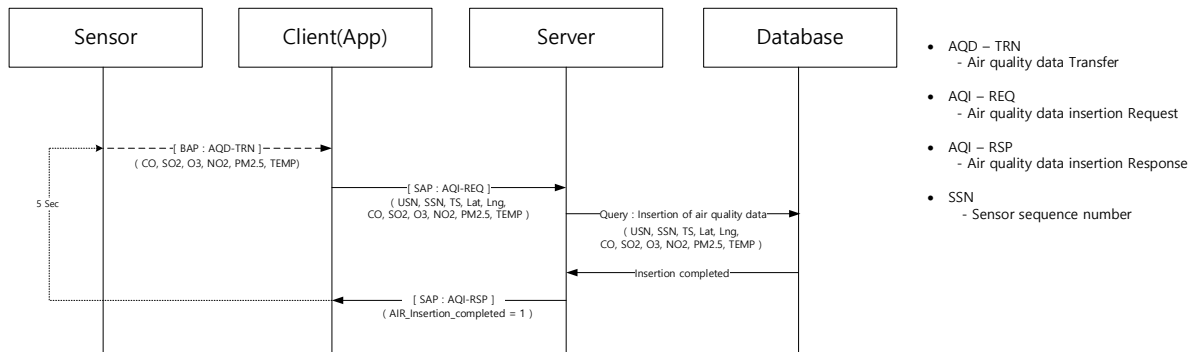


Figure 39. Real-time Air Quality Data Transfer Procedure

#### b. Block Diagram

##### - Client

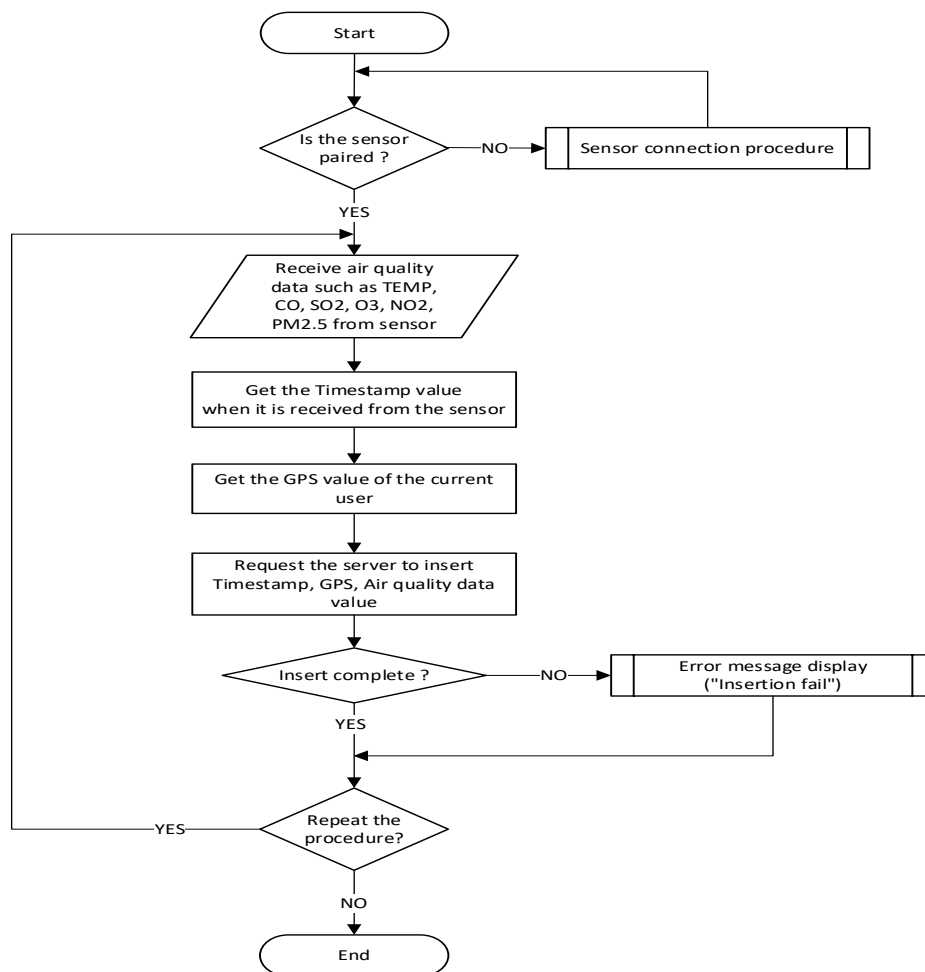
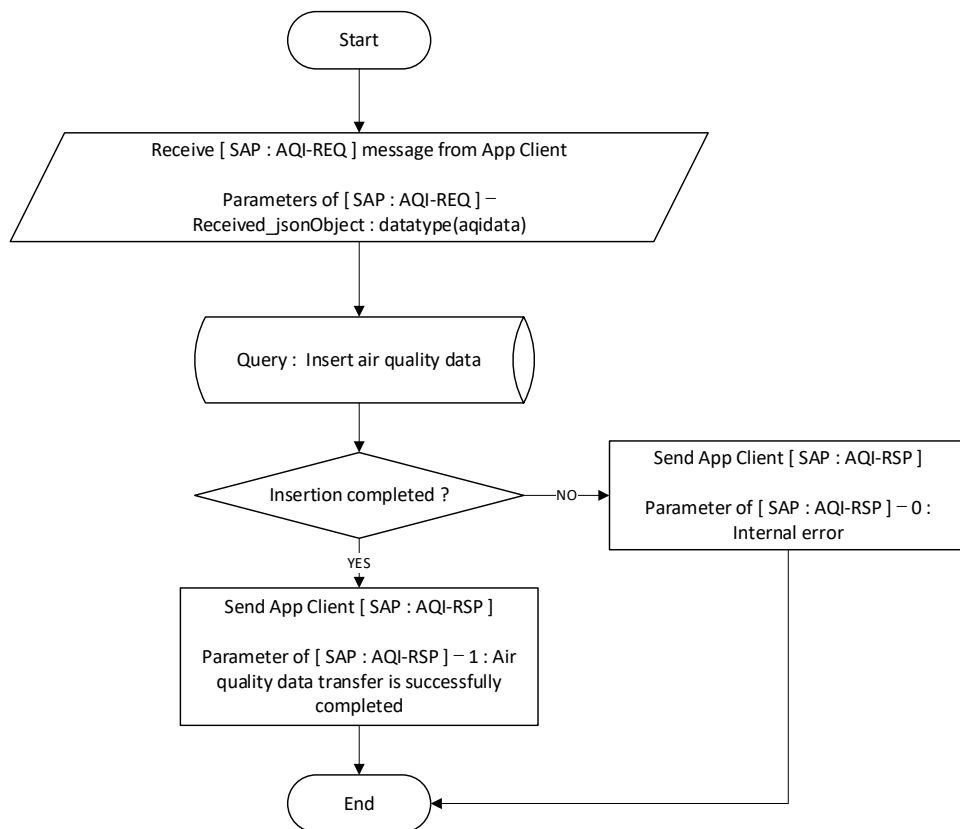


Figure 40. Real-time Air Quality Data Transfer Procedure for App Client

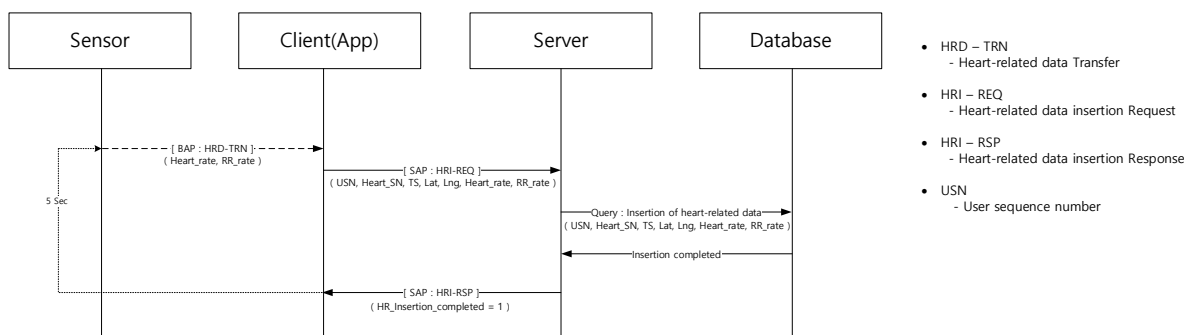
- **Server**



**Figure 41. Real-time air quality data transfer procedure for server**

## 2.2 Real-time Heart-Related Data Transfer Procedure

### a. Flow Chart



**Figure 42. Real-time Heart-Related Data Transfer Procedure**

## b. Block Diagram

### - App Client

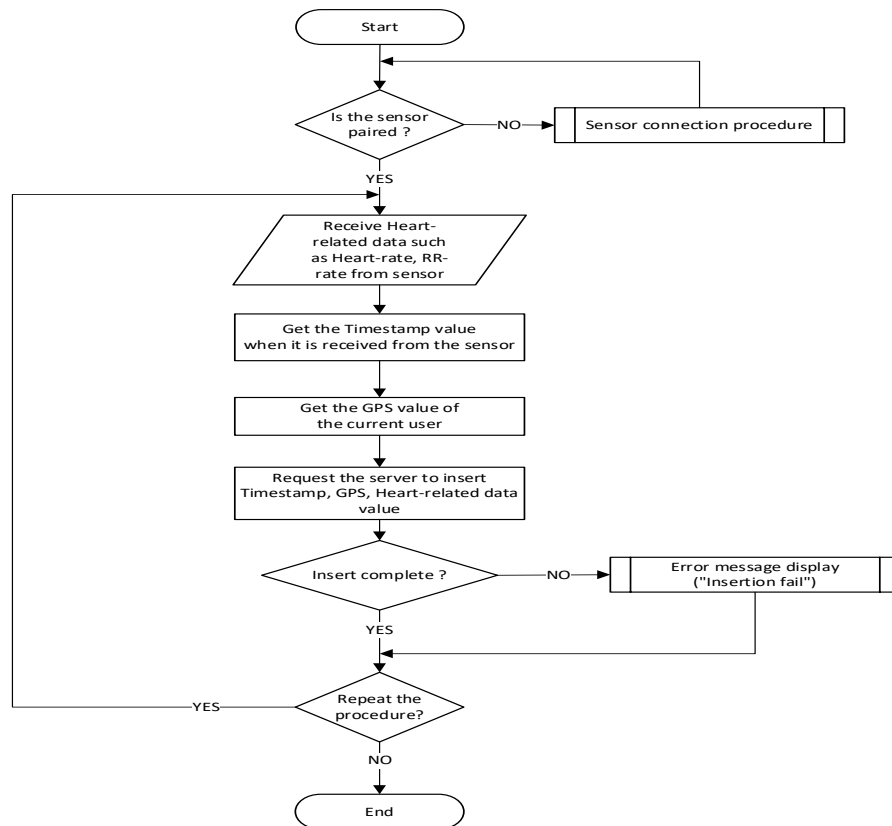


Figure 43. Real-time Heart-Related Data Transfer Procedure for App Client

### - Server

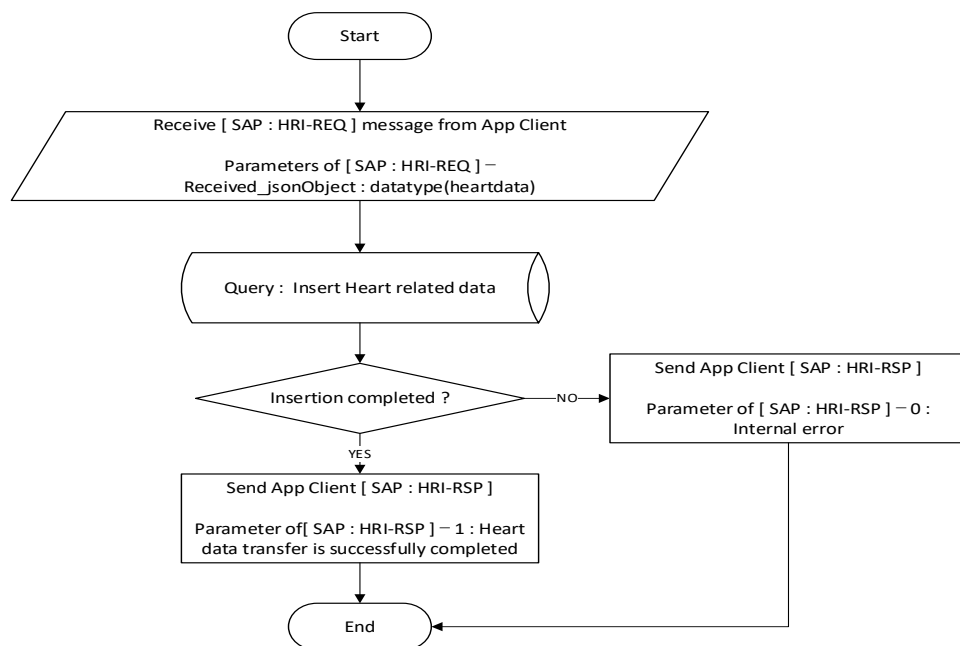


Figure 44. Real-time Heart-Related Data Transfer Procedure for Server with App

## 2.3 Historical Air Quality Data Transfer Procedure

### a. Flow Chart

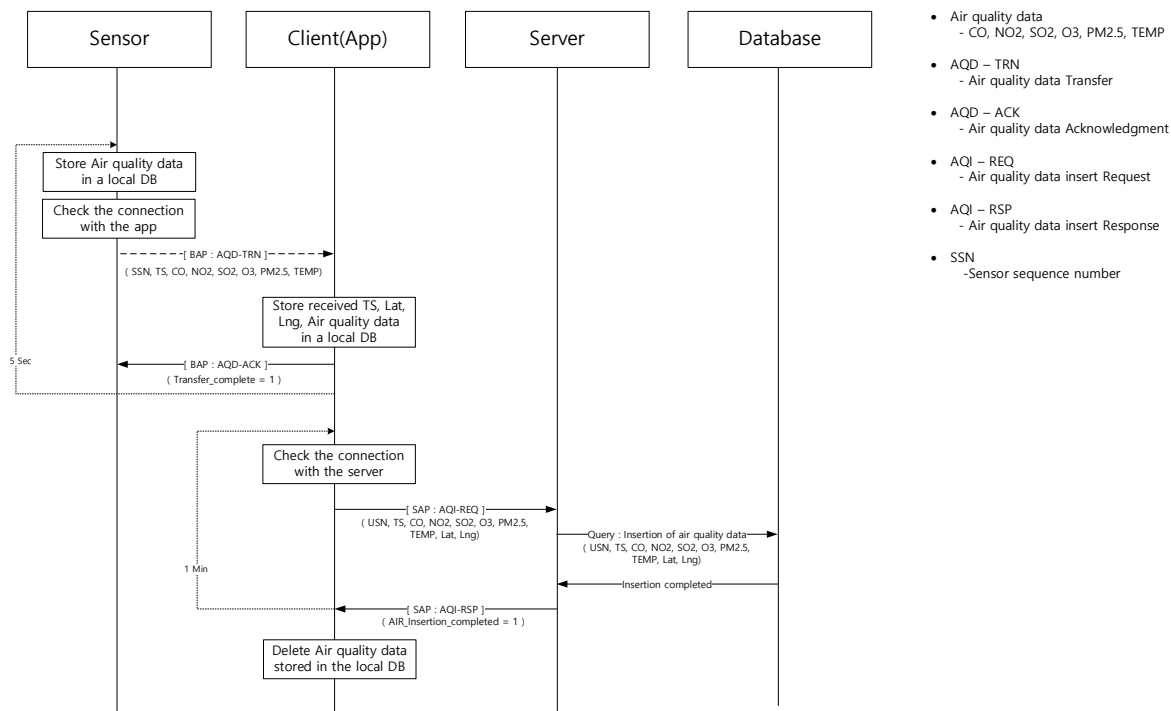


Figure 45. Historical Air Quality Data Transfer Procedure

b. Block Diagram

- App Client

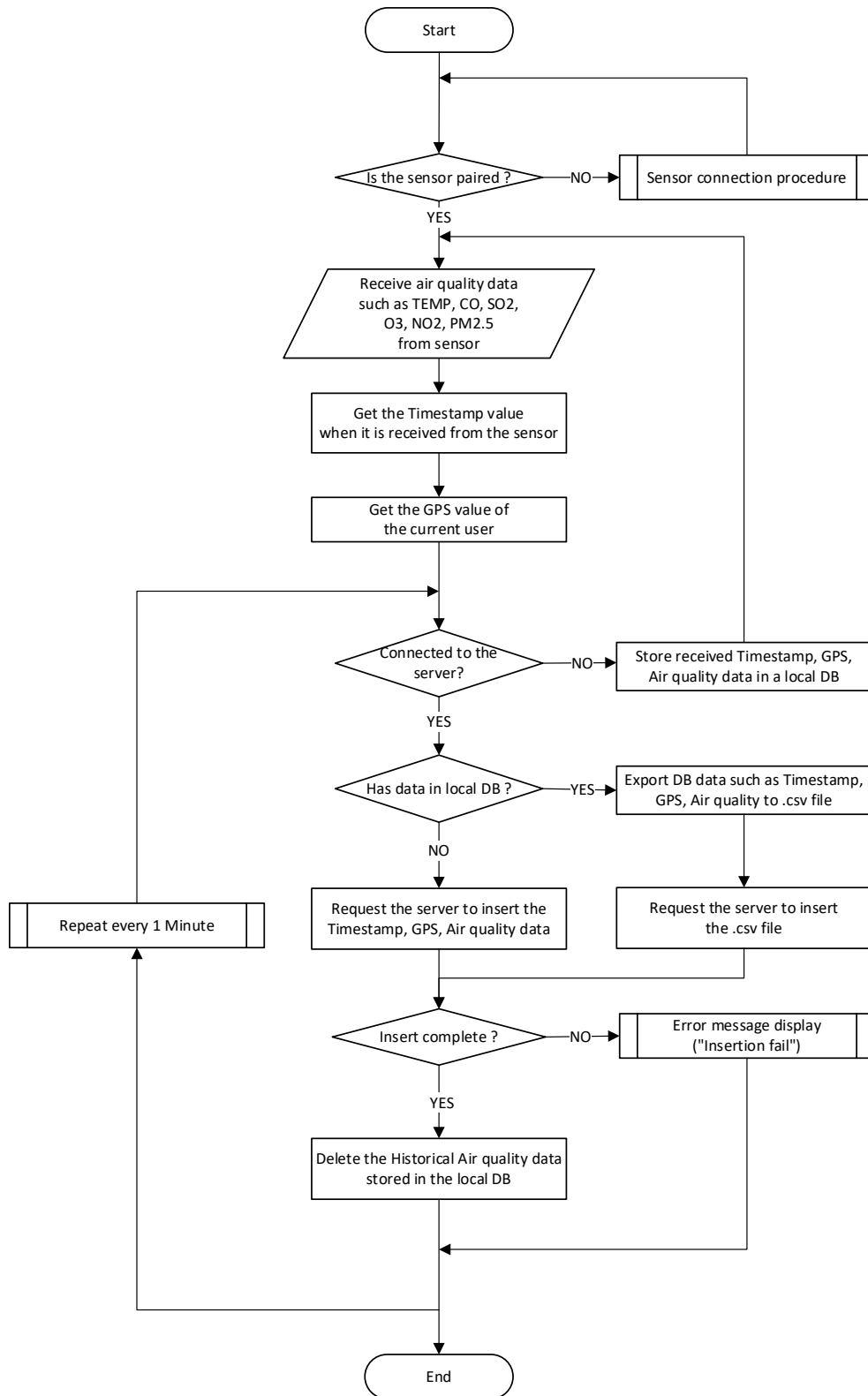


Figure 46. Historical Air Quality Data Transfer Procedure for App Client



## - Server

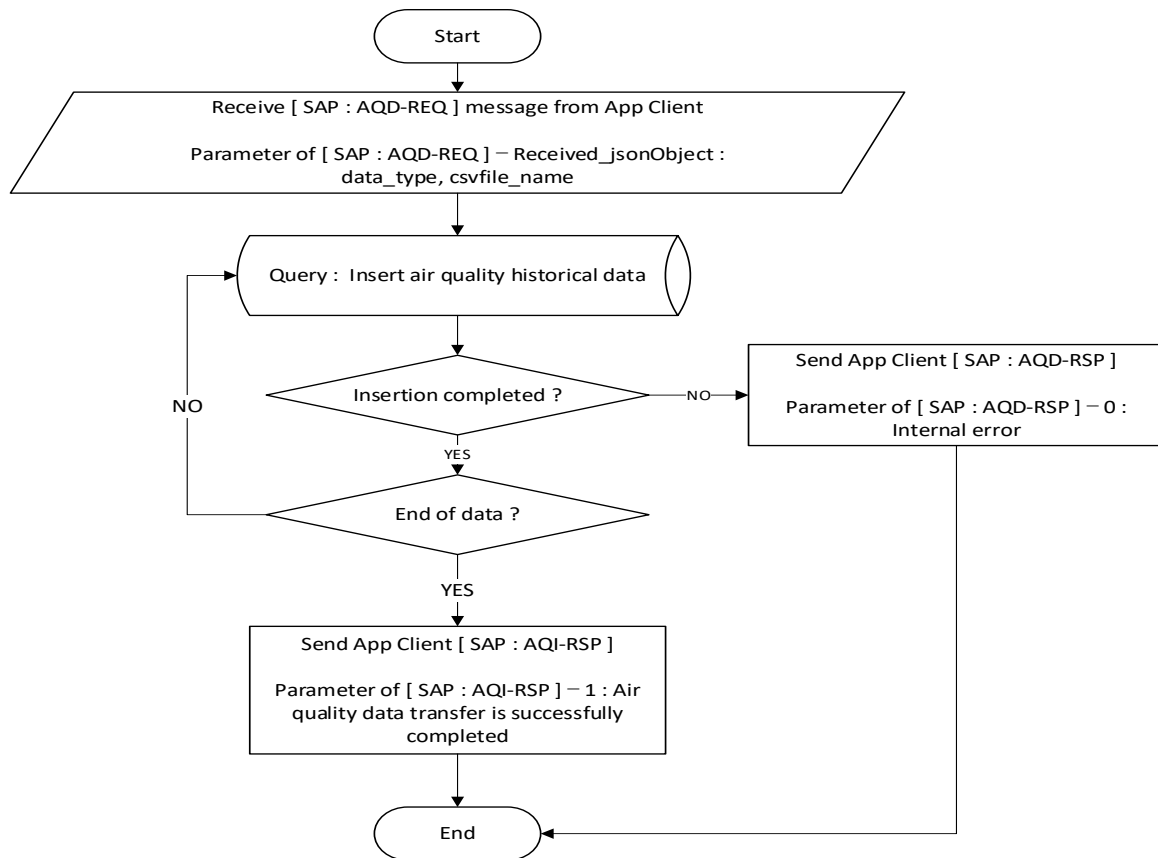


Figure 47. Historical Air Quality Data Transfer Procedure for Server with App

## 2.4 Historical Heart-Related Data Transfer Procedure

### a. Flow Chart

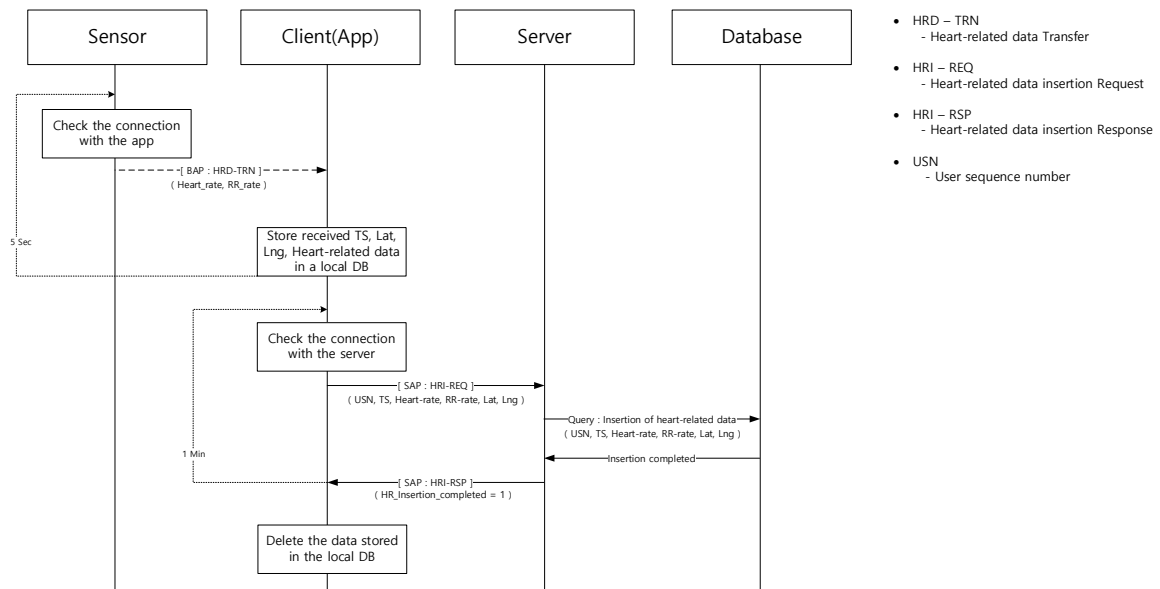


Figure 48. Historical Heart-Related Data Transfer Procedure

b. Block Diagram

- Client

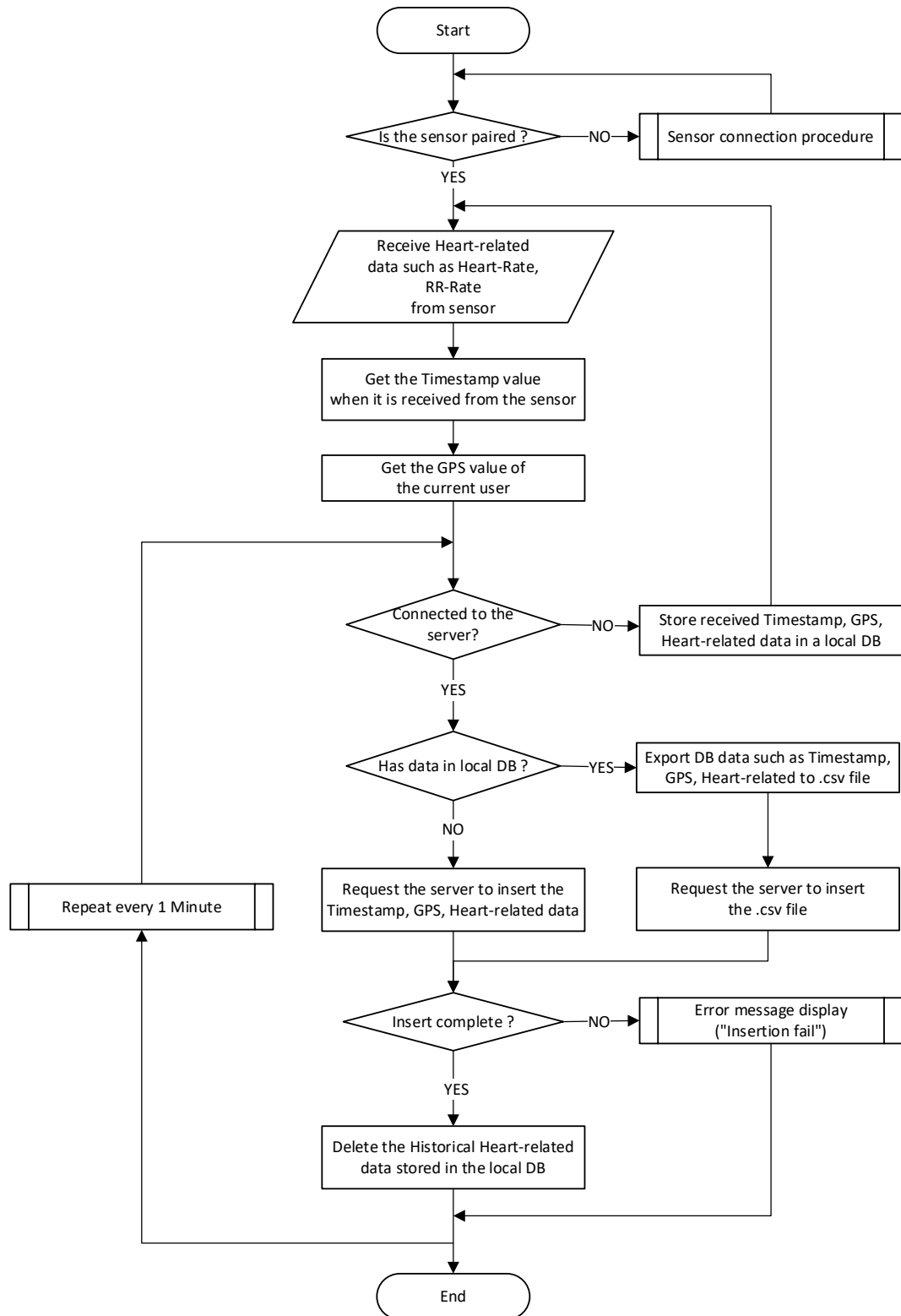


Figure 49. Historical Heart-Related Data Transfer Procedure for App Client

- Server

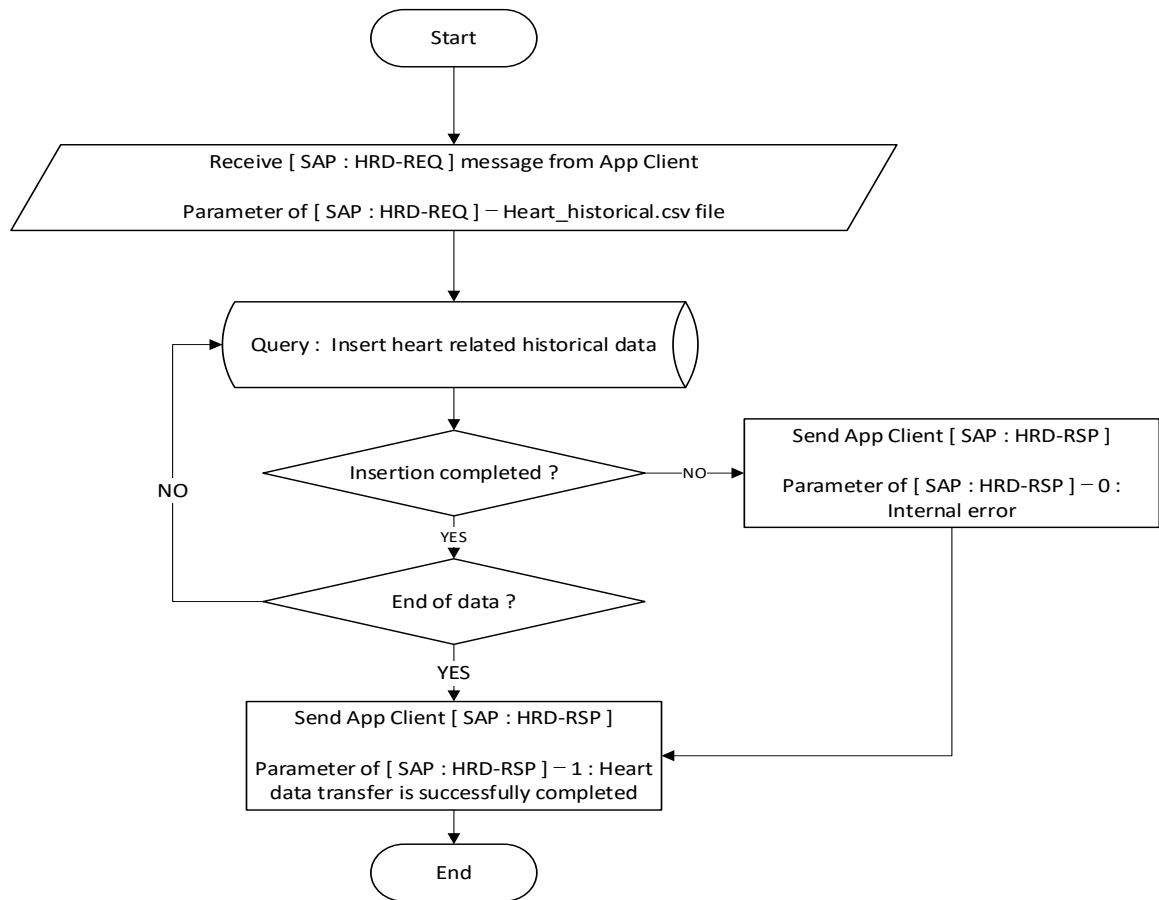


Figure 50. Historical Heart-related data transfer procedure for server with App

### 3. Data Monitoring

#### 3.1 Real-time Air Quality Data App Display Procedure

a. Flow Chart

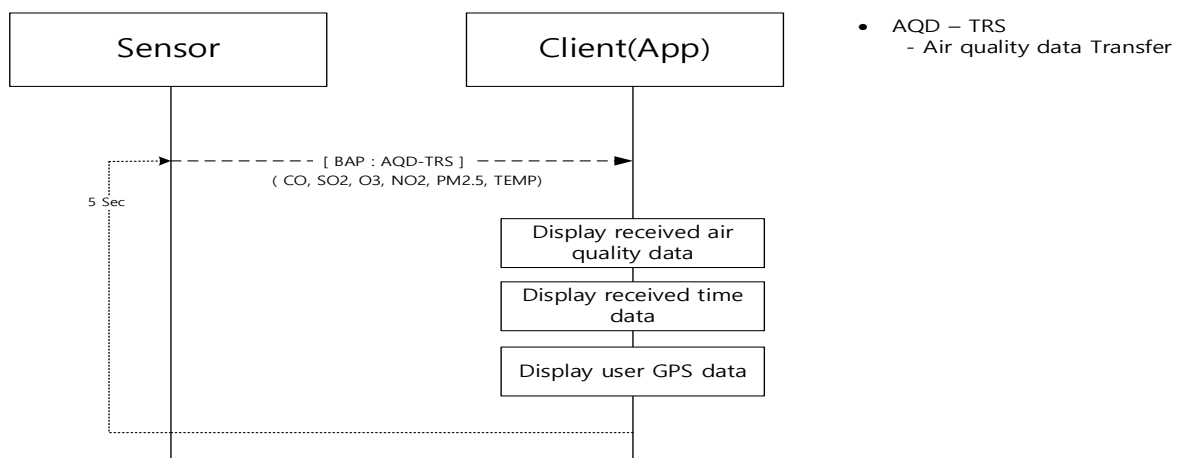


Figure 51. Real-time Air Quality Data App Display Procedure

## b. Block Diagram

### - App Client

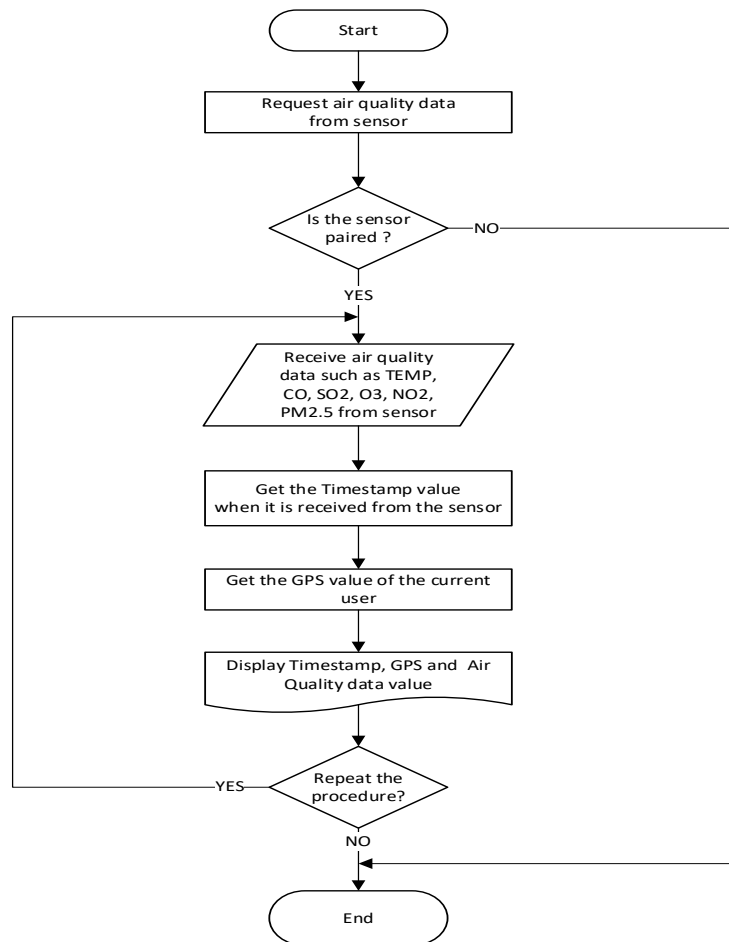


Figure 52. Real-time Air Quality Data Display Procedure for App Client

## 3.2 Real-time Air Quality Data Web Display Procedure

### a. Flow Chart

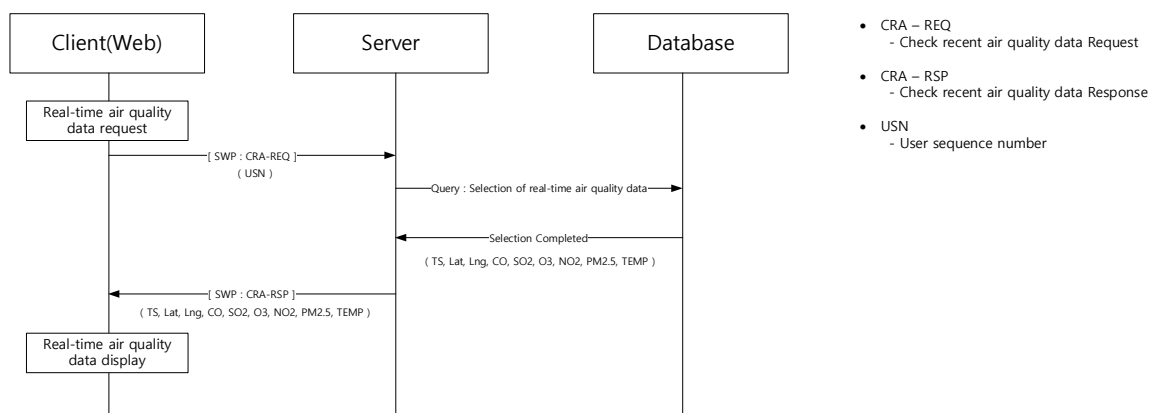


Figure 53. Real-time Air Quality Data Web Display Procedure

## b. Block Diagram

### - Web Client

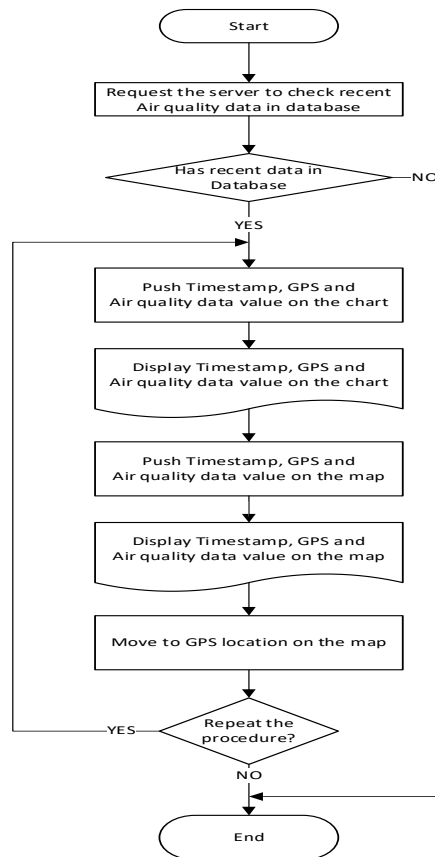


Figure 54. Real-time Air Quality Data Display Procedure for Web Client

### - Server

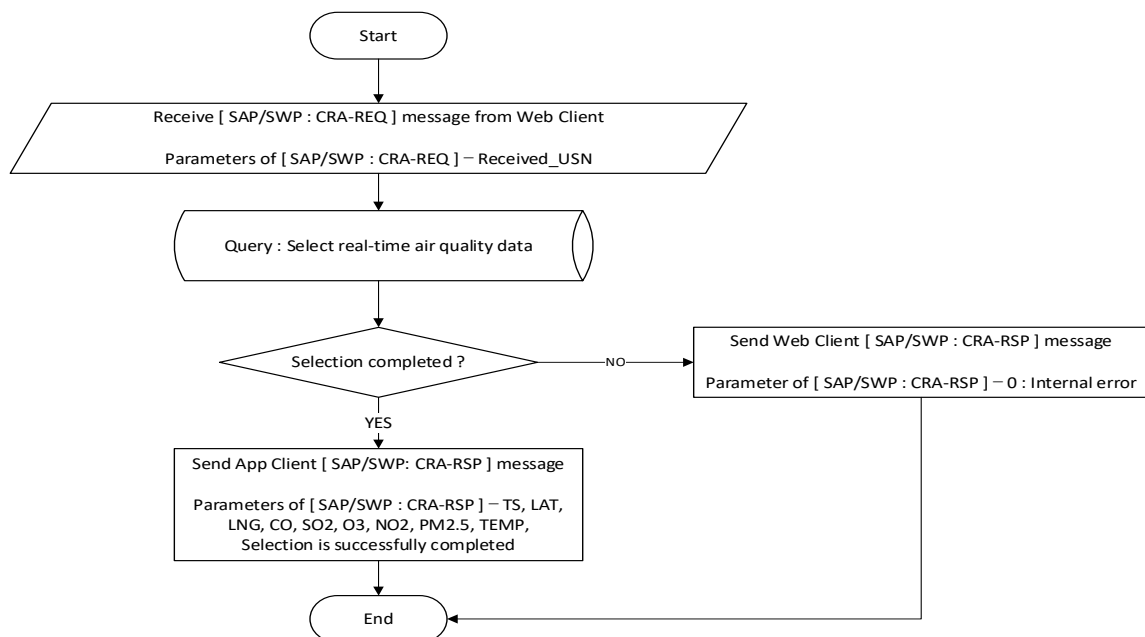


Figure 55. Real-time Air Quality Data Web Display Procedure for Server

### 3.3 Real-time Heart-related Data App Display Procedure

#### a. Flow Chart

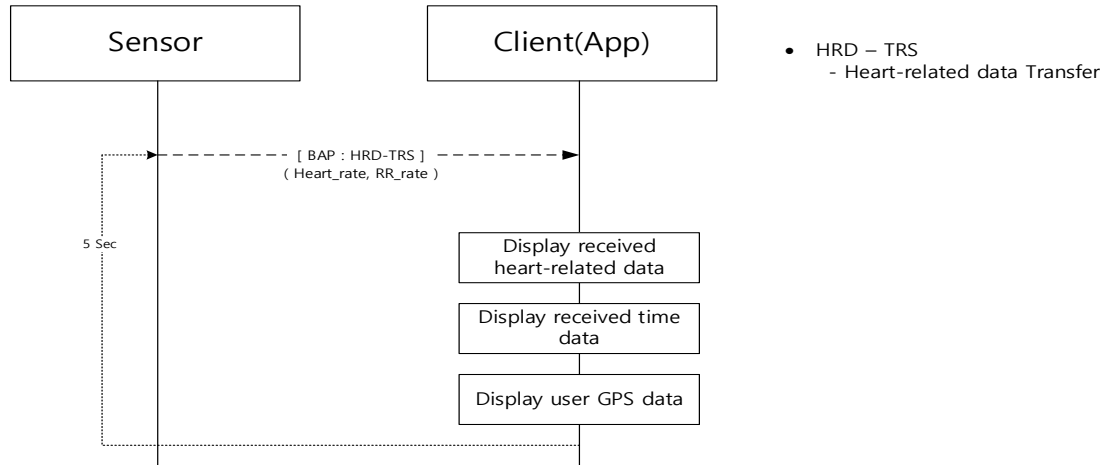


Figure 56. Real-time Heart-related Data App Display Procedure

#### b. Block Diagram

##### - Client

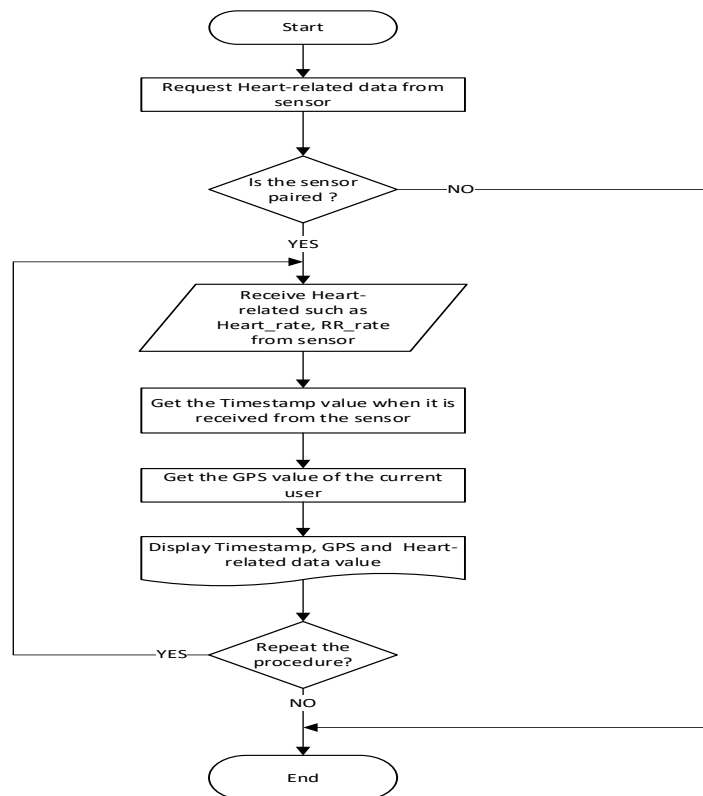


Figure 57. Real-time Heart-Related Data Display Procedure for App Client

### 3.4 Real-time Heart Related Data Web Display Procedure

#### a. Flow Chart

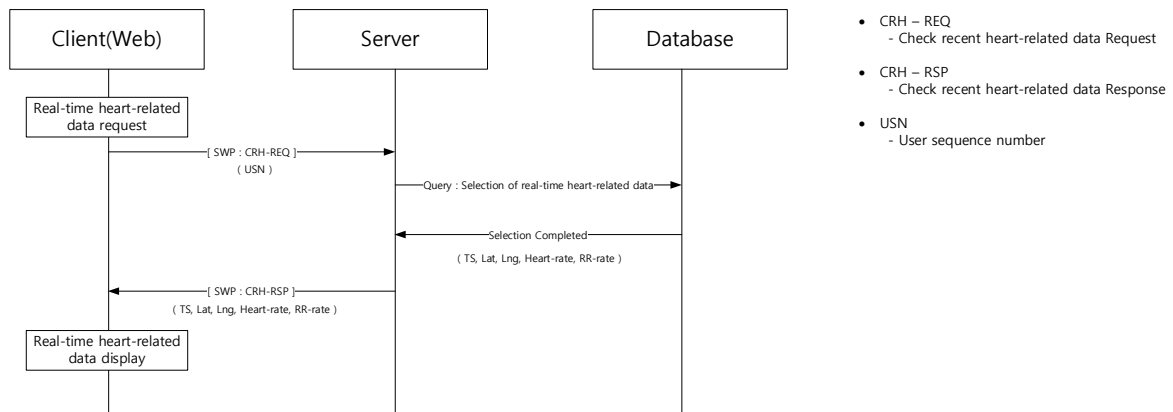


Figure 58. Real-time Heart-related Data Web Display Procedure

#### b. Block Diagram

##### - Web Client

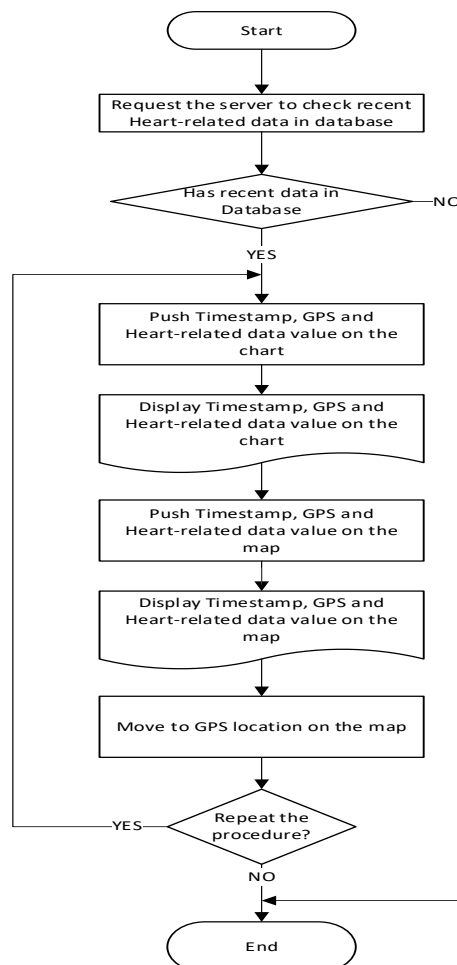
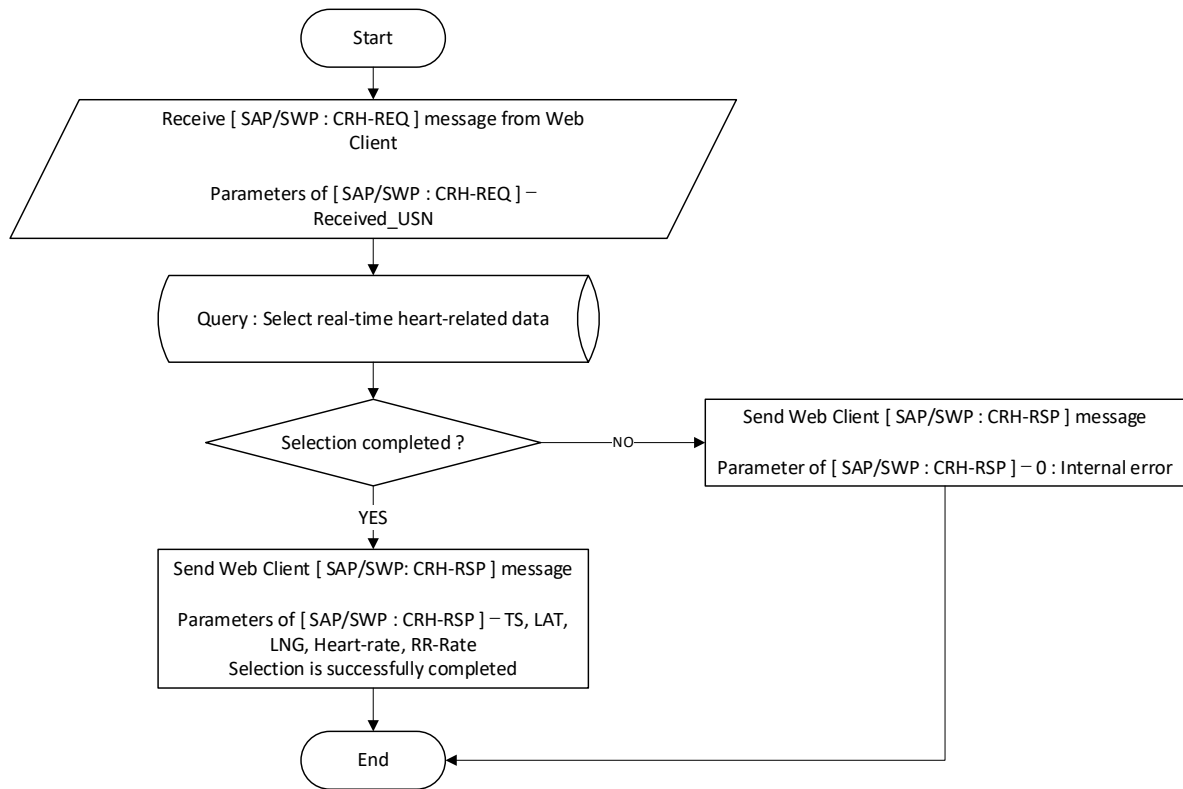


Figure 59. Real-time Heart-related Data Display Procedure for Web Client

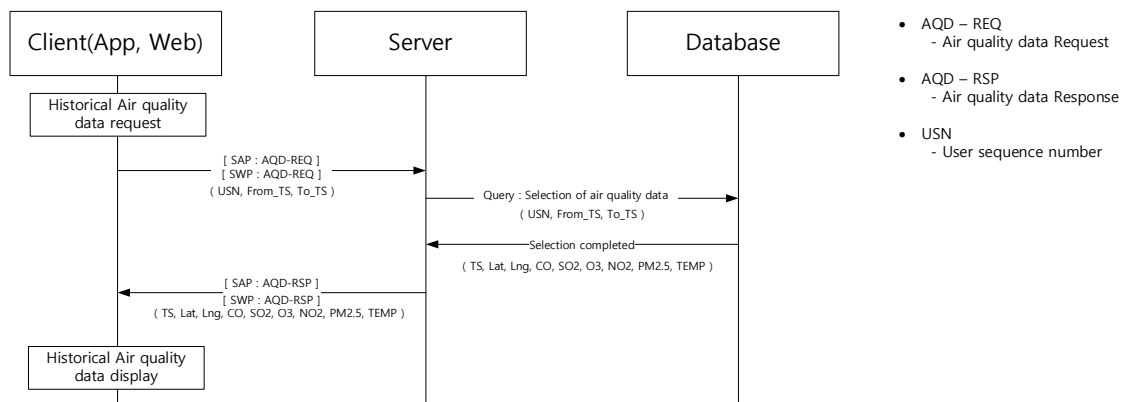
- **Server**



**Figure 60. Real-Time Heart-Related Data Display Procedure for Server**

### 3.5 Historical Air Quality Data Display Procedure

**a. Flow Chart**



**Figure 61. Historical Air Quality Data Display Procedure**



## b. Block Diagram

### - Client

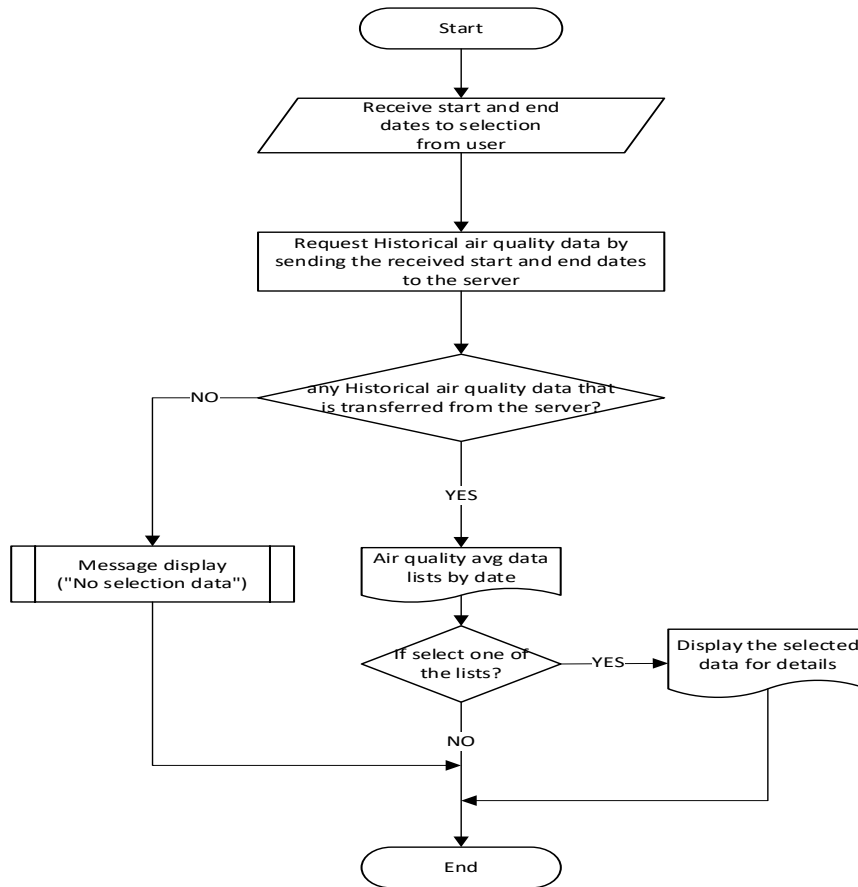


Figure 62. Historical Air Quality Data Display Procedure for App and Web Client

### - Server

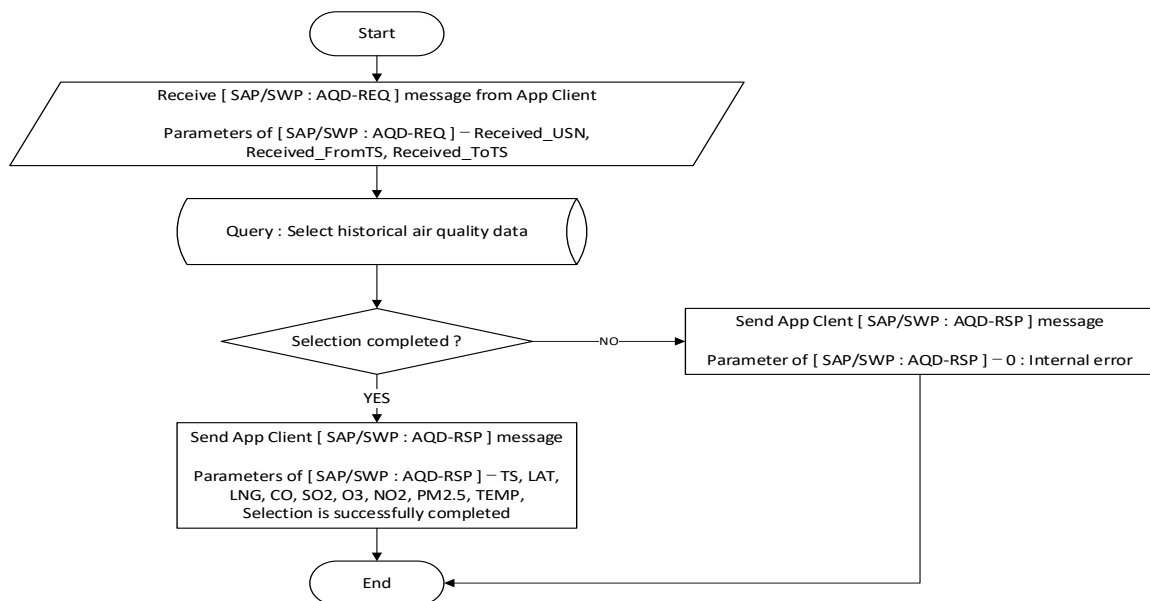


Figure 63. Historical air quality data display procedure for server

### 3.6 Historical Heart-Related Data Display Procedure

a. Flow Chart

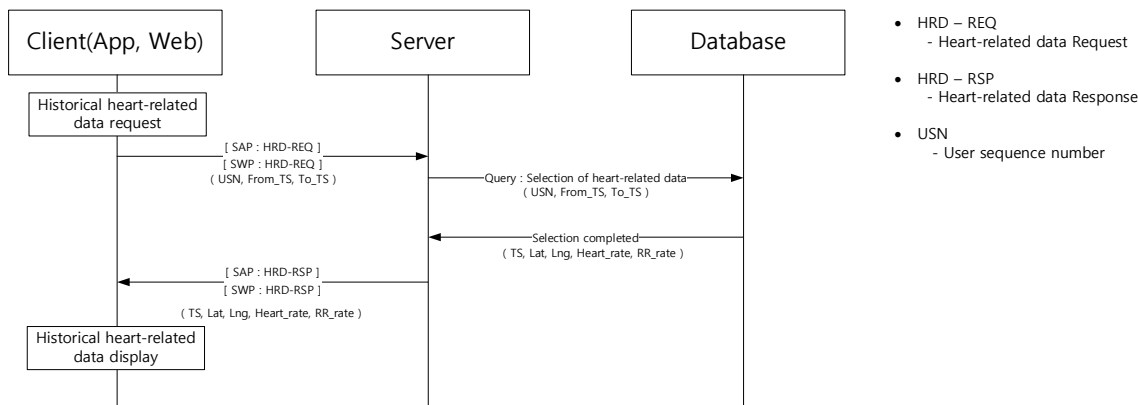


Figure 64. Historical Heart-Related Data Display Procedure

b. Block Diagram

- Client

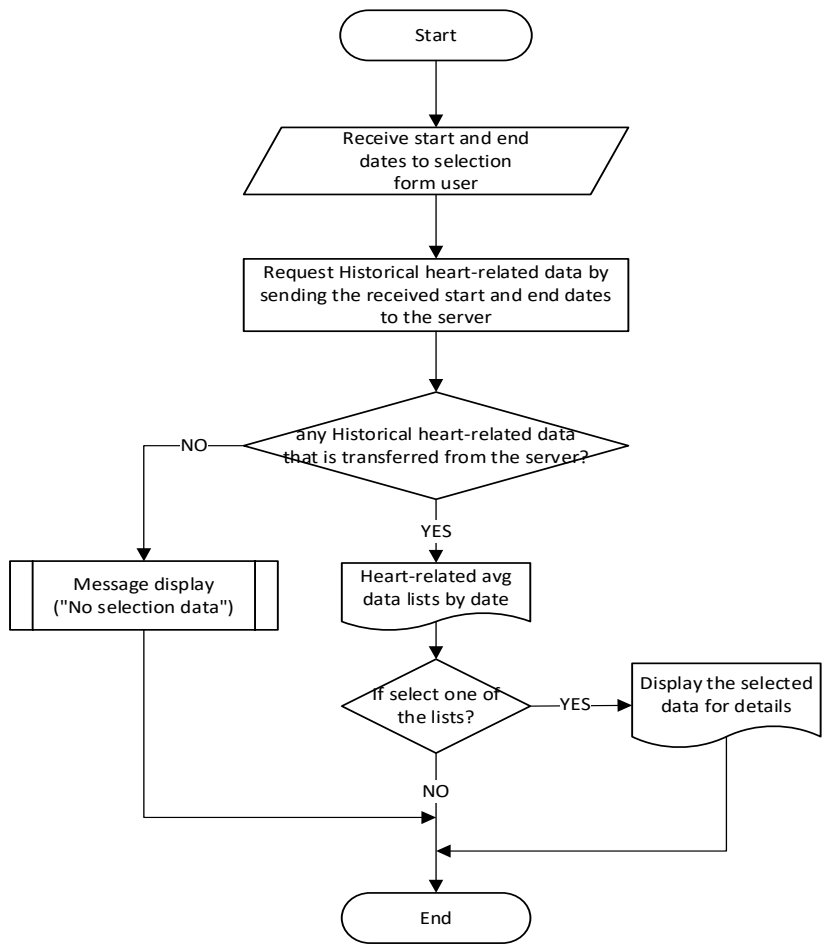


Figure 65. Historical Heart-Related Data Display Procedure for App and Web Client

- Server

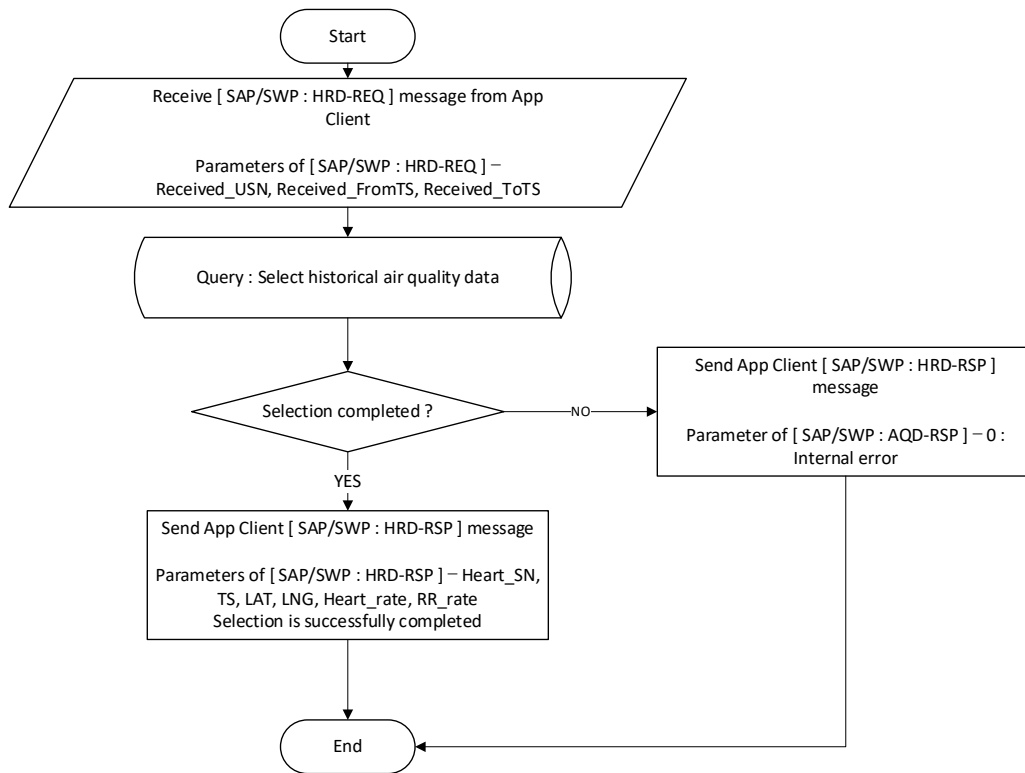


Figure 66. Historical Heart-Related Data Display Procedure for Server

### 3.7 Display of Patient Information Procedure

#### a. Flow Chart

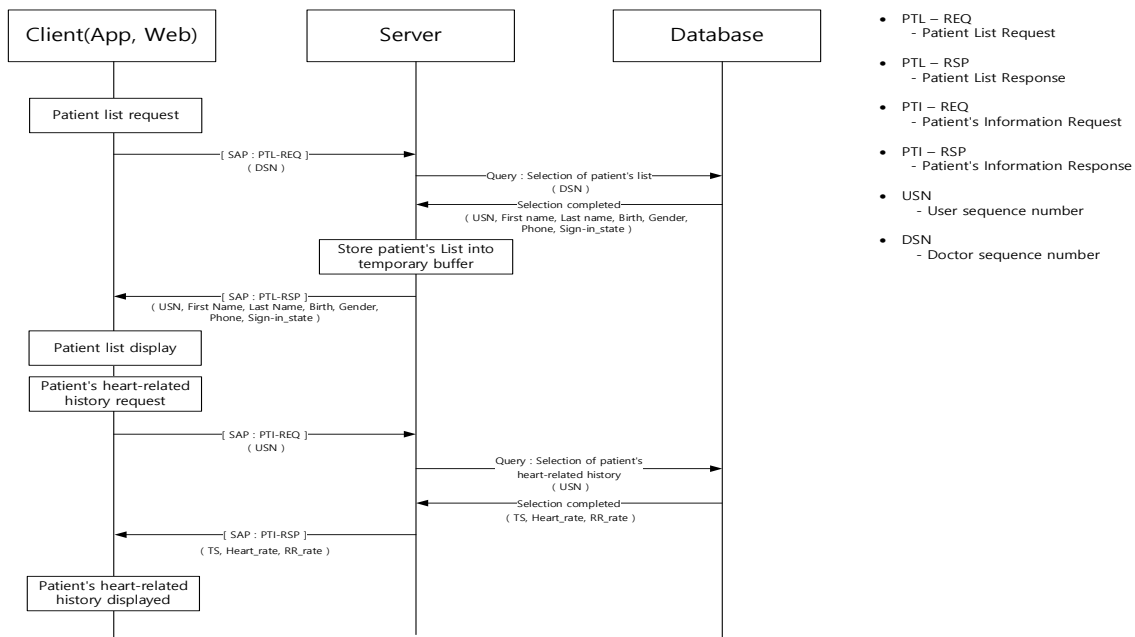


Figure 67. Display of Patient Information Procedure

## b. Block Diagram

### - Client

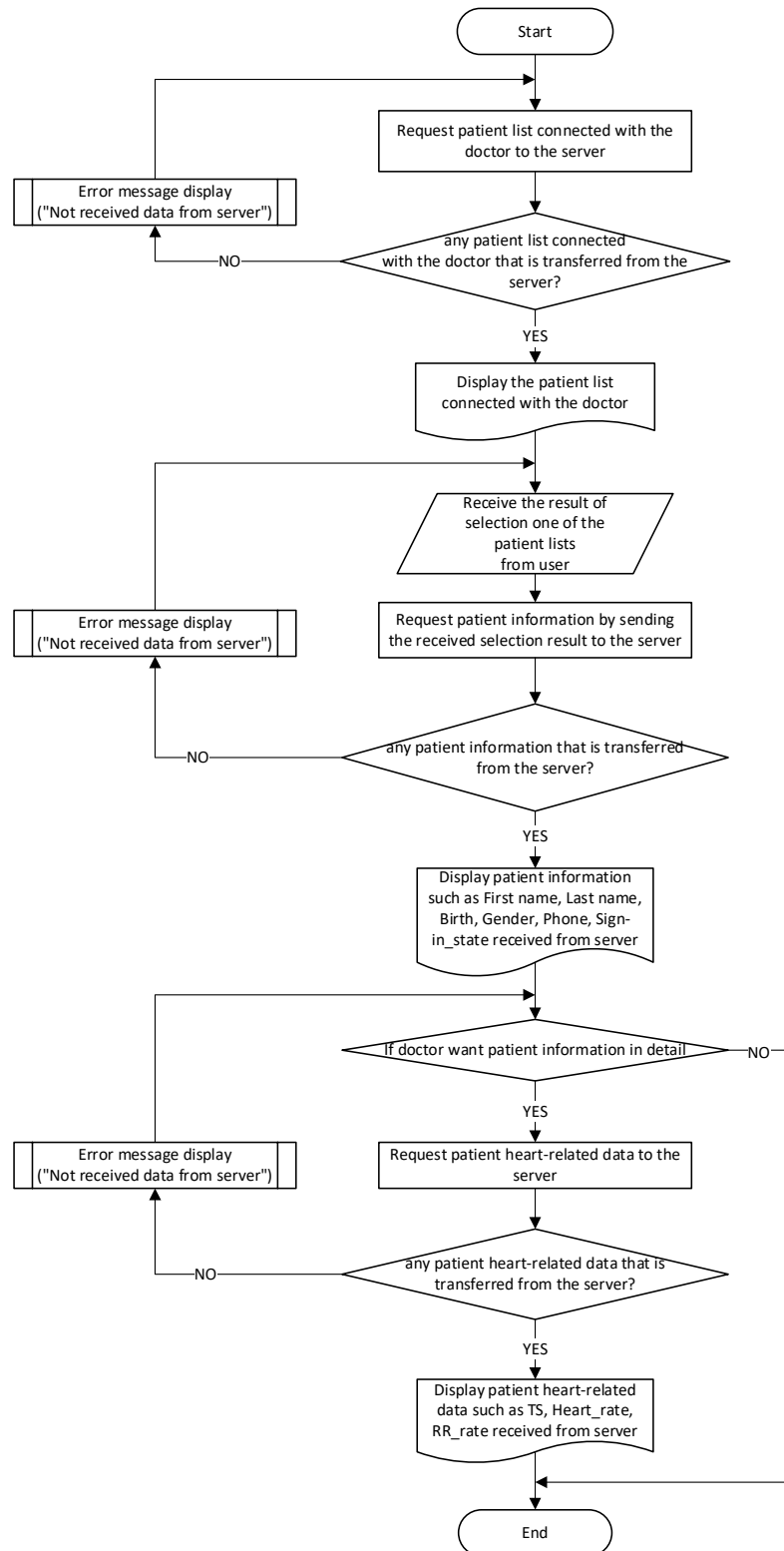


Figure 68. Display of Patient Information Procedure for App and Web Client

- Server

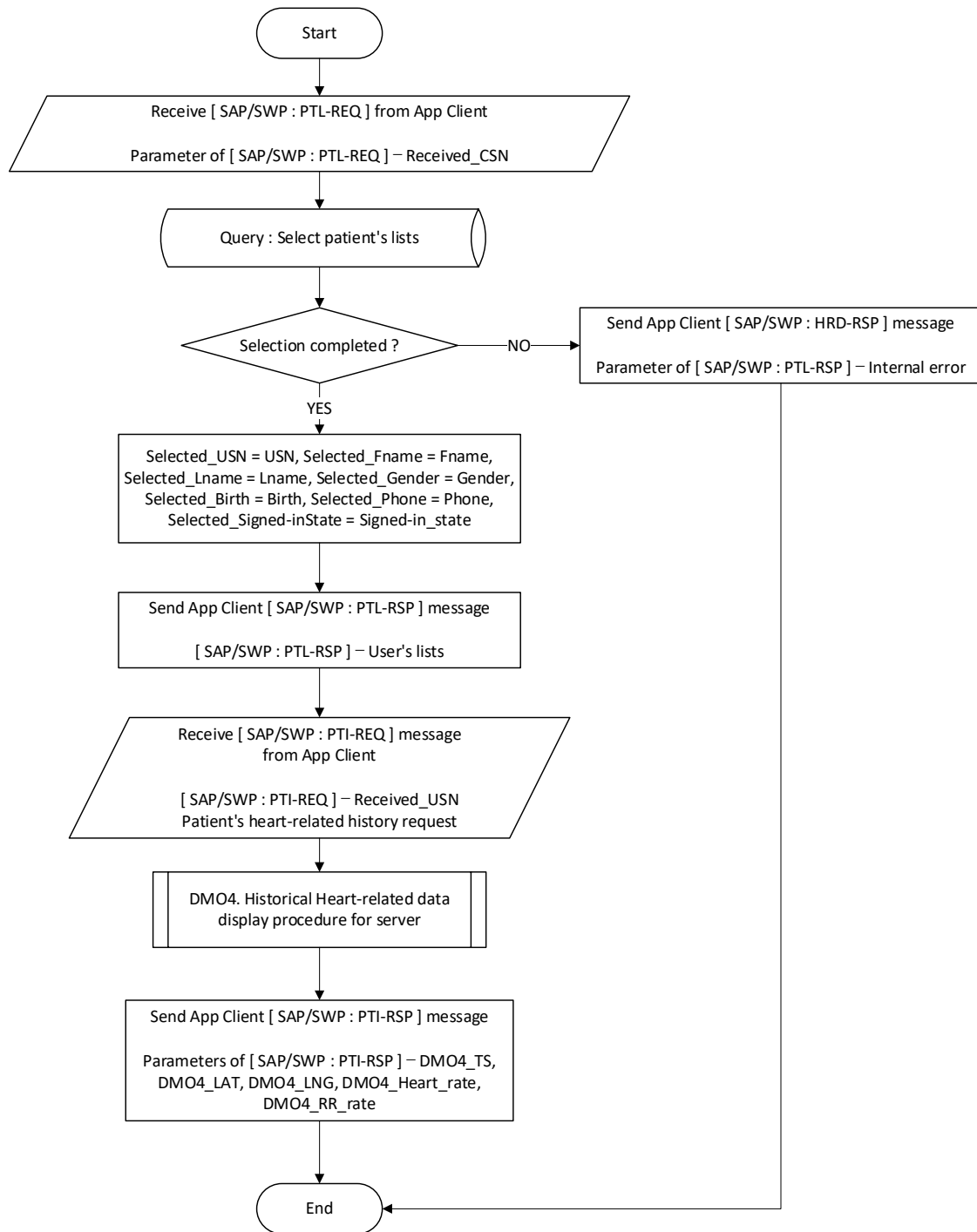


Figure 69. Display of Patient Information Procedure for Server