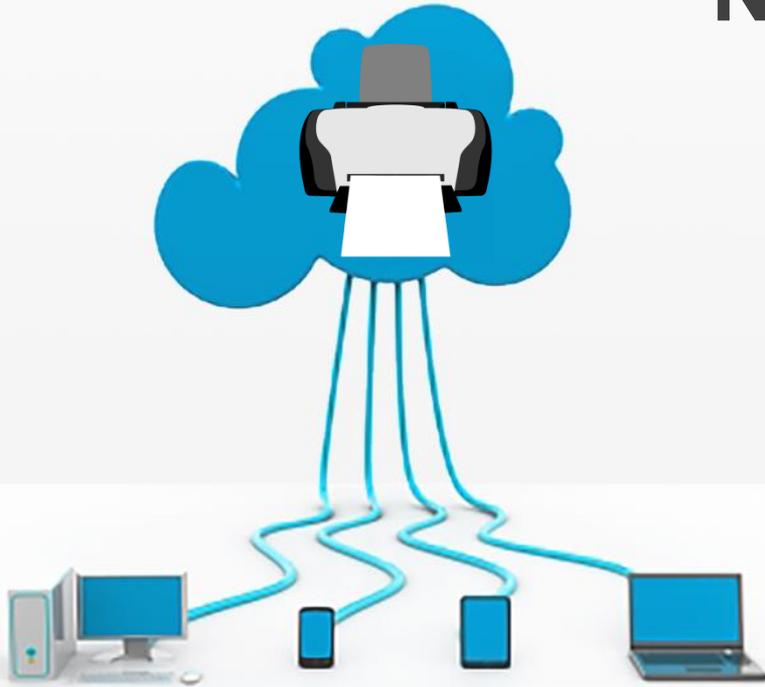


N.P.S

Network Printer System

SA Presentation



201011355 이재상
201012047 신보선
201111396 한재만
201111345 김종우

INDEX

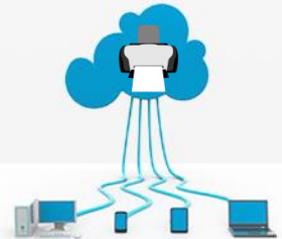
Purpose & Requirements

Context Diagram

Data Flow Diagram

State Transition Diagram

Q&A



Purpose

Software Engineering-Network Printer System

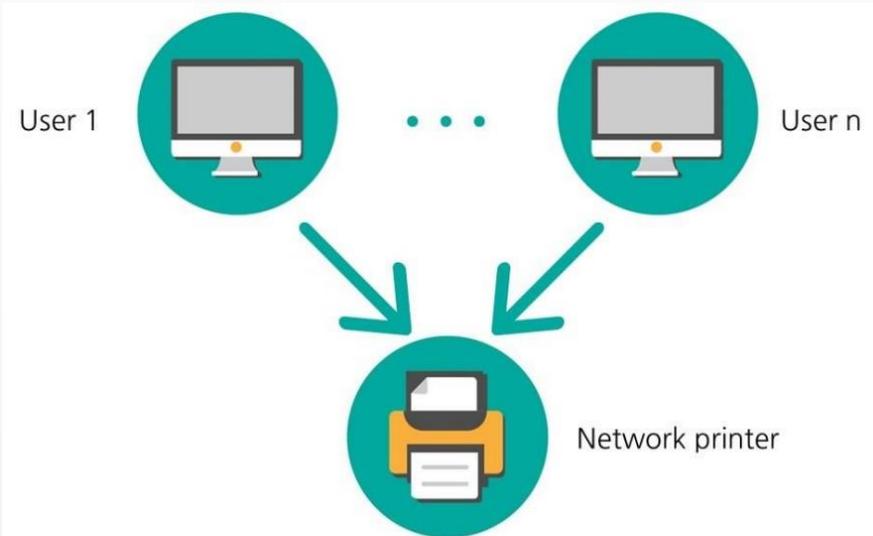
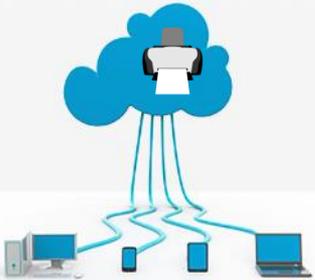
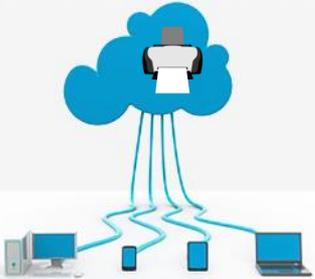


그림 1 일반적인 Network Printer 구성



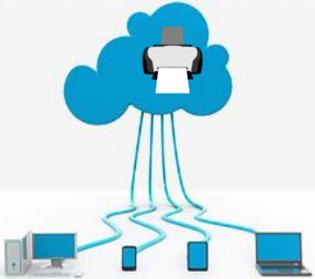
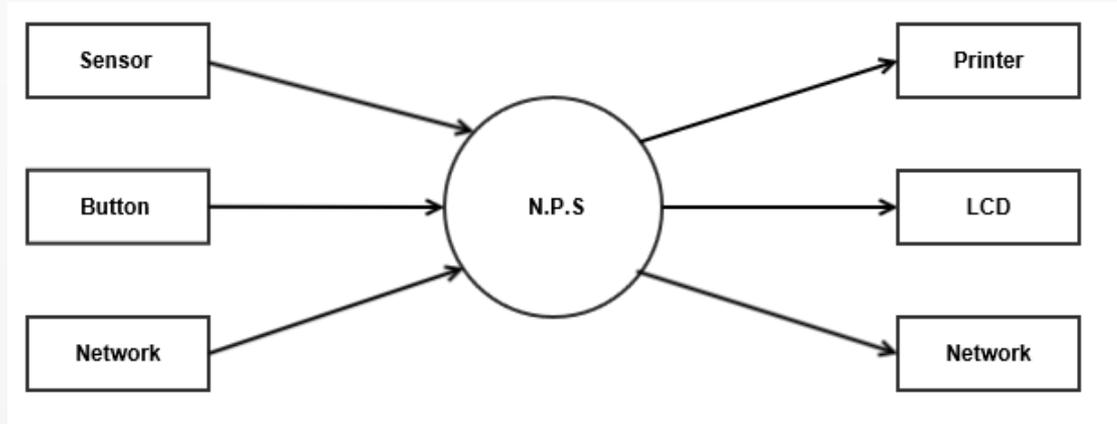
Requirements

SW로 개발하는 가상의 네트워크 프린터 시스템



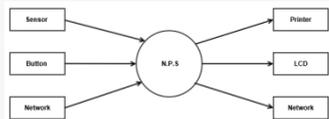
Context Diagram

Basic



Context Diagram

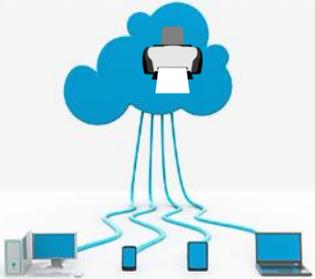
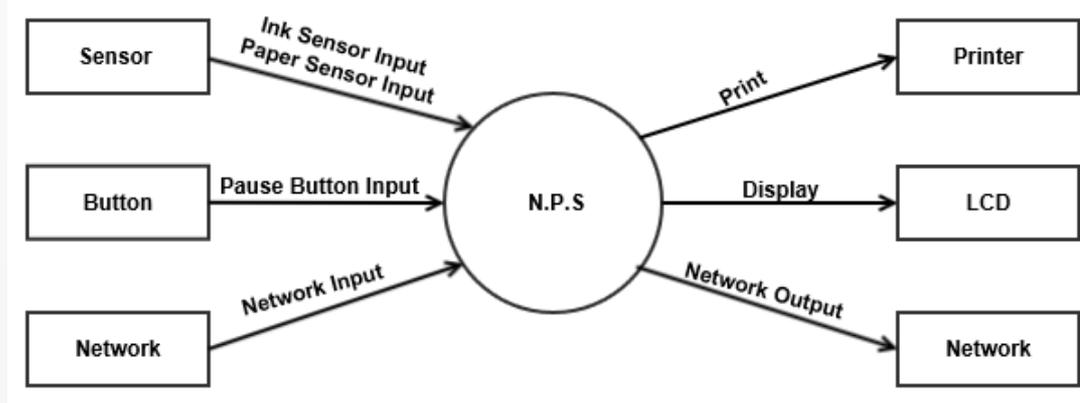
Event List



Input/Output Event	Description
Ink Sensor Input	잉크의 잔량 정보
Paper Sensor Input	용지의 잔량 정보
Pause Button Input	정지버튼에 관한 정보
Network Input	네트워크 프린터 사용자들 및 관리자의 요청 정보
Network Output	네트워크 콘솔에 출력할 정보
Display	LCD화면 출력 정보
Print	Print할 파일의 정보

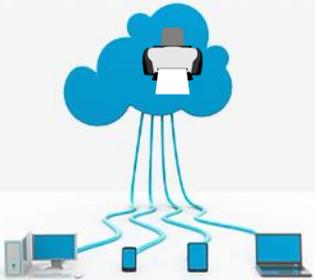
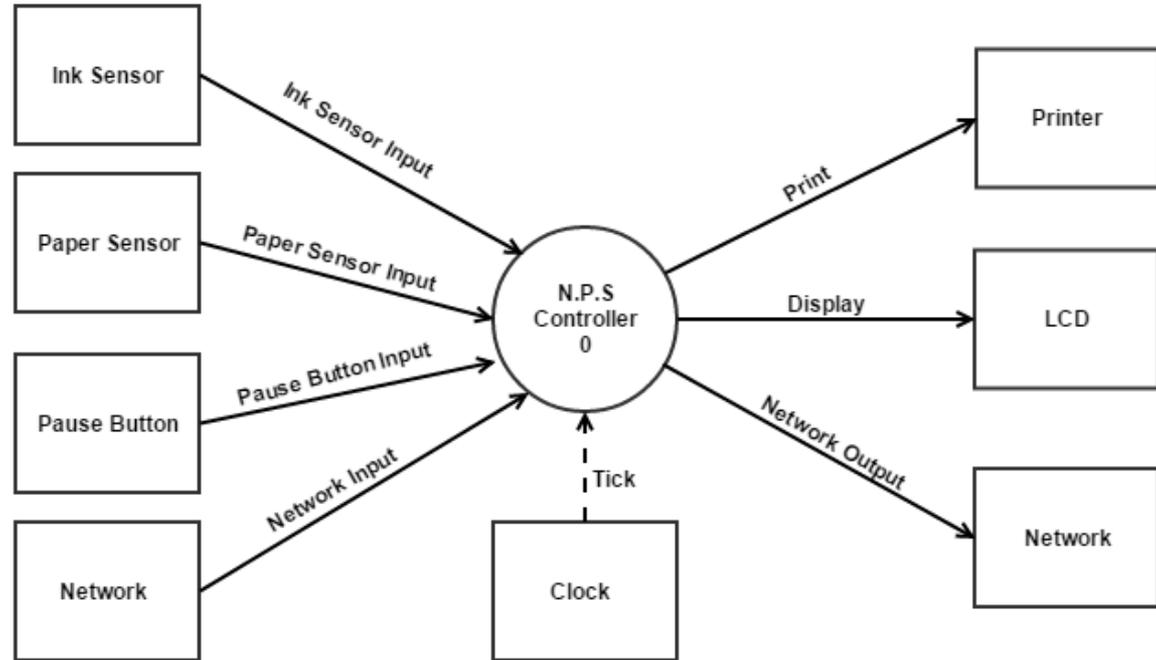


Context Diagram



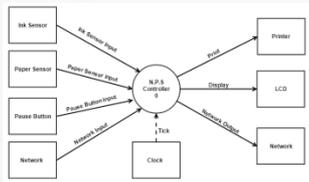
Data Flow Diagram

Level 0



Data Flow Diagram

Process Specification



Reference No.	0
Name	Network Printer System Controller
Input	Ink Sensor Input, Paper Sensor Input, Pause Button Input, Network Input
Output	Print, Display, Network Output
Process Description	각종 센서 및 버튼의 정보와 데이터 흐름 신호들을 받아 N.P.S 컨트롤러에서 처리한 후 프린트할 정보들은 프린터로 보내고 다양한 출력 정보들은 LCD로 보내고 출력불가, 사용자 리스트 등은 Network 콘솔창으로 보낸다.



Data Flow Diagram

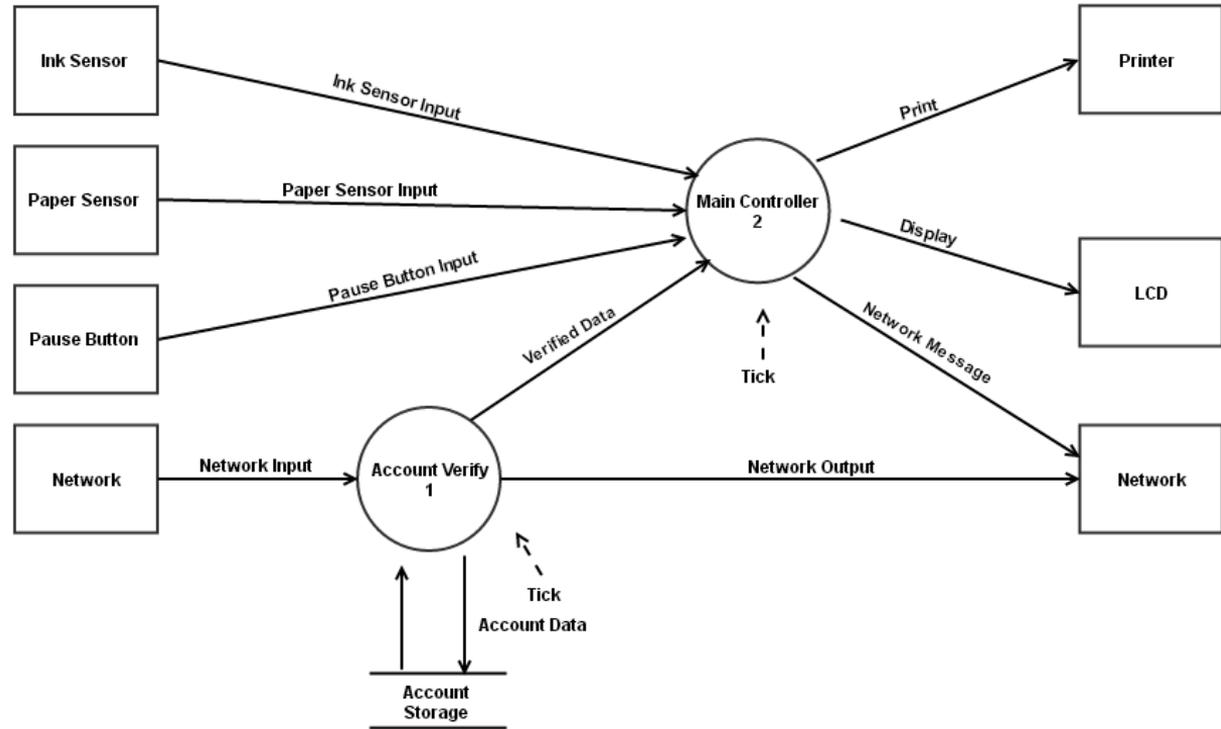
Data Dictionary

Input/Output Event	Description	Format / Type
Ink Sensor Input	잉크의 잔량 정보	Int / Periodic
Paper Sensor Input	용지의 잔량 정보	Int / Periodic
Pause Button Input	정지버튼에 관한 정보	True, False / Interrupt
Network Input	네트워크 프린터 사용자들 및 관리자의 요청 정보	
Network Output	네트워크 콘솔에 출력할 정보	
Display	LCD화면 출력 정보	
Print	Print할 파일의 정보	



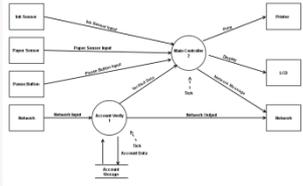
Data Flow Diagram

Level 1

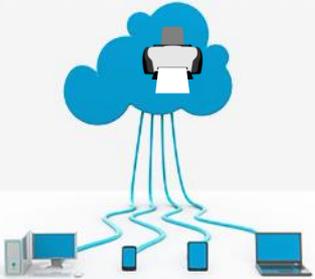


Data Flow Diagram

Process Specification

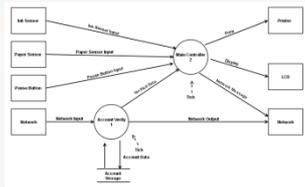


Reference No.	1
Name	Account Verifier
Input	Network Input, Account Data
Output	Verified Order, Account Data, Network Output
Process Description	Network입력을 받아 관리자인지 사용자인지 검증되지 않은 사용자인지를 판단하여 검증된 경우 출력정보를 Main Controller로 보낸다. 유효하지 않은 명령이 들어올 경우 콘솔 창에 메시지를 띄워준다



Data Flow Diagram

Process Specification



Reference No.	2
Name	Main Controller
Input	InkSensor Input, PaperSensor Input, PauseButton Input, Verified data
Output	Print, Display, Network message
Process Description	Ink 잔량정보와 Paper잔량정보 정지버튼의 입력여부 및 출력물의 정보를 받은 뒤 Main Controller에서 계산하여 .Print할 정보를 Printer로 보내고 Display할 정보를 LCD로 보내고 Network message 를 Network로 보낸다.



Data Flow Diagram

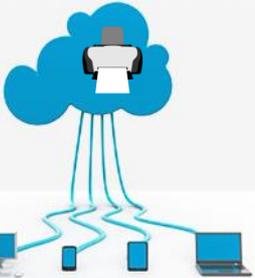
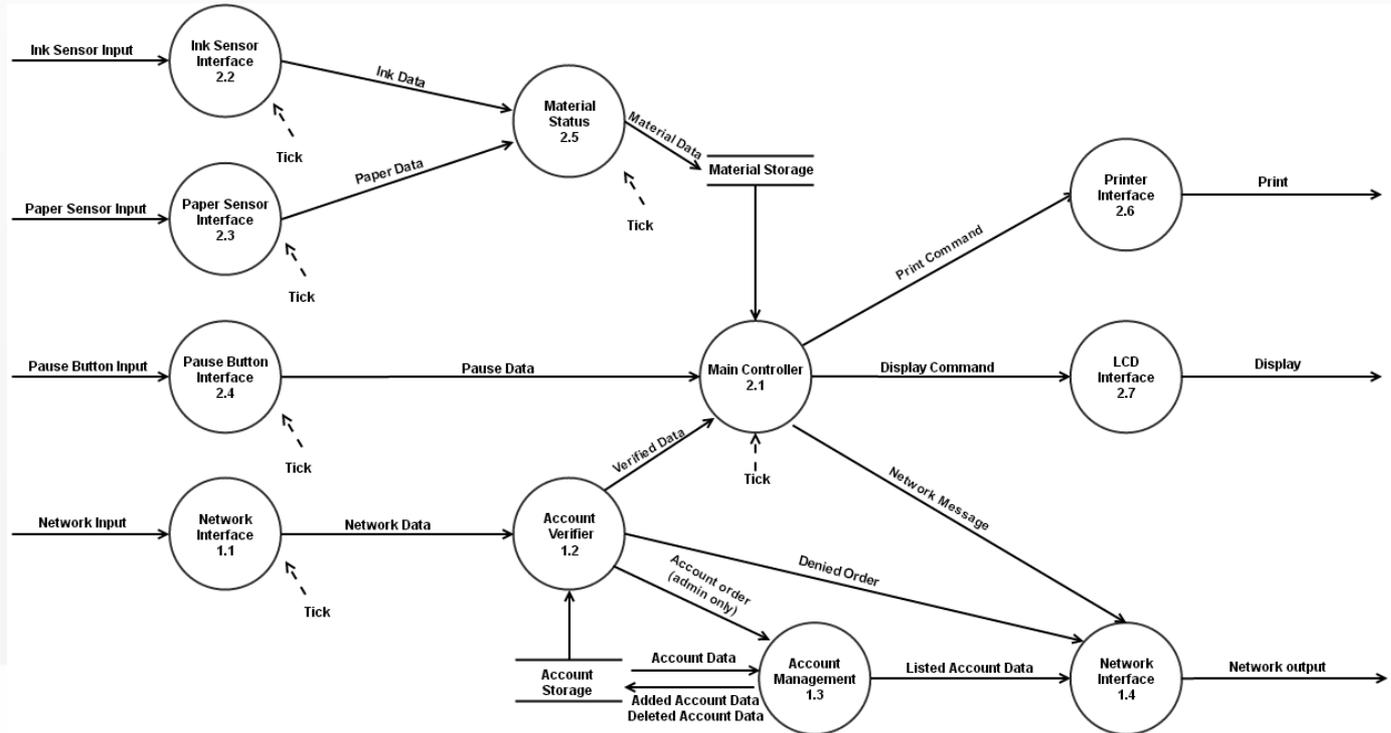
Data Dictionary

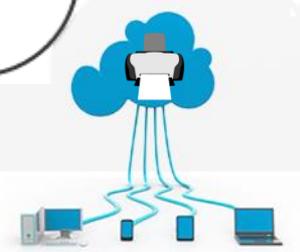
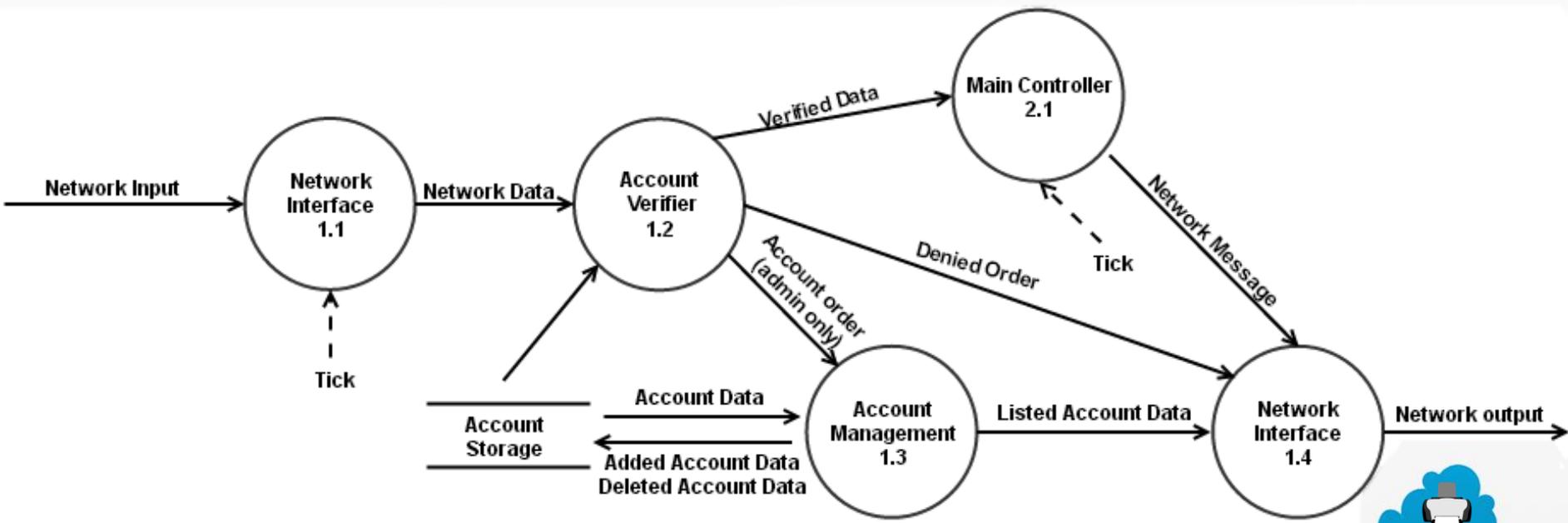
Input/Output Event	Description	Format / Type
Verified Data	인쇄정보, 다양한 Network명령어들	Structure
	Username(Chracter):유저이름 Filename(Character):파일명 Command(Chracter):명령어	
Account Data	사용자 계정에 관한 정보	Chracter
	Username(Chracter) : 계정정보	
Account Storage	Account Data들의 모임	



Data Flow Diagram

Level 2





Data Flow Diagram

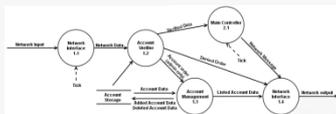
Process Specification

Reference No.	1.2
Name	Account Verifier
Input	Network Data, Account Data
Output	Account order, Verified Data, Denied Order
Process Description	Network Data를 받아 관리자명령어일 경우 Account Order를 전달하고 등록되지 않은 사용자일 경우 Denied Order를 전달한다 . 검증된 사용자일 경우 Verified Data를 Main Controller에 전달한다.



Data Flow Diagram

Process Specification



Reference No.	1.3
Name	Account Management
Input	Account order
Output	Listed Account Data, Account Data
Process Description	Account order에 따라 Account Storage에 등록, 삭제 하고 유저확인 명령의 경우에는 Account Storage에서 확인한 데이터를 Network Interface로 보낸다.

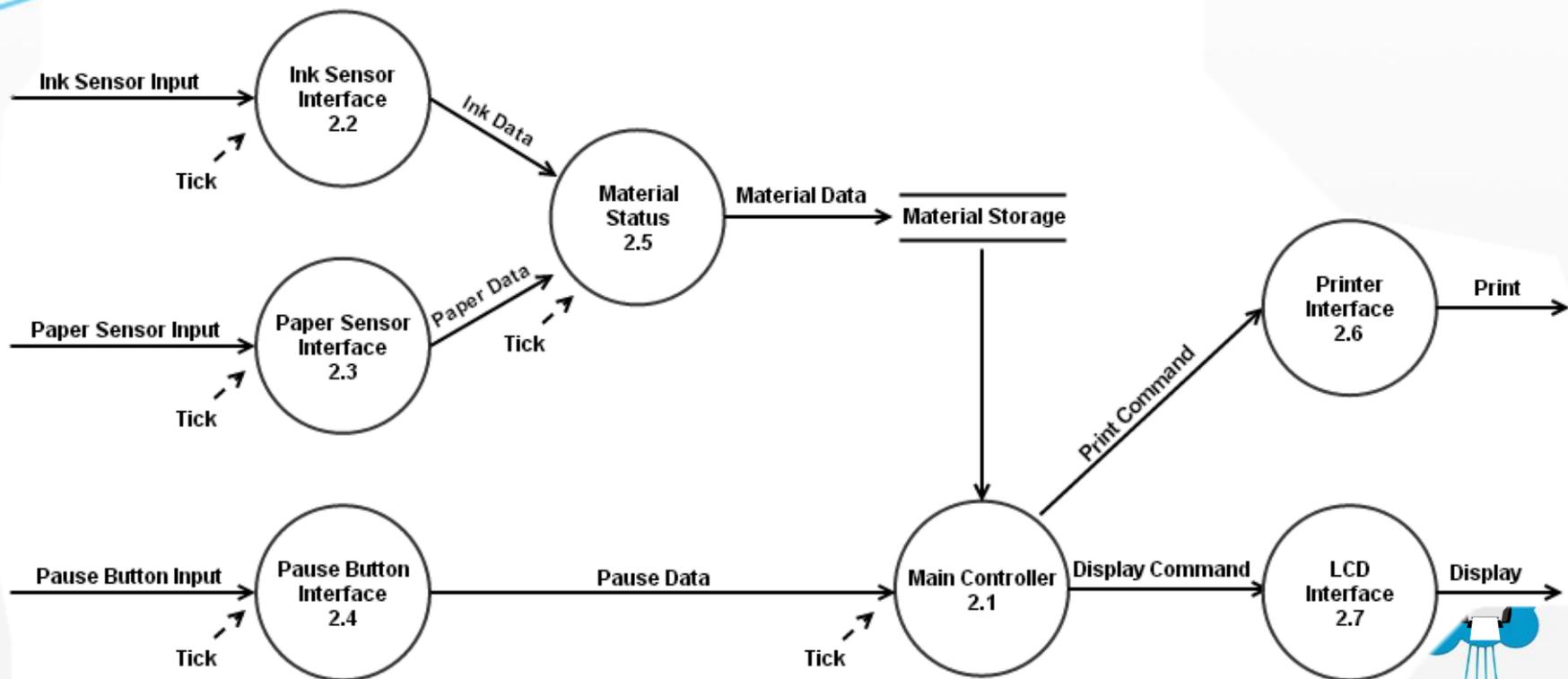


Data Flow Diagram

Process Specification

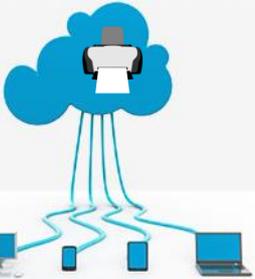
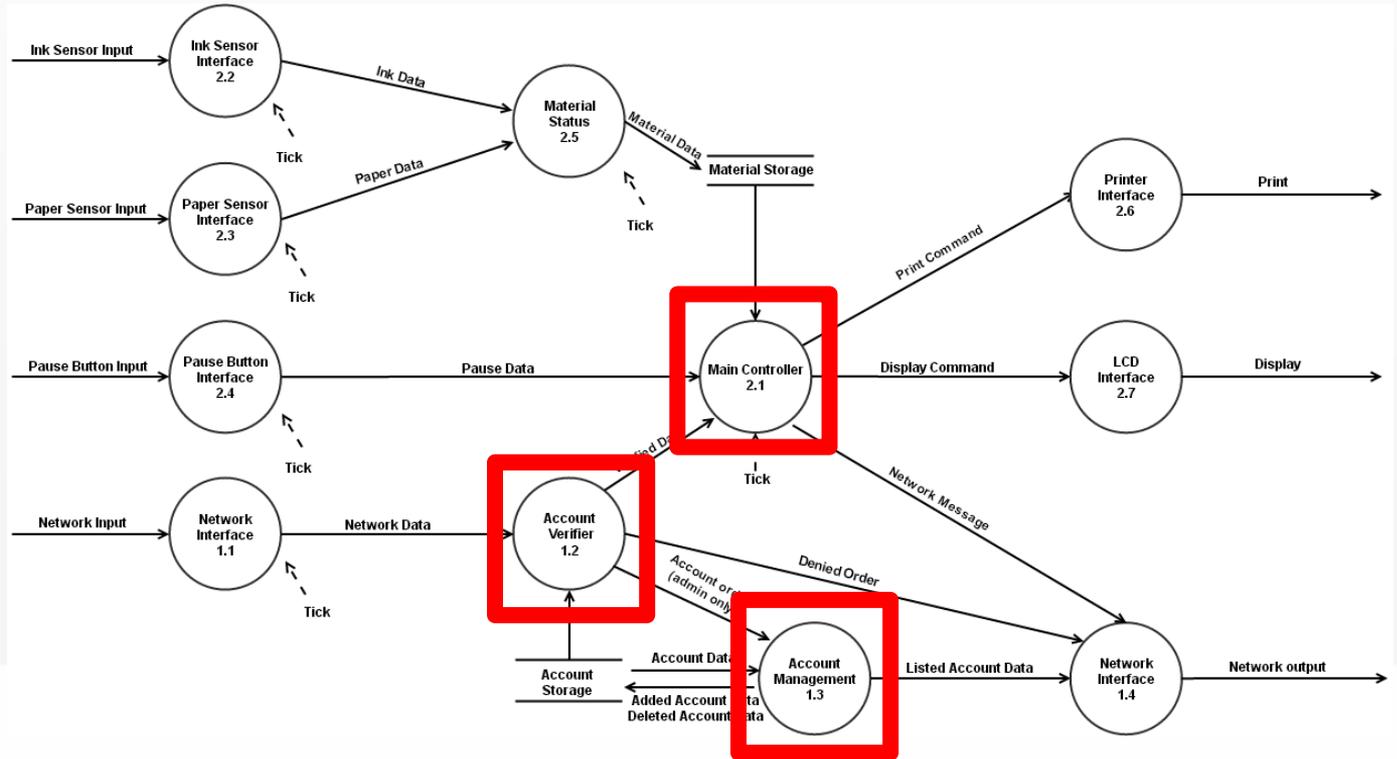
Reference No.	1.4
Name	Network Interface
Input	Listed Account Data, Denied Data
Output	Network Output
Process Description	사용자 계정 목록(Listed Account Data)을 받아 Network Console에 출력한다. 승인되지 않은 사용자의 경우 "승인되지 않은 사용자"라는 글자를 출력한다.



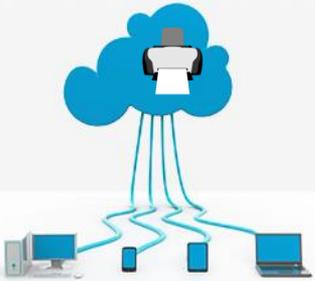
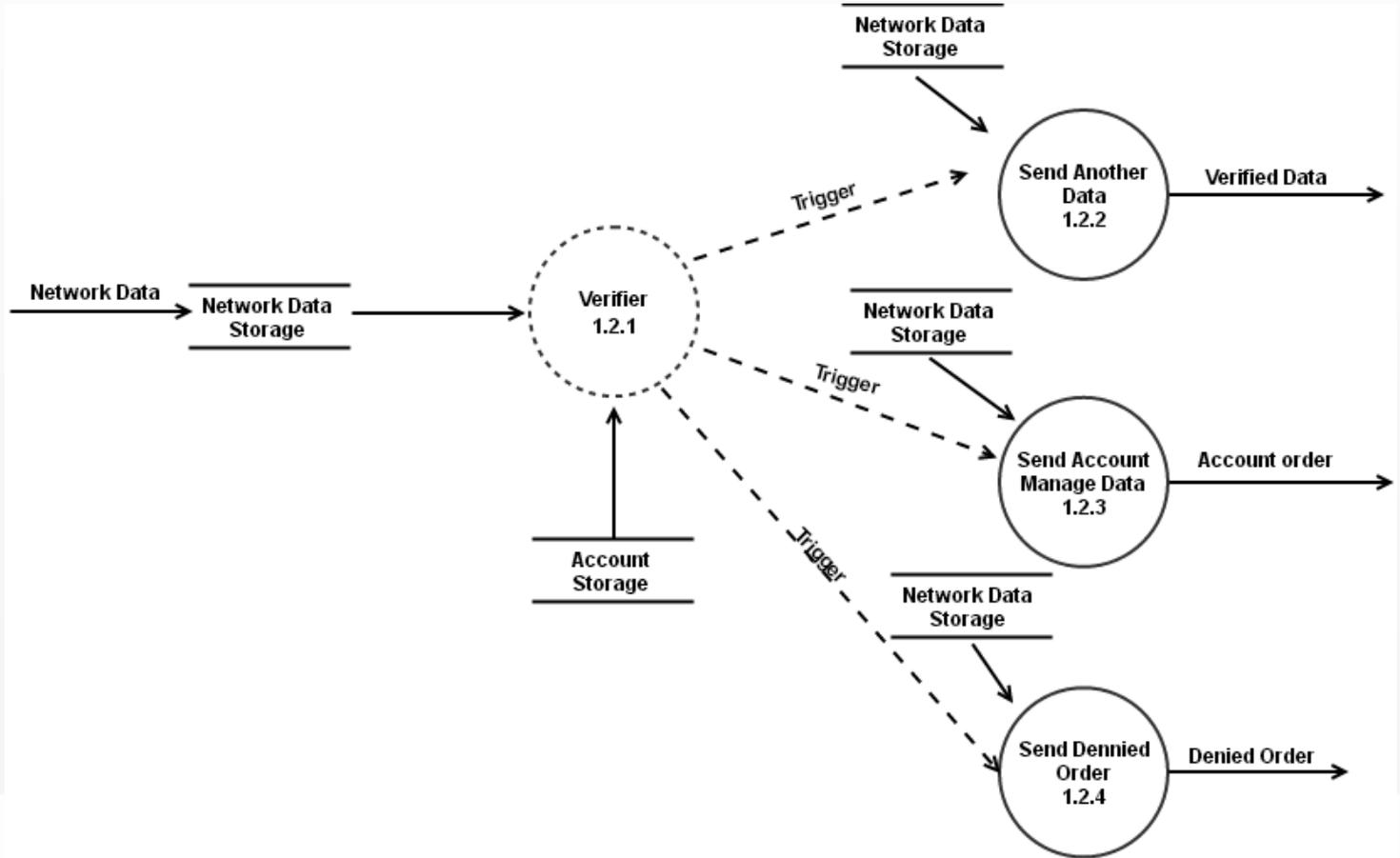


Data Flow Diagram

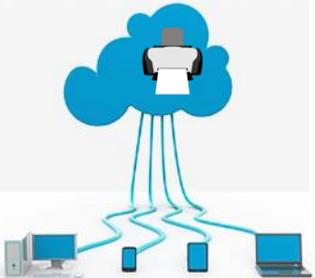
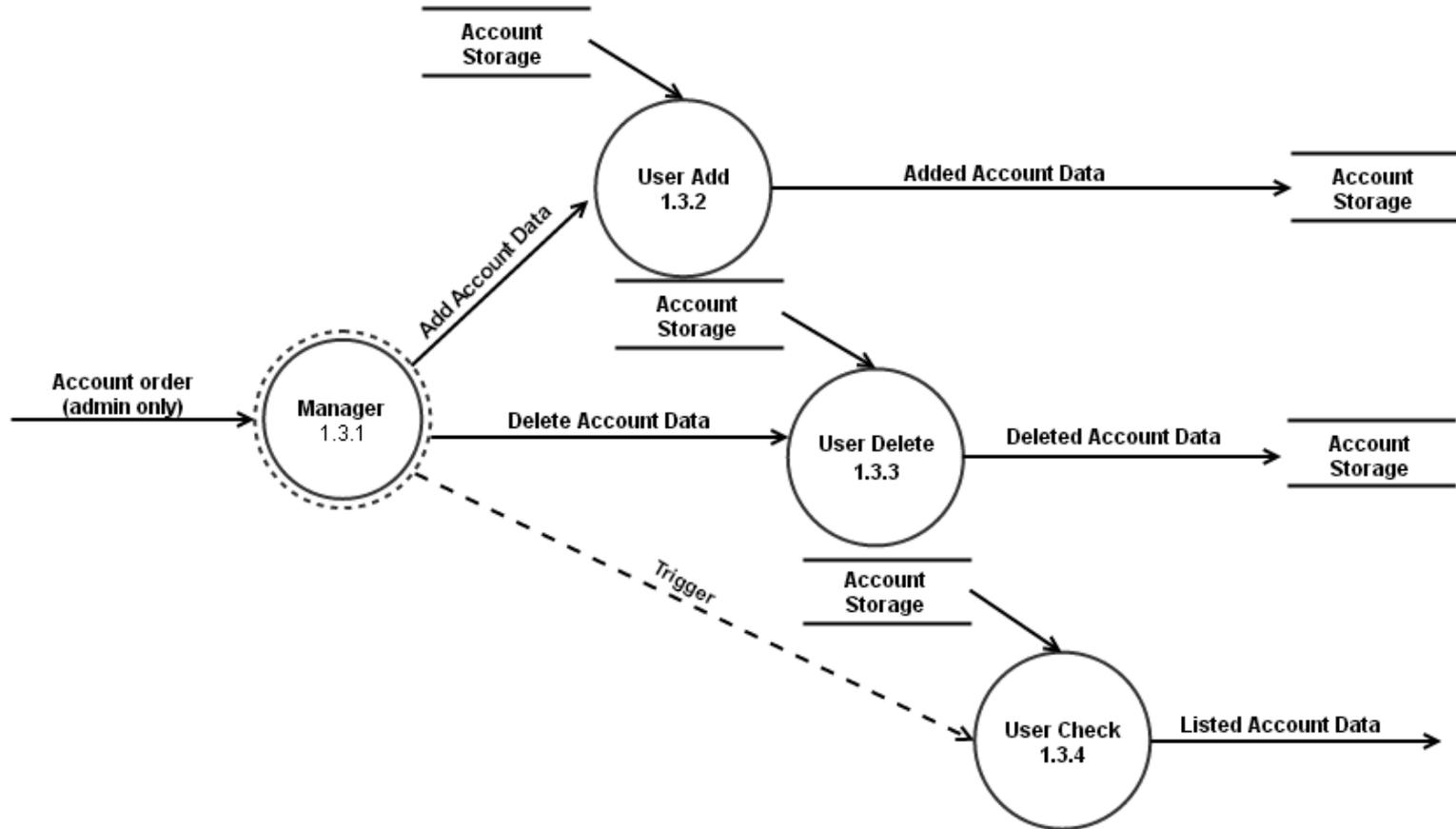
Level 3



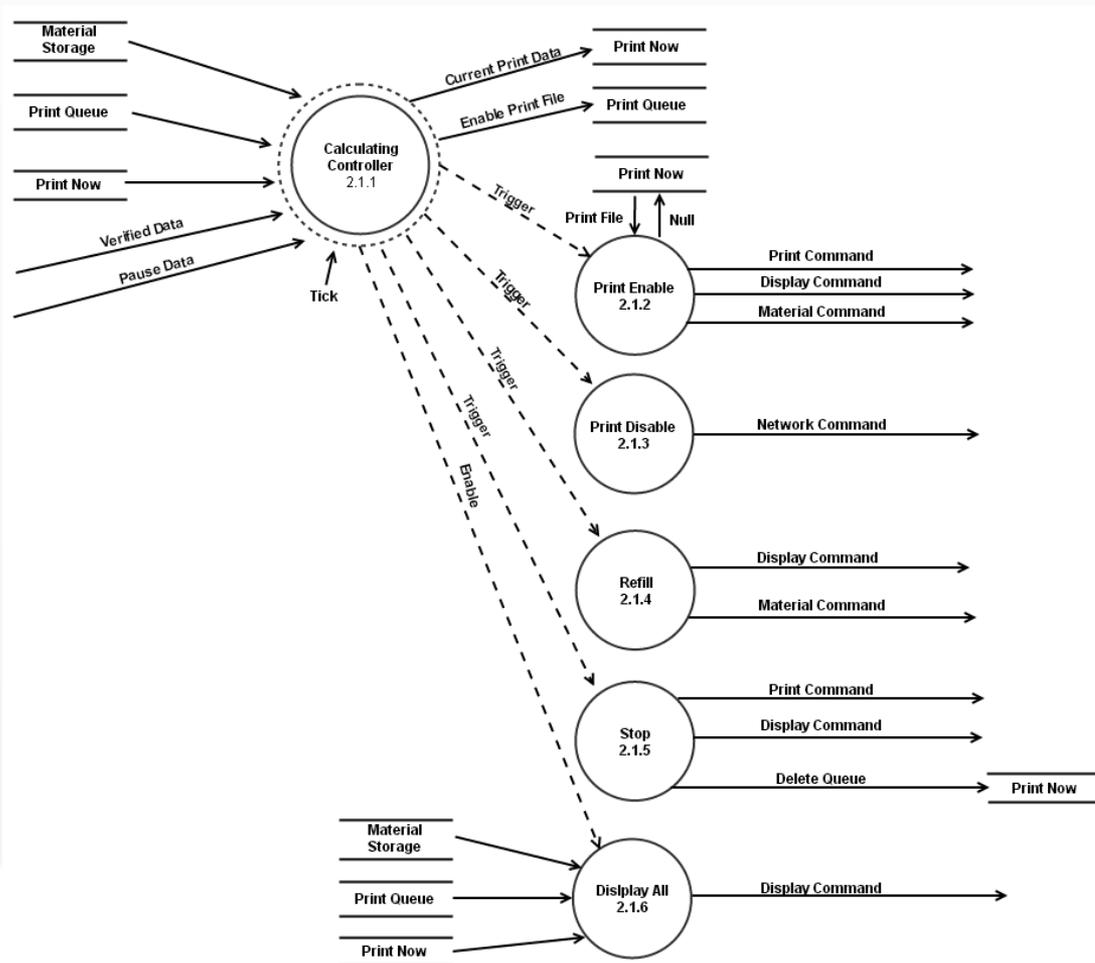
Account Verifier

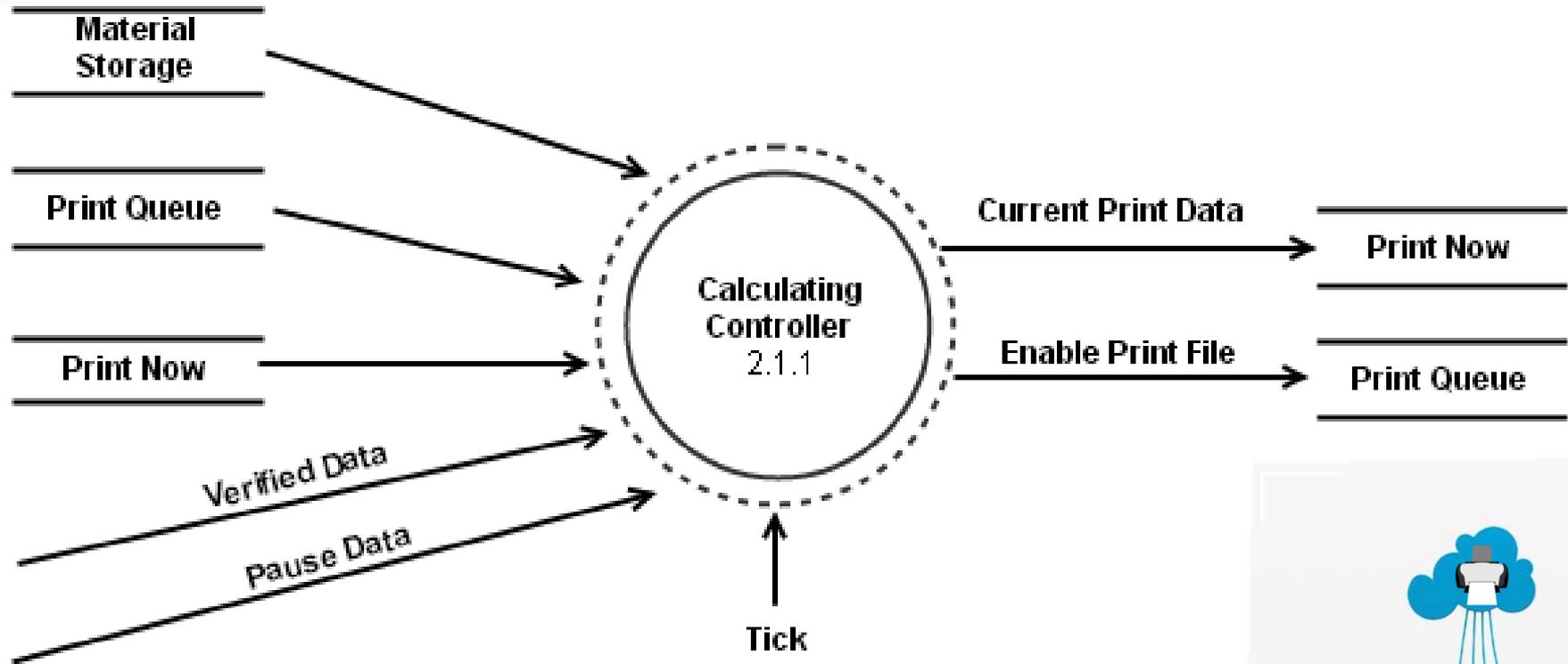


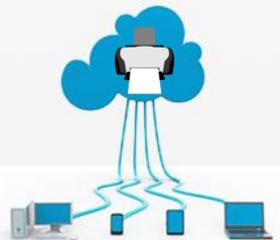
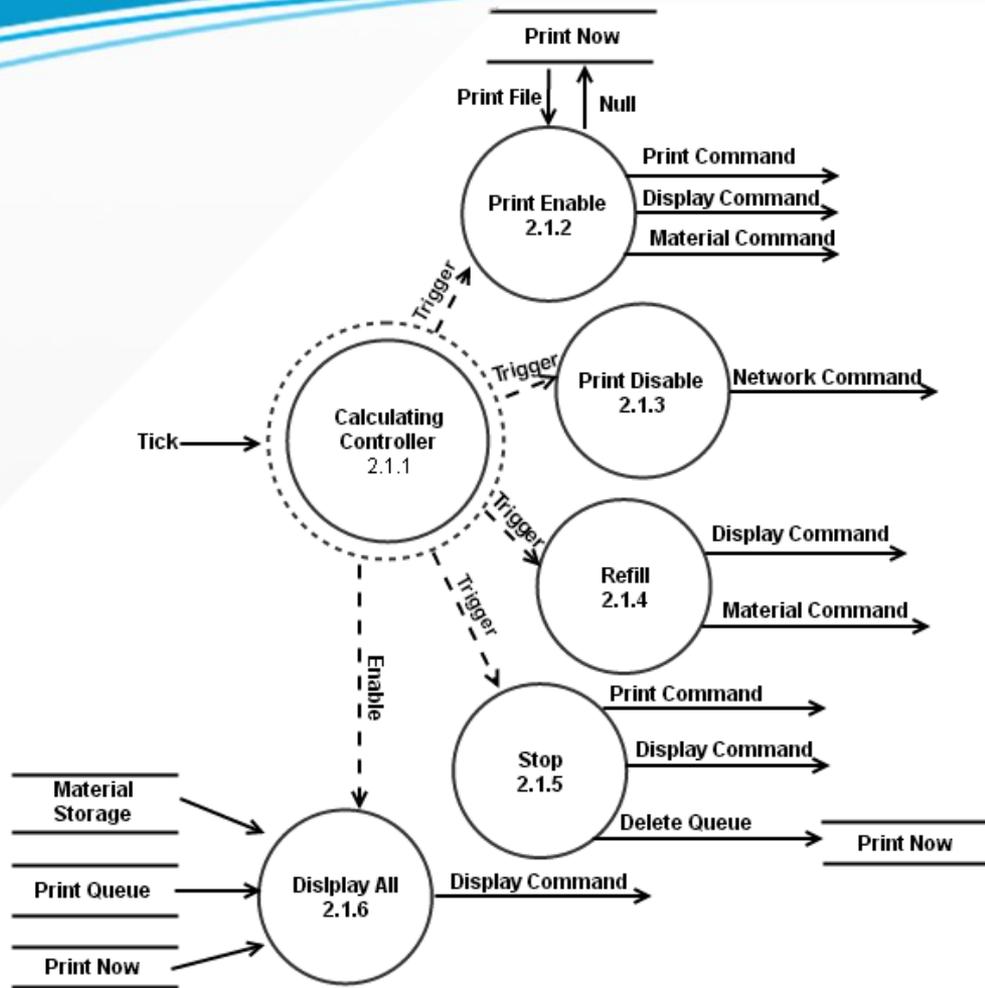
Account Management



Main Controller

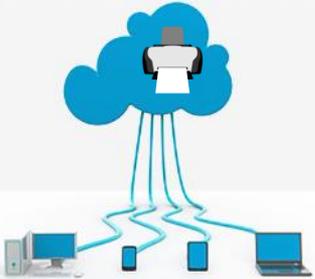
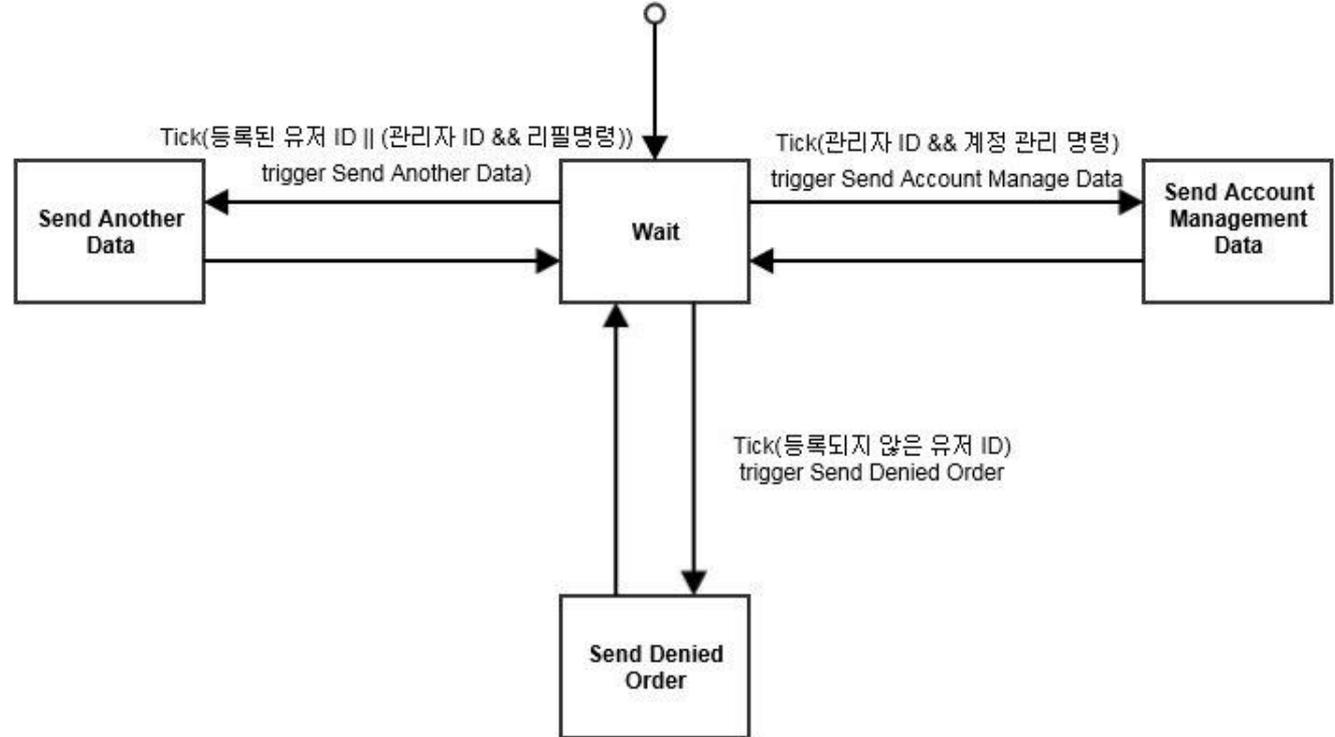






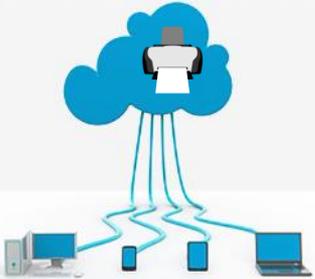
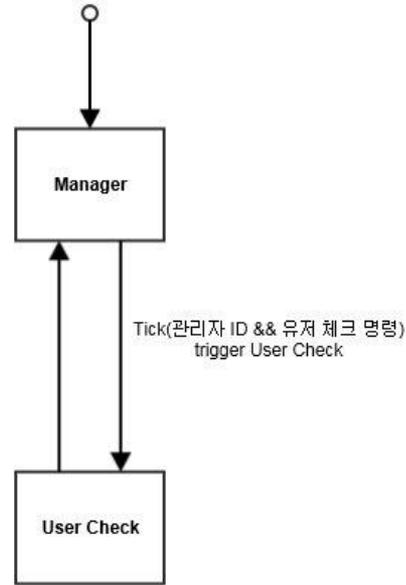
State Transition Diagram

Verifier



State Transition Diagram

Manager



State Transition Diagram

Calculating Controller

