Unit Testing Report

for Network Printer System

- **Test Plan**
- **Test Design Specification**
- **Test Cases Specification**

Project Team

Team 2

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Team Information

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1 Introduction

1.1 Objectives

본 문서는 2014년 건국대학교의 소프트웨어공학 개론 강의의 실습과제를 설명한다. 실습과제는 네트워크 프린터 시스템(NPS : Network Printer System)을 소프트웨어만을 이용한 가상의 시스템으로 구현하는 것을 의미한다.

1.2 References

T2_2015_SRA 2.1
T2_2015_SDS 1.0

2 Unit test case specification

2.1 Test case specification identifier

Test case Identifier	Input Specification	Output Specification
TEAM2_NPS_2.1_000	Admin_Request_data input : Admin Show UserList UserDB input:{'₩0'} ink_paper_data input :{0,0}	Open_UserList() 실행
TEAM2_NPS_2.1_001	Admin_Request_data input : Admin Del userA UserDB input:{'₩0'} ink_paper_data input :{0,0}	Remove_User()실행
TEAM2_NPS_2.1_002	Admin_Request_data input : Admin Del userA UserDB input:{"userA"} ink_paper_data input :{0,0}	Remove_User()실행
TEAM2_NPS_2.1_003	Admin_Request_data input : Admin Reg abcde UserDB input:{'₩0'} ink_paper_data input :{0,0}	Register_User()실행
TEAM2_NPS_2.1_004	Admin_Request_data input : Admin Reg abcde UserDB input:{"abcde"} ink_paper_data input :{0,0}	Register_User()실행
TEAM2_NPS_2.1_005	Admin_Request_data input : Admin A4 100 UserDB input:{'₩0'} ink_paper_data input :{0,0}	Refill_ink_paper()실행

[텍스트 입력]   OOO Team3

TEAM2_NPS_2.1_006	Admin_Request_data input : Admin ink 3000 UserDB input:{'₩0'} ink_paper_data input :{0,0}	Refill_ink_paper()실행
TEAM2_NPS_2.1_007	Admin_Request_data input : AdminShowUserList UserDB input:{'₩0'} ink_paper_data input :{0,0}	명령어가 틀렸으므로 어떤 함수도 실행 되지 않음
TEAM2_NPS_2.2_000	Print Request data : UserA abc.txt Ink & Paper data = 3000, 15	Count_Char(abc.txt)실행(출력할 함수의 잉크수) Identify_User(UserA)실행 Count_Low(abc.txt)행의 개수를 출력함수 실행 Compare_RealInk()실행 Compare_RealPaper()실행
TEAM2_NPS_2.2_001	Print Request data : UserD(not exist) abc.txt Ink & Paper data = 3000, 15	Count_Char(abc.txt)실행(출력할 함수의 잉크수) Identify_User(UserD)실행 Count_Low(abc.txt)행의 개수를 출력함수 실행 Compare_RealInk()실행 Compare_RealPaper()실행
TEAM2_NPS_2.2_002	Print Request data : abc.txt UserA Ink & Paper data = 3000, 15	두개의 변수의 위치가 변하여 실행하지 않음
TEAM2_NPS_2.2_003	Print Request data : UserA abc Ink & Paper data = 3000, 15	파일 이름의 형태가 .txt형식이 아니라서 실행 하지 않음
TEAM2_NPS_2.2_004	Print Request data : UserD abc.txt Ink & Paper data = 3000, 15	Count_Char(abc.txt)실행(출력할 함수의 잉크수) Identify_User(UserD)실행 Count_Low(abc.txt)행의 개수를 출력함수 실행 Compare_RealInk()실행 Compare_RealPaper()실행
TEAM2_NPS_2.2_005	Print Request data : UserH nts.txt Ink & Paper data = 3000, 15	Count_Char(nts.txt)실행(출력할 함수의 잉크수) Identify_User(UserH)실행 Count_Low(nts.txt)행의 개수를 출력함수 실행 Compare_RealInk()실행 Compare_RealPaper()실행
TEAM2_NPS_2.2_006	Print Request data : yunhoo asdf.txt(not exist User) Ink & Paper data = 3000, 15	Count_Char(asdf.txt)실행(출력할 함수의 잉크수) Identify_User(yunhoo)실행 Count_Low(asdf.txt)행의 개수를 출력함수 실행 Compare_RealInk()실행 Compare_RealPaper()실행

TEAM2_NPS_2.2_007	Print Request data : !!!! aaa.txt Ink & Paper data = 3000, 15	User ID형식이 특수문자형식이므로 실행하지 않음
TEAM2_NPS_2.3_000	UserDB input : {'₩0'}	등록 유저가 없음
TEAM2_NPS_2.3_001	UserDB input : {abc}	abc
TEAM2_NPS_2.3_002	UserDB input : {userA,userB,userC}	userA userB userC
TEAM2_NPS_2.3_003	UserDB input : {aaaaaaaaaa }	aaaaaaaaaa
TEAM2_NPS_2.3_004	UserDB input : {abc123,abc457}	abc123 abc457
TEAM2_NPS_2.4_000	UserDB input : {'₩0'} id input : userA	등록된 유저가 없음
TEAM2_NPS_2.4_001	UserDB input : {userA} id input :userA	등록된 유저가 없음
TEAM2_NPS_2.4_002	UserDB input : {userA,userB,userC} id input :userB	userA userC
TEAM2_NPS_2.4_003	UserDB input : {userA,userB,userC} id input : userABC	userA userB userC
TEAM2_NPS_2.4_004	UserDB input : {'₩0'} id input :(공백)	등록된 유저 없음
TEAM2_NPS_2.4_005	UserDB input : {1,2,3} id input : (공백)1(공백)	1 2 3
TEAM2_NPS_2.4_006	UserDB input : {-1,-2,-3} id input :-1	-2 -3
TEAM2_NPS_2.5_000	UserDB input : {'₩0'} id input : userA	userA 등록
TEAM2_NPS_2.5_001	UserDB input : {userA} id input : {userA}	이미 등록된 id는 Reg 불가

[텍스트 입력]   OOO Team5

TEAM2_NPS_2.5_002	UserDB input : {a,b} id input : {a b}	a b 등록
TEAM2_NPS_2.5_003	UserDB input : {'₩0'} id input :aaaaaaaaa	id의 Max == 9 aaaaaaaaa 등록
TEAM2_NPS_2.5_004	UserDB input : {'₩0'} id input : a,b	a,b 등록
TEAM2_NPS_2.5_005	UserDB input : {'₩0'} id input : 1.0123456	id의 Max == 9 1.0123456 등록
TEAM2_NPS_2.6_000	ink_paper_data input : 0,0 (앞이 용지 상태) refill input : 0,0 (앞이 용지의 refill 양)	0,0
TEAM2_NPS_2.6_001	ink_paper_data input : 100,0 refill input : 0,0	100,0
TEAM2_NPS_2.6_002	ink_paper_data input : 100,0 refill input : 100,0	paper의 Max == 100 충전되지 않음
TEAM2_NPS_2.6_003	ink_paper_data input : 100,3000 refill input : 1.00 ,0	paper의 Max == 100 충전되지 않음
TEAM2_NPS_2.6_004	ink_paper_data input : 0,3000 refill input : 0,0	0,3000
TEAM2_NPS_2.6_005	ink_paper_data input : 0,3000 refill input : 0,1000	ink의 Max == 3000 충전되지 않음
TEAM2_NPS_2.6_006	ink_paper_data input : 0,3000 refill input : 0, 0.0001	ink의 Max == 3000 && Refill amount는 양의 정수 충전되지 않음
TEAM2_NPS_2.6_007	ink_paper_data input : 0,0 refill input :-1,0	Refill amount는 양의 정수 충전되지 않음
TEAM2_NPS_2.6_008	ink_paper_data input :100,0 refill input :-0.01 ,0	Refill amount는 양의 정수 충전되지 않음
TEAM2_NPS_2.7_000	INDB data : True INKEPT : True PPEPT : True CLIKSTB = FALSE	Print(UserName,FileName)실행 Stop_sigal = false; 복사파일 이름 년도월일시간분.txt
TEAM2_NPS_2.7_001	INDB data : False INKEPT : True PPEPT : True CLIKSTB = FALSE	프린터함수가 실행되지않음 Stop_sigal = True;

[텍스트 입력]   OOO Team6

TEAM2_NPS_2.7_002	INDB data : True INKEPT : False PPEPT : True CLIKSTB = FALSE	프린터함수가 실행되지않음 Stop_sigal = True;
TEAM2_NPS_2.7_003	INDB data : True INKEPT : True PPEPT : False CLIKSTB = FALSE	프린터함수가 실행되지않음 Stop_sigal = True;
TEAM2_NPS_2.7_004	INDB data : True INKEPT : True PPEPT : True CLIKSTB = True	프린터함수가 실행되지않음 Stop_sigal = True;
TEAM2_NPS_2.7_005	INDB data : FALSE INKEPT : FALSE PPEPT : FALSE CLIKSTB = FALSE	프린터함수가 실행되지않음 Stop_sigal = True;
TEAM2_NPS_2.7_006	INDB data : 111 INKEPT : 33 PPEPT : True CLIKSTB = FALSE	프린터함수가 실행되지않음 Stop_sigal = True;
TEAM2_NPS_2.8_000	INDB data : True INKEPT : True PPEPT : True CLIKSTB = FALSE	Print(UserName,FileName)실행 복사파일 이름 년도월일시간분.txt
TEAM2_NPS_2.8_001	INDB data : False INKEPT : True PPEPT : True CLIKSTB = FALSE	프린터함수가 실행되지않음 Stop_sigal = True;
TEAM2_NPS_2.8_002	INDB data : True INKEPT : False PPEPT : True CLIKSTB = FALSE	프린터함수가 실행되지않음 Stop_sigal = True;
TEAM2_NPS_2.8_003	INDB data : True INKEPT : True PPEPT : False CLIKSTB = FALSE	프린터함수가 실행되지않음 Stop_sigal = True;
TEAM2_NPS_2.8_004	INDB data : True INKEPT : True PPEPT : True CLIKSTB = True	프린터함수가 실행되지않음 Stop_sigal = True;
TEAM2_NPS_2.8_005	INDB data : FALSE	프린터함수가 실행되지않음

	INKEPT : FALSE PPEPT : FALSE CLIKSTB = FALSE	Stop_sigal = True;
TEAM2_NPS_2.8_006	INDB data : FALSE INKEPT : FALSE PPEPT : FALSE CLIKSTB = FALSE	프린터함수가 실행되지않음 Stop_sigal = True;
TEAM2_NPS_2.8_007	INDB data : 111 INKEPT : 33 PPEPT : True CLIKSTB = FALSE	아무 함수도 실행되지 않음.

2.2   Test items

<Table 3 Test Design Identification> 참조

2.3   Input specifications

<Table 4 Test Case Identification> 참조

2.4   Output specifications

<Table 4 Test Case Identification> 참조

3   Environmental needs

NPS의 Unit test를 위한 환경적 요구사항은 다음와 같다.

(1) Tool – Cygwin gcc vi

4   Unit test summary report

4.1   Test summary report identifier

Running Test Admin Control

[텍스트 입력]   OOO Team8

TEAM2_NPS_2.1_000	Passed
TEAM2_NPS_2.1_001	Passed
TEAM2_NPS_2.1_002	Passed
TEAM2_NPS_2.1_003	Passed
TEAM2_NPS_2.1_004	Passed
TEAM2_NPS_2.1_005	Passed
TEAM2_NPS_2.1_006	Passed
TEAM2_NPS_2.1_007	Passed
Running Test Printer Control	
TEAM2_NPS_2.2_000	Passed
TEAM2_NPS_2.2_001	Passed
TEAM2_NPS_2.2_002	Passed
TEAM2_NPS_2.2_003	Passed
TEAM2_NPS_2.2_004	Passed
TEAM2_NPS_2.2_005	Passed
TEAM2_NPS_2.2_006	Passed
TEAM2_NPS_2.2_007	Passed
Running Test Open User List	
TEAM2_NPS_2.3_000	Passed

TEAM2_NPS_2.3_001	Passed
TEAM2_NPS_2.3_002	Passed
TEAM2_NPS_2.3_003	Passed
TEAM2_NPS_2.3_004	Passed
Running Test Remove User	
TEAM2_NPS_2.4_000	Passed
TEAM2_NPS_2.4_001	Passed
TEAM2_NPS_2.4_002	Passed
TEAM2_NPS_2.4_003	Passed
TEAM2_NPS_2.4_004	Passed
TEAM2_NPS_2.4_005	Passed
TEAM2_NPS_2.4_006	Passed
Running Test Register User	
TEAM2_NPS_2.5_000	Passed
TEAM2_NPS_2.5_001	Passed
TEAM2_NPS_2.5_002	Passed
TEAM2_NPS_2.5_003	Passed
TEAM2_NPS_2.5_004	Passed
TEAM2_NPS_2.5_005	Passed

Running Test Refill Ink & Paper	
TEAM2_NPS_2.6_000	Passed
TEAM2_NPS_2.6_001	Passed
TEAM2_NPS_2.6_002	Passed
TEAM2_NPS_2.6_003	Passed
TEAM2_NPS_2.6_004	Passed
TEAM2_NPS_2.6_005	Passed
TEAM2_NPS_2.6_006	Passed
TEAM2_NPS_2.6_007	Passed
TEAM2_NPS_2.6_008	Passed
Running Test Stop	
TEAM2_NPS_2.7_000	Passed
TEAM2_NPS_2.7_001	Passed
TEAM2_NPS_2.7_002	Passed
TEAM2_NPS_2.7_003	Passed
TEAM2_NPS_2.7_004	Passed
TEAM2_NPS_2.7_005	Passed
TEAM2_NPS_2.7_006	Passed
Running Test Print	
TEAM2_NPS_2.8_000	Passed

TEAM2_NPS_2.8_001	Passed
TEAM2_NPS_2.8_002	Passed
TEAM2_NPS_2.8_003	Passed
TEAM2_NPS_2.8_004	Passed
TEAM2_NPS_2.8_005	Passed
TEAM2_NPS_2.8_006	Passed
TEAM2_NPS_2.8_007	Passed

4.2 Evaluation

Total test : 59   Passed   : 59   Failed : 0

Testing unit	Passed	Failed
Admin Control(8)	8	0
Printer Control(8)	8	0
Open User List(5)	5	0
Remove User(7)	7	0
Regist User(6)	6	0
Refill Ink & Paper(9)	9	0
Print(7)	7	0
Stop(8)	8	0