

Unit Test Report for PTS System

- Test Cases Specification
- Test Summary Report

Project Team

Team 6

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1 Introduction

1.1 Objectives

본 문서는 Public Transportation System (PTS)의 unit test를 수행한 결과에 대한 report 문서이다. Test요소들에 대한 Test case와 Test수행 결과에 대한 내용을 담고 있다.

1.2 References

2014SE_B_TP2_T6_SRA_Rev_2.3

(http://dslab.konkuk.ac.kr/Class/2014/14SE/Team_Project_B/TP2/2014SE_B_TP2_T6_SRA_Rev_2.3.pdf)

2014SE_B_TP2_T6_SDS_Rev_1.2

(http://dslab.konkuk.ac.kr/Class/2014/14SE/Team_Project_B/TP2/2014SE_B_TP2_T6_SDS_Rev_1.2.pdf)

2014SE_B_TP2_T6_UTP

실습 수업 주제(SRS)

(<http://dslab.konkuk.ac.kr/Class/2014/14SE/PTS%20SRS%20Ver%201.0.pdf>)

2 Unit test case specification

2.1 Test case specification identifier

Table 1 Test Design Identification

<Card Tagger>		
Identifier	Feature(Process ID in DFD)	Valid / Invalid value
readTerminal	1 Card Reader Interface	카드를 읽어서 단말기ID와 Time Tick로부터 들어온 태그시간은 Data Store에 저장
checkRide	2.1 Get on/off Process	카드정보와 단말기 정보를 받아서 승하차 여부 확인
checkTransfer	2.2 Transfer Process	카드정보와 단말기 정보를 받아서 환승 여부 확인

checkBalance	2.3 Balance Process	카드정보와 단말기 정보를 받아서 미정산 여부 확인
checkTranspotation	2.4 T.D Process	카드정보와 단말기 정보를 받아서 대중교통종류 확인
transferFee	2.5 F.T Process	카드정보와 단말기 정보를 받아서 부과될 요금과 Writer info를 return
sendBoardTrigger	3.1 B.D Control	Charge를 바탕으로 승차의 승인여부 판단
saveData	3.2 Saving	Enable신호를 받아서 데이터를 단말기에 저장
sendWritterinInfo	3.5 Send Process	Card Interface에 Writer Info, Charge를 전송
sendLedInterface	4 LED Interface	들어온 정보를 LED에 표시

<Calculating>		
Identifier	Feature(Process ID in DFD)	Valid / Invalid value
checkTime	1.6 Time Check	Tag Stop / Data Receive Process로 Trigger를 보내 동작 확인
receiveData	1.7 Data Receive Process	데이터를 받아서 정리한 후 return 확인.
classifyData	1.1 Classify Process	정산된 금액을 버스금액과 지하철금액으로 분류 확인
addCharge	1.2 Added Charge	분류된 각각의 버스금액과 지하철 금액을 하나의 버스금액과 지하철 금액으로 더함 확인
checkTime	1.6 Time Check	Delete Data / Tag Restart로 Trigger를 보내 동작 확인
checkTime	1.6 Time Check	아무 동작도 하지 않는 것 확인.

2.2 Test items

Table 2 Test Case Identification

<Card Tagger>		
Identifier	Input specification	Output specification
readTerminal	Structure(Card info)	Structure(Tag info)
checkRide	Structure(Tag info)	Structure(modified Tag info)
checkTransfer	Structure(Tag info)	Structure(modified Tag info)

checkBalance	Structure(Tag info)	Structure(modified Tag info)
checkTranspotation	Structure(Tag info)	Structure(modified Tag info)
transferFee	Structure(modified Tag info)	Fee
sendBoardTrigger	Fee	Fee, Trigger
saveData	Structure(modified Tag info)	Structure(Daily data)
sendWritterinInfo	Fee	Structure(modified Card info)
sendLedInterface	Structure(Card info), Trigger	console

<Calculating>		
Identifier	Input specification	Output specification
checkTime	Day start time / Tick (Day start time – Tick)%150==0	Trigger
receiveData	Text.file	Structure
classifyData	Structure	Structure(bus/subway charge)
addCharge	Structure(bus/subway charge)	Bus charge, subway charge
checkTime	Day start time / Tick (Day start time – Tick)%180==0	Trigger
checkTime	Day start time / Tick	-

2.3 Input specifications

Table1 Test Design Identification 참조

2.4 Output specifications

Table1 Test Design Identification 참조

3 Environmental needs

Hardware & Platform, Cygwin, Vi, GCC

4 Unit test summary report

4.1 Test summary report identifier

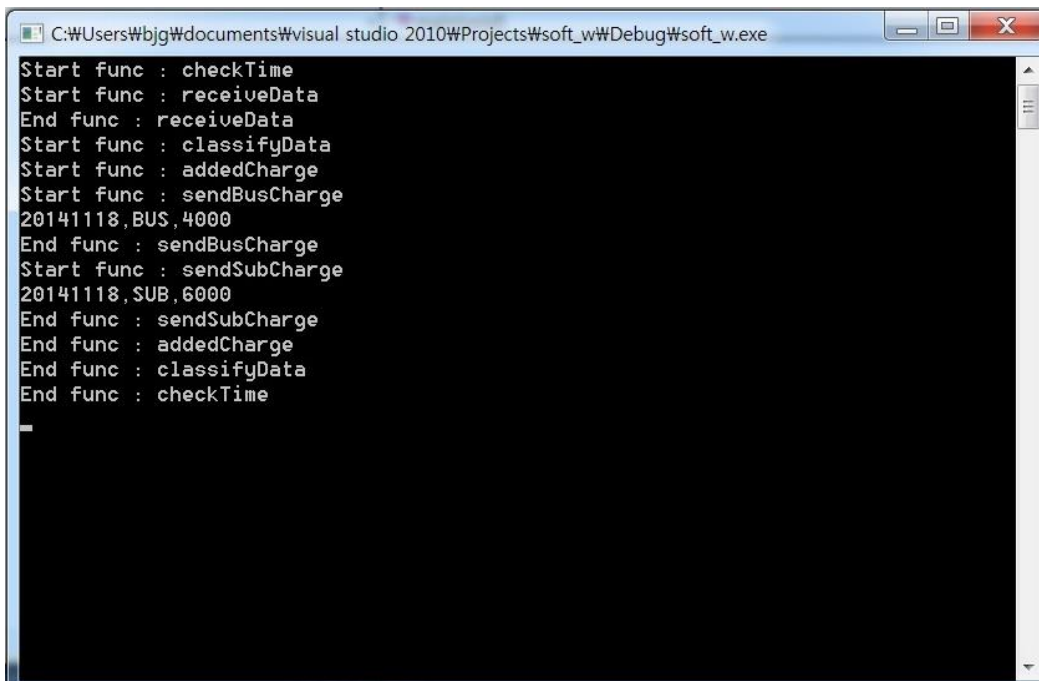
- 그림 1 Card Tagger Unit test Result 참조
- 그림 2 Calculating Unit test result

```

$ ./PTS.exe
1 card reader interface - act start
save data
1 card reader interface - act end
boarding system - act start
시각 : 201411201324
단말기 : sub4에 탑승
boarding system - act end
2.1 Get on/off Process
0 = in // 1 = out
마지막태그 == OUT
지금 태그 == 0,
2.2 Transfer Process - act start
날이 지났습니다.
2.2 Transfer Process - act end
2.3 Balance Process - act start
2.3 Balance Process - act end
2.4 Transportation Process - act start
sub4
2.4 Transportation Process - act end
2.5 Fee Process - act start
요금 : 1050
추가요금 : 0
총요금 : 1050
2.5 Fee Process - act end
3.1 B.D.(Board Decision) Control - act start
send Trigger
3.1 B.D.(Board Decision) Control - act end
3.3 B.D.(Board Decision) Possible - act start
3.3 B.D.(Board Decision) Possible - act end
3.4 B.D.(Board Decision) Impossible - act start
3.4 B.D.(Board Decision) Impossible - act end
3.5 Send Process - act start
3.5 Send Process - act end

```

그림 1 Card Tagger Unit test Result



```

C:\Users\wbjg\documents\visual studio 2010\Projects\soft_w\Debug\soft_w.exe
Start func : checkTime
Start func : receiveData
End func : receiveData
Start func : classifyData
Start func : addedCharge
Start func : sendBusCharge
20141118,BUS,4000
End func : sendBusCharge
Start func : sendSubCharge
20141118,SUB,6000
End func : sendSubCharge
End func : addedCharge
End func : classifyData
End func : checkTime
-

```

그림 2 Calculating Unit test result

4.2 Evaluation