

Unit Test Report for PTS System

- Test Cases Specification
- Test Summary Report

Project Team
Class B Team 3

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Team Information

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1 Introduction

1.1 Objectives

Public Transportation System(이하 PTS)의 최종적인 구현을 위해 각 함수별로 unit test를 실행한다. Unit test는 PTS의 버스단말기, 지하철단말기 및 정산시스템의 3가지 시스템에 대해 독립적으로 실행한다. 또한 unit test는 시스템 동작을 위해 필요한 활동과 기준에 대해 정의하고 테스트 도구들에 관한 세부사항을 명시한다.

1.2 References

T3.2014.PTS.SRA

T3.2014.PTS.SDS

2 Unit test case specification

2.1 Test case specification identifier

<BUS&SUBWAY> Test case Identification

| Identifier | Input Specification | Output Specification |
|-----------------|---|-------------------------------------|
| PTS_UTC_000_000 | 임의의 카드정보가 담긴 텍스트파일 | unarranged_data(텍스트파일의 가장 밑의 두줄) |
| PTS_UTC_001_000 | Unarranged_data[2] = {20141117195032, "BUS", "OUT", 5950, "B_1"}, {20141117195035, "BUS", "IN", 5950, "B_2"} | Arranged_data의 In == True |
| PTS_UTC_001_001 | Unarranged_data[2] = {20141117195032, "BUS", "OUT", 5950, "B_1"}, {20141117195035, "BUS", "IN", 5950, "B_2"} | Arranged_data의 Bus == True |
| PTS_UTC_001_002 | Unarranged_data[2] = {20141117195032, "SUBWAY", "IN", 5950, "S1_1"}, {20141117195035, "SUBWAY", "OUT", 5950, "S2_2"} (and 마지막 태그시간이 현재시간과 15초이내) | Arranged_data의 Trans == True |
| PTS_UTC_001_003 | Unarranged_data[2] = {20141117195032, "SUBWAY", "OUT", 5950, "S1_1"}, {20141117195035, "BUS", "IN", 5950, "B_1"} | Arranged_data의 After == True |
| PTS_UTC_001_004 | Unarranged_data[2] = {20141117195032, "SUBWAY", "OUT", 5950, "S1_1"}, {20141117195035, "BUS", "IN", 5950, "B_1"} | Arranged_data의 Uncal_day == True |

| | | |
|-----------------|--|---|
| | 이고 하루(3분)가 지났을 때 | |
| PTS.UTC_001_005 | Unarranged_data[2] = {20141117195032, "SUBWAY", "OUT", 5950, "S1_1"}, {20141117195035, "SUBWAY", "IN", 5950, "S1_2"} | Arranged_data의 Uncal_s == True |
| PTS.UTC_001_006 | Unarranged_data[2] = {20141117195032, "BUS", "OUT", 5950, "B_1"}, {20141117195035, "SUBWAY", "IN", 5950, "S1_2"} | Arranged_data의 Uncal_bs == True |
| PTS.UTC_001_007 | Unarranged_data[2] = {20141117195032, "SUBWAY", "OUT", 5950, "B_1"}, {20141117195035, "BUS", "IN", 5950, "S1_2"} | Arranged_data의 Uncal_sb == True |
| PTS.UTC_001_008 | Unarranged_data[2] = {20141117195032, "BUS", "OUT", 5950, "B_1"}, {20141117195035, "SUBWAY", "IN", 5950, "S1_2"} | Arranged_data의 Uncal == True |
| PTS.UTC_001_009 | Unarranged_data[2] = {20141117195032, "BUS", "OUT", 5950, "B_1"}, {20141117195035, "SUBWAY", "IN", 5950, "S1_2"} | Arranged_data의 Time == 20141117195035 |
| PTS.UTC_001_010 | Unarranged_data[2] = {20141117195032, "BUS", "OUT", 5950, "B_1"}, {20141117195035, "SUBWAY", "IN", 5950, "S1_2"} | Arranged_data의 Lo == 5950 |
| PTS.UTC_001_011 | Unarranged_data[2] = {20141117195032, "BUS", "OUT", 5950, "B_1"}, {20141117195035, "SUBWAY", "IN", 5950, "S1_2"} | Arranged_data의 Info == S1_2 |
| PTS.UTC_002_000 | Unarranged_data[2] = {20141119133000, "SUBWAY", "IN", 10000, "S1_1"}, {20141119133010, "SUBWAY", "OUT", 10000, "S2_1"} | RidingEnable함수 호출 |
| PTS.UTC_002_001 | Unarranged_data[2] = {20141119133000, "SUBWAY", "IN", 10000, "S1_1"}, {20141119133010, "SUBWAY", "OUT", 200, "S2_1"} | ridingDisable함수 호출 |
| PTS.UTC_002_002 | Unarranged_data[2] = {20141119133000, "SUBWAY", "IN", 10000, "S1_1"}, {20141119133010, "SUBWAY", "OUT", 10000, "S2_1"} (and 마지막 태그시간과 현재시간이 15초 이내) | transferEnable함수 호출 |
| PTS.UTC_002_003 | Unarranged_data[2] = { 20141119133000, "SUBWAY", "IN", 10000, "S1_1"}, { 20141119133010, "SUBWAY", "OUT", 100, "S2_1"} | transferDisable함수 호출 |
| PTS.UTC_002_004 | Unarranged_data[2] = {20141119133000, "BUS", "OUT", 10000, "B_1"}, {20141119133010, "BUS", "IN", 10000, "B_2"} | normalExit함수 호출 |

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|-----------------|--|--|
| PTS.UTC_002_005 | Unarranged_data[2] = {20141119133000, "SUBWAY", "OUT", 10000, "S1_1"}, {20141119133010, "BUS", "IN", 10000, "B_2"} | afterTransExit함수 호출 |
| PTS.UTC_002_006 | Unarranged_data[2] = {20141119133000, "BUS", "OUT", 10000, "B_1"}, {20141119133110, "SUBWAY" "IN", 10000, "S1_2"} | afterSub_E함수 호출 |
| PTS.UTC_002_007 | Unarranged_data[2] = {20141119133000, "BUS", "OUT", 10000, "B_1"}, {20141119133110, "SUBWAY" "IN", 100, "S1_2"} | afterSub_D함수 호 출 |
| PTS.UTC_002_008 | Unarranged_data[2] = {20141119133000, "SUBWAY", "OUT", 10000, "S1_1"}, {20141119133010, "BUS" "IN", 10000, "B_2"} | afterSubus_E함수 호 출 |
| PTS.UTC_002_009 | Unarranged_data[2] = {20141119133000, "SUBWAY", "OUT", 10000, "S1_1"}, {20141119133010, "BUS" "IN", 100, "B_2"} | afterSubus_D함수 호출 |
| PTS.UTC_002_010 | Unarranged_data[2] = {20141119133000, "BUS", "OUT", 10000, "B_1"}, {20141119133010, "SUBWAY" "IN", 10000, "S1_2"} | afterBusub_E함수 호출 |
| PTS.UTC_002_011 | Unarranged_data[2] = {20141119133000, "BUS", "OUT", 10000, "B_1"}, {20141119133010, "SUBWAY" "IN", 100, "S1_2"} | afterBusub_D함수 호출 |
| PTS.UTC_002_012 | Unarranged_data[2] = {20141119133000, "BUS", "OUT", 10000, "B_1"}, {20141119133110, "SUBWAY" "IN", 10000, "S3_2"} | addFee함수 호 출 |
| PTS.UTC_002_013 | Unarranged_data[2] = {20141119133000, "BUS", "OUT", 10000, "B_1"}, {20141119133110, "SUBWAY" "IN", 10000, "S4_2"} | noAddFee_N함수 호출 |
| PTS.UTC_002_014 | Unarranged_data[2] = {20141119133000, "BUS", "OUT", 10000, "B_1"}, {20141119133010, "SUBWAY" "IN", 10000, "S4_2"} | addFeeOne함수 호 출 |
| PTS.UTC_002_015 | Unarranged_data[2] = {20141119133000, "BUS", "OUT", 10000, "B_1"}, {20141119133010, "SUBWAY" "IN", 10000, "S3_2"} | addFeeTwo함수 호 출 |
| PTS.UTC_002_016 | Unarranged_data[2] = {20141119133000, "BUS", "OUT", 10000, "B_1"}, {20141119133010, "SUBWAY" "IN", 10000, "S5_2"} | noAddFee_T함수 호 출 |
| PTS.UTC_003_000 | Arranged_data {cname[20]="input.txt", time=20141117195035, | Display_command (fee=1050, lo=4900) |

| | | |
|-----------------|---|--|
| | <p>info[10]=B_2, lo=5950, in=0, bus=1, trans=0, after=0, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=0 uncal=0, sta=0}</p> <p>위에 ad는 밑에 있는 경우에 해당함 {20141117195032, "BUS", "IN", 5950, "B_1"}, {20141117195035, "BUS", "OUT", 5950, "B_2"}</p> | <p>Writing_command {fee=1050, time=20141117195035, vehicle="BUS", inout="IN", lo=4900, readerInfo="B_1", cardInfo="B_1", name="input.txt"}</p> |
| PTS.UTC_004_000 | <p>Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=B_2, lo=100, in=0, bus=1, trans=0, after=0, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=0 uncal=0, sta=0}</p> | <p>Display_command {fee=0, lo=100} Writing_command {fee=0}</p> |
| PTS.UTC_005_000 | <p>Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=B_2, lo=5950, in=1, bus=0, trans=0, after=0, uncal_day=0, uncal_s=1 uncal_bs=0 uncal_sb=0 uncal=1, sta=0}</p> | <p>Display_command {fee=1250, lo=4700} Writing_command {fee=1250, time=20141117195035, vehicle="BUS", inout="IN", lo=4700, readerInfo="B_1", cardInfo="B_1", name="input.txt"}</p> |
| PTS.UTC_006_000 | <p>Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=B_2, lo=100, in=1, bus=0, trans=0, after=0, uncal_day=0, uncal_s=1 uncal_bs=0 uncal_sb=0 uncal=1, sta=0}</p> | <p>Display_command {fee=0, lo=100} Writing_command {fee=0}</p> |
| PTS.UTC_007_000 | <p>Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=B_2, lo=5950, in=1, bus=1, trans=0, after=1, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=1, uncal=1, sta=0}</p> | <p>Display_command {fee=1750, lo=4200} Writing_command {fee=1750, time=20141117195035, vehicle="BUS", inout="IN", lo=4200, readerInfo="B_1", cardInfo="B_1", name="input.txt"}</p> |

| | | |
|-----------------|--|--|
| PTS.UTC_008_000 | Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=B_2, lo=100, in=1, bus=1, trans=0, after=1, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=1, uncal=1, sta=0} | Display_command {fee=0, lo=100} Writing_command {fee=0} |
| PTS.UTC_009_000 | Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=S_2, lo=5950, in=1, bus=0, trans=0, after=1, uncal_day=0, uncal_s=0 uncal_bs=1 uncal_sb=0, uncal=1, sta=0} | Display_command {fee=1650, lo=4300} Writing_command {fee=1650, time=20141117195 035, vechicle="BUS", inout="IN", lo=4300, readerInfo="B_1", cardInfo="B_1", name="input.txt"} |
| PTS.UTC_010_000 | Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=S_2, lo=100, in=1, bus=0, trans=0, after=1, uncal_day=0, uncal_s=0 uncal_bs=1 uncal_sb=0, uncal=1, sta=0} | Display_command {fee=0, lo=100} Writing_command {fee=0} |
| PTS.UTC_011_000 | Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=B_2, lo=5950, in=0, bus=1, trans=1, after=0, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=0, uncal=0, sta=0} | Display_command {fee=0, lo=5950} Writing_command {fee=0, time=20141117195 035, vechicle="BUS", inout="IN", lo=5950, readerInfo="B_2", cardInfo="B_3", name="input.txt"} |
| PTS.UTC_012_000 | Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=B_2, lo=100, in=0, bus=1, trans=1, after=0, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=0, uncal=0, sta=0} | Display_command {fee=0, lo=100} Writing_command {fee=0} |
| PTS.UTC_013_000 | Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=B_2, lo=5950, in=1, bus=1, trans=0, | Display_command {fee=0, lo=5950} Writing_command |

| | | |
|-----------------|--|---|
| | after=0, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=0, uncal=0, sta=0} | {fee=0, time=20141117195035, vehicle="BUS", inout="OUT", lo=5950, readerInfo="B_3", cardInfo="B_3", name="input.txt"} |
| PTS.UTC_014_000 | Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=S_2, lo=5950, in=1, bus=0, trans=0, after=0, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=0, uncal=0, sta=2} | Display_command {fee=200, lo=5750} Writing_command {fee=200, time=20141117195035, vehicle="SUBWAY", inout="OUT", lo=5750, readerInfo="S_3", cardInfo="S_3", name="input.txt"} |
| PTS.UTC_015_000 | Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=S_2, lo=5950, in=1, bus=0, trans=0, after=0, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=0, uncal=0, sta=1} | Display_command {fee=0, lo=5950} Writing_command {fee=0, time=20141117195035, vehicle="SUBWAY", inout="OUT", lo=5950, readerInfo="S_3", cardInfo="S_3", name="input.txt"} |
| PTS.UTC_016_000 | Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=S_2, lo=5950, in=1, bus=0, trans=0, after=1, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=0, uncal=0, sta=1} | Display_command {fee=300, lo=5650} Writing_command {fee=300, time=20141117195035, vehicle="SUBWAY", |

| | | |
|-----------------|--|---|
| | | <pre>inout="OUT", lo=5650, readerInfo="S_3", cardInfo="S_3", name="input.txt"}</pre> |
| PTS.UTC_017_000 | <pre>Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=S_2, lo=5950, in=1, bus=0, trans=0, after=1, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=0, uncal=0, sta=2}</pre> | <pre>Display_command {fee=600, lo=5350} Writing_command {fee=600, time=20141117195 035, vehicle="SUBWAY", inout="OUT", lo=5350, readerInfo="S_3", cardInfo="S_3", name="input.txt"}</pre> |
| PTS.UTC_018_000 | <pre>Arranged_data {cname[20]="input.txt", time=20141117195035, info[10]=S_2, lo=5950, in=1, bus=0, trans=0, after=1, uncal_day=0, uncal_s=0 uncal_bs=0 uncal_sb=0, uncal=0, sta=0}</pre> | <pre>Display_command {fee=0, lo=5950} Writing_command {fee=0, time=20141117195 035, vehicle="SUBWAY", inout="OUT", lo=5950, readerInfo="S_3", cardInfo="S_3", name="input.txt"}</pre> |

<Calculator> Test case Identification

| Identifier | Input Specification | Output Specification |
|-----------------|---|---|
| PTS.UTC_019_000 | <pre>Bus.txt = { 20141120214623,BUS,IN,1050,B_1 20141120214627,BUS,IN,1050,B_2 20141120214855,BUS,IN,1050,B_1} subway1.txt = {20141120214641,SUBWAY,IN,1050,S1_1}</pre> | <pre>Inputdata.txt = {20141120214623,BUS,IN,1050,B_1 20141120214627,BUS,IN,1050,B_2 20141120214855,BUS,IN,1050,B_1 20141120214641,SUBWAY,IN,1050,S1_1 20141120214653,SUBWAY,IN,1050,S2_1}</pre> |

| | | |
|-----------------|---|--|
| | subway2.txt = { 20141120214653,SUBWAY,IN,1050,S2_1 20141120214747,SUBWAY,IN,1250,S2_1} subway3.txt = { 20141120214703,SUBWAY,IN,1250,S3_1 20141120214708,SUBWAY,IN,1250,S3_2 20141120214720,SUBWAY,OUT,0,S3_3} subway4.txt = { 20141120214726,SUBWAY,IN,1250,S4_1 20141120214731,SUBWAY,OUT,0,S4_2} subway5.txt = { 20141120214740,SUBWAY,IN,1050,S5_1} | 20141120214747,SUBWAY,IN,1250,S2_1 20141120214703,SUBWAY,IN,1250,S3_1 20141120214708,SUBWAY,IN,1250,S3_2 20141120214720,SUBWAY,OUT,0,S3_3 20141120214726,SUBWAY,IN,1250,S4_1 20141120214731,SUBWAY,OUT,0,S4_2 20141120214740,SUBWAY,IN,1050,S5_1} |
| PTS.UTC_020_000 | Inputdata.txt = {20141120214623,BUS,IN,1050,B_1 20141120214627,BUS,IN,1050,B_2 20141120214855,BUS,IN,1050,B_1 20141120214641,SUBWAY,IN,1050,S1_1 20141120214653,SUBWAY,IN,1050,S2_1 20141120214747,SUBWAY,IN,1250,S2_1 20141120214703,SUBWAY,IN,1250,S3_1 20141120214708,SUBWAY,IN,1250,S3_2 20141120214720,SUBWAY,OUT,0,S3_3 20141120214726,SUBWAY,IN,1250,S4_1 20141120214731,SUBWAY,OUT,0,S4_2 20141120214740,SUBWAY,IN,1050,S5_1} | un_trans.txt = {20141120214623,BUS,IN,1050,B_1 20141120214855,BUS,IN,1050,B_1 20141120214653,SUBWAY,IN,1050,S2_1 20141120214747,SUBWAY,IN,1250,S2_1} un_bus.txt = {20141120214627,BUS,IN,1050,B_2} un_sub.txt = {20141120214641,SUBWAY,IN,1050,S1_1 20141120214703,SUBWAY,IN,1250,S3_1 20141120214708,SUBWAY,IN,1250,S3_2 20141120214720,SUBWAY,OUT,0,S3_3 20141120214726,SUBWAY,IN,1250,S4_1 20141120214731,SUBWAY,OUT,0,S4_2 20141120214740,SUBWAY,IN,1050,S5_1} |

2.2 Test items

- 2.1의 Test case Identification 참조

2.3 Input specifications

- 2.1의 Test case Identification 참조

2.4 Output specifications

- 2.1의 Test case Identification 참조

3 Environmental needs

PTS의 unit test를 위한 환경적 요구사항은 다음과 같다

IDE : Visual Studio

4 Unit test summary report

4.1 Test summary report identifier

<BUS&SUBWAY>

| Identifier | Result |
|-----------------|--------|
| PTS.UTC_000_000 | Passed |
| PTS.UTC_001_000 | Passed |
| PTS.UTC_001_001 | Passed |
| PTS.UTC_001_002 | Passed |
| PTS.UTC_001_003 | Passed |
| PTS.UTC_001_004 | Passed |
| PTS.UTC_001_005 | Passed |
| PTS.UTC_001_006 | Passed |
| PTS.UTC_001_007 | Passed |
| PTS.UTC_001_008 | Passed |
| PTS.UTC_001_009 | Passed |
| PTS.UTC_001_010 | Passed |
| PTS.UTC_001_011 | Passed |
| PTS.UTC_002_000 | Passed |
| PTS.UTC_002_001 | Passed |
| PTS.UTC_002_002 | Passed |
| PTS.UTC_002_003 | Passed |
| PTS.UTC_002_004 | Passed |
| PTS.UTC_002_005 | Passed |
| PTS.UTC_002_006 | Passed |
| PTS.UTC_002_007 | Passed |
| PTS.UTC_002_008 | Passed |
| PTS.UTC_002_009 | Passed |
| PTS.UTC_002_010 | Passed |
| PTS.UTC_002_011 | Passed |

| | |
|-----------------|--------|
| PTS.UTC_002_012 | Passed |
| PTS.UTC_002_013 | Passed |
| PTS.UTC_002_014 | Passed |
| PTS.UTC_002_015 | Passed |
| PTS.UTC_002_016 | Passed |
| PTS.UTC_003_000 | Passed |
| PTS.UTC_004_000 | Passed |
| PTS.UTC_005_000 | Passed |
| PTS.UTC_006_000 | Passed |
| PTS.UTC_007_000 | Passed |
| PTS.UTC_008_000 | Passed |
| PTS.UTC_009_000 | Passed |
| PTS.UTC_010_000 | Passed |
| PTS.UTC_011_000 | Passed |
| PTS.UTC_012_000 | Passed |
| PTS.UTC_013_000 | Passed |
| PTS.UTC_014_000 | Passed |
| PTS.UTC_015_000 | Passed |
| PTS.UTC_016_000 | Passed |
| PTS.UTC_017_000 | Passed |
| PTS.UTC_018_000 | Passed |

<Calculator>

| Identifier | Result |
|-----------------|--------|
| PTS.UTC_019_000 | Passed |
| PTS.UTC_020_000 | Passed |

4.2 Evaluation

Total test case : 48개

Passed : 48개

Failed : 0개