

Unit Test Report for Coffee Machine System

- Test Cases Specification
- Test Summary Report

Project Team

Team 2

Latest update on:

2016-11-07

Team Information

박기범 (201011328)

김민수 (201211329)

김재현 (201211337)

Table of Contents

1	Introduction	3
1.1	Objectives.....	3
1.2	References.....	3
2	Unit test case specification.....	3
2.1	Test case specification identifier.....	3
2.2	Test items	8
2.3	Input specifications.....	13
2.4	Output specifications.....	13
3	Environmental needs.....	14
4	Unit test summary report	14
4.1	Test summary report identifier.....	14
4.2	Evaluation.....	16

1 Introduction

1.1 Objectives

본 문서는 2016년 건국대학교의 소프트웨어공학 개론 강의의 실습과제를 설명한다. 실습 과제는 coffee machine을 소프트웨어로 구성된 가상의 시스템으로 구현하는 것이다.

1.2 References

2 Unit test case specification

2.1 Test case specification identifier

< Table2 Test Design Identification >

Identifier	Feature(Process DFD)	Valid / Invalid value
CMS_RESERVE_DATA_001	3.2.1 Command Select Control	RESRV_DATA(coffee_hour, coffee_min, cleaning_hour, cleaning_min, is_coffee, is_cleaning) : {1,30,1,30,0,0}
CMS_RESERVE_DATA_002	3.2.1 Command Select Control	RESRV_DATA(coffee_hour, coffee_min, cleaning_hour, cleaning_min, is_coffee, is_cleaning) : {1,30,1,30,1,0}
CMS_RESERVE_DATA_003	3.2.1 Command Select Control	RESRV_DATA(coffee_hour, coffee_min, cleaning_hour, cleaning_min, is_coffee, is_cleaning) : {1,30,1,30,0,1}
CMS_RESERVEVE_DATA_004	3.2.1 Command Select Control	RESRV_DATA(coffee_hour, coffee_min, cleaning_hour, cleaning_min, is_coffee, is_cleaning) : {1,30,1,30,1,1}
CMS_InputCommand_Sample_01	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"0",1,1,1}
CMS_InputCommand_Sample_02	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"1",0,0,0}
CMS_InputCommand_Sample_03	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"2",0,0,0}
CMS_InputCommand_Sample_04	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"2",1,0,0}

CMS_InputCommand_Sample_05	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"2",2,0,0}
CMS_InputCommand_Sample_06	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"3",0,0,0}
CMS_InputCommand_Sample_07	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"4",0,0,0}
CMS_InputCommand_Sample_08	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"4",1,0,0}
CMS_InputCommand_Sample_09	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"4",2,0,0}
CMS_InputCommand_Sample_10	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"4",3,0,0}
CMS_InputCommand_Sample_11	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"tog",0,0,0}
CMS_InputCommand_Sample_12	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"@",0,0,0}
CMS_InputCommand_Sample_13	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"clp",0,0,0}
CMS_InputCommand_Sample_14	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"chg",0,0,10}
CMS_InputCommand_Sample_15	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"chg",0,1,100}
CMS_InputCommand_Sample_16	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"chg",0,2,0}
CMS_InputCommand_Sample_17	3.2.2 Input Command	COMMAND_DATA(command, option, type, amount) : {"chg",0,3,0}
CMS_RESERVE_COMMAND_SAMPLE_01	3.2.3 Reservation Command	selected_command : {0}
CMS_RESERVE_COMMAND_SAMPLE_02	3.2.3 Reservation Command	selected_command : {1}
CMS_RESERVE_COMMAND_SAMPLE_03	3.2.3 Reservation Command	selected_command : {2}
CMS_MAIN_CALCULATOR_01	3.3.1 Main Calculator	selected_command : {0}

CMS_MAIN_CALCULATOR_02	3.3.1 Main Calculator	selected_command : {1}
CMS_MAIN_CALCULATOR_03	3.3.1 Main Calculator	selected_command : {2}
CMS_MAIN_CALCULATOR_04	3.3.1 Main Calculator	selected_command : {3}
CMS_MAIN_CALCULATOR_05	3.3.1 Main Calculator	selected_command : {4}
CMS_MAIN_CALCULATOR_06	3.3.1 Main Calculator	selected_command : {5}
CMS_MAIN_CALCULATOR_07	3.3.1 Main Calculator	selected_command : {6}
CMS_MAIN_CALCULATOR_08	3.3.1 Main Calculator	selected_command : {7}
CMS_MAKING_CHECK_01	3.3.2 Making Check	cur_state : {0} water_amt : {100} cur_amt : {0} coffee_amt : {0} powder_state : {1}
CMS_MAKING_CHECK_02	3.3.2 Making Check	cur_state : {0} water_amt : {100} cur_amt : {0} coffee_amt : {10} powder_state : {0}
CMS_MAKING_CHECK_03	3.3.2 Making Check	cur_state : {1} water_amt : {100} cur_amt : {0} coffee_amt : {10} powder_state : {0}
CMS_MAKING_CHECK_04	3.3.2 Making Check	cur_state : {0} water_amt : {100} cur_amt : {0} coffee_amt : {0} powder_state : {0}
CMS_MAKING_CHECK_05	3.3.2 Making Check	cur_state : {0} water_amt : {100} cur_amt : {1} coffee_amt : {10}

		powder_state : {1}
CMS_MAKING_CHECK_06	3.3.2 Making Check	cur_state : {0} water_amt : {100} cur_amt : {0} coffee_amt : {10} powder_state : {2}
CMS_CLEANING_CHECK_01	3.3.3 Cleaning Check	cur_state : {0} water_amt : {500}
CMS_CLEANING_CHECK_02	3.3.3 Cleaning Check	cur_state : {0} water_amt : {400}
CMS_CLEANING_CHECK_03	3.3.3 Cleaning Check	cur_state : {1} water_amt : {500}
CMS_AMOUNT_CHECK_01	3.3.4 Amount Check	cur_state : {0} amount : {1}
CMS_AMOUNT_CHECK_02	3.3.4 Amount Check	cur_state : {1} amount : {1}
CMS_HOT_ICE_CHECK_01	3.3.5 Hot/Ice Check	cur_state : {0}
CMS_HOT_ICE_CHECK_02	3.3.5 Hot/Ice Check	cur_state : {1}
CMS_POWDER_CLEANING_01	3.3.6 Powder Cleaning	cur_state : {0} powder_state : {2}
CMS_POWDER_CLEANING_02	3.3.6 Powder Cleaning	cur_state : {0} powder_state : {1}
CMS_POWDER_CLEANING_03	3.3.6 Powder Cleaning	cur_state : {1} powder_state : {500}
CMS_CHARGE_CHECK_01	3.3.7 Charge Check	cur_state : {0} ingredi_type : {1} ingredi_amt : {100}
CMS_CHARGE_CHECK_02	3.3.7 Charge Check	cur_state : {1} ingredi_type : {1} ingredi_amt : {100}
CMS_RESERVATION_INTERACE_01	3.3.8 Reservation Interface	cur_state : {0} reserve_type : {0}
CMS_RESERVATION_INTERACE_02	3.3.8 Reservation Interface	cur_state : {0} reserve_type : {1}
CMS_RESERVATION_INTERACE_03	3.3.8 Reservation Interface	cur_state : {1} reserve_type : {1}

CMS_UPDATE_01	3.4 Update Interface	job_code : {0} error_code : {0} edit_code : {0}
CMS_UPDATE_02	3.4 Update Interface	job_code : {0} error_code : {1} edit_code : {1}
CMS_UPDATE_03	3.4 Update Interface	job_code : {1} error_code : {0} edit_code : {0}
CMS_UPDATE_04	3.4 Update Interface	job_code : {2} error_code : {0} edit_code : {0}
CMS_UPDATE_05	3.4 Update Interface	job_code : {3} error_code : {0} edit_code : {0}
CMS_UPDATE_06	3.4 Update Interface	job_code : {4} error_code : {0} edit_code : {0}
CMS_UPDATE_07	3.4 Update Interface	job_code : {5} error_code : {0} edit_code : {0}
CMS_UPDATE_08	3.4 Update Interface	job_code : {6} error_code : {0} edit_code : {0}
CMS_UPDATE_09	3.4 Update Interface	job_code : {0} error_code : {1} edit_code : {0}
CMS_UPDATE_10	3.4 Update Interface	job_code : {7} error_code : {0} edit_code : {0}
CMS_UPDATE_11	3.4 Update Interface	job_code : {7} error_code : {2} edit_code : {4}
CMS_MOTOR_DATA_SAMPLE_01	3.5.1 Motor Selector	motor_job : {0} temp : {0} grind : {0}
CMS_MOTOR_DATA_SAMPLE_02	3.5.1 Motor Selector	motor_job : {1} temp : {0}

		grind : {0}
CMS_MOTOR_DATA_SAMPLE_03	3.5.1 Motor Selector	motor_job : {1} temp : {1} grind : {0}
CMS_MOTOR_DATA_SAMPLE_04	3.5.1 Motor Selector	motor_job : {1} temp : {1} grind : {1}
CMS_MOTOR_DATA_SAMPLE_05	3.5.1 Motor Selector	motor_job : {2} temp : {1} grind : {1}
CMS_MOTOR_DATA_SAMPLE_06	3.5.1 Motor Selector	motor_job : {3} temp : {1} grind : {1}

2.2 Test items

< Table2 Test Case Identification >

Identifier	Input Specification	Output Specification
CMS_RESERVE_DATA_001	RESRV_DATA(coffee_hour, coffee_min, cleaning_hour, cleaning_min, is_coffee, is_cleaning) : {1,30,1,30,0,0}	Input Command
CMS_RESERVE_DATA_002	RESRV_DATA(coffee_hour, coffee_min, cleaning_hour, cleaning_min, is_coffee, is_cleaning) : {1,30,1,30,1,0}	Reserve Command
CMS_RESERVE_DATA_003	RESRV_DATA(coffee_hour, coffee_min, cleaning_hour, cleaning_min, is_coffee, is_cleaning) : {1,30,1,30,0,1}	Reserve Command
CMS_RESERVE_DATA_004	RESRV_DATA(coffee_hour, coffee_min, cleaning_hour, cleaning_min, is_coffee, is_cleaning) : {1,30,1,30,1,1}	Reserve Command
CMS_InputCommand_Sample_01	COMMAND_DATA(command, option, type, amount) : {"0",1,1,1}	Exception Handling

CMS_InputCommand_Sample_02	COMMAND_DATA(command, option, type, amount) : {“1”,0,0,0}	Command.order : 0
CMS_InputCommand_Sample_03	COMMAND_DATA(command, option, type, amount) : {“2”,0,0,0}	Command.order : 1 Reserve_type : 0
CMS_InputCommand_Sample_04	COMMAND_DATA(command, option, type, amount) : {“2”,1,0,0}	Command.order : 1 Reserve_type : 1
CMS_InputCommand_Sample_05	COMMAND_DATA(command, option, type, amount) : {“2”,2,0,0}	Command.order : 1 Reserve_type : 2
CMS_InputCommand_Sample_06	COMMAND_DATA(command, option, type, amount) : {“3”,0,0,0}	Command.order : 2
CMS_InputCommand_Sample_07	COMMAND_DATA(command, option, type, amount) : {“4”,0,0,0}	Command.order : 3 Amount : 0
CMS_InputCommand_Sample_08	COMMAND_DATA(command, option, type, amount) : {“4”,1,0,0}	Command.order : 3 Amount : 1
CMS_InputCommand_Sample_09	COMMAND_DATA(command, option, type, amount) : {“4”,2,0,0}	Command.order : 3 Amount : 2
CMS_InputCommand_Sample_10	COMMAND_DATA(command, option, type, amount) : {“4”,3,0,0}	Command.order : 10
CMS_InputCommand_Sample_11	COMMAND_DATA(command, option, type, amount) : {“tog”,0,0,0}	Command.order : 4
CMS_InputCommand_Sample_12	COMMAND_DATA(command, option, type, amount) : {“@”,0,0,0}	Command.order : 5
CMS_InputCommand_Sample_13	COMMAND_DATA(command, option, type, amount) : {“clp”,0,0,0}	Command.order : 6
CMS_InputCommand_Sample_14	COMMAND_DATA(command, option, type, amount) :	Command.order : 7 Ingredi_type : 0

	{"chrg",0,0,10}	Ingredi_amt : 10
CMS_InputCommand_Sample_15	COMMAND_DATA(command, option, type, amount) : {"chrg",0,1,100}	Command.order : 7 Ingredi_type : 1 Ingredi_amt : 100
CMS_InputCommand_Sample_16	COMMAND_DATA(command, option, type, amount) : {"chrg",0,2,0}	Command.order : 7 Ingredi_type : 2
CMS_InputCommand_Sample_17	COMMAND_DATA(command, option, type, amount) : {"chrg",0,3,0}	Command.order : 10
CMS_RESERVE_COMMAND_SAMPLE_01	selected_command : {0}	Exception Handling
CMS_RESERVE_COMMAND_SAMPLE_02	selected_command : {1}	Command.order : 0 ls_coffee : 0
CMS_RESERVE_COMMAND_SAMPLE_03	selected_command : {2}	Command.order : 2 ls_cleaning : 0
CMS_MAIN_CALCULATOR_01	selected_command : {0}	Making check
CMS_MAIN_CALCULATOR_02	selected_command : {1}	Reservation Interface
CMS_MAIN_CALCULATOR_03	selected_command : {2}	Cleaning check
CMS_MAIN_CALCULATOR_04	selected_command : {3}	Amount check
CMS_MAIN_CALCULATOR_05	selected_command : {4}	Hot/Ice check
CMS_MAIN_CALCULATOR_06	selected_command : {5}	Power off
CMS_MAIN_CALCULATOR_07	selected_command : {6}	Powder cleaning
CMS_MAIN_CALCULATOR_08	selected_command : {7}	Charge check
CMS_MAKING_CHECK_01	cur_state : {0} water_amt : {100} cur_amt : {0} coffee_amt : {0} powder_state : {1}	job_code : 0 error_code : 0 edit_code : 0
CMS_MAKING_CHECK_02	cur_state : {0} water_amt : {100} cur_amt : {0} coffee_amt : {10} powder_state : {0}	job_code : 0 error_code : 0 edit_code : 1
CMS_MAKING_CHECK_03	cur_state : {1} water_amt : {100} cur_amt : {0} coffee_amt : {10} powder_state : {0}	job_code : 0 error_code : 1

CMS_MAKING_CHECK_04	cur_state : {0} water_amt : {100} cur_amt : {0} coffee_amt : {0} powder_state : {0}	job_code : 0 error_code : 2
CMS_MAKING_CHECK_05	cur_state : {0} water_amt : {100} cur_amt : {1} coffee_amt : {10} powder_state : {1}	job_code : 0 error_code : 3
CMS_MAKING_CHECK_06	cur_state : {0} water_amt : {100} cur_amt : {0} coffee_amt : {10} powder_state : {2}	job_code : 0 error_code : 4
CMS_CLEANING_CHECK_01	cur_state : {0} water_amt : {500}	job_code : 2 error_code : 0
CMS_CLEANING_CHECK_02	cur_state : {0} water_amt : {400}	job_code : 2 error_code : 2
CMS_CLEANING_CHECK_03	cur_state : {1} water_amt : {500}	job_code : 2 error_code : 1
CMS_AMOUNT_CHECK_01	cur_state : {0} amount : {1}	job_code : 3 error_code : 0
CMS_AMOUNT_CHECK_02	cur_state : {1} amount : {1}	job_code : 3 error_code : 1
CMS_HOT_ICE_CHECK_01	cur_state : {0}	job_code : 4 error_code : 0
CMS_HOT_ICE_CHECK_02	cur_state : {1}	job_code : 4 error_code : 1
CMS_POWDER_CLEANING_01	cur_state : {0} powder_state : {2}	job_code : 5 error_code : 0
CMS_POWDER_CLEANING_02	cur_state : {0} powder_state : {1}	job_code : 5 error_code : 2
CMS_POWDER_CLEANING_03	cur_state : {1} powder_state : {500}	job_code : 5 Exception Handling
CMS_CHARGE_CHECK_01	cur_state : {0} ingredi_type : {1} ingredi_amt : {100}	job_code : 6 error_code : 0 edit_code : 1

		new_data : 100
CMS_CHARGE_CHECK_02	cur_state : {1} ingredi_type : {1} ingredi_amt : {100}	job_code : 6 error_code : 1
CMS_RESERVATION_INTERACE_01	cur_state : {0} reserve_type : {0}	job_code : 1 error_code : 0 is_coffee : 1 edit_code : 0
CMS_RESERVATION_INTERACE_02	cur_state : {0} reserve_type : {1}	job_code : 1 error_code : 0 is_cleaning : 1 edit_code : 1
CMS_RESERVATION_INTERACE_03	cur_state : {1} reserve_type : {1}	job_code : 1 error_code : 1
CMS_UPDATE_01	job_code : {0} error_code : {0} edit_code : {0}	Making update
CMS_UPDATE_02	job_code : {0} error_code : {1} edit_code : {1}	Making update / need grinding
CMS_UPDATE_03	job_code : {1} error_code : {0} edit_code : {0}	Reserve_update
CMS_UPDATE_04	job_code : {2} error_code : {0} edit_code : {0}	Cleaning_update
CMS_UPDATE_05	job_code : {3} error_code : {0} edit_code : {0}	Amount_update
CMS_UPDATE_06	job_code : {4} error_code : {0} edit_code : {0}	Temperature_update
CMS_UPDATE_07	job_code : {5} error_code : {0} edit_code : {0}	Powder_update
CMS_UPDATE_08	job_code : {6} error_code : {0} edit_code : {0}	Charge_update

CMS_UPDATE_09	job_code : {0} error_code : {1} edit_code : {0}	Making update / No need grinding
CMS_UPDATE_10	job_code : {7} error_code : {0} edit_code : {0}	Exception Handling
CMS_UPDATE_11	job_code : {7} error_code : {2} edit_code : {4}	Exception Handling
CMS_MOTOR_DATA_SAMPLE_01	motor_job : {0} temp : {0} grind : {0}	Exception Handling
CMS_MOTOR_DATA_SAMPLE_02	motor_job : {1} temp : {0} grind : {0}	Boiling Order Grinding Order Making Order
CMS_MOTOR_DATA_SAMPLE_03	motor_job : {1} temp : {1} grind : {0}	Grinding Order Making Order
CMS_MOTOR_DATA_SAMPLE_04	motor_job : {1} temp : {1} grind : {1}	Making Order
CMS_MOTOR_DATA_SAMPLE_05	motor_job : {2} temp : {1} grind : {1}	Cleaning Order
CMS_MOTOR_DATA_SAMPLE_06	motor_job : {3} temp : {1} grind : {1}	Exception Handling

2.3 Input specifications

< Table2 Test Case Identification > 참조

2.4 Output specifications

< Table2 Test Case Identification > 참조

3 Environmental needs

커피 머신 시스템의 Unit Test를 위한 환경적 요구사항은 다음과 같다.

(1) Platform

gcc compiler / linker

(2) Unit test framework

CUnit

(3) Integrated Platform

Cygwin

4 Unit test summary report

4.1 Test summary report identifier

Test Case Identifier	Result
CMS_RESERVE_DATA_001	Passed
CMS_RESERVE_DATA_002	Passed
CMS_RESERVE_DATA_003	Passed
CMS_RESERVE_DATA_004	Passed
CMS_InputCommand_Sample_01	Passed
CMS_InputCommand_Sample_02	Passed
CMS_InputCommand_Sample_03	Passed
CMS_InputCommand_Sample_04	Passed
CMS_InputCommand_Sample_05	Passed
CMS_InputCommand_Sample_06	Passed
CMS_InputCommand_Sample_07	Passed
CMS_InputCommand_Sample_08	Passed
CMS_InputCommand_Sample_09	Passed
CMS_InputCommand_Sample_10	Passed
CMS_InputCommand_Sample_11	Passed
CMS_InputCommand_Sample_12	Passed
CMS_InputCommand_Sample_13	Passed
CMS_InputCommand_Sample_14	Passed
CMS_InputCommand_Sample_15	Passed
CMS_InputCommand_Sample_16	Passed
CMS_InputCommand_Sample_17	Passed
CMS_RESERVE_COMMAND_SAMPLE_01	Passed
CMS_RESERVE_COMMAND_SAMPLE_02	Passed
CMS_RESERVE_COMMAND_SAMPLE_03	Passed

CMS_MAIN_CALCULATOR_01	Passed
CMS_MAIN_CALCULATOR_02	Passed
CMS_MAIN_CALCULATOR_03	Passed
CMS_MAIN_CALCULATOR_04	Passed
CMS_MAIN_CALCULATOR_05	Passed
CMS_MAIN_CALCULATOR_06	Passed
CMS_MAIN_CALCULATOR_07	Passed
CMS_MAIN_CALCULATOR_08	Passed
CMS_MAKING_CHECK_01	Passed
CMS_MAKING_CHECK_02	Passed
CMS_MAKING_CHECK_03	Passed
CMS_MAKING_CHECK_04	Passed
CMS_MAKING_CHECK_05	Passed
CMS_MAKING_CHECK_06	Passed
CMS_CLEANING_CHECK_01	Passed
CMS_CLEANING_CHECK_02	Passed
CMS_CLEANING_CHECK_03	Passed
CMS_AMOUNT_CHECK_01	Passed
CMS_AMOUNT_CHECK_02	Passed
CMS_HOT_ICE_CHECK_01	Passed
CMS_HOT_ICE_CHECK_02	Passed
CMS_POWDER_CLEANING_01	Passed
CMS_POWDER_CLEANING_02	Passed
CMS_POWDER_CLEANING_03	Passed
CMS_CHARGE_CHECK_01	Passed
CMS_CHARGE_CHECK_02	Passed
CMS_RESERVATION_INTERACE_01	Passed
CMS_RESERVATION_INTERACE_02	Passed
CMS_RESERVATION_INTERACE_03	Passed
CMS_UPDATE_01	Passed
CMS_UPDATE_02	Passed
CMS_UPDATE_03	Passed
CMS_UPDATE_04	Passed
CMS_UPDATE_05	Passed
CMS_UPDATE_06	Passed
CMS_UPDATE_07	Passed
CMS_UPDATE_08	Passed
CMS_UPDATE_09	Passed

CMS_UPDATE_10	Passed
CMS_UPDATE_11	Passed
CMS_MOTOR_DATA_SAMPLE_01	Passed
CMS_MOTOR_DATA_SAMPLE_02	Passed
CMS_MOTOR_DATA_SAMPLE_03	Passed
CMS_MOTOR_DATA_SAMPLE_04	Passed
CMS_MOTOR_DATA_SAMPLE_05	Passed
CMS_MOTOR_DATA_SAMPLE_06	Passed

4.2 Evaluation

Total test case : 70개

Passed : 70개

Failed : 0개