

Computerized Rideshare Program

Testing Report

Group B

Purpose

This document provides an overview of the testing that was done for the Computerized Rideshare Program (CRP). It provides information on both unit and systems testing and details what was successful and what parts of the system failed.

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A. Resources

1. People

The CRP was created and tested by:

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2. Environment

Testing was performed under the Windows 7 32 bit and 64 bit operating systems. Tests were run in an empty database which was sourced from crp.sql in the sql folder. Before running the test suite crp.sql should be imported to clear any existing database entries and reset all values. CRPTestSuite was run as a JUnit Test to ensure that test cases were run in the correct order, rather than running the JunitTest package as a whole as a JUnit Test .

3. Tools

Testing was performed using Eclipse Juno with test cases created using JUnit4. GUI tests were performed in a Chrome web browser as there was no easy way to correctly test them in JUnit.

B. Test Results

1. Unit Testing

1.1 Login Service

Test	Login attempt with empty details
JUnit Test	LoginServiceTestCases.testLoginEmptyEmailIDAndPassword
Pass/Fail	PASS
Severity	0/5
Summary/Comments	No employee is ever returned with empty details.

Test	Login attempt with wrong email and password
JUnit Test	LoginServiceTestCases.testLoginInvalidEmailIDAndPasswordCombination
Pass/Fail	PASS
Severity	0/5
Summary/Comments	No employee is returned if the email does not exist in the database.

Test	Login attempt with correct email but invalid password
JUnit Test	LoginServiceTestCases.testLoginInvalidPassword
Pass/Fail	PASS
Severity	0/5
Summary/Comments	No employee is returned if the password is incorrect.

Test	MD5 password generation
JUnit Test	LoginServiceTestCases.testMD5PasswordGeneration
Pass/Fail	PASS
Severity	0/5
Summary/Comments	An md5 of the selected password is correctly created.

Test	MD5 password generation with a null value
JUnit Test	LoginServiceTestCases.testMD5PasswordGenerationNullCheck
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly rejects creating an md5 of a null password

Test	MD5 password generation with a null value salted
JUnit Test	LoginServiceTestCases.testMD5PasswordGenerationNullCheckUsingSaltMethod
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly rejects creating an md5 with a salt of a null password

Test	MD5 password generation salted
JUnit Test	LoginServiceTestCases.testMD5PasswordGenerationUsingSaltMethod
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly creates a md5 of a password with a salt

Test	Salt generation
JUnit Test	LoginServiceTestCases.testSaltGeneration
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Creates a random 32 character salt, proved by creating 2 salts that are not equal to each other

Test	Driver registration
JUnit Test	LoginServiceTestCases.testUserRegistrationAsDriver
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly shows that the first user registered will be a driver

Test	Passenger registration
JUnit Test	LoginServiceTestCases.testUserRegistrationForPassenger
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly shows that if a second user registers they will be a passenger

Test	Login with valid credentials
JUnit Test	LoginServiceTestCases.testLoginValidLoginCredentials
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly shows that a user is able to log in as long as valid credentials are provided.

1.2 Email Service

Test	Generate email to carpool members (White box)
JUnit Test	EmailServiceTest.testGenerateEmailToCarpoolersWhiteBox
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly sends out emails to an entire carpool using a white box approach.

Test	Retrieve Driver List
JUnit Test	EmailServiceTest.testRetrieveDriverList
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Successfully retrieves a list of all drivers in the system.

Test	Generate email to carpool members (Black box)
JUnit Test	EmailServiceTest.testGenerateEmailToCarpoolersBlackBox
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly sends out emails to an entire carpool using a black box approach.

Test	Send Email
JUnit Test	EmailServiceTest.testSendEmail
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Emails are successfully sent out using the Email service class.

1.3 Schedule Service

Test	Find free carpools
JUnit Test	ScheduleServiceTest.testGetFreeCarpoolList
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly gets a list of the carpools with less than 4 members

Test	Get all carpools
JUnit Test	ScheduleServiceTest.testGetCarpoolList
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly gets a list of all the carpools

1.4 MyBatis Connection Factory

Test	Get SQL Session Factory
JUnit Test	MyBatisConnectionFactoryTest.testGetSqlSessionFactory
Pass/Fail	PASS
Severity	0/5
Summary/Comments	A connection to the database is successfully created, from information available in SqlMapConfig.xml, and returned.

1.5 CRS DAO

All CRS DAO test are all black box tests and simply tests if the functions are working and doing the correct operations on the database.

Test	Create new employee
JUnit Test	CrsDAOTest.testAInsertEmployeeRecord
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly creates a new employee in the database.

Test	Retrieve all the passengers of a carpool
JUnit Test	CrsDAOTest.testBBBRetrievePassengers
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly retrieves all the passengers of a certain carpool

Test	Remove driver status from an employee
JUnit Test	CrsDAOTest.testBBUpdateCurrentDriver
Pass/Fail	FAIL
Severity	5/5
Summary/Comments	An issue with the SQL query that is supposed to be performed with this function exists that prevents the function from executing correctly.

Test	Set driver status onto an employee
JUnit Test	CrsDAOTest.testBBUpdateNextDriver
Pass/Fail	FAIL
Severity	5/5
Summary/Comments	An issue with the SQL query that is supposed to be performed with this function exists that prevents the function from executing correctly.

Test	Create a temporary driver for a carpool
JUnit Test	CrsDAOTest.testBBUpdateTemporaryDriver
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly creates a temporary driver for a certain carpool

Test	Get employee by email
JUnit Test	CrsDAOTest.testBGetLoginRecord
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly retrieves the employee by email id

Test	Canceling a carpool drive
JUnit Test	CrsDAOTest.testCancelCarpoolDrive
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly makes a driver a passenger and removes them from the carpool for that day.

Test	Cancel being picked up
JUnit Test	CrsDAOTest.testCancelCarpoolPickUp
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly marks the employee not to be picked up in the database

Test	Check in carpool
JUnit Test	CrsDAOTest.testCheckIn
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly updates a carpool to be checked in

Test	Check out carpool
JUnit Test	CrsDAOTest.testCheckOut
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly updates a carpool to be checked out

Test	Creating a new carpool
JUnit Test	CrsDAOTest.testCreateNewCarPoolGroup
Pass/Fail	PASS
Severity	0/5
Summary/Comments	A new carpool group is created correctly in the database

Test	Gets all the members of a carpool by carpool id
JUnit Test	CrsDAOTest.testFetchMembersEmailID
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly retrieves all the members of a carpool

Test	Get details of a carpool
JUnit Test	CrsDAOTest.testGetCarPoolGroupDetails
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly retrieves the details of a carpool specified by the carpool id

Test	Getting an employee record by ID
JUnit Test	CrsDAOTest.testGetEmployeeRecord
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly retrieves an employee based on the id

Test	Get the latest carpool group
JUnit Test	CrsDAOTest.testGetLatestCarpoolGroup
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly retrieves the last created carpool in the database.

Test	Get the carpool member details
JUnit Test	CrsDAOTest.testGetMemberInfo
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly retrieves carpool member details from the database for specified employee id

Test	Opting out of a carpool
JUnit Test	CrsDAOTest.testOptOutCarpool
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly removes employee from a carpool in the database

Test	Opting out of the CRP
JUnit Test	CrsDAOTest.testOptOutCrp
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly removes an employee from the database.

Test	Get the employees of carpools with less than 4 members
JUnit Test	CrsDAOTest.testRetrieveAllFreeCarpoolGroups
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly gets any carpool groups with less than 4 members.

Test	Retrieve all the drivers
JUnit Test	CrsDAOTest.testRetrieveDrivers
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly retrieves all current drivers.

Test	Retrieve all the members of a carpool
JUnit Test	CrsDAOTest.testRetrieveMembers
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly retrieves all the members of a particular carpool from the database

Test	Update an employee's details
JUnit Test	CrsDAOTest.testUpdateUserDetails
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly updates the employee details in the database

Test	Get employee by ID
JUnit Test	CrsDAOTest.testcGetLoginRecordWithEmpID
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly retrieves the employee based on specified id

Test	Get carpool group with 4 members or less
JUnit Test	CrsDAOTest.testdGetCarPoolGroup
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Correctly gets an existing carpool group that contains less than 4 members if one exists.

2. System Testing

The following tests were performed in a Chrome web browser using a fresh import of crp.sql from the sql folder. Two accounts were first created to test driver and passenger functionality, 3 extra accounts were created afterwards to test carpool opt out and carpool joining functionalities.

Test	Login success
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Upon providing a correct email and password combination the user is taken to their carpool display page.

Test	Login failure
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Upon providing an incorrect email and password combination the login is unsuccessful.

Test	Logging out
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Upon pressing Logout the user is successfully logged out of the CRP.

Test	Registration success
Pass/Fail	PASS/FAIL
Severity	1/5
Summary/Comments	Upon providing a correct set of details the user object is correctly created in the database and the user is taken to their carpool display page, however, there's a button missing until the user logs out and logs back in.

Test	Registration failure
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Upon providing bad, or no, information the system correctly displays error messages for the incorrect fields.

Test	Edit account details button
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Successfully brings up the edit account details page and pre-fills text boxes with your current information.

Test	Editing account details success
Pass/Fail	FAIL
Severity	5/5
Summary/Comments	After submitting correct and updated information the database entry for the employee is messed up and ruins the persons account.

Test	Editing account details failure
Pass/Fail	PASS
Severity	0/5
Summary/Comments	If user provides badly formatted information or does not provide their current password they are shown an error.

Test	Canceling pickup button
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Pressing the button successfully brings up a confirmation message.

Test	Canceling pickup
Pass/Fail	PASS/FAIL
Severity	1/5
Summary/Comments	User is updated in database, however, he is not removed from the carpool group display list.

Test	Canceling driver button
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Pressing the button successfully brings up a confirmation message.

Test	Canceling driving
Pass/Fail	FAIL
Severity	4/5
Summary/Comments	The SQL statement that is being attempted is not mapped and produces an error.

Test	Issuing Emergency
Pass/Fail	FAIL
Severity	4/5
Summary/Comments	A misconfigured SQL statement prevents an emergency being fulfilled correctly.

Test	Checking in
Pass/Fail	PASS
Severity	0/5
Summary/Comments	The carpool is successfully checked in and the driver/passenger screen layouts are correctly updated.

Test	Checking out
Pass/Fail	PASS
Severity	0/5
Summary/Comments	The carpool is successfully checked out and driver/passenger screen layouts are correctly updated.
Test	Opting out of carpool
Pass/Fail	PASS
Severity	0/5
Summary/Comments	Confirmation is displayed and user is successfully removed from their current carpool upon selecting the option to opt out.

Test	Joining a new carpool
Pass/Fail	PASS/FAIL
Severity	1/5
Summary/Comments	A server error occurs after selecting the option to join a new carpool, however, when logging back in as the same user the carpool has changed to the new one.

Test	Opting out of CRP
Pass/Fail	PASS
Severity	0/5
Summary/Comments	User is successfully deleted from the system after selecting the option to opt out of the CRP.