

CS 40800: Incremental Testing and Regression Testing

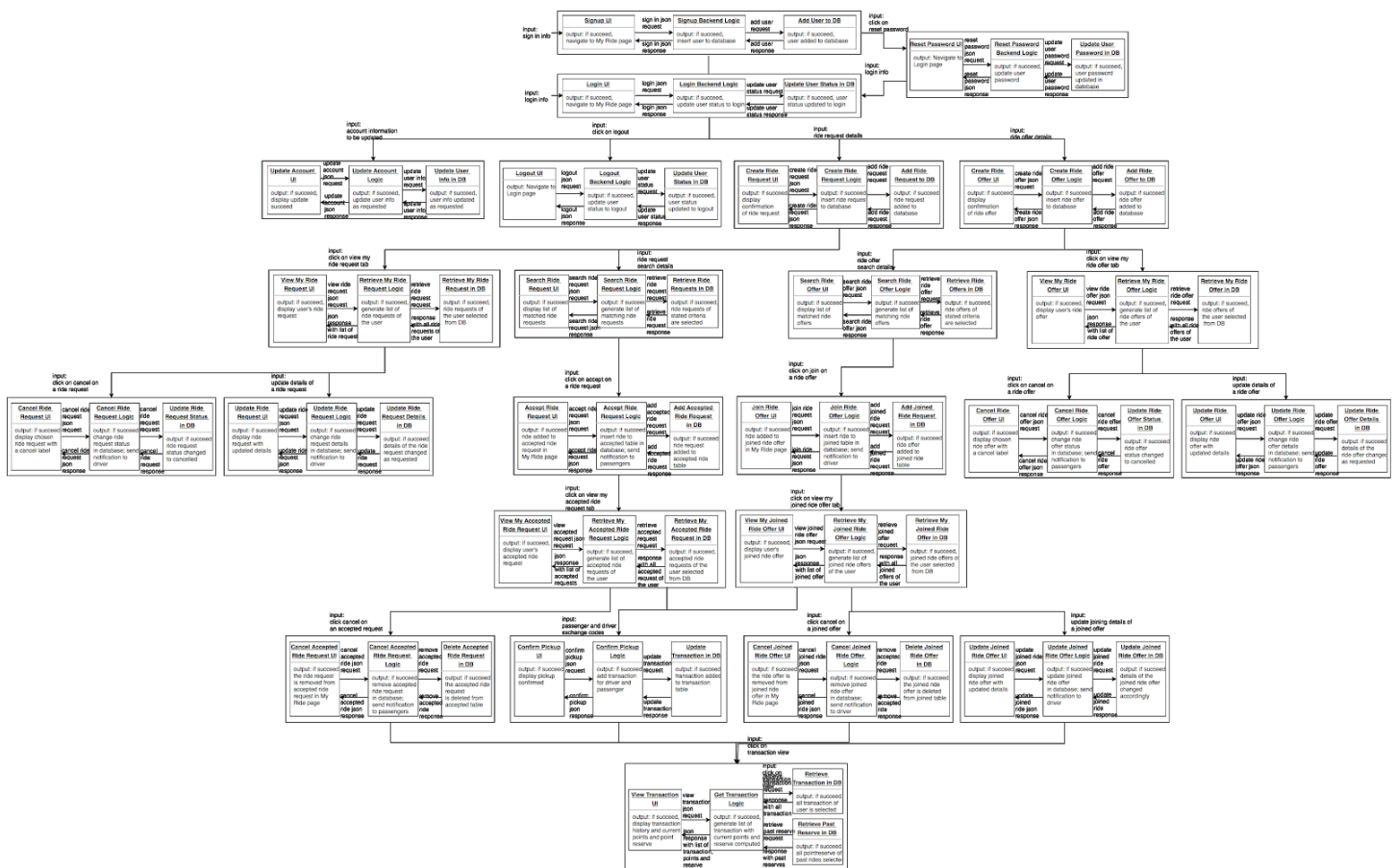
Project Title: Boileride

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1 Classification of Components

1.1 Define All Components

(Please refer to the ComponentDiagram.png in the same folder for a larger image)



Our project has eight level of components. The top level is signup; only if user signup for an account, the user can continue to use the application. There is the component reset password that lies between signup and login. The next level is login; all actions below can only be done after the user login. The following level includes update account, logout, create ride request and view ride request, followed by components cancel ride request and update ride request in the next level. Under

create ride offer is search ride offer and view ride offer, followed by components cancel ride offer and update ride offer in the next level. Under search ride request is component accept ride request; only after searching, the user can see the list of possible ride request he/she can accept. Under search ride offer is component join ride offer; only after searching, the user can see the list of possible ride offer he/she can join. The bottom level are components cancel accepted request which depends on accept ride request, and update joined offer and cancel joined offer which depend on join ride offer. Component confirm pickup depends on both accept ride request and join ride offer. View transaction is the lowest level which depends on accepted ride request, joined ride offer, cancel or update any and confirm pickup.

For each component mentioned above is actually a unit consisting of three internal components that include UI, backend logic and the function connecting to database. Therefore in the following test, we will do incremental testing for the connection among the three internal components of each unit. Then gradually adding the unit following the above tree diagram for incremental testing.

1.2 Form of Incremental Testing

When developing our web application, we started from the top modules to the ones below following the above tree. Therefore the modules in the bottom are still under development and cannot be used at this time of testing. So we will use the top-down approach.

2 Incremental and Regression Testing

Module: Sign Up (Signup UI, Signup backend logic, Add user to DB)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	After clicking sign up, no response is received from the backend by the UI.	1	After backend logic send request to database in function 'selectUserByEmail', database query is corrected to retrieve the userid in order to construct the user object and return back to backend logic and send the corresponding response back to UI
2	Verification email cannot be sent from backend logic after signup request is received.	1	Added javax.activation.jar to gradle.build
3	There is a typo, coe instead of code,	3	Correct the typo in the backend logic.

	in the verification email after signup from the UI.		
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Regression Testing

Defect No.	Description	Severity	How to Correct
1	After fixing the function 'selectUserByEmail' in Signup backend logic, the user object returned to UI does not receives the right userid of the object.	1	In backend logic, the object parameter used to generate the correct response back to the UI is corrected.

Module: Login (Login UI, Login backend logic, Update user status in DB)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	The user who has not sent back email verification code login successfully which is not an expected action.	1	After backend logic receives the login request from UI, the backend logic has to check the status of the user and make sure the user verified after signup.

Regression Testing

Defect No.	Description	Severity	How to Correct
1	After fixing login, the database was changed to the testing database which is not the designated database for the application and all data is not stored at where they are supposed to be.	1	Change the database name to the designated database.

Module: Logout (Signin -> Login -> Logout)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	Logout was not working as the userid	1	Refactored verifyEmail page to save

	that was being sent to the backend was not saved in the browser after the signup process.		the userid after verification is successful.
2	JSON created in the post request for logout was using the wrong variable name.	1	Changed to the correct variable name.

Regression Testing

Defect No.	Description	Severity	How to Correct
1	After fixing saving Userid after signup for logout to function, the Userid was not saved properly in the browser after login	1	Changed the data that was being saved in the browser.

Module: Reset Password (Sign up -> Reset Password)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	JSON created in the post request for reset password was using the wrong variable name.	1	Changed to the correct variable name.
2	New password is not encrypted.	2	Implement new password encryption.
3	Reset password is not allowed because the user is not logged in; but the user should not be logged in to reset password as a result of forgot password.	2	Backend logic's checking on user login status is removed.

Regression Testing

Defect No.	Description	Severity	How to Correct
1	After fixing saving Userid after signup for logout to function, the Userid was not saved properly in the browser after login	1	Changed the data that was being saved in the browser.

Module: Update user information (Signup->Login->Update Account)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	Password cannot be encrypted as email was not stored in the browser.	1	Storing email in browser when user login and successfully signs up.
2	Change email does not route to verify email page.	1	Routes to verify email page.
3	Verify new email sends the incorrect JSON with old email address to the backend.	1	Changed JSON to have new email address.
4	Backend did not send verification email after receiving the update user email request from UI.	1	Changed the backend logic to include email verification if email is to be updated.
5	Database lost the password after backend handle update information request from UI.	1	Changed backend request to database to keep all other information the same except the one needs to be updated.

Regression Testing

Defect No.	Description	Severity	How to Correct
1	Fixing updating password introduces invalid password bug on login.	1	Had refreshing browser to fully update the HTML and JS files served.

Module: Create Ride Request (UI, backend logic, function to DB)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	The rides are created even the number of passengers and luggage passed from the UI are invalid.	2	Backend logic is corrected to verify the number of passengers and luggage before passing to add to database.
2	Date and time of ride request given in UI has different time zone from the server and database.	1	UI converts the date and time to a central time zone.

3	The UI is passing price with decimal point to backend where integer is expected.	2	UI did string manipulation to chop the decimal point when sending the JSON response.
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Regression Testing

Defect No.	Description	Severity	How to Correct
1	After fixing the decimal point issue, the response is not successfully sent because the JSON response is not correctly constructed after string manipulation.	2	Corrected the string manipulation to construct the right JSON response.

Module: Create Ride Offer (UI, backend logic, function to DB)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	The rides are created even the number of seats and room for luggage passed from the UI are invalid.	2	Backend logic is corrected to verify the number of seats and room for luggage before passing to add to database.
2	Date and time of ride offer given in UI has different time zone from the server and database.	1	UI converts the date and time to a central time zone.
3	Spelling error for traveling time variable in JSON cause traveling time to be 0 all the time.	2	Fix spelling error.

Regression Testing (No defects found after above fixes)

Defect No.	Description	Severity	How to Correct
1			

Module: View Ride Request (UI, backend logic, function to DB)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	View Ride Request does not request for ride request list when page is loaded.	1	Post request is now sent when page is loaded rather than when "Ride Request" nav button is clicked.
2	Some incorrect Ride Request data is shown because boolean instance were interpreted as strings rather than boolean.	2	Interpreted boolean fields as boolean rather than string.
3	Backend did not return all the expected information in the view ride response.	2	Corrected the backend logic to obtain all the information needed from database and pass the correct response back to UI.
4	Backend returned wrong information to UI.	2	Corrected the database response to feed the exact information stored in database to backend for constructing the response to UI.

Regression Testing (No defects found after above fixes)

Defect No.	Description	Severity	How to Correct
1			

Module: View Ride Offer (UI, backend logic, function to DB)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	View Ride Offer does not request for ride request list when page is loaded.	1	Post request is now sent when page is loaded rather than when "Ride Offer" nav button is clicked.
2	Some incorrect Ride Offer data is shown because boolean instance were interpreted as strings rather than boolean.	2	Interpreted boolean fields as boolean rather than string.
3	Backend did not return all the	2	Corrected the backend logic to obtain

	expected information in the view ride response.		all the information needed from database and pass the correct response back to UI.
4	Backend returned wrong information to UI.	2	Corrected the database response to feed the exact information stored in database to backend for constructing the response to UI.

Regression Testing (No defects found after above fixes)

Defect No.	Description	Severity	How to Correct
1			

Module: Edit Ride Request (Signup->login->create ride request->view ride request->edit ride request)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	Edit Ride Request page inputs are not filled in properly because details were not saved properly.	1	Changed saving details of selected ride request so that inputs will be filled in properly.
2	Input number is not being splitted properly without checking the existence of ".".	2	Changed split(".") to indexOf(".") >= 0 to check whether "." exists in a number

Regression Testing (No defects found after above fixes)

Defect No.	Description	Severity	How to Correct
1			

Module: Edit Ride Offer (Signup->login->create ride offer->view ride offer->edit ride offer)

Incremental Testing

Defect No.	Description	Severity	How to Correct

1	Edit Ride Offer page inputs are not filled in properly because details were not saved properly.	1	Changed saving details of selected ride request so that inputs will be filled in properly.
2	Input number is not being splitted properly without checking the existence of ".".	2	Changed split(".") to indexOf(".") >= 0 to check whether "." exists in a number

Regression Testing (No defects found after above fixes)

Defect No.	Description	Severity	How to Correct
1			

Module: Cancel Ride Request (UI, backend logic, function to DB)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	Unable to retrieve requestid properly	1	Save requestid into localStorage
2	Unable to navigate to Ride Request page after getting response	1	Changed the route url from /myRides/myRequest to /myRides/myRequest/cancel

Regression Testing (No defects found after above fixes)

Defect No.	Description	Severity	How to Correct
1			

Module: Cancel Ride Offer (UI, backend logic, function to DB)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	Unable to retrieve requestid properly	1	Save requestid into localStorage
2	Unable to navigate to Ride Offer page after getting response	1	Changed the route url from /myRides/myOffer to /myRides/myOffer/cancel

Module: Search Ride Request (UI, backend logic, function to DB)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	The backend cannot receive the correct json request from UI	1	The name and datatype of the parameters have to be corrected on both UI and backend logic to make the request content match on both sides.
2	Frontend UI does not allow input of addresses in search page on computers other than the developer's computer	1	Updated Google cloud platform setting to allow use of autocomplete api with the current api key through other IP addresses
3	When search request sent to backend, Google Geocoding API complains being blocked	1	Updated Google cloud platform setting to allow use of geocoding api with the current api key
4	When call database search function, sql exception was caught.	1	Fixed several syntax errors and name mismatch.

Regression Testing (No defects found after above fixes)

Defect No.	Description	Severity	How to Correct
1			

Module: Search Ride Offer (UI, backend logic, function to DB)

Incremental Testing

Defect No.	Description	Severity	How to Correct
1	The backend cannot receive the correct json request from UI	1	The name and datatype of the parameters have to be corrected on both UI and backend logic to make the request content matches on both sides.
2	Frontend UI does not allow input of addresses in search page on	1	Updated Google cloud platform setting to allow use of autocomplete

	computers other than the developer's computer		api with the current api key through other IP addresses
3	After receiving the search request from UI and making a request to database by backend logic, the database returns a syntax error exception.	1	The query is corrected in database to make sure no syntax error.

3 Update Product Backlog

The status of the requirements is also updated in our product backlog document

Team3_ProductBacklog_Updated.pdf.

Backlog Id	Functional Requirement	Hours	Status
1	As a user, I would like to create an account by providing these details: <ul style="list-style-type: none"> 1. nickname (length < 50) 2. password (length > 6, require at least one number, one symbol and one capital letter) 3. confirm password 4. email (valid email, no duplicate) 5. phone number (10 digits) 	10	Completed in Sprint 1
2	As a user, I would like to reset my password if I forgot my password.	5	Completed in Sprint 1
3	As a user, I would like to update account information.	5	Completed in Sprint 1
4	As a user, I would like to login to my account.	5	Completed in Sprint 1
5	As a user, I would like to logout from my account.	5	Completed in Sprint 1
6	As a user, I would like to post a ride request as a passenger by providing these details: <ul style="list-style-type: none"> 1. pickup location and destination 2. date and time 3. number of passengers 4. number of luggage 	10	Completed in Sprint 1

	5. preferences (smoking allowed, food and drinks allowed, pets allowed and air conditioning available)		
7	As a user, I would like to post a ride offer as a driver by providing these details: <ul style="list-style-type: none"> 1. pickup location and destination 2. date and time 3. number of seats available 4. room for luggage 5. available amenities (smoking allowed, food and drinks allowed, pets allowed and air conditioning available) 	10	Completed in Sprint 1
8	As a user, I would like to cancel my posted ride request or offer.	5	In-progress: moved to sprint 2
9	As a user, I would like to update my posted ride request or offer.	10	Completed in Sprint1
10	As a user, I would like to view my ride requests and offers.	5	Completed in Sprint 1
11	As a user, I would like to search for a ride request as a driver by providing these details: <ul style="list-style-type: none"> 1. a pickup location and destination, with the option of adding proximity of pickup location and destination 2. date and time with the option of providing range of date and time 3. number of passengers 4. number of luggage 5. preferences (smoking allowed, food and drinks allowed, pets allowed and air conditioning available). 	20	Completed in Sprint 1
12	As a user, I would like to search for a ride offer as a passenger by providing these details:	20	In-progress: moved to sprint 2

	<ol style="list-style-type: none"> 1. a pickup location and destination, with the option of adding proximity of pickup location and destination 2. date and time with the option of providing range of date and time 3. number of seats available 4. number of luggage 5. preferences (number of rides) 6. amenities available (smoking allowed, food and drinks allowed, pets allowed and air conditioning available). 		
13	As a user, I would like to sort the search results based on distance between requested pickup location and actual pickup location (default), traveling time, pickup date and time.	10	Incomplete: moved to sprint 2
14	As a user, I would like to join a single ride offer as a passenger with the specification of number of passengers and luggage.	10	Planned for Sprint 2
15	As a user, I would like to join multiple rides as a single trip.	20	Planned for Sprint 2
16	As a user, I would like to be able to change the rides manually in a recommended single trip.	20	Planned for Sprint 2
17	As a user, I would like to view my joined ride offers.	5	Planned for Sprint 2
18	As a user, I would like to accept a ride request as a driver.	10	Planned for Sprint 2
19	As a user, I would like to view my accepted ride requests.	5	Planned for Sprint 2
20	As a user, I would like to cancel my joined ride offers or accepted ride requests.	10	Planned for Sprint 2
21	As a user, I would like to update the number of passengers and luggage of my joined ride offer.	5	Planned for Sprint 2

22	As a user, I would like to pay points as a passenger for a joined ride offer or an accepted ride request.	10	Planned for Sprint 2
23	As a user, I would like to receive points as a driver for a joined ride offer or an accepted ride request.	10	Planned for Sprint 2
24	As a user, I would be penalized for 50%, 75% and 100% of the price of the ride if I canceled the ride 2 days before, 1 day before and on the day of the departure time respectively.	10	Planned for Sprint 2
25	As a user, I would have a portion of my points (price of my ride) reserved to ensure that I would be able to pay for my rides or pay for penalties.	10	Planned for Sprint 2
26	As a user, I would like to view my point balance.	5	Planned for Sprint 2
27	As a user, I would like to view my point transaction history.	5	Planned for Sprint 2
28	As a user, I would like the application to automatically set the price of my ride offer based on the distance between pickup location and destination.	10	Planned for Sprint 2
29	As a user, I would like to confirm that I have been picked up or delivered by the driver. (passenger generate a code, driver send it)	10	Planned for Sprint 2
	Total:	255	

