

Debate Forum

Design Inspection, Code Inspection, & Unit Testing

DESIGN INSPECTION DEFECTS

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| Product | Debate Forum • User Interface Module |
| Date | 10/12/16 |
| Author | Roy Ramstad |
| Moderator | Michael Schloss |
| Inspectors | Cody Tyson • Alex Rosenberg |
| Recorder | Naveen Ganessin |

| Defect # | Description | Severity | Solution |
|----------|---|----------|---|
| 1 | DebateQuery needs a way to return the current active thread rather than by title for the UI to display after logging in | 1 | Add a method getCurrentDebate() |
| 2 | The moment when getUser() returns and when the Admin tab is out of order | 1 | Make the "returned" performActionFor response add the Admin tab and give the panel user's information |

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| Defect # | Description | Severity | Solution |
|----------|---|----------|--|
| 1 | e need a constructor that takes all possible Post fields as arguments to create a Post object in order to properly translate JSON | 1 | Create a Post constructor in that takes all fields as arguments and sets them to their respective values |
| 2 | Post does not have a field to determine whether a Post is flagged | 2 | Add isFlagged to Post object |
| 3 | Post does not have a field to store its unique ID | 1 | Add postID to Post object |
| 4 | createDebate did not have fields for a start and end date | 2 | Added fields to the createDebate method |

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| Defect # | Description | Severity | Solution |
|----------|---|----------|---|
| 1 | We need a class to handle querying of Posts JSON from the database | 1 | Create a class to handle JSON for Posts |
| 2 | We need a class to handle querying of Debates JSON from the database | 1 | Create a class to handle JSON for Debates |
| 3 | We need a constructor that takes all possible Debate Fields to make a debate object instead of just the title | 1 | Create a Debate Constructor that takes all fields as arguments and sets them to their respective values |
| 4 | Database does not auto-increment debateIDs | 1 | When new debates are being created the maximum ID in the debates table has to be retrieved and incremented before creating a new database entry in the debate table |

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| Defect # | Description | Severity | Solution |
|----------|--|----------|--|
| 1 | Holding threads in variables produces thread locking which crashes the app | 1 | Removed variable holding to prevent crashes |
| 2 | DFNotificationCenter would remove all children of `this` regardless of notification name | 2 | Updated `if` clause to make sure observer isn't removed if they didn't specifically ask for it |
| 3 | Encryption had no fallback in the event the Initialization Vector couldn't be initialized. This would inevitably lead to a crash | 1 | Encryption now uses "no encryption" fallback if an exception is encountered |

CODE INSPECTION DEFECTS

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| Defect # | Description | Severity | Solution |
|----------|---|----------|---|
| 1 | An instance of JSON_translation cannot nest two queries using the same instance when UI is calling getUser within the "success" performActionFor response | 2 | Create a new JSON_translation query object, and perform the query |

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| Defect # | Description | Severity | Solution |
|----------|--|----------|---|
| 1 | Inconsistent argument order in constructors | 3 | Reorder constructor arguments to be consistent everywhere |
| 2 | Some variables were public unnecessarily in Debate | 3 | Modified variables to be private |

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| Defect # | Description | Severity | Solution |
|----------|---|----------|---|
| 1 | UIStrings needs a unique String identifier added for when posts are returned in an ArrayList from PostQuery | 2 | Added UIStrings.postsReturned to the UIStrings file |
| 2 | Usage of many deprecated methods. Does not break the program but needs to be addressed | 3 | Update to the latest methods provided by DFSQL |
| 3 | Situation where MaxDebateID returns null is not handled | 2 | This scenario should ideally never happen but this should fail the upload and inform the caller |
| 4 | Caller of createNewDebate currently has no way of knowing if the new Debate was created successfully or not | 1 | It needs to post a notification to caller informing him on the uploadstatus of the debate |

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| Defect # | Description | Severity | Solution |
|----------|---|----------|--|
| 1 | Formatting NATURAL JOIN statements improperly uses the ON clause | 2 | Removed ON clause from NATURAL JOIN statements to prevent breaking |
| 2 | WHERE statements would not format tables correctly | 2 | Changed formatting of WHERE clauses to properly format tables |
| 3 | Encryption would not properly decrypt strings | 2 | Encrypted string now includes the Initialization Vector to properly decrypt data |
| 4 | DFSQL would put backticks (`) around SELECT rows. This produced unintended behavior | 2 | Removed (`)s from SELECT clause entirely to restore the data |

USER TESTING DEFECTS

For unit testing, we used the automated testing frameworks JUnit & java.awt.Robot

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| Module I/O | Input: JSON Translation Output: UI |

| Defect # | Description | Severity | Solution |
|----------|---|----------|---|
| 1 | When user interface calls upon UserQuery.getUser(), it fails to post a query in SQL | 1 | Fixed by creating a separate UserQuery object (since it was nested within itself) and performing the same query |

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| Module I/O | Input: JSON Translation Outputs: JSON Translation and UI | | |
| Defect # | Description | Severity | Solution |
| 1 | Post constructor that takes all fields are hard-coded and return objects with consistently wrong values for isHidden and isFlagged | 2 | Make the values of the fields change depending on the arguments provided to the constructor |

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| Module I/O | Inputs: Objects & UI Outputs: Database, Objects, & UI |

| Defect # | Description | Severity | Solution |
|----------|--|----------|--|
| 1 | Error due to integer postIDReceived being set to null in returnHandler in the PostQuery file | 1 | Set postIDReceived to 0 instead of null |
| 2 | Post tests fail due to "No data was returned." error since no Debate or Post data is currently in the actual database | 3 | Test data should be inserted in the database for Debates and their Posts |
| 3 | PostQuery's returnHandler method does not utilize the proper UIStrings constant in the if branch, leading to an error. It uses UIStrings.returned instead of UIStrings.postsReturned | 1 | returnHandler in PostQuery should use UIStrings.postsReturned in the if branch |
| 4 | PostQuery makes a notification in the else branch of returnHandler using UIStrings.returned instead of UIStrings.postsReturned | 2 | PostQuery should use UIStrings.postsReturned in the else branch (and everywhere else) |
| 5 | DebatePosts always returns null | 2 | Null and proper situation needs to be handled differently |
| 6 | createDebateAndPost sets isOpen to always be true without checking for the start and endDate properly | 1 | The startDate and endDate must be compared with the current date to see if the debate is currently open or not |
| 7 | Allows multiple debates with the same title to be created | 2 | Might have to check if debateTitle already exists before making a duplicate one |

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| Module I/O | Input Output: JSON_Translation |

| Defect # | Description | Severity | Solution |
|----------|--|----------|---|
| 1 | DFDataDownloader attempted to store the thread as a variable to save memory. This resulted in thread allocation errors that led to a runtime crash | 1 | Reverted DFDataDownloader back to original thread functionality |
| 2 | DFSQL, when putting ticks around rows, would not properly differentiate functions | 2 | Removed backticks entirely |
| 3 | HTTP Connection would not disconnect after data was finished | 3 | Disconnected connection after each call |