Mango-cr#2-TEAM-08 - Change request log

1. Concept Location

Step #	Description	Rationale
1	*We ran the system. Our team has used the IDEs and tools – Visual Studio, Git Bash*	*Since these are the standard IDE tools used, and Visual Studio helped us to get the whole of the Source code as a repository and to perform actions like Global Search.*
2	*We interacted with the system: after logging in we entered the schedule screen.*	*We needed to log in to the system to see the audio/speaker icon*
3	*In Chrome, we went to Developer Tools by doing Right click on the page and selected 'Inspect'. We saw the HTML code for the page. We explored Sources and Network tabs to see the code.*	*To get familiar with some of the features of the system, and identify the screens or graphical elements we had used the developer tools in Chrome Browser*
4	*In the Network Tab, we found the call as: 200 POST MiscDwr.toggleUserMuted.dwr*	*We know that HTTP request contains the information as to, where the call is being made*
5	*Leveraged IntelliJ IDEA search functionality*	*Efficient way to locate specific classes and methods within the codebase.*
6	*Searched for MiscDwr in IntelliJ*	*Pinpointed the modules responsible for mute button logic.*
7	*From the 38 search results, MiscDwr.java file caught our attention.*	*We selected this class because the filename matches the first part of the MiscDwr.toggleUserMuted.dwr found in Network Tab*
8	*We inspected the class MiscDwr. We went to this class using the navigator of the IDE editor.*	*Identified toggleUserMuted method for mute functionality.*
9	*Focused on toggleUserMuted method for further investigation.*	*This is because, from the Network tab, we found the call as 'MiscDwr.toggleUserMuted.dwr' and also has the keyword, 'muted' and 'toggle' in the method name*
10	*We found 3 function calls happening and also observed the return statements.*	*We concluded that we have located the place where the concept or the logic resides within this method.*

Time spent (in minutes): 90 minutes

Classes inspected:

- *.\mango\mangoSource\src\com\serotonin\mango\web\dwr\MiscDwr.java*

Methods inspected:

- *Within the same MiscDwr.java file*
  - *public boolean toggleUserMuted()*

2. Impact Analysis

Step #	Description	Rationale
1	*We made a list of methods called by toggleUserMuted()*	*To track the classes that could be impacted by the change.*
2	*Inspected getUser() in Common.java using IntelliJ Search*	*Analysis of this method is necessary to understand how the toggle status is mapped to user uniquely.*
3	*Inspected setMuted() in User.java using IntelliJ Search*	*Inspection of this method is essential for the toggle logic*
4	*Inspected isMuted() in User.java using IntelliJ Search*	*Definition of this method was crucial so as to understand how the 'muted' status is getting updated*
5	*We first thought of changing the status of return value to 'True' in toggleUserMuted()*	*We impulsively expected that changing the return status here might help us, since it was showing that 'return false'*
6	*The audio symbol would not be muted, there wouldn't have been any impact.*	*This is because 'return false' would be executed only if the UserID is NULL which is not possible to reach as long as there is an UserID and we are able to login successfully.*
7	*setMuted() creates an Impact on how the toggle works*	*Unfortunately, This method would not help us in setting muted by default.*
8	*The value being returned from the isMuted() is the one which is listened by the HTTP request to be precise.*	*It is the method returning an output from the toggleUserMuted()*
9	*We needed to make changes to the User class*	*isMuted() is being called by the User Object.*

Time spent (in minutes): 40 minutes

Classes inspected:

- *.\mango\mangoSource\src\com\serotonin\mango\web\dwr\MiscDwr.java*
- *.\mango\mangoSource\src\com\serotonin\mango\Common.java*
- *.\mango\mangoSource\src\com\serotonin\mango\vo\User.java*

Methods inspected:

- *.\mango\mangoSource\src\com\serotonin\mango\web\dwr\MiscDwr.java*
  - *public boolean toggleUserMuted()*
- *.\mango\mangoSource\src\com\serotonin\mango\Common.java*
  - *public static User getUser()*
- *.\mango\mangoSource\src\com\serotonin\mango\vo\User.java*
  - *public void setMuted(boolean muted)*
  - *public boolean isMuted()*

3. Prefactoring (optional)

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Step #	Description	Rationale
1	*We performed initial inspection in the files to check if Prefactoring can be performed.*	*For this change request-2, we considered MiscDwr.java. Since that was found to hold the core -logic of initialization for muted status and we also checked in toggleUserMuted() for the same.*
2	*No explicit Pre-factoring was performed. We made no changes with git.*	*Since, there was no scope found to perform Prefactoring.*

Time spent (in minutes): 15 minutes

Classes inspected:

- *.\mango\mangoSource\src\com\serotonin\mango\web\dwr\MiscDwr.java*
- *.\mango\mangoSource\src\com\serotonin\mango\Common.java*
- *.\mango\mangoSource\src\com\serotonin\mango\vo\User.java*

Methods inspected:

- *.\mango\mangoSource\src\com\serotonin\mango\web\dwr\MiscDwr.java*
  - *public boolean toggleUserMuted()*
- *.\mango\mangoSource\src\com\serotonin\mango\Common.java*
  - *public static User getUser()*
- *.\mango\mangoSource\src\com\serotonin\mango\vo\User.java*
  - *public void setMuted(boolean muted)*
  - *public boolean isMuted()*

4. Actualization

Step #	Description	Rationale
1	*We now moved to the line,* *return user.isMuted()* *As discussed above, we moved to User.java*	*On careful observation, we understood that when there is UserID, i.e, when a successful login happens, we are going into IF condition*
2	*In the isMuted() method, we have muted variable, which was initialized to be 'False' initially*	*isMuted() method returns only one variable directly without any processing.*
3	*We now changed this line,* *private transient boolean muted = false;* *to* *private transient boolean muted = true;*	*Since muted says false, we put it as true so as to have it muted.*
4	*We saved, deployed and reloaded the ant directory using the commands:* *ant fullDeploy* *ant reload*	*This is the standard way to run the code, after making any changes*
5	*We logged in to verify, if the audio icon is on mute and we confirmed that it was on mute unlike before.*	*Initial goal was reached, so we confirmed the updation to be successful.*
6	*We performed functional testing. We also ran the existing test cases.*	*To make sure everything works.*

Time spent (in minutes): 50 minutes

Classes inspected:

- *.\mango\mangoSource\src\com\serotonin\mango\vo\User.java*

Methods inspected:

- *.\mango\mangoSource\src\com\serotonin\mango\vo\User.java*
  - *public void setMuted(boolean muted)*
  - *public boolean isMuted()*

5. Postfactoring (optional)

Step #	Description	Rationale
1	*We performed a final inspection in the files to check if Postfactoring can be performed.*	*Since a single variable change would meet the requirement to make the desired change, there was no necessity found to perform Postfactoring.*
2	*No explicit Post-factoring was performed.*	*The Boolean change have sufficed and since we did not also explicitly add new lines of code.*

Time spent (in minutes): 10 minutes

Classes inspected:

- *.\mango\mangoSource\src\com\serotonin\mango\web\dwr\MiscDwr.java*
- *.\mango\mangoSource\src\com\serotonin\mango\Common.java*
- *.\mango\mangoSource\src\com\serotonin\mango\vo\User.java*

Methods inspected:

- *.\mango\mangoSource\src\com\serotonin\mango\web\dwr\MiscDwr.java*
  - *public boolean toggleUserMuted()*
- *.\mango\mangoSource\src\com\serotonin\mango\Common.java*
  - *public static User getUser()*
- *.\mango\mangoSource\src\com\serotonin\mango\vo\User.java*
  - *public void setMuted(boolean muted)*
  - *public boolean isMuted()*

6. Validation

Step #	Description	Rationale
1	***Test case defined**: Muted icon visibility - Verify muted icon is visible upon login.* ***Inputs:** Login with username and password as 'admin'* ***Expected output**: Muted icon is visible*	*This is the required behavior and we have achieved it.* *The test passed.*
2	***Test case defined**: Persistence on page refresh- Test if mute status persists after page refresh.* ***Input**s: Perform page refresh* ***Expected output**: Mute status remains muted*	*This is expected regular behavior.* *The test passed.*

3	***Test case defined**: Toggle functionality - Ensure mute button toggles between mute/unmute.* ***Inputs**: Toggle the audio button by clicking on it* ***Expected output**: Button mutes/unmutes as clicked*	*This is current behavior.* *Button toggles correctly.* *The test passed*
4	***Test case defined**: Desired behavior on re-login - Check if muted status is visible after logging out unmuted and performed re-login.* ***Inputs:** Unmute the audio, logout and login again* ***Expected output** Audio status should be muted.*	*Muted status was observed. This is the required behavior and we have achieved it.* *The test case passed.*

Time spent (in minutes): 30 minutes

7. Summary of the change request

Phase	Time (minutes)	No. of classes inspected	No. of classes changed	No. of methods inspected	No. of methods changes
Concept location	90	1	0	1	0
Impact Analysis	45	3	0	4	0
Prefactoring	15	3	0	4	0
Actualization	50	1	1	2	1
Postfactoring	10	3	0	4	0
Verification	30	0	0	0	0
Total	240				

8. Conclusions

For this change, concept location was relatively easy because the system is small and its architecture and code are not complicated. Concept location, impact analysis, actualization (and change propagation) was done successfully. Testing was performed Manually. It took us long time to setup and run the code initially, but we were successful in the end in meeting all the requirements.

Experience with Change Request:

- *The change request was straightforward and easily traceable within the codebase.*
- *IntelliJ IDEA's search functionality and debugging tools were helpful.*
- *Testing was simple and covered all necessary scenarios.*

Challenges:

- *The main challenge was ensuring the persistence of mute status across sessions, which was resolved by modifying the User class.*
- *Ensuring all relevant scenarios were tested thoroughly was also important.*