

Testing

Team 15

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Unit Testing

- Input Commands
 - Tested using Dpy Test and Testcord
- Student Code Tester/Error Checker
 - Must produce consistent, correct results
- Replit Fetcher
 - Must be able to fetch and compile code from student Replits

Interface Testing

- Buttons
- Command List
- Responses
- Threads

Tools:

- Testcord
- Dpytest

Integration Testing

- Database Integration
 - Is the Discord bot able to read and write from the database?
- Replit Integration
 - Is the Discord bot capable of authenticating and interacting with Replit?
- Conduct load testing
 - Is the Discord bot able to handle lots of interactions at once?

System Testing

- Connectivity testing
 - Is the bot connected to Discord?
- Interaction testing
 - Ability for the bot to resolve simple queries without professor interaction.
 - Ability for the bot to create a new thread for the student and professor if the bot is unable to help.

Regression Testing

- Automated tests will be conducted by the CI/CD pipeline to ensure previous functionality is not broken.
- In the event bot functionality is found to be broken, the following process will be followed:
 - A new failing test case will be written.
 - The bug will be resolved in the codebase.
 - The originally written test case will be validated to be a passing test case.

Acceptance Testing

- Manual Testing
- Approval from Client
- Deploying first version to a set of users for them to use and give feedback
- Make continuous adjustments during deployment and testing

Security Testing

- Thread User Management
 - Correctly identify and place users in their assigned threads
 - Needed to protect user confidentiality
 - Tested and secured via method testing and input sanitization

- Replit-Discord account linking
 - Prevent users from tampering with the account linking process
 - Important to protect assignment integrity
 - Tested through Replit bot testing and method testing

Results

Results will be determined at a later time, once the bot's development is more finalized.