Appendix G Manual Test Cases

During the development phase, a specific script was employed to facilitate systematic manual testing of the application. This testing encompassed positive, negative, and boundary test cases.

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| Scenarios | Test Cases | Result |
| Unregistered user | * User should be able to view all pages except pages which require authorization. * The links on the page should work correctly. * When a user visit the wrong address, he should be able to redirect to page with error handling instruction. | Partly passed.  Failed test details:  1. If the user input the wrong URL address, there is no any information provided except an empty page. |
| Registration | * User should be able to register an account if input valid data. * If user input invalid data, including wrong email address, same email address, weak password, wrong password for verifying identical password, empty input, the user should not be allowed and suitable error handling information should appear. | All passed. |
| Log in and log out | * If the user input correct information, the user should be able to log in. * If the user provides wrong information, including both email and password, it should not be allowed to log in and error message should appear. * When the user click log out button, the user should be logged out and the token should become invalid. | All passed. |
| Dashboard | * The user should be able to see the correct statistics of learning record. * The user should be able to register the sample course if he has not registered it before. * The user should see register successfully chip if he has registered the sample course. | All passed. |
| Chatbuddy | * The user should be able to see the today’s study task and review task correctly. * The user should be able to select various chatbots. * The conversation history and chatbot introduction should be shown correctly for all chatbots. * The voices of chatbots should be played with the correct accent, even for long form content. * When the voice content is playing, clicking text-to-voice button again will replay the audio file. * The translation of chatbox content should be correctly shown, even for long form content. * When the translation is shown, clicking the translation button again will hide the translation. * When the user clicked the create review button in the chatbox, the create review form can appear with the text of chat box as default content. * The create review form triggered by chatbox icon clicking can create review and handle error (including extreme case and empty data) correctly. * The voice recognition can get the user input even for the speaking time more than 2 minutes. * When the user sends a valid message, the chatbot will give a reply. * When the user sends an invalid message (empty message and long message), error handling information should appear. * When the user clicks the new topic button, the new topic input dialog should appear. * After a user input a new topic, the new topic divider should appear in the conversation area. * Invalid input for new topic should be handled with clear error prevention and helpful instruction. * Destructive click testing. When one button is the loading state, the user clicks this button and other buttons. The loading state button should not work. Other button should work well at the same time. * When the user sends a message, the conversation points should reduce by one. * If the conversation points are zero, an error message should appear when user clicks send message button. * The conversation points should be update to default value 50 in a new day. | Mostly passed.  Failed test details:  1. If the user sends a long message to the backend, it may bring up more tokens than the API allowed. The API sends an error message back but the code doesn’t handle this error appropriately.  2. The create review form can prevent the long content to create a review item. However, no error handling message is provided for user to take action except red colour hint.  3. Speech recognition can only recognize speech nearly one minute.  4. For the new topic, long input is not handled correctly. The long topic will break the conversation area interface.  5. Although previous text in the message input area is hidden when user is recording, clicking the send message button can still send the hidden text. |
| Study Overview | * When the user clicks the status buttons, the study items can be displayed correctly. * The user can create/update a study item with valid input. * The form can show error handling message when user input invalid data (empty data and extreme data). * When user registered sample course successfully, a set of default study items should be imported to the study plan system automatically. * When the study task is finished, the user should be able to decide the review arrangement with valid input. This process should also handle invalid input appropriately. | Mostly passed.  Failed test details:  1. All the form failed in handle long-form input data. The form only show red colour as a warning sign, but no error handle message appeared. |
| Review Overview | * When the user clicks the status buttons, the review items can be displayed correctly. * The user can create/update a review item with valid input. * The form can show error handling message when user input invalid data (empty data and extreme data). * The user can add new review sessions for review items with less than 5 review sessions. * When the study task is finished, the user should be able to decide the review arrangement with valid input. This process should also handle invalid input appropriately. | Mostly passed.  Failed test details:  1. All the form failed in handle long-form input data. The form only show red colour as a warning sign, but no error handle message appeared. |