

## **LetterBuddy Software Test Design (STD):**

### **Introduction:**

LetterBuddy is a web application for children's handwriting exercises. Its AI feedback is based on OCR and VLM models. Adults guiding the children on this journey can view their progress. Our objective is to ensure the correct functioning of the user management, generation of exercises, submission, and the adult's progression tracking of their children.

This STD provides detailed insight into each test case we have used to ensure our system's functionality is working as we intended.

As mentioned in our STP, we have done both manual testing (both mobile and desktop) and automated testing for the backend and e2e.

### **Test Cases:**

TC-001 - TC-011 are the automated tests done for the backend.

TC-011 - TC-017 are the end-to-end automated tests.

TC-017 - TC-023 are the manual tests that we haven't checked automatically yet for the rest of the app.

Test Case ID	Description	Preconditions	Test Steps	Expected Result	Actual Result
(Backend) TC-001	Adult register endpoint	A user with that username and email isn't present	1. A valid adult registration request is made	Adult account created, response: 201	As expected
TC-002	Child register endpoint	The requester is a logged-in adult. A user with that username and email isn't present	1. A valid child registration request sent	Child account created, response: 201	As expected
TC-003	User login endpoint	The requester's info is a user registered before	1. A valid login request is sent	JWT tokens sent, response: 200	As expected
TC-004	User logout endpoint	The requester is a logged-in user.	1. A valid logout request is sent	JWT refresh token blacklisted, response: 205	As expected
TC-005	Adult's child list endpoint	The requester is a logged-in adult with one child.	1. A valid child list request is sent	A list with that one child is sent, response: 200	As expected
TC-006	A child cannot access the child list endpoint	The requester is a logged-in child	1. A valid child list request is sent	Response: 403 - forbidden access	As expected

TC-007	A child should get their unfinished exercise if there is one in the generated exercise endpoint	The requester is a logged-in child who got an exercise and didn't submit it.	1. A valid generate exercise request is sent	Returned the exercise that was generated before. Response: 200	As expected
TC-008	A child wants to refresh his exercise with endpoints	The requester is a logged-in child who got an exercise and didn't submit it.	1. A valid delete exercise request is sent 2. A valid generate exercise request is sent	The old exercise was deleted, and a new one was sent.	As expected
TC-009	An adult wants to get a list of specific child's exercise endpoints	The requester is a logged-in adult who has a child with an exercise	1. A valid child's exercise list request is sent.	A list containing that exercise. Response: 200	As expected
TC-010	An adult wants to get a specific exercise for a specific child's endpoint	The requester is a logged-in adult who has a child with an exercise	1. A valid child's exercise request is sent.	That exercise. Response: 200	As expected

(E2E) TC-011	The user logs in to his account	The user has already registered before	1. Login form elements are displayed correctly. 2. Fill the form and click the login button.	The user navigated to the correct path, according to his account	As expected
TC-012	Adults sign up	The adult user does not exist yet	1. Sign-up form elements are displayed correctly. 2. Fill the form and click the signup button.	The adult user navigates to the login page after a successful request with valid credentials	As expected
TC-013	Child signs up	The request was sent from a logged-in adult user account	1. Child's sign-up form elements are displayed correctly. 2. Fill the form and click the signup button.	Child added successfully with valid credentials and seen on the child's account page	As expected
TC-014	A child skips an exercise	Already logged in to a child account	1. The child's exercise component was displayed correctly. 2. Click the skip button 3. Wait for the new exercise to be displayed.	The new exercise is displayed correctly	As expected

TC-015	Child submits an exercise	Already logged in to a child account	1. The child's exercise component was displayed correctly 2. Upload the submission image	The submission request has been sent successfully, and a new exercise is displayed.	As expected
TC-016	Adult views child's submission	Already logged in to an adult account that has at least one child account	1. The child's account page is displayed correctly 2. Click on the submission table button for a child 3. The submission table component is displayed correctly. 4. Click on a submission's "View" button	Submission images and feedback are displayed correctly.	As expected
(Manual) TC-017	An adult wants to get the handcrafted handwriting articles endpoint	The request sent by a logged-in adult	1. A valid get articles request is sent.	The articles list. Response: 200	As expected
TC-018	A child wanna view the alphabet gifs	Already logged in to a child account	1. Click on the alphabet button 2. Alphabet images are displayed correctly 3. Click on a letter's image	The letter's GIF was successfully displayed to the user.	As expected

TC-019	An adult wanna view his child's progress charts	Already logged in to an adult account that has at least one child account	1. The child's account page is displayed correctly 2. Click on the charts button for a child	All of the child's progress charts displayed correctly.	As expected
TC-020	An adult wanna sort a child's submissions table	Already logged in to an adult account that has at least one child account	1. The child's account page is displayed correctly 2. Click on the submission table button for a child 3. Submission table component displayed correctly 4. Click on the sort button	Submission table is sorted by the parameter chosen (score/date/exercise)	As expected
TC-021	A user wanna log out from his account	Already logged-in user	The user clicks on the logout button	Request sent successfully, user navigated to "splash page"	As expected
TC-022	The user selects his type-adult/child	None	1. User clicks the "Get Started" button 2. Select the user type component loaded correctly. 3. The user clicks on his user type	If the child navigated to login, else navigated to sign up.	As expected
TC-023	A child exercise over all 3 levels - letters, words and categories	Already logged in to a child account	1. Submit a clear written submissions	The child leveled up through all levels successfully.	As expected