X Marks the Spot Test Plan

Team: *Gargi, Fariha, Areebah*

Summary of discussion with partner team:
- → Feedback:
  - ↳ JAL:
    - ○ Will there be test cases for UI display? (already considered in the test cases)
    - ○ For Docker: are you planning on pushing docker? So that people don't have to download the whole project and just have access to the docker img? (consider at the end)
    - ○ For hardware: I think users would need something like a mouse/trackpad/keyboard etc… (made adjustments in Test Plan doc)

Testing instructions for expert users to carry out the tests:
- → Frontend setup:
  - ↳ Navigate to dev/frontend.
  - ↳ In terminal:
    - ○ npm i.
    - ○ npm start.
  - ↳ Go to http://localhost:3000 to interact with the front-end.
- → *If the frontend cannot be started, try these steps:*
  - ↳ Navigate to dev/frontend
  - ↳ Delete package-lock.json and node_modules
  - ↳ In terminal:
    - ○ npm install
    - ○ npm i

- - npm install js-cookie react-router-dom for dependencies
    - npm start
- → Backend setup
  - ↳ Navigate to dev/xmts-docker
  - ↳ In terminal:
    - docker compose build
    - docker compose up -d
  - ↳ Go to http://localhost:4000 to interact with the back-end.
- → Requirements for hardware/software/password key
  - ↳ Hardware:
    - Laptop/Desktop computer, mouse, keyboard, trackpad
  - ↳ Software:
    - Command line interface (in order to use git, npm, and docker commands)

Automation (complexity of testing instructions):
- → Time and effort to set up the test plan for execution
  - ↳ Download/setup time for all testing hardware/software/tools: 20 min (max)
  - ↳ Testing time for features' test cases: ~33 minutes
  - ↳ Testing time for backend: TBD
- → The effective usage of the testing tools
  - ↳ The testing tools being used
    - Frontend: PyTest + Selenium
    - Backend: Postman

Amount of time to finish the tests:
- → Report the expected execution time to complete the test
  - ↳ n/a, as the estimated tests duration cannot be properly determined till features are complete.

Test Cases for Each Feature:

Feature	Description	Test Case(s)	Expected Result	Expected Time	Actual Test Result
Landing Page	Landing page for when the user first accesses the site, explaining the product and why the user would want to use it. From here, they can elect to log-in to an existing account, or sign-up for a new one.	Users can scroll from the top of the page down, seeing views that describe the site, allow users to log in, and encourage the viewer to sign up for an account.	Page scrolling should work, and buttons for logging in and signing up should redirect to the correct pages.	< 1 min	Pass/Fail
Account Creation Page	User enters information like first and last name, email address, and a password for the account.	User leaves one of the form fields blank.	The form doesn't submit and the user is prompted to fill out the fields they left incomplete.	< 1 min	Pass/Fail
		User tries to create an account with a password that doesn't meet password requirements.	The form doesn't submit and the user is warned to create a password that meets the requirements.	< 1 min	Pass/Fail

		User tries to create an account when both password fields don't match.	The form doesn't submit and the user is alerted that both passwords must match.	< 1 min	Pass/Fail
		User tries to create an account with an already existing username.	The form doesn't submit and the user is alerted that the username is associated with another account.	< 1 min	Pass/Fail
		User tries to create an account with an already existing email.	The form doesn't submit and the user is alerted that the email is already associated with another account.	< 1 min	Pass/Fail
		User tries to create an account with a valid username, email, and password.	The form submits and the user is redirected to the login page.	2 min	Pass/Fail
Login Page	User logs into a pre-existing account after providing the correct email address and password associated with said account.	User enters an incorrect password.	User gets an alert indicating as such.	< 1 min.	Pass/Fail
		User enters an incorrect username.	User gets an alert indicating as such.	< 1 min.	Pass/Fail
		User enters the correct	User is redirected to	< 1min.	Pass/Fail

		credentials.	the user dashboard.		
Forgot Password	If a user cannot remember their password, they should be able to reset it by providing the email address associated with the desired account; an email will then be sent to the user instructing them on how to reset their password.	User clicks the 'Forgot Password' button on the Login page.	Users will be prompted to enter the email address associated with the account they have, and an email will show up in their inbox with a link to reset password.	2 min.	Pass/Fail
Reset Password	Users will get an email after completing the 'Forgot Password' Page, which contains a link that will redirect them to a page where they can reset their password.	User tries to reset their password with a new password that doesn't meet password requirements.	The form doesn't submit and the user is warned to create a password that meets the requirements.	2 min.	Pass/Fail
		User enters a new, valid password.	Form submits, redirecting them to the login page in order for them to log in using their username and new password.	< 1 min	Pass/Fail

Password Encryption	User data from account creation will be safely stored after hashing it for security purposes.	Use Postman to test the 'create_user' route with a body of first name, last name, email, username, and password.	The password shouldn't be visible in plain text in the database or in the API call.	< 1 min.	Pass/Fail
Logout Functionality	Users can log out of their pre-existing account. Any progress made during that session will be stored underneath their account.	User clicks the 'Log Out' button in the navbar.	The user's current session ends, redirecting them to the landing page. From there, they cannot access the user dashboard without having to re-enter their account credentials in Login, as their current session was terminated.	< 1 min	Pass/Fail
Account Settings	On the settings page, users can view the account first name, last name, email, and password. On top of that, the user will have the ability to change the	User clicks on the 'Settings' button in the navbar.	Users can view their account's first and last name, email address, and password.	2 min.	Pass/Fail
		User clicks on the 'Settings' button in the navbar and clicks 'Change Password'	Users can change their password.		Pass/Fail

	account password or delete the account.	User clicks on the 'Settings' button in the navbar and clicks 'Delete Account'	Users can delete their account, redirecting them to the landing page afterwards.		Pass/Fail
Delete Account	Users can delete the account by going to the settings page. The user's account will be deleted from the databases as well.	User clicks 'Delete Account'	Users can delete their account, redirecting them to the landing page afterwards.	< 1 min.	Pass/Fail
Join Game (Multiple Players)	Users can join a game with other users by providing a pin number into the prompt.	User clicks into the desired learning module, and enters the pin they have been shown for the game session they want to join.	Users will be redirected to the join screen for that game session.	3 min. (max)	Pass/Fail
Start Game	Users can start a game where they will be provided a generated unique pin number, which they can provide to other players they want to join, or they can play the game by themselves.	User clicks into the desired learning module, and selects the 'Start Game' option.	Users will be redirected to the join screen for that game session, and will have access to a button that will allow them to start the session whenever they choose..	2 min.	Pass/Fail

Quiz Game	Users will be able to play a geography quiz session by themselves or with other players, where they will be tested on their knowledge of different geography topics.	Host for a game clicks 'Start Game'.	All users will begin taking their interactive quiz. They can view questions and associated material (i.e. images) and click on the desired answer choice. Time remaining for each question will be on display.	8 min.	Pass/Fail
Game End Screen	At the end of the game, users will see the order players placed in as well as the points the user has earned through the game.	User finishes a game with other users.	Users are ranked correctly, and all the points have added up correctly.	2 min.	Pass/Fail
User Dashboard	Page where users can get a snapshot of their game history and performance, milestone tokens, and leaderboard.	User successfully logs into/signs up for an account, which redirects them to this page. (Users can also select 'Dashboard' in the navbar.	Users can see their account username, leaderboard (populated with accounts containing the top 3 points), and their personal game history. They can also see any milestone tokens they've earned.	< 1 min.	Pass/Fail

User Total Points Display	Users can view the total points earned from all the games they have played at the top of their dashboard.	User views user points through the user dashboard.	User points match the user data in the database. It also gets updated correctly after playing a game.	< 1 min.	Pass/Fail
User Milestone Display	Users can view all the milestones earned based on the total number of points they have accumulated. Users will also be able to view the milestones that are still locked, which will incentivize them to continue completing the quizzes.	User clicks into their user dashboard, and looks for the section under their username to view earned milestone tokens.	User's milestones match the user milestone reached data. Users should be able to view the achieved milestone tokens on the dashboard. Additionally, a new milestone should be unlocked when a user reaches the milestone points.	< 1 min.	Pass/Fail
User Game History	Users will have the ability to view their game history, which is a list of previous games they have played. Each entry will include the date of the game, the module name, and the total	User goes to the user dashboard and views their game history section.	User sees all of their previously played games.	< 1 min.	Pass/Fail
		User plays and completes a new game.	User sees the new game on user game history on the user dashboard.	Time to play a game + < 1 min.	Pass/Fail

	points earned in the game.				
Overall User Leaderboard	Users can view the current rankings of all the users on the site and see who is collecting the most points.	User goes to the user dashboard and views the user leaderboard section.	User rankings match the sorting of user data from the database. Everytime a user gains more points and overtakes another user, the new ranking should be updated in the leaderboard.	< 1 min.	Pass/Fail