Personal Unit Test Report

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Revision Date: 11/28/2022

Files Tested

DexEntryPage.dart

- Test Cases:
    - Page builds the entries in a grid view no matter the count
        - Set a mock entryList to an empty list
        - Ensure that the page still loads even though there are no entries
        - Set a mock entryList to the normal entryList of 25 entries
        - Ensure that the page loads all 25 entries in the grid view
        - Therefore any size entryList will work with the page, making it easy to add more entries in the future
    - Rarity colors are correct based on the given rarity
        - Set a mock entryList to the normal entryList of 25 entries
        - Initializes the mock list to all be discovered
        - Initialize the rarities all to Mythical (0)
        - Ensure all entries are the same color and match what color they should be for Mythical
        - Change the first entries rarity to Legendary, Rare, Uncommon, and Common
        - Ensure the color of the entry updates correctly upon rebuild
        - If that entry updates correctly the assumption can be made that the others will update correctly as well
    - Page builds the entries in a grid view with the correct images and names
        - Set a mock entryList to the normal entryList of 25 entries
        - Initializes the mock list to all be discovered
        - Ensure all of the images and names of the entries in the grid view are correct
    - Page hides undiscovered entries
        - Set a mock entryList to the normal entryList of 25 entries
        - Initializes half of the mock list to all be discovered and the other half as undiscovered
        - Ensure the first half is visible in the list and the second half is hidden and showing as undiscovered
        - If it is able to account for the correct entries being undiscovered, then the assumption can be made that all the entries that are undiscovered will be hidden.

        - Pressing on an entry redirects to the correct page to view information about that entry
            - Set a mock entryList to the normal entryList of 25 entries
            - Initializes the mock list to all be discovered
            - Ensure pressing on an entry in the grid redirects the user to the correct entry information page

DexEntryView.dart

- Test Cases:
    - Page contains the correct information about an entry
        - Set a mock entryList to an empty list
        - Initializes the mock list to all be discovered
        - Ensure the rarity, description, and date discovered correctly represent the entry in entryList
        - Ensure the background color matches the specified rarity
        - Ensure the name and image are correct for that entry

authPage.dart

- Test Cases:
    - Correct page is built depending on the authentication state
        - Set a mock auth state to listen on, starting with it not having a user logged in
        - Ensure the builder returns either the login screen or create account screen
        - Set the auth state to logged in
        - Ensure that the builder now returns the live map screen because a user is logged in
    - Create account and login screens can be toggled between
        - Create a button on each screen and have the on press call the toggleScreens() function
        - Ensure that pressing the button switches between the login screen and the create account screen

loginScreen.dart

- Test Cases:
    - Auth not change if a user enters an incorrect/non-existent email and password
        - Enter an email for an account that does not exist in the Firebase auth
        - Ensure the auth state does not change and the user stays on the login screen
        - Ensure an error message is displayed to the user that the email or password was incorrect
    - Auth state changes if a user is logged in
        - Enter an email for an account that exists in the Firebase auth

- Ensure the auth state changes resulting in the user being redirected to the home screen of the app

createProfileScreen.dart

- Test Cases:
    - Entering a display name less than 3 characters throws an error
        - Try to create an account with a valid email address and password but a display name that is 2 characters
        - Ensure an error message is displayed to the user that the username must be at least 3 characters
    - Entering a display name greater than 15 characters throws an error
        - Try to create an account with a valid email address and password but a display name that is 16 characters
        - Ensure an error message is displayed to the user that the username must be at most 15 characters
    - Entering an email address in use throws an error
        - Try to create an account with an email address for an account that already exists
        - Ensure an error message is displayed to the user that an account already exists with that email address
    - Entering a password that is less than 6 characters throws an error message
        - Try to create an account with two matching passwords that are less than 6 characters long
        - Ensure an error message is displayed to the user that the password must be at least 6 characters long
    - Entering a password and a confirmation password throws an error message
        - Try to create an account with two non-matching passwords
        - Ensure an error message is displayed to the user that the password and confirmation password must match
    - Entering an invalid email address throws an error message
        - Try to create an account with an invalid email address
        - Ensure an error message is displayed to the user that the email address entered is invalid
    - Entering all valid fields creates an account logs in
        - Try to create an account with all valid fields
        - Ensure a new account is created in the database and the user is redirected to the home screen for the app.

changeUsernamePage.dart

- Test Cases:
  - Entering a display name less than 3 characters throws an error
    - Type in display name that is 2 characters
    - Ensure an error message is displayed to the user that the username must be at least 3 characters
  - Entering a display name greater than 15 characters throws an error
    - Type in display name that is 16 characters
    - Ensure an error message is displayed to the user that the username must be at most 15 characters
  - Entering a valid display name updates in the database and the change is persistent through the UI
    - Type a valid display name and press change name
    - Ensure the user's display name is updated in the db and is updated throughout the UI

changeProfileImagePage.dart

- Test Cases:
  - Updating the image from the gallery is stored in the database and is persistent through the UI
    - Select the image from gallery button and select an image from the gallery
    - Press the change profile image button
    - Ensure the user's profile image is updated in the db and is updated throughout the UI
  - Updating the image from the camera is stored in the database and is persistent through the UI
    - Select the image from camera button and select and take a photo
    - Press the change profile image button
    - Ensure the user's profile image is updated in the db and is updated throughout the UI