NANYANG TECHNOLOGICAL UNIVERSITY

CZ3003 - Software System Analysis & Design

Lab 3 Deliverables

Project Name: Food Wars

Group Name: Team 1

Lab group: TDDP3

Date of Submission: 17 October 2021

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Testing Summary

For our testing, we have used the automated testing package, "UnityEngine.TestTools", to conduct the tests on our various components. A total of 33 test cases were conducted for all the various components and all of them have passed. Two of the test cases were complementary test suite cases which runs when the Unity Test Tools run.
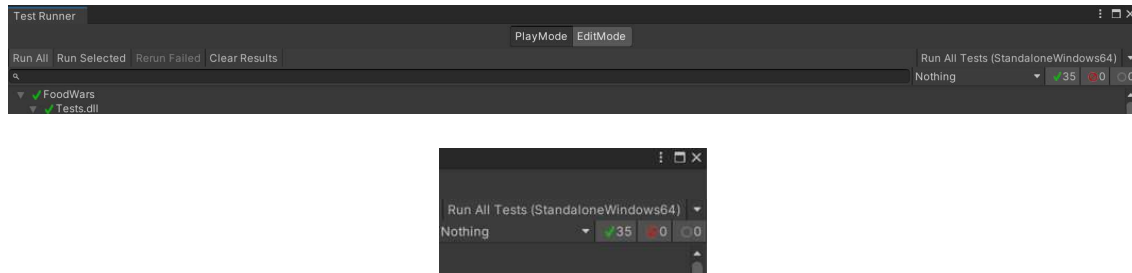
We will go into the details for each component's testing in the document below!

Sample Script

The following is a sample snippet from our testing scripts which is testing for whether the leaderboard is arranged in descending order by elo:

```
[UnityTest]
// Comment: Leaderboard check that all 5 ranks in rows are truthy
public IEnumerator leaderboard_content_check_correct_all_rows_have_rank()
{
    SceneManager.LoadScene("LeaderboardScene");
    yield return new WaitForSeconds(3);

    Text rankOneRank = GameObject.Find("Row1").GetComponent<RowUi>().rank;
    Text rankTwoRank = GameObject.Find("Row2").GetComponent<RowUi>().rank;
    Text rankThreeRank = GameObject.Find("Row3").GetComponent<RowUi>().rank;
    Text rankFourRank = GameObject.Find("Row4").GetComponent<RowUi>().rank;
    Text rankFiveRank = GameObject.Find("Row5").GetComponent<RowUi>().rank;

    Assert.IsTrue(rankOneRank);
    Assert.IsTrue(rankTwoRank);
    Assert.IsTrue(rankThreeRank);
    Assert.IsTrue(rankFourRank);
    Assert.IsTrue(rankFiveRank);
}
```
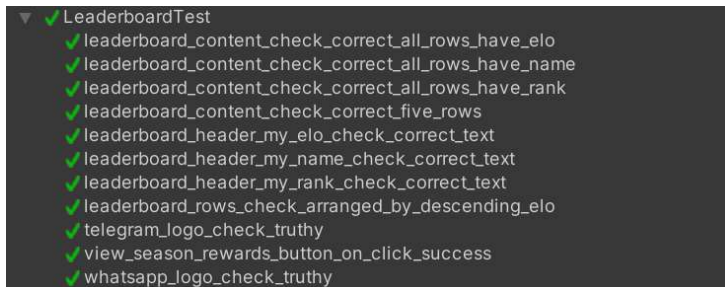
Test Cases

Test#	Component	Test Name	Description	Status
1	Leaderboard	leaderboard_rows_check_arranged_by_descending_elo	Check that order of users are arranged by highest score at first to lowest score at fifth	Passed
2	Leaderboard	view_season_rewards_button_on_click_success	Check that view season rewards button can be clicked successfully	Passed
3	Leaderboard	whatsapp_logo_check_truthy	Check that there is a whatsapp share icon	Passed
4	Leaderboard	telegram_logo_check_truthy	Check that there is a telegram share icon	Passed
5	Leaderboard	leaderboard_header_my_rank_check_correct_text	Leaderboard check correct headers - my rank	Passed
6	Leaderboard	leaderboard_header_my_name_check_correct_text	Leaderboard check correct headers - my name	Passed
7	Leaderboard	leaderboard_header_my_elo_check_correct_text	Leaderboard check correct headers - my elo	Passed
8	Leaderboard	leaderboard_content_check_correct_five_rows	Leaderboard check that there are 5 rows	Passed
9	Leaderboard	leaderboard_content_check_correct_all_rows_have_name	Leaderboard check that all 5 names in rows are truthy	Passed
10	Leaderboard	leaderboard_content_check_correct_all_rows_have_elo	Leaderboard check that all 5 elos in rows are truthy	Passed
11	Leaderboard	leaderboard_content_check_correct_all_rows_have_rank	Leaderboard check that all 5 ranks in rows are truthy	Passed
12	Register	all_ui_components_check_truthy	Check for the presence of the username, email, password and level selection fields	Passed
13	Register	username_input_on_text_entered_changed	Check that username field stores input correctly	Passed
14	Register	email_input_on_text_entered_changed	Check that email field stores input correctly	Passed
15	Register	password_input_on_text_entered_changed	Check that password field stores input correctly	Passed
16	Register	no_input_on_register_return_warning	Check that no input register fails and asks user for username	Passed
17	Register	no_username_on_register_return_warning	Check that no username register fails and asks user for username	Passed
18	Register	no_password_on_register_return_warning	Check that no password register fails and asks user for username	Passed
19	Register	no_email_on_register_return_warning	Check that no email register fails and asks user for username	Passed
20	Register	correct_information_register_success	Check that if all three information are given validly, registration is successful	Passed
21	Register	duplicate_email_register_returns_warning	Check that duplicate emails return a warning	Passed
22	Login	Valid_Input_LoginButton_Onclick_Warning_Text	Checks that valid inputs does result in successful login	Passed
23	Login	MissingEmail_Input_LoginButton_Onclick_Warning_Text	Checks that missing email results in warning text prompting user for the email	Passed
24	Login	MissingPassword_LoginButton_Onclick_Warning_Text	Checks that missing password results in warning text prompting user for the password	Passed
25	Login	WrongPassword_LoginButton_Onclick_Warning_Text	Check that wrong password results in login failure and warning text informing user of the wrong password	Passed
26	Login	InvalidEmail_LoginButton_Onclick_Warning_Text	Check that wrong email results in login failure and warning text informing user of the wrong email	Passed
27	Login	UserNotFound_LoginButton_Onclick_Warning_Text	Check that wrong username results in login failure and warning text informing user of the wrong username	Passed
28	Single	skip_question_on_click_increase_correct_question	Test the functionality of skip question power-up. When the user clicks on this button, the	Passed

			number of correct questions count increases by one.	
29	Single	replay_on_click_reset_points	Test the functionality of replay. When the user clicks on the replay button, the points are reset to zero.	Passed
30	Single	answer_on_click_increase_quest ions_seen	Test the functionality of answer buttons. When the user clicks on the answer button, the count of questions seen increases by one.	Passed
31	Inventory	display_items_on_start_only_dis play_owned_items	Checks if the number of displayed inventory slots matches the number of items the user owns	Passed
32	Shop	display_powerups_on_start_disp lay_all_powerups	Checks if the number of displayed powerups matches the number of powerups in the database	Passed
33	Shop	activate_accessory_panel_on_cli ck_load_accessory_page	Checks if accessory page loads when 'Next' button is clicked	Passed

Leaderboard Testing

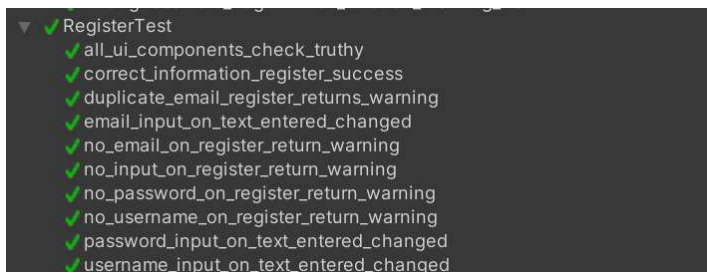For the leaderboard component, the following tests were conducted:
- There were five rows of data in the leaderboard
- The users in the leaderboard were arranged in descending order by their elo
- All five rows of data were correct
- The table headers were all correct
- The sharing buttons for WhatsApp and Telegram were both present
- View Season Rewards Button was functioning on click

```
▼ ✓ LeaderboardTest
    ✓ leaderboard_content_check_correct_all_rows_have_elo
    ✓ leaderboard_content_check_correct_all_rows_have_name
    ✓ leaderboard_content_check_correct_all_rows_have_rank
    ✓ leaderboard_content_check_correct_five_rows
    ✓ leaderboard_header_my_elo_check_correct_text
    ✓ leaderboard_header_my_name_check_correct_text
    ✓ leaderboard_header_my_rank_check_correct_text
    ✓ leaderboard_rows_check_arranged_by_descending_elo
    ✓ telegram_logo_check_truthy
    ✓ view_season_rewards_button_on_click_success
    ✓ whatsapp_logo_check_truthy
```

Register Testing

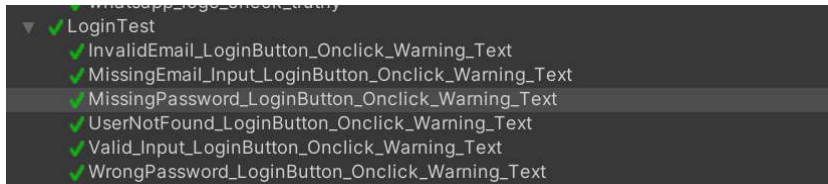For the registration component, the following tests were conducted:
- All UI components, meaning the input boxes, dropdown and buttons, were functioning
- Missing information, be it username, email or password, prompted the user to enter them and registration fails
- The input boxes were containing the correct information after the information is entered
- Usage of an email already in the database would cause registration to fail due to duplicated emails
- Registration is successful if all information are provided and valid

```
▼ ✓ RegisterTest
    ✓ all_ui_components_check_truthy
    ✓ correct_information_register_success
    ✓ duplicate_email_register_returns_warning
    ✓ email_input_on_text_entered_changed
    ✓ no_email_on_register_return_warning
    ✓ no_input_on_register_return_warning
    ✓ no_password_on_register_return_warning
    ✓ no_username_on_register_return_warning
    ✓ password_input_on_text_entered_changed
    ✓ username_input_on_text_entered_changed
```

Login Testing

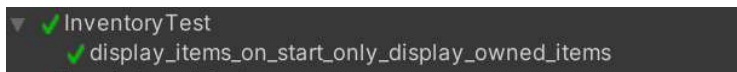For the login component, the following tests were conducted:
- Missing information would cause login to fail and a warning message would appear to prompt the user for the missing information
- If the user entered is not in the database, a warning message is shown to inform that the user credentials does not exist
- If the wrong password is entered meaning it does not match the database's for the user, a warning message is shown to inform that the user credentials entered is invalid
- Login is successful if valid credentials are entered

LoginTest
- InvalidEmail_LoginButton_Onclick_Warning_Text
- MissingEmail_Input_LoginButton_Onclick_Warning_Text
- MissingPassword_LoginButton_Onclick_Warning_Text
- UserNotFound_LoginButton_Onclick_Warning_Text
- Valid_Input_LoginButton_Onclick_Warning_Text
- WrongPassword_LoginButton_Onclick_Warning_Text

Inventory Testing

For the inventory component, the following tests were conducted:
- Only items that are owned by the users are displayed on the inventory screen

InventoryTest
- display_items_on_start_only_display_owned_items

Shop Test

For the shop component, the following test were conducted:
- The powerups were displayed in the shop
- The accessory page is displayed when the user clicks on the tab to access the accessory page

ShopTest
- activate_accessory_panel_on_click_load_accessory_page
- display_powerups_on_start_display_all_powerups

Single Mode Test

For the single player mode component, the following tests were conducted:
- When a question is answered, the questions seen count increases as another question is shown
- When replay is selected, the points reset to zero
- When skip question is selected, the number of correct questions increases by one

SingleModeTest
- answer_on_click_increase_questions_seen
- replay_on_click_reset_points
- skip_question_on_click_increase_correct_question