

Software Test Plan

CSCI-P465/565 (Software Engineering I)

Project Team

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1. Overview

For The Gridiron we will try to cover full STLC life cycle, which includes Unit testing, Sub-System Testing, functional testing, System Testing, Integration Testing and then UAT testing. Some of the testing tools that will be used during the project are Jest, Headless Chrome and Sikuli, and the chrome console. Apart from these tools, we will mostly rely on manual testing to test the functionality.

We will use jest for unit/integration test, and headless-chrome for the end-to-end test if we have time. If we really need a cross-browser test, then we can use Sikuli. We may also run automation testing by Jenkins or Travis CI. However, I think manual testing will be useful for this project.

Jest (<https://facebook.github.io/jest/>):

Jest is a DX-friendly, automated unit integration testing tools. It also provides testing coverage reports and other statistical reports. It like most other test tools, you can assert expect the result for testing. Moreover, Jest provides another powerful way, snapshot testing, to test your code, which can save you lots of time on writing test suites.

Headless-chrome

(<https://developers.google.com/web/updates/2017/04/headless-chrome>):

headless-chrome is, of course, based on chrome, while it can run and render website in the background. It is very convenient for integration testing. Another reason is that we can use javascript to manipulate headless-chrome, so we don't need to learn another one.

Sikuli (<http://www.sikuli.org/>):

Sikuli provides the most powerful way to test cross browser behavior, which could be used as release testing for final product release.

1.1 Test Objectives

1.1.1 Login Page

Check the login page functionality, so that users can appropriately and safely login and check the homepage and then logout (optional).

1.2 Test Environment

1.2.1 Operating System

- Windows Machine
- Mac Machine

1.2.2 Browser

- Chrome
- Firefox

1.3 Test Personnel

Tyler Dell will be our main tester. He will be in charge of taking inputs and writing down the outputs and denoting errors along the process. He will also be in charge of automating any testing that can be automated.

1.3.1 Login Functionality

The tester, Tyler Dell, will create several accounts. He will make sure that the password requirements are enforced and the correct prompts are displayed to the user. He will make sure that the duo authentication correctly works for the logins. The forgot my password functionality will be tested to ensure an email will be sent to the user and the password can correctly be reset.

1.4 Acceptance Criteria

The code coverage rate must be at least 70% for the system to be deployable. There must also be no significant bugs that block the normal user flow of the application. If any bugs are detected or the coverage rate is below 70% then the bugs are noted and the system is sent back to development for fixing.

1.5 Noted Omissions

We will only be testing our system. The NFL game stats API, nflgame, we are using has been thoroughly tested by the community. We will test that the API works with our system, but we will not waste resources thoroughly testing the accuracy of the API data, since the API's community is doing that for us.

2. Test Cases

Number	#1
Name	Create Account
Description	Create account with correct e-mail id and password
Initial Condition	Open login page and then click on create account
input Data	Working Email ID and Password
Specification	User should able be to create account
Procedure	<ol style="list-style-type: none"> 1. Enter email id in email ID field 2. Enter password in password field 3. Type same password in confirm password field

Number	#2
Name	Create Account
Description	Create account with random value in e-mail id field
Initial Condition	Open login page and then click on create account
input Data	Invalid email id
Specification	User should not able be to create account and message highlight the incorrect detail
Procedure	<ol style="list-style-type: none"> 1. Enter invalid email id example "abcd" 2. Enter password in password field 3. Type same password in confirm password field

Number	#3
Name	Create Account
Description	Create account with different value in password and confirm password field
Initial Condition	Open login page and then click on create account

input Data	Email id
Specification	User should not able be to create account and message highlight the incorrect detail
Procedure	<ol style="list-style-type: none"> 1. Enter email-id in email id field 2. Enter password in password field 3. Type different password in confirm password field

Number	#4
Name	Create Account
Description	Create account with existing account email id
Initial Condition	Open login page and then click on create account

input Data	Email ID from test case #1
Specification	User should not able be to create account and message highlight the incorrect detail
Procedure	<ol style="list-style-type: none"> 1. Enter email-id in email id field 2. Enter password in password field 3. Type same password in confirm password field

Number	#5
Name	Create Account
Description	Create account with no password in the password field
Initial Condition	Open login page and then click on create account
input Data	Email ID from test case #1
Specification	User should not able be to create account and message highlight the incorrect detail

Procedure	<ol style="list-style-type: none">1. Enter email-id in email id field2. Enter blank in password field3. Enter blank in confirm password field
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Number	#6
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Name	Verify Email Id Page/ functionality
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Description	Check email for account verification
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Initial Condition	Open login page and then create account
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input Data	
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Specification	User should see the email and email contain the verification link
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Procedure	<ol style="list-style-type: none">1. Open email-id and check mail2. Email should contain the verification link
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Number	#7
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Name	Verify Email Id Page/ functionality
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Description	Check email verification functionality
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Initial Condition	Open login page and then create account
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input Data	
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Specification	User should able to see the email, and link will verify user's email id
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Procedure	<ol style="list-style-type: none">1. Open email-id and check mail2. Email should contain the verification link3. Click on the link
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Number	#8
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Name	Verify Email Id Page/ functionality
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Description	Check email verification link, click the link second time
Initial Condition	Open login page and then create account
input Data	
Specification	User should able to see the message that its email id is already been verified
Procedure	<ol style="list-style-type: none"> 1. Open email-id and check mail 2. Email should contain the verification link 3. Click on the link 4. Login with username and password 4. Again click the link in the email
Number	#9
Name	Verify Email Id Page/ functionality
Description	Resend verification mail
Initial Condition	Open login page and then create account
input Data	
Specification	User should able to see the new verification email, if resend button clicked
Procedure	<ol style="list-style-type: none"> 1. Verification page 2. Click on resend verification email button 3. Check email, user should able to see the new email 4. Email contains the verification link
Number	#10
Name	Login Page
Description	Test with authorized user and password combination
Initial Condition	Open login page
input Data	Email id and password of the user that has created account and verified his/her email-id
Specification	User should able to login with authorized username and password

Procedure	<ol style="list-style-type: none"> 1. Open Login Page 2. Enter email id and password of the user, that has created account and verified email id
Number	#11
Name	Login Page
Description	Test with authorized user and password combination but email id not verified
Initial Condition	Open login page
input Data	Email id and password of the user that has created account and not verified his/her email-id
Specification	User should not able to login
Procedure	<ol style="list-style-type: none"> 1. Open Login Page 2. Enter email id and password of the user, that has created account and with not verified email id
Number	#12
Name	Landing Page/ Home Page
Description	Authorized user can see his/her home page
Initial Condition	Open login page
input Data	Email id and password of the user that has created account and not verified his/her email-id
Specification	User should able to see the landing page and his/her name in the page
Procedure	<ol style="list-style-type: none"> 1. Open Login Page 2. Enter email id and password of the user, that has created account and with verified email id 3. User should able to see his/her username in the home page
Number	#13

Name	Logout functionality
Description	Logout functionality
Initial Condition	Landing Page
input Data	User should able to login with authorized username and password
Specification	User should able to logout from his/her account once clicked the logout button
Procedure	<ol style="list-style-type: none"> 1. Open Login Page 2. Enter email id and password of the user 3. Should able to see the landing page 4. Click logout button, and now user should be redirected to login page 5. User need to again login, to check his/her landing page/ home page

Number #14

Name	Player Filters
Description	Testing player filters
Initial Condition	Player page
Input Data	None
Specification	User should be able to click on the various filters and see the correct output.
Procedure	<ol style="list-style-type: none"> 1. Open player page 2. Click all filters 3. Inspect output to ensure that the filter is showing the correct players.

Number #15

Name	Player Filters
Description	Testing player filters - Search Text field
Initial Condition	Player page
Input Data	None
Specification	User should be able enter the search by name of player
Procedure	<ol style="list-style-type: none"> 1. Open player page

2. Enter the text
3. Search pane show the players as per the entered text
- 4 Edit the entered text
- 5 Search pane result should change instantaneous as textedit

Number	#16
Name	Player Filters
Description	Testing player filters - Search by Player Position
Initial Condition	Player page
Input Data	None
Specification	User should be able to search by the player position
Procedure	<ol style="list-style-type: none"> 1. Open player page 2. Click on the tag 3. Search pane should show the players as per player position tag
Number	#17
Name	Player Filters
Description	Testing player filters - Sort the player by column value in asc/desc order
Initial Condition	Player page
Input Data	None
Specification	User should be able to see player data on the order based on the clicked column
Procedure	<ol style="list-style-type: none"> 1. Open player page 2. Click on the column 3. Search pane should show the players information in descending order of the clicked column 4. Click the same column head again 5. Now Search pane should show the players information in ascending order of the clicked column 6. Click the same column head again

7. Now Search pane should show the players information with no order

Number	#18
Name	Data verification
Description	Verify that the data engineering script produced accurate data features
Initial Condition	Starting NFL dataset from the API
Input Data	Verified records
Specification	Our rank and fantasy score data should be accurate from our formula
Procedure	<ol style="list-style-type: none">1. Take 100 records of hand validated scores and ranks as a test set2. Generate the records with our script3. Create a script to compare the sets for mismatched data
Number	#19
Name	Draft Page
Description	Test Draft Mechanism: Create Draft
Initial Condition	Leagues page
Input Data	None
Specification	User with Admin permission should be able to create draft
Procedure	<ol style="list-style-type: none">1. Go to League tab2. Admin user should be able to see the create draft section.3. Enter the detail and click on create draft4. Check the database inside League collection, enter should get created
Number	#20
Name	Draft Page
Description	Test Draft Mechanism: Join Draft
Initial Condition	Draft Created
Input Data	None

Specification	Once league is full, user can navigate to the League page
Procedure	<ol style="list-style-type: none"> 1. User should be able to see the League section with Join button in it. 2. If the number of person join in the league is less than total players, than user can join the league. 3. Press join league 4. Check the account attribute of the league table. There is an entry in the accounts section.

Number	#21
Name	Draft Page
Description	Test Draft Mechanism: Go to league page
Initial Condition	Draft Created
Input Data	None
Specification	Anyone can join the league once league is full
Procedure	<ol style="list-style-type: none"> 1. Once all the players join the league to the limit. 2. Then league status will change to draft (check the league collection, status field) 3. And join button in the league, will change to 'Go to league Page' 4. Press the button, it will take the user to League page

Number	#22
Name	League Page
Description	League Page: Search/Filter Functionality
Initial Condition	Leagues page
Input Data	None
Specification	Draft stage for league should start
Procedure	<ol style="list-style-type: none"> 1. Go to League page 2. User should able to search the player as per the name and also filter the players as per the position, Offense, Defence, and Kicking

Number	#23
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Name	League Page
Description	League Page: Sequence Order
Initial Condition	Leagues page
Input Data	None
Specification	Draft stage for league should start
Procedure	<ol style="list-style-type: none"> 1. Go to League page 2. User should able to see the sequence of picking order 3. User with 1st order should be able to select the players 4. Users which are not in 1st position, should be able to select the player. When press the select button in case, should pop-up with message "Not your chance"

Number	#24
Name	League Page
Description	League Page: Sequence Order selection
Initial Condition	Leagues page
Input Data	None
Specification	Draft stage for league should start
Procedure	<ol style="list-style-type: none"> 1. Go to League page 2. User should able to see the sequence of picking order 3. User with 1st position should select the select player 4. Then sequence should automatically shift to next position, means user previously at 2nd position now should be at 1st position. 5. Now, user with 1st position should able to select the player. 6. Check the database collection POOL, every time user select the player, player record should get saved. And also, that player should get removed from the display.

Number	#25
Name	League Page
Description	League Page: Select the already selected player

Initial Condition	Leagues page
Input Data	None
Specification	Draft stage for league should start
Procedure	<ol style="list-style-type: none"> 1. Go to League page 2. Select the player 'X' as per the sequence order. 3. And then in the next order try to search and select the same player. 4. Player 'X' should not be present in the list when search.
Number	#26
Name	League Page
Description	League Page: Chat functionality
Initial Condition	Leagues page
Input Data	None
Specification	Draft stage for league should start
Procedure	<ol style="list-style-type: none"> 1. Go to League page 2. Type "Hello" in the chat text box, and then enter. 3. Message should get displayed, with email-Id of the user and date-time when user send the message. 4. Login in with the different user, which is also in the same league. 5. Second user should able to see the message, that first user has posted with email id and date-time stamp.
Number	#27
Name	Main Chat Room
Description	Main Chat Room: Chat functionality
Initial Condition	Main Chat Room
Input Data	None
Specification	User should login
Procedure	<ol style="list-style-type: none"> 1. Go to Main Chat Room 2. Type "Hello" in the chat text box, and then enter.

3. Message should get displayed, with email-Id of the user and date-time when user send the message.

4. Login in with the different user, which is a new user .

5. Second user should able to see the message, that first user has posted with email id and date-time stamp.

Number	#28
Name	Draft page: Recommendation System
Description	Recommendation System working
Initial Condition	Draft Page
Input Data	None
Specification	Just start the draft and haven't selected any player
Procedure	<ol style="list-style-type: none">1. Start the league2. Message highlight "5:DEF 1:K 1:TE 3:WR 2:RB 2:QB"3. Message shows that user has to select these many minimum player to form the team.
Number	#29
Name	Draft page: Recommendation System
Description	Recommendation System working
Initial Condition	Draft Page
Input Data	None
Specification	Start the draft
Procedure	<ol style="list-style-type: none">1. Go to the draft page of the league2. Select 2 DEF (Defensive Player), and 1 quarterback (QB)3. Check the recommendation, it should show "3:DEF 1:K 1:TE 3:WR 2:RB 1:QB"4. It suggest that we have selected DEF player, so now only need 3 more to select, and similar with the quarterback, after selecting one QB now only 1 more needed.

Number	#30
Name	Draft page: Recommendation System
Description	Recommendation System working
Initial Condition	Draft Page
Input Data	None
Specification	Start the draft
Procedure	<ol style="list-style-type: none">1. Go to the draft page of the league2. Select all the minimum number3. Recommender should display blank message this time

Number	#31
Name	Draft page: Timeout functionality
Description	Timeout from draft page to season start
Initial Condition	Draft Page
Input Data	None
Specification	Start the draft
Procedure	<ol style="list-style-type: none">1. Go to the draft page of the league2. Do not select any player and come after (number of users * 20 * 2 + 10) mins3. Then check the account, now user shouldn't be able to enter the draft page, instead Season Game link should highlight.

Number	#32
Name	Draft complete
Description	Draft complete and transition to season start
Initial Condition	Draft Page
Input Data	None
Specification	Start the draft
Procedure	<ol style="list-style-type: none">1. Go to the draft page of the league2. Select players, and fill players quota to 20.3. Now automatically, user would be routed to season start page

4. SetSchedule, API should get called and insert the entry in schedule collection

Number	#33
Name	News Links
Description	Test links to external news sites
Initial Condition	News page
Input Data	None
Specification	Click the links
Procedure	<ol style="list-style-type: none">1. Go to the News page.2. Click all of the links to ensure that they go to the correct site.

Number	#34
Name	Run Match
Description	Test if the run match button works
Initial Condition	Schedule page
Input Data	Two arrangements
Specification	Click the run button, ensure one team receives a loss and the other a win.
Procedure	<ol style="list-style-type: none">1. Click Run Match.2. See if the teams' wins/losses have been updated.

Number	#35
Name	Test Arrangement
Description	Verify that the player management works correctly
Initial Condition	Team Management page
Input Data	Team arrangement
Specification	Ensure that players are saved from player management
Procedure	<ol style="list-style-type: none">1. Put players into your starting lineup.2. Check the database via graphql to see if the arrangement has been updated.

Number	#36
Name	Player Arrangement - Release player
Description	Verify that the player management works correctly
Initial Condition	Team Management page
Input Data	Draft stage is finished
Specification	Ensure that players are saved from player management
Procedure	<ol style="list-style-type: none"> 1. Open management page 2. Click release player: Release the player from team. 3. Then select the player from the free agent (player that are available) 4. Now we can see the new selected player in our team, release player out of the team.

Number	#37
Name	Player Arrangement - select player in the bench
Description	Team Management: Player substitution functionality
Initial Condition	Draft completed, Season start
Input Data	None
Specification	Team Management
Procedure	<ol style="list-style-type: none"> 1. Go Manage players 2. Select the player 'X' from the starter at position QB. 3. Click the drop-down and select the another from the drop-down list of players. 4. Now my team get updated for the week and the points are calculated from players in the starters.

Number	#38
Name	Draft page: Check the selected players by different users
Description	Check the Pool player functionality
Initial Condition	Start the draft

Input Data	Create draft
Specification	Selected player of user
Procedure	<ol style="list-style-type: none"> 1. Draft page completed and draft started 2. Select the player from “Pick Your Player” say ‘X’. 3. Select your email-id, from the drop down 4. It will list down the players that we picked and we can see the player ‘X’ in our list.
Number	#39
Name	Draft page: Check the player selected by other users in the league
Description	Check the Pool player functionality
Initial Condition	Start the draft
Input Data	Create draft
Specification	Selected player of user
Procedure	<ol style="list-style-type: none"> 1. Open the draft page and go to the ‘Current team status’ 2. Select the any user email-id from the drop down 3. It will list down all the players that the user picked
Number	#40
Name	Create Draft: Custom formula
Description	Input the custom formula at the time of draft create
Initial Condition	Login to application
Input Data	Login
Specification	Custom formula functionality
Procedure	<ol style="list-style-type: none"> 1. Login to application 2. Go to leagues tab and click ‘Create Draft’ 3. Click on custom formula, and change the default entry of the custom formula. 4. And then click on Create league. 5. Check the ‘Leagues’ collection, formula value get changed to new input value.
Number	#41

Name	Delete League
Description	Delete the league after creating
Initial Condition	Create League
Input Data	Login
Specification	Delete league functionality
Procedure	<ol style="list-style-type: none"> 1. Login to application 2. Create the league and league should be in the initial state 3. Click on the delete league in the leagues page, and this functionality is only available to the owner 4. League should get deleted and should not be available in the league page.

Number #42

Name	Ban User
Description	Ban user from the application
Initial Condition	Login to application as an admin
Input Data	Login
Specification	Ban user functionality
Procedure	<ol style="list-style-type: none"> 1. Login to application 2. Go to the Users tab 3. Click against the user, Ban User 4. And then try to login with same banned user. Instead of login, page will navigate and display the user is banned.

Number #43

Name	Schedule Page: Team Starter
Description	Team starter should show the minimum required player for a week play
Initial Condition	Draft phase completed
Input Data	NA
Specification	Team that play a weekly match
Procedure	<ol style="list-style-type: none"> 1. Go to manage player 2. Change the player as required for a weekly match

3. Go to schedule, and check the team starter. It should reflect the weekly team for a match.

4. Check the weekly team of the opponent and redesign your team

Revision History

Revision	Date	Change Description
#1	Oct-01	Login functionality test cases added
#2	Oct-15	Data and filter test cases added
#3	Oct-29	Draft and League test cases
#4	Nov-12	1. League Page Test Cases 2. Chat Functionality
#5	Nov-26	Draft
#6	Dec-3	External links, team management, match results, schedule