

Step 1: Overview of Site Front End Components

Below is a list of all defined site components sorted by page. Components that are consistent among multiple pages are listed first, followed by unique page-specific ones. Components will be tested individually to ensure they achieve the requirements listed above. The developer responsible for writing the code for the component will also be responsible for writing the testing code. These components will then all be added to their respective pages and tested concurrently.

1.1 - Toolbar Components:

- Home button - on click, the home button will direct users to the home page.
- Donation button - on click, the donation button will send user to the donation page (TBD)
- Logout button - Displays when user is logged in. On click, the user will be logged out of their account and redirected to the site landing page.
- Login button - Displays when user is not logged in. On click, the user will be redirected to the Auth0 login page.
- User button - on click, user will be redirected to their individual user page.

The Toolbar will be accessible from the following site pages – **Solo Workout, Team Multiplayer, Donation, Home Page and User Page.**

1.2 - User Metrics - component that is consistent among all three game types, consists of the following values:

- Goal Bodyweight – set at game creation phase, to be pulled from database and displayed below the Game Title
- Starting Bodyweight – set at game creation phase, to be pulled from database and displayed next to Goal Bodyweight
- Current Bodyweight – pulled from latest user entry in game, changes dynamically each week (or otherwise specified time period) after user enters value, displayed next to Current Bodyweight
- Total Weight Change – dynamically changing value that updates with each user input, equal to Starting Weight – Current Weight, displayed next to Current Bodyweight
- Weight Change Until Goal – dynamically changing value that updates with each user input, equal to (Current Weight – Goal Bodyweight), displayed next to Total Weight Change

The User Metrics component will be accessible from the following site pages – **Solo Workout and Team Multiplayer**

1.3 - Home Page Components:

Note: Text that appears on page should be proofread for grammatical correctness, formatted to the center of the page and appropriately styled to match site design conventions.

All toolbar components will be implemented at the top of the page. No other clickable components appear on the home page. Therefore formatted game descriptions will be the only components on this page.

1.4 - User Page Components:

All toolbar components will be implemented at the top of the page in addition to the following components:

- User image: Set during account creation, will be displayed on the left side of the screen below the toolbar.
- User name: Set during account creation, will be displayed on the left side of the screen below the user image.
- User Bio: Set during account creation, will be displayed on the left side of the screen below the user name.
- Friends: Dynamically updates as friends are associated with user account, will display up to 10 on the left side of the screen below the user bio.
- My Games: List of active games the user is a part of, updated as user joins new games. Displays games in order of creation, with the first game joined displayed on top. Three cases for games:
 - Solo Workout- displays game type, name and change in respective metric since creation
 - Team Multiplayer - displays game type, name and change in respective metric since creation
- Updatet: Appears above the “My Games” section. On click, user will be prompted to update their current metrics for games they are a part of. If user has already entered a value for that week (or otherwise specified time period) the button will not show up on screen.

1.5 - Solo Workout Page Components:

All toolbar components will be implemented at the top of the page in addition to the following components:

- Game Title – set at game creation phase, to be pulled from database and displayed below the toolbar
- User Metrics – Described in Section 1.2
- Participant Progress Graph – graphical display of each week's user-entered values, showing starting weight, each weekly update and goal weight. The graph's X-axis represents Dates – for example, if game length is 10 weeks, there will be 10 vertical lines shown, numbered week 1 to week 10 – and the graph's Y-axis represents weight. User's starting weight should be centered as middle point of Y-axis, and the bottom of the Y-axis should represent the user's Goal Bodyweight

1.6 – Team Multiplayer Page Components:

All toolbar components will be implemented at the top of the page in addition to the following components:

- Game Title – set at game creation phase, to be pulled from database and displayed below the toolbar
- User Metrics – Described in Section 1.2.
- Team Progress Graph – graphical display of each week's user-entered values, showing starting weight, each weekly update and goal weight of all team members combined. The graph's X-axis represents Dates – for example, if game length is 10 weeks, there will be 10 vertical lines shown, numbered week 1 to week 10 – and the graph's Y-axis represents weight. User's starting weight should be centered as middle point of Y-axis, and the bottom of the Y-axis should represent the user's Goal Bodyweight. In Team Multiplayer, graphical values represent all members' combined values.

Step 2: Unit Test Procedures

All unit tests in the repository can be found in a `__tests__` folder in the same directory for the files they will test.

Components being unit tested:

In the frontend: output structure of components, along with any existing functions

In the backend: functions such as routes, controllers and DB operation functions

Links to example unit test folder:

https://github.com/ChrisPastor/healthy-competition-website/tree/main/frontend/src/common/MainToolbar/__tests__

To run test suite using terminal, go to the frontend or backend folder, and run “npm run test.”

Step 3: Integration Test Procedures

Integration testing will combine elements that have been unit tested together to be run concurrently. Most integration tests will take place in the backend of the project. Integration tests will be run at same time as unit tests.

Step 4: Regression Test Procedures

When a component gets updated, regression testing will be needed to spot check the component. To do this, go through system test procedures for all updated components and ensure functionality.

Step 5: System Test Procedures

5.1 - Toolbar System Tests:

- 4 buttons of toolbar are created and displayed on screen. Upon clicking, each button properly sends user to designated page.
- Ensure toolbar is displayed on the following pages - Solo Workout, Team Multiplayer, Donation, Solo Multiplayer, Home Page and User Page.
- When user is logged out, the toolbar displays only three buttons - home, donation and login.

5.2 - User Page System Tests:

- User page should display user's username, bio and friends if applicable.
- User page should show all active games under the “My Games” section, or no games if the user is not in any active games.

- Each game name should match with respective game type and display the personal metric for that game.
- Each game box under the “My Games” section should send user to page for that respective game.
- The update button will display a popup window prompting the user for input. All games using the user metric entered should be updated with the new information.

5.3 - Home Page System Tests:

- Formatting of game descriptions should be clear, centered and legible.
- Users should be sent to home page immediately following account creation or sign in.
- Ensure toolbar is properly integrated at the top of the page.

5.4 - Team Multiplayer System Tests:

- User should be asked for starting body weight and goal body weight immediately upon entering a game
- If no data has been entered, the leaderboard component should be empty.
- If data is entered, the leaderboard component should show the top three leaders in the game’s specified metric, including their username and proper metric. Ensure ranking is correct for each member.
- Progress graph should be empty if no data has been entered.
- Progress graph should show each member’s change over time, along with a colored legend to distinguish between members
- Game name should be displayed properly at top of screen - ensure name is correct.
- Team member names should display under the “Participants” section.

5.5 - Solo Workout Page System Tests:

- This page’s tests should be conducted upon completion of the Team Multiplayer tests, as all components of Solo Workout are tested in Team Multiplayer.
- Ensure the participants section and leaderboard section do not appear.
- All tests performed on Progress graph, game name and starting metric components from Team Multiplayer should again be tested on this page.