

Manual for Cyberball 5

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Overview

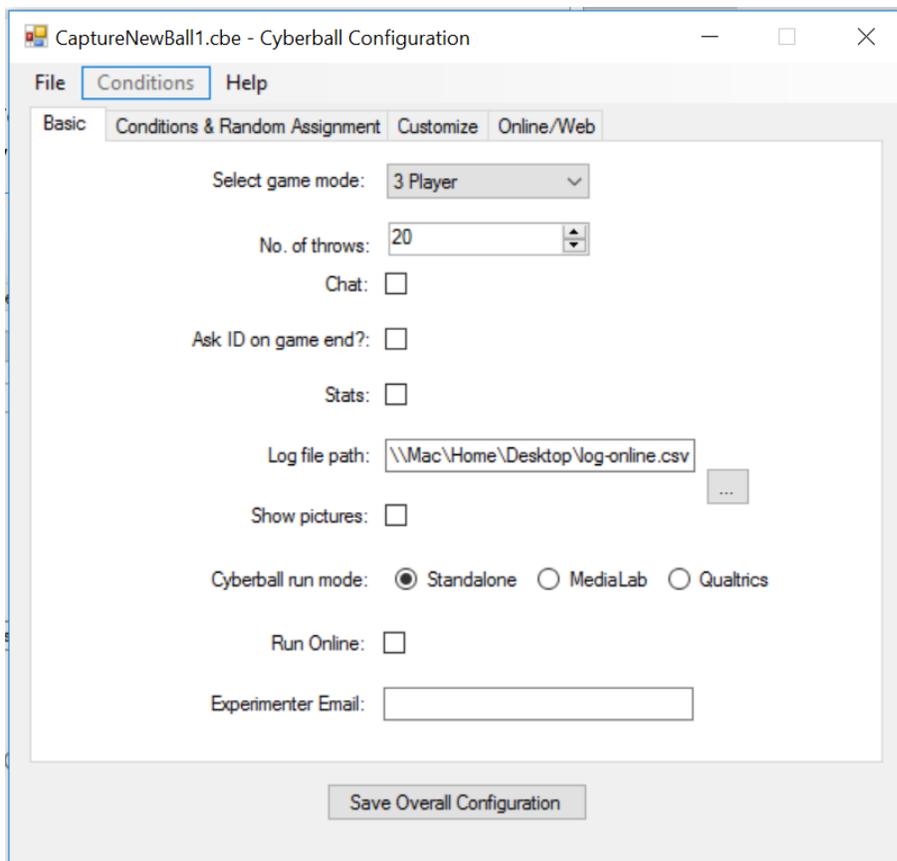
Cyberball 5 is broken down into 3 components: 1) “Configure CB 5” for configuring both desktop and online games/experiments, 2) “Play CB 5” the animated desktop game, and 3) “Play Online CB 5” the animated internet version of the game which runs in a browser. As an experimenter, you will configure your experiments through the “Configure CB 5” application while your participants will play the game through the “Play CB 5” application or the “Play Online CB 5” game/website. The focus of this manual will be the configuration application.

IMPORTANT CONCEPT: The same Cyberball configuration file (.cbe) can be used in the desktop and the web-based version of the game to give participants the same experience in the lab or online.

Configure CB 5 Application

The Basic Screen

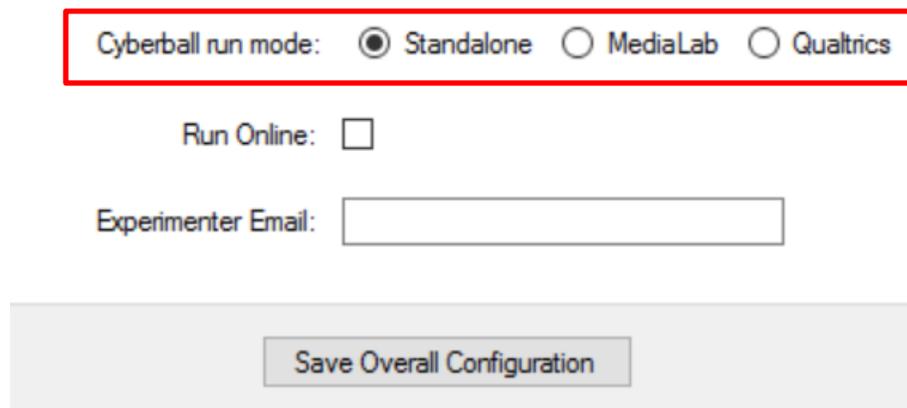
To configure your first experiment, launch the “Configure Cyberball 5” application via the shortcut on the start menu. The configuration application will open to the “Basic” screen as seen below:



IMPORTANT CONCEPT: On the “Basic” screen you are configuring experiment wide settings. Other screens provide condition-based configuration options.

On the basic screen, you can specify key options such as to allow chat or whether to show pictures by simply toggling the appropriate checkboxes. On this screen you will also specify the location and name of the log file for the Cyberball game to write to for the desktop version of the game. For the online version of the game, the log file is written and maintained for you on the web server. You'll see how to download it when we cover the Online/Web tab or screen.

IMPORTANT CONCEPT: On the basic screen you'll see the option for "Cyberball run mode" this option allows you to have the desktop version of Cyberball work with either MediaLab or Qualtrics or to have the game run alone. This option only applies to the desktop version of the game. This option is highlighted here:



Cyberball run mode: Standalone MediaLab Qualtrics

Run Online:

Experimenter Email:

Save Overall Configuration

This option toggles whether the game (and conditions, random assignment, etc.) will be controlled by MediaLab or Qualtrics or if the game will be run independently. Most times MediaLab or Qualtrics will be checked, but if you want to run through the game on your own (for testing or whatever reason) select "Standalone." In "Standalone" mode the Cyberball game will prompt you for a condition number and participant ID each time it is run.

When ready, you can save the overall configuration file by clicking the "Save Overall Configuration" button. By default this will save the Cyberball .cbe file into a folder on the desktop called "cb-files."

IMPORTANT CONCEPT: The Cyberball desktop game needs the "cb-files" folder on the desktop to work correctly. It will look in this folder for a .cbe (configuration) file. **Only one configuration file** can be in the "cb-files" folder at one time or the Cyberball desktop game will not run correctly.

We've also added on the basic screen a field to enter an "Experimenter Email" this field is optional and simply adds the experimenter's email to a master list so that Kip Williams and his lab can communicate easily with all Cyberball 5 experimenters.

The final game option on the “Basic” screen is the “Run Online” checkbox that when checked will unlock the “Online/Web” tab and open up the possibility of running the Cyberball game from a web server. This option is checked here:

Cyberball run mode: Standalone MediaLab Qualtrics

Run Online:

Experimenter Email:

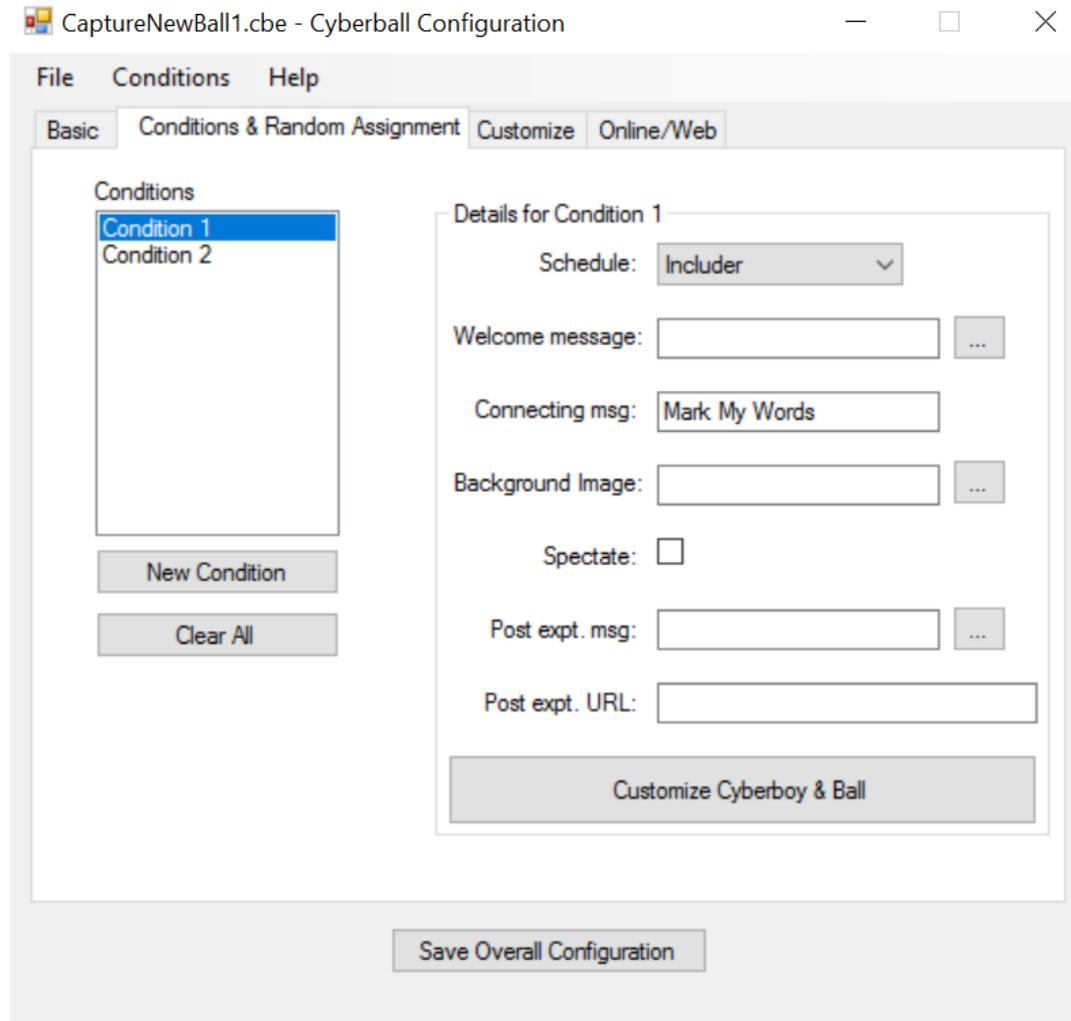
Save Overall Configuration

As we’ll see later in the manual, checking the “Run Online” box enables the Cyberball config file you are creating to run an experiment hosted online—but easily integrated with other solutions like Qualtrics—by the Cyberball server. There is no longer the need to configure a website/webserver as was required in Cyberball 4.

For a detailed discussion of how to run Cyberball online please see the **Online/Web – Running Cyberball Online** section below.

Conditions & Random Assignment

To configure conditions, navigate to the “Conditions & Random Assignment” screen shown here:



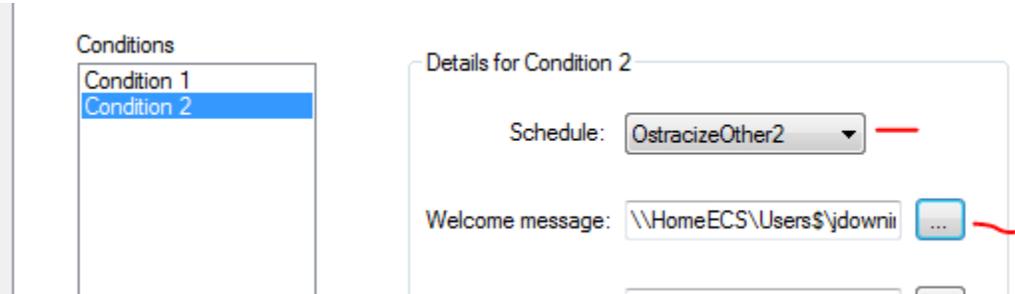
So much to manipulate! And so easy!

On this screen you'll create and configure the conditions of your experiment. You can manipulate the following:

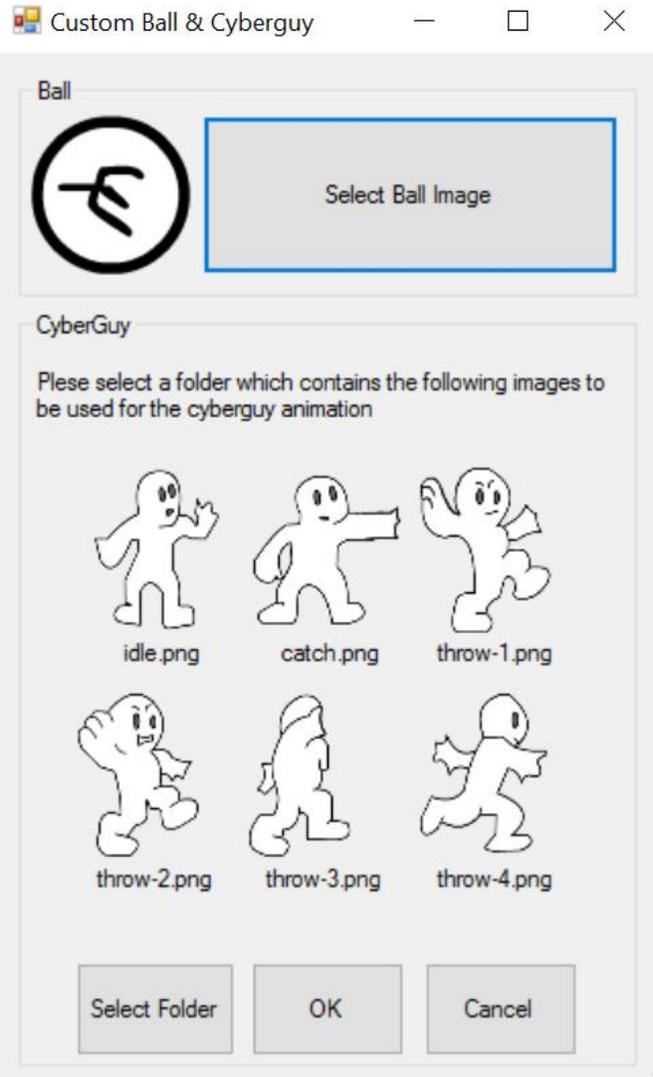
1. The schedule
2. The welcome message (and easily substitute a different language)
3. The connecting message (and easily substitute a different language)
4. The background image
5. Whether the condition as a spectate only condition (often used as a control condition)
6. The post experiment message (and easily substitute a different language)
7. The post experiment URL
8. The Cyberboy & Ball images/animations

On this screen you assign the Schedule (custom or pre-programmed) that the participant will receive in the particular condition.

Here we've set the Schedule to "OstracizeOther2" and provided a custom message for Condition 2:



Below is the screen used to customize the Ball and Cyberboy.



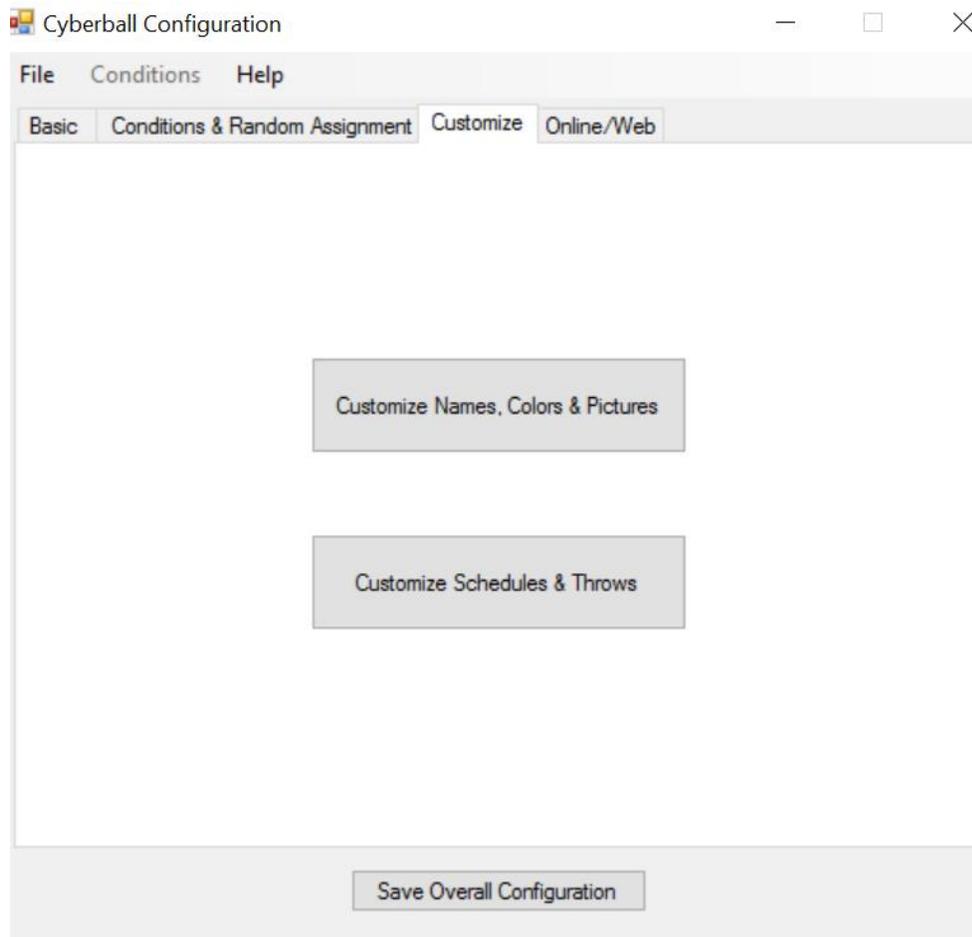
To customize the Ball just select the ball image you prefer. To customize the Cyberboy create a folder with the 6 images shown in the “Custom Ball & Cyberguy” screen. All 6 images are required and all 6 images have to be named with the names in this screenshot. A couple samples of custom Cyberguys can be found at <http://www.empirisoft.com/cyberball.aspx>.

Both the Ball and Cyberball image formats work best when the images are .png. However, we encourage you to experiment with other formats such as .gif which can be animated on their own—leading to an animation within the animation and endless experimental possibilities.

IMPORTANT CONCEPT: Custom images for both the Ball and Cyberboy can only be used in the online version of the game. The desktop version of the game does not support this customization.

Further Customizations of the Cyberball Game

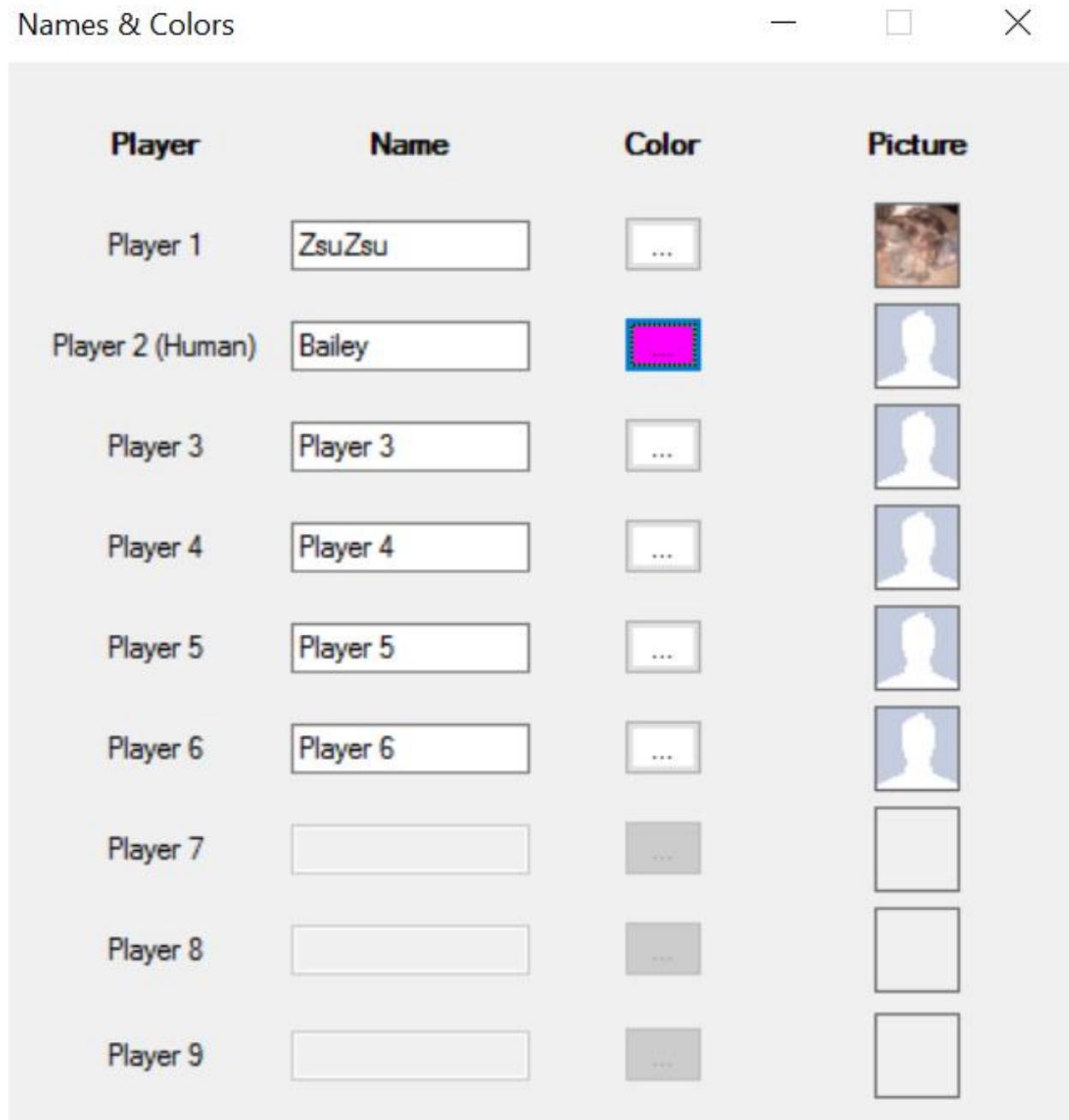
To customize the game further (create your own schedule, add custom messages, delay specific throws, change names, colors, and pictures) navigate to the “Customize” screen seen below:



IMPORTANT CONCEPT: Customizations of names, colors, and pictures are experiment wide. Customizations of schedules and throws are typically specific to a condition. In the online version of the game, if an experimenter wanted to manipulate the names, colors and pictures they could create a separate .cbe files which would have different URLs that could be accessed by the controlling application such as Qualtrics.

Customize Names, Colors & Pictures

To customize names, colors, and pictures navigate to the “Names & Colors” screen as seen here:

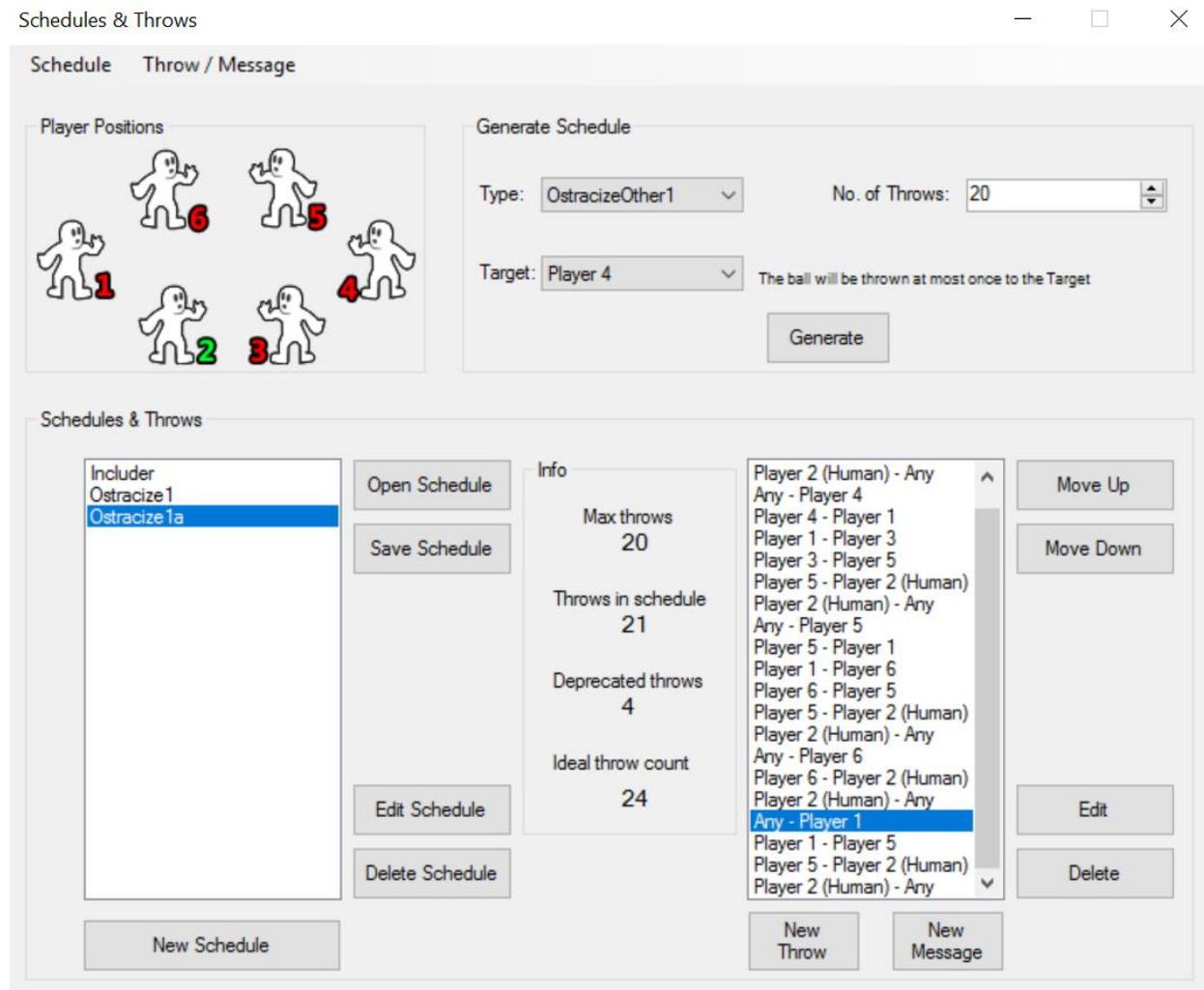


On this form you can change the names of players (remember that Player 2 is the human player), select a color for their Cyber-person, and select a picture to be displayed for the player.

Customizing Schedules, Throws, and Messages

IMPORTANT CONCEPT: To run Cyberball 5 online, you must create and use custom schedules. These custom schedules can easily be set up as identical to the default schedules by using the “Generate Schedule” section of the “Schedules & Throws” screen. **AFTER CREATING THE CUSTOM SCHEDULE, BE SURE TO GO BACK TO THE "CONDITIONS AND RANDOM ASSIGNMENT" TAB AND ASSIGN THE NEW SCHEDULE(S) TO A CONDITION. SEE “ASSIGNING A CUSTOM SCHEDULE TO A CONDITION” BELOW.**

To easily create a custom schedule made up of custom throws and messages, navigate to the “Schedules & Throws” screen seen here:

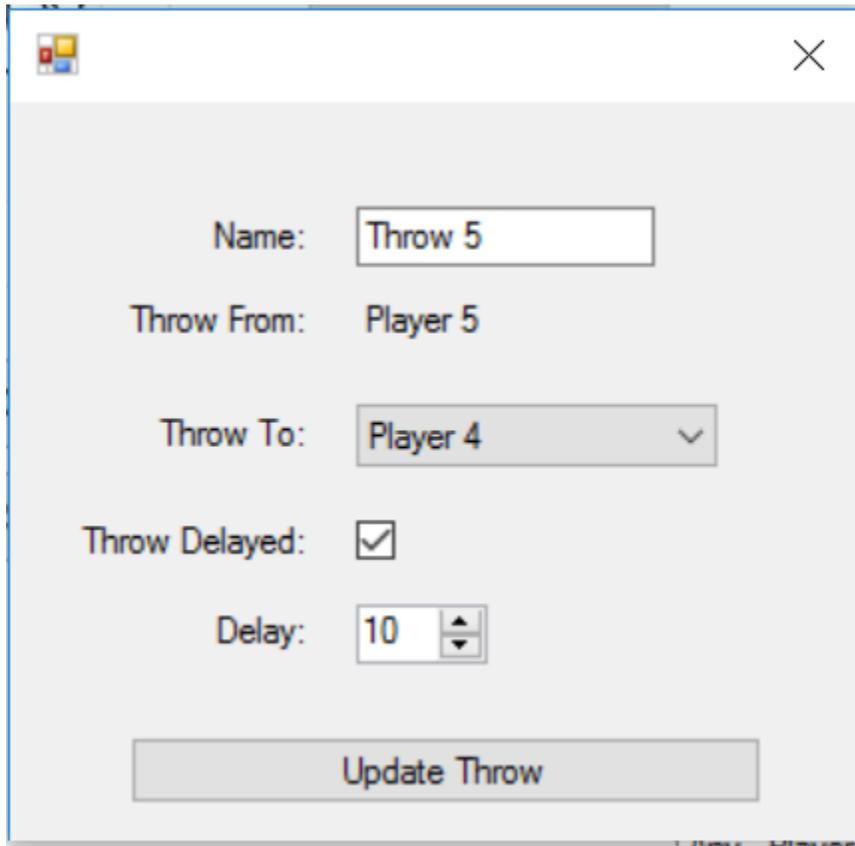


On this screen you can do any number of the following:

1. Generate a schedule of a specified number of throws based on common ostracism or inclusion schedules.
2. Create a blank schedule in which you customize all throws and their order.
3. Create or modify a custom throw to add to a schedule.
4. Create or modify a custom message to have any of the players say during the game at the moment and for the length (in seconds) you specify.
5. Save the Schedule you create to a separate file for sharing with other experimenters.
6. Open an existing Schedule.

IMPORTANT CONCEPT: The number of players available for throws etc. on the custom Schedules screen is determined by your choice of number of players on the “Basic” screen.

One thing an experimenter may want to do is add a delay to a particular throw. To do this, select the throw to modify from the list of throws displayed for the schedule in the listbox on the right side of the “Schedules & Throws” form. This action brings up the customize throw screen seen here:



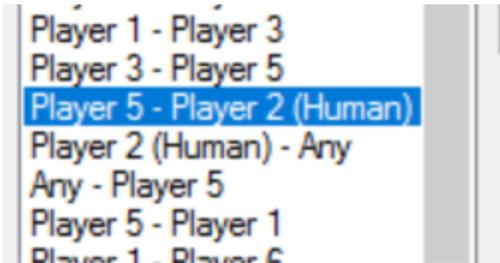
The screenshot shows a dialog box titled "Customize Throw" with the following fields and controls:

- Name:** Text box containing "Throw 5".
- Throw From:** Text box containing "Player 5".
- Throw To:** Dropdown menu showing "Player 4".
- Throw Delayed:** Checked checkbox.
- Delay:** Spinner box showing "10".
- Update Throw:** Button at the bottom.

To delay a throw, select the “Throw Delayed” checkbox and then chose the number of seconds for the delay and enter this into the “Delay” textbox. From this form you can also name the throw, and where it makes sense, change the Player the throw is meant for. Hit “Update Throw” to save your changes.

Deprecated Throws, Max Throws, Ideal Throw Count, and Throws in Schedule

Occasionally in a Cyberball condition using a custom schedule, a throw will be deprecated. This can essentially happen any time the Human player touches the ball. Consider this block of throws. In this game, the experimenter set the number of throws to 20.



In the highlighted custom throw, Player 5 throws the ball to Player 2 (Human). Now consider what happens if Player 2 (Human) throws the ball to Player 5. The next throw is defined as “Any - Player 5” or Any throws to player 5. If Player 5 has the ball, though, Player 5 cannot throw the ball to herself (at least not in this version of Cyberball). The throw “Any - Player 5” is then skipped or deprecated and the game jumps to the next throw of “Player 5 - Player 1”. But now we, at most, have 19 actual throws in the game for this instance. Earlier versions of Cyberball replaced the deprecated throws with random throws based on the basic game configuration, such as number of players, and the base schedule, ostracism or inclusion. In most cases, this random replacement is appropriate.

However, Cyberball 5 allows the experimenter to delay or add other customizations at the throw level. Thus, if a researcher controlling every throw, they will want to control the parameters of any throw Cyberball uses to replace a deprecated throw. Take a look at this portion of the “Schedules & Throws” form:

The screenshot shows a software interface with an 'Info' section on the left and a list of player combinations on the right. The 'Info' section contains four settings, each with a blue minus sign icon and a numerical value: 'Max throws' (20), 'Throws in schedule' (21), 'Deprecated throws' (4), and 'Ideal throw count' (24). The list on the right contains 20 entries, with 'Player 5 - Player 2 (Human)' highlighted in blue. At the bottom of the list are two buttons: 'New Throw' and 'New Message'.

Info

Max throws — 20

Throws in schedule — 21

Deprecated throws — 4

Ideal throw count — 24

Player 1 - Player 2 (Human) ^

Player 2 (Human) - Any

Any - Player 4

Player 4 - Player 1

Player 1 - Player 3

Player 3 - Player 5

Player 5 - Player 2 (Human)

Player 2 (Human) - Any

Any - Player 5

Player 5 - Player 1

Player 1 - Player 6

Player 6 - Player 5

Player 5 - Player 2 (Human)

Player 2 (Human) - Any

Any - Player 6

Player 6 - Player 2 (Human)

Player 2 (Human) - Any

Any - Player 1

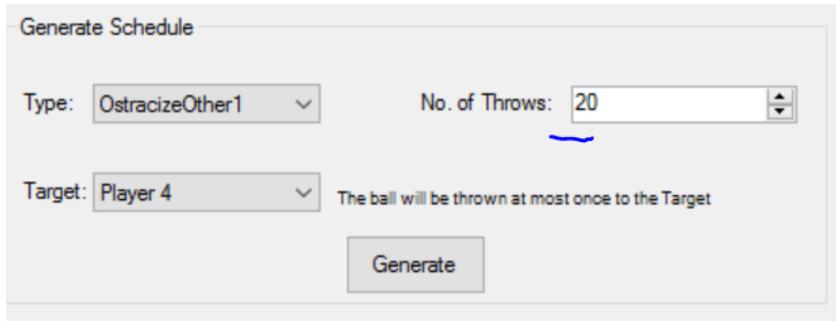
Player 1 - Player 5

Player 5 - Player 2 (Human) v

New Throw

New Message

Max Throws: The number of throws that the participant will see for that schedule/game. Total number of throws as defined on the “Basic” screen for the whole game or in the “Generate Schedule” section of the “Schedules & Throws” form seen here:



Generate Schedule

Type: OstracizeOther1 No. of Throws: 20

Target: Player 4 The ball will be thrown at most once to the Target

Generate

Throws in Schedule: Simple count of throws in the custom schedule.

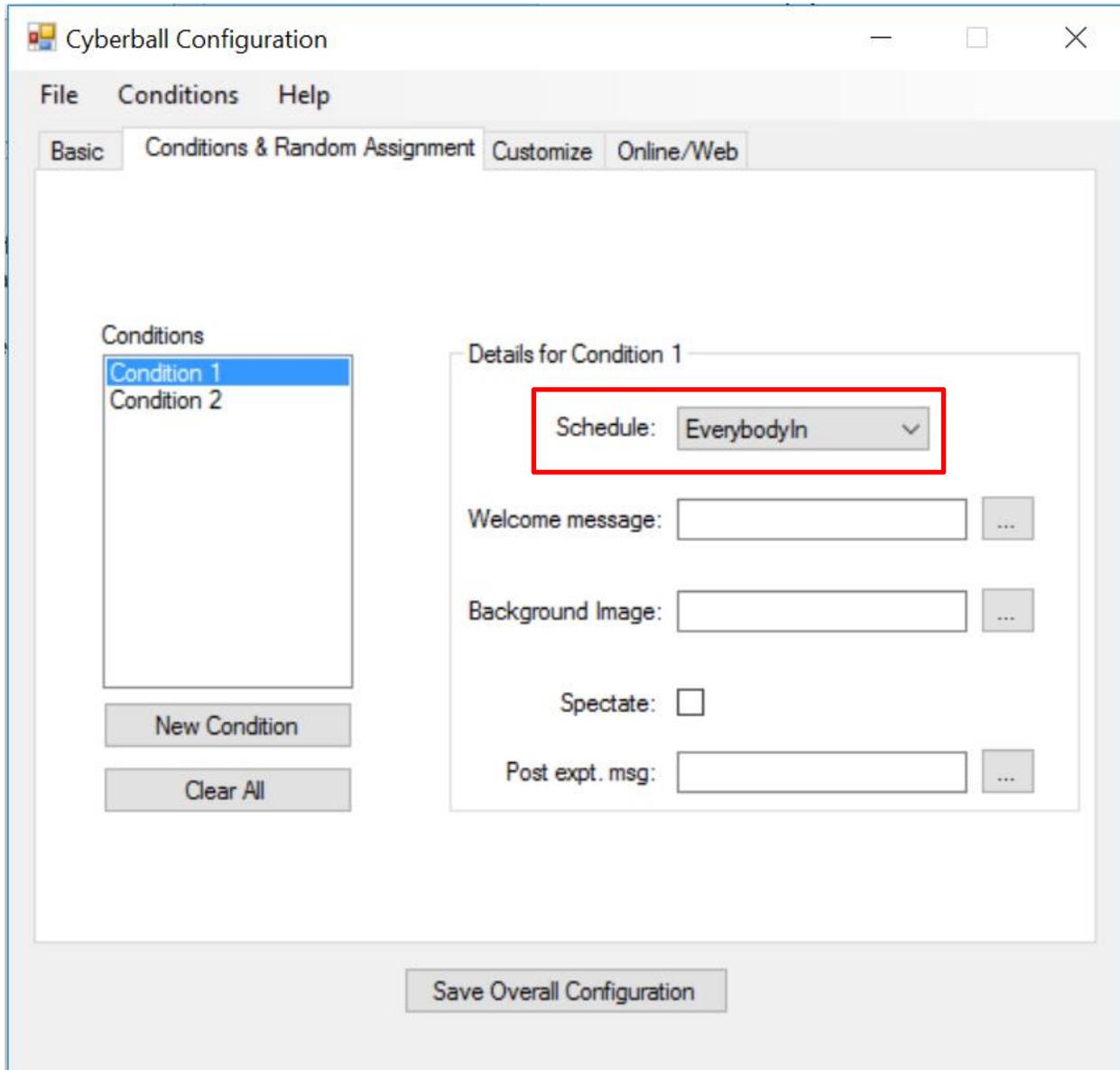
Deprecated Throws: The maximum number of throws that may be deprecated when running the schedule.

Ideal Throw Count: Total number of throws the custom schedule should have to ensure that the experimenter’s design choices for throws in the schedule/game are met.

IMPORTANT CONCEPT: In the example shown with 20 max throws and 24 as the ideal throw count due to possibly deprecating 4 throws, the participant will always see 20 throws. What adding 4 throws to the schedule (from 20 to 24) does is let the experimenter define the replacement throws Cyberball uses when a throw is deprecated. If the experimenter does not add the 4 throws to the schedule, Cyberball will replace any deprecated throws when this schedule is run randomly.

Assigning a Custom Schedule to a Condition

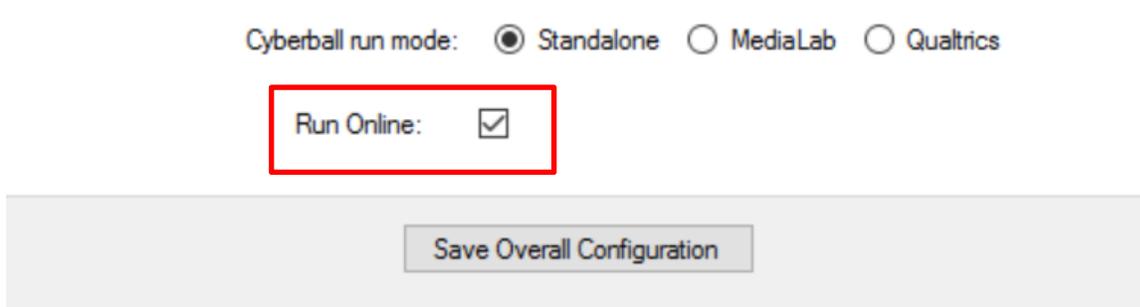
Once you have created a custom Schedule (named “EverybodyIn” in this example), it will be available to assign to a condition on the “Conditions & Random Assignment” screen. In the below illustration we have assigned the “EverybodyIn” to be the schedule used for Condition 1:



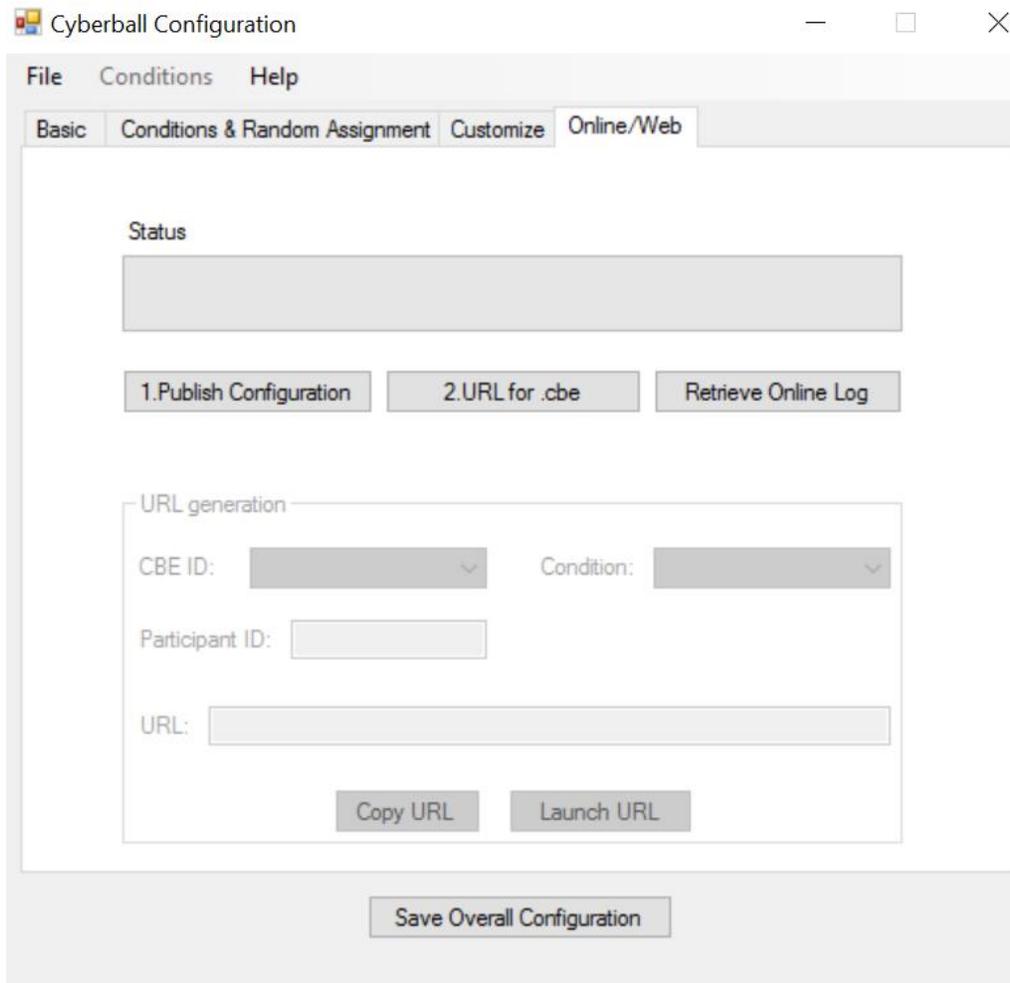
Simply hit the “Save Overall Configuration” button to save your experimental configuration file. Place the resulting .cbe file in the “cb-files” directory (it will be saved there by default). Now, the desktop game version of Cyberball is configured for the experiment.

Online/Web – Running Cyberball Online

Once you have a configuration of Cyberball that you like (stored in a .cbe file) you are ready to publish this configuration file online and run an experiment on the web. To start, go back to the “Basic” screen or tab and check the “Run Online” box as seen here.



With Run Online option checked, the “Online/Web” tab, seen here, becomes enabled. The “Run Online” on the “Basic” screen must be checked to work fully with the online version of Cyberball through the Cyberball configuration application.



There are three key buttons on this form that you'll want to approach in order. They are:

1. "Publish Configuration" – This button allows you to publish your experiment file (.cbe) to the Cyberball webservers. Once it is published you can run an experiment online based on that configuration. But you must first publish your .cbe before continuing.

IMPORTANT CONCEPT: The Cyberball configuration files (.cbe) are universal. You can use the same configuration file on the internet that you, or another experimenter, has used with the desktop version of Cyberball.

2. "URL for .cbe" – This button will generate the correct url (web address) for your experiment, the condition you select, and the participantID you provide.
3. "Retrieve Online Log" – After you have run some participants you will want to download the log file that pertains to your experiment.

After publishing the configuration file, select the "URL for .cbe" button and the "URL generation" portion of the form will become enabled.

IMPORTANT CONCEPT: Cyberball's online version runs on shared servers. This means you do not need to have your own server (as in Cyberball 4) to run an online experiment. However, to keep track of your experiment amongst the many running concurrently on the Cyberball servers, you will need to keep track of the "CBE ID."

The CBE ID

The "CBE ID" uniquely identifies your experiment—globally. The "CBE ID" is necessary for URL generation and any other task associated with the online experiment, such as retrieving the log file. The number/key Cyberball creates for the "CBE ID" is called a GUID (Globally Unique Identifier) and is guaranteed to be unique. Thus, you do not need to worry about another experimenter running your experiment with your "CBE ID"—unless you want them to in which case you can provide them the "CBE ID" or GUID. You will need this number to run the appropriate experiment and also to download the corresponding log file.

Because GUIDs are hard to remember and keep track of, Cyberball includes a feature where the GUIDs (CBE IDs) that you generate for your experiments are saved to a file located at "Desktop/cb-files/mycbes.csv." This file provides a cheat sheet connecting the "CBE IDs" to the particular .cbe experiment files that have been uploaded to the server. The file has three columns: "CBE ID", "# of Conditions", and "Location of .cbe File." Here's an example:

CBE ID	# of Conditions	Location of .cbe File
3c640137-4975-418e-b4ae-764317966c23	3	Z:\Desktop\cb-files\Cyberball5281_Test.cbe
0d2d2afd-a151-49b1-95b4-5baa46165704	2	Z:\Desktop\cb-files\Cyberball5281_Test_again2.cbe
8c5fa50f-e037-4374-bfaf-2368d8885985	4	Z:\Desktop\cb-files\Cyberball5281_Test_withIntID.cbe

Here we've highlighted the "CBE ID", which is "3c640137-4975-418e-b4ae-764317966c23" in this example. Notice that this "CBE ID" is included in the URL for the experiment. This tells the Cyberball webserver which experiment to run when the participant accesses the URL. This "CBE ID" is highlighted below.

- 1.Publish Configuration
- 2.URL for .cbe
- Retrieve Online Log

URL generation

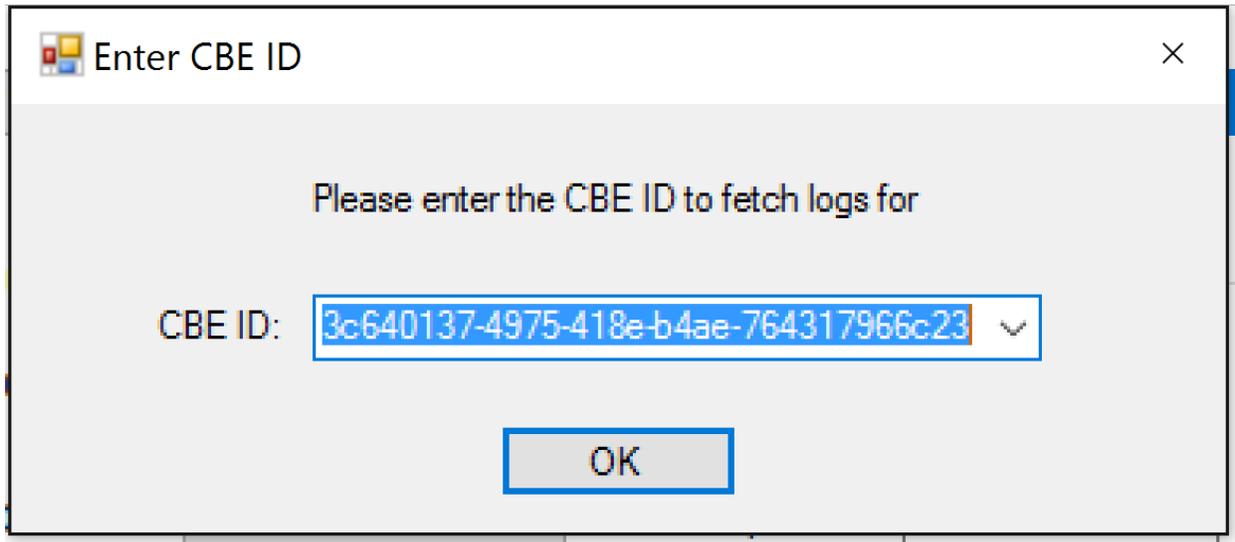
CBE ID:

Condition: Participant ID:

URL:

Retrieving the Log File

When you click the “Retrieve Online Log” file button, the form that pops up will ask which log, identified by the unique “CBE ID.” Just enter the “CBE ID” manually as seen here or select the “CBE ID” from the drop down box. This drop down box is populated by the “mycbes.csv” contained in the “cb-files” directory.



Enter CBE ID

Please enter the CBE ID to fetch logs for

CBE ID: 3c640137-4975-418e-b4ae-764317966c23

OK

When the “OK” button is clicked, the log file for “CBE ID” “3c640137-4975-418e-b4ae-764317966c23” will be automatically saved on your desktop.

Integrating Cyberball 5 Online with Qualtrics

Because the online version of Cyberball 5 is accessible via a hyperlink, there are several ways to integrate the Cyberball 5 online game into a Qualtrics survey or project. I will cover two:

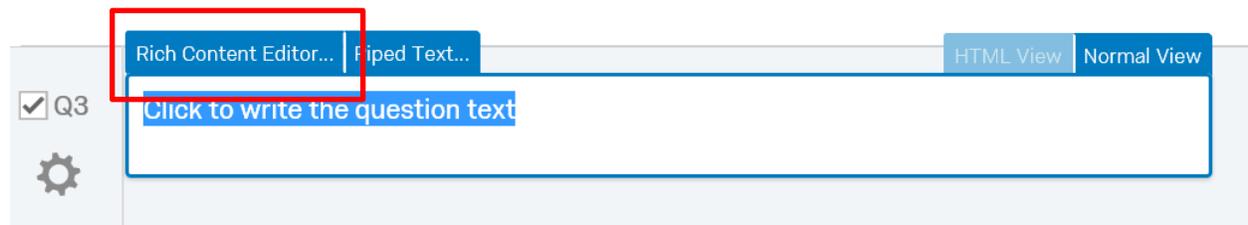
1. Launching Cyberball from Qualtrics and displaying the game as a “frame” within the overall Qualtrics survey window.
2. Launching Cyberball from Qualtrics but displaying the game in its own browser window.

Regardless of which approach you take, you will probably want to have Qualtrics handle the randomization assignments for you. After covering the two items above, we’ll look briefly at how to get Qualtrics to randomly assign participants across the conditions you have defined in the Cyberball 5 configuration application.

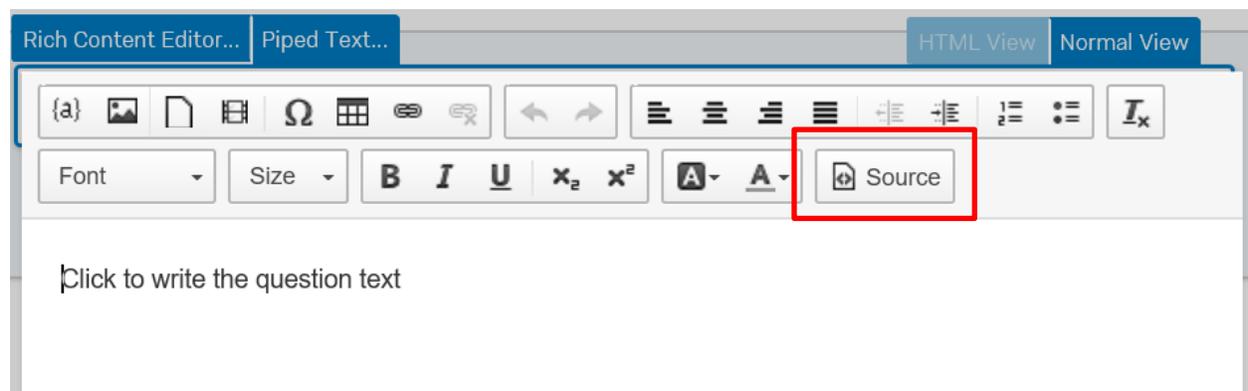
Launching Cyberball from Qualtrics and Displaying the Game within a Frame

To display Cyberball within Qualtrics—in a frame in the Qualtrics survey—so the participants do not have to leave Qualtrics, go to another window and then return—requires a little bit of code. But don’t be intimidated! The sample code you’ll need I’ve provided below.

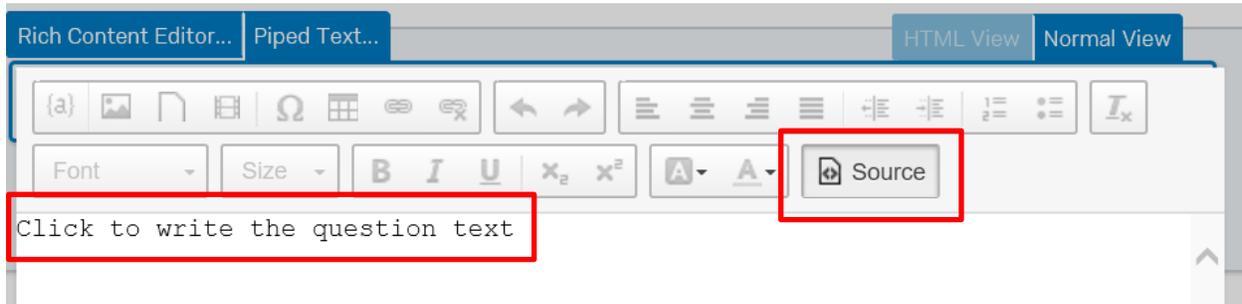
First, in Qualtrics create a question and eliminate its default choices. Next click on the question’s text after which you’ll see a screen like the following:



Next, click the “Rich Content Editor...” button highlighted above which will bring up a screen that looks like this:



Next, you'll want to click the "Source" button highlighted above. Your screen will then look like the following:



Note in this screenshot that all buttons but the "Source" button are disabled or greyed-out and the text for the question has been changed to courier font. In general, when you see courier font, it's time to write some code! Let us now look at some basic code you can use as a template for inserting Cyberball within your Qualtrics project.

The Code:

Simplest iframe

```
<iframe src="Your Cyberball URL here"></iframe>
```

```
<iframe  
src="https://cyberballserver.azurewebsites.net/web?cbe=be72c1b7-  
b8f1-41f3-8b48-9af91a7ed7fd&amp;condition=1&amp;pid="></iframe>
```

The simplest approach is to use the html iframe element. If you just use it as illustrated above, Qualtrics will determine the display size of Cyberball. The game will work fine, but its size is not desirable as viewed in the following screenshot. Note that the window/frame size for displaying Cyberball 5 here is about the default size that Qualtrics assigns to any regular text question.

Q2 Ok, then, are you ready to play the online version of Cyberball 5?

 Yes

No

Q3 

WELCOME TO CYBERBALL



Welcome to Cyberball, the Interactive Ball-Tossing Game Used for Mental Visualization!

In the upcoming experiment, we test the effects of practicing mental visualizations on task performance. Thus, we need you to practice your mental visualization skills. We have found that the best way to do this is to have you play an on-line ball tossing game with other participants who are logged on at the same time.

In a few moments, you will be playing a ball tossing game with other students over our network. The game is very simple. When the ball is tossed to you, simply click on the name of the player you want to throw it to. When the game is over, the experimenter will give you additional instructions.

What is important is not your ball tossing performance, but that you **MENTALLY VISUALIZE** the entire experience. Imagine what the others look like. What sort of people are they? Where are you playing? Is it warm and sunny or cold and rainy? Create in your mind a complete mental picture of what might be going on if you were playing this game in real life.

Okay, ready to begin? Please click on the following button to begin.

```
<p style="text-align: center;">Your Title Here<br/><iframe
frameborder="1" height="800" scrolling="no" src="Your Cyberball Link
(https) here" width="700"></iframe></p>
```

My Projects > Cyberb 5 Online Integration with Qual... ▾

Survey Distributions Data & Analysis Reports

Look & Feel Survey Flow Survey Options Tools ▾

Cyberb 5 Online Integration with Qualtrics

▼ Default Question Block

Q1 Have you ever used Cyberball 4?
⚙️ Yes
 No

Q2 Ok, then, are you ready to play the online version of Cyberball 5?
⚙️ Yes
 No

Q3 **Your Title Here**
⚙️

WELCOME TO CYBERBALL



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Okay, ready to begin? Please click on the following button to begin.

PLAY

Embedding Cyberball 5.0 URL into Qualtrics

After setting up the URL with the configuration application, you may wish to embed the URL into Qualtrics to conduct experiments entirely online. In order to cleanly embed the game within a Qualtrics survey, you can use the shell/template downloadable at <http://www.empirisoft.com/cyberball.aspx>.

This is a ".qsf" file that you can upload into Qualtrics. To do this, select "Create Project", and then "From a File".

Create a Project

New, Blank Project

Create From Existing

- From a Copy
- From a Library
- From a File**

Create a Project from a File

Choose a .QSF File

QSF stands for "Qualtrics Survey Format." This would be a survey that was created and exported from Qualtrics. [Learn more...](#)

✓ Cyberball_5.0_Template.qsf (31k)

Project Name

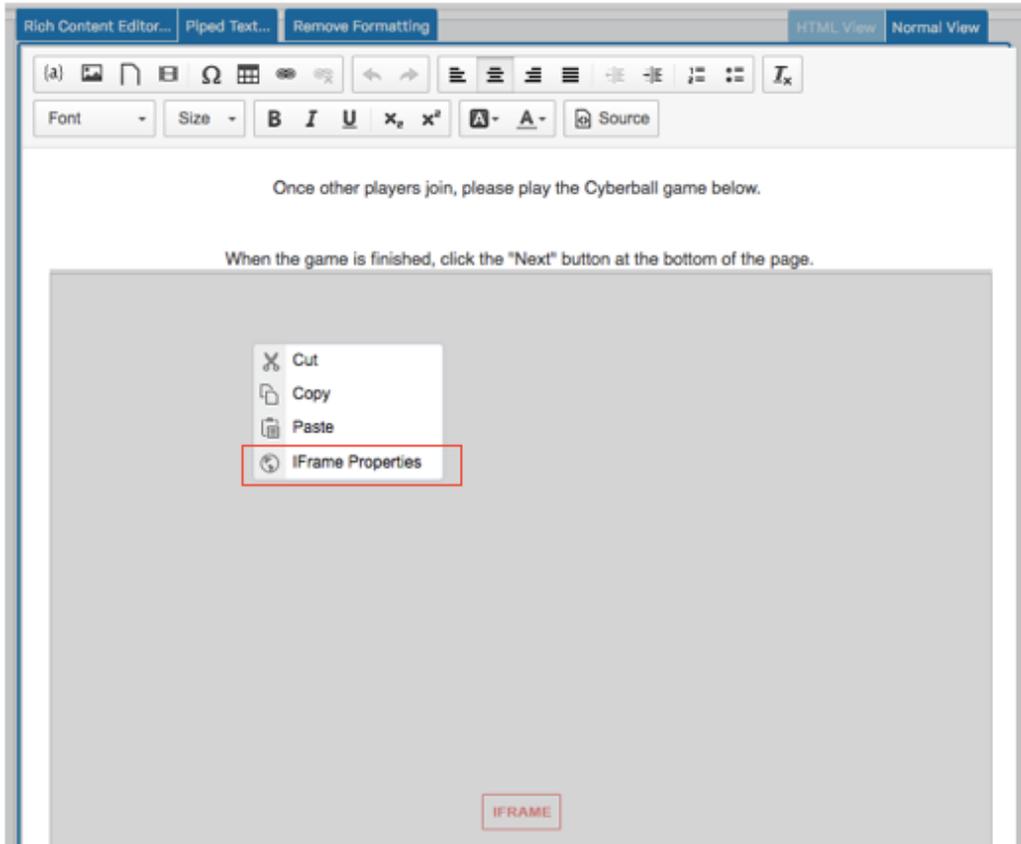
Cyberball_5.0_Template

Folder

Cancel **Create Project**

Once you open this survey in Qualtrics you will see that that Cyberball is embedded in a question within an "iframe." You can replace the text that is currently in the iframe with the link to your game. To do

this, go to "rich content editor" and then right-click on the iframe, and select "iframe properties" and then insert your Cyberball 5.0 link(s).



IFrame Properties [X]

General | Advanced

URL

[Insert Cyberball 5.0 URL here]

Width: 700 Height: 800 Alignment: <not set> ▾

Enable scrollbars Show frame border

Name: _____ Advisory Title: _____

Long Description URL: _____

Cancel OK

You can then handle all of the random assignment within Qualtrics.