

33 QUESTIONS PER MINUTE, WEBSTREAM

BY RAFAEL LOZANO-HEMMER



Photo by: Katherine Du Tiel

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GENERAL IMPORTANT INFORMATION

This short section must be read for proper operation.

33 QUESTIONS PER MINUTE (2000)

BY RAFAEL LOZANO-HEMMER

Technique

Computer, custom-software using HTML 5, CSS, JavaScript, Node and npm.

Description

33 Questions Per Minute consists of a computer program which uses grammatical rules to combine words from a dictionary and generate 4.7 trillion unique, fortuitous questions in English, Spanish, French and German. The automated questions are presented at a rate of 33 per minute—the threshold of legibility. The system will take over 270,000 years to ask all possible questions. Members of the public can introduce any question or comment into the flow of automatic questions, using a keyboard. Their participation shows up on the screens immediately and is registered by the program.

Local vs. Web Operation

The program runs in the browser and is able to run on a single computer, disconnected from the internet. Or be hosted on the web and accessed at a web address. The computer for the piece contains a “local” version of the piece. This local version will only accept submissions that are directly typed into the computer running it. If hosted as a web app the site will accept submissions from anyone connecting to that webpage.

Operation

Please refer to [Appendix I - Installation](#) for detailed system information and wiring diagram. Connect the computer and the power injector power supply to electrical power. Use the supplied power cables.

1. To turn the piece ON, press the power button on the computer for one second, then release it. Important note: *please do not push the button again as this will shut down the piece.* Wait at least two minutes before pressing it again, as the computer might need this long to boot.
2. To turn the piece OFF, press the computer’s power button. The computer should shut down within the next 30 seconds.

3. If the piece doesn't start within two minutes, try turning on the piece again. If it still doesn't turn on, hold the power button all the way down for 10 seconds. Then, wait at least three seconds, then press the power button all the way down for one second, and you should be up and running again.

Interacting with the Artwork

1. Type something in the input box
2. Hit the enter button on the keyboard or the equivalent on mobile
3. You should see your words appear alongside generated questions

Maintenance

If presented within a monitor, please do not clean the monitor surface with Windex or soap. Use a lint-free cloth and LCD screen liquid cleaner, such as Kensington Screen Guardian found in computer stores. We recommend cleaning the piece at least every 2 months

Placement Instructions

If using a projector it can be set almost anywhere we want, as within the software we can select where we want the text to be displayed. However, we do recommend selecting a proper optic and projector setup and the right throwing distance between wall and projector in order to optimize the brightness and sharpness of the artwork. Do consider the projection needs to be leveled and keystone to obtain better results.

In the case where the piece is displayed within a monitor, we do recommend having the monitor vertically centered at 150 centimeters (59 inches) away from the floor.

DETAILED TECHNICAL INFORMATION

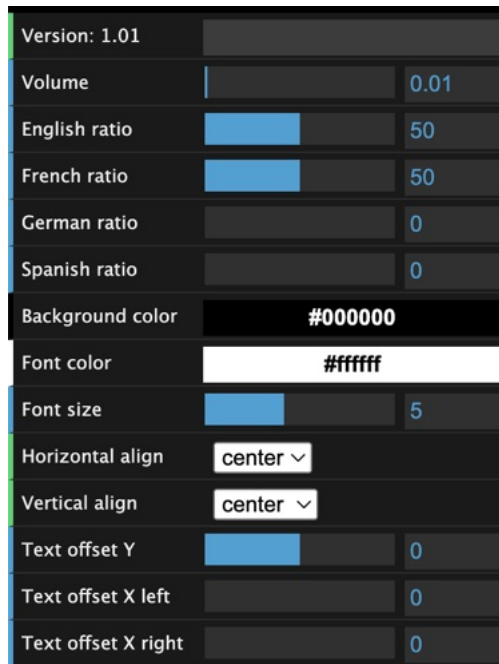
Normal Software Operation

The software will automatically cycle through randomly generated questions once started. The different settings will allow you to modify the way the artwork reacts: speed, size, color, language, etc.

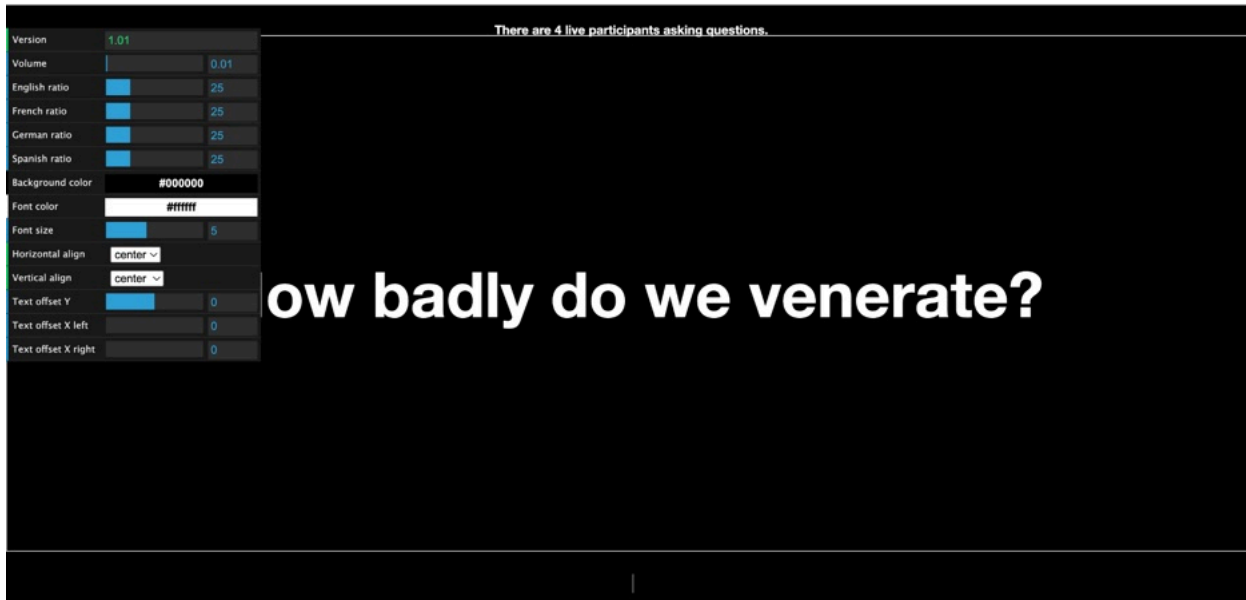
The piece has a “burger” menu in dark grey that appears at the top left of the display, whenever a user moves their mouse on screen as seen below.



Clicking this will reveal the GUI associated with the piece. It should look like the image below. To make the GUI disappear again press the ‘burger’ menu icon which should now display an ‘X’. The X will fade out after a few seconds if you want to close the GUI and don’t see it simply mouseover where it is located and it will re-appear.



While you have the GUI menu open a bounding box will appear around the text. This is designed to make it easier to identify the area that the text will be confined to when setting up an installation. This outline will automatically disappear when the GUI is closed. See the images below for reference.



The following settings can be used to customize the behavior and look of the piece. This table explains each of their functionalities.

| Setting | Description |
|----------------------------|--|
| Version | Gives the version number of the software. Changing the field value does nothing. |
| Volume | Sets the volume of the sound associated with the piece. |
| English Ratio | Sets the ratio of English questions that the piece will generate. |
| French Ratio | Sets the ratio of French questions that the piece will generate. |
| German Ratio | Sets the ratio of German questions that the piece will generate. |
| Spanish Ratio | Sets the ratio of Spanish questions that the piece will generate. |
| Background Color | Changes the background color of the piece. |
| Font Color | Changes the font color of the piece. |
| Font Size | Changes the size of the font using "viewport" css font sizing. |
| Horizontal Align | Changes the horizontal alignment of the question text to be either left, center or right. |
| Vertical Align | Changes the vertical alignment of the question text to be either top, center or bottom. |
| Text offset Y | Changes the Y positioning of the question text. |
| Text offset X Left | Changes the left X starting positioning of the question text, relatively to the left edge of display. This value refers to a percentage of the total display width. |
| Text offset X Right | Changes the left X starting positioning of the question text, relatively to the right edge of display. This value refers to a percentage of the total display width. |

Note: The GUI will NOT save any changes that you make. This is purely for identifying which settings will work best.

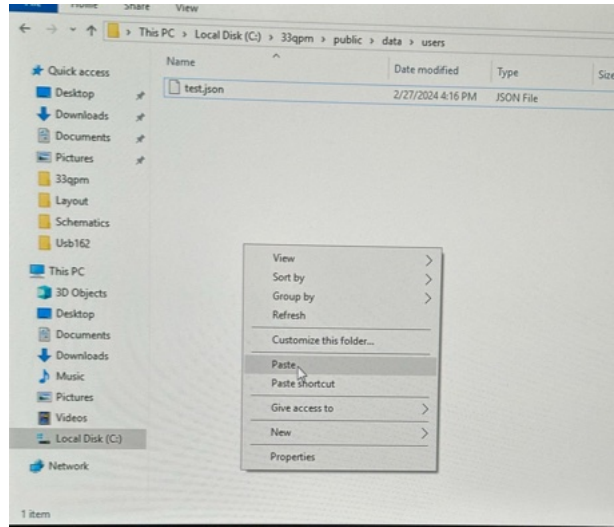
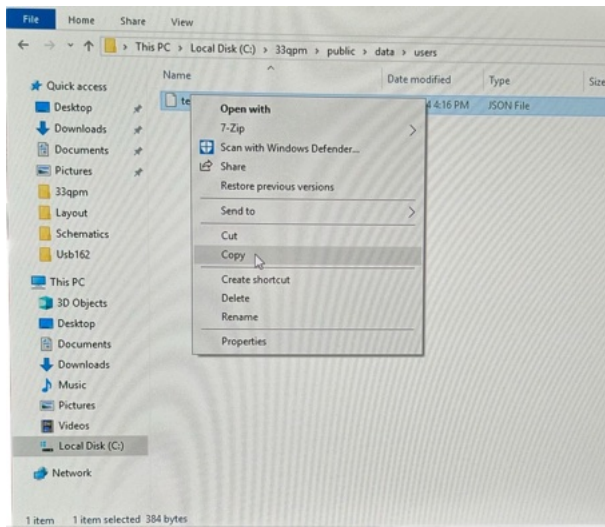
Saving GUI settings

This piece is designed to load the artist selected default settings automatically. If different settings are required for an installation you must follow these steps.

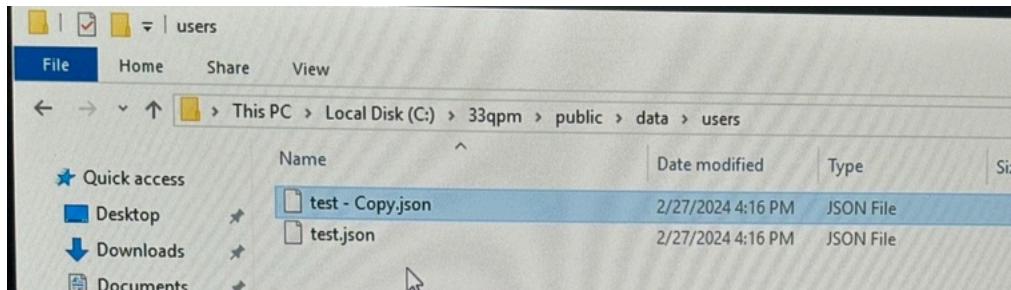
1. Create a new file under the public/data/users folder.

A view of this location can be seen below. The easiest way to do this is to copy and paste another copy of the test.json file.

Use the images below as reference to help copy and paste the file in the folder.



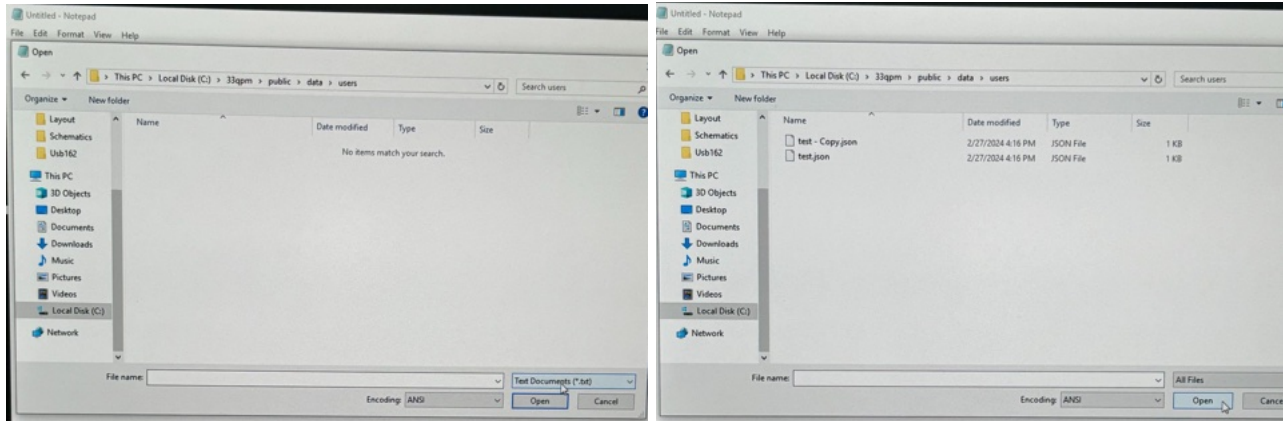
Once this is done you'll have a duplicate file as seen in the image below. Rename this file using a short and simple name. You will need to include this name in the url used to access the piece in order to load its settings so something simple like: mac, or exhibit is best.



2. Open the file in a text editor

Open the “Notepad” application and click File, then the open button as seen in the image below.

This will open up a popup. Use it to navigate to the file you just created. You may not see the file as a valid option until you change the dropdown bar in the lower right seen in the image below to “all files” as seen in the two images below.



Once you open the file you should see something like the image below.

test.json

★ PRETTIER

```
1 {  
2   "version": "",  
3   "qpm": 33,  
4   "english_percent": 50,  
5   "french_percent": 50,  
6   "german_percent": 0,  
7   "spanish_percent": 0,  
8   "font_size": 5,  
9   "font_color": "#FFFFFF",  
0   "background_color": "#000000",  
1   "font_Y": 0,  
2   "font_x_left": 0,  
3   "font_x_right": 0,  
4   "sound_volume": 0.01,  
5   "horizontal_align": "center",  
6   "vertical_align": "center"  
7 }  
8
```

3. Edit the contents of the JSON file to match the settings you want.

The test.json file comes loaded with the artist approved defaults. If you have used the GUI to set up the piece for an installation and found settings that you like, simply copy the values into the text file and then save. For example, if you want the background color to be a different value you would replace the hex code next to "background_color" in the file with the hex code displayed in the GUI.

"background_color": "#000000", would become "background_color": "#FFFFFF",

This file must remain in the JSON format. This means keeping all of the values you enter in double quotations "" and keeping a comma after them. You may use an online JSON linter to double check if your file is json if you are unsure.

4. Access these new settings.

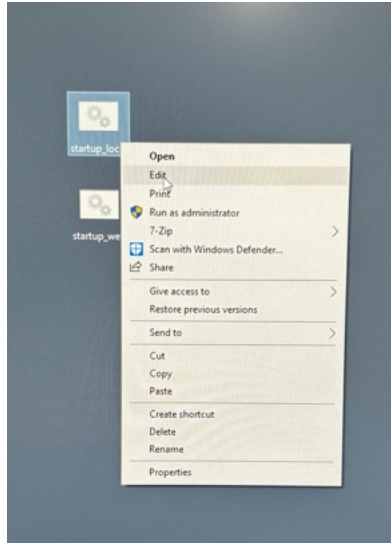
By adding the name of your custom settings files to the site's url as a value related to the parameter "username" they will be automatically loaded on startup.

For example if you go to <https://localhost:3000/?username=test> the site will load the settings stored in the test.json file.

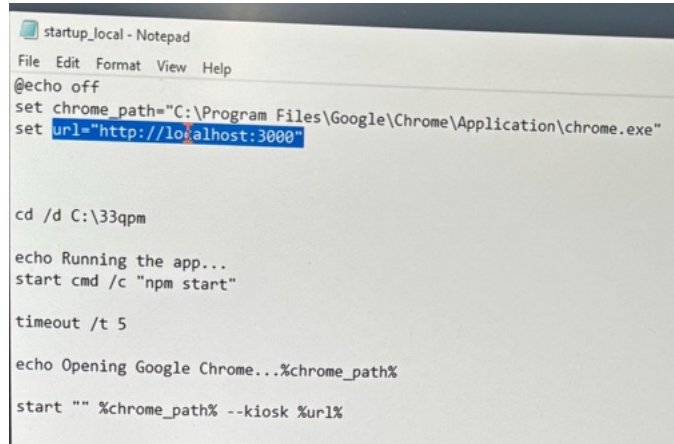
So if you have created a json file named mac.json you would go to <https://localhost:3000/?username=mac>

5. Changing startup scripts to use these new settings

In order to have the startup scripts included on the computer automatically launch these custom settings you will have to change the URL listed in the file. You can do this by right clicking the desired startup script on the desktop and selecting edit as seen in the image below.



Both of the startup scripts will have a variable called url near the top of the file. In the Notepad app simply add the ?username= and whatever your file name is. So for the example in the images below we would change "<http://localhost:3000>" to "<http://localhost:3000?username=test>"



```
startup_local - Notepad
File Edit Format View Help
@echo off
set chrome_path="C:\Program Files\Google\Chrome\Application\chrome.exe"
set url="http://localhost:3000"

cd /d C:\33qpm

echo Running the app...
start cmd /c "npm start"

timeout /t 5

echo Opening Google Chrome...%chrome_path%
start "" %chrome_path% --kiosk %url%
```

Remote Access to Artwork's Computer

There is a software installed on the computer running this artwork that allows the studio to connect remotely to the artwork. This feature is helpful when you require assistance from the studio, as we can remotely connect to it, do a quick inspection, and do a debugging session of your components, if needed. In order to enable this feature, the computer has to be connected to the internet at all times. Depending on the computer's operating system (Windows 8/10, OSX), the procedure to set the computer online will vary. Please look online for tutorials, if necessary.

Preliminary Troubleshooting Steps

After pressing the button, nothing seems to happen.

Do you hear any sound coming from the computer? If so, the computer is running and the monitor should display the piece shortly. If not, check if the monitor is well powered and try to turn it on with its remote control. Also, check that the monitor's source is set to the same port where the cable is plugged in.

My custom settings aren't loading

The settings in the GUI won't be saved unless you create a file following the instructions in this manual. If you have made a file using these instructions but still find that certain settings aren't being loaded, double check that you have properly used the ?username=YOUR_FILE_NAME convention.

If this also does not fix the problem check that your file meets the JSON standard. If the JSON is malformed you will not have the settings loaded properly. You can use an online linter to validate your JSON and alert you to errors.

Troubleshooting Assistance

Prior to contacting the Antimodular Studio with a problem about your artwork, please ensure that you went through the preliminary troubleshooting steps outlined in the previous section.

The troubleshooting process will vary depending on the problem. In order to make the process easier, it is recommended that you collect and send the following information to the studio:

- Date and time when the problem first happened;
- Description of the problem;
- Actions taken so far and conclusions;
- Detailed photographs (or videos) displaying the problem;
- Detailed photographs (or videos) of the suspected faulty component;
- Detailed photographs (or videos) of the whole artwork and its surroundings;
- Personnel involved.

Support (Contact Us)

If you would like support for the piece, please feel free to call Lozano-Hemmer's studio in Canada:

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Montréal, Québec, Canada
H2J 2L1
Tel 1-514-597-0917
info@antimodular.com
www.antimodular.com

APPENDIX I - INSTALLATION

Description of Components

This artwork requires the following components:

| Component | Description |
|---------------------------|---|
| Computer | Any Windows computer, with either serial or USB connection to feed the data to the displays. |
| Video Signal Cable | Connect the computer to the display. Usually it is an HDMI cable. Adapters may be required in between computer and display / projector. |
| Display/Projector | Any display or projector, based on discussion held with Antimodular's studio team member. Ideally a monitor would be as matte (non-reflective) as possible, as slim as possible with bevels as small as possible. Ideally a projector would be as small as possible, as silent as possible, as much hidden as possible. |
| Keyboard | Used to input participant questions. |

Wiring Diagram

In order to have the piece running properly, the computer should be connected as per the following diagram.



Installing the Artwork on Your Own Hosted Server

The artwork is designed to be easily hosted as a web application. The files can be uploaded to any hosting provider that has Node.js support such as Glitch or Heroku. The folder structure that the code is provided with as seen in the image below should not be changed. Moving files out of the public folder will result in the artwork not functioning properly. To avoid this, host all of the content in the 33QPM folder on an appropriate web server in the structure the code was provided in.

