Concert Player App User Guide

1. App Overview

The Concert Player App is an online web application which allows you to arrange your own version of John Cage's *Concert for Piano and Orchestra*. Using around 3000 individual sound recordings, the app uses a dynamic and interactive system to allow the user to construct a completely custom rearrangement of the piece, where individual pages of each instrument part can be selected, reordered and assigned varying durations. The system then reconstructs the composition based on the desired duration of the user and presents them with a visual representation of their selections.

All the sounds were recorded individually by members of the ensemble Apartment House: Bridget Carey (Viola 1), Reiad Chibah (Viola 2), Andrew Digby (Trombone), Ruth Ehrlich (Violin 3), Christin Forshaw (Bassoon and Baritone Saxophone), Jonathan Heilbron (Double Bass), Jonathan Impett (Trumpet), Anton Lukoszevieze (Cello), Aisha Orazbayeva (Violin 1), Melvyn Poore (Tuba), Nancy Ruffer (Flute), Jack Sheen (Conductor), Hilary Sturt (Violin 2), Philip Thomas (Piano), and Vicky Wright (Clarinet). The decision was taken not to allow manipulation of the recorded sounds, so that when a page is stretched or compressed only the silences between sounds are altered. Sounds are placed relative to one another as depicted by Cage's space-time notation. The space-time relationship is maintained when pages are stretched and compressed. Because the instructions stipulate that each sound must be followed by a break, even if only a small one, each page necessarily has a minimum duration, resulting from the durations of the performed sounds. The system allows any sound to nudge the placement of successive sounds in space-time if it is of a duration longer than that suggested by the selected total duration of a page.

The *Solo for Piano*, recorded by Philip Thomas, using the Solo for Piano Web App to generate realisations of the 84 different notations, is distinct from the other Solos. Here a fixed realisation of the whole score, lasting three hours and nine minutes, is divided into fifteen fixed parts which can be inserted into the mix by the user.

2. Intro Page

John Cage's Concert for Piano and Orchestra may be performed in many ways: each parts is designated as a 'Solo' and these may be combined differently, as solos (fourteen possibilities), as duos (91 possibilities), trios, quartets and so on up to the full ensemble of fourteen players.

Next

Skip

The first page upon opening the website is a text-based introduction to the Concert Player App. To navigate through the text, you have three options: "Next", "Back" and "Skip". Respectively, they move onto the next or previous slide or allow you to skip the introduction and continue to the application.

3. Enter Duration

Enter Duration

H: 0   M: 8   S: 0

Back   Accept

Help?

Following the introduction, you are presented with three number entry boxes labelled: "H", "M" and "S", denoting hours, minutes and seconds. This page allows you to set a desired duration for the piece to run for. For example, setting "H[1] M[0] S[0]" would allocate an hour of time for the piece. Once a desired duration is selected, pressing "Accept" will progress you through to the next screen.

If no duration is selected, a prompt will pop up and advise you to set a time.

If you are stuck a handy help button is located at the bottom of the screen and if you accidentally skipped the introduction there is also the option to return to the beginning of the text.

4. Automatically Generate Arrangement

Automatically Generate Arrangement?
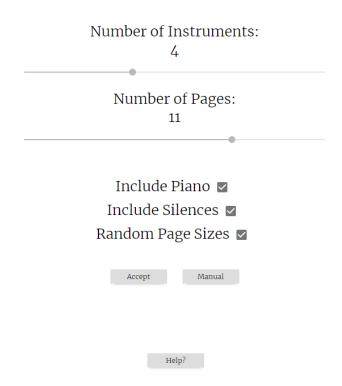
Auto	Manual

Help?

Once a duration is settled upon, you will be presented with two options: "Auto" and "Manual".

Selecting "Auto" will take you onto the next screen which allows you to set some parameters for the automatic generation of a randomly generated arrangement. This option will still allow you to edit the composition further down the line.

Selecting "Manual" will take you to a blank arrangement screen where you can start from scratch and arrange the piece completely how you like.

At the bottom of the screen there is another help button to guide you on each selection.

5. Automatic Generation Parameters

Number of Instruments:

4

Number of Pages:

11

Include Piano ☑
Include Silences ☑
Random Page Sizes ☑

Accept   Manual

Help?

The automatic generation parameters page presents you with a few options which allow you to fine tune the generation of a random composition. Firstly, you can select how many instruments you would like to have in the composition by moving the slider from left to right. This can be between 0 and 13 or set to be random. Choosing "random" will randomly pick a number between 0 and 13 and leave you with no instruments or the full orchestra. Similarly, the selection of pages is a slider which moves left to right, between random, 0 and 16 pages. The number of pages differs slightly from the number of instruments due to the actual number of pages being constrained by two factors: the original composition dictates that some instruments have fewer than 16 pages; the duration selected on the second screen might not be adequate to fit the desired number of pages.

Below the sliders, there are three check boxes which are defaulted to being selected, visualised by a grey square with a tick. Clicking on a checkbox will deselect the option and is indicated by an empty white square, with no tick. "Include Piano" allows for the inclusion or omission of the piano part from the composition, similar to the "Include" silences option which determines whether some

of the pages added are silent. "Random Page Sizes" then assigns pages a random length.

Once you are happy with the parameters, clicking on "Accept" will take you to the arrangement screen where your randomly generated composition awaits.

To cancel the automatic generation, selecting "Manual" will take you to a blank arrangement screen, where you can construct a composition from scratch.

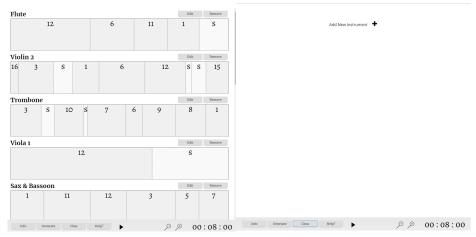## Addition of piano requires a minimum duration of:

Selected Duration:	Required Duration:
00:04:00	00:06:05

Remove Piano   Match

Note: If the selected duration is extremely short, i.e. below 6 minutes, the system may prompt you to select a longer duration. This is due to the piano pages being fixed in duration, whereas the pages of the rest of the orchestra are created in such a way where they can be stretched out or compressed.

6. Arrangement Screen

Depending on whether you decided to automatically generate or manually create a composition, you will be met with a full or blank screen respectively. An automatically generated composition will feature several tracks, corresponding to a specific instrument, with one or more boxes with numbers in the centre, denoting the number of the page the box represents. The width of the box determines the proportion of the selected duration which the page will play for. A single box filling the entire track will run for the entire duration you've selected. The position of the boxes reflects the ordering of the page within the composition.

Scrolling down the page, if automatically generated, will reveal the "Add New Instrument" cross, which is a button to open up a selection panel with the remaining instruments which are available. Clicking on an instrument button will then add a new track to the composition with that instrument.
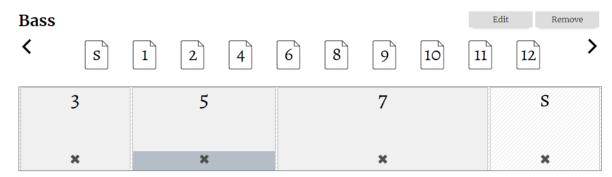

The instrument track is comprised of a Title, which tells you which instrument the track is using, "Edit" which will bring up another option panel to select which pages to add to a composition, and a "Remove" button which removes the instrument from the composition.

Bass

The page selection panel reveals a number of page icons which are draggable objects which can be placed in the track to add to the composition. As each page is added they are removed from the panel. One of the pages, denoted by the "S", represents a silence. Adding this page to the composition will tell the system to play nothing for the duration represented by the width of the box. Silent pages can be added multiple times.

The number of visible pages in the page selection panel is limited by the width of the window in which the app is being viewed. The two arrows pointing left and right will appear, allowing you to scroll through revealing higher or lower numbers.

Bass

After a page is added it may be removed, reordered or resized.

To remove, click on the x located in the centre bottom of the page.
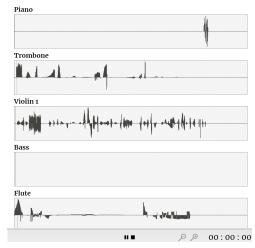
To resize, move the cursor to the edge of the box, the cursor will change to indicate that resizing is now possible and click and drag. Boxes are resized from the left and moving the mouse to the left will decrease its size and moving to right will increase its size. If the duration is short, some of the pages may block the resize dragging motion and only resize by a short amount. This is due to the minimum duration of each page being met for a number of pages and therefore there is limited space for the duration of the page to move around in.

To reorder, the page can be clicked and dragged to a new position. Whilst holding down the click and hovering over the desired location, letting go will drop the page in place of the hovered over page, pushing it to the right.

Note: if the page selection panel is not showing, rearrangement options will be suspended and will not respond to any clicking or dragging.

At the bottom of the screen, there is a permanent navigation bar. From left to right: "Info" takes you back to the initial text which describes the project. "Generate" takes you back to the generation screen and allows you to randomly generate a composition, doing so will erase any work you have started and return a new arrangement. "Clear" deletes the entire arrangement and allows you to start from scratch. "Help" brings up a pop-up which gives you more information on the entire screen. The triangle is the play button, which can be pressed at any time and will play your arrangement from the beginning. The "-" and "+" icons allow the composition to be zoomed out and in respectively. Finally, the numbers on the right hand act both as a display of the selected duration but also as a button to return back to the enter duration screen.

7. Playback screen

Piano

Trombone

Violin 1

Bass

Flute
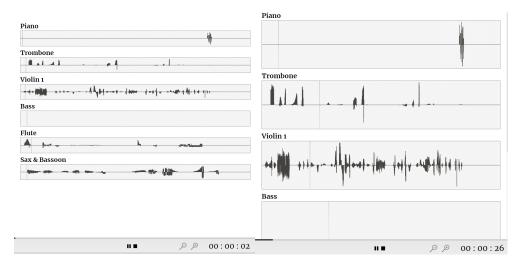
❚❚ ■   🔍 🔍   00 : 00 : 00

Pressing play in the arrangement screen will take you through loading screens to a view of waveforms for each track you've selected. Each of the waveforms represents a single page and the dark lines above and below the line are the audio events, where height (both above and below) indicates volume. The piece will begin playing automatically; progress through the composition is visible as a black bar above the bottom panel. On each of the tracks a thin line follows the composition, highlighting where on each page playback has reached allowing you to see which instrument is making each sound. Some of the scrolling bars will move faster than others – this is due to the size of each page placed on the arrangement screen.

❚❚ ■   🔍⊖ 🔍⊕   **00 : 00 : 02**

At the bottom of the page, there are 4 controls: pause represented as two vertical lines, stop as a black square block, zoom out "-" and zoom in "+". As the composition progresses, the time in the bottom right will increase.

Pressing pause will bring the composition to a stop but maintain the current position in playback. A play button will replace the pause button allowing for the composition to continue.

Pressing stop will halt the piece completely and return you back to the arrangement screen. This does not delete the composition.

Zooming in and out will increase and decrease the size of each track vertically, allowing you to focus in on a track or get a better overview of the whole composition.