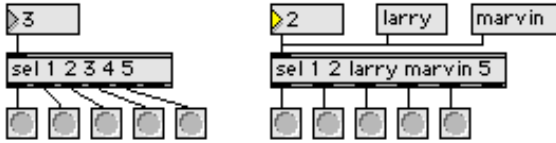


## Composition: Electronic Media II

February 6, 2008

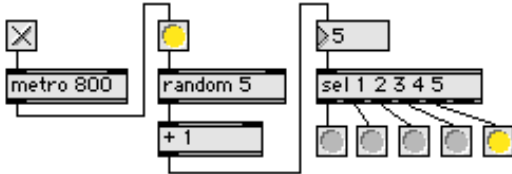
### The Select Object in Max/MSP

#### 1. The **sel** object:



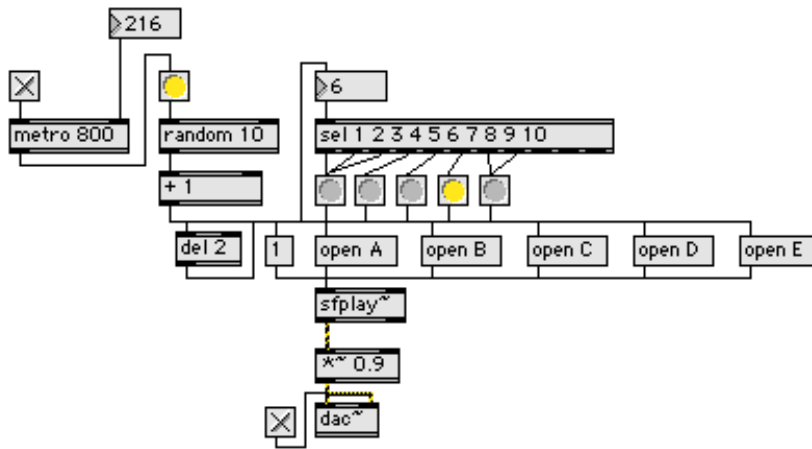
- The patch on the left sends numbers to the leftinlet of the **sel** (or **select** object).
- In the **sel** object, the numbers 1, 2, 3, 4, 5 correspond to the outlets that are patched to the 5 bang buttons.
- When the number 3 is triggered, a bang is passed through the 3<sup>rd</sup> outlet from the left to the bang button to which it is patched.
- The patch on the right send bangs to the bang buttons patched from the outlets associated with 1, 2, larry, marvin, 5.
- In principle, the **sel** object responds in the manner above to any text in the box, whether a number or a word. The numbers or words must be separated by spaces.
- Because the **sel** object size can change depending on content, segmented patch cords may sometimes appear cluttered. For this reason, non-segmented patch cords are recommended.
- The last outlet on the right is normally not used: it is a reject outlet that sends a bang when an input is not in the list.

#### 2. Below is a patch where the five output bangs are randomly triggered:



- The **sel** object has a list of numbers 1, 2, 3, 4, 5.
- The **random** patch randomly generates the numbers 1, 2, 3, 4, 5. These numbers are patched into the left inlet of the **sel** object from a number box.
- The speed at which the numbers are randomly generated is determined of the **metro** object. The speed of 800 milliseconds per number is written inside the **metro** object.

3. Below is a patch that randomly plays soundfiles A, B, C, D, E.



- a. This is the first patch we have seen in class that generates pseudo-artistic actions.
  - b. The goal of this patch is to open and play the soundfiles A, B, C, D, E according to the following probabilities:
    - i. Soundfile A has a 3 in 10 chance of sounding. This is because A is triggered by the numbers 1, 2, 3, as can be determined by visually inspecting the patch cords from the **sel** object outlets to the bang button associated with the soundfile A.
    - ii. The soundfiles B, C, and D each have a 1 in 10 chance of sounding, as can be determined by inspecting the patch cords.
    - iii. The E object has a 2 in 10 chance in sounding.
    - iv. Silence has a 2 in 10 chance of sounding since outlets 9 and 10 are not patched to a soundfile. Incidentally, sometimes one says that silence sounds (or doesn't sound) when we regard silence as an event, as we do here. Silence plays a role in the rhythmic structure of this patch.
  - c. The **del** object with 2 milliseconds delay plays an important role in this patch. Consider soundfile A. When the numbers 1, 2, or 3 are generated by the **random** object, the bang button on the left beneath the **sel** object, is triggered. When that bang button is triggered, it does two things in an undetermined order. One thing it does is send bang to the message box "open A". This opens soundfile. Another thing it does is send a bang to the message box "1". This sends a trigger to the object **sfplay~**. This plays the soundfile A. **Max/MSP** does not send messages simultaneously. These messages are usually sent so quickly that we perceive them to be simultaneous. When patches are structured to that two things need to happen in a specific order, then **Max/MSP** determines that order for the user. One of the criteria for determining order of messages sent, is the placement of object of the screen (messages in the upper area and left area of the screen are sent before messages lower and to the right). Because we are more concerned with the design of the patch on the screen for conceptual reasons, we need a way to control the flow of messages that makes sense to us. One solution is to use the **del** object to delay one message by 2-5 milliseconds. In the example here, the message to open soundfile A comes 2 milliseconds before the message to play the soundfile. The delay of 2 milliseconds will not be perceptible in this patch. However, in more elaborate patches, phase might become a problem when certain objects are delayed by 2-5 seconds. Still, this workaround results in a more performance.
  - d. The speed at which random numbers are generated is controlled by the **metro** object. This object has a default of 800 milliseconds. It also allows the user to control the speed with a number patch into the right inlet.
  - e. The resulting output is the random triggering of soundfiles A, B, C, D, E (these are percussive sounds) in a steady pulse. Each pulse is represented by either a soundfile or silence, which has a 2 in 10 chance of occurring. It will be recalled that soundfile A has a 3 in 10 chance of sounding and soundfile E has a 2 in 10 chance.
4. Using this patch to randomly (or statistically) trigger sounds is a good way to generate compositional material. What other things can be triggered with this kind of patch?

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_
- e. \_\_\_\_\_
- f. \_\_\_\_\_
- g. \_\_\_\_\_
- h. \_\_\_\_\_