This week my task is to transform the reference materials that I get from Emmet to an AR world. I decided to work with the material in Figure 1. and use it with the layout I created in the previous weeks. Also I changed the main big marker of the layout a little bit so it won't have vertical and horizontal asymmetry.

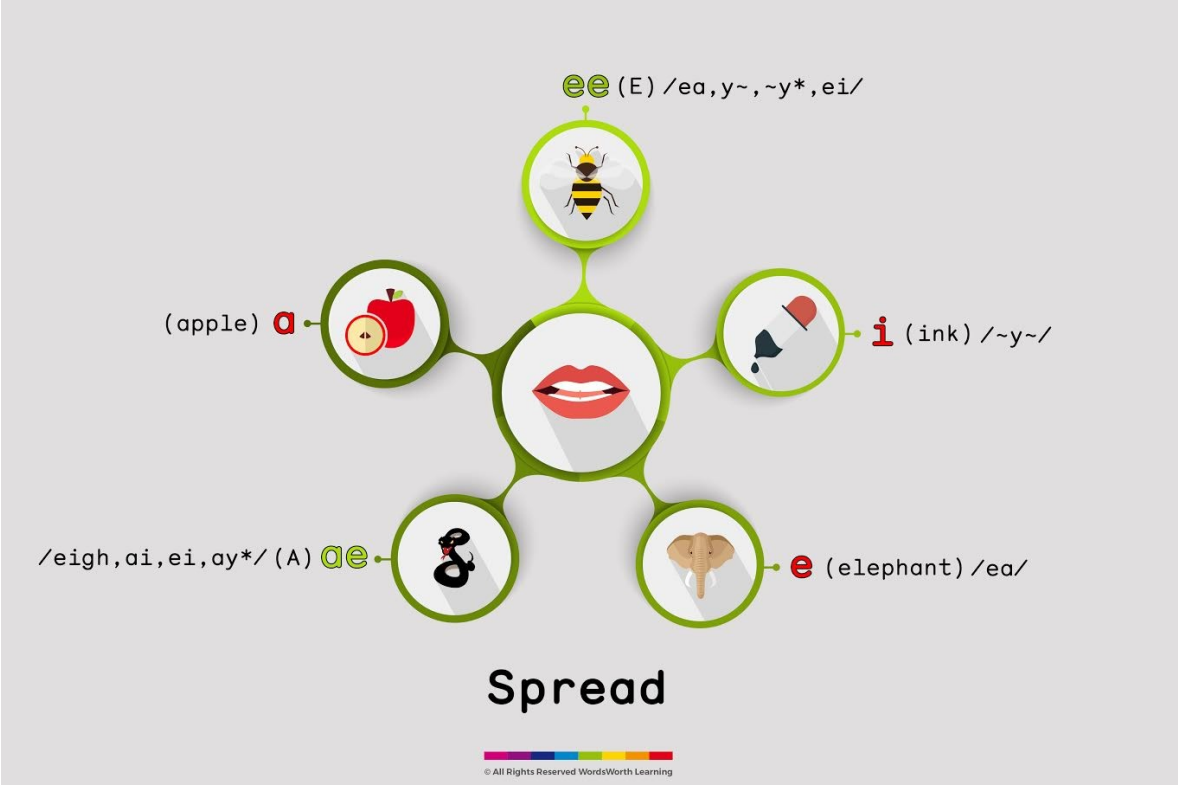


Figure 1.

This reference material has 5 models corresponding to 5 vowels which are all related on how they formed in terms of lip position. I wanted to keep this relation in my AR reference material so I kept the lip image in the middle and put all 5 models that I get from Jaz's Github page around it which resulted as in Figure 2.

Figure 2.

I tried to make this an interactive application so I created a way to make a selection among these models. The golden ring around the bee model indicates that bee model is selected. User can move the selection circle among the objects thus changing the selection using hand sliding on the selection markers(Figure 3).

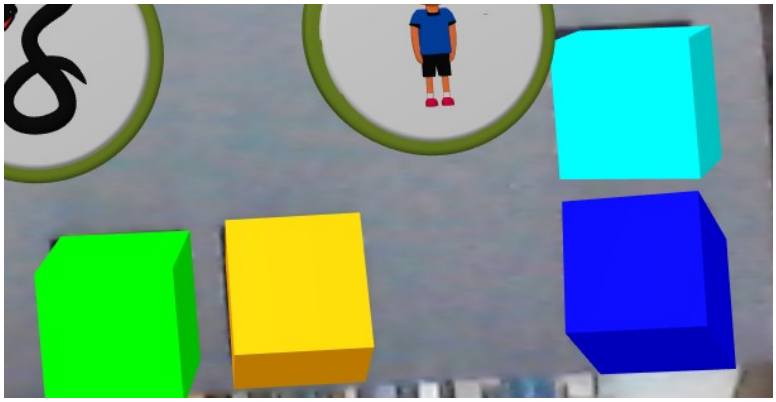
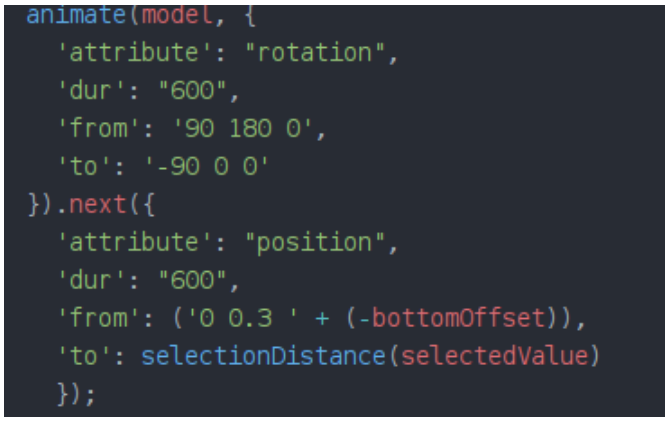


Figure 3

Green and yellow boxes can be used by sliding from left to right or right to left so it moves the golden circle around. The markers on the right can be used for upsliding which will make the selected object move to the center and rotate around, revealing the letter beneath it. Playing an audio clip at this point would be also helpful. Downsliding makes the model in the center go back to its original position thus allowing further actions on the layout.

Notice that, all the models are positioned dynamically, for example in the given example since there are 5 models algorithm places the objects by 72 degrees apart so adding or removing a model wouldn't be a problem since it doesn't need readjusting the positions. Adding the model as an asset and giving its name to the algorithm would calculate the models' position dynamically.

Since there are 5 models with 4 animations each, I decided to create the html elements for these <a-animation> elements dynamically when I need them and delete them afterwards. 20 animations aren't too much but this way all the animating job can be done in Javascript and using a couple of functions I write, it is fairly easy to make an object perform any animation fairly easily without prior preparation. Also I added an option to chain any amount of animations, making them play in a queue with an easy interface as in Figure 4.



```
animate(model, {
  'attribute': "rotation",
  'dur': "600",
  'from': '90 180 0',
  'to': '-90 0 0'
}).next({
  'attribute': "position",
  'dur': "600",
  'from': ('0 0.3 ' + (-bottomOffset)),
  'to': selectionDistance(selectedValue)
  });
```

Figure 4.

I pushed my work to a domain if you want to test any aspect of it

https://uygar.me/ucd-aha/

I also pushed my source code to github at:

https://github.com/uygaruyaniksoy/ucd-aha