Eye Testing Document

**Variables:**

* Left/Right/Combined Eye Origin (Vector3)
  + Calculated by taking the eye\_origin\_mm value provided by the API, multiplying it by 0.001, and passing it into camera.main.TransformPoint(), where camera.main is the headset camera. This converts the value from local space to world space.
  + Because Unity uses a left-handed coordinate system and SRanipal\_Eye uses a right-handed coordinate system, the x coordinates of the left/right origins must be inverted.
* Left/Right/Combined Gaze Direction (Vector3)
  + Calculated by taking the gaze\_direction\_normalized value provided by the API, and passing it into the camera.main.TransformDirection(), where camera.main is the headset camera. This converts the value from local space to world space.
* Convergence distance (float)
  + Provided by the API. The distance at which the left/right gaze directions converge.
* Headset object (Transform)
  + Data related to rotation and position of headset
* Test Object (Transform)
  + An object placed in front of the headset which can be manipulated for testing.
* **Eye Precision (float)**
  + Calculated by: taking the test objects position and subtracting from it the origin of the eye to be tested to get a direction vector from the origin to the test object position, and taking the angle of this compared to the gaze direction vector of the eye to test.
  + Divide this value by -180 to normalize it between 0 and 1.

**Tests:**