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/* THREE VR - Simple VR scene
*
* three.js Workshop
*   Open Source Cinema - ITP
*   nicolás escarpentier
*/

// global threejs variables
let container, renderer, camera, scene;
let controls, loader, effect;

window.addEventListener('load', onLoad);

function onLoad(){
  container = document.querySelector('#sketch');
  let wid = window.innerWidth;
  let hei = window.innerHeight;

  // THREE INITIALIZATION
  renderer = new THREE.WebGLRenderer({ });
  renderer.setPixelRatio(window.devicePixelRatio);
  renderer.setSize(wid, hei);
  container.appendChild(renderer.domElement);
  scene = new THREE.Scene();
  scene.background = new THREE.Color( 0x222222 );
  camera = new THREE.PerspectiveCamera(80, wid/hei, 0.1, 1000);
  camera.position.set(0, 0, 0);

  effect = new THREE.VREffect(renderer);
  effect.setSize(wid, hei);

  controls = new THREE.VRControls( camera );
  controls.standing = true;
  camera.position.y = controls.userHeight;
  controls.update();

  loader = new THREE.TextureLoader();
  createEnvironment();

  // Initialize (Web)VR
  renderer.vr.enabled = true;
  setupVRStage();

  window.addEventListener('resize', onWindowResize, true );
  window.addEventListener('vrdisplaypresentchange', onWindowResize,
true);
}

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// sets up the VR stage + button
function setupVRStage(){
  // get available displays
  navigator.getVRDisplays().then( function(displays){
    if(displays.length > 0) {
      // console.log(displays);
      vrDisplay = displays[0];
      // setup button
      vrButton = WEBVR.getButton( vrDisplay, renderer.domElement );
      document.getElementById('vr_button').appendChild( vrButton );
    } else {
      console.log("NO VR DISPLAYS PRESENT");
    }
  });
  update();
});
}

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// EVENTS
function onWindowResize(){
  let wid = window.innerWidth;
  let hei = window.innerHeight;

  effect.setSize(wid, hei);
  renderer.setPixelRatio(window.devicePixelRatio);
  renderer.setSize(wid, hei);
  camera.aspect = wid/hei;
  camera.updateProjectionMatrix();
}

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// ANIMATION
function update(){
  window.requestAnimationFrame(animate);
}
function animate(timestamp) {
  if(vrDisplay.isPresenting){ // VR rendering
    controls.update();
    effect.render(scene, camera);
    vrDisplay.requestAnimationFrame(animate);
  } else { // browser rendering
    controls.update();
    renderer.render(scene, camera);
    window.requestAnimationFrame(animate);
  }
}
}

```

```
// ENVIRONMENT
function createEnvironment(){
  // SKYDOME
  let sky_geo = new THREE.SphereGeometry(600, 24, 24);
  let sky_mat = new THREE.MeshBasicMaterial({
    color: 0xffffffff,
    side: THREE.DoubleSide,
    wireframe: true,
  });
  var skydome = new THREE.Mesh(sky_geo, sky_mat);
  scene.add(skydome)
}
```