Batch: D-2 **Roll No.:** 16010122151

Experiment No. 13

TITLE: Introduction to AR.js

AIM:
Explore the AR.JS for Web AR
Design the object using any designing tool like blender
Use AR.js to augment it in real world

Expected OUTCOME of Experiment:

Books/ Journals/ Websites referred:

https://www.youtube.com/watch?v=2ypJ9CFOK5U&list=PLTgRMOcmRb3Nx2LF5EHU4MtmpAQBafVgE&index=1&ab_channel=Packt

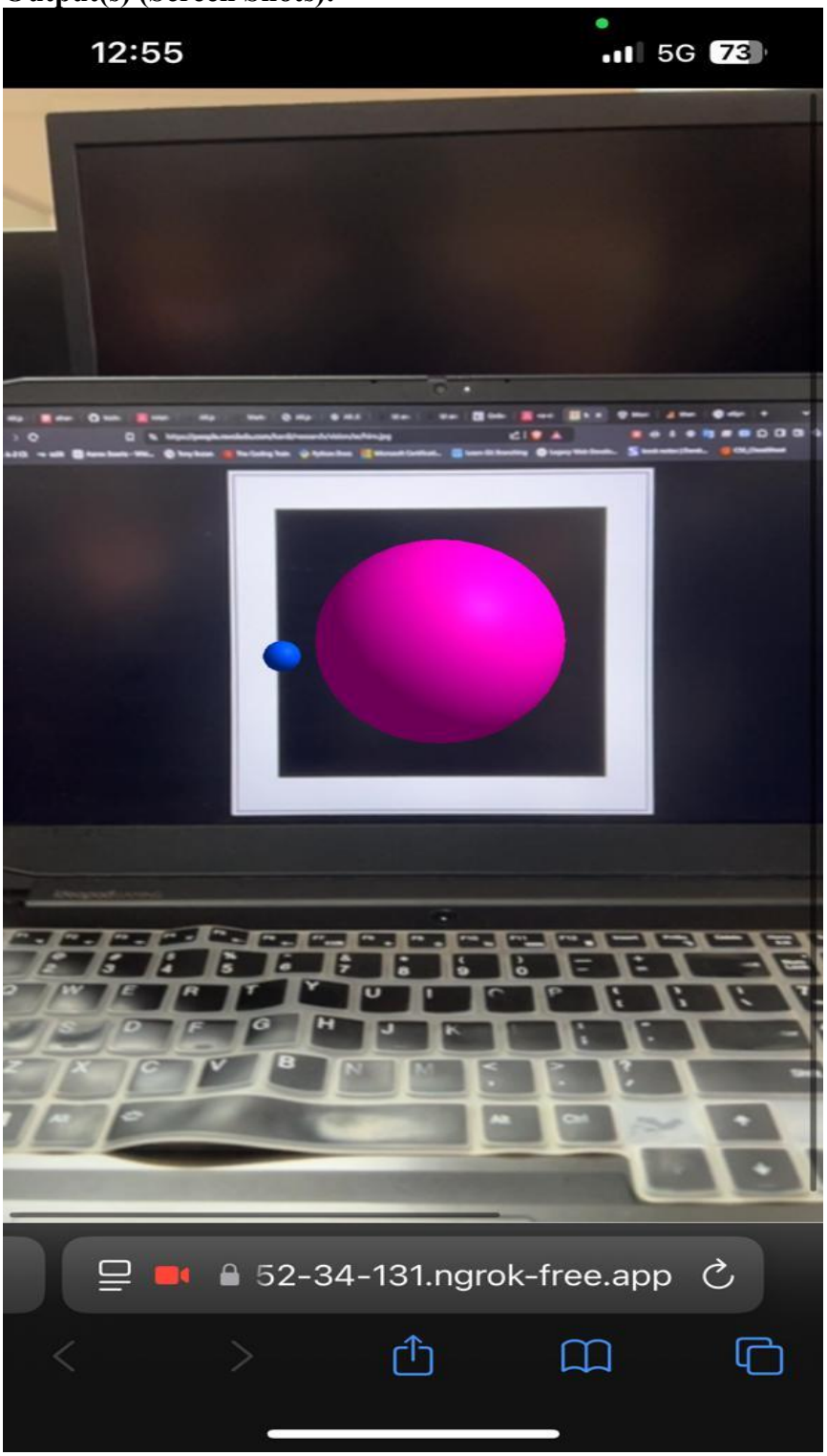
```
<!DOCTYPE html>
<html>
<head>
    <title>AR.js Sample with A-Frame - Red Box Example</title>
    <!-- Importing A-Frame and AR.js libraries -->
    <script
src="https://aframe.io/releases/1.3.0/aframe.min.js"></script>
    <script src="https://raw.githack.com/AR-js-
org/AR.js/master/aframe/build/aframe-ar.js"></script>
    <script src="https://raw.githack.com/AR-js-
org/AR.js/master/three.js/build/ar.js"></script>
    <script src="https://rawgit.com/donmccurdy/aframe-
extras/master/dist/aframe-extras.loaders.min.js"></script>
    <script src="https://raw.githack.com/fcor/arjs-
gestures/master/dist/gestures.js"></script>
    <style>
      .arjs-loader {
        height: 100%;
        width: 100%;
        position: absolute;
        top: 0;
        left: 0;
        background-color: rgba(0, 0, 0, 0.8);
        z-index: 9999;
        display: flex;
        justify-content: center;
        align-items: center;
      }

      .arjs-loader div {
        text-align: center;
        font-size: 1.25em;
        color: white;
      }
    </style>
</head>
<body style="margin : 0px; overflow: hidden;">
  <!-- Minimal loader shown until image descriptors are loaded -->
  <a-scene
    vr-mode-ui="enabled: false;"
    renderer="logarithmicDepthBuffer: true;"
    embedded
    arjs="trackingMethod: best; sourceType: webcam; debugUIEnabled:
false;"
  >
    <!-- Marker that will trigger when detected using AR.js -->
```

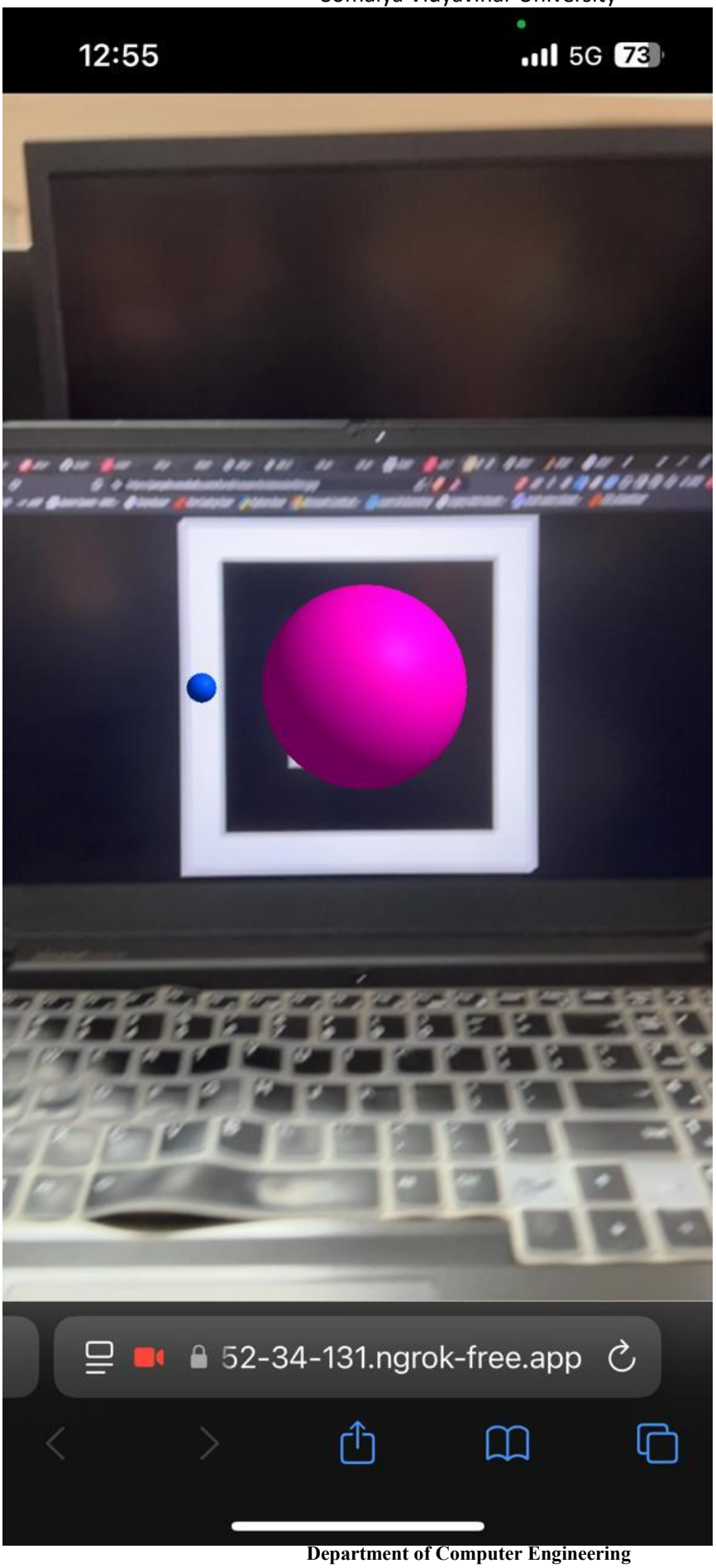
```
    <a-marker preset="hiro" id="main-marker">
        <!-- Display a 3D Red Box model on top of the marker -->
        <a-entity
          id="nuc"
          gltf-model="/public/models/nuc.gltf"
          position="0 0 0"
          scale="15 15 15"
        ></a-entity>
        <a-entity
          id="electron"
          gltf-model="/public/models/electron.gltf"
          position="0.75 0 0"
          scale="10 10 10"
          animation="
            property: position;
            from: 1 0 0;
            to: 0 1 0;
            dur: 2000;
            easing: linear;
            loop: true;
          "
        ></a-entity>


    </a-marker>

    <!-- Basic light setup to illuminate 3D models -->
    <a-light type="directional" color="#ffffff" intensity="1" position="1
1 1"></a-light>
    <a-light type="ambient" color="#888888"></a-light>

    <!-- Camera for the scene -->
    <a-entity camera></a-entity>
  </a-scene>
  {# <script src="./move.js"></script> #}
</body>
</html>
```

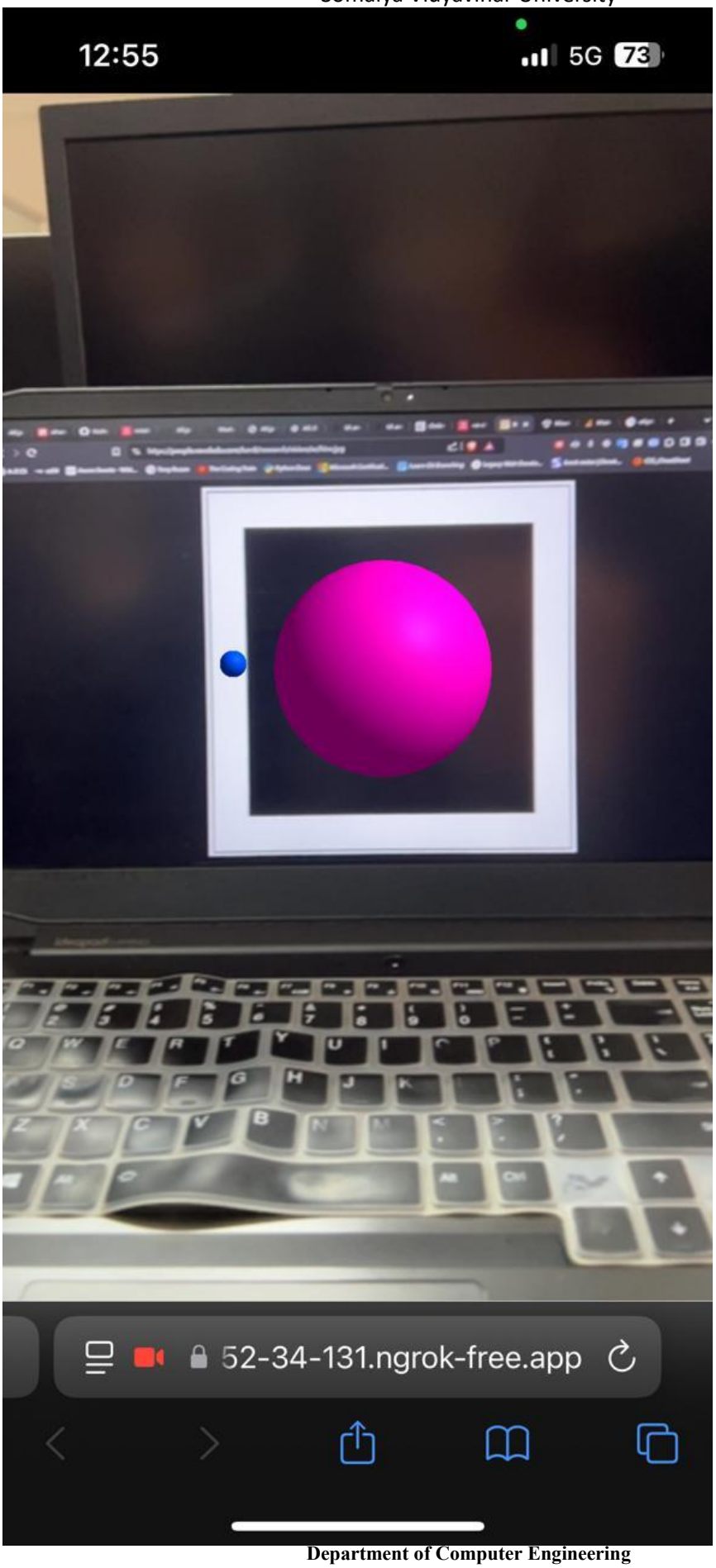
Drive or GitHub link:

https://github.com/space-techy/ElementalAR

Output(s) (Screen Shots):




12:55
5G
73
52-34-131.ngrok-free.app


12:55
5G
73
52-34-131.ngrok-free.app

Conclusion and discussion:
Rendering a nucleus.gltf and electron.gltf file using Ar.js when camera is pointed to a marker

Date: 31-10-2024

Signature of faculty in-charge