CUSTOM MARKER AR

What is our GOAL for this MODULE?

We learned about pattern marker based augmented reality and created pattern markers for web based AR.

What did we ACHIEVE in the class TODAY?

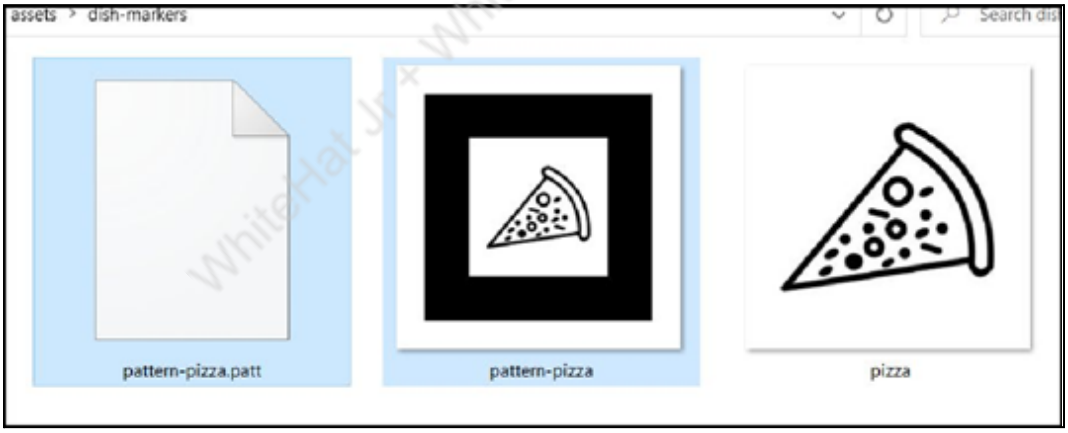
- Learned about pattern marker augmented reality web apps.
- Learned to create a basic web based AR app using pattern markers.
- Learned to create pattern markers.

Which CONCEPTS/CODING BLOCKS did we cover today?

- AR.js marker creating tool.
- <a-marker>,<a-entity> , <a-assets> tags
- ngrok to run the application.

How did we DO the activities?

1. Open AR.js marker creating tool and upload the image to download the marker in the.patt file format.



2. Add the pizza model asset using <a-assets>.

```
<a-assets>
  <a-asset-item id="pizza-model" src="./assets/pizza/scene.gltf"></a-asset-item>
</a-assets>
```

3. Set <a-marker> properties, the pizza model entity and the text entities for the name of the dish with ingredients as the child entity.

```
<!--Pattern Marker-->
<a-marker id="pizza-marker" type="pattern" url="assets/dish-markers/pattern-pizza.patt" cursor="rayOrigin: mouse">

  <a-entity id="pizza-3D-model" position="-2 0 0" scale="0.05 0.05 0.05"
    gltf-model="#pizza-model"
    gesture-handler>
  </a-entity>


  <!-- Ingredients -->
  <a-plane position="0 0 0" width="1.5" height="1.5" rotation="-90 0 0">
    <a-plane position="0 0.89 0.02" width="1.49" height="0.3" rotation="0 0 0" color="#F0C30F">
      <a-entity position="0 0 0.1" rotation="0 0 0"
        text="font:monoid;value:PIZZA MARGHERITA;color:black;width: 1.8;height:1;align:center;"></a-entity>
    </a-plane>

    <a-entity position="0 0 0.1" rotation="0 0 0"
      text="color: black; align: center; width: 2; font: monoid;
          value: Tomato sauce\n\nMozzarella cheese\n\nParmesan cheese (optional)\n\nFresh Basil\n\nOlive oil\n\nBlack pepper (optional)">
    </a-entity>
  </a-plane>

</a-marker>
```

4. Add buttons to allow the user to order and rate the project.

- Add div element.

```
<!-- Button Main Div -->
<div id="button-div"></div>
```

- Register the “create-buttons” component.

```
AFRAME.registerComponent("create-buttons", {
  init: function() {
    // 1. Create the button
    var button1 = document.createElement("button");
    button1.innerHTML = "RATE US";
    button1.setAttribute("id", "rating-button");
    button1.setAttribute("class", "btn btn-warning");

    // 2. Create the button
    var button2 = document.createElement("button");
    button2.innerHTML = "ORDER NOW";
    button2.setAttribute("id", "order-button");
    button2.setAttribute("class", "btn btn-warning");

    // 2. Append button elements
    var buttonDiv = document.getElementById("button-div");
    buttonDiv.appendChild(button1);
    buttonDiv.appendChild(button2);
  }
});
```

- Add the src and attach it to the <a-scene> element in the index.html

```
<!--JS Files-->
<script src="./js/addButtons.js"></script>
```

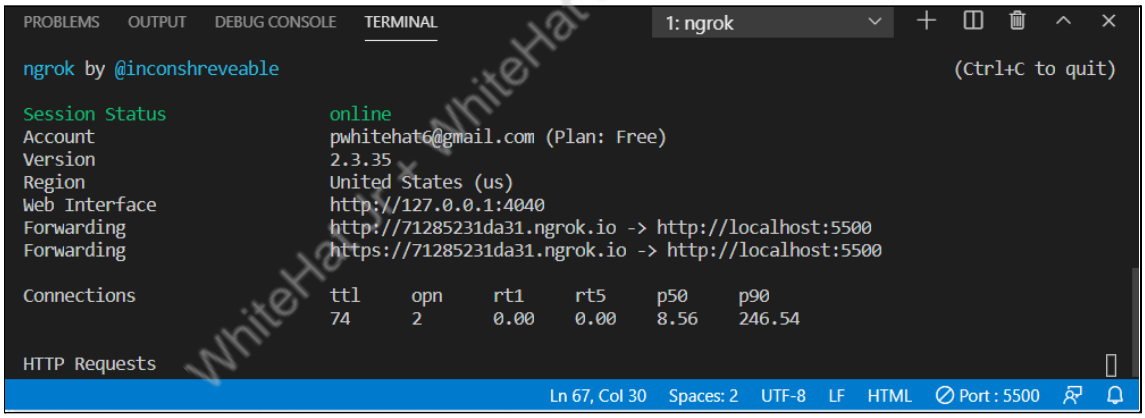
```
<a-scene
  vr-mode-ui="enabled: false"
  embedded
  arjs="sourceType: webcam;
  sourceWidth:1280; sourceHeight:960;
  displayWidth: 1280; displayHeight: 960;
  debugUIEnabled: false;"
  gesture-detector
  create-buttons>
```

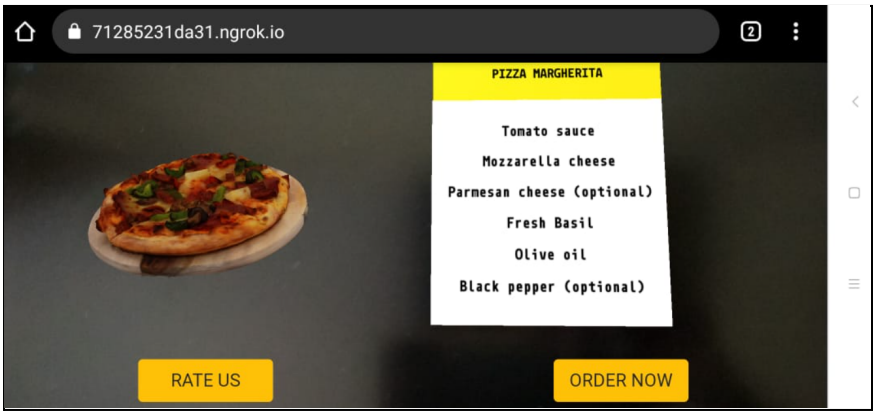
5. Create a .css file and add the styling to the button element.

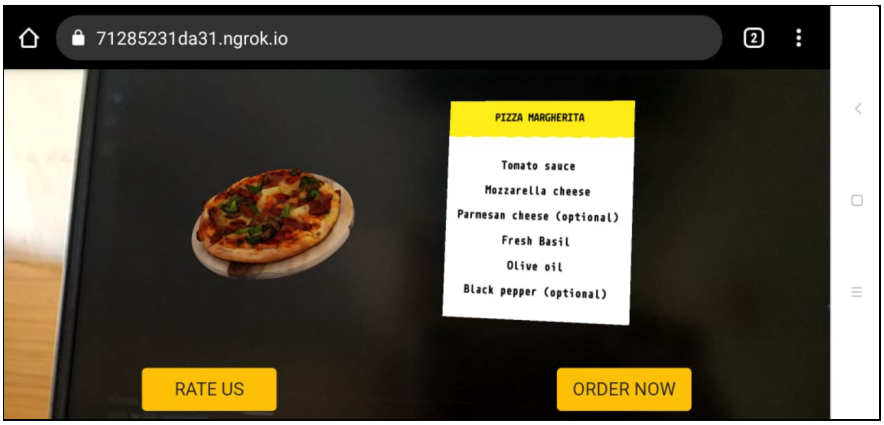
```css
button {
  width:120px;
}

#button-div {
  display: flex;
  align-items: center;
  justify-content: space-around;
  position: fixed;
  bottom: 10px;
  width:100%;
  z-index: 1;
  border: 2px soild black;
}
```

```html
<link href="./style.css" rel="stylesheet" />
```

6. Run and test the application using the https ngrok URL.







We have successfully created the pattern marker using a pizza image and displayed content over that.

What's NEXT?

In the next class, we will learn about marker events. We will also see what will be the database structure to design AR the menu card functionality.

EXTEND YOUR KNOWLEDGE:

- You can refer to the link below to explore more about A-Frame:
  A-Frame
- You can refer to the link below to explore more about AR.js:
  AR.js