

Computer Vision - MIMIC ME REPORT

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1.1 Display Feature Points

Iterated feature points on the face object and added a circle at the location of the feature point

```
// Draw the detected facial feature points on the image
function drawFeaturePoints(canvas, img, face) {
    // Obtain a 2D context object to draw on the canvas
    var ctx = canvas.getContext('2d');

    // TODO: Set the stroke and/or fill style you want for each feature point marker
    // See: https://developer.mozilla.org/en-US/docs/Web/API/CanvasRenderingContext2D#Fill_and_stroke_styles
    ctx.fillStyle = 'yellow';

    // Loop over each feature point in the face
    for (var id in face.featurePoints) {
        var featurePoint = face.featurePoints[id];

        // TODO: Draw feature point, e.g. as a circle using ctx.arc()
        // See: https://developer.mozilla.org/en-US/docs/Web/API/CanvasRenderingContext2D/arc
        ctx.beginPath();
        // void ctx.arc(x, y, radius, startAngle, endAngle, anticlockwise);
        ctx.arc(featurePoint.x, featurePoint.y, 2, 0, 2 * Math.PI);
        ctx.fill();
    }
}
```

1.2 Show Dominant Emoji

Obtain the dominant emoji from the face object. Displayed it at feature point 3 with a size of 56px.

```
// Draw the dominant emoji on the image
function drawEmoji(canvas, img, face) {
    // Obtain a 2D context object to draw on the canvas
    var ctx = canvas.getContext('2d');

    // TODO: Set the font and style you want for the emoji
    // https://developer.mozilla.org/en-US/docs/Web/API/Canvas_API/Tutorial/Drawing_text
    ctx.font = '56px serif';

    // TODO: Draw it using ctx.strokeText() or fillText()
    // See: https://developer.mozilla.org/en-US/docs/Web/API/CanvasRenderingContext2D/fillText
    // TIP: Pick a particular feature point as an anchor so that the emoji sticks to your face
    var featurept = 3;
    dominantEmoji = face.emojis.dominantEmoji;
    ctx.fillText(dominantEmoji, face.featurePoints[featurept].x, face.featurePoints[featurept].y);
}
```

1.3 Implement Mimic Me!

Initialize variables for the game

```

var emojis = [ 128528, 9786, 128515, 128524, 128527, 128521, 128535, 128539, 128540,
128542, 128545, 128563, 128561 ];
var currentScore = 0;
var totalScore = 0;
var timeleft = 0;
var timer = 0;
var targetEmoji = 0;

```

Initialize the game. This is called from onInitializeSuccess event.

```

function initializeGame() {
    var delay = 9000; //Wait 9s for initialization.
    var startDateTime = new Date().getTime();
    while (new Date().getTime() < startDateTime + delay);

    currentScore = 0; //# of emojis successfully mimiced by player
    totalScore = 0; //Total # of emojis displayed to player
    setScore(currentScore,totalScore);
    timeleft = 10; // 10 seconds to mimic an emoji
    //setInterval(function(){ alert("Hello"); }, 3000);
    timer = setInterval(countDown(), 2000); //Timer to indicate the time left to mimic
    targetEmoji = 0;
    showRandomEmoji(); // Show a random emoji
}

function mimicEmoji(face) {
    if (toUnicode(face.emojis.dominantEmoji) == targetEmoji){
        currentScore++; // Increment correct score
        setScore(currentScore,totalScore) //Display new score
        if(timer){
            clearInterval(timer); // Stop the timer
        }
        timeleft = 10;
        timer = setInterval(countDown(), 2000)
        showRandomEmoji();
    }
}

function showRandomEmoji(){
    var emojiIdx = Math.floor(Math.random()*13); //Random emoji to display
    targetEmoji = emojis[emojiIdx]; // target emoji to show
    setTargetEmoji(targetEmoji); // Show target Emoji
    totalScore++;
    setScore(currentScore,totalScore); //Display score.
}

```

Restart Game

This is called from onReset() function

```
function restartGame() {
  currentScore = 0;
  totalScore = 0;
  setScore(currentScore, totalScore);
  if (timer > 0) {
    clearInterval(timer);
  }
  timeleft = 10;
  timer = setInterval(countDown(), 1000);
  targetEmoji = 0;
  showRandomEmoji();
}
```

Stop Game

This is invoked from onStop().

```
function stopGame() {
  if (timer > 0) {
    clearInterval(timer);
  }
  currentScore = 0;
  totalScore = 0;
  timeleft = 0;
  timer = 0;
  targetEmoji = 0;
  setTargetEmoji(targetEmoji);
  setScore(currentScore, totalScore);
}

function countDown() {
  timeleft--;
  if (timeleft == 0) {
    timeleft = 10;
    showRandomEmoji();
  }
}
```