

The background is a dark teal color. It features several vertical white lines of varying lengths. Scattered throughout are small squares in various colors: pink, orange, and teal. The main title is centered in a large, bold, italicized teal font.

Take a Pic, Get a Playlist

AI Recommended Mood-Based Playlists

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Overview

1. User takes a selfie or uploads photo
2. Image is sent to Vision API to detect their emotion
3. API sends emotion results back to page
4. Depending on the emotion, user is linked to a certain playlist

Demo

The image features a dark blue background with a central white text element 'Demo'. Surrounding the text is an abstract pattern of geometric shapes. This pattern includes several solid squares in shades of cyan, pink, and orange, as well as numerous hollow squares in white and orange. Thin white vertical lines of varying lengths are scattered throughout the composition, some extending from the top edge towards the center. The overall aesthetic is clean, modern, and minimalist.

Take a Pic, Get a Playlist



You look angry - do you want to ...

Relax

Rage

Once when I was young
Justus Rümenapp

1 Notes in the Stars
Laura Sherwin 3:01

2 Blåregn
Jacob David 2:40

3 **Once when I was young**
Justus Rümenapp **2:01**

4 Fiorire
Carluccio 2:57

5 A Little Journey
Alexander Motovilov 2:00

6 Donde Nadas
Lupe Sinsorte 2:21

Restart ↻

The background features a dark blue field with scattered geometric elements: small squares in teal, orange, and pink, and thin white vertical lines of varying lengths. The word "Methodology" is centered in a large, white, sans-serif font.

Methodology

Research

- “Music is one of the things that can be used as therapy with no side effects”
- Google Vision API can identify several moods by detecting “facial landmarks”
- Certain features and expressions define basic moods



Joy



Anger



Sadness



Resources

1. Computer & Cloud Storage
2. Visual Studio Code IDE
 - a. Application - JavaScript, Node.js
 - b. Web Page UI - HTML, CSS
3. Google Cloud Console (Free Trial)
 - a. Vision API for Emotion Detection
 - b. App Engine to deploy app
4. Spotify Music Streaming Service

Development

```
<div id="cam" class="webcam">
  <h3>First, take a selfie</h3>
  <video id="player" autoplay</video>
  <button id="capture"
    type="button">CAPTURE</button>
  <canvas id="canvas" width="320"
    height="240" style="display: none;"</
  canvas>
</div>

<div id="tips">
  <h4>Pro-Tips:</h4>
  <p>
    <button id="capture"
      type="button">CAPTURE</button>
    <input id="file" type="file"
      class="form-control" accept=".jpg,
      .jpeg, .gif, .png" />
  </p>
  <p>Click here once you've found a good photo.</p>
  <button id="emotionDetect" type="button"
    style="display: none;">
    Get My Playlist!
  </button>
</div>

<div>
  <div class="thumbnailImage">
    <div id="img-thumb"></div>
    <canvas id="canvas2" width=320
    height=240 style="display: none;"></
    canvas>
  </div>
  <div id="startText"></div>
  <div id="mainForm" class="form"></div>
</div>
```

```
if (numFaces == 0) {
  document.getElementById("detectedEmotion").
  innerHTML = 'No faces found, please try again!';
};
} else if (highest_probability < 3) {
  document.getElementById("detectedEmotion").
  innerHTML = 'No emotion detected ... want to
  try again?';
} else if (tie.length >= 2) {~
} else if (highest_probability_emotion == "joy") {
  joyEmotion();
} else if (highest_probability_emotion == "anger") {
  angryEmotion();
} else if (highest_probability_emotion ==
"sorrow") {
  sadEmotion();
} else if (highest_probability_emotion ==
"surprise") {
  surpriseEmotion();
}

function sadEmotion() {
  document.getElementById("detectedEmotion").innerHTML = 'You seem
sad - do you want to...';
  document.getElementById("cheerUpButton").style.display = 'block';
  document.getElementById("staySadButton").style.display = 'block';

  document.getElementById("cheerUpButton").onclick = function () {
    document.getElementById("output").innerHTML =
  <iframe src="https://open.spotify.com/embed/playlist/
  3719d02f1d07qk8ma5vg1?utm_source=generator"
  width="100%" height="380" frameborder="4"
  allowfullscreen="" allow="autoplay; clipboard-write;
  encrypted-media; fullscreen; picture-in-picture"></
  iframes>;
  }

  document.getElementById("staySadButton").onclick = function () {
    document.getElementById("output").innerHTML =
  <iframe src="https://open.spotify.com/embed/playlist/
  3719d02f1d07qk8ma5vg1?utm_source=generator" width="100%"
  height="380" frameborder="4" allowfullscreen=""
  allow="autoplay; clipboard-write; encrypted-media;
  fullscreen; picture-in-picture"></iframes>;
  }
}
```

```
const express = require("express");
const path = require("path");
const fs = require("fs");
const bodyParser = require('body-parser');
const multer = require("multer");

const tempDir = os.tmpdir();
// Serve static files
const serveStatic = require("serve-static");
// Extract files from form data
const multer = require("multer");
// either of these upload definitions work
const upload = multer({ dest: tempDir });
const storage = multer.memoryStorage();

// Google cloud library for Vision API
const vision = require('@google-cloud/vision');

// Google cloud client
const client = new vision.ImageAnnotatorClient({
  keyFilename: "emotion-key.json"
});

app.use(bodyParser.raw({
  type: 'image/png',
  limit: '10mb'
}));

// AUTOMATICALLY SEND CAPTURED WEBCAM IMAGE TO VISION API
app.post("/", function(req, res, next) {
  // console.log(req.body);
  const
    .faceDetection(req.body)
    .then(results => {
      // send result data
      res.send(results);
    })
    .catch(err => {
      res.status(400).send(err);
    });
});
```

```
faceAnnotations: Array(1)
  0:
    angerLikelihood: "POSSIBLE"
    blurredLikelihood: "VERY_UNLIKELY"
    boundingPoly: {vertices: Array(4), normalizedVertices...
      detectionConfidence: 0.7715107202529907
    fdBoundingPoly: {vertices: Array(4), normalizedVertic...
      headwearLikelihood: "VERY_UNLIKELY"
      joyLikelihood: "VERY_UNLIKELY"
      landmarkingConfidence: 0.5488243103027344
    landmarks: (34) [...], [...], [...], [...], [...], [...], [...], [...],
      panAngle: 0.008273514918982983
      rollAngle: 2.690328359603882
      sorrowLikelihood: "VERY_UNLIKELY"
      surpriseLikelihood: "VERY_LIKELY"
      tiltAngle: 2.4183311462402344
      underExposedLikelihood: "VERY_UNLIKELY"
    ▶ [[Prototype]]: Object
    length: 1
    ▶ [[Prototype]]: Array(0)
```

```
Found 1 face.
Face #1:
  Joy: VERY_UNLIKELY
  Anger: POSSIBLE
  Sorrow: VERY_UNLIKELY
  Surprise: VERY_LIKELY
emotion surprise at 5
```

Client Side Code

HTML, CSS, JS

App Engine Server

Express

Google Vision API

Emotion Detection

Obstacles

The background is a dark blue gradient. It features a collection of geometric elements: small squares in various colors (pink, cyan, orange, and white) and thin white vertical lines of varying lengths. These elements are scattered across the page, creating a modern, minimalist aesthetic. The word 'Obstacles' is centered in a large, white, sans-serif font.

Technical Limitations

- Automatically sending captured image to Vision API
- Not much documentation on Express middleware for routing requests
- Google Vision API
 - Only identifies 4 emotions - Joy, Sorrow, Anger, Surprise
 - Need to have exaggerated expressions
 - Basic likelihoods - Very Unlikely, Unlikely, Possible, Likely, Very Likely
 - Difficult to account for overlap of emotions

The background is a dark blue gradient. It features a collection of small, scattered geometric elements: solid squares in shades of pink, orange, and cyan, and thin white vertical lines of varying lengths. Some squares are solid, while others are hollow outlines. The overall aesthetic is clean and modern.

Reflection

Accomplishments

- Created a web application that can identify moods and link playlists
- Became familiar with using Node.js to create an application
- Gained experience with the ever-evolving Google Cloud Console
 - APIs and deploying apps with App Engine



Potential Opportunities

- Depending on identified mood, link to things other than a playlist
 - Literature, Videos, Games
- Identifying other moods with more accuracy
- Get a more precise reading on the user's mood
 - Ask a few questions - choices lead to different results
 - Neural network that predicts people's mood
- Configure application to work on mobile



Special Thanks

Professor Adam Wilson

For continuous support and guidance

The background is a dark blue field decorated with a pattern of small, scattered squares and thin vertical lines. The squares are in various colors: light blue, pink, orange, and white. Some squares are solid, while others are hollow. The vertical lines are thin and white, extending from the top or bottom of the frame. The overall aesthetic is modern and minimalist.

THANK YOU!

Works Cited

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