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SentimentAI

Emotino



Advanced User Interfaces - Project Report

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Contents

Index	2
1 Abstract	3
2 Team Members	4
2.1 Members Contribution	4
3 State of the Art	5
4 UNG and Requirements	6
4.1 Users	6
4.2 Needs	6
4.3 Goals	6
4.4 Requirements	7
4.5 Scenario	7
5 Solution	8
5.1 Introduction	8
5.2 User Interface	9
5.3 Gamification	12
5.4 Technology and Implementation	13
5.4.1 Frameworks	13
5.4.2 Database	13
5.4.3 External Communication and AI	14
5.4.4 Caching	15
5.5 Value Proposition	15
6 Future Improvements	16
6.1 Isolated Room and Appointments Management	16
6.2 Final Activity	16
6.3 HR Dashboard	19
6.4 Profile Improvements	19
6.5 Contact System	20
7 Technical Documentation	21
7.1 Prerequisites	21
7.2 Database Configuration	21
7.3 Running the Application	21
8 Bibliography	23

1 Abstract

Emotino is a project developed by Politecnico di Milano in the context of the course of "Advanced User Interfaces". This project aims to address the growing need for workplace well-being by integrating AI-powered emotion recognition technologies into a reward-based web application. Designed primarily for office workers and supported by HR managers, the platform leverages speech input to assess emotional states and detect potential pathological patterns. The application not only tracks emotional well-being of employees but also engages them through gamification, providing a supportive environment for self-awareness and mental health improvement. This innovative approach offers stakeholders actionable insights to enhance organizational well-being and employee satisfaction.

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2.1 Members Contribution

Member	Main Tasks
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Federica Zanchi	Project Documentation (Responsible) Front End (Collaborative) Project Presentation (Responsible)

3 State of the Art

Speech Emotion Recognition (SER) has emerged as a vital area in affective computing, enhancing human-computer interaction (HCI) by enabling machines to interpret emotional states through vocal features. The field has progressed significantly since its inception, incorporating various methodologies and datasets to improve accuracy and applicability. According to Schuller [1] , SER systems typically involve preprocessing, feature extraction, and classification, with advanced models leveraging deep learning techniques such as Convolutional Neural Networks (CNNs) and Long Short-Term Memory networks (LSTMs) for superior performance.

One key challenge in SER is the acquisition of robust and diverse datasets. The Emozionalmente dataset, discussed by Catania [2] , is a significant contribution, providing a crowdsourced Italian emotional speech corpus that captures naturalistic expressions across multiple emotions, including the Big Six (anger, fear, joy, sadness, surprise, and disgust) as well as neutrality. This dataset advances the field by addressing cultural and linguistic gaps previously noted in limited resources like the Emovo dataset.

Feature extraction remains central to SER, as highlighted by Wani [3], who underscore the importance of spectral features such as Mel Frequency Cepstral Coefficients (MFCCs), which efficiently represent the vocal tract configuration by capturing the envelope of the short-time power spectrum. This is achieved by transforming speech signals into frequency domain representations through techniques like discrete Fourier transform and applying Mel filter banks. Similarly, prosodic features, encompassing pitch, energy, and duration, play a critical role in conveying emotional cues within speech. These features, categorized as long-term, represent overarching properties of speech signals across sentences and expressions, such as intonation and rhythm. Despite advancements, the variability in speaker styles, noise levels, and cross-cultural emotional expressions continues to present challenges. Emerging trends in transfer learning and multimodal approaches, combining audio with visual and textual data, offer promising solutions to these issues.

This project builds on the state of the art by addressing existing gaps in SER through an innovative, engaging and gamified platform tailored for workplace well-being. By combining multimodal emotion recognition from speech with real-time feedback, the system ensures a richer understanding of emotional states. Advanced SER methodologies are integrated into a user-centric design, incorporating gamified rewards to boost engagement and motivation. This unique combination enhances emotional tracking, improves user satisfaction, and positions the project as a significant advancement in the field.

4 UNG and Requirements

4.1 Users

The primary users of the system are office workers who benefit directly from tools aimed at enhancing their emotional well-being. These users require a safe and accessible platform where they can freely express their thoughts, feelings, and memories. Additionally, HR managers act as secondary stakeholders, leveraging aggregated insights from the system to monitor organizational well-being and identify potential emotional challenges in the workplace.

4.2 Needs

The system addresses several critical needs for its users. Office workers require a structured yet flexible platform to assess their emotional well-being and track periodic emotions over time. They also seek a private space to freely express themselves without judgment and to receive constructive feedback to improve self-awareness. Meeting these needs not only helps in identifying and managing potential emotional issues but also supports the prevention of burnout, ultimately fostering a healthier and more productive work environment.

4.3 Goals

The platform is designed to achieve several interconnected goals. It incorporates AI to detect emotions in real time, enabling meaningful and engaging conversations about various topics. Additionally, the system provides periodic feedback, helping users track their emotional patterns over time while providing HR managers meaningful insights. By integrating gamified rewards, it further motivates user engagement while contributing to long-term improvements in emotional well-being and productivity. Finally, it aims to ensure the privacy and security of users' data, building trust among its users.

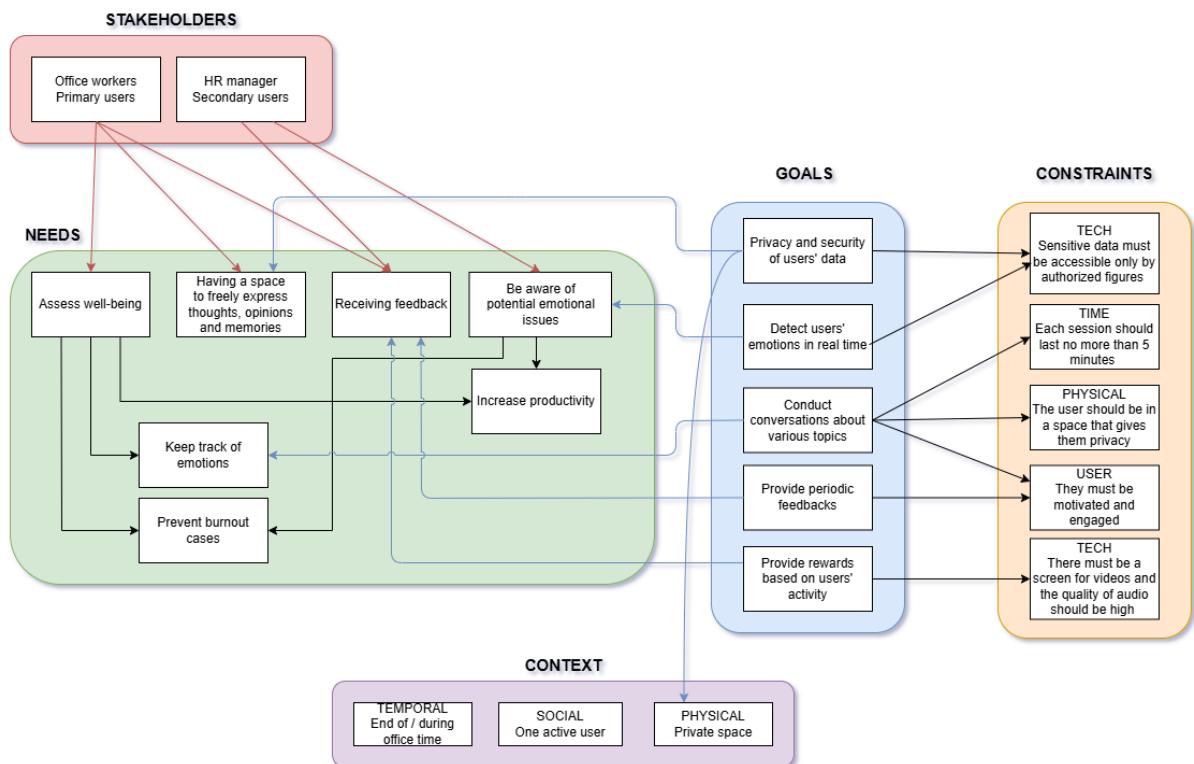


Figure 1: UNG Model

4.4 Requirements

- The system should provide a Registration and Login functionalities.
- The system should allow users to start a session with the AI by picking an image among a set of proposed ones or by selecting the "Free Mode" option.
- During a session:
 - The system should allow users to record audio.
 - The system should be able to request to the AI to detect the user's emotions.
 - The system should be able to generate and provide questions through the AI, based on the context and the detected emotions.
 - The system should provide feedback to the user based on the detected emotions (activities/badges/achievements).
- The system should allow users to see a history of previous sessions (date, topic, dominant emotion, final suggested activity).
- The system should allow users to view badges they have unlocked along with the corresponding level reached.

4.5 Scenario

Sarah, an office worker, logs into *Emotino* during her lunch break. She navigates to the “Start Session” button and is presented with a set of evocative images. After some thought, she selects a rainy window-pane, which opens a new page with the question: “What does this image make you think of?” Sarah taps the record button and responds: “It reminds me of when I felt lonely during the pandemic. I missed seeing my family and friends.” The app processes her audio, analyzing her tone and word choice, and detects sadness as the prevalent emotion. It identifies isolation/loneliness as the main topic of the audio. In a calm and empathetic tone, the app replies: “That must have been a challenging time for you. Can you share more about how you managed to get through it?” Sarah continues the conversation, reflecting on how small acts, like video calls and journaling, helped her feel connected. The app then asks follow-up questions tailored to her response, such as: “What are some ways you could bring moments of connection into your life now?” As Sarah speaks, she starts to recognize areas in her life where she can improve her support system.

After reaching the minimum recording time of two-and-a-half minutes, Sarah concludes the session and is presented a summary. Her topic is set as Isolation/Loneliness, her prevalent emotion is Sadness, and she earns a badge for completing her second session of the week, progressing towards her next achievement. Based on the emotion detected, the app suggests a final activity: “Reach out to a friend or family member today for a short chat. Even a small interaction can make a big difference.” At the end of the session, Sarah has also earned 50 points, unlocking a new badge and progressing to the next level.

Before leaving the app, Sarah checks the “History” section, where she views a chronological list of her past sessions, including today’s details: the date, the topic, the emotion, and the final activity. Feeling a little lighter and with a plan to reconnect, Sarah ends her session with a sense of reassurance and purpose.

5 Solution

5.1 Introduction

Emotino is an innovative web application designed to support emotional well-being in the workplace through advanced AI technologies. By combining speech emotion recognition with gamified activities, Emotino creates a safe and engaging platform for users to explore and reflect on their emotions. It encourages long-term engagement through achievements, badges, and activity suggestions based on detected emotions, fostering emotional self-awareness and growth. Designed primarily for office workers, with HR managers as secondary stakeholders, Emotino offers privacy-focused tools for tracking and improving workplace well-being, while collecting precious data useful for the training of the emotion-recognition AI, making it a unique and meaningful contribution to the field of emotional computing.

5.2 User Interface

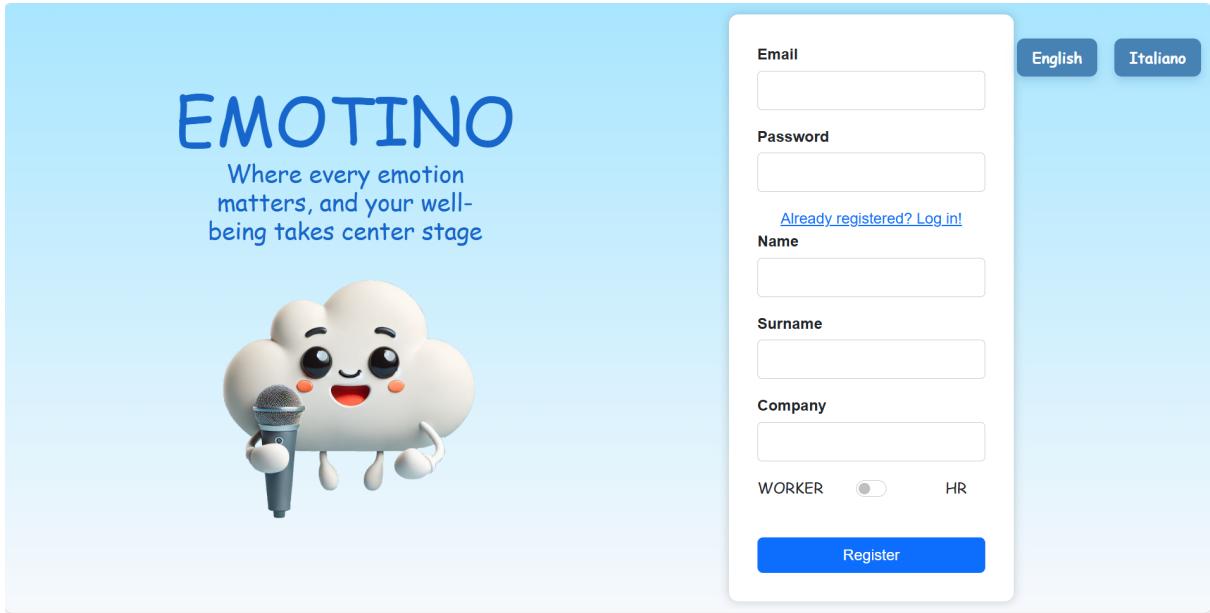


Figure 2: Registration Page

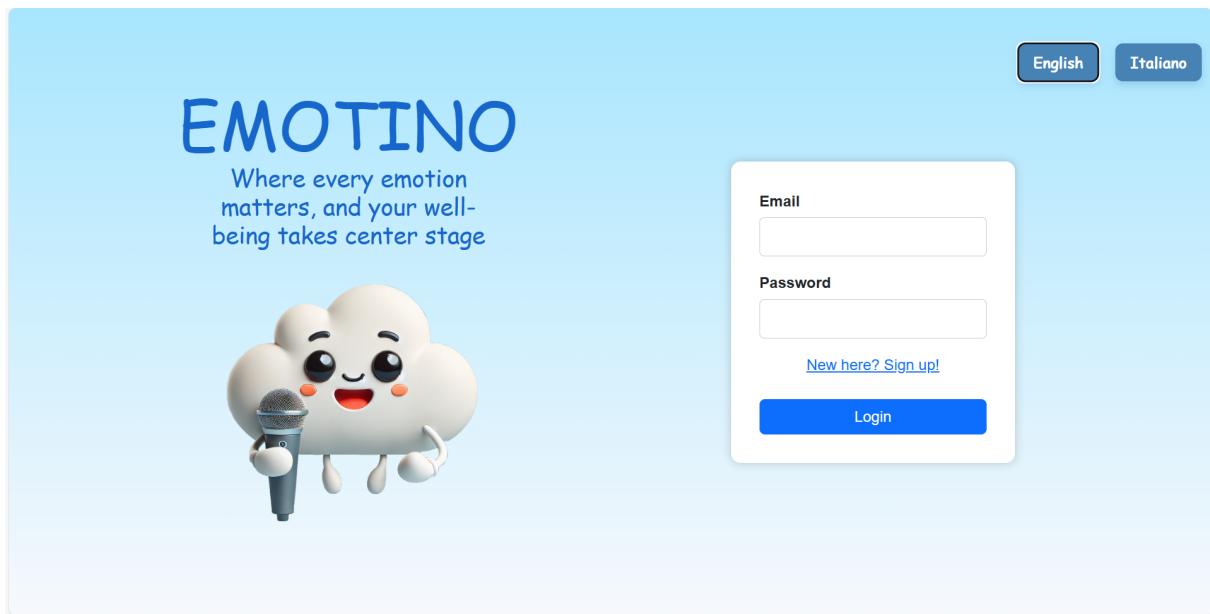


Figure 3: Login Page

The registration and login pages allow users to create an account or access their existing profile. The registration page includes fields for email, password, name, surname, and company, with a toggle to specify whether the user is an employee or an HR manager. The login page requires only an email and password, with links for registration or accessing the system as a returning user. Both interfaces ensure a smooth and secure start to the user experience, supporting English and Italian languages since the beginning of the user experience.



Figure 4: Home Page

After logging in, the user is welcomed with a friendly message and presented with three main options:

- **Start Session:** Begin a new conversation with the AI.
- **Profile:** Access personal data, level progress and achievements unlocked.
- **History:** Review past sessions, including topics and detected emotions.

The homepage is designed to be intuitive, with easy navigation and a lighthearted interface, featuring the Emotino mascot.

The screenshot shows the Emotino application's profile page for a user named 'WORKER'. At the top left is a 'Back' button. The main title is 'Profile WORKER'. Below the title is a large, empty circular placeholder for a profile picture. To the right of the placeholder are the user's details: Email: francesco.piferi@mail.polimi.it, Name: Francesco, Surname: Piferi, Company: Medispa, and Level: 25. A progress bar at the bottom indicates 710 / 1080. Below this section are four achievement badges arranged in a row: 'Task Explorer' (Activity Based Badge, Level 2), 'Sentient Sage' (Level Based Badge, Level 4), '2 Days' (Time Based Badge, Level 1), and 'Curious Thinker' (Topic Based Badge, Level 2). Each badge has a small descriptive text below it.

Figure 5: Profile Page

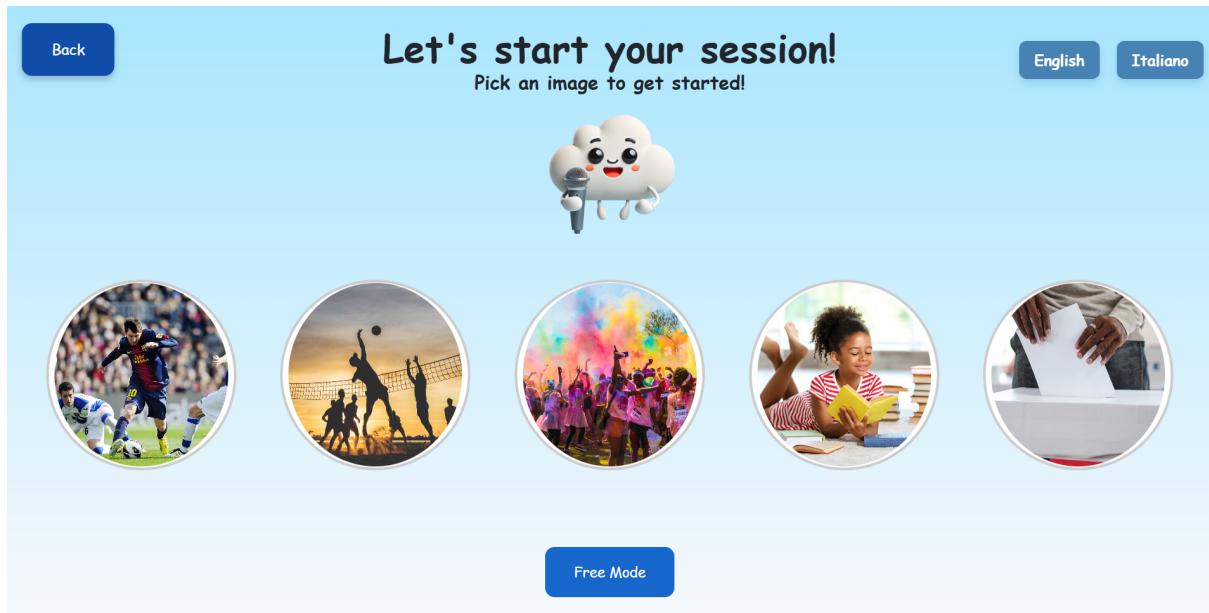


Figure 6: Session Page

On the session page, users start by selecting an image from a variety of prompts, each intended to evoke thoughts and emotions. The page encourages reflection with the prompt: “*Let’s start your session! Pick an image to get started!*”. Once the image is chosen, the user moves to the next step of the session. Alternatively, the user is free to start a conversation from scratch by selecting the *Free Mode* option.

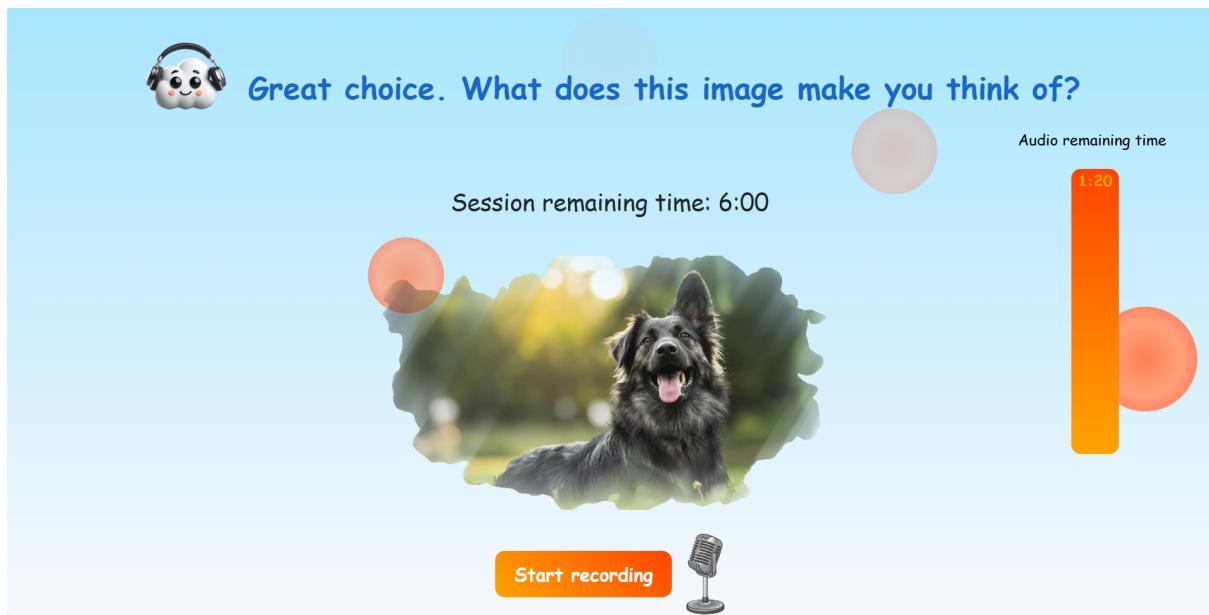


Figure 7: Audio Page

After selecting an image, the audio page opens with a standardized question. The user records their response, and the system processes the audio to analyze the emotions and identify the topic of discussion. A timer helps the user track session progress: the side bar indicates the maximum length of a single audio, while the *Session remaining time* timer tracks the maximum duration of the session. Based on the detected emotion and topic, the AI follows up with empathetic, personalized questions until the minimum session time is reached, after that a button appears and the user can terminate the session. This page guides users through an engaging, reflective conversation.

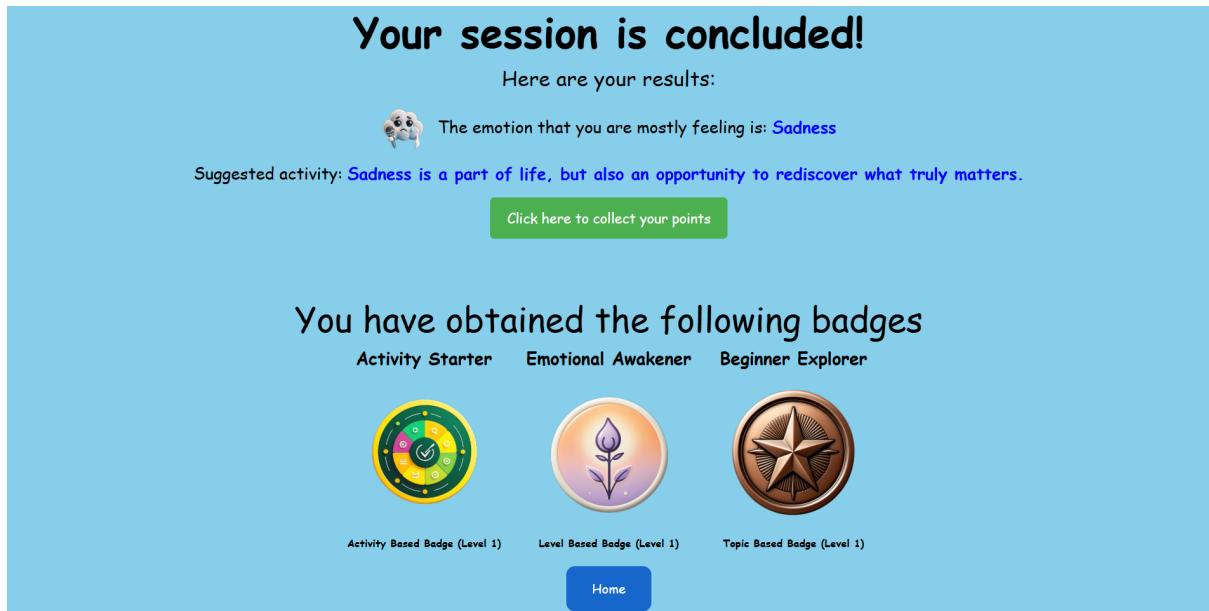


Figure 8: Audio Page

This page marks the conclusion of the user’s session by providing a summary of their emotional state and rewarding their progress through the gamification system. The page displays the detected prevalent emotion (e.g., sadness) along with a motivational or reflective activity suggestion tailored to their emotional state, encouraging positive action and introspection. Below the session results, users are presented with any badges they have earned, visually displayed with names and descriptions that reflect their progress in activity completion, emotional engagement, or topic exploration. A clear call-to-action button allows users to collect their points, while a “Home” button enables smooth navigation back to the main dashboard, ensuring an engaging and supportive end to their session.

5.3 Gamification

Emotino incorporates a gamification system designed to enhance user engagement and motivation. The system includes levels, experience points, and badges that reward users for their activity on the platform.

- **Levels and Experience Points:** Each user account has a level that increases as sessions are completed. Experience points are assigned based on the following formula:

$$\text{Experience Points} = 50 + (\text{Number of Audio Files} \times 10) + \text{Activity-Based Score}$$

The activity-based score depends on the type of activity proposed at the end of the session.

- **Badges:** There are four types of badges available, each with four levels that are unlocked by reaching specific thresholds:

- **Level-Based Badge:** Awarded when a user reaches certain levels. Thresholds: 1, 5, 10, 20.
- **Time-Based Badge:** Rewards users for maintaining streaks of consecutive days with at least one completed session. Thresholds: 2, 5, 10, 20.
- **Topic-Based Badge:** Given when a user discusses a new topic during sessions. Thresholds: 1, 3, 5, 8.
- **Activity-Based Badge:** Earned by unlocking a variety of activities across different sessions. The badge is based on the number of distinct activities proposed to the user. Thresholds: 1, 5, 10, 20.

Badges' images have been generated with OpenArt [5]

- **Final Activity:** At the end of each session, users are presented with a suggested final activity tailored to their detected emotion. While these activities are not mandatory or rewarded with points, they serve as a unique form of engagement by encouraging users to take practical, emotionally supportive steps. Unlocking new types of activities based on emotional progress or session history could be incorporated as part of the gamification system. This motivates users to explore diverse activities and creates a sense of achievement as they gain access to new suggestions.

This gamification system encourages users to engage more frequently and explore diverse activities and topics, creating a more interactive and rewarding experience.

5.4 Technology and Implementation

5.4.1 Frameworks

Emotino is a web application built with a combination of front-end and back-end technologies.

- **Front-End**

- **Vue.js:** Vue is a JavaScript framework for building user interfaces. It builds on top of standard HTML, CSS, and JavaScript and provides a declarative and component-based programming model that helps in developing either simple or complex user interfaces. Vue.js is a very smart and versatile framework and so it adapts to all kinds of UI projects. But given its features, it is particularly well-suited for SPAs, i.e. applications that loads a single HTML page and dynamically update content as users interact.
- **Bootstrap:** Bootstrap is a popular open-source front-end toolkit for designing responsive and mobile-first websites. It includes a wide range of pre-designed components such as navigation bars, buttons, modals, and forms, as well as a powerful grid system for layout control. With CSS and JavaScript utilities, Bootstrap enables developers to build consistent, visually appealing UIs quickly and efficiently. Its cross-browser compatibility and built-in responsiveness make it a go-to choice for web development.

- **Back-End**

- **Spring Boot:** Spring Boot is a Java-based framework that simplifies the development of standalone, production-grade Spring-based applications. It provides a comprehensive programming and configuration model with embedded servers, such as Tomcat or Jetty, eliminating the need for external server deployments. It is especially suitable for developing REST APIs and microservices. With its opinionated defaults and extensive library support, Spring Boot speeds up the setup and development of enterprise-level backends.

5.4.2 Database

Emotino uses **PostgreSQL** as its database management system. PostgreSQL is a powerful, open-source relational database management system (RDBMS) that offers advanced features, high performance, and scalability. It ensures data integrity and provides support for complex queries, making it an excellent choice for handling Emotino's data requirements.

The database structure consists of three main tables: **audio**, **session**, and **user**, connected through primary and foreign keys as shown in Figure 9.

- **audio:** This table stores data related to the analysis of user audio, such as the detected emotions (anger, joy, sadness, etc.) and the raw audio data (audio_data). Each record in this table is associated with a session through the foreign key **session_id**, which links to the primary key **id** in the **session** table.

- **session:** This table represents a session of user interaction, containing details like the activity category (`activity_category`), the activity text (`activity_text`), the dominant emotion detected during the session (`dominant_emotion`), and the topic of the session (`topic`). Each session is linked to a user through the foreign key `user_id`, which refers to the primary key `id` in the **user** table.
- **user:** This table stores user information, including personal details such as `name`, `surname`, and `email`, as well as metadata like `level`, `points`, and `badges`. The primary key `id` uniquely identifies each user and connects to the **session** table through the foreign key `user_id`.

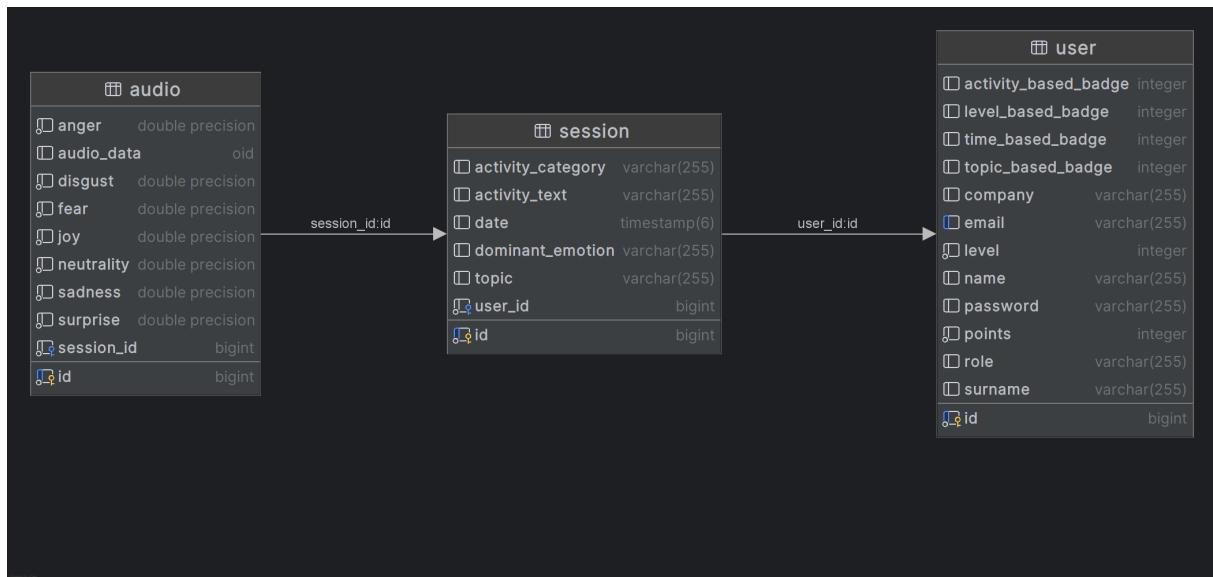


Figure 9: Database Structure

5.4.3 External Communication and AI

- **Speech Recognition:** This component uses the Web Speech API within the Vue.js application. It processes audio input from the user's microphone, generating a transcript of the spoken content. The generated transcript is then sent to the server to be analyzed and used in conjunction with other AI components, such as Emotion Detection AI and Generative AI to create coherent responses.
- **Emotion Detection AI:** This AI system receives audio input and determines the emotions present in the audio, outputting values between 0 and 1 for each emotion. The recognizable emotions are:
 - Anger
 - Disgust
 - Fear
 - Joy
 - Sadness
 - Surprise
 - Neutrality

Emotino uses this AI to analyze user audio to extract emotional values, which are then sent to the generative AI model alongside the transcribed audio. These emotional insights help the generative AI craft more contextually relevant and emotionally aware responses.

- **Generative AI:** This is a large language model (LLM) deployed using Azure OpenAI services, specifically GPT-4-32k. The generative AI uses the transcribed user audio and the extracted emotional values from the Emotion Detection AI to generate coherent, contextually appropriate, and emotion-sensitive responses. Its extended context window (32k tokens) allows it to handle complex conversations with detailed prompts and outputs.

5.4.4 Caching

Emotino uses the caching mechanism provided by **Spring Boot** to temporarily store the chat data of ongoing sessions. This approach allows the application to maintain the chat context without persisting it in the database until the end of the session.

Caching is also essential because the generative ai used by **Emotino** does not retain chat history. To address this, the entire chat history from the cache is sent with each request, ensuring that the LLM has the necessary context to generate coherent responses based on prior messages.

5.5 Value Proposition

Emotino offers a unique, gamified platform that combines advanced speech emotion recognition to support emotional well-being in the workplace. Unlike existing similar solutions, Emotino provides real-time, multimodal analysis with tailored feedback and engaging activities. This ensures a more comprehensive understanding of users' emotions while keeping them motivated through gamified rewards and progress tracking. By providing actionable insights and catering to both employees and HR managers, Emotino not only enhances individual self-awareness but also empowers organizations to foster a healthier and more productive work environment. Its innovative integration of AI-driven analysis and gamification makes it a cutting-edge solution for workplace well-being, setting it apart from traditional tools. Additionally, Emotino collects anonymized audio recordings to continuously enrich the database that trains the emotion recognition AI, ensuring ongoing improvement and accuracy.

6 Future Improvements

This section outlines features that we envisioned as part of the final application but have not been implemented in the current prototype.

6.1 Isolated Room and Appointments Management

A dedicated, isolated virtual room would be the ideal environment to use Emotino, in order to ensure complete privacy for users during sessions. Moreover, this aims to provide a distraction-free environment, enhancing user focus and comfort while interacting with the application.

To make the most of the isolated room, the final version of Emotino would include a system for managing appointments, allowing users to schedule specific times for their sessions. This feature ensures regular usage and helps seamlessly integrate the app into the user's daily or weekly routine. The system would leverage the APIs of the company's calendar system, enabling users to synchronize their appointment calendar with their corporate one. This integration ensures seamless management of both personal and professional schedules, avoids overlapping commitments, and makes well-being sessions a prioritized part of the user's planning.

6.2 Final Activity

Currently, activity suggestions at the end of a session are statically linked to the emotion detected. In the final version, the AI will dynamically generate activity recommendations based on predefined criteria tailored to the user's emotional state and context, in order to avoid repetitiveness, making them more personalized and relevant. This is the selection of activity categories we designed, along with a sketch of the diversification criteria based on users' emotion:

Personalized Inspirational Quote

Scenario: Marco completes a session where he shared happy memories of his vacation. The AI detects the emotion "joy."

Reward: A quote appears at the end of the session: "Joy is contagious. Share it whenever you can." – Anonymous.

Impact: Marco leaves the session with a smile and feels inspired to spread positivity in his day.

Self-Care Suggestion

Scenario: Giulia ends a session where she expressed sadness by talking about a recent disappointment at work. The AI detects the emotion "sadness."

Reward: The AI suggests: "Today, take 15 minutes to listen to your favorite music or read a chapter of your favorite book."

Impact: Giulia appreciates the practical advice and follows it, feeling more relaxed and valued

Creative Mini-Activity

Scenario: Anna concludes a session by talking about her artistic passions. AI detects "curiosity".

Reward: AI suggests: "Take a sheet of paper and draw your favorite moment of the day today."

Impact: Anna feels inspired to draw and uses creativity to continue to reflect positively.

Gratitude Challenge

Scenario: Luca, after a session in which he reflected on the good times spent with his family, receives the emotional feedback of "appreciation".

Reward: AI suggests: "Today, write a thank you message to a family member or friend for something

they have done for you recently.”

Impact: Luca sends a thank you message to his sister, improving their relationship and increasing his own well-being.

Short Guided Meditation

Scenario: Claudia ends a session in which she talked about work-related stress. AI detects “tension” or “stress”.

Reward: AI shows a short 2-minute video with a guided meditation to relax the mind and body.

Impact: Claudia follows the meditation and immediately feels calmer and ready to continue her day.

Motivational Challenge

Scenario: Elisa ends a session in which she shared a moment of uncertainty, but the AI also detects a glimmer of determination in her response.

Reward: The AI suggests: “Your challenge today: find a small goal that you can achieve and celebrate it with a smile.”

Impact: Elisa decides to complete a postponed task and celebrates it with a cup of her favorite tea, feeling accomplished.

Recommended Music

Scenario: Pietro ends a session in which he expressed nostalgia by talking about past trips. The AI detects “nostalgia.”

Reward: The AI suggests a music playlist with relaxing and nostalgic songs to accompany his thoughts: “Listen to this playlist to relive your emotions and continue the journey in your mind.”

Impact: Pietro listens to the playlist while working and feels transported to happy memories, improving his mood.

Activities division

Happiness

When the prevailing emotion is happiness, the goal of the activities is to prolong this positive feeling and encourage the user to share their mood with others.

- **Motivational Challenge:** "Today, give someone a sincere compliment or thank a person who made your day better."
- **Energizing Music Playlist:** A playlist with cheerful songs to extend your good mood.
- **Inspirational Quote:** "Happiness is not a destination, but a journey. Enjoy every step!"
- **Gratitude Challenge:** "Write down three things that made you smile today."
- **Mini Creative Activity:** "Take a photo of something that represents your happiness and save it as a memory."

Sadness

When the detected emotion is sadness, the goal of the activities is to provide comfort, promote relaxation, and guide the user towards a greater sense of gratitude.

- **Gratitude Challenge:** "Today, write down three things you're grateful for. Focusing on the good in your life can help improve your mood."

- **Guided Meditation:** A short 3–5 minute meditation to ease sadness and regain some peace of mind.
- **Comforting Quote:** "Sadness is a part of life, but also an opportunity to rediscover what truly matters."
- **Relaxing Music Playlist:** A playlist with calming tracks to encourage relaxation.
- **Mini Journaling Activity:** "Write a paragraph about a happy moment that makes you feel grateful, even when you're feeling sad."

Anger

When the detected emotion is anger, the goal is to help the user calm down, reduce tension, and channel their energy constructively.

- **Deep Breathing Exercise:** A 1–2 minute guided breathing exercise to reduce tension.
- **Short Meditation to Relax the Mind:** A targeted meditation to calm anger and refocus the mind.
- **Self-Care Tip:** "Take 5 minutes to step away from what made you angry and focus on an activity that relaxes you."
- **Reflection Challenge:** "Write down what made you angry today and try to identify a positive aspect or a lesson to learn."
- **Calming Quote:** "Calmness is the power to stay balanced even when everything around you is in chaos."

Disgust

When disgust is detected, the goal of the activities is to help the user detach from unpleasant sensations and find a moment of relaxation or positive distraction.

- **Self-Care Tip:** "Spend a few minutes on a pleasant activity, like listening to your favorite music or reading something interesting."
- **Positive Visualization Exercise:** A brief guide to visualize a place or situation that brings peace.
- **Acceptance Quote:** "Sometimes, accepting the things we cannot change is the key to inner peace."
- **Short Meditation for Emotional Detachment:** A meditation to help distance yourself from feelings of disgust or discomfort.
- **Motivational Challenge:** "Find one small positive thing about today and focus on it, even if it's simple."

Fear

When the prevailing emotion is fear, the goal is to help the user regain a sense of security and encourage them to explore positive thoughts.

- **Courage Quote:** "Courage is not the absence of fear, but the decision to move forward anyway."
- **Self-Care Tip:** "Take a moment to list the things that make you feel safe and protected."
- **Short Meditation for Inner Calm:** A guided meditation to calm the mind and reduce anxiety.

- **Journaling Exercise:** "Write about a time when you overcame a difficult situation. This can remind you of your inner strength."
- **Reassuring Music Playlist:** A playlist with soothing and calming tracks to ease the mind.

Guilt

When the system detects guilt, the goal of the activities is to help the user find self-compassion and focus on positive actions.

- **Forgiveness Quote:** "Forgiving yourself is the first step toward growth. Be kind to yourself."
- **Motivational Challenge:** "Take some time today to do something good for yourself or someone else."
- **Reflection Exercise:** "Think of a small action you can take to improve the situation and write it down."
- **Short Meditation for Forgiveness:** A guided meditation to develop self-compassion and let go of guilt.
- **Self-Care Tip:** "Take a break and do something that makes you feel good, like preparing your favorite meal or going for a walk."

Neutrality

When neutrality is detected, the goal of the activities is to encourage the user to explore thoughts and sensations that enrich their well-being without forcing a specific emotional state.

- **Gratitude Challenge:** "Write down one small positive thing you noticed today, even if it's simple."
- **Inspirational Quote:** "Serenity is an inner achievement. Find beauty in the simplicity of your day."
- **Relaxing Music Playlist:** A soft playlist that encourages reflection or relaxation.
- **Reflection Exercise:** "Think of one thing that makes you happy or satisfied and write it down to remember it."
- **Self-Care Tip:** "Spend a few minutes on a small pleasurable activity, like reading a chapter of a book or listening to a podcast."

6.3 HR Dashboard

A key feature for HR managers will be an interactive dashboard providing an overview of the emotional well-being of employees over time. This dashboard will include visual elements like graphs and summaries, enabling HR to monitor trends and identify critical cases where burnout or other issues might arise, allowing for timely intervention.

6.4 Profile Improvements

User profiles will be enhanced to include graphs and visualizations based on session history, such as trends in detected emotions over time. This feature will allow users to reflect on their emotional progress and identify patterns in their emotional states.

6.5 Contact System

The application will include a contact system enabling two-way communication between employees and HR. For example, employees can use an integrated form to send messages or concerns directly to HR via APIs, and HR can respond or initiate communication as needed.

7 Technical Documentation

7.1 Prerequisites

To run **Emotino**, the following software, configurations, and environment settings must be in place on your device:

- **PostgreSQL 17**: Ensure that PostgreSQL 17 is installed and properly configured.
- **Java 21**: The application requires Java 21 to execute the .jar file.

7.2 Database Configuration

To connect to the database, **Emotino** relies on the following default configuration values:

```
spring.datasource.url=jdbc:postgresql://localhost:5432/SentimentAI  
spring.datasource.username=postgres  
spring.datasource.password=test
```

These values are defined in the `application.properties` file of the Spring Boot application. Users can modify them as needed to match their local PostgreSQL setup. Below is a description of each property:

- **spring.datasource.url**: The connection URL for the PostgreSQL database. The default assumes the database is running on `localhost`, port 5432, with a database named `SentimentAI` which must be created before running the application.
- **spring.datasource.username**: The username for the database connection. The default is `postgres`.
- **spring.datasource.password**: The password for the database connection. The default is `test`.

Users can override these properties using environment variables or command-line arguments when starting the application.

Example:

```
java -jar emotino.jar  
--spring.datasource.url=<your_url>  
--spring.datasource.username=<your_username>  
--spring.datasource.password=<your_password>
```

Ensure that these settings are correctly configured before starting the application.

7.3 Running the Application

Follow these steps to run the application:

1. Start the application by executing the provided .jar file:

```
java -jar emotino.jar
```

Optionally, you can override the database connection properties by appending them as command-line arguments as shown in the previous section.

2. Open your web browser and navigate to:

`http://localhost:8080`

With these steps, Emotino will be up and running, ready for use.

8 Bibliography

References

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