

A mini Project Report On
EmoGen: A MOOD BASED EMOJI GENERATOR

Submitted for the subject Python as part of the assessment “Build a Python Application”.

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CERTIFICATE

This is to certify that the thesis entitled “**EmoGen: A MOOD BASED EMOJI GENERATOR.**”

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submitted to the Symbiosis Artificial Intelligence Institute, Pune, for the subject Python, under the assessment titled ‘**Build A Python Application**’, under the guidance of **Dr. Dawa Chyophel Lepcha** in the month of October 2025. The contents in this report have not been copied or submitted elsewhere for any other evaluation. Any material borrowed from other sources have been duly acknowledged and referenced.

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DECLARATION

We **Shloka, Sannidhi and Dheeraj** here by declare that the report of the Mini Project work entitled “**Build A Python application**” which is being submitted to the **Dr. Dawa Lepcha Sir, The Project Head**, as a part of internal assessment for subject Python and the contents in this report have not been copied or submitted elsewhere for any other evaluation.

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ABSTRACT

This project, titled EMOGEN – Emoji Generator Based on Mood, focuses on developing a Python-based application that generates appropriate emojis according to the user's emotional state. The primary objective of this project is to demonstrate how basic programming concepts can be utilized to create an interactive and expressive application that enhances user engagement. Emojis have become an integral part of digital communication, serving as visual representations of emotions. EMOGEN bridges the gap between textual input and emotional expression by providing a simple and intuitive system for emotion-based emoji generation.

The application functions by prompting the user to describe their mood or their day in words. Using conditional statements and a predefined dictionary of emojis, the system identifies key emotional indicators such as “happy,” “sad,” “angry,” or “excited” and returns the corresponding emoji. The program implementation relies on core Python concepts, including user input/output, string processing, conditional logic, and dictionaries.

The results demonstrate that EMOGEN accurately interprets user input and provides relevant emoji responses, offering both functional accuracy and user satisfaction. In conclusion, the project effectively showcases the application of fundamental Python programming techniques in real-world interactive systems, combining logic, creativity, and emotional intelligence in a compact and engaging manner.

Keywords

Python Programming, Emoji Generator, Mood Detection, User Interaction

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Chapter 1: Introduction

In the modern era of digital communication, emojis play a vital role in expressing emotions and enhancing the tone of textual messages. They have evolved into a universal language that transcends cultural and linguistic barriers, allowing individuals to convey feelings effectively and instantly. Recognizing the significance of this form of expression, the project *EMOGEN – Emoji Generator Based on Mood* was developed to create an interactive Python application that generates suitable emojis based on the user's described mood.

The primary aim of *EMOGEN* is to apply fundamental Python programming principles to design a simple yet efficient emotion-based system. The application interacts with the user by asking them to describe their mood or their day in words. Based on specific keywords identified in the user's response, the program maps the input to corresponding emojis through conditional statements and a predefined emoji dictionary.

This project serves as a practical demonstration of basic Python concepts such as input/output operations, string handling, conditional logic, and data structures like dictionaries. By combining programming logic with emotional understanding, *EMOGEN* not only highlights creativity in coding but also emphasizes how technology can be used to simulate human-like emotional responses in a simple, engaging manner.

Chapter 2: Relevance of EMOGEN in Today's World

In the present digital era, communication is increasingly dominated by text-based interactions across social media, messaging platforms, and online communities. Emojis have emerged as an essential tool to convey emotions, tone, and intent, bridging the gap between written text and human feelings. *EMOGEN – Emoji Generator Based on Mood* aligns closely with this digital communication trend by translating emotional expressions into meaningful visual symbols.

The relevance of *EmoGen* lies in its ability to enhance emotional connectivity in virtual communication. By recognizing and responding to the user's mood, the application demonstrates how even simple programming concepts can be applied to create systems that understand and reflect human emotions. Such emotion-aware systems are gaining importance in fields like human–computer interaction, artificial intelligence, and digital psychology.

Furthermore, *EmoGen* contributes to the growing need for personalization and emotional intelligence in technology. It highlights how computational tools can be designed not only for functionality but also for empathy and user engagement. In a world where digital interactions often lack emotional depth, *EMOGEN* serves as a small yet meaningful step toward more expressive, responsive, and human-centered digital experiences.

Chapter 3: Problem Statement and Objectives

Problem Statement

In the digital age, a significant portion of human communication occurs through text-based platforms such as messaging applications and social media. While textual communication is efficient, it often lacks the emotional nuance and expressiveness of face-to-face interaction. This can lead to misinterpretation of tone, intent, or sentiment. Emojis serve as a visual supplement to convey emotions effectively, yet selecting the most appropriate emoji often depends on user intuition or manual choice.

The problem, therefore, lies in the absence of an automated system that can interpret a user's emotional state from text and instantly suggest or generate suitable emojis. Addressing this gap, *EmoGen – Emoji Generator Based on Mood* is designed to analyze a user's input describing their mood and respond with an appropriate emoji, thereby enhancing emotional clarity and engagement in digital communication.

Objectives

The primary objectives of *EmoGen* are as follows:

1. To design and develop a Python-based application that generates emojis corresponding to the user's mood or emotional state.
 2. To implement a rule-based algorithm that identifies mood keywords from user input and maps them to appropriate emojis.
 3. To apply fundamental Python programming concepts such as conditional statements, string manipulation, and dictionaries for real-world problem-solving.
 4. To promote emotional expressiveness and user engagement in digital communication through automation.
 5. To demonstrate how basic coding principles can be applied creatively to develop emotion-aware applications.
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Chapter 4 : Methodology

The development of the EMOGEN (Emoji Generator) application followed a systematic approach to ensure clarity, functionality, and professional presentation. The initial step involved identifying and obtaining the base Python code that aligned with the project's objective of generating emojis and analyzing user emotions. After acquiring the source code, it was implemented and executed using Google Colab, an interactive cloud-based Python environment that facilitates real-time coding and testing.

Upon running the program, the system presents four options to the user. The first option prompts the user to describe their day, upon which the application generates a corresponding emoji that reflects the expressed emotion. The second option displays the history of user inputs and generated outputs, allowing a review of past interactions. The third option provides information about the mini project, while the fourth enables users to exit the application gracefully.

For enhanced presentation and academic documentation, a PowerPoint presentation was created using Canva, summarizing the project's workflow and outcomes. Finally, the complete project, including the code and supporting files, was uploaded to GitHub for version control, transparency, and public accessibility.

Rationale for Developing EMOGEN

In the present era of digital communication, emojis have become an integral part of everyday expression, enabling users to convey emotions and ideas more effectively than plain text. However, the range of existing emojis often fails to represent the full diversity of human emotions, cultures, and personalities. EMOGEN, an Emoji Generator Application, was conceptualized to bridge this gap by allowing users to create customized and expressive emojis that reflect their unique feelings and identities. The app promotes creativity and personalization in digital conversations while enhancing emotional communication across various platforms. Additionally, the development of EMOGEN serves as an educational endeavor that integrates Python programming, user interface design, and image processing concepts. This project not only meets the growing need for visual expressiveness but also encourages inclusivity and innovation in modern communication tools.

Chapter 5: Conclusion.

The **EMOGEN** application, which is a tool for generating emojis, **was successfully built and tested.**

This is the App Icon. This is how EMOGEN app will be visible to the user



The EMOGEN application successfully demonstrates the capability of Python-based systems to generate expressive emojis dynamically from user inputs such as text or images. By integrating emotion detection, rule-based mapping, and graphical rendering techniques, the project achieves a creative fusion of artificial intelligence and visual design. EMOGEN provides users with a personalized and interactive way to visualize emotions, bridging the gap between human expression and digital communication.

The development process enhanced understanding of key programming concepts including data processing, image generation, and API integration. The system's modular design ensures scalability, allowing future integration of advanced machine learning models for improved emotion prediction and design diversity. Overall, EMOGEN contributes to the growing field of digital emotion representation and highlights how computational creativity can enhance online communication and user engagement.

Future Scope

The EMOGEN application holds significant potential for further enhancement and real-world application. Future developments could incorporate advanced machine learning and deep learning models to enable more accurate emotion recognition and generate highly customized emoji designs. Integration with Natural Language Processing (NLP) could help the system understand complex emotions, sarcasm, or contextual cues within text.

Additionally, EMOGEN can be expanded into a cross-platform mobile and web application, allowing users to access the emoji generator seamlessly across devices. Incorporating voice and facial expression inputs would further improve the system's interactivity and accessibility. With the integration of cloud-based storage and real-time data analytics, EMOGEN could support large-scale usage while maintaining efficient performance.

In the long term, EMOGEN can evolve into a powerful AI-driven creative tool for social media platforms, messaging services, and digital content creators, enhancing emotional expression and perso

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