# Personalized AI Email Generator - Documentation

## Project Title:

Personalized AI Email Generator

## Team Name:

Prompt Pirates

## Team Members:

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## Phase-1: Brainstorming & Ideation

Objective:

Develop an AI-powered email generator that automates personalized email drafting based on recipient details, event information, and user-specific instructions.

## Phase-2: Requirement Analysis

Objective:

Define the technical and functional requirements for the AI Email Generator.

## Technical Requirements:

Programming Language: Python, JavaScript (React for frontend)

Backend: FastAPI or Flask

Frontend: React.js (with Material UI or Tailwind CSS)

Email Sending Services: Elastic Email, AWS SES

Analytics & Tracking: Google Analytics

## Functional Requirements:

User authentication and role-based access.

Email drafting based on AI recommendations.

Email tracking: Open rates, click-through rates, and A/B testing.

AI-based content and timing optimization.

Compliance with CAN-SPAM, GDPR.

## Constraints & Challenges:

Ensuring AI-generated content remains relevant.

Avoiding spam filters while maintaining compliance.

Handling API rate limits.

## Phase-3: Project Design

Objective:

Develop the architecture and user flow of the AI Email Generator.

## System Architecture:

User inputs details via UI.

AI model generates email content.

Backend processes the content.

Email is sent via Elastic Email/AWS SES.

Google Analytics tracks performance.

## User Flow:

Step 1: User enters recipient details, email purpose, and tone.

Step 2: AI suggests email drafts.

Step 3: User refines or approves the draft.

Step 4: Email is sent and tracked.

Step 5: Analytics dashboard provides insights.

## Phase-4: Project Planning (Agile Methodologies)

Objective:

Break down development tasks for efficient completion.

## Sprint Planning:

Sprint 1: Setup & Integration

Sprint 2: Core Features & Debugging

Sprint 3: Testing & Enhancements

## Phase-5: Project Development

Objective:

Implement core features of the Personalized AI Email Generator.

## Technology Stack Used:

Frontend: React.js

Backend: FastAPI/Flask

AI Model: GPT-based email generator

Email Services: Elastic Email, AWS SES

Tracking: Google Analytics

## Challenges & Fixes:

AI-generated content lacks personalization → Improve user input processing.

API rate limits → Implement caching & rate-limiting.

## Phase-6: Functional & Performance Testing

Objective:

Ensure that the AI Email Generator works as expected.

## Final Submission

Project Report

<https://github.com/Udith2004988/Personalized-Email-Generator.git>

Presentation