CHAPTER 5

PROJECT PLANNING

# 5.1 Project Goal

This project aims to develop an AI-powered marketing content generator that automates the creation of blog posts, social media content, email campaigns, product descriptions, and ad copy. Using the Agile Scrum process model, the development will follow an iterative and incremental approach, allowing continuous integration of user feedback, scalability enhancements, and faster delivery of a minimum viable product (MVP).

# 5.2 Project Methodology

* Process Model: Agile Scrum.
* Sprint Duration: 2–3 weeks per sprint.
* Total Estimated Timeline: 16–20 weeks for MVP.

# 5.3 Project Phases & Sprint Breakdown

## Sprint 1: Initialization & Core Setup

* Set up project infrastructure (GitHub, CI/CD, AWS environment).
* Integrate AI engine (OpenAI GPT-4 / Hugging Face + Pinecone + LangChain).
* Configure PostgreSQL database and Redis caching.
* Deliverable: Core backend foundation.

## Sprint 2: Content Generation Module

* Implement blog and email campaign generation workflows.
* Add input fields (topic, keywords, tone, word limit).
* Initial testing of AI outputs for quality and accuracy.
* Deliverable: Basic content generation functionality.

## Sprint 3: Frontend Development & Authentication

* Develop Next.js/React-based user interface.
* Integrate Firebase Authentication.
* Build a dashboard for user management.
* Deliverable: User-accessible web application with login.

## Sprint 4: SEO & Analytics Integration

* Implement SEO optimization tools (meta tags, keyword analysis).
* Add analytics dashboard (engagement, conversion tracking).
* Deliverable: Fully functional content optimization module.

## Sprint 5: Testing & Refinement)

* Conduct Unit Testing, Integration Testing, and UAT (User Acceptance Testing).
* Collect beta user feedback (small businesses, agencies).
* Fix bugs and refine workflows.
* Deliverable: Stable MVP version.

## Sprint 6: Deployment & Initial Maintenance

* Deploy on AWS ECS/EKS with S3 storage.
* Monitor performance and user feedback.
* Plan next-phase features (multi-language support, trend-driven content).
* Deliverable: Live production version with maintenance plan.

# 5.4 Roles & Responsible

## Backend & AI Engine Integration Complete

* AI/ML Engineer – Integration of GPT-4/Hugging Face models with Pinecone & LangChain.
* Backend Developer – Setup of FastAPI, PostgreSQL, Redis.
* DevOps Engineer – Initial cloud infrastructure configuration (AWS ECS/EKS).

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