



Faculty of Sciences of
Bizerte



Republic of Tunisia
Ministry of Higher Education
and Scientific Research

University of Carthage



Computer Science
Department

End of Studies Project Report

For the obtention of a National Engineering Diploma

Track: Software Engineering and Data Engineering

Title:

PLAN GENIE AI

Intelligent Task & Event Management Platform

Powered by Advanced NLP and Speech Recognition

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Realised within SFM



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Dedication

*To my family and mentors,
whose support made this possible.*

— *Yassine Jedidi*

Acknowledgements

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Finally, I express my sincere gratitude to my family for their unwavering support, patience, and understanding during this challenging journey. Their encouragement and belief in my abilities have been a constant source of motivation.

Introduction

In today's busy world, managing tasks and events effectively is very important for both personal and work productivity. Traditional ways of managing tasks and events are often slow, make mistakes, and don't adapt to what users prefer.

This project introduces **Plan Genie AI**, a smart task and event management platform that uses artificial intelligence to change how people and organizations plan, organize, and track their activities. The system uses Natural Language Processing (NLP), speech recognition, and data analysis to provide a smooth, intelligent, and easy-to-use experience.

Main Goals:

- Build an AI platform that can understand and process natural language for creating tasks and planning events
- Add speech-to-text features to allow voice-based task and event management
- Provide performance analytics and visualization tools
- Ensure data security and privacy protection
- Make a responsive application that works on different devices

The project uses modern technologies including React.js for the frontend, Node.js and Python FastAPI for backend services, PostgreSQL for data storage, and Hugging Face Transformers for advanced NLP features. The system can process multiple languages, extract information automatically, and provide detailed performance analytics through interactive charts.

This report shows the complete development process of Plan Genie AI, from initial idea and requirements through design, building, testing, and deployment. It demonstrates how artificial intelligence can be used to solve real productivity problems while maintaining good user experience and data security.

1 General Framework and Preliminary Study

Introduction

The modern workplace and personal life demand efficient management of tasks and events. Traditional task management systems often fall short due to their rigid interfaces, limited automation capabilities, and lack of intelligent features. This chapter provides a comprehensive analysis of the project context, problem statement, and requirements for the Plan Genie AI platform.

1.1 Host Organization: SFM Technologies

1.1.1 General Overview

Founded in 1995, **SFM Technologies** is a Tunisian consulting and engineering firm specializing in telecommunications, ICT, and digital transformation services. The company is part of the larger SFM Group, which includes subsidiaries such as SFM International, SFM Telecom, and SFM Cameroun. SFM operates in Africa, Europe, Asia, Oceania, and the United States.

1.1.2 Core Competencies

SFM Technologies provides a wide array of services in the following areas:

- **Telecommunications and Regulatory Support:** Benchmarking, audits, QoS/QoE analysis, and network planning for regulators and operators.
- **Strategic Engineering and Advisory:** Consulting on network convergence, privatization, spectrum regulation, and technology migration (e.g., analog to digital TV).
- **Training and Capacity Building:** Technical and theoretical training sessions in ICT and telecoms for institutions and companies.
- **R&D and Software Development:** Through its R&D branch, SFM Lab, the company creates custom software for fraud detection, tariff simulation, AI analytics, and network performance monitoring.

1.1.3 Digital Tools and Platforms

SFM Technologies develops and maintains several proprietary platforms:

- Robotic Process Automation (e.g., COSAP, Ticketeazy, IT&M)
- Cybersecurity Solutions (e.g., WiFi portal, PKI, SOC)
- AI and Big Data platforms for telecom, banking, and government sectors
- Modular software solutions tailored to specific client needs

1.1.4 Clientele and Global Reach

With a portfolio of over 30 clients, including national regulators, ministries, and international organizations such as the World Bank and African Development Bank, SFM Technologies has established itself as a trusted partner across several continents.

1.1.5 Summary Table

Founded	1995
Legal Form	SARL (R.C. 1028016M)
Headquarters	Tunis, Tunisia
Core Areas	Telecom regulation, digital transformation, ICT consulting and training
R&D Division	SFM Lab
Operational Presence	Africa, Europe, Asia, Oceania, USA
Main Offerings	Consulting, audits, custom platforms, cybersecurity, AI solutions
Clients	Telecom operators, regulators, ministries, international donors

Table 1: Summary of SFM Technologies’ Key Information