

Emotion-Aware Music and Lyrics Generation System Using Facial Expression Analysis

(True Promise To Babi Fatima sa)

★ Phase 1: Project Setup & Research (Days 1–4)

Goal: Define scope, prepare environment, and do background research.

Day	Task	Tools	Output
1	Finalize idea, objectives, deliverables	Notion/Docs	Project proposal
2	Research face emotion datasets & models	Paperswithcode, Kaggle	Notes on datasets
3	Install dependencies, test OpenCV, load webcam	Python, OpenCV	Working webcam
4	Draft SRS (Software Requirements Spec)	Word/LaTeX	SRS.docx

★ Phase 2: Model Development (Days 5–12)

Goal: Build emotion recognition and song/lyrics modules.

Day	Task	Tools	Output
5–6	Train/test emotion recognition (FER2013 or pre-trained CNN)	TensorFlow/Keras	.h5 or .pt model
7	Create label-to-emotion mapping (e.g., happy, sad)	Python	emotion_map.py
8–9	Music recommendation logic using APIs or datasets	Spotify API / CSV	recommend_song.py
10	Lyrics generation using Hugging Face model (GPT-2 or similar)	transformers	generate_lyrics.py
11	Test full emotion → song/lyrics flow	Python	Working prototype
12	Write Model Design section in report	Word/LaTeX	report_section2.docx

★ Phase 3: Integration & UI (Days 13–20)

Goal: Build web interface and integrate components.

Day	Task	Tools	Output
13–15	Build Streamlit/Flask interface for webcam input → emotion → output	Streamlit/Flask	app.py
16	Display song info / play via YouTube embed or lyrics on screen	YouTube Embed / Text	UI Update
17	Store logs and outputs in local DB (optional)	SQLite/MongoDB	db.py
18	Improve UI with buttons, emojis, colors	Streamlit	Final interface
19–20	Write System Architecture, Interface Design in report	Word	report_section3.docx

★ Phase 4: Testing, Documentation, and Final Report (Days 21–30)

Goal: Polish, test, document, and prepare for submission.

Day	Task	Tools	Output
21	Test all modules for errors	Manual/Unit testing	test_results.txt
22–23	Write Evaluation & Results, take screenshots	Word	report_section4.docx
24	Add future work, limitations	Word	report_section5.docx
25	Final report assembly	Word/LaTeX	Final_Report.pdf
26	Create PPT slides	PowerPoint	FYP_Presentation.pptx
27–28	Record demo video or prepare live demo	OBS/Phone	demo.mp4
29	Submit report and project	GitHub/Google Drive	✓
30	Backup & Review	Notion/Git	✓

■ Project Documents to Prepare:

1. ✓ Project Proposal (1–2 pages)
2. ✓ Software Requirement Specification (SRS)
3. ✓ Final Report (~20–25 pages: Intro, Methodology, Results, Conclusion)
4. ✓ Presentation Slides (10–12 slides)
5. ✓ Demo Video (optional, 1–2 minutes)
6. ✓ Timeline (09 May to 12 Jun)