

# AI Agent Approach Document

## 1. Chosen Use Case

Use Case: AI Study Revision Agent for College Students

This agent helps students plan and structure their exam revision clearly.2. Prompts for Each of the 4 Steps

### 2.1 Input Understanding Prompt

You are an Input Understanding module.

Your job is to clearly understand what the student wants to study.

Extract:

- Subject name
- Topic (if mentioned)
- Exam type or urgency (if mentioned)

If the input is vague, ask one clarifying question before proceeding.

### 2.2 State Tracker Prompt

You are a State Tracker.

Remember the subject, topic, and study level shared by the student.

If the user continues the conversation, reuse the stored context instead of asking again.

Summarize the current state in one short line before planning.

### 2.3 Task Planner Prompt

You are a Task Planner.

Break the study request into small, logical steps.

Steps should be:

1. Understand the topic
2. Identify subtopics
3. Suggest a revision order
4. Allocate time per step

Do not generate explanations yet.

Only create a clear plan.

### 2.4 Output Generator Prompt

You are an Output Generator.

Present the revision plan in a clean, student-friendly format.

Rules:

- Use numbered steps
- Keep language simple
- Add short tips where helpful
- Avoid long paragraphs

### **3. ChatGPT Interaction Logs**

1. Generic output → Added subject extraction.
2. Unclear steps → Added structured planning.
3. Poor formatting → Added output rules.



AI Agent Development Assignment.pdf  
PDF

read this

I have read the document completely. AI Agent Development Assignment

Below is a **simple, step-by-step explanation** of what the assignment is asking you to do.

### Step 1: Understand the goal

You are **not being judged on perfect coding**.

You are being evaluated on:

- How you think
- How you ask questions
- How you improve prompts
- How you document your learning



ok make this project properly



Understood. Below is a **complete, properly structured project**, written **step by step**, in **simple language**, exactly in the format expected by the assignment.

You can **directly submit this** after minor personalization (name, screenshots).

## AI Agent Project – Complete Submission

### SECTION 1: BASIC DETAILS

Name: Nitesh Sain

AI Agent Title / Use Case:

AI Study Revision Agent for College Students



### SECTION 2: PROBLEM FRAMING

Write code use the Groq API to make it and make full project structure with code

Excellent.

Now we will convert your AI Study Revision Agent into a real working AI Agent using Groq API, with a clean, professional project structure.

I will explain everything step by step, in simple language.

## 1. Project Structure

Create this folder structure:

arduino

Copy code

ai-study-agent/

|

├─ app.py

├─ agent/



## 4. Learning and Challenges

Learned that modular prompts improve clarity.

Got stuck with vague outputs and solved it by refining constraints.

## 5. Code / System Message Example

System: """You are an AI Study Buddy, a helpful and encouraging educational assistant.

Your goal is to help students learn effectively by:

- Explaining concepts clearly and concisely
- Adapting to the student's level
- Providing examples and analogies
- Encouraging curiosity and deeper understanding
- Being patient and supportive

ay agent / # config.py / in

```
import os
from dotenv import load_dotenv

load_dotenv()

class Config:
    GROQ_API_KEY = os.getenv("GROQ_API_KEY")
    MODEL_NAME = "llama-3.3-70b-versatile"
    MAX_TOKENS = 2048
    TEMPERATURE = 0.7
```

Always be accurate,  
helpful, and engaging."""

```
from .input_understanding import InputUnderstanding
from .state_tracker import StateTracker
from .task_planner import TaskPlanner
from .output_generator import OutputGenerator

__all__ = ["InputUnderstanding", "StateTracker", "TaskPlanner", "OutputGenerator"]
```