Unsaid Talks Project Documentation: Student Roadmap Generator via N8N

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# Project Title

AI-Powered Student Career Roadmap Generator using n8n & Google Docs

# Objective

To develop an automated workflow that generates a customized 6-month career roadmap for students based on their education level, stream/course, and academic year. The output is delivered as a downloadable Word document using AI-powered content generation and Google Docs integration.

# Tools & Technologies Used

- n8n (v1.100.1)

- Google Gemini (PaLM)

- Google Docs & Google Drive APIs

- FormTrigger & Conditional Nodes

- Code Node

- Set & Merge Nodes

- AI Agent Node

# Project Workflow

1. User Form Input:

- Name, Age, and Education Status (High School / University)

2. Conditional Forms:

- If High School → Ask for Class (10th/12th)

- After 10th → Ask for intended stream

- After 12th → Ask for course preference

- If University → Ask for current course and year

3. Data Merging:

- All form data is merged and processed using a Code node to prepare structured input

4. AI Prompting:

- AI Agent node uses a clean, dynamic prompt to instruct the Gemini model to return a detailed week-by-week roadmap.

5. Word Document Generation:

- Google Docs node creates an empty document.

- The roadmap text is inserted via a subsequent Google Docs Update node.

- Final document is downloaded via Google Drive Download node.

# Challenges Faced

- Word file was empty after execution → Added Set node to explicitly capture and forward AI response

- Special characters and raw markdown in output → Refined AI prompt to return plain-text formatting

- Dynamic logic based on 10th/12th/University status → Used conditional branching (If nodes) and merge nodes

- Text not showing up in Google Docs update → Used correct node references like {{ $node["Set"].json.content }}

- Maintaining a consistent document structure → Added clear prompt formatting guidelines to AI Agent

# Key Learnings

- Prompt Engineering for quality AI output

- Modular Workflow Design in n8n

- Google API Integration (Docs & Drive)

- Debugging and workflow testing techniques

# Final Output Sample

A professional .docx file is generated per user, containing:

- Personalized 6-month roadmap

- Weekly breakdowns

- Resource suggestions (YouTube, Coursera, GitHub)

- Motivational closing paragraph

# Future Improvements

- Export roadmap as a webpage or mobile-friendly format

- Integrate voice-based or WhatsApp delivery

- Add AI-generated visuals and timeline charts

- Track roadmap completion with checklists or calendar sync